NSRDS-NBS 66, Part I

U.S. DEPARTMENT OF COMMERCE / National Bureau of Standards

Ion Energetics Measurements Part I. 1971-1973

NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards[1] was established by an act of Congress on March 3, 1901. The Bureau's overall goal is to strengthen and advance the Nation's science and technology and facilitate their effective application for public benefit. To this end, the Bureau conducts research and provides: (1) a basis for the Nation's physical measurement system, (2) scientific and technological services for industry and government, (3) a technical basis for equity in trade, and (4) technical services to promote public safety. The Bureau's technical work is performed by the National Measurement Laboratory, the National Engineering Laboratory, and the Institute for Computer Sciences and Technology.

THE NATIONAL MEASUREMENT LABORATORY provides the national system of physical and chemical and materials measurement; coordinates the system with measurement systems of other nations and furnishes essential services leading to accurate and uniform physical and chemical measurement throughout the Nation's scientific community, industry, and commerce; conducts materials research leading to improved methods of measurement, standards, and data on the properties of materials needed by industry, commerce, educational institutions, and Government; provides advisory and research services to other Government agencies; develops, produces, and distributes Standard Reference Materials; and provides calibration services. The Laboratory consists of the following centers:

Absolute Physical Quantities[2] — Radiation Research — Thermodynamics and Molecular Science — Analytical Chemistry — Materials Science.

THE NATIONAL ENGINEERING LABORATORY provides technology and technical services to the public and private sectors to address national needs and to solve national problems; conducts research in engineering and applied science in support of these efforts; builds and maintains competence in the necessary disciplines required to carry out this research and technical service; develops engineering data and measurement capabilities; provides engineering measurement traceability services; develops test methods and proposes engineering standards and code changes; develops and proposes new engineering practices; and develops and improves mechanisms to transfer results of its research to the ultimate user. The Laboratory consists of the following centers:

Applied Mathematics — Electronics and Electrical Engineering[2] — Mechanical Engineering and Process Technology[2] — Building Technology — Fire Research — Consumer Product Technology — Field Methods.

THE INSTITUTE FOR COMPUTER SCIENCES AND TECHNOLOGY conducts research and provides scientific and technical services to aid Federal agencies in the selection, acquisition, application, and use of computer technology to improve effectiveness and economy in Government operations in accordance with Public Law 89-306 (40 U.S.C. 759), relevant Executive Orders, and other directives; carries out this mission by managing the Federal Information Processing Standards Program, developing Federal ADP standards guidelines, and managing Federal participation in ADP voluntary standardization activities; provides scientific and technological advisory services and assistance to Federal agencies; and provides the technical foundation for computer-related policies of the Federal Government. The Institute consists of the following centers:

Programming Science and Technology — Computer Systems Engineering.

[1] Headquarters and Laboratories at Gaithersburg, MD, unless otherwise noted; mailing address Washington, DC 20234.
[2] Some divisions within the center are located at Boulder, CO 80303.

Ion Energetics Measurements Part I. 1971-1973

H. M. Rosenstock, D. Sims,
S. S. Schroyer, and W. J. Webb

Ion Energetics Data Center
National Measurement Laboratory
National Bureau of Standards
Washington, D.C. 20234

† National Standard Reference Series

U.S. DEPARTMENT OF COMMERCE, Philip M. Klutznick, Secretary
Luther H. Hodges, Jr., Deputy Secretary
Jordan J. Baruch, Assistant Secretary for Productivity, Technology and Innovation
NATIONAL BUREAU OF STANDARDS, Ernest Ambler, Director

Issued September 1980

Library of Congress Cataloging in Publication Data

Main entry under title:

Ion Energetics measurements.

(Nat. stand. ref. data ser. ; NSRDS-NBS 66, pt. 1-)

"Issued February 1980."

Bibliography: p.

Includes indexes.

CONTENTS: pt. 1. 1971-1973.

Supt. of Docs. no.: C 13.48:66/pt. 1

1. Ions--Tables. I. Rosenstock, Henry M. II. National Measurement Laboratory (U.S.). Ion Energetics Data Center. III. Series: United States. National Bureau of Standards. National standard reference data series ; NSRDS-NBS 66, pt. 1

QC100.U573 no. 66, pt. 1, etc. [QD561] 602'.18s
[541.3'72] 80-607942

NSRDS-NBS 66, Part I

Nat. Stand. Ref. Data Ser., Nat. Bur. Stand. (U.S.), 66, Part I, 379 pages (Sept. 1980)
CODEN: NSRDAP

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 1980

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402
Price $8.50
(Add 25 percent for other than U.S. mailing)

Foreword

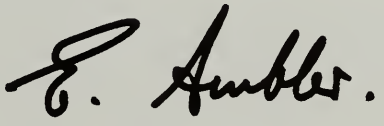
The National Standard Reference Data System provides access to the quantitative data of physical science, critically evaluated and compiled for convenience and readily accessible through a variety of distribution channels. The System was established in 1963 by action of the President's Office of Science and Technology and the Federal Council for Science and Technology, and responsibility to administer it was assigned to the National Bureau of Standards.

NSRDS receives advice and planning assistance from a Review Committee of the National Research Council of the National Academy of Sciences-National Academy of Engineering. A number of Advisory Panels, each concerned with a single technical area, meet regularly to examine major portions of the program, assign relative priorities, and identify specific key problems in need of further attention. For selected specific topics, the Advisory Panels sponsor subpanels which make detailed studies of users' needs, the present state of knowledge, and existing data resources as a basis for recommending one or more data compilation activities. This assembly of advisory services contributes greatly to the guidance of NSRDS activities.

The System now includes a complex of data centers and other activities in academic institutions and other laboratories. Components of the NSRDS produce compilations of critically evaluated data, reviews of the state of quantitative knowledge in specialized areas, and computations of useful functions derived from standard reference data. The centers and projects also establish criteria for evaluation and compilation of data and recommend improvements in experimental techniques. They are normally associated with research in the relevant field.

The technical scope of NSRDS is indicated by the categories of projects active or being planned: nuclear properties, atomic and molecular properties, solid state properties, thermodynamic and transport properties, chemical kinetics, and colloid and surface properties.

Reliable data on the properties of matter and materials are a major foundation of scientific and technical progress. Such important activities as basic scientific research, industrial quality control, development of new materials for building and other technologies, measuring and correcting environmental pollution depend on quality reference data. In NSRDS, the Bureau's responsibility to support American science, industry, and commerce is vitally fulfilled.



Ernest Ambler, *Director*

Contents

Ion Energetics Measurements
Part I. 1971–1973

H. M. Rosenstock, D. Sims, S. S. Schroyer, and W. J. Webb

Ion Energetics Data Center, National Measurement Laboratory, National Bureau of Standards, Washington, D.C. 20234

The present publication tabulates measurement information on energetics of gaseous positive ions published in 1972 and 1973 along with some information from 1971. It is intended to supplement the information previously compiled and evaluated in "Energetics of Gaseous Ions." Approximately five thousand measurements are tabulated, drawn from over six hundred published papers.

Key words: Appearance potential; electron impact; electron spectroscopy; gaseous ion; ionization potential; photoionization; spectroscopy.

1. Introduction

The present supplement is the first of a series intended to update the measurement information which was presented and critically evaluated in the compilation "Energetics of Gaseous Ions"[1].[1]

This supplement includes measurement information on gaseous positive ions which was published in 1972 and 1973, together with additional information which appeared in 1971 but was not included in the ion energetics compilation.

The format and the ordering of ions is similar to the previously published compilation. The notation (V) after an ionization potential indicates a vertical ionization potential which is higher than the adiabatic value [1,2]. The methods, along with their abbreviations, are given in table 1. The methods are discussed in detail in references 1 and 2. In addition, the abstracted measurement information is occasionally annotated with one or more comments which will be useful in evaluating the quality of the information. A list of the comments is given in table 2. They should be self-explanatory, with the possible exception of the comment on metastable transitions. For complex fragmentation processes the observation of metatstable transitions provides useful corroborative information on the neutral products of the fragmentation process. Hence where given in the publication presenting fragment appearance potentials, this additional information has been noted in a comment. We are aware that there is much additional useful information on metastable transitions in other publications. However, no attempt was made to incorporate this material at this stage of the project. Evidently, it will have to be taken into account in the critical evaluations which are planned for the future.

We have inserted two asterisks in the other products column to indicate that no fragmentation takes places. Hence, a blank space in that column indicates a fragmentation process in which the neutral fragments are not specified in the journal article.

As before, names are given for all compounds where chemical structure cannot be adequately represented by a one-line semistructural formula, i.e., ring compounds. In a departure from the previously published compilation, we have decided to adopt the systematic nomenclature used by Chemical Abstracts Services. In some instances this leads to extremely long and involved names. To ease the pain, in these instances we also give a short name, if available. Unfortunately this is not so for some complex organometallic compounds. In all cases, name or no name, we give the Chemical Abstracts Services Registry Number to facilitate access of other data bases and to retain an identifier for the compound which is more permanent than the name.

We emphasize the interim nature of the present supplement. It is probable that additional measurements published during this period will be identified. They will be given in the next supplement, along with those measurements published in 1974 and 1975. Further, the intent of the supplement is to present as accurately as possible the measurement information as given in the papers themselves. This will, of course lead to occasional inconsistencies in the tabulated information, reflecting the inconsistencies in the literature itself. They will (hopefully) be removed in the critical evaluation planned for later. Also, the reader should be cautioned that information given in this supplement is not necessarily more accurate than that presented in the earlier compilation.

[1] Figures in brackets indicate literature references.

Table 1. Methods for ion energetics measurements in order of sort preference

Abbreviation	Technique
S	Spectroscopic
PI	Photoionization
TPE	Threshold Photoelectron Spectroscopy
PE	Photoelectron Spectroscopy
AUG	Auger Electron Spectroscopy
PEN	Penning Ionization
EM	Electron Monochromator Studies
RPD	Retarding Potential Difference
EDD	Energy Distribution Difference
NRE	N^{th} Root Extrapolation
SRP	Square Root Plot
FD	First Derivative
SD	Second Derivative
DC	Deconvolution
SEQ	Sequential Ionization
EI	Other Electron Impact
SI	Surface Ionization
CTS	Charge Transfer Spectrum
BH	Born-Haber Cycle
D	Derived Value
OTH	Other

Table 2. List of comments and coding acronyms

RN	CAS Registry Number xxxxxx-xx-x
RD	Radical
TV	Threshold value approximately corrected to 0 K
HB	Threshold value approximately corrected for hot bands (implies vibrational hot bands)
ZK	Threshold value for zero kinetic energy ions (used only where threshold dependence on KE is measured)
ZT	Zero average translational energy of decomposition at threshold (used where KE is shown to be approximately 0 but no threshold dependence is measured)
AD	____ eV average translational energy of decomposition at threshold
HE	High kinetic energy ion
CD	Metastable transition indicates ____ eV kinetic energy release
UN	Metastable transitions indicate ____ eV kinetic energy release (applies to successive metastables)
PC	Appearance potential of the corresponding metastable transition
MT	Metastable transition(s) observed (used also if there is possibility of collision contribution)
RS	Average of ____ Rydberg series limits (use words)
AV	Average of ____ values (use words)
FI	Fragment from electron impact induced decomposition of____
PA	Appearance potential of negative ion
NI	Negative ion detected
PM	Position of peak maximum
TR	Other product(s) thermochemically reasonable
SC	Mean value of spin-orbit components
JC	Mean value of Jahn-Teller components

References for the Introduction

[1] Rosenstock, H. M., Draxl, K., Steiner, B. W., and Herron, J. T., "Energetics of Gaseous Ions," J. Phys. Chem. Ref. Data **6,** Supplement 1 (1977).

[2] Rosenstock, H. M., "The Measurement of Ionization and Appearance Potentials," Int. J. Mass Spectrom. Ion Phys. **20,** 139 (1976).

2. Acknowledgements

This project was supported by the National Institute of General Medical Sciences, National Institutes of Health (NIGMS) and by the Office of Standard Reference Data, National Bureau of Standards (OSRD). We would like to thank Dr. R. S. Melville of NIGMS and Dr. D. R. Lide, Jr. and Dr. L. H. Gevantman of OSRD for their continued support and encouragement. We are especially grateful for the considerable assistance given us by Mr. R. W. Thompson and Mrs. C. Messina of OSRD in the computer production of this publication. The participation of Mrs. C. Schmidt in the early phases of this project is gratefully acknowledged.

3. Index of Ions

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
H^+	$H_2^+(^2\Sigma_g^+)$	H	18.0±0.2	EI	3799
	(RN-CAS Registry Number 1333-74-0)				
H^+	CH_4		24.0±0.5	EI	3521
	(RN-CAS Registry Number 74-82-8)				
(AD- 1.8-3.2 eV average translational energy of decomposition at threshold)					
H^+	H_2O	$OH(X^2\Pi)$	18.7±0.05	EI	3906
	(RN-CAS Registry Number 7732-18-5)				
(ZK-Threshold value for zero kinetic energy ions)					
H^+	HCHO	HCO	17.41±0.07	PI	3554
	(RN-CAS Registry Number 50-00-0)				
(TR-Other product(s) thermochemically reasonable)					
H^+	HF	F	19.444	PI	3928
	(RN-CAS Registry Number 7664-39-3)				
(TV-Threshold value approximately corrected to 0°K)					
D^+	D_2O	$OD(X^2\Pi)$	18.7±0.05	EI	3906
	(RN-CAS Registry Number 7789-20-0)				
(ZK-Threshold value for zero kinetic energy ions)					
H_2^+	H_2	**	15.42589±0.00005	S	3770
	(RN-CAS Registry Number 1333-74-0)				
H_2^+	H_2	**	15.38186±0.00031	PE	3531
	(RN-CAS Registry Number 1333-74-0)				
(Rotational transitions resolved)					
H_2^+	HCHO	CO	15.42±0.06	PI	3554
	(RN-CAS Registry Number 50-00-0)				
(TR-Other product(s) thermochemically reasonable)					
HD^+	HD	**	15.44477±0.00007	S	3763
	(RN-CAS Registry Number 13983-20-5)				
H_3^+	C_2H_6		32.2±1	EI	3904
	(RN-CAS Registry Number 74-84-0)				
(AD-3.93 eV average translational energy of decomposition at threshold)					
H_3^+	C_3H_8		31.6±1	EI	3904
	(RN-CAS Registry Number 74-98-6)				
(AD-3.46 eV average translational energy of decomposition at threshold)					
H_3^+	n-C_4H_{10}		30.5±1	EI	3904
	(RN-CAS Registry Number 106-97-8)				
(AD-3.03 eV average translational energy of decomposition at threshold)					
Li^+	LiF		~12	EI	3464
	(RN-CAS Registry Number 7789-24-4)				
Li_2^+	Li_2	**	4.96±0.1	S	3768
	(RN-CAS Registry Number 14452-59-6)				
B^+	B	**	8.6±0.4	EI	3468
	(RN-CAS Registry Number 24389-64-8)				

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
BH_2^+	BH_3? (RN-CAS Registry Number 13283-31-3)	H?	11-12	EI	3441
BH_3^+	BH_3 (RN-CAS Registry Number 13283-31-3)	**	11-12	EI	3441
$B_3H_5^+$	B_3H_7 (RN-CAS Registry Number 12429-70-8)		11.5±0.3	EI	3652
$B_3H_6^+$	B_3H_7 (RN-CAS Registry Number 12429-70-8)	H	11.2±0.3	EI	3652
$B_4H_8^+$	B_4H_8 (RN-CAS Registry Number 12007-71-5)	**	10.9±0.3	EI	3652
$B_5H_8^+$	B_5H_9 (RN-CAS Registry Number 19624-22-7)	H	11.84±0.01	RPD	3547
$B_5H_8^+$	1-$B_5H_8CH_3$ (RN-CAS Registry Number 19495-55-7)	CH_3	10.45±0.02	RPD	3547
$B_5H_8^+$	2-$B_5H_8CH_3$ (RN-CAS Registry Number 23753-74-4)	CH_3	10.61±0.05	RPD	3547
$B_5H_8^+$	1-$B_5H_8C_2H_5$ (RN-CAS Registry Number 23753-61-9)	C_2H_5	10.33±0.05	RPD	3547
$B_5H_8^+$	2-$B_5H_8C_2H_5$ (RN-CAS Registry Number 23753-62-0)	C_2H_5	10.31±0.01	RPD	3547
$B_5H_8^+$	1-$B_5H_8C_3H_7$ (RN-CAS Registry Number 34692-67-6)	C_3H_7	10.98±0.01	RPD	3547
$B_5H_8^+$	1-B_5H_8Cl (RN-CAS Registry Number 19469-13-7)	Cl	11.75±0.05	RPD	3547
$B_5H_8^+$	2-B_5H_8Cl (RN-CAS Registry Number 19469-14-8)	Cl	12.20±0.10	RPD	3547
$B_5H_8^+$	1-B_5H_8Br (RN-CAS Registry Number 23753-67-5)	Br	11.38±0.05	RPD	3547
$B_5H_8^+$	2-B_5H_8Br (RN-CAS Registry Number 23753-64-2)	Br	11.75±0.05	RPD	3547
$B_5H_8^+$	1-B_5H_8I (RN-CAS Registry Number 30624-33-0)	I	10.70±0.05	RPD	3547
$B_5H_8^+$	2-B_5H_8I (RN-CAS Registry Number 20199-87-5)	I	10.72±0.05	RPD	3547
$B_5H_9^+$	B_5H_9 (RN-CAS Registry Number 19624-22-7)	**	9.90	PE	3869
C^+	C (RN-CAS Registry Number 7440-44-0)	**	10.5±1.0	EI	3597
C^+	C (RN-CAS Registry Number 7440-44-0)	**	10.8±0.4	EI	3902
C^+	C (RN-CAS Registry Number 7440-44-0)	**	11.4±1.5	EI	3978
C^+	CH_4 (RN-CAS Registry Number 74-82-8)		⩽25.2	DC	3813

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C^{+2}(^3P)$	C^+	**	31.0	SEQ	3489
	(RN-CAS Registry Number 14067-05-1)				
$C^{+2}(^1P)$	C^+	**	37.3	SEQ	3489
	(RN-CAS Registry Number 14067-05-1)				
C^{+3}	C^+	**	75	SEQ	3489
	(RN-CAS Registry Number 14067-05-1)				
$C^{+3}(^2P)$	$C^{+2}(^3P^0)$	**	49.5	SEQ	3489
	(RN-CAS Registry Number 16092-61-8)				
$C^{+3}(^2P)$	C^{+2}	**	55.5	SEQ	3489
	(RN-CAS Registry Number 16092-61-8)				
C_2^+	C_2	**	11.1±1.0	EI	3597
	(RN-CAS Registry Number 12070-15-4)				
C_3^+	C_3	**	12.1±0.2	EI	3601
	(RN-CAS Registry Number 12075-35-3)				
CH^+	CH_4	H_2+H?	22.4	DC	3813
	(RN-CAS Registry Number 74-82-8)				
CH_2^+	CH_4	H_2	15.3	DC	3813
	(RN-CAS Registry Number 74-82-8)				
CH_2^+	CH_3OH	H_2O	14.05±0.05	PI	3554
	(RN-CAS Registry Number 67-56-1)				
(TR-Other product(s) thermochemically reasonable)					
CH_2^+	$CH_2{=}CF_2$	CF_2	16.99±0.02	PI	3930
	(RN-CAS Registry Number 75-38-7)				
CH_2^+	$CH_2{=}CF_2$	CF_2	17.2±0.1	EI	3539
	(RN-CAS Registry Number 75-38-7)				
CH_3^+	CH_3	**	9.81±0.02	PE	3717
	(RN-CAS Registry Number 2229-07-4)				
(RD-Radical)					
CH_3^+	CH_3	**	9.837±0.005	PE	3942
	(RN-CAS Registry Number 2229-07-4)				
(RD-Radical)					
CH_3^+	CH_3	**	9.86±0.04 (V)	PE	3695
	(RN-CAS Registry Number 2229-07-4)				
(RD-Radical)					
CH_3^+	CH_3	**	9.86±0.04	PE	3700
	(RN-CAS Registry Number 2229-07-4)				
(RD-Radical)					
CH_3^+	CH_4	H	14.4	DC	3813
	(RN-CAS Registry Number 74-82-8)				
CH_3^+	$CH_3C{\equiv}CH$	C_2H	14.6±0.1	EI	3769
	(RN-CAS Registry Number 74-99-7)				
(TR-Other product(s) thermochemically reasonable)					
CH_3^+	$CH_3C{\equiv}CH$	C_2H	16.0	EI	3808
	(RN-CAS Registry Number 74-99-7)				
(AD-0.16 eV average translational energy of decomposition at threshold)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
CH_3^+	C_3H_8	$C_2H_5^+$	30.2±1	EI	3904
	(RN-CAS Registry Number 74-98-6)				
(AD-2.7 eV average translational energy of decomposition at threshold)					
CH_3^+	$C_2H_5C{\equiv}CH$	C_3H_3	15.1	EI	3808
	(RN-CAS Registry Number 107-00-6)				
(AD-0.19 eV average translational energy of decomposition at threshold)					
CH_3^+	$(CH_3)_2C{=}CH_2$	C_3H_5	16.4	EI	3808
	(RN-CAS Registry Number 115-11-7)				
(AD-0.20 eV average translational energy of decomposition at threshold)					
CH_3^+	1-C_4H_8	C_3H_5	14.1	EI	3808
	(RN-CAS Registry Number 106-98-9)				
(AD-0.09 eV average translational energy of decomposition at threshold)					
CH_3^+	$(CH_3)_3CC{\equiv}CH$	C_5H_7	14.7	EI	3808
	(RN-CAS Registry Number 917-92-0)				
(AD-0.11 eV average translational energy of decomposition at threshold)					
CH_3^+	$(CH_3)_3CCH{=}CH_2$	C_5H_9	15.4	EI	3808
	(RN-CAS Registry Number 558-37-2)				
(AD-0.13 eV average translational energy of decomposition at threshold)					
CH_3^+	CH_3NH_2	NH_2	14.5	EI	3808
	(RN-CAS Registry Number 74-89-5)				
CH_3^+	$C_2H_5NH_2$	CH_2NH_2	15.6	EI	3808
	(RN-CAS Registry Number 75-04-7)				
(AD-0.19 eV average translational energy of decomposition at threshold)					
CH_3^+	$(CH_3)_2NH$	CH_3NH	14.8	EI	3808
	(RN-CAS Registry Number 124-40-3)				
(AD-0.13 eV average translational energy of decomposition at threshold)					
CH_3^+	$(CH_3)_3N$	$(CH_3)_2N$	14.9	EI	3808
	(RN-CAS Registry Number 75-50-3)				
(AD-0.11 eV average translational energy of decomposition at threshold)					
CH_3^+	$(C_2H_5)_2NH$	$C_2H_5NHCH_2$	15.4	EI	3808
	(RN-CAS Registry Number 109-89-7)				
(AD-0.09 eV average translational energy of decomposition at threshold)					
CH_3^+	$(C_2H_5)_3N$	$(C_2H_5)_2NCH_2$	16.7	EI	3808
	(RN-CAS Registry Number 121-44-8)				
(AD-0.13 eV average translational energy of decomposition at threshold)					
CH_3^+	CH_3OH	OH	13.82±0.04	PI	3554
	(RN-CAS Registry Number 67-56-1)				
(TR-Other product(s) thermochemically reasonable)					
CH_3^+	$(CH_3)_2CO$		15.2	EI	3550
	(RN-CAS Registry Number 67-64-1)				
CH_3^+	$(CH_2NF_2)CH_2$		14.6±0.3	EI	3634
	(RN-CAS Registry Number 21298-22-6)				
CH_3^+	$CH_2(NF_2)CH(NF_2)CH_3$		16.4±0.4	EI	3634
	(RN-CAS Registry Number 15403-25-5)				
CH_3^+	$(CH_3)_2C(NF_2)_2$		14.7±0.2	EI	3634
	(RN-CAS Registry Number 19309-63-8)				
CH_3^+	$(CH_3O)_3PO$		17.90±0.40	EI	3989
	(RN-CAS Registry Number 512-56-1)				
CH_3^+	$(CH_3O)_2P(CH_3S)O$		15.20±0.30	EI	3989
	(RN-CAS Registry Number 152-20-5)				
CH_3^+	$(CH_3O)_2P(CH_3S)S$		14.50±0.40	EI	3989
	(RN-CAS Registry Number 2953-29-9)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
CH_3^+	CH_3I	I	12.260±0.013	PI	3524
	(RN-CAS Registry Number 74-88-4)				
(TR-Other product(s) thermochemically reasonable)					
CH_3^+	CH_3I	I	12.07±0.07	EDD	3626
	(RN-CAS Registry Number 74-88-4)				
$CH_4^+(^2B_2)$	CH_4	**	12.51	PE	3645
	(RN-CAS Registry Number 74-82-8)				
$CH_4^+(^2B_2)$	CH_4	**	~12.51	PE	3529
	(RN-CAS Registry Number 74-82-8)				
$CH_4^+(^2B_2)$	CH_4	**	12.64	PE	3716
	(RN-CAS Registry Number 74-82-8)				
$CH_4^+(^2A_1)$	CH_4	**	22.39	PE	3716
	(RN-CAS Registry Number 74-82-8)				
CH_4^+	CH_4	**	12.8	DC	3813
	(RN-CAS Registry Number 74-82-8)				
C_2H^+	C_2H	**	11.6±0.5	EI	3601
	(RN-CAS Registry Number 2122-48-7)				
(RD-Radical)					
C_2H^+	C_2H	**	11.96±0.05	D	3931
	(RN-CAS Registry Number 2122-48-7)				
(RD-Radical)					
C_2H^+	C_2H	**	11.96±0.05	D	3929
	(RN-CAS Registry Number 2122-48-7)				
(RD-Radical)					
C_2H^+	C_2H_2	H	17.36±0.01	PI	3931
	(RN-CAS Registry Number 74-86-2)				
(TV-Threshold value approximately corrected to 0°K)					
C_2H^+	$CH{\equiv}CCN$	CN	18.19±0.04	PI	3929
	(RN-CAS Registry Number 1070-71-9)				
C_2H^+	$CHF_2C{\equiv}CH$	CHF_2	16.19±0.02	EI	3769
	(RN-CAS Registry Number 18371-25-0)				
(TR-Other product(s) thermochemically reasonable)					
C_2D^+	C_2D_2	D	17.44±0.01	PI	3931
	(RN-CAS Registry Number 1070-74-2)				
(TV-Threshold value approximately corrected to 0°K)					
$C_2H_2^+(^2\Pi_u)$	C_2H_2	**	11.394±0.005	PI	4069
	(RN-CAS-Registry Number 74-86-2)				
$C_2H_2^+(^2\Pi_u)$	C_2H_2	**	11.398±0.005	PI	3921
	(RN-CAS Registry Number 74-86-2)				
$C_2H_2^+$	C_2H_2	**	11.40	PE	4048
	(RN-CAS Registry Number 74-86-2)				
$C_2H_2^+$	$CH_3C{\equiv}CH$	CH_2	15.2±0.1	EI	3769
	(RN-CAS Registry Number 74-99-7)				
(TR-Other product(s) thermochemically reasonable)					
$C_2H_2^+$	C_2H_3F	HF	13.51±0.02	PI	3930
	(RN-CAS Registry Number 75-02-5)				
(TR-Other product(s) thermochemically reasonable)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_2^+$	$CH_2=CF_2$	2F	19.08±0.03	PI	3930
	(RN-CAS Registry Number 75-38-7)				
$C_2H_2^+$	C_2H_3Cl	HCl	12.47±0.1	PI	3930
	(RN-CAS Registry Number 75-01-4)				
(TR-Other product(s) thermochemically reasonable)					
$C_2D_2^+(^2\Pi_u)$	C_2D_2	**	11.404±0.005	PI	3921
	(RN-CAS Registry Number 1070-74-2)				
$C_2D_2^+$	C_2D_6	$2D_2$	14.8	TPE	3919
	(RN-CAS Registry Number 1632-99-1)				
$C_2H_3^+$	C_2H_3	**	8.7±0.1	D	3930
	(RN-CAS Registry Number 2669-89-8)				
(RD-Radical)					
$C_2H_3^+$	C_2H_3F	F	13.84±0.04	PI	3930
	(RN-CAS Registry Number 75-02-5)				
$C_2H_3^+$	C_2H_3Cl	Cl	12.48±0.04	PI	3930
	(RN-CAS Registry Number 75-01-4)				
(TR-Other product(s) thermochemically reasonable)					
$C_2D_3^+$	C_2D_6	D_2+D	14.8	TPE	3919
	(RN-CAS Registry Number 1632-99-1)				
$C_2H_4^+(^2B_{2u})$	C_2H_4	**	10.51	PE	3649
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+$	C_2H_4	**	10.51	PE	3739
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+$	C_2H_4	**	10.51	PE	3847
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+$	C_2H_4	**	10.515±0.003	PE	3957
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+$	C_2H_4	**	10.56	PE	3533
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^{+*}$	C_2H_4	**	12.38	PE	3739
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+(^2B_{2g})$	C_2H_4	**	12.45	PE	3649
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^{+*}$	C_2H_4	**	12.56	PE	3533
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^{+*}$	C_2H_4	**	14.4	PE	3739
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+(^2A_g)$	C_2H_4	**	14.43	PE	3649
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^{+*}$	C_2H_4	**	14.46	PE	3533
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+(^2B_{1u})$	C_2H_4	**	15.74	PE	3649
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^{+*}$	C_2H_4	**	15.96	PE	3533
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+(^2B_{3u})$	C_2H_4	**	~18.8	PE	3649
	(RN-CAS Registry Number 74-85-1)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_4^{+*}$	C_2H_4	**	18.91	PE	3533
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+(^2A_g)$	C_2H_4	**	~22.8	PE	3649
	(RN-CAS Registry Number 74-85-1)				
$C_2H_4^+$	C_3H_8	CH_4	11.55	EI	3488
	(RN-CAS Registry Number 74-98-6)				
(PC-Appearance potential of the corresponding metastable transition)					
$C_2H_4^+$	C_3H_8	CH_4	11.9	EI	3488
	(RN-CAS Registry Number 74-98-6)				
(MT-Metastable transition(s) observed)					
$C_2H_5^+$	C_2H_5Br	Br	10.72±0.08	EDD	3626
	(RN-CAS Registry Number 74-96-4)				
$C_2H_6^+$	C_2H_6	**	11.76±0.05	DC	3791
	(RN-CAS Registry Number 74-84-0)				
$C_2H_6^+$	$(CH_3)_2C(NF_2)_2$	NF_3+CNF?	13.1±0.2	EI	3634
	(RN-CAS Registry Number 19309-63-8)				
C_3H^+	$CH_3C{\equiv}CH$	H_2+H	14.0±0.1	EI	3769
	(RN-CAS Registry Number 74-99-7)				
$C_3H_2^+$	$CH_3C{\equiv}CH$	H_2	13.8±0.1	EI	3769
	(RN-CAS Registry Number 74-99-7)				
$C_3H_3^+$	$CH_3C{\equiv}CH$	H	11.9±0.1	EI	3769
	(RN-CAS Registry Number 74-99-7)				
(TR-Other product(s) thermochemically reasonable)					
$C_3H_3^+$	$C_2H_5C{\equiv}CH$	CH_3	11.7	EI	3808
	(RN-CAS Registry Number 107-00-6)				
(AD-0.06 eV average translational energy of decomposition at threshold)					
$C_3H_3^+$	C_6H_6	C_3H_3	13.79	PI	4075
	(Benzene)				
	(RN-CAS-Registry Number 71-43-2)				
(Corrected for kinetic shift)					
$C_3H_3^+$	$(CH_3)_2NCH{=}CHC{\equiv}CH$	C_2H_4+HCN+H	15.2	EI	3674
	(RN-CAS Registry Number 2206-24-8)				
(TR-Other product(s) thermochemically reasonable)					
$C_3H_3^+$	$(C_2H_5)_2NCH{=}CHC{\equiv}CH$		18.6	EI	3674
	(RN-CAS Registry Number 1809-53-6)				
(TR-Other product(s) thermochemically reasonable)					
(OP-the other product(s) is(are): $2C_2H_2$+HCN+$3H_2$)					
$C_3H_4^+$	$CH_3C{\equiv}CH$	**	10.37	PE	4048
	(RN-CAS Registry Number 74-99-7)				
$C_3H_4^+$	$CH_3C{\equiv}CH$	**	10.5±0.1	EI	3769
	(RN-CAS Registry Number 74-99-7)				
(TR-Other product(s) thermochemically reasonable)					
$C_3H_4^+$	$CH_2{=}C{=}CH_2$	**	10.017±0.003	S	3774
	(RN-CAS Registry Number 463-49-0)				
(RS-Average of two Rydberg series limits)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_4^+$	$CH_2=C=CH_2$	**	10.07 (V)	PE	4019
	(RN-CAS Registry Number 463-49-0)				
$C_3H_4^+(^2B_2)$	C_3H_4	**	9.67	PE	3727
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_4^+(^2B_1)$	C_3H_4	**	9.86 (V)	PE	3505
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_4^+(^2B_1)$	C_3H_4	**	10.57	PE	3727
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_4^+(^2B_2)$	C_3H_4	**	11.02 (V)	PE	3505
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_4^+(^2A_1)$	C_3H_4	**	12.38	PE	3727
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_4^+(^2A_1)$	C_3H_4	**	12.7 (V)	PE	3505
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_4^+(^2B_2)$	C_3H_4	**	14.5	PE	3727
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_4^+(^2A_1)$	C_3H_4	**	16.2	PE	3727
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_4^+(^2B_1)$	C_3H_4	**	17.8	PE	3727
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_4^+(^2A_1)$	C_3H_4	**	19.2	PE	3727
	(Cyclopropene)				
	(RN-CAS Registry Number 2781-85-3)				
$C_3H_5^+$	$(CH_3)_2C=CH_2$	CH_3	11.8	EI	3808
	(RN-CAS Registry Number 115-11-7)				
	(AD-0.05 eV average translational energy of decomposition at threshold)				
$C_3H_5^+$	1-C_4H_8	CH_3	11.8	EI	3808
	(RN-CAS Registry Number 106-98-9)				
	(AD-0.07 eV average translational energy of decomposition at threshold)				
$C_3H_5^+$	C_4H_8	CH_3	10.9	SD	3493
	(Cyclopropane, methyl-)				
	(RN-CAS Registry Number 594-11-6)				
$C_3H_5^+$	$CH\equiv C(CH_2)_3CH_3$		14.09±0.05	EI	3585
	(RN-CAS Registry Number 693-02-7)				
$C_3H_5^+$	$CH_3C\equiv CCH_2CH_2CH_3$		13.9±0.01	EI	3585
	(RN-CAS Registry Number 764-35-2)				
$C_3H_5^+$	C_6H_{10}		13.68±0.05	EI	3585
	(Cyclohexene)				
	(RN-CAS Registry Number 110-83-8)				
$C_3H_5^+$	$C_5H_8=CH_2$		14.05±0.05	EI	3585
	(Cyclopentane, methylene-)				
	(RN-CAS Registry Number 1528-30-9)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_5^+$	$C_5H_7CH_3$ (Cyclopentene, 1-methyl-) (RN-CAS Registry Number 693-89-0)		14.90±0.1	EI	3585
$C_3H_5^+$	$(C_2H_5)_2S$ (RN-CAS Registry Number 352-93-2)	CH_3SH+H	12.41±0.05	PI	4025
$C_3H_5^+$	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)	S_2H	10.8±0.2	EI	3598
$C_3H_5^+$	$CH_2=CHCH_2CH_2Br$ (RN-CAS Registry Number 5162-44-7)	CH_2Br	12.6	EI	3900
$C_3H_5^+$	$CH_2=CH(CH_2)_3Br$ (RN-CAS Registry Number 1119-51-3)		12.2	EI	3900
$C_3H_5^+$	$C_6H_{11}Br$ (Cyclohexane, bromo-) (RN-CAS Registry Number 108-85-0)		12.52±0.05	PI	4078
$C_3H_6^+$	C_3H_6 (RN-CAS Registry Number 115-07-1)	**	9.72	PE	3864
$C_3H_6^+$	C_3H_6 (RN-CAS Registry Number 115-07-1)	**	9.74	PE	3533
$C_3H_6^+$	C_3H_6 (RN-CAS Registry Number 115-07-1	**	9.744±0.003	PE	3957
$C_3H_6^+$	C_3H_6 (RN-CAS Registry Number 115-07-1)	**	9.86 (V)	PE	3950
$C_3H_6^+$	C_3H_6 (RN-CAS Registry Number 115-07-1)	**	9.9 (V)	PE	3940
$C_3H_6^+$	n-C_4H_{10} (RN-CAS Registry Number 106-97-8)	CH_4	11.06	EI	3538
(PC-Appearance potential of the corresponding metastable transition)					
$C_3H_6^+$	n-C_4H_{10} (RN-CAS Registry Number 106-97-8)	CH_4	11.56	EI	3538
(MT-Metastable transition(s) observed)					
$C_3H_6^+$	$(CH_3)_2C=CHCH_2$ (RN-CAS Registry Number 513-35-9)	C_2H_4	11.70±0.11	EI	3544
(TR-Other product(s) thermochemically reasonable)					
$C_3H_6^+$	$CH_3CH_2CH_2CH=CH_2$ (RN-CAS Registry Number 109-67-1)	C_2H_4	11.61±0.08	EI	3544
(TR-Other product(s) thermochemically reasonable)					
$C_3H_6^+$	$(CH_3)_2CHCH=CH_2$ (RN-CAS Registry Number 563-45-1)	C_2H_4	11.54±0.10	EI	3544
(TR-Other product(s) thermochemically reasonable)					
$C_3H_6^+$	$C_2H_5C(CH_3)=CH_2$ (RN-CAS Registry Number 563-46-2)	C_2H_4	11.66±0.06	EI	3544
(TR-Other product(s) thermochemically reasonable)					
$C_3H_6^+$	*cis*-$C_2H_5CH=CHCH_3$ (RN-CAS Registry Number 627-20-3)	C_2H_4	11.54±0.02	EI	3544
(TR-Other product(s) thermochemically reasonable)					
$C_3H_6^+$	*trans*-$C_2H_5CH=CHCH_3$ (RN-CAS Registry Number 646-04-8)	C_2H_4	11.73±0.11	EI	3544
(TR-Other product(s) thermochemically reasonable)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_6^+$	C_5H_{10} (Cyclopentane) (RN-CAS Registry Number 287-92-3)	C_2H_4	11.74±0.07	EI	3544
(TR-Other product(s) thermochemically reasonable)					
$C_3H_6^+$	C_6H_{12} (Cyclohexane) (RN-CAS Registry Number 110-82-7)	C_3H_6	11.23±0.04	PI	4078
$C_3H_6^+$	*n*-C_3H_7OH (RN-CAS Registry Number 71-23-8)	H_2O	10.33±0.03	EDD	3626
$C_3H_6^+$	*n*-C_3H_7OH (RN-CAS Registry Number 71-23-8)	H_2O	10.3	EI	3916
$C_3H_6^+$	C_4H_6O (Cyclobutanone) (RN-CAS Registry Number 1191-95-3)	CO	9.85±0.15	EDD	3794
(TR-Other product(s) thermochemically reasonable)					
$C_3H_6^+$	*iso*-C_3H_7NO (RN-CAS Registry Number 920-40-1)	HNO	10.8±0.1	EI	3602
$C_3H_6^+$	*iso*-C_3H_7NO (RN-CAS Registry Number 920-40-1)		10.8±0.1	EI	3654
$C_3H_7^+$	*n*-C_4H_{10} (RN-CAS Registry Number 106-97-8)	CH_3	11.09	EI	3538
(PC-Appearance potential of the corresponding metastable transition)					
$C_3H_7^+$	*n*-C_4H_{10} (RN-CAS Registry Number 106-97-8)	CH_3	11.53	EI	3538
(MT-Metastable transition(s) observed)					
$C_3H_7^+$	C_6H_{12} (Cyclohexane) (RN-CAS Registry Number 110-82-7)	C_3H_5	11.49±0.03	PI	4078
$C_3H_7^+$	*iso*-C_3H_7Cl (RN-CAS Registry Number 75-29-6)	Cl?	11.3± <0.1	EI	3735
$C_3H_7^+$	*iso*-C_3H_7Br (RN-CAS Registry Number 75-26-3)	Br?	10.7± <0.1	EI	3735
$C_3H_7^+$	*iso*-C_3H_7I (RN-CAS Registry Number 75-30-9)	I?	10.0± <0.1	EI	3735
$C_3H_8^+$	C_3H_8 (RN-CAS Registry Number 74-98-6)	**	11.5 (V)	PE	3710
$C_3H_8^+$	C_3H_8 (RN-CAS Registry Number 74-98-6)	**	11.27±0.05	DC	3791
$C_4H_2^+$	HC≡CC≡CH (RN-CAS Registry Number 460-12-8)	**	10.17	PE	4048
$C_4H_3^+$	$(CH_3)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 2206-24-8)		14.4	EI	3674
(TR-Other product(s) thermochemically reasonable)					
(OP-the other product(s) is(are): *cyclo*-$(CH_2)_2N+H_2$)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_3^+$	$C_4H_8NCH=CHC\equiv CH$ (Pyrrolidine, 1-(1-buten-3-ynyl)-) (RN-CAS Registry Number 19352-85-3)		15.2	EI	3674
	(TR-Other product(s) thermochemically reasonable)				
	(OP-the other product(s) is(are): *cyclo*-$(CH_2)_2N+C_2H_4$)				
$C_4H_3^+$	$(C_2H_5)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 1809-53-6)		15.0	EI	3674
	(TR-Other product(s) thermochemically reasonable)				
	(OP-the other product(s) is(are): $CH_2=NH+C_2H_4+CH_3$)				
$C_4H_4^+$	$CH_2=CHC\equiv CH$ (RN-CAS Registry Number 689-97-4)	**	9.63	PE	3997
$C_4H_4^+$	$CH_2=CHC\equiv CH$ (RN-CAS Registry Number 689-97-4)	**	9.9	EI	3767
$C_4H_4^+$	C_6H_6 (Benzene) (RN-CAS-Registry Number 71-43-2)	C_2H_2	13.85	PI	4075
	(Corrected for kinetic shift)				
$C_4H_4^+$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	C_2H_2	14.1	EI	3488
	(PC-Appearance potential of the corresponding metastable transition)				
$C_4H_4^+$	$(CH_3)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 2206-24-8)	$CH_2=NH+CH_3$	13.4	EI	3674
	(TR-Other product(s) thermochemically reasonable)				
$C_4H_4^+$	$C_4H_8NCH=CHC\equiv CH$ (Pyrrolidine, 1-(1-buten-3-ynyl)-) (RN-CAS Registry Number 19352-85-3)		13.7	EI	3674
	(TR-Other product(s) thermochemically reasonable)				
	(OP-the other product(s) is(are): $CH_2N=CH_2+C_2H_2+H$)				
$C_4H_6^+$	$CH_2=CHCH=CH_2$ (RN-CAS Registry Number 106-99-0)	**	9.03	PE	3847
	(*trans*-conformer)				
$C_4H_6^+$	$CH_3C\equiv CCH_3$ (RN-CAS Registry Number 503-17-3)	**	9.59	PE	4048
$C_4H_6^+$	$CH_2=C=CHCH_3$ (RN-CAS Registry Number 590-19-2)	**	9.33 (V)	PE	4019
$C_4H_6^+$	$CH\equiv C(CH_2)_3CH_3$ (RN-CAS Registry Number 693-02-7)	C_2H_4	11.08±0.05	EI	3585
$C_4H_6^+$	$CH_3C\equiv CCH_2CH_2CH_3$ (RN-CAS Registry Number 764-35-2)	C_2H_4	11.02±0.05	EI	3585
$C_4H_6^+$	C_6H_{10} (Cyclohexene) (RN-CAS Registry Number 110-83-8)	C_2H_4	11.91±0.05	EI	3585
$C_4H_6^+$	$C_5H_8=CH_2$ (Cyclopentane, methylene-) (RN-CAS Registry Number 1528-30-9)	C_2H_4	12.32±0.05	EI	3585
$C_4H_6^+$	$C_5H_7CH_3$ (Cyclopentene, 1-methyl-) (RN-CAS Registry Number 693-89-0)	C_2H_4	12.33±0.05	EI	3585

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_6^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro–) (RN–CAS Registry Number 542–18–7)		11.07±0.03	PI	4078
$C_4H_7^+$	$CH_3CH_2CH_2CH=CH_2$ (RN–CAS Registry Number 109–67–1)	CH_3	11.35±0.07	EI	3544
(TR–Other product(s) thermochemically reasonable)					
$C_4H_7^+$	$(CH_3)_2C=CHCH_3$ (RN–CAS Registry Number 513–35–9)	CH_3	11.33±0.12	EI	3544
(TR–Other product(s) thermochemically reasonable)					
$C_4H_7^+$	$(CH_3)_2CHCH=CH_2$ (RN–CAS Registry Number 563–45–1)	CH_3	11.15±0.12	EI	3544
(TR–Other product(s) thermochemically reasonable)					
$C_4H_7^+$	$C_2H_5C(CH_3)=CH_2$ (RN–CAS Registry Number 563–46–2)	CH_3	11.34±0.07	EI	3544
(TR–Other product(s) thermochemically reasonable)					
$C_4H_7^+$	*cis*–$C_2H_5CH=CHCH_3$ (RN–CAS Registry Number 627–20–3)	CH_3	11.24±0.02	EI	3544
(TR–Other product(s) thermochemically reasonable)					
$C_4H_7^+$	*trans*–$C_2H_5CH=CHCH_3$ (RN–CAS Registry Number 646–04–8)	CH_3	11.35±0.03	EI	3544
(TR–Other product(s) thermochemically reasonable)					
$C_4H_7^+$	C_5H_{10} (Cyclopentane) (RN–CAS Registry Number 287–92–3)	CH_3	11.36±0.08	EI	3544
(TR–Other product(s) thermochemically reasonable)					
$C_4H_7^+$	C_6H_{12} (Cyclohexane) (RN–CAS Registry Number 110–82–7)	C_2H_5	11.21±0.04	PI	4078
$C_4H_7^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro–) (RN–CAS Registry Number 542–18–7)		11.52±0.05	PI	4078
$C_4H_7^+$	$CH_2=CHCH_2CH_2Br$ (RN–CAS Registry Number 5162–44–7)	Br	10.6	EI	3900
$C_4H_7^+$	$C_6H_{11}Br$ (Cyclohexane, bromo–) (RN–CAS Registry Number 108–85–0)		11.54±0.02	PI	4078
$C_4H_8^+$	1–C_4H_8 (RN–CAS Registry Number 106–98–9)	**	9.72 (V)	PE	3950
$C_4H_8^+$	1–C_4H_8 (RN–CAS Registry Number 106–98–9)	**	9.625±0.003	PE	3957
$C_4H_8^+$	*iso*–C_4H_8 (RN–CAS Registry Number 115–11–7)	**	9.21	PE	3533
$C_4H_8^+$	*iso*–C_4H_8 (RN–CAS Registry Number 115–11–7)	**	9.239±0.003	PE	3957
$C_4H_8^+$	*cis*–2–C_4H_8 (RN–CAS Registry Number 590–18–1)	**	9.07	PE	3533
$C_4H_8^+$	*cis*–2–C_4H_8 (RN–CAS Registry Number 590–18–1)	**	9.124±0.005	PE	3957
$C_4H_8^+$	*cis*–2–C_4H_8 (RN–CAS Registry Number 590–18–1)	**	9.29 (V)	PE	4084

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_8^+$	*trans*-2-C_4H_8 (RN-CAS Registry Number 624-64-6)	**	9.11 (V)	PE	3649
$C_4H_8^+$	*trans*-2-C_4H_8 (RN-CAS Registry Number 624-64-6)	**	9.09	PE	3533
$C_4H_8^+$	*trans*-2-C_4H_8 (RN-CAS Registry Number 624-64-6)	**	9.122±0.005	PE	3957
$C_4H_8^+$	*trans*-2-C_4H_8 (RN-CAS Registry Number 624-64-6)	**	9.32 (V)	PE	4084
$C_4H_8^+$	C_4H_8 (Cyclobutane) (RN-CAS Registry Number 287-23-0)	**	9.92±0.05	PE	3757
$C_4H_8^+$	C_4H_8 (Cyclobutane) (RN-CAS Registry Number 287-23-0)	**	10.7±0.1 (V)	PE	4037
$C_4H_8^+$	C_4H_8 (Cyclopropane, methyl-) (RN-CAS Registry Number 594-11-6)	**	9.9±0.2	SD	3493
$C_4H_8^+$	C_6H_{12} (Cyclohexane) (RN-CAS Registry Number 110-82-7)	C_2H_4	11.08±0.01	PI	4078
$C_4H_8^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro-) (RN-CAS Registry Number 542-18-7)		10.2±0.01	PI	4078
$C_4H_9^+$	*tert*-C_4H_9NO (RN-CAS Registry Number 917-95-3)	NO	8.9±0.1	EI	3602
$C_4H_9^+$	*tert*-C_4H_9NO (RN-CAS Registry Number 917-95-3)		8.9±0.1	EI	3654
$C_4H_9^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro-) (RN-CAS Registry Number 542-18-7)		10.56±0.02	PI	4078
$C_4H_9^+$	$(CH_3)_3CGe(CH_3)_3$ (RN-CAS Registry Number 1184-91-4)	$(CH_3)_3Ge$	10.19±0.27	EI	3548
$C_4H_9^+$	$(CH_3)_3CSn(CH_3)_3$ (RN-CAS Registry Number 3531-47-3)	$(CH_3)_3Sn$	10.03±0.23	EI	3548
$C_4H_9^+$	$(CH_3)_3CPb(CH_3)_3$ (RN-CAS Registry Number 32997-03-8)	$(CH_3)_3Pb$	9.45±0.15	EI	3548
$C_4H_{10}^+$	*n*-C_4H_{10} (RN-CAS Registry Number 106-97-8)	**	10.87±0.05	DC	3791
$C_4H_{10}^+$	*n*-C_4H_{10} (RN-CAS Registry Number 106-97-8)	**	10.89	EI	3538
$C_4H_{10}^+$	*iso*-C_4H_{10} (RN-CAS Registry Number 75-28-5)	**	11.4 (V)	PE	3710
$C_4H_{10}^+$	*iso*-C_4H_{10} (RN-CAS Registry Number 75-28-5)	**	10.74±0.05	DC	3791
$C_5H_4^+$	$CH_3C{\equiv}CC{\equiv}CH$ (RN-CAS Registry Number 4911-55-1)	**	9.51	PE	4048

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_5^+$	$C_6H_4ClCH_3$ (Benzene, 1-chloro-2-methyl-) (RN-CAS Registry Number 95-49-8)		15.67±0.015	EI	3777
$C_5H_5^+$	$C_6H_4ClCH_3$ (Benzene, 1-chloro-3-methyl-) (RN-CAS Registry Number 108-41-8)		15.71±0.15	EI	3777
$C_5H_5^+$	$C_6H_4ClCH_3$ (Benzene, 1-chloro-4-methyl-) (RN-CAS Registry Number 106-43-4)		15.66±0.15	EI	3777
$C_5H_5^+$	$C_6H_4BrCH_3$ (Benzene, 1-bromo-2-methyl-) (RN-CAS Registry Number 95-46-5)		15.19±0.15	EI	3777
$C_5H_5^+$	$C_6H_4BrCH_3$ (Benzene, 1-bromo-3-methyl-) (RN-CAS Registry Number 591-17-3)		15.20±0.15	EI	3777
$C_5H_5^+$	$C_6H_4BrCH_3$ (Benzene, 1-bromo-4-methyl-) (RN-CAS Registry Number 106-38-7)		15.23±0.15	EI	3777
$C_5H_5^+$	$C_6H_4ICH_3$ (Benzene, 1-iodo-2-methyl-) (RN-CAS Registry Number 615-37-2)		14.34±0.15	EI	3777
$C_5H_5^+$	$C_6H_4ICH_3$ (Benzene, 1-iodo-3-methyl-) (RN-CAS Registry Number 625-95-6)		14.47±0.15	EI	3777
$C_5H_5^+$	$C_6H_4ICH_3$ (Benzene, 1-iodo-4-methyl-) (RN-CAS Registry Number 624-31-7)		14.66±0.15	EI	3777
$C_5H_6^+$	$CH_2=C(CH_3)C\equiv CH$ (RN-CAS Registry Number 78-80-8)	**	10.1	EI	3767
$C_5H_6^+$	$CH_2=CHC\equiv CCH_3$ (RN-CAS Registry Number 646-05-9)	**	9.4	EI	3767
$C_5H_6^+$	$CH_3CH=CHC\equiv CH$ (RN-CAS Registry Number 2206-23-7)	**	8.5	EI	3767
$C_5H_6^+$	C_5H_6 (Cyclopentadiene) (RN-CAS Registry Number 26912-33-4)	**	8.56±0.01	EM	3535
$C_5H_6^+$	C_5H_6 (1,3-Cyclopentadiene) (RN-CAS Registry Number 542-92-7)	**	9.0	EI	3476
$C_5H_6^+$	$C_3H_5C\equiv CH$ (Cyclopropane, ethynyl-) (RN-CAS Registry Number 6746-94-7)	**	9.58 (V)	PE	3997
$C_5H_6^+$	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene) (RN-CAS Registry Number 498-66-8) (ON-Other name: 2-Norbornene)	C_2H_4	9.22±0.01	EM	3535

(MT-Metastable transition(s) observed)

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_6^+$	C_7H_{10}	C_2H_4	9.44±0.01	EM	3535
	(Tricyclo[2.2.1.$0^{2,6}$]heptane				
	(RN-CAS Registry Number 279-19-6)				
	(ON-Other name: Nortricyclene)				
(MT-Metastable transition(s) observed)					
$C_5H_6^+$	$C_6H_5NH_2$	HCN	12.13±0.06	EDD	3784
	(Benzenamine)				
	(RN-CAS Registry Number 62-53-3)				
(MT-Metastable transition(s) observed)					
$C_5H_6^+$	$C_6H_5NH_2$		12.04± <0.1	EI	3735
	(Benzenamine)				
	(RN-CAS Registry Number 62-53-3)				
$C_5H_6^+$	C_6H_5OH	CO	12.45±0.1	EI	3817
	(Phenol)				
	(RN-CAS Registry Number 108-95-2)				
$C_5H_6^+$	C_6H_5SH	CS	12.18±0.1	EI	3817
	(Benzenethiol)				
	(RN-CAS Registry Number 108-98-5)				
$C_5H_6^+$	C_7H_9Br	C_2H_3Br	10.0	EI	3900
	(bicyclo[2.2.1]hept-2-ene, 5-bromo-, *exo*-)				
	(RN-CAS Registry Number 5810-82-2)				
$C_5H_6^+$	C_7H_9Br	C_2H_3Br	10.0	EI	3900
	(Bicyclo[2.2.1]hept-2-ene, 5-bromo-,*endo*-)				
	(RN-CAS Registry Number 5810-82-2)				
$C_5H_7^+$	$CH{\equiv}C(CH_2)_3CH_3$	CH_3	10.87±0.05	EI	3585
	(RN-CAS Registry Number 693-02-7)				
$C_5H_7^+$	$CH_3C{\equiv}CCH_2CH_2CH_3$	CH_3	10.63±0.05	EI	3585
	(RN-CAS Registry Number 764-35-2)				
(MT-Metastable transition(s) observed)					
$C_5H_7^+$	C_6H_{10}	CH_3	11.22±0.05	EI	3585
	(Cyclohexene)				
	(RN-CAS Registry Number 110-83-8)				
(MT-Metastable transition(s) observed)					
$C_5H_7^+$	$C_5H_8{=}CH_2$	CH_3	11.71±0.05	EI	3585
	(Cyclopentane, methylene-)				
	(RN-CAS Registry Number 1528-30-9)				
(MT-Metastable transition(s) observed)					
$C_5H_7^+$	$C_5H_7CH_3$	CH_3	11.59±0.05	EI	3585
	(Cyclopentene, 1-methyl-)				
	(RN-CAS Registry Number 693-89-0)				
(MT-Metastable transition(s) observed)					
$C_5H_7^+$	$C_{10}H_{16}$		10.0±0.1	PI	3918
	(4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-)				
	(RN-CAS Registry Number 2825-82-3)				
	(ON-Other name: *exo*-Tricyclo[5.2.1.$0^{2,6}$]decane)				
$C_5H_7^+$	$C_{10}H_{15}CH_3$		⩽10.2±0.1	PI	3918
	(RN-CAS Registry Number XXXXX-XX-X)				
	(ON-Other name: 2-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)				

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_7^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl, (2α,3aβ,4α,7α,7aβ)-) (RN-CAS Registry Number 50745-90-9) (ON-Other name: *cis*-4-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		>10.2±0.1	PI	3918
$C_5H_7^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer) (RN-CAS Registry Number 50745-92-1) (ON-Other name: *anti*-10-Methyl-*endo*-tricyclo[5.2.1.$0^{2,6}$]decane)		>10.5±0.1	PI	3918
$C_5H_7^+$	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-) (RN-CAS Registry Number 32787-97-6) (ON-Other name: *endo*-8-Ethyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		>10.2±0.1	PI	3918
$C_5H_7^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro-) (RN-CAS Registry Number 542-18-7)		10.67±0.05	PI	4078
$C_5H_8^+$	$CH_2=C(CH_3)CH=CH_2$ (RN-CAS Registry Number 78-79-5)	**	8.89	PE	3847
$C_5H_8^+$	$CH_2=C(CH_3)CH+CH_2$ (RN-CAS Registry Number 78-79-5)	**	9.04 (V)	PE	3892
$C_5H_8^+$	$CH_2=CHCH_2CH=CH_2$ (RN-CAS Registry Number 591-93-5)	**	9.62±0.02	PE	4010
$C_5H_8^+$	$CH_3CH=C=CHCH_3$ (RN-CAS Registry Number 591-96-8)	**	9.13 (V)	PE	4019
$C_5H_8^+$	$(CH_3)_2C=C=CH_2$ (RN-CAS Registry Number 598-25-4)	**	8.95 (V)	PE	4019
$C_5H_8^+$	*trans*-$CH_2=CHCH=CHCH_3$ (RN-CAS Registry Number 2004-70-8)	**	8.61	PE	3847
$C_5H_8^+$	C_5H_8 (Cyclopropane, ethenyl-) (RN-CAS Registry Number 693-86-7)	**	9.1 (V)	PE	4034
$C_5H_8^+(^2A'')$	$C_3H_5C_2H_3$ (Cyclopropane, ethenyl-) (RN-CAS Registry Number 693-86-7)	**	9.2	PE	3576
$C_5H_8^+(^2A')$	$C_3H_5C_2H_3$ (Cyclopropane, ethenyl-) (RN-CAS Registry Number 693-86-7)	**	10.7	PE	3576
$C_5H_8^+(^2A'')$	$C_3H_5C_2H_3$ (Cyclopropane, ethenyl-) (RN-CAS Registry Number 693-86-7)	**	11.7	PE	3576
$C_5H_9^+$	C_6H_{12} (Cyclohexane) (RN-CAS Registry Number 110-82-7)	CH_3	11.07±0.04	PI	4078
$C_5H_9^+$	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-) (RN-CAS Registry Number 2825-82-3) (ON-Other name: *exo*-Tricyclo[5.2.1.$0^{2,6}$]decane)		10.5±0.1	PI	3918
$C_5H_9^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro-) (RN-CAS Registry Number 542-18-7)		11.01±0.02	PI	4078

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_9^+$	$CH_2=CH(CH_2)_3Br$ (RN-CAS Registry Number 1119-51-3)	Br	10.2	EI	3900
$C_5H_{10}^+$	$(CH_3)_2C=CHCH_3$ (RN-CAS Registry Number 513-35-9)	**	8.682±0.003	PE	3957
$C_5H_{10}^+$	$(CH_3)_2C=CHCH_3$ (RN-CAS Registry Number 513-35-9)	**	8.72	PE	3533
$C_5H_{10}^+$	$(CH_3)_2C=CHCH_3$ (RN-CAS Registry Number 513-35-9)	**	8.83±0.11	EI	3544
$C_5H_{10}^+$	$(CH_3)_2CHCH=CH_2$ (RN-CAS Registry Number 563-45-1)	**	9.533±0.003	PE	3957
$C_5H_{10}^+$	$(CH_3)_2CHCH=CH_2$ (RN-CAS Registry Number 563-45-1)	**	9.60±0.03	EI	3544
$C_5H_{10}^+$	$C_2H_5C(CH_3)=CH_2$ (RN-CAS Registry Number 563-46-2)	**	9.148±0.003	PE	3957
$C_5H_{10}^+$	$C_2H_5C(CH_3)=CH_2$ (RN-CAS Registry Number 563-46-2)	**	9.35±0.08	EI	3544
$C_5H_{10}^+$	1-C_5H_{10} (RN-CAS Registry Number 109-67-1)	**	9.54±0.02 (V)	PE	4010
$C_5H_{10}^+$	1-C_5H_{10} (RN-CAS Registry Number 109-67-1)	**	9.82±0.06	EI	3544
$C_5H_{10}^+$	1-C_5H_{10} (RN-CAS Registry Number 109-67-1)	**	9.524±0.003	PE	3957
$C_5H_{10}^+$	*cis*-2-C_5H_{10} (RN-CAS Registry Number 627-20-3)	**	9.23±0.02	EI	3544
$C_5H_{10}^+$	*cis*-2-C_5H_{10} (RN-CAS Registry Number 627-20-3)	**	9.036±0.005	PE	3957
$C_5H_{10}^+$	*trans*-2-C_5H_{10} (RN-CAS Registry Number 646-04-8)	**	9.32±0.03	EI	3544
$C_5H_{10}^+$	*trans*-2-C_5H_{10} (RN-CAS Registry Number 646-04-8)	**	9.036±0.005	PE	3957
$C_5H_{10}^+$	C_5H_{10} (Cyclopentane) (RN-CAS-Registry Number 287-92-3)	**	10.40	PE	4056
$C_5H_{10}^+$	C_5H_{10} (Cyclopentane) (RN-CAS Registry Number 287-92-3)	**	10.91±0.07	EI	3544
$C_5H_{11}^+$	*tert*-$C_5H_{11}NO$ (RN-CAS Registry Number 34946-78-6)	NO	8.7±0.1	EI	3602
$C_5H_{11}^+$	*tert*-$C_5H_{11}NO$ (RN-CAS Registry Number 34946-78-6)		8.7±0.1	EI	3654
$C_5H_{12}^+$	*n*-C_5H_{12} (RN-CAS-Registry Number 109-66-0)	**	10.36	PE	4056
$C_5H_{12}^+$	*n*-C_5H_{12} (RN-CAS Registry Number 109-66-0)	**	10.59±0.05	DC	3791
$C_5H_{12}^+$	*iso*-C_5H_{12} (RN-CAS Registry Number 78-78-4)	**	10.50±0.05	DC	3791
$C_5H_{12}^+$	*neo*-C_5H_{12} (RN-CAS Registry Number 463-82-1)	**	10.25±0.1	PE	3677

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{12}^+$	*neo*-C_5H_{12}	**	10.21±0.04	PE	3880
	(RN-CAS Registry Number 463-82-1)				
$C_5H_{12}^+$	*neo*-C_5H_{12}	**	11.3 (V)	PE	3710
	(RN-CAS Registry Number 463-82-1)				
$C_5H_{12}^+$	*neo*-C_5H_{12}	**	~11.3 (V)	PE	4050
	(RN-CAS Registry Number 463-82-1)				
(JC-Mean value of Jahn-Teller components)					
$C_6H_2^+$	HC≡CC≡CC≡CH	**	9.50	PE	4048
	(RN-CAS Registry Number 3161-99-7)				
$C_6H_4^+$	C_6H_4	**	9.75±0.2	RPD	3583
	(1,3-Cyclohexadien-5-yne)				
	(RN-CAS Registry Number 462-80-6)				
$C_6H_4^+$	C_6H_6	H_2	12.94	PI	4075
	(Benzene)				
	(RN-CAS-Registry Number 71-43-2)				
(Corrected for kinetic shift)					
$C_6H_4^+$	C_6H_6	H_2	14.04±0.06	EDD	3784
	(Benzene)				
	(RN-CAS Registry Number 71-43-2)				
(MT-Metastable transition(s) observed)					
$C_6H_4^+$	C_6H_5CN	HCN	13.80±0.06	EDD	3784
	(Benzonitrile)				
	(RN-CAS Registry Number 100-47-0)				
(MT-Metastable transition(s) observed)					
$C_6H_4^+$	C_6H_5CN		13.92± <0.1	EI	3735
	(Benzonitrile)				
	(RN-CAS Registry Number 100-47-0)				
$C_6H_5^+$	C_6H_5	**	8.1±0.1	PI	3752
	(Phenyl)				
	(RN-CAS Registry Number 2396-01-2)				
(RD-Radical)					
$C_6H_5^+$	$CH≡CCH_2CH_2C≡CH$	H	10.21±0.03	EI	3790
	(RN-CAS Registry Number 628-16-0)				
$C_6H_5^+$	C_6H_6	H	12.94	PI	4075
	(Benzene)				
	(RN-CAS-Registry Number 71-43-2)				
(Corrected for kinetic shift)					
$C_6H_5^+$	C_6H_6	H	13.97±0.06	EDD	3784
	(Benzene)				
	(RN-CAS Registry Number 71-43-2)				
$C_6H_5^+$	C_6H_6	H	14.05± <0.1	EI	3735
	(Benzene)				
	(RN-CAS Registry Number 71-43-2)				
$C_6H_5^+$	C_6H_5CHO	CO+H	14.11	EI	3792
	(Benzaldehyde)				
	(RN-CAS Registry Number 100-52-7)				
(TR-Other product(s) thermochemically reasonable)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5^+$	$C_6H_5COCH_3$ (Ethanone, 1-phenyl-) (RN-CAS Registry Number 98-86-2)	$CO+CH_3$	13.28	EDD	3626
(TR-Other product(s) thermochemically reasonable)					
$C_6H_5^+$	$C_6H_5COCH_3$ (Ethanone, 1-phenyl-) (RN-CAS Registry Number 98-86-2)	$CO+CH_3$	13.97	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_6H_5^+$	$(C_6H_5)_2CO$ (Methanone, diphenyl-) (RN-CAS Registry Number 119-61-9)	C_6H_5+CO	15.67	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_6H_5^+$	C_6H_5COOH (Benzoic acid) (RN-CAS Registry Number 65-85-0)	$CO+OH$	15.08±0.2	EI	3973
(MT-Metastable transition(s) observed)					
$C_6H_5^+$	C_6H_5COOH (Benzoic acid) (RN-CAS Registry Number 65-85-0)	$CO+OH$	15.08	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_6H_5^+$	$C_6H_5COOCH_3$ (Benzoic acid methyl ester) (RN-CAS Registry Number 93-58-3)	CH_3O+CO	13.82	EDD	3626
(TR-Other product(s) thermochemically reasonable)					
$C_6H_5^+$	$C_6H_5COOCH_3$ (Benzoic acid methyl ester) (RN-CAS Registry Number 93-58-3)	CH_3O+CO	14.74	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_6H_5^+$	C_6H_5NO (Benzene, nitroso-) (RN-CAS Registry Number 586-96-9)	NO	11.0±0.1	EI	3602
$C_6H_5^+$	C_6H_5NO (Benzene, nitroso-) (RN-CAS Registry Number 586-96-9)		11.0±0.1	EI	3654
$C_6H_5^+$	$C_6H_5CONH_2$ (Benzamide) (RN-CAS Registry Number 55-21-0)	NH_2+CO	14.21	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_6H_5^+$	$C_6H_5NO_2$ (Benzene, nitro-) (RN-CAS Registry Number 98-95-3)	NO_2	11.93±0.1	EI	3447
$C_6H_5^+$	C_6H_5Cl (Benzene, chloro-) (RN-CAS Registry Number 108-90-7)	Cl	12.81	EDD	3626
$C_6H_5^+$	C_6H_5COCl (Benzoyl chloride) (RN-CAS Registry Number 98-88-4)	Cl+CO	13.81	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_6H_5^+$	C_6H_5Br (Benzene, bromo-) (RN-CAS Registry Number 108-86-1)	Br	11.82	EDD	3626

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5^+$	C_6H_5I (Benzene, iodo-) (RN-CAS Registry Number 591-50-4)	I	11.34	EDD	3626
$C_6H_3D_2^+$	$CD{\equiv}CCH_2CH_2C{\equiv}CD$ (RN-CAS Registry Number XXXXX-XX-X)	H	10.18±0.03	EI	3790
$C_6H_6^+$	$CH{\equiv}CCH_2CH_2C{\equiv}CH$ (RN-CAS Registry Number 628-16-0)	**	9.87±0.03	EI	3790
$C_6H_6^+$	$CH_3C{\equiv}CC{\equiv}CCH_3$ (RN-CAS Registry Number 2809-69-0)	**	8.91	PE	4048
$C_6H_6^+$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.2	PI	3586
$C_6H_6^+(^2E_{1g})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.2 (V)	PE	3528
$C_6H_6^+$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.24	PE	3519
$C_6H_6^+(^2E_{1g})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.24 (V)	PE	3513
$C_6H_6^+(^2E_{1g})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.24 (V)	PE	3673
$C_6H_6^+$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.24 (V)	PE	3898
$C_6H_6^+$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.25±0.03 (V)	PE	3713
$C_6H_6^+(^2E_{1g})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.25	PE	3520
$C_6H_6^+(^2E_{1g})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.27	PE	3658
$C_6H_6^+(^2E_{2g})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	11.7 (V)	PE	3673
$C_6H_6^+(^2A_{2u})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	12.35 (V)	PE	3673
$C_6H_6^+(^2E_{1u})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	13.9 (V)	PE	3673
$C_6H_6^+(^2B_{2u})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	14.7 (V)	PE	3673

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6^+(^2B_{1u})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	15.4 (V)	PE	3673
$C_6H_6^+(^2A_{1g})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	16.84 (V)	PE	3673
$C_6H_6^+(^2E_{2g})$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	19.0 (V)	PE	3673
$C_6H_6^+$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.20±0.1	EDD	3624
$C_6H_6^+$	C_6H_6 (Benzene) (RN-CAS Registry Number 71-43-2)	**	9.25	CTS	3922
$C_6H_6^+$	C_8H_8 (Pentacyclo[4.2.0.$0^{2,5}$.$0^{3,8}$.$0^{4,7}$]octane) (RN-CAS Registry Number 277-10-1)		9.2± <0.1	EI	3735
$C_6H_6^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	CH_2O	11.27±0.1	EI	3446
$C_6H_6^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	HCHO	11.50	EI	3845
(CD-Metastable transition indicates 0.32 eV kinetic energy release)					
$C_6H_6^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)		11.55± <0.1	EI	3735
$C_6H_6^+$	$C_6H_6Cr(CO)_3$ (Chromium, (η^6-benzene)tricarbonyl-) (RN-CAS Registry Number 12082-08-5)		9.49±0.1	EI	3788
$C_6H_4D_2^+$	$CD{\equiv}CCH_2CH_2C{\equiv}CD$ (RN-CAS Registry Number XXXXX-XX-X)	**	9.97±0.06	EI	3790
$C_6H_7^+$	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene) (RN-CAS Registry Number 498-66-8) (ON-Other name: 2-Norbornene)	CH_3	10.46±0.01	EM	3535
(MT-Metastable transition(s) observed)					
$C_6H_7^+$	C_7H_{10} (Tricyclo[2.2.1.$0^{2,6}$]heptane (RN-CAS Registry Number 279-19-6) (ON-Other name: Nortricyclene)	CH_3	10.17±0.01	EM	3535
(MT-Metastable transition(s) observed)					
$C_6H_8^+$	*cis*-$CH_2{=}CHCH{=}CHCH{=}CH_2$ (RN-CAS Registry Number 2612-46-6)	**	8.32	PE	3847
$C_6H_8^+$	*trans*-$CH_2{=}CHCH{=}CHCH{=}CH_2$ (RN-CAS Registry Number 821-07-8)	**	8.29	PE	3847

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_8^+$	$C_4H_7C{\equiv}CH$ (Cyclobutane, ethynyl–) (RN–CAS Registry Number 50786–62–4)	**	10.02 (V)	PE	3997
$C_6H_8^+$	$C_5H_5CH_3$ (1,3–Cyclopentadiene, methyl–) (RN–CAS Registry Number 26519–91–5)	**	8.28±0.05 (V)	PE	3688
$C_6H_8^+$	$C_{10}H_{16}$ (4,7–Methano–1*H*–indene, octahydro–, (3aα,4β,7β,7aα)–) (RN–CAS Registry Number 2825–82–3) (ON–Other name: *exo*–Tricyclo[5.2.1.$0^{2,6}$]decane)		9.9±0.1	PI	3918
$C_6H_9^+$	$CH{\equiv}C(CH_2)_3CH_3$ (RN–CAS Registry Number 693–02–7)	H	10.75±0.05	EI	3585
$C_6H_9^+$	$CH_3C{\equiv}CCH_2CH_2CH_3$ (RN–CAS Registry Number 764–35–2)	H	10.81±0.05	EI	3585
$C_6H_9^+$	C_6H_{10} (Cyclohexene) (RN–CAS Registry Number 110–83–8)	H	11.8±0.05	EI	3585
$C_6H_9^+$	$C_5H_8{=}CH_2$ (Cyclopentane, methylene–) (RN–CAS Registry Number 1528–30–9)	H	12.13±0.05	EI	3585
$C_6H_9^+$	$C_5H_7CH_3$ (Cyclopentene, 1–methyl–) (RN–CAS Registry Number 693–89–0)	H	11.97±0.05	EI	3585
$C_6H_9^+$	$C_{10}H_{15}CH_3$ (4,7–Methano–1*H*–indene, octahydro–8–methyl, stereoisomer) (RN–CAS Registry Number 50745–92–1) (ON–Other name: *anti*–10–Methyl–*endo*–tricyclo[5.2.1.$0^{2,6}$]decane)		9.5±0.1	PI	3918
$C_6H_9^+$	$C_{10}H_{15}C_2H_5$ (4,7–Methano–1*H*–indene, 5–ethyloctahydro–, (3aα,4β,5α,7β,7aα)–) (RN–CAS Registry Number 32787–97–6) (ON–Other name: *endo*–8–Ethyl–*exo*–tricyclo[5.2.1.$0^{2,6}$]decane)		$\leqslant$10.2±0.1	PI	3918
$C_6H_9^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro–) (RN–CAS Registry Number 542–18–7)		10.40±0.02	PI	4078
$C_6H_{10}^+$	$CH_2{=}C(CH_3)C(CH_3){=}CH_2$ (RN–CAS Registry Number 513–81–5)	**	8.62	PE	3847
$C_6H_{10}^+$	$CH_2{=}C(CH_3)C(CH_3){=}CH_2$ (RN–CAS Registry Number 513–81–5)	**	8.76 (V)	PE	3892
$C_6H_{10}^+$	$CH_2{=}CHCH_2CH_2CH{=}CH_2$ (RN–CAS Registry Number 592–42–7)	**	9.59±0.02 (V)	PE	4010
$C_6H_{10}^+$	$CH{\equiv}C(CH_2)_3CH_3$ (RN–CAS Registry Number 693–02–7)	**	10.52±0.05	EI	3585
$C_6H_{10}^+$	$CH_3C{\equiv}CCH_2CH_2CH_3$ (RN–CAS Registry Number 764–35–2)	**	9.97±0.05	EI	3585
$C_6H_{10}^+$	$(CH_3)_2C{=}C{=}CHCH_3$ (RN–CAS Registry Number 3043–33–2)	**	8.69 (V)	PE	4019
$C_6H_{10}^+$	*trans,trans*–$CH_3CH{=}CHCH{=}CHCH_3$ (RN–CAS Registry Number 5194–51–4)	**	8.09	PE	3847
$C_6H_{10}^+$	*trans,trans*–$CH_3CH{=}CHCH{=}CHCH_3$ (RN–CAS Registry Number 5194–51–4)	**	8.93 (V)	PE	3892

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{10}^+$	C_6H_{10} (Cyclohexene) (RN-CAS Registry Number 110-83-8)	**	9.57±0.05	EI	3585
$C_6H_{10}^+$	$C_5H_8{=}CH_2$ (Cyclopentane, methylene-) (RN-CAS Registry Number 1528-30-9)	**	8.55±0.01	PI	3585
$C_6H_{10}^+$	$C_5H_8{=}CH_2$ (Cyclopentane, methylene-) (RN-CAS Registry Number 1528-30-9)	**	9.26±0.05	EI	3585
$C_6H_{10}^+$	$C_5H_7CH_3$ (Cyclopentene, 1-methyl-) (RN-CAS Registry Number 693-89-0)	**	8.55±0.01	PI	3585
$C_6H_{10}^+$	$C_5H_7CH_3$ (Cyclopentene, 1-methyl-) (RN-CAS Registry Number 693-89-0)	**	9.12±0.05	EI	3585
$C_6H_{10}^+$	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *cis*-) (RN-CAS Registry Number 2207-01-4)	$2CH_3$	10.46±0.1	EDD	3581
$C_6H_{10}^+$	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *trans*-) (RN-CAS Registry Number 6876-23-9)	$2CH_3$	10.63±0.1	EDD	3581
$C_6H_{10}^+$	$C_{10}H_{15}CH_3$ (RN-CAS Registry Number XXXXX-XX-X) (ON-Other name: 2-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		9.8±0.1	PI	3918
$C_6H_{10}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-) (RN-CAS Registry Number 50745-90-9) (ON-Other name: *cis*-4-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		10.0±0.1	PI	3918
$C_6H_{10}^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro-) (RN-CAS Registry Number 542-18-7)		10.10±0.05	PI	4078
$C_6H_{11}^+$	C_6H_{12} (Cyclohexane) (RN-CAS Registry Number 110-82-7)	H	11.32±0.05	PI	4078
$C_6H_{11}^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro-) (RN-CAS Registry Number 542-18-7)		10.20±0.05	PI	4078
$C_6H_{11}^+$	$C_6H_{11}Br$ (Cyclohexane, bromo-) (RN-CAS Registry Number 108-85-0)		9.85±0.05	PI	4078
$C_6H_{12}^+$	$(CH_3)_3CCH{=}CH_2$ (RN-CAS Registry Number 558-37-2)	**	9.450±0.005	PE	3957
$C_6H_{12}^+$	$(CH_3)_3CCH{=}CH_2$ (RN-CAS Registry Number 558-37-2)	**	9.7 (V)	PE	3940
$C_6H_{12}^+$	$(CH_3)_2CHC(CH_3){=}CH_2$ (RN-CAS Registry Number 563-78-0)	**	9.072±0.005	PE	3957
$C_6H_{12}^+$	$(CH_3)_2C{=}C(CH_3)_2$ (RN-CAS Registry Number 563-79-1)	**	8.26	PE	3533
$C_6H_{12}^+$	$(CH_3)_2C{=}C(CH_3)_2$ (RN-CAS Registry Number 563-79-1)	**	8.271±0.005	PE	3957

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{12}^+$	$(CH_3)_2CHCH_2CH=CH_2$ (RN-CAS Registry Number 691-37-2)	**	9.452±0.003	PE	3957
$C_6H_{12}^+$	$(C_2H_5)_2C=CH_2$ (RN-CAS Registry Number 760-21-4)	**	9.061±0.005	PE	3957
$C_6H_{12}^+$	$C_2H_5CH_2C(CH_3)=CH_2$ (RN-CAS Registry Number 763-29-1)	**	9.076±0.005	PE	3957
$C_6H_{12}^+$	1-C_6H_{12} (RN-CAS Registry Number 592-41-6)	**	9.31	PE	4033
$C_6H_{12}^+$	1-C_6H_{12} (RN-CAS Registry Number 592-41-6)	**	9.478±0.003	PE	3957
$C_6H_{12}^+$	1-C_6H_{12} (RN-CAS Registry Number 592-41-6)	**	9.33	EDD	4033
$C_6H_{12}^+$	*cis*-$(CH_3)_2CHCH=CHCH_3$ (RN-CAS Registry Number 691-38-3)	**	8.976±0.005	PE	3957
$C_6H_{12}^+$	*cis*-2-C_6H_{12} (RN-CAS Registry Number 7688-21-3)	**	8.969±0.005	PE	3957
$C_6H_{12}^+$	*cis*-3-C_6H_{12} (RN-CAS Registry Number 7642-09-3)	**	8.954±0.005	PE	3957
$C_6H_{12}^+$	*trans*-$(CH_3)_2CHCH=CHCH_3$ (RN-CAS Registry Number 674-76-0)	**	8.972±0.005	PE	3957
$C_6H_{12}^+$	*trans*-2-C_6H_{12} (RN-CAS Registry Number 4050-45-7)	**	8.966±0.005	PE	3957
$C_6H_{12}^+$	*trans*-3-C_6H_{12} (RN-CAS Registry Number 13269-52-8)	**	8.965±0.005	PE	3957
$C_6H_{12}^+$	C_6H_{12} (Cyclohexane) (RN-CAS Registry Number 110-82-7)	**	9.88±0.01	S	3757
$C_6H_{12}^+$	C_6H_{12} (Cyclohexane) (RN-CAS Registry Number 110-82-7)	**	9.88±0.01	PI	4078
$C_6H_{12}^+$	C_6H_{12} (Cyclohexane) (RN-CAS-Registry Number 110-82-7)	**	9.87	PE	4056
$C_6H_{12}^+$	C_6H_{12} (Cyclohexane) (RN-CAS Registry Number 110-82-7)	**	10.3 (V)	PE	3997
$C_6D_{12}^+$	C_6D_{12} (Cyclohexane-d_{12}) (RN-CAS Registry Number 1735-17-7)	**	9.91±0.01	S	3757
$C_6H_{14}^+$	*n*-C_6H_{14} (RN-CAS-Registry Number 110-54-3)	**	10.22	PE	4056
$C_7H_6^+$	C_7H_6 (Bicyclo[4.1.0]hepta-1,3,5-triene) (RN-CAS-Registry Number 4646-69-9)	**	8.82 (V)	PE	4063
$C_7H_7^+$	C_7H_7 (2,4,6-Cycloheptatrien-1-yl) (RN-CAS Registry Number 3551-27-7)	**	6.74±0.05	EI	3789

(RD-Radical)

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7^+$	$(C_6H_5)_2CH_2$ (Benzene, 1,1′-methylenebis-) (RN-CAS Registry Number 101-81-5)	C_6H_5	11.5±0.1	EI	3807
$C_7H_7^+$	$C_6H_3(CH_3)_2CHO$ (Benzaldehyde, 2,4-dimethyl-) (RN-CAS Registry Number 15764-16-6)		11.2	EI	4051
$C_7H_7^+$	$C_6H_3(CH_3)_2CHO$ (Benzaldehyde, 2,5-dimethyl-) (RN-CAS Registry Number 5779-94-2)		11.2	EI	4051
$C_7H_7^+$	$C_6H_3(CH_3)_2CHO$ (Benzaldehyde, 3,4-dimethyl-) (RN-CAS Registry Number 5973-71-7)		11.1	EI	4051
$C_7H_7^+$	$C_6H_4(CH_3)COOH$ (Benzoic acid, 3-methyl-) (RN-CAS Registry Number 99-04-7) (MT-Metastable transition(s) observed)	COOH	12.48±0.2	EI	3973
$C_7H_7^+$	$C_6H_4(CH_3)COOH$ (Benzoic acid, 4-methyl-) (RN-CAS Registry Number 99-94-5) (MT-Metastable transition(s) observed)	COOH	12.55±0.2	EI	3973
$C_7H_7^+$	$C_6H_5CH_2CH_2OCOCH_3$ (Acetic acid, 2-phenylethyl ester) (RN-CAS Registry Number 103-45-7)		12.50	EI	3590
$C_7H_7^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-3-nitro-) (RN-CAS Registry Number 99-08-1)	NO_2	11.58±0.1	EI	3447
$C_7H_7^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-4-nitro-) (RN-CAS Registry Number 99-99-0)	NO_2	11.80±0.1	EI	3447
$C_7H_7^+$	$C_6H_4ClCH_3$ (Benzene, 1-chloro-2-methyl-) (RN-CAS Registry Number 95-49-8)		11.21±0.1	EI	3777
$C_7H_7^+$	$C_6H_4ClCH_3$ (Benzene, 1-chloro-3-methyl-) (RN-CAS Registry Number 108-41-8)		11.34±0.1	EI	3777
$C_7H_7^+$	$C_6H_4ClCH_3$ (Benzene, 1-chloro-4-methyl-) (RN-CAS Registry Number 106-43-4)		11.42±0.1	EI	3777
$C_7H_7^+$	$C_6H_4BrCH_3$ (Benzene, 1-bromo-2-methyl-) (RN-CAS Registry Number 95-46-5)		11.14±0.1	EI	3777
$C_7H_7^+$	$C_6H_4BrCH_3$ (Benzene, 1-bromo-3-methyl-) (RN-CAS Registry Number 591-17-3)		11.22±0.1	EI	3777
$C_7H_7^+$	$C_6H_4BrCH_3$ (Benzene, 1-bromo-4-methyl-) (RN-CAS Registry Number 106-38-7)		11.22±0.1	EI	3777
$C_7H_7^+$	$C_6H_4ICH_3$ (Benzene, 1-iodo-2-methyl-) (RN-CAS Registry Number 615-37-2)		11.14±0.1	EI	3777

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7^+$	$C_6H_4ICH_3$ (Benzene, 1-iodo-3-methyl-) (RN-CAS Registry Number 625-95-6)		11.26±0.1	EI	3777
$C_7H_7^+$	$C_6H_4ICH_3$ (Benzene, 1-iodo-4-methyl-) (RN-CAS Registry Number 624-31-7)		11.15±0.1	EI	3777
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.82	PI	3753
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.72	PE	3955
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.78±0.02	PE	3854
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.80	PE	3868
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.85±0.015 (V)	PE	4107
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	9.0±0.03 (V)	PE	3713
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.89±0.03	EDD	3626
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.67	EI	3845
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.80±0.1	EI	3788
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.71	CTS	3546
$C_7H_8^+$	$C_6H_5CH_3$ (Benzene, methyl-) (RN-CAS Registry Number 108-88-3)	**	8.91	CTS	4029
(AV-Average of two values)					
$C_7H_8^+$	C_7H_8 (Bicyclo[2.2.1]hepta-2,5-diene) (RN-CAS Registry Number 121-46-0)	**	8.6 (V)	PE	3724
$C_7H_8^+$	C_7H_8 (Bicyclo[2.2.1]hepta-2,5-diene) (RN-CAS Registry Number 121-46-0)	**	8.69 (V)	PE	3687
$C_7H_8^+$	C_7H_8 (Bicyclo[2.2.1]hepta-2,5-diene) (RN-CAS Registry Number 121-46-0)	**	8.70 (V)	PE	3509

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_8^+$	C_7H_8 (Bicylco[2.2.1]hepta-2,5-diene) (RN-CAS Registry Number 121-46-0)	**	8.69 (V)	PE	3824
$C_7H_8^+(^2A_2)$	C_7H_8 (Spiro[2.4]hepta-4,6-diene) (RN-CAS Registry Number 765-46-8)	**	8.14	PE	3576
$C_7H_8^+(^2B_1)$	C_7H_8 (Spiro[2.4]hepta-4,6-diene) (RN-CAS Registry Number 765-46-8)	**	9.46	PE	3576
$C_7H_8^+(^2A_1)$	C_7H_8 (Spiro[2.4]hepta-4,6-diene) (RN-CAS Registry Number 765-46-8)	**	10.9	PE	3576
$C_7H_8^+(^2B_2)$	C_7H_8 (Spiro[2.4]hepta-4,6-diene) (RN-CAS Registry Number 765-46-8)	**	11.89	PE	3576
$C_7H_8^+(^2B_1)$	C_7H_8 (Spiro[2.4]hepta-4,6-diene) (RN-CAS Registry Number 765-46-8)	**	12.7	PE	3576
$C_7H_8^+$	$C_6H_5C_4H_9$ (Benzene, butyl-) (RN-CAS Registry Number 104-51-8)	$CH_2=CHCH_3$	10.10±0.1	EI	3629
$C_7H_8^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-3-methyl-) (RN-CAS Registry Number 100-84-5)	CH_2O	11.22±0.1	EI	3446
$C_7H_8^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-4-methyl-) (RN-CAS Registry Number 104-93-8)	CH_2O	11.11±0.1	EI	3446
$C_7H_8^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-4-methyl-) (RN-CAS Registry Number 104-93-8)	HCHO	11.23	EI	3845
(CD-Metastable transition indicates 0.36 eV kinetic energy release)					
$C_7H_8^+$	$C_6H_5CH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-) (RN-CAS Registry Number 12083-24-8)		8.31±0.1	EI	3788
$C_7H_9^+$	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene) (RN-CAS Registry Number 498-66-8) (ON-Other name: 2-Norbornene)	H	11.0±0.01	EI	3535
$C_7H_9^+$	C_7H_{10} (Tricyclo[2.2.1.$0^{2,6}$]heptane (RN-CAS Registry Number 279-19-6) (ON-Other name: Nortricyclene)	H	11.3±0.01	EM	3535
$C_7H_9^+$	C_7H_9Br (bicyclo[2.2.1]hept-2-ene, 5-bromo-, *exo*-) (RN-CAS Registry Number 5810-82-2)	Br	10.2	EI	3900
$C_7H_9^+$	C_7H_9Br (Bicyclo[2.2.1]hept-2-ene, 5-bromo-, *endo*-) (RN-CAS Registry Number 5810-82-2)	Br	10.1	EI	3900
$C_7H_{10}^+$	*trans,trans*-$CH_2=CHCH=CHCH=CHCH_3$ (RN-CAS Registry Number 17679-93-5)		8.07	PE	3847

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{10}^+$	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene) (RN-CAS Registry Number 498-66-8)	**	8.95 (V)	PE	3509
$C_7H_{10}^+$	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene) (RN-CAS Registry Number 498-66-8)	**	8.97 (V)	PE	3687
$C_7H_{10}^+$	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene) (RN-CAS Registry Number 498-66-8) (ON-Other name: 2-Norbornene)	**	8.80±0.01	EM	3535
$C_7H_{10}^+$	C_7H_{10} (Bicyclo[4.1.0]hept-2-ene) (RN-CAS Registry Number 2566-57-6)	**	8.69 (V)	PE	3849
$C_7H_{10}^+$	C_7H_{10} (Tricyclo[2.2.1.$0^{2,6}$]heptane) (RN-CAS Registry Number 279-19-6)	**	9.40 (V)	PE	3741
$C_7H_{10}^+$	C_7H_{10} (Tricyclo[2.2.1.$0^{2,6}$]heptane (RN-CAS Registry Number 279-19-6) (ON-Other name: Nortricyclene)	**	8.92±0.01	EM	3535
$C_7H_{10}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer) (RN-CAS Registry Number 50745-92-1) (ON-Other name: *anti*-10-Methyl-*endo*-tricyclo[5.2.1.$0^{2,6}$]decane)		9.5±0.1	PI	3918
$C_7H_{11}^+$	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-) (RN-CAS Registry Number 2825-82-3) (ON-Other name: *exo*-Tricyclo[5.2.1.$0^{2,6}$]decane)		9.9±0.1	PI	3918
$C_7H_{11}^+$	$C_{10}H_{15}CH_3$ (RN-CAS Registry Number XXXXX-XX-X) (ON-Other name: 2-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		$\leqslant$10.2±0.1	PI	3918
$C_7H_{11}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-) (RN-CAS Registry Number 50745-90-9) (ON-Other name: *cis*-4-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		10.0±0.1	PI	3918
$C_7H_{11}^+$	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-) (RN-CAS Registry Number 32787-97-6) (ON-Other name: *endo*-8-Ethyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		$\leqslant$10.2±0.1	PI	3918
$C_7H_{12}^+$	$(CH_3)_2C{=}C{=}C(CH_3)_2$ (RN-CAS Registry Number 1000-87-9)	**	8.47 (V)	PE	4019
$C_7H_{12}^+$	$(C_2H_3)_2C(CH_3)_2$ (RN-CAS Registry Number 1112-35-2)	**	9.55 (V)	PE	3994
$C_7H_{12}^+$	$CH_2{=}CH(CH_2)_3CH{=}CH_2$ (RN-CAS Registry Number 3070-53-9)	**	9.52±0.02 (V)	PE	4010
$C_7H_{12}^+$	C_7H_{12} (Bicyclo[2.2.1]heptane) (RN-CAS Registry Number 279-23-2)	**	10.15 (V)	PE	3509

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{12}^+$	C_7H_{12} (Bicyclo[2.2.1]heptane) (RN-CAS Registry Number 279-23-2)	**	10.2 (V)	PE	3687
$C_7H_{12}^+$	C_7H_{12} (Bicyclo[4.1.0]heptane) (RN-CAS Registry Number 286-08-8)	**	9.46 (V)	PE	3849
$C_7H_{13}^+$	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *cis*-) (RN-CAS Registry Number 2207-01-4)	CH_3	10.55±0.05	EDD	3581
$C_7H_{13}^+$	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *trans*-) (RN-CAS Registry Number 6876-23-9)	CH_3	10.73±0.05	EDD	3581
$C_7H_{14}^+$	*trans*-$(CH_3)_3CCH{=}CHCH_2$ (RN-CAS Registry Number 690-08-4)	**	8.908±0.008	PE	3957
$C_7H_{14}^+$	$(CH_3)_3CC(CH_3){=}CH_2$ (RN-CAS Registry Number 594-56-9)	**	9.016±0.007	PE	3957
$C_7H_{14}^+$	$(CH_3)_3CCH_2CH{=}CH_2$ (RN-CAS Registry Number 762-62-9)	**	9.399±0.003	PE	3957
$C_7H_{14}^+$	$(CH_3)_3CCH_2CH{=}CH_2$ (RN-CAS Registry Number 762-62-9)	**	9.6 (V)	PE	3940
$C_7H_{14}^+$	$(CH_3)_2CHCH_2C(CH_3){=}CH_2$ (RN-CAS Registry Number 2213-32-3)	**	9.025±0.005	PE	3957
$C_7H_{14}^+$	$CH_3(CH_2)_3C(CH_3){=}CH_2$ (RN-CAS Registry Number 6094-02-6)	**	9.039±0.005	PE	3957
$C_7H_{14}^+$	$C_2H_5C(CH_3){=}C(CH_3)_2$ (RN-CAS Registry Number 10574-37-5)	**	8.213±0.005	PE	3957
$C_7H_{14}^+$	1-C_7H_{14} (RN-CAS Registry Number 592-76-7)	**	9.442±0.003	PE	3957
$C_7H_{14}^+$	*cis*-$(CH_3)_3CCH{=}CHCH_3$ (RN-CAS Registry Number 762-63-0)	**	8.922±0.008	PE	3957
$C_7H_{14}^+$	*cis*-$(CH_3)_2CHCH_2CH{=}CHCH_3$ (RN-CAS Registry Number 13151-17-2)	**	8.917±0.005	PE	3957
$C_7H_{14}^+$	*trans*-$CH_3CH_2C(CH_3)HCH{=}CHCH_3$ (RN-CAS Registry Number 3683-22-5)	**	8.912±0.005	PE	3957
$C_7H_{14}^+$	*trans*-$(CH_3)_2CHCH_2CH{=}CHCH_3$ (RN-CAS Registry Number 7385-82-2)	**	8.919±0.005	PE	3957
$C_8H_6^+$	$CH_3C{\equiv}CC{\equiv}CC{\equiv}CCH_3$ (RN-CAS Registry Number 1072-20-4)	**	8.60	PE	4048
$C_8H_6^+$	$C_6H_5C{\equiv}CH$ (Benzene, ethynyl-) (RN-CAS Registry Number 536-74-3)	**	8.75	PE	3938
$C_8H_6^+$	$C_6H_5C{\equiv}CH$ (Benzene, ethynyl-) (RN-CAS Registry Number 536-74-3)	**	8.88±0.02 (V)	PE	3854
$C_8H_8^+$	$C_6H_5CH{=}CH_2$ (Benzene, ethenyl-) (RN-CAS Registry Number 100-42-5)	**	8.40±0.02	PE	3854

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_8^+$	$C_6H_5CH=CH_2$ (Benzene, ethenyl-) (RN-CAS Registry Number 100-42-5)	**	8.42	PE	3938
$C_8H_8^+$	$C_6H_5CH=CH_2$ (Benzene, ethenyl-) (RN-CAS Registry Number 100-42-5)	**	8.49 (V)	PE	3964
$C_8H_8^+$	$C_6H_5C_2H_3$ (Benzene, ethenyl-) (RN-CAS Registry Number 100-42-5)	**	8.55 (V)	PE	3781
$C_8H_8^+$	$C_6H_5CH=CH_2$ (Benzene, ethenyl-) (RN-CAS Registry Number 100-42-5)	**	8.55 (V)	PE	3898
$C_8H_8^+$	$C_6H_5CH=CH_2$ (Benzene, ethenyl-) (RN-CAS Registry Number 100-42-5)	**	8.28±0.04	RPD	4097
$C_8H_8^+$	C_8H_8 (Bicyclo[2.2.1]hepta-2,5-diene, 7-methylene-) (RN-CAS Registry Number 37846-63-2) (ON-Other name: 7-Methylene-norbornadiene)	**	8.50 (V)	PE	3933
$C_8H_8^+$	C_8H_8 (Bicyclo[4.2.0]octa-1,3,5-triene) (RN-CAS-Registry Number 694-87-1)	**	8.66 (V)	PE	4063
$C_8H_8^+$	C_8H_8 (1,3,5,7-Cyclooctatetraene) (RN-CAS Registry Number 629-20-9)	**	8.0	PE	3999
$C_8H_8^+$	C_8H_8 (Pentacyclo[4.2.0.$0^{2,5}$.$0^{3,8}$.$0^{4,7}$]octane) (RN-CAS Registry Number 277-10-1)	**	8.4± <0.1	EI	3735
$C_8H_8^+$	C_8H_8 (Tricyclo[3.2.1.$0^{2,8}$]octa-2,6-diene) (RN-CAS Registry Number XXXXX-XX-X) (ON-Other name: Tetrahydrobullvalene)	**	8.5 (V)	PE	4034
$C_8H_8^+$	C_8H_8 (Tricyclo[4.2.0.$0^{2,5}$]octa-3,7-diene, *syn*-) (RN-CAS Registry Number 20380-30-7)	**	9.08 (V)	PE	4045
$C_8H_8^+$	C_8H_8 (Tricyclo[4.2.0.$0^{2,5}$]octa-3,7-diene, *anti*-) (RN-CAS Registry Number 20380-31-8)	**	8.96 (V)	PE	4045
$C_8H_8^+$	$C_6H_5CH_2CH_2OCOCH_3$ (Acetic acid, 2-phenylethyl ester) (RN-CAS Registry Number 103-45-7)		8.90	EI	3590
$C_8H_9^+$	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-3-methyl-) (RN-CAS Registry Number 1595-04-6)		11.43±0.1	EI	3629
$C_8H_9^+$	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-4-methyl-) (RN-CAS Registry Number 1595-05-7)		11.03±0.1	EI	3629
$C_8H_9^+$	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methyl-, acetate) (RN-CAS Registry Number 33709-40-9)		12.30	EI	3590

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_9^+$	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methyl-, acetate) (RN-CAS Registry Number 22532-47-4)		11.80	EI	3590
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,2-dimethyl-) (RN-CAS Registry Number 95-47-6)	**	8.45±0.02	PE	3854
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,2-dimethyl-) (RN-CAS-Registry Number 95-47-6)	**	8.57 (V)	PE	4063
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,2-dimethyl-) (RN-CAS Registry Number 95-47-6)	**	8.75±0.03 (V)	PE	3713
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,2-dimethyl-) (RN-CAS Registry Number 95-47-6)	**	8.55±0.1	EI	3788
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,2-dimethyl-) (RN-CAS Registry Number 95-47-6)	**	8.61	CTS	3546
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,2-dimethyl-) (RN-CAS Registry Number 95-47-6) (AV-Average of two values)	**	8.70	CTS	4029
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,3-dimethyl-) (RN-CAS Registry Number 108-38-3)	**	8.50±0.02	PE	3854
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,3-dimethyl-) (RN-CAS Registry Number 108-38-3)	**	8.71±0.015 (V)	PE	4107
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,3-dimethyl-) (RN-CAS Registry Number 108-38-3)	**	8.75±0.03 (V)	PE	3713
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,4-dimethyl-) (RN-CAS Registry Number 106-42-3)	**	8.37±0.02	PE	3854
$C_8H_{10}^+$	$C_6H_4(CH_3)_2$ (Benzene, 1,4-dimethyl-) (RN-CAS Registry Number 106-42-3)	**	8.6±0.03 (V)	PE	3713
$C_8H_{10}^+$	C_8H_{10} (Bicyclo[2.2.1]hept-2-ene, 5-methylene-) (RN-CAS Registry Number 694-91-7)	**	8.93 (V)	PE	3824
$C_8H_{10}^+$	C_8H_{10} (1,3,5-Cyclooctatriene) (RN-CAS Registry Number 1871-52-9)	**	7.9	PE	3999
$C_8H_{10}^+$	C_8H_{10} (1,3,6-Cyclooctatriene) (RN-CAS Registry Number 3725-30-2)	**	8.5	PE	3999
$C_8H_{10}^+$	C_8H_{10} (Tricyclo[3.2.1.$0^{2,4}$]oct-6-ene, (1α,2α,4α,5α)-) (RN-CAS Registry Number 3635-94-7) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]oct-6-ene, *endo*-)	**	9.05 (V)	PE	3509

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{10}^+$	C_8H_{10} (Tricyclo[3.2.1.$0^{2,4}$]oct-6-ene, (1α,2β,4β,5α)-) (RN-CAS Registry Number 3635-95-8) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]oct-6-ene, *exo*-)	**	8.90 (V)	PE	3509
$C_8H_{10}^+$	C_8H_{10} (Tricyclo[3.2.1.$0^{2,8}$]oct-6-ene) (RN-CAS Registry Number XXXXX-XX-X)	**	8.5 (V)	PE	4034
$C_8H_{10}^+$	C_8H_{10} (Tricyclo[4.2.0.$0^{2,5}$]oct-3-ene, (1α,2β,5β,6α)-) (RN-CAS Registry Number 39781-76-5)	**	9.25 (V)	PE	4045
$C_8H_{10}^+$	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-3-methyl-) (RN-CAS Registry Number 1595-04-6)	$CH_2=CHCH_3$	10.33±0.1	EI	3629
$C_8H_{10}^+$	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-4-methyl-) (RN-CAS Registry Number 1595-05-7)	$CH_2=CHCH_3$	10.14±0.1	EI	3629
$C_8H_{10}^+$	$C_6H_4(CH_3)_2Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-) (RN-CAS Registry Number 12129-29-2)		8.51±0.1	EI	3788
$C_8H_{11}^+$	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-) (RN-CAS Registry Number 32787-97-6) (ON-Other name: *endo*-8-Ethyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		9.9±0.1	PI	3918
$C_8H_{12}^+$	C_8H_{12} (Bicyclo[2.2.1]heptane, 2-methylene-) (RN-CAS Registry Number 497-35-8)	**	9.02 (V)	PE	3824
$C_8H_{12}^+$	C_8H_{12} (Bicyclo[2.2.1]heptane, 7-methylene-) (RN-CAS Registry Number 31463-35-1) (ON-Other name: 7-Methylene-norbornane)	**	9.40 (V)	PE	3933
$C_8H_{12}^+$	$C_6H_{11}C\equiv CH$ (Cyclohexane, ethynyl-) (RN-CAS Registry Number 931-48-6)	**	9.92 (V)	PE	3997
$C_8H_{12}^+$	C_8H_{12} (1,3-Cyclooctadiene) (RN-CAS Registry Number 1700-10-3)	**	8.4	PE	3999
$C_8H_{12}^+$	C_8H_{12} (1,4-Cyclooctadiene) (RN-CAS Registry Number 1073-07-0)	**	8.5	PE	3999
$C_8H_{12}^+$	C_8H_{12} (1,5-Cyclooctadiene) (RN-CAS Registry Number 111-78-4)	**	8.9	PE	3999
$C_8H_{12}^+$	$C_3H_5CH=CHC_3H_5$ (Cyclopropane, 1,1'-(1,2-ethenediyl)bis- (*E*)) (RN-CAS Registry Number 10359-44-1)	**	7.72	PI	3759
$C_8H_{12}^+$	$C_3H_5CH=CHC_3H_5$ (Cyclopropane, 1,1'-(1,2-ethenediyl)bis- (*Z*)) (RN-CAS Registry Number 23510-65-68)	**	7.70	PI	3759

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{12}^+$	$(C_3H_5)_2C{=}CH_2$ (Cyclopropane, 1,1′-ethenylidenebis-) (RN-CAS Registry Number 822-93-5)	**	8.08	PI	3759
$C_8H_{12}^+$	C_8H_{12} (Tricyclo[3.2.1.$0^{2,4}$]octane, (1α,2α,4α,5α)-) (RN-CAS Registry Number 22389-16-8) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]octane, *endo*-)	**	9.40 (V)	PE	3509
$C_8H_{12}^+$	C_8H_{12} (Tricyclo[3.2.1.$0^{2,4}$]octane, (1α,2α,4α,5α)-) (RN-CAS Registry Number 22389-16-8) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]octane, *endo*-)	**	8.8±0.1	EI	3492
$C_8H_{12}^+$	C_8H_{12} (Tricyclo[3.2.1.$0^{2,4}$]octane, (1α,2β,4β,5α)-) (RN-CAS Registry Number 13377-46-3) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]octane, *exo*-)	**	9.40 (V)	PE	3509
$C_8H_{12}^+$	C_8H_{12} (Tricyclo[3.2.1.$0^{2,4}$]octane, (1α,2β,4β,5α)-) (RN-CAS Registry Number 13377-46-3) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]octane, *exo*-)	**	9.1±0.1	EI	3492
$C_8H_{12}^+$	C_8H_{12} (Tricyclo[4.2.0.$0^{2,5}$]octane, *syn*-) (RN-CAS Registry Number 28636-10-4)	**	9.18 (V)	PE	4045
$C_8H_{12}^+$	C_8H_{12} (Tricyclo[4.2.0.$0^{2,5}$]octane, *anti*-) (RN-CAS Registry Number 13027-75-3)	**	9.23 (V)	PE	4045
$C_8H_{12}^+$	C_8H_{12} (Tricyclo[5.1.0.$0^{2,4}$]octane, (1α,2α,4α,7α)-) (RN-CAS Registry Number 50695-42-6)	**	8.95 (V)	PE	3849
$C_8H_{12}^+$	C_8H_{12} (Tricyclo[5.1.0.$0^{2,4}$]octane, (1α,2β,4β,7α)-) (RN-CAS Registry Number 50895-58-4)	**	9.39 (V)	PE	3849
$C_8H_{12}^+$	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-) (RN-CAS Registry Number 2825-82-3) (ON-Other name: *exo*-Tricyclo[5.2.1.$0^{2,6}$]decane)		10.5±0.1	PI	3918
$C_8H_{12}^+$	$C_{10}H_{15}CH_3$ (RN-CAS Registry Number XXXXX-XX-X) (ON-Other name: 2-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		10.0±0.1	PI	3918
$C_8H_{13}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl, (2α,3aβ,4α,7α,7aβ)-) (RN-CAS Registry Number 50745-90-9) (ON-Other name: *cis*-4-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		10.1±0.1	PI	3918
$C_8H_{13}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer) (RN-CAS Registry Number 50745-92-1) (ON-Other name: *anti*-10-Methyl-*endo*-tricyclo[5.2.1.$0^{2,6}$]decane)		9.5±0.1	PI	3918
$C_8H_{14}^+$	$(CH_3)_2C{=}CHCH{=}C(CH_3)_2$ (RN-CAS Registry Number 764-13-6)	**	7.65	PE	3847
$C_8H_{14}^+$	$CH_2{=}CH(CH_2)_4CH{=}CH_2$ (RN-CAS Registry Number 3710-30-3)	**	9.52±0.02 (V)	PE	4010

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{14}^+$	C_8H_{14} (Bicyclo[2.2.2]octane) (RN-CAS Registry Number 280-33-1)	**	9.43	S	3757
$C_8H_{14}^+$	C_8H_{14} (Bicyclo[2.2.2]octane) (RN-CAS Registry Number 280-33-1)	**	9.45±0.02	PE	3757
$C_8H_{14}^+$	C_8H_{14} (Cyclooctene) (RN-CAS Registry Number 931-88-4)	**	8.8	PE	3999
$C_8H_{16}^+$	$(CH_3)_3CCH_2C(CH_3)=CH_2$ (RN-CAS Registry Number 107-39-1)	**	8.909±0.005	PE	3957
$C_8H_{16}^+$	$(CH_3)_2CHC(CH_3)=C(CH_3)_2$ (RN-CAS Registry Number 565-77-5)	**	8.165±0.005	PE	3957
$C_8H_{16}^+$	$C_2H_5CH_2C(CH_3)=C(CH_3)_2$ (RN-CAS Registry Number 7145-20-2)	**	8.186±0.005	PE	3957
$C_8H_{16}^+$	$(C_2H_5)_2C=CHC_2H_5$ (RN-CAS Registry Number 16789-51-8)	**	8.480±0.004	PE	3957
$C_8H_{16}^+$	$(C_2H_5)_2C=C(CH_3)_2$ (RN-CAS Registry Number 19780-67-7)	**	8.170±0.003	PE	3957
$C_8H_{16}^+$	*cis*-$(CH_3)_2CHCH=CHCH(CH_3)_2$ (RN-CAS Registry Number 10557-44-5)	**	8.846±0.005	PE	3957
$C_8H_{16}^+$	*cis*-$C_2H_5C(CH_3)=C(CH_3)C_2H_5$ (RN-CAS Registry Number 19550-87-9)	**	8.172±0.003	PE	3957
$C_8H_{16}^+$	*cis*-3-C_8H_{16} (RN-CAS Registry Number 14850-22-7)	**	8.849±0.005	PE	3957
$C_8H_{16}^+$	*cis*-4-C_8H_{16} (RN-CAS Registry Number7642-15-1)	**	8.841±0.005	PE	3957
$C_8H_{16}^+$	*trans*-$(CH_3)_2CHCH=CHCH(CH_3)_2$ (RN-CAS Registry Number 692-70-6)	**	8.838±0.005	PE	3957
$C_8H_{16}^+$	*trans*-$C_2H_5C(CH_3)=C(CH_3)C_2H_5$ (RN-CAS Registry Number 19550-88-0)	**	8.156±0.003	PE	3957
$C_8H_{16}^+$	*trans*-4-C_8H_{16} (RN-CAS Registry Number 14850-23-8)	**	8.830±0.005	PE	3957
$C_8H_{16}^+$	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *cis*-) (RN-CAS Registry Number 2207-01-4)	**	9.90±0.07	EDD	3581
$C_8H_{16}^+$	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *trans*-) (RN-CAS Registry Number 6876-23-9)	**	10.03±0.05	EDD	3581
$C_8H_{16}^+$	C_8H_{16} (Cyclooctane) (RN-CAS Registry Number 292-64-8)	**	9.7	PE	3999
$C_9H_7^+$	$C_6H_5C{\equiv}CCH_3$ (Benzene, 1-propynyl-) (RN-CAS Registry Number 673-32-5)		11.42±0.05	EI	4044
$C_9H_7^+$	C_9H_8 (1*H*-Indene) (RN-CAS Registry Number 95-13-6)	H	12.62±0.05	EI	4044

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_7^+$	$C_6H_8(C_6H_5)_2$ (Benzene, 1,1′-(2-cyclohexen-1-ylidene)bis-) (RN-CAS Registry Number 31158-25-5)		13.6±0.4	EI	4018
$C_9H_7^+$	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1′-cyclohexylidenebis-) (RN-CAS Registry Number 21113-55-3)		13.3±0.4	EI	4018
$C_9H_7^+$	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1′-(4-methylcyclohexylidene)bis-) (RN-CAS Registry Number 32812-65-0)		13.7±0.4	EI	4018
$C_9H_7^+$	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-) (RN-CAS Registry Number 50592-50-2)		13.2±0.4	EI	4018
$C_9H_7^+$	$C_6H_5C{\equiv}CCH{=}CHCH_2OH$ (2-Penten-4-yn-1-ol, 5-phenyl-, (*E*)-) (RN-CAS Registry Number 40317-08-6)		11.43±0.05	EI	4044
$C_9H_7^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2-diphenyl-) (RN-CAS Registry Number 22612-62-0)		14.1±0.4	EI	4018
$C_9H_7^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4-diphenyl-) (RN-CAS Registry Number 4528-68-1)		13.5±0.4	EI	4018
$C_9H_7^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2-methyl-5,5-diphenyl-) (RN-CAS Registry Number 50592-49-9)		13.5±0.4	EI	4018
$C_9H_7^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6-methyl-2,2-diphenyl-) (RN-CAS Registry Number 50592-52-4)		13.7±0.4	EI	4018
$C_9H_7^+$	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-) (RN-CAS Registry Number 50592-47-7)		13.7±0.4	EI	4018
$C_9H_7^+$	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$ (Cyclohexanone, 2,2-dimethyl-6,6-diphenyl-) (RN-CAS Registry Number 50592-53-5)		13.8±0.4	EI	4018
$C_9H_7^+$	$C_{10}H_{11}(=O)(CH_3)(C_6H_5)_2$ (2(3*H*)-Naphthalenone,4,4a,5,6,7,8-hexahydro-4a-methyl-7,7-diphenyl-) (RN-CAS Registry Number 50786-03-3)		13.0±0.4	EI	4018
$C_9H_7^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-) (RN-CAS Registry Number XXXXX-XX-X)		13.4±0.4	EI	4018
$C_9H_7^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ (Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-) (RN-CAS Registry Number 50592-55-7)		14.2±0.4	EI	4018
$C_9H_7^+$	$C_6H_6(=O)(C_6H_5){=}CHS(CH_2)_3CH_3$ (Cyclohexanone, 6-[(butylthio)methylene]-2,2-diphenyl-) (RN-CAS Registry Number 50592-51-3)		13.7±0.4	EI	4018
$C_9H_7^+$	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH{=}C(CH_3)Cl$ (Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-) (RN-CAS Registry Number 50592-54-6)		13.7±0.4	EI	4018
$C_9H_8^+$	C_9H_8 (1*H*-Indene) (RN-CAS Registry Number 95-13-6)	**	8.33±0.01	EI	3805

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_8^+$	C_9H_8 (Spiro[4.4]nona-1,3,6,8-tetraene) (RN-CAS Registry Number 14867-83-5)	**	7.99 (V)	PE	4049
$C_9H_{10}^+$	$C_6H_4(CH_3)CH=CH_2$ (Benzene, 1-ethenyl-2-methyl-) (RN-CAS Registry Number 611-15-4)	**	8.20±0.02	PE	3854
$C_9H_{10}^+$	$C_6H_4(CH_3)CH=CH_2$ (Benzene, 1-ethenyl-2-methyl-) (RN-CAS Registry Number 611-15-4)	**	8.53 (V)	PE	3964
$C_9H_{10}^+$	$C_6H_4(CH_3)CH=CH_2$ (Benzene, 1-ethenyl-3-methyl-) (RN-CAS Registry Number 100-80-1)	**	8.15±0.02	PE	3854
$C_9H_{10}^+$	$C_6H_4(CH_3)CH=CH_2$ (Benzene, 1-ethenyl-3-methyl-) (RN-CAS Registry Number 100-80-1)	**	8.37 (V)	PE	3964
$C_9H_{10}^+$	$C_6H_4(CH_3)CH=CH_2$ (Benzene, 1-ethenyl-4-methyl-) (RN-CAS Registry Number 622-97-9)	**	8.20 (V)	PE	3964
$C_9H_{10}^+$	$C_6H_5C(CH_3)=CH_2$ (Benzene, (1-methylethenyl)-) (RN-CAS Registry Number 98-83-9)	**	8.52 (V)	PE	3964
$C_9H_{10}^+$	$C_6H_5C(CH_3)=CH_2$ (Benzene, (1-methylethenyl)-) (RN-CAS Registry Number 98-83-9)	**	8.18±0.04	RPD	4097
$C_9H_{10}^+$	$C_6H_5CH=CHCH_3$ (Benzene, 1-propenyl-, (E)-) (RN-CAS Registry Number 873-66-5)	**	8.20±0.02	PE	3854
$C_9H_{10}^+$	$C_6H_5CH=CHCH_3$ (Benzene, 1-propenyl-,(E)-) (RN-CAS Registry Number 873-66-5)	**	7.84±0.04	RPD	4097
$C_9H_{10}^+$	$C_6H_5C(CH_3)=CH_2$ (Benzene, 2-propenyl-) (RN-CAS Registry Number 300-57-2)	**	8.20±0.02	PE	3854
$C_9H_{10}^+$	$C_6H_5CH_2CH=CH_2$ (Benzene, (2-propenyl)-) (RN-CAS Registry Number 300-57-2)	**	8.60	PE	3938
$C_9H_{10}^+$	C_9H_{10} (Bicyclo[3.2.2]nona-2,6,8-triene) (RN-CAS Registry Number 16216-91-4)	**	8.72 (V)	PE	3991
$C_9H_{10}^+$	C_9H_{10} (1*H*-Indene, 2,3-dihydro-) (RN-CAS Registry Number 496-11-7)	**	8.45±0.02 (V)	PE	3854
$C_9H_{10}^+$	C_9H_{10} (1*H*-Indene, 2,3-dihydro-) (RN-CAS-Registry Number 496-11-7)	**	8.46 (V)	PE	4063
$C_9H_{10}^+$	C_9H_{10} (1*H*-Indene, 2,3-dihydro-) (RN-CAS Registry Number 496-11-7)	**	8.60±0.01	EI	3805
$C_9H_{10}^+$	C_9H_{10} (1*H*-Indene, 2,3-dihydro-) (RN-CAS Registry Number 496-11-7)	**	8.52	CTS	3546

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{10}^+$	C_9H_{10} (Spiro[bicyclo[2.2.1]hepta-2,5-diene-7,1′-cyclopropane]) (RN-CAS Registry Number 7092-57-1)	**	8.73 (V)	PE	3780
$C_9H_{10}^+$	C_9H_{10} (Tricyclo[3.3.1.$0^{2,8}$]nona-3,6-diene) (RN-CAS Registry Number 14693-11-9)	**	8.4 (V)	PE	4034
$C_9H_{10}^+$	C_9H_{10} (Tricyclo[4.2.1.$0^{2,5}$]nona-3,7-diene) (RN-CAS Registry Number 4932-71-2)	**	8.7 (V)	PE	3853
$C_9H_{10}^+$	C_9H_{10} (Tricyclo[4.2.1.$0^{2,5}$]nona-3,7-diene, (1α,2β,5β,6α)-) (RN-CAS Registry Number 15564-44-0) (ON-Other name: Tricyclo[4.2.1.$0^{2,5}$]nona-3,7-diene, *exo*-)	**	8.65±0.05 (V)	PE	4040
$C_9H_{10}^+$	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methyl-, acetate) (RN-CAS Registry Number 33709-40-9)		8.75	EI	3590
$C_9H_{10}^+$	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methyl-, acetate) (RN-CAS Registry Number 22532-47-4)		8.50	EI	3590
$C_9H_{12}^+$	$(C_2H_3)_4C$ (RN-CAS Registry Number 20685-34-1)	**	9.52 (V)	PE	3994
$C_9H_{12}^+$	$C_6H_3(CH_3)_3$ (Benzene, 1,2,3-trimethyl-) (RN-CAS Registry Number 526-73-8)	**	8.6±0.03 (V)	PE	3713
$C_9H_{12}^+$	$C_6H_3(CH_3)_3$ (Benzene, 1,2,4-trimethyl-) (RN-CAS Registry Number 95-63-6)	**	8.5±0.03 (V)	PE	3713
$C_9H_{12}^+$	$C_6H_3(CH_3)_3$ (Benzene, 1,3,5-trimethyl-) (RN-CAS Registry Number 108-67-8)	**	8.65±0.03 (V)	PE	3713
$C_9H_{12}^+$	$C_6H_3(CH_3)_3$ (Benzene, 1,3,5-trimethyl-) (RN-CAS Registry Number 108-67-8)	**	8.21±0.1	EI	3788
$C_9H_{12}^+$	$C_6H_3(CH_3)_3$ (Benzene, 1,3,5-trimethyl-) (RN-CAS Registry Number 108-67-8)	**	8.46	CTS	4029
(AV-Average of two values)					
$C_9H_{12}^+$	C_9H_{12} (Bicyclo[3.2.2]nona-2,6-diene) RN-CAS Registry Number 14993-07-8)	**	8.84 (V)	PE	3991
$C_9H_{12}^+$	C_9H_{12} (Bicyclo[3.2.2]nona-6,8-diene) (RN-CAS Registry Number 7164-08-1)	**	9.00 (V)	PE	3991
$C_9H_{12}^+$	C_9H_{12} (Tetracyclo[3.3.1.$0^{2,8}$.$0^{4,6}$]nonane) (RN-CAS Registry Number 3105-29-1)	**	8.67 (V)	PE	3741
$C_9H_{12}^+$	C_9H_{12} (Tricyclo[4.2.1.$0^{2,5}$]non-3-ene) (RN-CAS Registry Number 7078-40-2)	**	9 (V)	PE	3853

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{12}^+$	C_9H_{12} (Tricyclo[4.2.1.$0^{2,5}$]non-3-ene, (1α,2β,5β,6α)-) (RN-CAS Registry Number 16529-76-3) (ON-Other name: Tricyclo[4.2.1.$0^{2,5}$]non-3-ene, *exo*-)	**	9.00±0.05 (V)	PE	4040
$C_9H_{12}^+$	C_9H_{12} (Tricyclo[4.2.1.$0^{2,5}$]non-7-ene) (RN-CAS Registry Number 6827-30-1)	**	8.7 (V)	PE	3853
$C_9H_{12}^+$	C_9H_{12} (Tricyclo[4.2.1.$0^{2,5}$]non-7-ene, *exo*-) (RN-CAS Registry Number 16529-82-1)	**	8.70±0.05 (V)	PE	4040
$C_9H_{12}^+$	$C_6H_3(CH_3)_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-) (RN-CAS Registry Number 12129-67-8)		8.61±0.1	EI	3788
$C_9H_{13}^+$	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-) (RN-CAS Registry Number 2825-82-3) (ON-Other name: *exo*-Tricyclo[5.2.1.$0^{2,6}$]decane)	CH_3	9.8±0.1	PI	3918
$C_9H_{13}^+$	$C_{10}H_{15}CH_3$ (RN-CAS Registry Number XXXXX-XX-X) (ON-Other name: 2-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		⩽10.2±0.1	PI	3918
$C_9H_{13}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-) (RN-CAS Registry Number 50745-90-9) (ON-Other name: *cis*-4-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		10.1±0.1	PI	3918
$C_9H_{13}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer) (RN-CAS Registry Number 50745-92-1) (ON-Other name: *anti*-10-Methyl-*endo*-tricyclo[5.2.1.$0^{2,6}$]decane)		9.5±0.1	PI	3918
$C_9H_{13}^+$	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-) (RN-CAS Registry Number 32787-97-6) (ON-Other name: *endo*-8-Ethyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		9.9±0.1	PI	3918
$C_9H_{14}^+$	C_9H_{14} (Bicyclo[3.2.2]non-2-ene) (RN-CAS Registry Number 40319-81-1)	**	8.84 (V)	PE	3991
$C_9H_{14}^+$	C_9H_{14} (Bicyclo[3.2.2]non-6-ene) (RN-CAS Registry Number 7124-86-9)	**	8.95 (V)	PE	3991
$C_9H_{14}^+$	C_9H_{14} (1,2-Cyclononadiene) (RN-CAS Registry Number 1123-11-1)	**	8.87 (V)	PE	4019
$C_9H_{14}^+$	C_9H_{14} (Tricyclo[3.2.2.$0^{2,4}$]nonane) (RN-CAS Registry Number 278-80-8)	**	9.50 (V)	PE	3849
$C_9H_{14}^+$	C_9H_{14} (Tricyclo[4.2.1.$0^{2,5}$]nonane, *exo*-) (RN-CAS Registry Number 16526-27-5)	**	9.5±0.05 (V)	PE	4040
$C_9H_{16}^+$	$CH_2=CH(CH_2)_5CH=CH_2$ (RN-CAS Registry Number 4900-30-5)	**	9.51±0.02 (V)	PE	4010

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{16}^+$	$C_7H_{10}(CH_3)_2$ (Bicyclo[2.2.1]heptane, 7,7-dimethyl-) (RN-CAS Registry Number 2034-53-9)	**	8.30	PE	3687
$C_9H_{16}^+$	C_9H_{16} (Bicyclo[3.2.2]nonane) (RN-CAS Registry Number 283-19-2)	**	9.6 (V)	PE	3991
$C_9H_{16}^+(^2E)$	C_9H_{16} (Bicyclo[6.1.0]nonane) (RN-CAS Registry Number 286-60-2)	**	9.4 (V)	PE	3509
$C_9H_{16}^+$	C_9H_{16} (Bicyclo[6.1.0]nonane, *trans*-) (RN-CAS Registry Number 39124-79-3)	**	9.36 (V)	PE	3849
$C_9H_{18}^+$	$CH_3(CH_2)_3C(CH_3)=C(CH_3)_2$ (RN-CAS Registry Number 3074-64-4)	**	8.145±0.005	PE	3957
$C_9H_{18}^+$	$C_2H_5CH_2C(CH_3)=C(CH_3)C_2H_5$ (RN-CAS Registry Number 3074-67-7)	**	8.077±0.005	PE	3957
$C_9H_{18}^+$	$(C_2H_5)_2C=C(CH_3)C_2H_5$ (RN-CAS Registry Number 50787-13-8)	**	8.128±0.005	PE	3957
$C_{10}H_8^+$	$C_{10}H_8$ (Naphthalene) (RN-CAS Registry Number 91-20-3)	**	8.1	PI	3586
$C_{10}H_8^+$	$C_{10}H_8$ (Naphthalene) (RN-CAS Registry Number 91-20-3)	**	8.13	PE	3637
$C_{10}H_8^+$	$C_{10}H_8$ (Naphthalene) (RN-CAS-Registry Number 91-20-3)	**	8.15	PE	4066
$C_{10}H_8^+$	$C_{10}H_8$ (Naphthalene) (RN-CAS Registry Number 91-20-3)	**	8.15	PE	3638
$C_{10}H_8^+$	$C_{10}H_8$ (Naphthalene) (RN-CAS Registry Number 91-20-3)	**	8.15	PE	3668
$C_{10}H_8^+$	$C_{10}H_8$ (Naphthalene) (RN-CAS Registry Number 91-20-3)	**	8.15 (V)	PE	3781
$C_{10}H_8^+$	$C_{10}H_8$ (Naphthalene) (RN-CAS Registry Number 91-20-3)	**	8.15 (V)	PE	3898
$C_{10}H_8^+$	$C_{10}H_8$ (Naphthalene) (RN-CAS Registry Number 91-20-3)	**	8.25±0.01	RPD	3588
$C_{10}H_8^+$	$C_{10}H_8$ (Naphthalene) (RN-CAS Registry Number 91-20-3)	**	8.12	CTS	3922
$C_{10}H_{10}^+$	$C_6H_5CH=CHCH=CH_2$ (Benzene, 1,3-butadienyl-, (E)-) (RN-CAS Registry Number 16939-57-4)	**	7.95	PE	3892

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{10}^+$	$CH_2=C(C_6H_5)CH=CH_2$	**	8.57	PE	3892
	(Benzene, (1-methylene-2-propenyl)-)				
	(RN-CAS Registry Number 2288-18-8)				
$C_{10}H_{10}^+$	$C_9H_8=CH_2$	**	8.25 (V)	PE	4094
	(Bicyclo[4.2.1]nona-2,4,7-triene, 9-methylene-)				
	(RN-CAS Registry Number 38898-39-4)				
$C_{10}H_{10}^+$	$C_{10}H_{10}$	**	9.0 (V)	PE	4004
	(Cyclopenta[*cd*]pentalene, 2a,4a,6a,6b-tetrahydro-)				
	(RN-CAS Registry Number 6053-74-3)				
	(ON-Other name: Triquinacene)				
$C_{10}H_{10}^+$	$C_9H_8(=CH_2)$	**	8.00±0.02	PE	3854
	(1*H*-Indene, 2,3-dihydro-1-methylene-)				
	(RN-CAS Registry Number 1194-56-5)				
$C_{10}H_{10}^+$	$C_{10}H_{10}$	**	8.50 (V)	PE	3849
	(1,2,3-Metheno-1*H*-dicycloprop[*cd*,*hi*]indene, octahydro-)				
	(RN-CAS Registry Number 33840-23-2)				
	(ON-Other name: Diademane)				
$C_{10}H_{10}^+$	$(C_5H_5)_2Fe$	Fe	13.8±0.5	EI	3628
	(Ferrocene)				
	(RN-CAS Registry Number 102-54-5)				
	(PC-Appearance potential of the corresponding metastable transition)				
$C_{10}H_{10}^+$	$(C_5H_5)_2Fe$	Fe	13.96±0.10	EI	3628
	(Ferrocene)				
	(RN-CAS Registry Number 102-54-5)				
	(MT-Metastable transition(s) observed)				
$C_{10}H_{10}^+$	$(C_5H_5)_2Ni$	Ni	13.3±0.5	EI	3628
	(Nickelocene)				
	(RN-CAS Registry Number 1271-28-9)				
	(PC-Appearance potential of the corresponding metastable transition)				
$C_{10}H_{12}^+$	$C_6H_3(CH_3)_2CH=CH_2$	**	8.22 (V)	PE	3964
	(Benzene, 1-ethenyl-2,4-dimethyl-)				
	(RN-CAS Registry Number 2234-20-0)				
$C_{10}H_{12}^+$	$C_6H_3(CH_3)_2CH=CH_2$	**	8.10±0.02	PE	3854
	(Benzene, 2-ethenyl-1,3-dimethyl-)				
	(RN-CAS Registry Number 2039-90-9)				
$C_{10}H_{12}^+$	$C_6H_3(CH_3)_2CH=CH_2$	**	8.48 (V)	PE	3964
	(Benzene, 2-ethenyl-1,3-dimethyl-)				
	(RN-CAS Registry Number 2039-90-9)				
$C_{10}H_{12}^+$	$C_6H_3(CH_3)_2CH=CH_2$	**	8.00±0.02	PE	3854
	(Benzene, 2-ethenyl-1,4-dimethyl-)				
	(RN-CAS Registry Number 2039-89-6)				
$C_{10}H_{12}^+$	$C_6H_5CH=C(CH_3)_2$	**	7.78±0.04	RPD	4097
	(Benzene, (2-methyl-1-propenyl)-)				
	(RN-CAS Registry Number 768-49-0)				
$C_{10}H_{12}^+$	$C_7H_6=C(CH_3)_2$	**	7.97	PE	3687
	(Bicyclo[2.2.1]hepta-2,5-diene, 7-(1-methylethylidene)-)				
	(RN-CAS Registry Number 36456-22-1)				
$C_{10}H_{12}^+$	$C_9H_9CH_3$	**	8.47	CTS	3546
	(1*H*-Indene, 2,3-dihydro-1-methyl-)				
	(RN-CAS Registry Number 767-58-8)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{12}^+$	$C_{10}H_{12}$ (Naphthalene, 1,2,3,4-tetrahydro-) (RN-CAS-Registry Number 119-64-2)	**	8.44 (V)	PE	4063
$C_{10}H_{12}^+$	$C_{10}H_{12}$ (Naphthalene, 1,2,3,4-tetrahydro-) (RN-CAS Registry Number 119-64-2)	**	8.45±0.02 (V)	PE	3854
$C_{10}H_{12}^+$	$C_{10}H_{12}$ (Naphthalene, 1,2,3,4-tetrahydro-) (RN-CAS Registry Number 119-64-2)	**	8.47	CTS	3546
$C_{10}H_{12}^+$	$C_{10}H_{12}$ (Tricycloprop[*cd,f,hi*]indene, decahydro-, (1aα,1bα,1cβ,2aβ,2bα,2cα,2dα,2eα)-) (RN-CAS Registry Number 50895-59-5) (ON-Other name: Pentacyclo[3.3.2.$0^{2,9}$.$0^{4,10}$.$0^{6,8}$]decane)	**	8.78 (V)	PE	3849
$C_{10}H_{14}^+$	$C_6H_4(C_2H_5)_2$ (Benzene, 1,2-diethyl-) (RN-CAS-Registry Number 135-01-3)	**	8.51 (V)	PE	4063
$C_{10}H_{14}^+$	$C_6H_4(C_2H_5)_2$ (Benzene, 1,2-diethyl-) (RN-CAS Registry Number 135-01-3)	**	8.51	CTS	3546
$C_{10}H_{14}^+$	$C_6H_5C(CH_3)_3$ (Benzene, (1,1-dimethylethyl-) (RN-CAS Registry Number 98-06-6)	**	8.64	CTS	3922
$C_{10}H_{14}^+$	$C_6H_2(CH_3)_4$ (Benzene, 1,2,3,5-tetramethyl-) (RN-CAS Registry Number 527-53-7)	**	8.3±0.03 (V)	PE	3713
$C_{10}H_{14}^+$	$C_6H_2(CH_3)_4$ (Benzene, 1,2,4,5-tetramethyl-) (RN-CAS Registry Number 95-93-2)	**	8.2	CTS	3543
$C_{10}H_{14}^+$	$C_7H_8{=}C(CH_3)_2$ (Bicyclo[2.2.1]hept-2-ene, 7-(1-methylethylidene)-) (RN-CAS Registry Number 14995-50-7)	**	8.27	PE	3687
$C_{10}H_{15}^+$	$C_{10}H_{15}CH_3$ (RN-CAS Registry Number XXXXX-XX-X) (ON-Other name: 2-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)	CH_3	9.5±0.1	PI	3918
$C_{10}H_{15}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-) (RN-CAS Registry Number 50745-90-9) (ON-Other name: *cis*-4-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)	CH_3	10.1±0.1	PI	3918
$C_{10}H_{15}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer) (RN-CAS Registry Number 50745-92-1) (ON-Other name: *anti*-10-Methyl-*endo*-tricyclo[5.2.1.$0^{2,6}$]decane)	CH_3	9.6±0.1	PE	3918
$C_{10}H_{15}^+$	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-) (RN-CAS Registry Number 32787-97-6) (ON-Other name: *endo*-8-Ethyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)		9.9±0.1	PI	3918
$C_{10}H_{16}^+$	$C_9H_{14}{=}CH_2$ (Bicyclo[4.2.1]nonane, 9-methylene-) (RN-CAS Registry Number 40916-48-1)	**	9.0 (V)	PE	4094

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{16}^+$	$(C_3H_5)_2C=C(CH_3)_2$ (Cyclopropane, 1,1′-(2-methyl-1-propenylidene)bis-) (RN-CAS Registry Number 27720-84-9)	**	7.82	PI	3759
$C_{10}H_{16}^+$	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-) (RN-CAS Registry Number 2825-82-3) (ON-Other name: *exo*-Tricyclo[5.2.1.$0^{2,6}$]decane)	**	9.35±0.05	PI	3918
$C_{10}H_{16}^+$	$C_{10}H_{16}$ (Tricyclo[3.3.1.$1^{3,7}$]decane (RN-CAS Registry Number 281-23-2)	**	9.30±0.01	S	3757
$C_{10}H_{16}^+$	$C_{10}H_{16}$ (Tricyclo[3.3.1.$1^{3,7}$]decane) (RN-CAS Registry Number 281-23-2) (ON-Other name: Adamantane)	**	9.1±0.05	PE	3855
$C_{10}H_{16}^+$	$C_{10}H_{16}$ (Tricyclo[3.3.1.$1^{3,7}$]decane) (RN-CAS Registry Number 281-23-2) (ON-Other name: Adamantane)	**	9.22	PE	3907
$C_{10}H_{16}^+$	$C_{10}H_{16}$ (Tricyclo [3.3.1.$1^{3,7}$]decane) (RN-CAS Registry Number 281-23-2) (ON-Other name: Adamantane)	**	9.23	PE	3886
$C_{10}H_{16}^+$	$C_{10}H_{16}$ (Tricyclo[3.3.1.$1^{3,7}$]decane) (RN-CAS Registry Number 281-23-2) (ON-Other name: Adamantane)	**	9.28±0.1	PE	3851
$C_{10}H_{16}^+$	$C_{10}H_{16}$ (Tricyclo[3.3.1.$1^{3,7}$]decane (RN-CAS Registry Number 281-23-2)	**	9.31±0.01	PE	3757
$C_{10}H_{16}^+$	$C_{10}H_{16}$ (Tricyclo[3.3.1.$1^{3,7}$]decane) (RN-CAS Registry Number 281-23-2) (ON-Other name: Adamantane)	**	9.55 (V)	PE	3990
$C_{10}H_{16}^+$	$C_{10}H_{16}$ (Tricyclo[3.3.1.$1^{3,7}$]decane (RN-CAS Registry Number 281-23-2) (ON-Other name: Adamantane)	**	9.75 (V)	PE	4000
$C_{10}H_{20}^+$	$CH_3(CH_2)_3C(C_2H_5)=C(CH_3)_2$ (RN-CAS Registry Number 19780-61-1)	**	8.101±0.005	PE	3957
$C_{10}H_{20}^+$	$CH_3(CH_2)_4C(CH_3)=C(CH_3)_2$ (RN-CAS Registry Number 19781-18-1)	**	8.132±0.005	PE	3957
$C_{10}H_{20}^+$	$(CH_3)_3CCH_2C(CH_3)=C(CH_3)_2$ (RN-CAS Registry Number 33175-59-6)	**	8.097±0.005	PE	3957
$C_{10}H_{20}^+$	(*tert*-$C_4H_9)_2C=CH_2$ (RN-CAS Registry Number 5857-68-1)	**	8.795±0.008	PE	3957
$C_{10}H_{20}^+$	*cis*-$(CH_3)_3CCH=CHC(CH_3)_3$ (RN-CAS Registry Number 692-47-7)	**	8.695±0.010	PE	3957
$C_{10}H_{20}^+$	*cis*-$(CH_3)_3CCH=CHC(CH_3)_3$ (RN-CAS Registry Number 692-47-7)	**	8.95 (V)	PE	4084
$C_{10}H_{20}^+$	*cis*-5-$C_{10}H_{20}$ (RN-CAS Registry Number 7433-78-5)	**	8.766±0.005	PE	3957

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{20}^+$	*trans*-$(CH_3)_3CCH=CHC(CH_3)_3$ (RN-CAS Registry Number 692-48-8)	**	8.741±0.008	PE	3957
$C_{10}H_{20}^+$	*trans*-$(CH_3)_3CCH=CHC(CH_3)_3$ (RN-CAS Registry Number 692-48-8)	**	8.89 (V)	PE	4084
$C_{10}H_{20}^+$	*trans*-5-$C_{10}H_{20}$ (RN-CAS Registry Number 7433-56-9)	**	8.760±0.005	PE	3957
$C_{11}H_9^+$	$C_6H_5C\equiv CCH=CHCH_2Cl$ (Benzene, (5-chloro-3-penten-1-ynyl)-, (*E*)-) (RN-CAS Registry Number 40316-56-1)		8.95±0.05	EI	4044
$C_{11}H_9^+$	$C_{10}H_7CH_2Cl$ (Naphthalene, 1-(chloromethyl)-) (RN-CAS Registry Number 86-52-2)		11.21±0.05	EI	4044
$C_{11}H_9^+$	$C_{10}H_7CH_2Cl$ (Naphthalene, 2-(chloromethyl)-) (RN-CAS Registry Number 2506-41-4)		11.15±0.05	EI	4044
$C_{11}H_{10}^+$	$C_{11}H_{10}$ (Bicyclo[4.4.1]undeca-1,3,5,7,9-pentaene) (RN-CAS Registry Number 2443-46-1)	**	7.90 (V)	PE	3953
$C_{11}H_{10}^+$	$C_{10}H_7CH_3$ (Naphthalene, 1-methyl-) (RN-CAS Registry Number 90-12-0)	**	7.95 (V)	PE	3685
$C_{11}H_{10}^+$	$C_{10}H_7CH_3$ (Naphthalene, 1-methyl-) (RN-CAS Registry Number 90-12-0)	**	7.80±0.03	RPD	3588
$C_{11}H_{10}^+$	$C_{10}H_7CH_3$ (Naphthalene, 1-methyl-) (RN-CAS Registry Number 90-12-0)	**	7.98	CTS	3758
$C_{11}H_{10}^+$	$C_{10}H_7CH_3$ (Naphthalene, 2-methyl-) (RN-CAS Registry Number 91-57-6)	**	7.93 (V)	PE	3685
$C_{11}H_{10}^+$	$C_{10}H_7CH_3$ (Naphthalene, 2-methyl-) (RN-CAS Registry Number 91-57-6)	**	8.10±0.03	RPD	3588
$C_{11}H_{10}^+$	$(C_6H_5)_2S$ (Benzene, 1,1′-thiobis-) (RN-CAS Registry Number 139-66-2)	CS	12.57±0.1	EI	3817
$C_{11}H_{12}^+$	$C_{10}H_{10}(=CH_2)$ (Naphthalene, 1,2,3,4-tetrahydro-1-methylene-) (RN-CAS Registry Number 25108-63-8)	**	7.90±0.02 (V)	PE	3854
$C_{11}H_{14}^+$	$C_6H_2(CH_3)_3CH=CH_2$ (Benzene, 2-ethenyl-1,3,5-trimethyl-) (RN-CAS Registry Number 769-25-5)	**	8.33 (V)	PE	3964
$C_{11}H_{14}^+$	$C_{11}H_{14}$ (5*H*-Benzocycloheptene, 6,7,8,9-tetrahydro-) (RN-CAS Registry Number 1075-16-7)	**	8.40±0.02 (V)	PE	3854
$C_{11}H_{14}^+$	$C_{11}H_{14}$ (5*H*-Benzocycloheptene, 6,7,8,9-tetrahydro-) (RN-CAS-Registry Number 1075-16-7)	**	8.44 (V)	PE	4063

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{14}^+$	$C_9H_8(CH_3)_2$ (Indan, 1,1-dimethyl) (RN-CAS Registry Number 4912-92-9)	**	8.47	CTS	3546
$C_{11}H_{14}^+$	$C_9H_8(CH_3)_2$ (1*H*-Indene, 2,3-dihydro-2,2-dimethyl-) (RN-CAS Registry Number 20836-11-7)	**	8.47	CTS	3546
$C_{11}H_{14}^+$	$C_8H_8{=}C(CH_3)_2$ (Tricyclo[3.2.1.$0^{2,4}$]oct-6-ene, 8-(1-methylethylidene)-, *endo*-) (RN-CAS Registry Number XXXXX-XX-X)	**	7.9	PE	3687
$C_{11}H_{16}^+$	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-3-methyl-) (RN-CAS Registry Number 1595-04-6)	**	8.42±0.1	EI	3629
$C_{11}H_{16}^+$	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-4-methyl-) (RN-CAS Registry Number 1595-05-7)	**	8.35±0.1	EI	3629
$C_{11}H_{16}^+$	$C_6H(CH_3)_5$ (Benzene, pentamethyl-) (RN-CAS Registry Number 700-12-9)	**	7.9	CTS	3543
$C_{11}H_{16}^+$	$(C_3H_5)_2C{=}CHC_3H_5$ (Cyclopropane, 1,1′,1″-(1-ethenyl-2-ylidene)tris-) (RN-CAS Registry Number 23603-63-6)	**	7.48	PI	3759
$C_{11}H_{16}^+$	$C_{10}H_{14}(=CH_2)$ (Tricyclo[3.3.1.$1^{3,7}$]decane, 2-methylene-) (RN-CAS Registry Number 875-72-9) (ON-Other name: Methyleneadamantane)		8.82	PE	3886
$C_{11}H_{16}^+$	$C_8H_{10}{=}C(CH_3)_2$ (Tricyclo[3.2.1.$0^{2,4}$]octane, 8-(1-methylethylidene)-, *endo*-) (RN-CAS Registry Number XXXXX-XX-X)	**	8.18	PE	3687
$C_{11}H_{17}^+$	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-) (RN-CAS Registry Number 32787-97-6) (ON-Other name: *endo*-8-Ethyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)	CH_3	10.0±0.1	PI	3918
$C_{11}H_{18}^+$	$C_{10}H_{15}CH_3$ (RN-CAS Registry Number XXXXX-XX-X) (ON-Other name: 2-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)	**	9.35±0.05	PI	3918
$C_{11}H_{18}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-) (RN-CAS Registry Number 50745-90-9) (ON-Other name: *cis*-4-Methyl-*exo*-tricyclo[5.2.1.$0^{2,6}$]decane)	**	9.35±0.05	PI	3918
$C_{11}H_{18}^+$	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer) (RN-CAS Registry Number 50745-92-1) (ON-Other name: *anti*-10-Methyl-*endo*-tricyclo[5.2.1.$0^{2,6}$]decane)	**	9.35±0.05	PI	3918
$C_{11}H_{18}^+$	$C_{10}H_{15}CH_3$ (Tricyclo[3.3.1.$1^{3,7}$]decane, 1-methyl-) (RN-CAS Registry Number 768-91-2) (ON-Other name: 1-Methyladamantane)	**	9.17±0.02	PE	3886

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{20}^+$	(*tert*-C_4H_9)$_2$C=C=CH_2 (RN-CAS Registry Number 22585-31-5)	**	8.55 (V)	PE	4019
$C_{11}H_{22}^+$	$C_2H_5CH_2C(C_2H_5)=C(C_2H_5)_2$ (RN-CAS Registry Number 50787-14-9)	**	8.041±0.020	PE	3957
$C_{12}H_8^+$	$C_{12}H_8$ (Biphenylene) (RN-CAS Registry Number 259-79-0)	**	7.53±0.05	PE	3684
$C_{12}H_8^+$	$C_{12}H_8$ (Biphenylene) (RN-CAS Registry Number 259-79-0)	**	7.60±0.02 (V)	PE	3702
$C_{12}H_{10}^+$	$(C_6H_5)_2$ (1,1′-Biphenyl) (RN-CAS Registry Number 92-52-4)	**	7.95±0.02	PE	3702
$C_{12}H_{10}^+$	$(C_6H_5)_2$ (1,1′-Biphenyl) (RN-CAS Registry Number 92-52-4)	**	8.35	CTS	3577
$C_{12}H_{10}^+$	$C_{12}H_{10}$ (Cyclopent[*cd*]azulene, 2a, 8b-dihydro-) (RN-CAS Registry Number 38310-40-6)	**	7.46 (V)	PE	4008
$C_{12}H_{10}^+$	$C_{12}H_{10}$ (4a, 8a-Ethenonaphthalene) (RN-CAS Registry Number 19539-78-7)	**	8.1 (V)	PE	4006
$C_{12}H_{12}^+$	$C_{12}H_{12}$ (4a, 8a-Ethenonaphthalene, 1,4-dihydro-) (RN-CAS Registry Number 38310-32-6)	**	8.0 (V)	PE	4006
$C_{12}H_{14}^+$	$C_{11}H_{12}(=CH_2)$ (5*H*-Benzocycloheptene, 6,7,8,9-tetrahydro-5-methylene-) (RN-CAS Registry Number 40562-09-2)	**	8.45±0.02 (V)	PE	3854
$C_{12}H_{14}^+$	$C_{12}H_{14}$ (4a, 8a-Ethenonaphthalene, 1,2,3,4-tetrahydro-) (RN-CAS Registry Number 24139-33-1)	**	8.0 (V)	PE	4006
$C_{12}H_{14}^+$	$C_{12}H_{14}$ (4a, 8a-Ethenonaphthalene, 1,4,5,8-tetrahydro-) (RN-CAS Registry Number 20295-17-4)	**	8.7 (V)	PE	4006
$C_{12}H_{16}^+$	$C_6H_5CH=CHC(CH_3)_3$ (Benzene, (3,3-dimethyl-1-butenyl)-, (E)-) (RN-CAS Registry Number 3846-66-0)	**	7.80±0.04	RPD	4097
$C_{12}H_{16}^+$	$C_6H_5CH=CHC(CH_3)_3$ (Benzene, (3,3-dimethyl-1-butenyl)-, (Z)-) (RN-CAS Registry Number 3740-05-4)	**	8.29±0.04	RPD	4097
$C_{12}H_{16}^+$	$C_6H_5C(C(CH_3)_3)=CH_2$ (Benzene, (2,2-dimethyl-1-methylenepropyl)-) (RN-CAS Registry Number 5676-29-9)	**	8.25±0.04	RPD	4097
$C_{12}H_{16}^+$	$C_{12}H_{16}$ (Benzocyclooctene, 5,6,7,8,9,10-hexahydro-) (RN-CAS-Registry Number 1076-69-3)	**	8.42 (V)	PE	4063

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{16}^+$	$C_{12}H_{16}$ (4a, 8a–Ethenonaphthalene, 1,2,3,4,5,8–hexahydro–) (RN–CAS Registry Number 24139–32–0)	**	8.9 (V)	PE	4006
$C_{12}H_{18}^+$	$C_6(CH_3)_6$ (Benzene, hexamethyl–) (RN–CAS Registry Number 87–85–4)	**	7.8	CTS	3543
$C_{12}H_{18}^+$	$C_{12}H_{18}$ (4a, 8a–Ethenonaphthalene, 1,2,3,4,5,6,7,8–octahydro–) (RN–CAS Registry Number 38992–78–8)	**	9.05 (V)	PE	4006
$C_{12}H_{18}^+$	$C_6(CH_3)_6Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6–η)–hexamethylbenzene]–) (RN–CAS Registry Number 12088–11–8)		8.55±0.1	EI	3788
$C_{12}H_{20}^+$	$C_{10}H_{15}C_2H_5$ (4,7–Methano–1*H*–indene, 5–ethyloctahydro–,(3aα,4β,5α,7β,7aα)–) (RN–CAS Registry Number 32787–97–6) (ON–Other name: *endo*–8–Ethyl–*exo*–tricyclo[5.2.1.$0^{2,6}$]decane)	**	9.35±0.05	PI	3918
$C_{12}H_{24}^+$	*cis*–$(CH_3)_3CCH_2C(CH_3)=CHC(CH_3)_3$ (RN–CAS Registry Number 27656–50–4)	**	8.346±0.005	PE	3957
$C_{13}H_9^+$	$C_{14}H_9CH_3$ (Phenanthrene, 4–methyl–) (RN–CAS Registry Number 832–64–4) (MT–Metastable transition(s) observed)	C_2H_3	12.7±0.1	EI	3454
$C_{13}H_9^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5–dimethyl–) (RN–CAS Registry Number 3674–69–9)		12.4±0.1	EI	3454
$C_{13}H_9^+$	$C_6H_8(C_6H_5)_2$ (Benzene, 1,1′–(2–cyclohexen–1–ylidene)bis–) (RN–CAS Registry Number 31158–25–5)		13.0±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1′–cyclohexylidenebis–) (RN–CAS Registry Number 21113–55–3)		13.3±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_7(CH_3)(C_6H_5)_2$ (Cyclohexene, 1–methyl–4,4–diphenyl–) (RN–CAS Registry Number 50592–48–8)		13.4±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1′–(4–methylcyclohexylidene)bis–) (RN–CAS Registry Number 32812–65–0)		13.2±0.4	EI	4018
$C_{13}H_9^+$	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7–octahydro–4a–methyl–2,2–diphenyl–) (RN–CAS Registry Number 50592–50–2)		13.4±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_6(=O)(C_6H_5)_2$ (2–Cyclohexen–1–one, 4,4–diphenyl–) (RN–CAS Registry Number 4528–64–7)		14.4±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2–diphenyl–) (RN–CAS Registry Number 22612–62–0)		13.8±0.4	EI	4018

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_9^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4-diphenyl-) (RN-CAS Registry Number 4528-68-1)		14.4±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2-methyl-5,5-diphenyl-) (RN-CAS Registry Number 50592-49-9)		14.0±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6-methyl-2,2-diphenyl-) (RN-CAS Registry Number 50592-52-4)		14.1±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-) (RN-CAS Registry Number 50592-47-7)		13.9±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$ (Cyclohexanone, 2,2-dimethyl-6,6-diphenyl-) (RN-CAS Registry Number 50592-53-5)		13.4±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-) (RN-CAS Registry Number XXXXX-XX-X)		13.6±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ (Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-) (RN-CAS Registry Number 50592-55-7)		13.6±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_6(=O)(C_6H_5)=CHS(CH_2)_3CH_3$ (Cyclohexanone, 6-[(butylthio)methylene]-2,2-diphenyl-) (RN-CAS Registry Number 50592-51-3)		13.7±0.4	EI	4018
$C_{13}H_9^+$	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$ (Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-) (RN-CAS Registry Number 50592-54-6)		13.3±0.4	EI	4018
$C_{13}H_{10}^+$	$C_{13}H_{10}$ (Fluorene) (RN-CAS Registry Number 86-73-7)	**	7.93±0.02 (V)	PE	3702
$C_{13}H_{11}^+$	$(C_6H_5)_3CH$ (Benzene, 1,1',1''-methylidynetris-) (RN-CAS-Registry Number 519-73-3)	C_6H_5	10.9	PI	4055
$C_{13}H_{11}^+$	$C_6H_5CH_2C_6H_4OH$ (Phenol, 4-(phenylmethyl)-) (RN-CAS Registry Number 101-53-1)	OH	11.0±0.2	EI	3807
$C_{13}H_{11}^+$	$C_6H_5CH_2C_6H_4OCH_3$ (Benzene, 1-methoxy-4-(phenylmethyl)-) (RN-CAS Registry Number 834-14-0)	OCH_3	11.6±0.1	EI	3807
$C_{13}H_{11}^+$	$C_6H_5CH_2C_6H_4NO_2$ (Benzene, 1-nitro-4-(phenylmethyl)-) (RN-CAS Registry Number 1817-77-2)	NO_2	10.5±0.1	EI	3807
$C_{13}H_{12}^+$	$(C_6H_5)_2CH_2$ (Benzene, 1,1'-methylenebis-) (RN-CAS Registry Number 101-81-5)	**	8.80±0.02 (V)	PE	3854
$C_{13}H_{12}^+$	$(C_6H_5)_2CH_2$ (Benzene, 1,1'-methylenebis-) (RN-CAS Registry Number 101-81-5)	**	9.00±0.05	EI	3806

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{12}^+$	$C_6H_5C_6H_4CH_3$ (1,1′-Biphenyl, 2-methyl-) (RN-CAS Registry Number 643-58-3)	**	8.10±0.02	PE	3702
$C_{13}H_{12}^+$	$C_6H_5C_6H_4CH_3$ (1,1′-Biphenyl, 3-methyl-) (RN-CAS Registry Number 643-93-6)	**	7.95±0.02	PE	3702
$C_{13}H_{12}^+$	$C_6H_5C_6H_4CH_3$ (1,1′-Biphenyl, 4-methyl-) (RN-CAS Registry Number 644-08-6)	**	7.80±0.02	PE	3702
$C_{13}H_{14}^+$	$C_{13}H_{14}$ (1,2,4-Ethanylylidene-1*H*-cyclobuta[*cd*]pentalene, octahydro-5,7-bis (methylene)-) (RN-CAS Registry Number 42607-62-5) (ON-Other name: 8,11-Dimethylene-pentacyclo[5.4.0.0^{2,6}.0^{3,10}.0^{5,9}]tridecane)	**	8.50	PE	4036
$C_{13}H_{16}^+$	$C_{13}H_{16}$ (Bicyclo[5.4.2]trideca-7,9,11,12-tetraene) (RN-CAS Registry Number XXXXX-XX-X)	**	8.2 (V)	PE	3999
$C_{13}H_{16}^+$	$C_{13}H_{16}$ (1,2,4-Ethanylylidene-1*H*-cyclobuta[*cd*]pentalene, octahydro-5-methyl-7-methylene-, (1α,1aβ,2α,3aβ,4α,5α,5aβ,5bβ)-) (RN-CAS Registry Number 42607-64-7)	**	9.10	PE	4036
$C_{13}H_{26}^+$	$((CH_3)_3C)_2C{=}CHCH(CH_3)_2$ (RN-CAS Registry Number 50787-12-7)	**	8.307±0.008	PE	3957
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7) (RS-Average of two Rydberg series limits)	**	7.47	S	3857
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7)	**	7.4	PI	3586
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7)	**	7.40	PI	3877
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7)	**	7.40	PE	3668
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7)	**	7.40 (V)	PE	3896
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7)	**	7.41±0.05	PE	3684
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7)	**	7.47±0.01	PE	3644
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7)	**	7.47±0.01	PE	3657

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7)	**	7.35	CTS	3577
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Anthracene) (RN-CAS Registry Number 120-12-7)	**	7.4	CTS	3543
$C_{14}H_{10}^+$	$C_6H_5C{\equiv}CC_6H_5$ (Benzene, 1,1'-(1,2-ethynediyl)bis-) (RN-CAS Registry Number 501-65-5)	**	7.90±0.02	PE	3854
$C_{14}H_{10}^+$	$C_6H_5C{\equiv}CC_6H_5$ (Benzene, 1,1'-(1-2-ethynediyl)bis-) (RN-CAS Registry Number 501-65-5)	**	8.0±0.05	PE	3684
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Phenanthrene) (RN-CAS Registry Number 85-01-8)	**	7.86±0.01	PE	3644
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Phenanthrene) (RN-CAS Registry Number 85-01-8)	**	7.92±0.02 (V)	PE	3702
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Phenanthrene) (RN-CAS Registry Number 85-01-8)	**	7.92±0.05	PE	3684
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Phenanthrene) (RN-CAS Registry Number 85-01-8)	**	8.03±0.01	RPD	3588
$C_{14}H_{10}^+$	$C_{14}H_{10}$ (Phenanthrene) (RN-CAS Registry Number 85-01-8)	**	8.25	CTS	3577
$C_{14}H_{10}^+$	$C_6H_8(C_6H_5)_2$ (Benzene, 1,1'-(2-cyclohexen-1-ylidene)bis-) (RN-CAS Registry Number 31158-25-5)		10.4±0.4	EI	4018
$C_{14}H_{10}^+$	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1'-cyclohexylidenebis-) (RN-CAS Registry Number 21113-55-3)		10.8±0.4	EI	4018
$C_{14}H_{10}^+$	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1'-(4-methylcyclohexylidene)bis-) (RN-CAS Registry Number 32812-65-0)		10.2±0.4	EI	4018
$C_{14}H_{10}^+$	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-) (RN-CAS Registry Number 50592-50-2)		9.3±0.4	EI	4018
$C_{14}H_{10}^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2-diphenyl-) (RN-CAS Registry Number 22612-62-0)		10.7±0.4	EI	4018
$C_{14}H_{10}^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4-diphenyl-) (RN-CAS Registry Number 4528-68-1)		13.2±0.4	EI	4018
$C_{14}H_{10}^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2-methyl-5,5-diphenyl-) (RN-CAS Registry Number 50592-49-9)		9.6±0.4	EI	4018
$C_{14}H_{10}^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6-methyl-2,2-diphenyl-) (RN-CAS Registry Number 50592-52-4)		10.3±0.4	EI	4018

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{10}^+$	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-) (RN-CAS Registry Number 50592-47-7)		10.5±0.4	EI	4018
$C_{14}H_{10}^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-) (RN-CAS Registry Number XXXXX-XX-X)		10.2±0.4	EI	4018
$C_{14}H_{10}^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ (Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-) (RN-CAS Registry Number 50592-55-7)		10.0±0.4	EI	4018
$C_{14}H_{10}^+$	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$ (Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-) (RN-CAS Registry Number 50592-54-6)		10.5±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_5CH=CHC_6H_5$ (Benzene, 1,1'-(1,2-ethenediyl)bis-, (E)) (RN-CAS Registry Number 103-30-0)	**	7.70±0.02	PE	3854
$C_{14}H_{12}^+$	$C_6H_5CH=CHC_6H_5$ (Benzene, 1,1'-(1,2-ethenediyl)bis-, (E)-) (RN-CAS Registry Number 103-30-0)	**	7.76	PE	3657
$C_{14}H_{12}^+$	$C_6H_5CH=CHC_6H_5$ (Benzene, 1,1'-(1,2-ethenediyl)bis-,(Z)) (RN-CAS Registry Number 645-49-8)	**	7.80±0.02	PE	3854
$C_{14}H_{12}^+$	$C_{14}H_{12}$ (Benzene, 1,1'-(1,2-ethenediyl)bis-) (RN-CAS Registry Number 588-59-0)	**	7.5	PI	3586
$C_{14}H_{12}^+$	$C_6H_5CH=CHC_6H_5$ (Benzene, 1,1'-(1,2-ethenediyl)bis-) (RN-CAS Registry Number 588-59-0)	**	7.9	CTS	3577
$C_{14}H_{12}^+$	$(C_6H_5)_2C=CH_2$ (Benzene, 1,1'-ethenylidenebis-) (RN-CAS Registry Number 530=48-3)	**	8.00±0.02	PE	3854
$C_{14}H_{12}^+$	$C_{14}H_{12}$ (Phenanthrene, 9,10-dihydro-) (RN-CAS Registry Number 776-35-2)	**	7.55±0.02	PE	3702
$C_{14}H_{12}^+$	$C_6H_8(C_6H_5)_2$ (Benzene, 1,1'-(2-cyclohexen-1-ylidene)bis-) (RN-CAS Registry Number 31158-25-5)		9.8±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1'-cyclohexylidenebis-) (RN-CAS Registry Number 21113-55-3)		9.8±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_7(CH_3)(C_6H_5)_2$ (Cyclohexene, 1-methyl-4,4-diphenyl-) (RN-CAS Registry Number 50592-48-8)		9.8±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1'-(4-methylcyclohexylidene)bis-) (RN-CAS Registry Number 32812-65-0)		10.1±0.4	EI	4018
$C_{14}H_{12}^+$	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-) (RN-CAS Registry Number 50592-50-2)		9.5±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2-diphenyl-) (RN-CAS Registry Number 22612-62-0)		9.5±0.4	EI	4018

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{12}^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4–diphenyl–) (RN–CAS Registry Number 4528–68–1)		10.0±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2–methyl–5,5–diphenyl–) (RN–CAS Registry Number 50592–49–9)		10.0±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6–methyl–2,2–diphenyl–) (RN–CAS Registry Number 50592–52–4)		10.4±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1–methyl–4,4–diphenyl–) (RN–CAS Registry Number 50592–47–7)		10.1±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$ (Cyclohexanone, 2,2–dimethyl–6,6–diphenyl–) (RN–CAS Registry Number 50592–53–5)		9.9±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1–methyl–2–oxo–3,3–diphenyl–) (RN–CAS Registry Number XXXXX–XX–X)		10.3±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ (Cyclohexanone, 2–methyl–2–(3–oxobutyl)–6,6–diphenyl–) (RN–CAS Registry Number 50592–55–7)		10.5±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_6(=O)(C_6H_5)=CHS(CH_2)_3CH_3$ (Cyclohexanone, 6–[(butylthio)methylene]–2,2–diphenyl–) (RN–CAS Registry Number 50592–51–3)		10.1±0.4	EI	4018
$C_{14}H_{12}^+$	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$ (Cyclohexanone, 2–(3–chloro–2–butenyl)–2–methyl–6,6–diphenyl–) (RN–CAS Registry Number 50592–54–6)		10.0±0.4	EI	4018
$C_{14}H_{14}^+$	$C_6H_5CH_2CH_2C_6H_5$ (Benzene, 1,1′–(1,2–ethanediyl)bis–) (RN–CAS Registry Number 103–29–7)	**	9.00±0.05	EI	3806
$C_{14}H_{14}^+$	$(C_6H_4CH_3)_2$ (1,1′–Biphenyl, 2,2′–dimethyl–) (RN–CAS Registry Number 605–39–0)	**	8.05±0.02	PE	3702
$C_{14}H_{14}^+$	$(C_6H_4CH_3)_2$ (1,1′–Biphenyl, 3,3′–dimethyl–) (RN–CAS Registry Number 612–75–9)	**	7.85±0.02	PE	3702
$C_{14}H_{14}^+$	$C_6H_5C_6H_4C_2H_5$ (1,1′–Biphenyl, 2–ethyl–) (RN–CAS Registry Number 1812–51–7)	**	8.55±0.02 (V)	PE	3702
$C_{14}H_{16}^+$	$C_{10}H_7(CH_2)_3CH_3$ (Naphthalene, 1–butyl–) (RN–CAS Registry Number 1634–09–0)	**	7.76	PE	3960
$C_{14}H_{28}^+$	$((CH_3)_3C)_2C=CHC(CH_3)_3$ (RN–CAS Registry Number 28923–90–2)	**	8.169±0.012	PE	3957
$C_{15}H_9^+$	$C_{14}H_9CH_3$ (Phenanthrene, 4–methyl–) (RN–CAS Registry Number 832–64–4)	H_2+H	14.4±0.1	EI	3454

(MT–Metastable transition(s) observed)

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_9^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 2,7-dimethyl-) (RN-CAS Registry Number 1576-69-8)		17.6±0.1	EI	3454
$C_{15}H_9^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5-dimethyl-) (RN-CAS Registry Number 3674-69-9)		15.1±0.1	EI	3454
$C_{15}H_9^+$	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 2,4,5,7-tetramethyl-) (RN-CAS Registry Number 7396-38-5)	$3CH_3$	14.5±0.1	EI	3454
(MT-Metastable transition(s) observed)					
$C_{15}H_9^+$	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 3,4,5,6-tetramethyl-) (RN-CAS Registry Number 7343-06-8)	$3CH_3$	16.5±0.1	EI	3454
(MT-Metastable transition(s) observed)					
$C_{15}H_{11}^+$	$C_{14}H_9CH_3$ (Phenanthrene, 4-methyl-) (RN-CAS Registry Number 832-64-4)	H	12.0±0.1	EI	3454
$C_{15}H_{11}^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 2,7-dimethyl-) (RN-CAS Registry Number 1576-69-8)	CH_3	13.5±0.1	EI	3454
$C_{15}H_{11}^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5-dimethyl-) (RN-CAS Registry Number 3674-69-9)	CH_3	10.8±0.1	EI	3454
(MT-Metastable transition(s) observed)					
$C_{15}H_{12}^+$	$C_{14}H_9CH_3$ (Phenanthrene, 1-methyl-) (RN-CAS Registry Number 832-69-9)	**	7.7±0.03	RPD	3588
$C_{15}H_{12}^+$	$C_{14}H_9CH_3$ (Phenanthrene, 2-methyl-) (RN-CAS Registry Number 2531-84-2)	**	7.9±0.04	RPD	3588
$C_{15}H_{12}^+$	$C_{14}H_9CH_3$ (Phenanthrene, 3-methyl-) (RN-CAS Registry Number 832-71-3)	**	7.68±0.01	RPD	3588
$C_{15}H_{12}^+$	$C_{14}H_9CH_3$ (Phenanthrene, 4-methyl-) (RN-CAS Registry Number 832-64-4)	**	7.70±0.02	RPD	3588
$C_{15}H_{12}^+$	$C_{14}H_9CH_3$ (Phenanthrene, 4-methyl-) (RN-CAS Registry Number 832-64-4)	**	7.1±0.1	EI	3454
$C_{15}H_{12}^+$	$C_{14}H_9CH_3$ (Phenanthrene, 9-methyl-) (RN-CAS Registry Number 883-20-5)	**	7.46±0.03	RPD	3588
$C_{15}H_{13}^+$	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1'-cyclohexylidenebis-) (RN-CAS Registry Number 21113-55-3)		10.3±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1'-(4-methylcyclohexylidene)bis-) (RN-CAS Registry Number 32812-65-0)		10.6±0.4	EI	4018

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{13}^+$	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-) (RN-CAS Registry Number 50592-50-2)		10.3±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2-diphenyl-) (RN-CAS Registry Number 22612-62-0)		9.7±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4-diphenyl-) (RN-CAS Registry Number 4528-68-1)		10.5±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2-methyl-5,5-diphenyl-) (RN-CAS Registry Number 50592-49-9)		10.8±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6-methyl-2,2-diphenyl-) (RN-CAS Registry Number 50592-52-4)		10.3±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-) (RN-CAS Registry Number 50592-47-7)		10.1±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$ (Cyclohexanone, 2,2-dimethyl-6,6-diphenyl-) (RN-CAS Registry Number 50592-53-5)		10.3±0.4	EI	4018
$C_{15}H_{13}^+$	$C_{10}H_{11}(=O)(CH_3)(C_6H_5)_2$ (2(3*H*)-Naphthalenone,4,4a,5,6,7,8-hexahydro-4a-methyl-7,7-diphenyl-) (RN-CAS Registry Number 50786-03-3)		9.9±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-) (RN-CAS Registry Number XXXXX-XX-X)		10.5±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ (Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-) (RN-CAS Registry Number 50592-55-7)		10.6±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_6(=O)(C_6H_5)=CHS(CH_2)_3CH_3$ (Cyclohexanone, 6-[(butylthio)methylene]-2,2-diphenyl-) (RN-CAS Registry Number 50592-51-3)		10.8±0.4	EI	4018
$C_{15}H_{13}^+$	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$ (Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-) (RN-CAS Registry Number 50592-54-6)		10.6±0.4	EI	4018
$C_{15}H_{14}^+$	$C_{13}H_8(CH_3)_2$ (9*H*-Fluorene, 9,9-dimethyl-) (RN-CAS Registry Number 4569-45-3)	**	7.8 (V)	PE	4081
$C_{15}H_{16}^+$	$C_6H_5C_6H_4CH(CH_3)_2$ (1,1'-Biphenyl, 2-isopropyl-) (RN-CAS Registry Number 19486-60-3)	**	8.50±0.02 (V)	PE	3702
$C_{15}H_{16}^+$	$C_6H_5C_6H_4C_3H_7$ (1,1'-Biphenyl, 2-propyl-) (RN-CAS Registry Number 20282-28-4)	**	8.50±0.02 (V)	PE	3702
$C_{16}H_{10}^+$	$C_{16}H_{10}$ (Pyrene) (RN-CAS Registry Number 129-00-0)	**	7.41 (V)	PE	3951

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{10}^+$	$C_{16}H_{10}$ (Pyrene) (RN–CAS Registry Number 129–00–0)	**	7.45±0.01	PE	3657
$C_{16}H_{10}^+$	$C_{16}H_{10}$ (Pyrene) (RN–CAS Registry Number 129–00–0)	**	7.45	CTS	3577
$C_{16}H_{10}^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 2,7–dimethyl–) (RN–CAS Registry Number 1576–69–8)		17.7±0.1	EI	3454
$C_{16}H_{10}^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5–dimethyl–) (RN–CAS Registry Number 3674–69–9)		>16	EI	3454
$C_{16}H_{11}^+$	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 2,4,5,7–tetramethyl–) (RN–CAS Registry Number 7396–38–5) (MT–Metastable transition(s) observed)	$2CH_3+H$	15.6±0.1	EI	3454
$C_{16}H_{11}^+$	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 3,4,5,6–tetramethyl–) (RN–CAS Registry Number 7343–06–8) (MT–Metastable transition(s) observed)	$2CH_3+H$	14.3±0.1	EI	3454
$C_{16}H_{12}^+$	$C_{10}H_7C_6H_5$ (Naphthalene, 2–phenyl–) (RN–CAS–Registry Number 612–94–2)	**	7.75	PE	4066
$C_{16}H_{12}^+$	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 2,4,5,7–tetramethyl–) (RN–CAS Registry Number 7396–38–5) (MT–Metastable transition(s) observed)	$2CH_3$	14.0±0.1	EI	3454
$C_{16}H_{12}^+$	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 3,4,5,6–tetramethyl–) (RN–CAS Registry Number 7343–06–8) (MT–Metastable transition(s) observed)	$2CH_3$	13.5±0.1	EI	3454
$C_{16}H_{13}^+$	$C_{16}H_{14}$ (Phenanthrene, 2,7–dimethyl–) (RN–CAS Registry Number 1576–69–8)	H	13.5±0.1	EI	3454
$C_{16}H_{13}^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5–dimethyl–) (RN–CAS Registry Number 3674–69–9)	H	12.3±0.1	EI	3454
$C_{16}H_{14}^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 2,7–dimethyl–) (RN–CAS Registry Number 1576–69–8)	**	8.0±0.1	EI	3454
$C_{16}H_{14}^+$	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5–dimethyl–) (RN–CAS Registry Number 3674–69–9)	**	7.6±0.1	EI	3454
$C_{16}H_{14}^+$	$C_6H_6(=O)(C_6H_5)_2$ (2–Cyclohexen–1–one, 4,4–diphenyl–) (RN–CAS Registry Number 4528–64–7)		9.3±0.4	EI	4018

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{14}^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2-diphenyl-) (RN-CAS Registry Number 22612-62-0)		9.6±0.4	EI	4018
$C_{16}H_{14}^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6-methyl-2,2-diphenyl-) (RN-CAS Registry Number 50592-52-4)		9.2±0.4	EI	4018
$C_{16}H_{14}^+$	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$ (Cyclohexanone, 2,2-dimethyl-6,6-diphenyl-) (RN-CAS Registry Number 50592-53-5)		9.4±0.4	EI	4018
$C_{16}H_{14}^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-) (RN-CAS Registry Number XXXXX-XX-X)		9.4±0.4	EI	4018
$C_{16}H_{14}^+$	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ (Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-) (RN-CAS Registry Number 50592-55-7)		9.3±0.4	EI	4018
$C_{16}H_{14}^+$	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$ (Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-) (RN-CAS Registry Number 50592-54-6)		9.1±0.4	EI	4018
$C_{16}H_{16}^+$	$C_{16}H_{16}$ (Tricyclo[8.2.2.2^{4,7}]hexadeca-4,6,10,12,13,15-hexaene) (RN-CAS Registry Number 1633-22-2) (ON-Other name: [2.2]Paracyclophane)	**	8.08 (V)	PE	4088
$C_{16}H_{16}^+$	$C_{16}H_{16}$ (Tricyclo[9.3.1.1^{4,8}]hexadeca-1(15),4,6,8(16),11,13-hexaene) (RN-CAS Registry Number 2319-97-3) (ON-Other name: [2.2]Metacyclophane)	**	8.24 (V)	PE	4088
$C_{16}H_{18}^+$	$C_6H_5C_6H_4C_4H_9$ (1,1′-Biphenyl, 2-butyl-) (RN-CAS Registry Number XXXXX-XX-X)	**	8.50±0.02 (V)	PE	3702
$C_{17}H_{12}^+$	$C_{17}H_{12}$ (1,1′-Spirobi[1*H*-indene]) (RN-CAS Registry Number 165-42-4)	**	7.80 (V)	PE	4083
$C_{17}H_{15}^+$	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 2,4,5,7-tetramethyl-) (RN-CAS Registry Number 7396-38-5) (MT-Metastable transition(s) observed)	CH_3	11.5±0.1	EI	3454
$C_{17}H_{15}^+$	$C_{18}H_{18}$ (Phenanthrene, 3,4,5,6-tetramethyl-) (RN-CAS Registry Number 7343-06-8) (MT-Metastable transition(s) observed)	CH_3	11.5±0.1	EI	3454
$C_{18}H_{10}^+$	$C_{18}H_{10}$ (Naphthacene) (RN-CAS Registry Number 92-24-0)	**	6.9	PI	3586
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Benz[*a*]anthracene) (RN-CAS Registry Number 56-55-3)	**	7.42 (V)	PE	4039

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Benz[*a*]anthracene) (RN-CAS Registry Number 56-55-3)	**	7.47±0.01	PE	3644
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Benz[*a*]anthracene) (RN-CAS Registry Number 56-55-3)	**	7.56±0.01	PE	3657
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Benz[*a*]anthracene) (RN-CAS Registry Number 56-55-3)	**	7.5	CTS	3577
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Benzo[c]phenanthrene) (RN-CAS Registry Number 195-19-7)	**	7.62 (V)	PE	4039
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Chrysene) (RN-CAS Registry Number 218-01-9)	**	7.60±0.01	PE	3644
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Chrysene) (RN-CAS Registry Number 218-01-9)	**	7.61 (V)	PE	4039
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Chrysene) (RN-CAS Registry Number 218-01-9)	**	7.75	CTS	3577
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Naphthacene) (RN-CAS Registry Number 92-24-0)	**	7.01	PE	3668
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Naphthacene) (RN-CAS Registry Number 92-24-0)	**	7.01 (V)	PE	4039
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Tetracyclo[6.6.2.1^{3,13}.1^{6,10}]octadeca-1,3(17),4,6,8,10(18),11,13,15-nonaene) (RN-CAS Registry Number 27313-56-0) (ON-Other name: [2.2.2](1,3,5)cyclophane-1,9,17-triene)	**	8.06 (V)	PE	3647
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Tetracyclo[6.6.2.1^{3,13}.1.1^{6,10}]octadeca-1,3(17),4,6,8,10(18),11,13,15-nonane) (RN-CAS Registry Number 27313-56-0) (ON-Other name: [2.2.2](1,3,5)Cyclophane-1,9,17-triene)	**	8.06 (V)	PE	4088
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Triphenylene) (RN-CAS Registry Number 217-59-4)	**	7.84±0.01	PE	3657
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Triphenylene) (RN-CAS Registry Number 217-59-4)	**	7.86 (V)	PE	4039
$C_{18}H_{12}^+$	$C_{18}H_{12}$ (Triphenylene) (RN-CAS Registry Number 217-59-4)	**	8.1	CTS	3577
$C_{18}H_{14}^+$	$C_{18}H_{14}$ (1,1′:2′,1″-Terphenyl) (RN-CAS Registry Number 84-15-1)	**	7.99±0.01	PE	3657
$C_{18}H_{14}^+$	$C_{18}H_{14}$ (1,1′:3′,1″-Terphenyl) (RN-CAS Registry Number 92-06-8)	**	8.01±0.01	PE	3657

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{14}^+$	$C_{18}H_{14}$ (1,1′:4′,1″–Terphenyl) (RN–CAS Registry Number 92–94–4)	**	7.78±0.01	PE	3657
$C_{18}H_{16}^+$	$C_{16}H_{10}(CH_3)_2$ (Pyrene, 10b,10c–dihydro–10b,10c–dimethyl–, *trans*–) (RN–CAS Registry Number 956–84–3)	**	6.7	PE	3948
$C_{18}H_{18}^+$	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 2,4,5,7–tetramethyl–) (RN–CAS Registry Number 7396–38–5)	**	7.8±0.1	EI	3454
$C_{18}H_{18}^+$	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 3,4,5,6–tetramethyl–) (RN–CAS Registry Number 7343–06–8)	**	7.5±0.1	EI	3454
$C_{18}H_{18}^+$	$C_{18}H_{18}$ (Tetracyclo[6.6.2.1^{3,13}.1^{6,10}]octadeca–1,3(17),6,8,10(18),13–hexaene) (RN–CAS Registry Number 27165–88–4) (ON–Other name: [2.2.2](1,3,5)Cyclophane)	**	7.70 (V)	PE	4088
$C_{18}H_{18}^+$	$C_{18}H_{18}$ (Tetracyclo[6.6.2.1^{3,13}.1^{6,10}]octadeca–1,3(17),6,8,10(18),13–hexaene) (RN–CAS Registry Number 27165–88–4) (ON–Other name: [2.2.2](1,3,5)cyclophane)	**	7.70 (V)	PE	3647
$C_{18}H_{20}^+$	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1′–cyclohexylidenebis–) (RN–CAS–Registry Number 21113–55–3)	**	8.9±0.2	EI	4074
$C_{19}H_{16}^+$	$(C_6H_5)_3CH$ (Benzene, 1,1′,1″–methylidynetris–) (RN–CAS–Registry Number 519–73–3)	**	8.34±0.03	PI	4055
$C_{19}H_{20}^+$	$C_6H_7(CH_3)(C_6H_5)_2$ (Cyclohexene, 1–methyl–4,4–diphenyl–) (RN–CAS Registry Number 50592–48–8)	**	8.7±0.4	EI	4018
$C_{19}H_{20}^+$	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1–methyl–4,4–diphenyl–) (RN–CAS Registry Number 50592–47–7)	H_2O	9.2±0.4	EI	4018
$C_{19}H_{22}^+$	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1′–(4–methylcyclohexylidene)bis–) (RN–CAS–Registry Number 32812–65–0)	**	8.8±0.2	EI	4074
$C_{19}H_{22}^+$	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1′–(4–methylcyclohexylidene)bis–) (RN–CAS–Registry Number 32812–65–0)	**	8.8±0.2	EI	4074
$C_{20}H_{12}^+$	$C_{20}H_{12}$ (Benzo[*a*]pyrene) (RN–CAS Registry Number 50–32–8)	**	7.12±0.01	PE	3644
$C_{20}H_{12}^+$	$C_{20}H_{12}$ (Benzo[*a*]pyrene) (RN–CAS Registry Number 50–32–8)	**	7.39±0.01	PE	3657

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{20}H_{12}^+$	$C_{20}H_{12}$ (Perylene) (RN-CAS Registry Number 198-55-0)	**	6.90±0.01	PE	3657
$C_{20}H_{12}^+$	$C_{20}H_{12}$ (Perylene) (RN-CAS Registry Number 198-55-0)	**	7.00±0.01	PE	3644
$C_{20}H_{12}^+$	$C_{20}H_{12}$ (Perylene) (RN-CAS Registry Number 198-55-0)	**	7.1	CTS	3577
$C_{20}H_{14}^+$	$C_{14}H_9C_6H_5$ (Anthracene, 9-phenyl-) (RN-CAS Registry Number 602-55-1)	**	7.25 (V)	PE	3896
$C_{21}H_{15}^+$	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthyl, 2,2'-dimethyl-) (RN-CAS Registry Number 32834-84-7)	CH_3	13.25	EI	3477
$C_{21}H_{15}^+$	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthyl, 3,3'-dimethyl-) (RN-CAS Registry Number 34042-82-5)	CH_3	12.25	EI	3477
$C_{21}H_{15}^+$	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthyl, 7,7'-dimethyl-) (RN-CAS Registry Number 34003-80-0)	CH_3	12.75	EI	3477
$C_{21}H_{15}^+$	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthyl, 8,8'-dimethyl-) (RN-CAS Registry Number 32693-05-3)	CH_3	11.50	EI	3477
$C_{22}H_{12}^+$	$C_{22}H_{12}$ (Benzo[*ghi*]perylene) (RN-CAS Registry Number 191-24-2)	**	7.19±0.01	PE	3644
$C_{22}H_{14}^+$	$C_{22}H_{14}$ (3,4-Benzotetraphene) (RN-CAS Registry Number XXXXX-XX-X)	**	7.35±0.01	PE	3657
$C_{22}H_{14}^+$	$C_{22}H_{14}$ (Pentacene) (RN-CAS Registry Number 135-48-8)	**	6.64	PE	3668
$C_{22}H_{14}^+$	$C_{22}H_{14}$ (Pentacene) (RN-CAS Registry Number 135-48-8)	**	6.74±0.01	PE	3644
$C_{22}H_{18}^+$	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthyl, 2,2'-dimethyl-) (RN-CAS Registry Number 32834-84-7)	**	8.20	EI	3477
$C_{22}H_{18}^+$	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthyl, 3,3'-dimethyl-) (RN-CAS Registry Number 34042-82-5)	**	8.00	EI	3477
$C_{22}H_{18}^+$	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthyl, 7,7'-dimethyl-) (RN-CAS Registry Number 34003-80-0)	**	8.15	EI	3477

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{22}H_{18}^+$	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1′–Binaphthyl, 8,8′–dimethyl–) (RN–CAS Registry Number 32693–05–3)	**	8.00	EI	3477
$C_{23}H_{26}^+$	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7–octahydro–4a–methyl–2,2–diphenyl–) (RN–CAS–Registry Number 50592–50–2)	**	8.9±0.2	EI	4074
$C_{24}H_{12}^+$	$C_{24}H_{12}$ (Coronene) (RN–CAS Registry Number 191–07–1)	**	7.34 (V)	PE	3951
$C_{24}H_{12}^+$	$C_{24}H_{12}$ (Coronene) (RN–CAS Registry Number 191–07–1)	**	7.5	CTS	3577
$C_{24}H_{22}^+$	$C_{10}H_7(CH_2)_4C_{10}H_7$ (Naphthalene, 1,1′–(1,4–butanediyl)bis–) (RN–CAS Registry Number 29571–17–3)	**	7.67	PE	3960
$C_{25}H_{16}^+$	$C_{25}H_{16}$ (9,9′–Spirobi[9*H*–fluorene]) (RN–CAS Registry Number 159–66–0)	**	7.7 (V)	PE	4081
$C_{32}H_{14}^+$	$C_{32}H_{14}$ (Ovalene) (RN–CAS Registry Number 190–26–1)	**	6.86±0.01	PE	3644
$C_6H_5Be^+$	$(C_6H_5)_2Be$ (Beryllium, diphenyl–) (RN–CAS Registry Number 22300–89–6)	C_6H_5	13.4±0.2	EI	3815
$C_{12}H_{10}Be^+$	$(C_6H_5)_2Be$ (Beryllium, diphenyl–) (RN–CAS Registry Number 22300–89–6)	**	9.20±0.10	EI	3815
$C_{12}H_{10}B^+$	$(C_6H_5)_3B$ (Borane, triphenyl–) (RN–CAS–Registry Number 960–71–4)	C_6H_5	10.2	PI	4055
$C_{18}H_{15}B^+$	$(C_6H_5)_3B$ (Borane, triphenyl–) (RN–CAS–Registry Number 960–71–4)	**	8.60±0.03	PI	4055
N^+	N_2 (RN–CAS Registry Number 7727–37–9)	N	24.4±0.25	EI	3797
N^+	NH_3 (RN–CAS Registry Number 7664–41–7)	H_2+H	<22.5	DC	3811
N^{+2}	N_2 (RN–CAS Registry Number 7727–37–9)	N	60.3±2	EI	3797

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
N^{+3}	N_2 (RN–CAS Registry Number 7727–37–9)	N	~100	EI	3452
(HE–High kinetic energy ion)					
$N_2^+(X^2\Sigma_g^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	15.5812±0.0002	S	3561
$N_2^+(^2\Sigma_g)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	15.60 (V)	PE	4022
$N_2^+(X^2\Sigma_g^+)$	N_2 (RN–CAS–Registry Number 7727–37–9)	**	15.61	PE	4073
$N_2^+(A^2\Pi_u)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	16.695±0.002	PE	3935
$N_2^+(A^2\Pi_u)$	N_2 (RN–CAS–Registry Number 7727–37–9)	**	16.73	PE	4073
$N_2^+(^2\Pi_u)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	16.98 (V)	PE	4022
$N_2^+(^2\Sigma_u)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	18.78 (V)	PE	4022
$N_2^+(B^2\Sigma_u^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	18.87 (V)	PE	3714
$N_2^+(C^2\Sigma_u^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	24.6 (V)	PE	3714
N_2^{+*}	N_2 (RN–CAS Registry Number 7727–37–9)	**	28.2	PE	3975
$N_2^+(^2\Sigma_g^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	35 (V)	PE	3714
N_2^{+*}	N_2 (RN–CAS Registry Number 7727–37–9)	**	36.5	PE	3975
$N_2^+(^2\Sigma_g^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	38.7	PE	3975
$N_2^+(^2\Sigma_u^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	28–29 (V)	PE	3714
$N_2^+(^2\Sigma_g^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	32–33 (V)	PE	3714
$N_2^+(^2\Sigma_g^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	36–37 (V)	PE	3714
$N_2^{+2}(x^1\Sigma_g^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	43.3±0.9	AUG	3542
$N_2^{+2}(A^n\Sigma_u^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	46.2±1.3	AUG	3542
$N_2^{+2}(A^3\Pi_g)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	47.2±1.3	AUG	3542
$N_2^{+2}(c^1\Pi_g)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	49.7±1.2	AUG	3542
$N_2^{+2}(d^1\Sigma_u^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	51.2±1.15	AUG	3542
$N_2^{+2}(e^1\Sigma_g^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	52.8±1.15	AUG	3542
$N_2^{+2}(^1\Sigma_g^+)$	N_2 (RN–CAS Registry Number 7727–37–9)	**	96.3±1.9	AUG	3542

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
N_2^{+2}	N_2	**	43	EI	3452
	(RN-CAS Registry Number 7727-37-9)				
N_2^{+2}	N_2^+		28	EI	3452
	(RN-CAS Registry Number 13966-04-6)				
NH^+	NH_3	H_2	17.2	DC	3811
	(RN-CAS Registry Number 7664-41-7)				
NH_2^+	NH_3	H	15.0	DC	3811
	(RN-CAS Registry Number 7664-41-7)				
NH_2^+	CH_3NH_2	CH_3	15.9	EI	3808
	(RN-CAS Registry Number 74-89-5)				
$NH_3^+(^2A_1)$	NH_3	**	10.15	PE	3719
	(RN-CAS Registry Number 7664-41-7)				
(HB-Threshold value approximately corrected for hot bands)					
$NH_3^+(^2E)$	NH_3	**	14.98±0.02	PE	3719
	(RN-CAS Registry Number 7664-41-7)				
$NH_3^+(^2A_1)$	NH_3	**	27.0 (V)	PE	3719
	(RN-CAS Registry Number 7664-41-7)				
NH_3^+	NH_3	**	10.2	DC	3811
	(RN-CAS Registry Number 7664-41-7)				
$ND_3^+(^2A_1)$	ND_3	**	10.21	PE	3719
	(RN-CAS Registry Number 13550-49-7)				
(HB-Threshold value approximately corrected for hot bands)					
$ND_3^+(^2E)$	ND_3	**	15.10±0.03	PE	3719
	(RN-CAS Registry Number 13550-49-7)				
NH_4^+	$C_2H_5NH_2$	C_2H_2+H	12.72±0.02	RPD	3487
	(RN-CAS Registry Number 75-04-7)				
(MT-Metastable transition(s) observed)					
(TR-Other product(s) thermochemically reasonable)					
NH_4^+	$(CH_3)_2NH$	C_2H_2+H	14.05±0.05	RPD	3487
	(RN-CAS Registry Number 124-40-3)				
(MT-Metastable transition(s) observed)					
$N_2H_4^+(^2A)$	N_2H_4	**	9.91 (V)	PE	3862
	(RN-CAS Registry Number 302-01-2)				
$N_2H_4^+$	N_2H_4	**	10.07	PE	3747
	(RN-CAS Registry Number 302-01-2)				
$N_2H_4^+(^2B)$	N_2H_4	**	10.64 (V)	PE	3862
	(RN-CAS Registry Number 302-01-2)				
$N_2H_4^+(^2A)$	N_2H_4	**	15.61 (V)	PE	3862
	(RN-CAS Registry Number 302-01-2)				
$N_2H_4^+(^2B,^2A)$	N_2H_4	**	16.66 (V)	PE	3862
	(RN-CAS Registry Number 302-01-2)				
$N_2H_4^{+*}$	N_2H_4	**	24.5	PE	3715
	(RN-CAS Registry Number 302-01-2)				
$N_2H_4^{+*}$	N_2H_4	**	30.0	PE	3715
	(RN-CAS Registry Number 302-01-2)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$N_3H^+(^2A'')$	HN_3 (RN-CAS Registry Number 7782-79-8)	**	10.72±0.02	PE	3670
$N_3H^+(^2A')$	HN_3 (RN-CAS Registry Number 7782-79-8)	**	12.24±0.02 (V)	PE	3670
N_3H^{+*}	HN_3 (RN-CAS Registry Number 7782-79-8)	**	15.37±0.02	PE	3670
N_3H^{+*}	HN_3 (RN-CAS Registry Number 7782-79-8)	**	16.8±0.1 (V)	PE	3670
BH_6N^+	$(BH_3)(NH_3)$ (RN-CAS Registry Number xxxx-xx-x)	**	9.44±0.02	PE	3699
$B_3H_6N_3^+$	$B_3H_6N_3$ (Borazine) (RN-CAS Registry Number 6569-51-3)	**	9.88	PE	3637
$B_3H_6N_3^+$	$B_3H_6N_3$ (Borazine) (RN-CAS Registry Number 6569-51-3)	**	10.09 (V)	PE	3673
$B_3H_6N_3^+(^2E'')$	$B_3H_6N_3$ (Borazine) (RN-CAS Registry Number 6569-51-3)	**	10.14±0.01	PE	3506
$CHN^+(X^2\Pi)$	HCN (RN-CAS Registry Number 74-90-8)	**	13.61±0.01	PE	3840
$CHN^+(A^2\Sigma)$	HCN (RN-CAS Registry Number 74-90-8)	**	14.00±0.01	PE	3840
$CHN^+(B^2\Sigma)$	HCN (RN-CAS Registry Number 74-90-8)	**	19.06±0.01	PE	3840
CHN^+	HCN (RN-CAS Registry Number 74-90-8)	**	13.71	EDD	3737
CH_4N^+	$C_2H_5NO_2$ (RN-CAS Registry Number 56-40-6)		10.27±0.05	EI	3571
CH_5N^+	CH_3NH_2 (RN-CAS Registry Number 74-89-5)	**	8.80±0.02	PE	3890
$CH_5N^+(^2A')$	CH_3NH_2 (RN-CAS-Registry Number 74-89-5)	**	9.64 (V)	PE	4068
CH_5N^+	CH_3NH_2 (RN-CAS Registry Number 74-89-5)	**	9.65 (V)	PE	4087
$CH_5N^+(^2A'')$	CH_3NH_2 (RN-CAS-Registry Number 74-89-5)	**	13.22 (V)	PE	4068
$CH_5N^+(^2A')$	CH_3NH_2 (RN-CAS-Registry Number 74-89-5)	**	14.42 (V)	PE	4068
$CH_5N^+(^2A')$	CH_3NH_2 (RN-CAS-Registry Number 74-89-5)	**	15.45 (V)	PE	4068
$CH_5N^+(^2A'')$	CH_3NH_2 (RN-CAS-Registry Number 74-89-5)	**	16.85 (V)	PE	4068

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_2N^+$	$C_3H_4N_2$ (1*H*-Imidazole) (RN-CAS Registry Number 288-32-4)	HCN	13.2	EI	3910
$C_2H_4N^+$	$(CH_3)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 2206-24-8)		13.1	EI	3674
$C_2H_4N^+$	$(C_2H_5)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 1809-53-6)		13.6	EI	3674
$C_2H_6N^+$	$(CH_3)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 2206-24-8)	$CH=CHC\equiv CH$	12.7	EI	3674
$C_2H_7N^+$	$C_2H_5NH_2$ (RN-CAS Registry Number 75-04-7)	**	9.44±0.18 (V)	PE	3987
$C_2H_7N^+$	$C_2H_5NH_2$ (RN-CAS Registry Number 75-04-7)	**	9.50 (V)	PE	4032
$C_2H_7N^+$	$CH_3CH_2NH_2$ (RN-CAS-Registry Number 75-04-7)	**	9.50 (V)	PE	4068
$C_2H_7N^+$	$(CH_3)_2NH$ (RN-CAS Registry Number 124-40-3)	**	8.07	PE	3589
$C_2H_7N^+$	$(CH_3)_2NH$ (RN-CAS Registry Number 124-40-3)	**	8.25±0.02	PE	3890
C_3HN^+	$CH\equiv CCN$ (RN-CAS Registry Number 1070-71-9)	**	11.6	S	3755
C_3HN^+	$CH\equiv CCN$ (RN-CAS Registry Number 1070-71-9)	**	11.64±0.01	PI	3929
$C_3H_6N^+$	$(C_2H_5)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 1809-53-6) (TR-Other product(s) thermochemically reasonable) (OP-the other product(s) is(are): $CH=CHC\equiv CH+CH_3+H$)		12.3	EI	3674
$C_3H_6N^+$	$(CH_2NF_2)CH_2$ (RN-CAS Registry Number 21298-22-6)		15.6±0.4	EI	3634
$C_3H_6N^+$	$CH_2(NF_2)CH(NF_2)CH_3$ (RN-CAS Registry Number 15403-25-5)		15.6±0.3	EI	3634
$C_3H_6N^+$	$(CH_3)_2C(NF_2)_2$ (RN-CAS Registry Number 19309-63-8)		15.4±0.3	EI	3634
$C_3H_7N^+$	$CH_2=CHCH_2NH_2$ (RN-CAS Registry Number 107-11-9)	**	8.76	PE	3864
$C_3H_9N^+$	$N(CH_3)_3$ (RN-CAS Registry Number 75-50-3)	**	7.95±0.10	PI	3729
$C_3H_9N^+$	$(CH_3)_3N$ (RN-CAS Registry Number 75-50-3)	**	7.83±0.02	PE	3890
$C_3H_9N^+$	$(CH_3)_3N$ (RN-CAS Registry Number 75-50-3)	**	8.45±0.01 (V)	PE	3699
$C_3H_9N^+$	$(CH_3)_3N$ (RN-CAS Registry Number 75-50-3)	**	8.5±0.1 (V)	PE	3661
$C_3H_9N^+$	n-$C_3H_7NH_2$ (RN-CAS-Registry Number 107-10-8)	**	9.44 (V)	PE	4068

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_9N^+$	*iso*-$C_3H_7NH_2$	**	9.31 (V)	PE	4068
	(RN-CAS-Registry Number 75-31-0)				
$C_4H_3N^+$	$(CH_3)_2NCH{=}CHC{\equiv}CH$	$2CH_3$	15.1	EI	3674
	(RN-CAS Registry Number 2206-24-8)				
(TR-Other product(s) thermochemically reasonable)					
$C_4H_3N^+$	$C_4H_8NCH{=}CHC{\equiv}CH$	C_4H_8	15.3	EI	3674
	(Pyrrolidine, 1-(1-buten-3-ynyl)-)				
	(RN-CAS Registry Number 19352-85-3)				
(TR-Other product(s) thermochemically reasonable)					
$C_4H_3N^+$	$(C_2H_5)_2NCH{=}CHC{\equiv}CH$	$2C_2H_4+2H$	16.5	EI	3674
	(RN-CAS Registry Number 1809-53-6)				
(TR-Other product(s) thermochemically reasonable)					
$C_4H_5N^+$	C_4H_5N	**	8.20±0.01	PI	4058
	(1*H*-Pyrrole)				
	(RN-CAS-Registry Number 109-97-7)				
$C_4H_5N^+$	C_4H_5N	**	8.23 (V)	PE	4009
	(1*H*-Pyrrole)				
	(RN-CAS Registry Number 109-97-7)				
$C_4H_5N^+$	C_4H_5N	**	8.40±0.05	EI	3482
	(1*H*-Pyrrole)				
	(RN-CAS Registry Number 109-97-7)				
$C_4H_{10}N^+$	$(C_2H_5)_3N$	C_2H_5	13.14	EI	3674
	(RN-CAS Registry Number 121-44-8)				
$C_4H_{11}N^+$	*n*-$C_4H_9NH_2$	**	9.40 (V)	PE	4068
	(RN-CAS-Registry Number 109-73-9)				
$C_5H_4N^+$	$(CH_3)_2NCH{=}CHC{\equiv}CH$	CH_3+H_2	12.4	EI	3674
	(RN-CAS Registry Number 2206-24-8)				
(TR-Other product(s) thermochemically reasonable)					
$C_5H_4N^+$	$C_4H_8NCH{=}CHC{\equiv}CH$	C_3H_3+H	15.0	EI	3674
	(Pyrrolidine, 1-(1-buten-3-ynyl)-)				
	(RN-CAS Registry Number 19352-85-3)				
(TR-Other product(s) thermochemically reasonable)					
$C_5H_5N^+$	C_5H_5N	**	9.4	PI	3586
	(Pyridine)				
	(RN-CAS Registry Number 110-86-1)				
$C_5H_5N^+$	C_5H_5N	**	9.263	PE	3707
	(Pyridine)				
	(RN-CAS Registry Number 110-86-1)				
(HB-Threshold value approximately corrected for hot bands)					
$C_5H_5N^+(^2A_1)$	C_5H_5N	**	9.59 (V)	PE	3513
	(Pyridine)				
	(RN-CAS Registry Number 110-86-1)				
$C_5H_5N^+$	C_5H_5N	**	9.60±0.5 (V)	PE	3685
	(Pyridine)				
	(RN-CAS Registry Number 110-86-1)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_5N^+(^2A_1?)$	C_5H_5N (Pyridine) (RN-CAS Registry Number 110-86-1)	**	9.7 (V)	PE	3832
$C_5H_5N^+(^2A_2)$	C_5H_5N (Pyridine) (RN-CAS Registry Number 110-86-1)	**	9.73 (V)	PE	3513
$C_5H_5N^+(^2A_2?)$	C_5H_5N (Pyridine) (RN-CAS Registry Number 110-86-1)	**	9.8 (V)	PE	3832
$C_5H_5N^+(^2B_1)$	C_5H_5N (Pyridine) (RN-CAS Registry Number 110-86-1)	**	10.5 (V)	PE	3832
$C_5H_5N^+(^2B_1)$	C_5H_5N (Pyridine) (RN-CAS Registry Number 110-86-1)	**	10.50 (V)	PE	3513
$C_5H_5N^+(^2B_2)$	C_5H_5N (Pyridine) (RN-CAS Registry Number 110-86-1)	**	12.5 (V)	PE	3832
$C_5H_5N^+(^2B_1)$	C_5H_5N (Pyridine) (RN-CAS Registry Number 110-86-1)	**	12.6 (V)	PE	3832
$C_5H_5N^+$	C_5H_5N (Pyridine) (RN-CAS Registry Number 110-86-1)	**	9.66±0.03	EDD	3626
$C_5H_5N^+$	C_5H_5N (Pyridine) (RN-CAS Registry Number 110-86-1)	**	9.70±0.05	EI	3498
$C_5H_6N^+$	$(CH_3)_2NCH{=}CHC{\equiv}CH$ (RN-CAS Registry Number 2206-24-8)	CH_3	11.2	EI	3674
$C_5H_6N^+$	$C_4H_8NCH{=}CHC{\equiv}CH$ (Pyrrolidine, 1-(1-buten-3-ynyl)-) (RN-CAS Registry Number 19352-85-3) (TR-Other product(s) thermochemically reasonable)	$CH_2{=}CHCH_2$	11.3	EI	3674
$C_5H_6N^+$	$(C_2H_5)_2NCH{=}CHC{\equiv}CH$ (RN-CAS Registry Number 1809-53-6) (TR-Other product(s) thermochemically reasonable)	$C_2H_4+CH_3$	13.9	EI	3674
$C_5H_7N^+$	$C_4H_4N(CH_3)$ (Pyrrole, 1-methyl-) (RN-CAS Registry Number 96-54-8)	**	8.4	EI	3580
$C_5H_7N^+$	$C_4H_4NCH_3$ (Pyrrole, 2-methyl-) (RN-CAS Registry Number 636-41-9)	**	8.01±0.05	EI	3482
$C_5H_{12}N^+$	$(C_2H_5)_3N$ (RN-CAS Registry Number 121-44-8)	CH_3	11.48	EI	3674
$C_6H_5N^+$	C_5H_5CN (Cyclopentadienecarbonitrile) (RN-CAS Registry Number 27659-36-5)	**	9.7	EI	3476

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6N^+$	$C_6H_4(NH_2)COOH$ (Benzoic acid, 3-amino-) (RN-CAS Registry Number 99-05-8)	CO+OH	14.26±0.2	EI	3973
(MT-Metastable transition(s) observed)					
$C_6H_6N^+$	$C_6H_4(NH_2)COOH$ (Benzoic acid, 4-amino-) (RN-CAS Registry Number 150-13-0)	CO+OH	14.77±0.2	EI	3973
(MT-Metastable transition(s) observed)					
$C_6H_6N^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 3-nitro-) (RN-CAS Registry Number 99-09-2)	NO_2	11.23±0.1	EI	3447
$C_6H_6N^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 4-nitro-) (RN-CAS Registry Number 100-01-6)	NO_2	11.53±0.1	EI	3447
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	7.7	PI	3586
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	7.70±0.01	PI	4028
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	7.65±0.02	PE	3890
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	7.66	PE	3988
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	7.71	PE	3955
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	8.05 (V)	PE	4106
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	7.89±0.03	EDD	3626
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	7.89	EDD	3485
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	7.61±0.1	EI	3788
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	7.63	EI	3845
$C_6H_7N^+$	$C_6H_5NH_2$ (Benzenamine) (RN-CAS Registry Number 62-53-3)	**	8.09± <0.1	EI	3735
$C_6H_7N^+$	$C_5H_4NCH_3$ (Pyridine, 2-methyl-) (RN-CAS Registry Number 109-06-8)	**	9.20±0.05 (V)	PE	3685

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_7N^+$	$C_5H_4NCH_3$ (Pyridine, 4-methyl-) (RN-CAS Registry Number 108-89-4)	**	9.50±0.05 (V)	PE	3685
$C_6H_7N^+$	$C_5H_4NCH_3$ (Pyridine, 4-methyl) (RN-CAS Registry Number 108-89-4)	**	9.55±0.05	EI	3498
$C_6H_7N^+$	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 3-methoxy-) (RN-CAS Registry Number 536-90-3)	CH_2O	10.51±0.1	EI	3446
$C_6H_7N^+$	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 4-methoxy-) (RN-CAS Registry Number 104-94-9)	HCHO	9.58	EI	3845
$C_6H_7N^+$	$C_6H_5NHCOCH_3$ (Acetamide, *N*-phenyl-) (RN-CAS Registry Number 103-84-4)	$CH_2=C=O$	10.45±0.03	EI	3483
$C_6H_7N^+$	$C_6H_5NH_2Cr(CO)_3$ (Chromium, (η^6-benzenamine)tricarbonyl-) (RN-CAS Registry Number 12108-11-1)		7.96±0.1	EI	3788
$C_6H_8N^+$	$(CH_3)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 2206-24-8)	H	10.1	EI	3674
$C_6H_9N^+$	$(CH_3)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 2206-24-8)	**	7.7	EI	3674
$C_6H_9N^+$	$C_4H_4NC_2H_5$ (Pyrrole, 2-ethyl-) (RN-CAS Registry Number 1551-06-0)	**	7.97±0.05	EI	3482
$C_6H_{15}N^+$	$(C_2H_5)_3N$ (RN-CAS Registry Number 121-44-8)	**	8.19±0.05 (V)	PE	3987
$C_7H_4N^+$	$C_6H_4(CN)COOH$ (Benzoic acid, 4-cyano-) (RN-CAS Registry Number 619-65-8) (MT-Metastable transition(s) observed)	CO+OH	15.68±0.2	EI	3973
$C_7H_4N^+$	$C_6H_4(NO_2)CN$ (Benzonitrile, 3-nitro-) (RN-CAS Registry Number 619-24-9)	NO_2	12.25±0.1	EI	3447
$C_7H_4N^+$	$C_6H_4(NO_2)CN$ (Benzonitrile, 4-nitro-) (RN-CAS Registry Number 619-72-7)	NO_2	12.42±0.1	EI	3447
$C_7H_5N^+$	C_6H_5CN (Benzonitrile) (RN-CAS Registry Number 100-47-0)	**	9.62	PE	3938
$C_7H_5N^+$	C_6H_5CN (Benzonitrile) (RN-CAS Registry Number 100-47-0)	**	9.7	EI	3916
$C_7H_5N^+$	C_6H_5CN (Benzonitrile) (RN-CAS Registry Number 100-47-0)	**	9.77	EI	3845

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_5N^+$	C_6H_5CN (Benzonitrile) (RN-CAS Registry Number 100-47-0)	**	10.02± <0.1	EI	3735
$C_7H_5N^+$	$C_6H_4(CN)OCH_3$ (Benzonitrile, 3-methoxy-) (RN-CAS Registry Number 1527-89-5)	CH_2O	12.23±0.1	EI	3446
$C_7H_5N^+$	$C_6H_4(CN)OCH_3$ (Benzonitrile, 4-methoxy-) (RN-CAS Registry Number 874-90-8)	CH_2O	12.30±0.1	EI	3446
$C_7H_5N^+$	$C_6H_4(CN)OCH_3$ (Benzonitrile, 4-methoxy-) (RN-CAS Registry Number 874-90-8)	HCHO	12.39	EI	3845
(CD-Metastable transition indicates 0.36 eV kinetic energy release)					
$C_7H_8N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 2-methyl-) (RN-CAS Registry Number 95-53-4)	H	11.25±0.05	PI	4028
$C_7H_8N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 4-methyl-) (RN-CAS Registry Number 106-49-0)	H	11.00±0.1	PI	4028
$C_7H_8N^+$	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 3-butyl-) (RN-CAS Registry Number 5369-17-5)		12.13±0.1	EI	3629
$C_7H_8N^+$	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 4-butyl-) (RN-CAS Registry Number 104-13-2)		11.10±0.1	EI	3629
$C_7H_8N^+$	$C_6H_5CH_2C_6H_4NH_2$ (Benzenamine, 4-(phenylmethyl)-) (RN-CAS Registry Number 1135-12-2)	C_6H_5	10.6±0.1	EI	3807
$C_7H_8N^+$	$(C_6H_4NH_2)_2CH_2$ (Benzenamine, 4,4′-methylenebis-) (RN-CAS Registry Number 101-77-9)		10.6±0.1	EI	3807
$C_7H_8N^+$	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(2-methylphenyl)-) (RN-CAS Registry Number 120-66-1)	CH_3CO	13.97±0.02	EI	3631
$C_7H_8N^+$	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(4-methylphenyl)-) (RN-CAS Registry Number 103-89-9)	CH_3CO	14.21±0.02	EI	3631
$C_7H_8N^+$	$C_6H_4(NH_2)CH_2CH_2OCOCH_3$ (Benzeneethanol, 4-amino-, acetate(ester)) (RN-CAS Registry Number 33709-38-5)		11.00	EI	3590
$C_7H_8N^+$	$C_6H_4(NO_2)CH_2C_6H_4NH_2$ (Benzenamine, 4-[(4-nitrophenyl)methyl]-) (RN-CAS Registry Number 726-17-0)		11.6±0.2	EI	3807
$C_7H_9N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 2-methyl-) (RN-CAS Registry Number 95-53-4)	**	7.44±0.02	PI	4028
$C_7H_9N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 2-methyl-) (RN-CAS Registry Number 95-53-4)	**	7.45±0.02	PE	3890

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_9N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 2-methyl-) (RN-CAS Registry Number 95-53-4)	**	7.52	PE	3988
$C_7H_9N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 2-methyl-) (RN-CAS Registry Number 95-53-4)	**	7.83 (V)	PE	4106
$C_7H_9N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 3-methyl-) (RN-CAS Registry Number 108-44-1)	**	7.55	PE	3988
$C_7H_9N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 3-methyl-) (RN-CAS Registry Number 108-44-1)	**	7.66 (V)	PE	4106
$C_7H_9N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 4-methyl-) (RN-CAS Registry Number 106-49-0)	**	7.24±0.02	PI	4028
$C_7H_9N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 4-methyl-) (RN-CAS Registry Number 106-49-0)	**	7.37	PE	3988
$C_7H_9N^+$	$C_6H_4(NH_2)CH_3$ (Benzenamine, 4-methyl-) (RN-CAS Registry Number 106-49-0)	**	7.62 (V)	PE	4106
$C_7H_9N^+$	$C_6H_5NHCH_3$ (Benzenamine, *N*-methyl-) (RN-CAS Registry Number 100-61-8)	**	7.32	PE	3988
$C_7H_9N^+$	$C_6H_5NHCH_3$ (Benzenamine, *N*-methyl-) (RN-CAS Registry Number 100-61-8)	**	7.35±0.02	PE	3890
$C_7H_9N^+$	$C_5H_3N(CH_3)_2$ (2,6-Dimethylpyridine) (RN-CAS Registry Number 108-48-5)	**	9.23±0.05	EI	3498
$C_7H_9N^+$	$C_5H_3N(CH_3)_2$ (Pyridine, 2,5-dimethyl-) (RN-CAS Registry Number 589-93-5)	**	8.80±0.05 (V)	PE	3685
$C_7H_9N^+$	$C_5H_3N(CH_3)_2$ (Pyridine, 2,6-dimethyl-) (RN-CAS Registry Number 108-48-5)	**	8.90±0.05 (V)	PE	3685
$C_7H_9N^+$	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 3-butyl-) (RN-CAS Registry Number 5369-17-5)	$CH_2=CHCH_3$	10.10±0.1	EI	3629
$C_7H_9N^+$	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 4-butyl-) (RN-CAS Registry Number 104-13-2)	$CH_2=CHCH_3$	9.37±0.1	EI	3629
$C_7H_9N^+$	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(2-methylphenyl)-) (RN-CAS Registry Number 120-66-1)	$CH_2=C=O$	10.05±0.02	EI	3631
$C_7H_9N^+$	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(4-methylphenyl)-) (RN-CAS Registry Number 103-89-9)	$CH_2=C=O$	10.12±0.02	EI	3631
$C_7H_{10}N^+$	$(C_2H_5)_2NCH=CHC\equiv CH$ (RN-CAS Registry Number 1809-53-6)	CH_3	13.1	EI	3674

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{11}N^+$	$C_4H_2N(CH_3)_3$ (Pyrrole, 1,3,4–trimethyl–) (RN–CAS Registry Number 30144–12–8)	**	7.3	EI	3580
$C_8H_6N^+$	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 3–butyl–) (RN–CAS Registry Number 20651–74–5)		12.90±0.1	EI	3629
$C_8H_6N^+$	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 4–butyl–) (RN–CAS Registry Number 20651–73–4)		12.71±0.1	EI	3629
$C_8H_7N^+$	$C_6H_4(CH_3)CN$ (Benzonitrile, 4–methyl–) (RN–CAS Registry Number 104–85–8)	**	9.31	EI	4089
$C_8H_7N^+$	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 3–butyl–) (RN–CAS Registry Number 20651–74–5)	$CH_2=CHCH_3$	11.55±0.1	EI	3629
$C_8H_7N^+$	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 4–butyl–) (RN–CAS Registry Number 20651–73–4)	$CH_2=CHCH_3$	11.66±0.1	EI	3629
$C_8H_9N^+$	C_8H_9N (1*H*–Indole, 2,3–dihydro–) (RN–CAS Registry Number 496–15–1)	**	7.15±0.02	PE	3890
$C_8H_9N^+$	$C_6H_4(NH_2)CH_2CH_2OCOCH_3$ (Benzeneethanol, 4–amino–, acetate(ester)) (RN–CAS Registry Number 33709–38–5)		7.80	EI	3590
$C_8H_{10}N^+$	$C_6H_5N(CH_3)_2$ (Benzenamine, *N*,*N*–dimethyl–) (RN–CAS Registry Number 121–69–7)	H	10.56±0.05	PI	4028
$C_8H_{10}N^+$	$C_4H_8NCH=CHC\equiv CH$ (Pyrrolidine, 1–(1–buten–3–ynyl)–) (RN–CAS Registry Number 19352–85–3)	H	10.7	EI	3674
$C_8H_{11}N^+$	$C_6H_3(CH_3)_2NH_2$ (Benzenamine, 2,6–dimethyl–) (RN–CAS Registry Number 87–62–7)	**	7.30±0.02	PE	3890
$C_8H_{11}N^+$	$C_6H_3(CH_3)_2NH_2$ (Benzenamine, 2,6–dimethyl–) (RN–CAS Registry Number 87–62–7)	**	7.36	PE	3988
$C_8H_{11}N^+$	$C_6H_4(CH_3)NHCH_3$ (Benzenamine, *N*,2–dimethyl–) (RN–CAS Registry Number 611–21–2)	**	7.27	PE	3988
$C_8H_{11}N^+$	$C_6H_4(CH_3)NHCH_3$ (Benzenamine, *N*,3–dimethyl–) (RN–CAS Registry Number 696–44–6)	**	7.26	PE	3988
$C_8H_{11}N^+$	$C_6H_4(CH_3)NHCH_3$ (Benzenamine, *N*,4–dimethyl–) (RN–CAS Registry Number 623–08–5)	**	7.13	PE	3988

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{11}N^+$	$C_6H_5N(CH_3)_2$ (Benzenamine, *N*,*N*-dimethyl-) (RN-CAS Registry Number 121-69-7)	**	7.13±0.04	PI	4028
$C_8H_{11}N^+$	$C_6H_5N(CH_3)_2$ (Benzenamine, *N*,*N*-dimethyl-) (RN-CAS Registry Number 121-69-7)	**	7.10±0.02	PE	3890
$C_8H_{11}N^+$	$C_6H_5N(CH_3)_2$ (Benzenamine, *N*,*N*-dimethyl-) (RN-CAS Registry Number 121-69-7)	**	7.11	PE	3988
$C_8H_{11}N^+$	$C_6H_5N(CH_3)_2$ (Benzenamine, *N*,*N*-dimethyl-) (RN-CAS Registry Number 121-69-7)	**	7.37 (V)	PE	4106
$C_8H_{11}N^+$	$C_6H_5N(CH_3)_2$ (Benzenamine, *N*,*N*-dimethyl-) (RN-CAS Registry Number 121-69-7)	**	7.2	CTS	3543
$C_8H_{11}N^+$	$C_6H_5N(CH_3)_2$ (Benzenamine, *N*,*N*-dimethyl-) (RN-CAS Registry Number 121-69-7) (AV-Average of two values)	**	7.42	CTS	4029
$C_8H_{11}N^+$	$C_4H_8NCH{=}CHC{\equiv}CH$ (Pyrrolidine, 1-(1-buten-3-ynyl)-) (RN-CAS Registry Number 19352-85-3)	**	7.5	EI	3674
$C_8H_{12}N^+$	$(C_2H_5)_2NCH{=}CHC{\equiv}CH$ (RN-CAS Registry Number 1809-53-6)	H	9.9	EI	3674
$C_8H_{13}N^+$	$(C_2H_5)_2NCH{=}CHC{\equiv}CH$ (RN-CAS Registry Number 1809-53-6)	**	8.0	EI	3674
$C_8H_{13}N^+$	$C_4H_4NC_4H_9$ (1*H*-Pyrrole, 2-(1,1-dimethylethyl)-) (RN-CAS Registry Number 5398-58-3)	**	7.95±0.05	EI	3482
$C_9H_7N^+$	C_9H_7N (Isoquinoline) (RN-CAS Registry Number 119-65-3)	**	8.50	PE	3638
$C_9H_7N^+$	C_9H_7N (Isoquinoline) (RN-CAS Registry Number 119-65-3)	**	8.54 (V)	PE	3723
$C_9H_7N^+$	C_9H_7N (Quinoline) (RN-CAS Registry Number 91-22-5)	**	8.3	PI	3586
$C_9H_7N^+$	C_9H_7N (Quinoline) (RN-CAS-Registry Number 91-22-5)	**	8.62	PE	4066
$C_9H_7N^+$	C_9H_7N (Quinoline) (RN-CAS Registry Number 91-22-5)	**	8.62	PE	3638
$C_9H_7N^+$	C_9H_7N (Quinoline) (RN-CAS Registry Number 91-22-5)	**	8.62 (V)	PE	3723

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{11}N^+$	$C_9H_{11}N$ (Quinoline, 1,2,3,4–tetrahydro–) (RN–CAS Registry Number 635–46–1)	**	7.00±0.02	PE	3890
$C_9H_{13}N^+$	$C_6H_2(CH_3)_3NH_2$ (Benzenamine, 2,4,6–trimethyl–) (RN–CAS Registry Number 88–05–1)	**	7.15	PE	3988
$C_9H_{13}N^+$	$C_6H_3(CH_3)_2NHCH_3$ (Benzenamine, *N*,2,6–trimethyl–) (RN–CAS Registry Number 767–71–5)	**	7.34	PE	3988
$C_9H_{13}N^+$	$C_6H_4(CH_3)N(CH_3)_2$ (Benzenamine, *N*,*N*,2–trimethyl–) (RN–CAS Registry Number 609–72–3)	**	7.40±0.02	PE	3890
$C_9H_{13}N^+$	$C_6H_4(CH_3)N(CH_3)_2$ (Benzenamine, *N*,*N*,2–trimethyl–) (RN–CAS Registry Number 609–72–3)	**	7.44	PE	3988
$C_9H_{13}N^+$	$C_6H_4(CH_3)N(CH_3)_2$ (Benzenamine, *N*,*N*,2–trimethyl–) (RN–CAS Registry Number 609–72–3)	**	7.92 (V)	PE	4106
$C_9H_{13}N^+$	$C_6H_4(CH_3)N(CH_3)_2$ (Benzenamine, *N*,*N*,3–trimethyl–) (RN–CAS Registry Number 121–72–2)	**	7.06	PE	3988
$C_9H_{13}N^+$	$C_6H_4(CH_3)N(CH_3)_2$ (Benzenamine, *N*,*N*,3–trimethyl–) (RN–CAS Registry Number 121–72–2)	**	7.24 (V)	PE	4106
$C_9H_{13}N^+$	$C_6H_4(CH_3)N(CH_3)_2$ (Benzenamine, *N*,*N*,4–trimethyl–) (RN–CAS Registry Number 99–97–8)	**	6.95	PE	3988
$C_9H_{13}N^+$	$C_6H_4(CH_3)N(CH_3)_2$ (Benzenamine, *N*,*N*,4–trimethyl–) (RN–CAS Registry Number 99–97–8)	**	7.27 (V)	PE	4106
$C_9H_{13}N^+$	$C_5H_4NC(CH_3)_3$ (Pyridine, 4–(1,1–dimethylethyl)–) (RN–CAS Registry Number 3978–81–2)	**	9.30±0.05 (V)	PE	3685
$C_9H_{17}N^+$	$C_6H_{11}N{=}C(CH_3)_2$ (Cyclohexanamine, *N*–(1–methylethylidene)–) (RN–CAS Registry Number 6407–36–9)	**	8.23	PE	4043
$C_{10}H_9N^+$	$C_{10}H_7(NH_2)$ (1–Naphthylamine) (RN–CAS Registry Number 134–32–7)	**	7.3	PI	3586
$C_{10}H_9N^+$	$C_{10}H_7(NH_2)$ (2–Naphthylamine) (RN–CAS Registry Number 91–59–8)	**	7.2	PI	3586
$C_{10}H_{15}N^+$	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 3–butyl–) (RN–CAS Registry Number 5369–17–5)	**	7.51±0.1	EI	3629
$C_{10}H_{15}N^+$	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 4–butyl–) (RN–CAS Registry Number 104–13–2)	**	7.61±0.1	EI	3629

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{15}N^+$	$C_6H_5N(C_2H_5)_2$ (Benzenamine, *N*,*N*-diethyl-) (RN-CAS Registry Number 91-66-7)	**	6.95±0.02	PE	3890
$C_{10}H_{15}N^+$	$C_6H_2(CH_3)_3NHCH_3$ (Benzenamine, *N*,2,4,6-tetramethyl-) (RN-CAS Registry Number 13021-14-2)	**	7.22	PE	3988
$C_{10}H_{15}N^+$	$C_6H_3(CH_3)_2N(CH_3)_2$ (Benzenamine, *N*,*N*,2,6-tetramethyl-) (RN-CAS Registry Number 769-06-2)	**	7.30±0.02	PE	3890
$C_{10}H_{15}N^+$	$C_6H_3(CH_3)_2N(CH_3)_2$ (Benzenamine, *N*,*N*,2,6-tetramethyl-) (RN-CAS Registry Number 769-06-2)	**	7.42	PE	3988
$C_{11}H_{13}N^+$	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 3-butyl-) (RN-CAS Registry Number 20651-74-5)	**	9.77±0.1	EI	3629
$C_{11}H_{13}N^+$	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 4-butyl-) (RN-CAS Registry Number 20651-73-4)	**	10.08±0.1	EI	3629
$C_{11}H_{13}N^+$	$C_{11}H_{13}N$ (2*H*-1,4-Ethanoquinoline, 3,4-dihydro-) (RN-CAS Registry Number 4363-25-1) (ON-Other name: Benzoquinuclidine)	**	7.85±0.02	PE	3890
$C_{11}H_{17}N^+$	$C_6H_2(CH_3)_3N(CH_3)_2$ (Benzenamine, *N*,*N*,2,4,6-pentamethyl-) (RN-CAS Registry Number 13021-15-3)	**	7.24	PE	3988
$C_{12}H_{11}N^+$	$(C_6H_5)_2NH$ (Benzenamine, *N*-phenyl-) (RN-CAS Registry Number 122-39-4)	**	7.14±0.03	PI	4028
$C_{12}H_{11}N^+$	$C_6H_5C_6H_4NH_2$ ([1,1'-Biphenyl]-2-amine) (RN-CAS Registry Number 90-41-5)	**	7.28±0.02	PE	3702
$C_{12}H_{15}N^+$	$C_{12}H_{15}N$ (1*H*,5*H*-Benzo[*ij*]quinolizine, 2,3,6,7-tetrahydro-) (RN-CAS Registry Number 479-59-4) (ON-Other name: Julolidine)	**	6.65±0.02	PE	3890
$C_{13}H_9N^+$	$C_{13}H_9N$ (Acridine) (RN-CAS Registry Number 260-94-6)	**	7.8	PI	3586
$C_{13}H_{12}N^+$	$(C_6H_4NH_2)_2CH_2$ (Benzenamine, 4,4'-methylenebis-) (RN-CAS Registry Number 101-77-9)	NH_2	10.7±0.1	EI	3807
$C_{13}H_{13}N^+$	$C_6H_5CH_2C_6H_4NH_2$ (Benzenamine, 4-(phenylmethyl)-) (RN-CAS Registry Number 1135-12-2)	**	7.67±0.05	EI	3806

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{11}N^+$	$C_6H_5CH_2C_6H_4CN$ (Benzonitrile, 4–(phenylmethyl)–) (RN–CAS Registry Number 23450–31–9)	**	9.25±0.05	EI	3806
$C_{14}H_{15}N^+$	$C_6H_5CH_2CH_2C_6H_4NH_2$ (Benzenamine, 4–(2–phenylethyl)–) (RN–CAS Registry Number 13024–49–2)	**	7.55±0.05	EI	3806
$C_{15}H_{11}N^+$	$C_9H_6NC_6H_5$ (Quinoline, 2–phenyl–) (RN–CAS–Registry Number 612–96–4)	**	8.10	PE	4066
$C_{16}H_{13}N^+$	$C_3H_3(CN)(C_6H_5)_2$ (Cyclopropanecarbonitrile, 1,2–diphenyl–) (RN–CAS Registry Number 10224–14–3)	**	8.80±0.08	EDD	3575
$C_{17}H_{29}N^+$	$C_5H_2N(C(CH_3)_3)_3$ (Pyridine, 2,4,6–tris(1,1–dimethylethyl)–) (RN–CAS Registry Number 20336–15–6)	**	8.6 (V)	PE	3934
$C_{17}H_{29}N^+$	$C_5H_2N(C(CH_3)_3)_3$ (Pyridine, 2,4,6–tris(1,1–dimethylethyl)–) (RN–CAS Registry Number 20336–15–6)	**	8.6 (V)	PE	3685
$C_{18}H_{15}N^+$	$(C_6H_5)_3N$ (Benzenamine, *N*,*N*–diphenyl–) (RN–CAS Registry Number 603–34–9)	**	6.80±0.05	PI	4028
$C_{19}H_{13}N^+$	$C_{13}H_8NC_6H_5$ (Acridine, 9–phenyl–) (RN–CAS Registry Number 602–56–2)	**	7.80 (V)	PE	3896
$C_{20}H_{23}N^+$	$C_{15}H_{12}{=}CHCH_2CH_2N(CH_3)_2$ (1–Propanamine, 3–(10,11–dihydro–5*H*–dibenzo[*a*,*d*]cyclohepten–5–ylidene)–*N*,*N*–dimethyl–) (RN–CAS Registry Number 50–48–6) (ON–Other name: Amitryptyline)	**	8.26±0.07	CTS	4079
$CH_2N_2^+(^2B_1)$	CH_2N_2 (3*H*–Diazirine) (RN–CAS Registry Number 157–22–2)	**	10.3	PE	3727
$CH_2N_2^+(^2B_2)$	CH_2N_2 (3*H*–Diazirine) (RN–CAS Registry Number 157–22–2)	**	12.8	PE	3727
$CH_2N_2^+(^2A_1)$	CH_2N_2 (3*H*–Diazirine) (RN–CAS Registry Number 157–22–2)	**	14.15	PE	3727
$CH_2N_2^+(^2A_1)$	CH_2N_2 (3*H*–Diazirine) (RN–CAS Registry Number 157–22–2)	**	16	PE	3727
$CH_2N_2^+(^2B_2)$	CH_2N_2 (3*H*–Diazirine) (RN–CAS Registry Number 157–22–2)	**	17.5 (V)	PE	3727

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_2N_2^+(^2B_1)$	CH_2N_2 (3*H*-Diazirine) (RN-CAS Registry Number 157-22-2)	**	21	PE	3727
$CH_2N_2^+(^2A_1)$	CH_2N_2 (3*H*-Diazirine) (RN-CAS Registry Number 157-22-2)	**	22.5 (V)	PE	3727
$CH_3N_2^+$	$CH_3N{=}NCH_3$ (RN-CAS Registry Number 503-28-6)	CH_3	9.2	EI	3632
$C_2H_6N_2^+$	*trans*-$CH_3N{=}NCH_3$ (RN-CAS Registry Number 4143-41-3)	**	~8.20	PE	3649
$C_2H_6N_2^+(^2B_1)$	$C_3H_6N_2$ (3*H*-Diazirine, 3,3-dimethyl-) (RN-CAS Registry Number 5161-49-9)	**	12.11 (V)	PE	3505
$C_2H_6N_2^+(^2A_1)$	$C_3H_6N_2$ (3*H*-Diazirine, 3,3-dimethyl-) (RN-CAS Registry Number 5161-49-9)	**	13.31 (V)	PE	3505
$C_2H_8N_2^+$	$CH_3NHNHCH_3$ (RN-CAS Registry Number 540-73-8)	**	9.02 (V)	PE	4085
$C_2H_8N_2^+$	$CH_3NHNHCH_3$ (RN-CAS Registry Number 540-73-8)	**	9.62	PE	3747
$C_3H_2N_2^+$	$CH_2(CN)_2$ (RN-CAS-Registry Number 109-77-3)	**	12.88	PE	4067
$C_3H_3N_2^+$	$C_3H_4N_2$ (1*H*-Imidazole) (RN-CAS Registry Number 288-32-4)	H	12.8	EI	3910
$C_3H_4N_2^+$	$C_3H_4N_2$ (1*H*-Imidazole) (RN-CAS Registry Number 288-32-4)	**	8.78 (V)	PE	4009
$C_3H_4N_2^+$	$C_3H_4N_2$ (1*H*-Imidazole) (RN-CAS Registry Number 288-32-4)	**	9.12	EI	3910
$C_3H_4N_2^+$	$C_3H_4N_2$ (1*H*-Pyrazole) (RN-CAS Registry Number 288-13-1)	**	9.15 (V)	PE	4009
$C_3H_6N_2^+$	$(CH_3)_2C{=}N{=}N$ (RN-CAS Registry Number 2684-60-8)	**	7.88	PE	4047
$C_3H_6N_2^+(^2B_2)$	$C_3H_6N_2$ (3*H*-Diazirine, 3,3-dimethyl-) (RN-CAS Registry Number 5161-49-9)	**	9.76 (V)	PE	3505
$C_3H_8N_2^+$	$(CH_3)_2NN{=}CH_2$ (RN-CAS Registry Number 2035-89-4)	**	7.85	PE	3884
$C_3H_8N_2^+$	$CH_3NHN{=}CHCH_3$ (RN-CAS Registry Number 17167-73-6)	**	7.67	PE	3884

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_8N_2^+$	$CH_2N_2(CH_3)_2$ (Diaziridine, 1,2-dimethyl-) (RN-CAS Registry Number 6794-95-2)	**	9.42 (V)	PE	3888
$C_3H_8N_2^+$	$CH_2N_2(CH_3)_2$ (Diaziridine, 3,3-dimethyl-) (RN-CAS Registry Number 4901-76-2)	**	9.90 (V)	PE	3888
$C_3H_8N_2^+$	$C_3H_8N_2$ (Pyrazolidine) (RN-CAS Registry Number 504-70-1)	**	7.90 (V)	PE	4085
$C_4H_2N_2^+$	*cis*-CH(CN)=CH(CN) (RN-CAS Registry Number 928-53-0)	**	11.15	PE	3778
$C_4H_2N_2^+$	*trans*-CH(CN)=CH(CN) (RN-CAS Registry Number 764-42-1)	**	11.15	PE	3778
$C_4H_4N_2^+$	$C_4H_4N_2$ (Pyrazine) (RN-CAS Registry Number 290-37-9)	**	9.28±0.01	S	3773
(RS-Average of two Rydberg series limits)					
$C_4H_4N_2^+$	$C_4H_4N_2$ (Pyrazine) (RN-CAS Registry Number 290-37-9)	**	9.216	PE	3750
$C_4H_4N_2^+$	$C_4H_4N_2$ (Pyrazine) (RN-CAS Registry Number 290-37-9)	**	9.29	PE	3679
$C_4H_4N_2^+(^2A_{1g})$	$C_4H_4N_2$ (Pyrazine) (RN-CAS Registry Number 290-37-9)	**	9.63 (V)	PE	3513
$C_4H_4N_2^+(^2B_{2g})$	$C_4H_4N_2$ (Pyrazine) (RN-CAS Registry Number 290-37-9)	**	10.18 (V)	PE	3513
$C_4H_4N_2^+(^2B_{2u})$	$C_4H_4N_2$ (Pyrazine) (RN-CAS Registry Number 290-37-9)	**	11.35 (V)	PE	3513
$C_4H_4N_2^+(^2B_{1g})$	$C_4H_4N_2$ (Pyrazine) (RN-CAS Registry Number 290-37-9)	**	11.77 (V)	PE	3513
$C_4H_4N_2^+$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	8.64	PE	3679
$C_4H_4N_2^+(^2B_2)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	8.706±0.001	PE	3639
$C_4H_4N_2^+(^2B_2)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	9.31 (V)	PE	3513
$C_4H_4N_2^+(^2A_2)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	10.483±0.001	PE	3639
$C_4H_4N_2^+(^2A_2)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	10.61 (V)	PE	3513

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_4N_2^+(^2B_1)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	~10.9 (V)	PE	3513
$C_4H_4N_2^+(^2A_1,^2B_1)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	~11.1	PE	3639
$C_4H_4N_2^+(^2A_1)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	11.31 (V)	PE	3513
$C_4H_4N_2^+(^2B_1)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	13.504±0.003	PE	3639
$C_4H_4N_2^+(^2A_1)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	~13.8	PE	3639
$C_4H_4N_2^+(^2B_2)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	~14.5	PE	3639
$C_4H_4N_2^+(^2A_1)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	~15.88	PE	3639
$C_4H_4N_2^+(^2B_2)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	~16.5	PE	3639
$C_4H_4N_2^+(^2A_1)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	~17.0	PE	3639
$C_4H_4N_2^+(^2A_1,^2B_2)$	$C_4H_4N_2$ (Pyridazine) (RN-CAS Registry Number 289-80-5)	**	20.0	PE	3639
$C_4H_4N_2^+$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	9.23	PE	3679
$C_4H_4N_2^+(^2B_2)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	9.32±0.01	PE	3651
$C_4H_4N_2^+(^2B_2)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	9.73 (V)	PE	3513
$C_4H_4N_2^+(^2B_1)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	10.40±0.01	PE	3651
$C_4H_4N_2^+(^2B_1)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	10.41 (V)	PE	3513
$C_4H_4N_2^+(^2A_2)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	11.1	PE	3651
$C_4H_4N_2^+(^2A_1)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	11.23 (V)	PE	3513

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_4N_2^+(^2A_1)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	11.3	PE	3651
$C_4H_4N_2^+(^2A_2)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	11.39 (V)	PE	3513
$C_4H_4N_2^+(^2B_1)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	13.6	PE	3651
$C_4H_4N_2^+(^2A_1,^2B_2)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	~14	PE	3651
$C_4H_4N_2^+(^2A_1)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	15.3	PE	3651
$C_4H_4N_2^+(^2B_2)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	16.6	PE	3651
$C_4H_4N_2^+(^2A_1)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	17.2	PE	3651
$C_4H_4N_2^+(^2A_1,^2B_2)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	20.0	PE	3651
$C_4H_4N_2^+(^2A_1)$	$C_4H_4N_2$ (Pyrimidine) (RN-CAS Registry Number 289-95-2)	**	23.4	PE	3651
$C_4H_8N_2^+$	$CH_3CH=NN=CHCH_3$ (RN-CAS Registry Number 592-56-3)	**	8.56	PE	4043
$C_4H_8N_2^+$	$CH_3CH=NN=CHCH_3$ (RN-CAS Registry Number 592-56-3)	**	9.11 (V)	PE	4085
$C_4H_8N_2^+$	$C_2H_4NC_2H_4N$ (1,1′-Biaziridine) (RN-CAS Registry Number 4388-03-8)	**	8.65 (V)	PE	4085
$C_4H_{10}N_2^+$	$C_2H_5N=NC_2H_5$ (RN-CAS Registry Number 821-14-7)	**	8.7±0.1	EI	4099
$C_4H_{10}N_2^+$	$CH_3NHN=C(CH_3)_2$ (RN-CAS Registry Number 5771-02-8)	**	7.69	PE	3884
$C_4H_{10}N_2^+$	$(CH_3)_2NN=CHCH_3$ (RN-CAS Registry Number 7422-90-4)	**	7.54	PE	3884
$C_4H_{10}N_2^+$	$CHN_2(CH_3)_3$ (Diaziridine, 1,3,3-trimethyl-) (RN-CAS Registry Number 40711-15-7)	**	9.20 (V)	PE	3888
$C_4H_{10}N_2^+$	$C_4H_{10}N_2$ (Piperazine) (RN-CAS Registry Number 110-85-0) (ON-Other name: Piperidazine)	**	8.72 (V)	PE	4085
$C_4H_{12}N_2^+$	$C_2H_5NHNHC_2H_5$ (RN-CAS Registry Number 1615-80-1)	**	8.88 (V)	PE	4085

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_{12}N_2^+$	$(CH_3)_2NN(CH_3)_2$ (RN-CAS Registry Number 6415-12-9)	**	8.38 (V)	PE	4085
$C_4H_{12}N_2^+$	$(CH_3)_2NN(CH_3)_2$ (RN-CAS Registry Number 6415-12-9)	**	8.43 (V)	PE	3889
$C_5H_4N_2^+$	$C_5H_4{=}N{=}N$ (1,3-Cyclopentadiene, 5-diazo-) (RN-CAS Registry Number 1192-27-4)	**	8.33 (V)	PE	4047
$C_5H_6N_2^+$	$CH_3C(CN)_2CH_3$ (RN-CAS-Registry Number 7321-55-3)	**	12.39 (V)	PE	4067
$C_5H_6N_2^+$	$C_5H_4NNH_2$ (2-Pyridinamine) (RN-CAS Registry Number 504-29-0)	**	8.85±0.05	EI	3891
$C_5H_6N_2^+$	$C_5NH_4NH_2$ (2-Pyridinamine) (RN-CAS Registry Number 504-29-0)	**	9.3	CTS	3730
$C_5H_6N_2^+$	$C_5H_4NNH_2$ (3-Pyridinamine) (RN-CAS Registry Number 462-08-8)	**	9.03±0.05	EI	3891
$C_5H_6N_2^+$	$C_5NH_4NH_2$ (3-Pyridinamine) (RN-CAS Registry Number 462-08-8)	**	9.0	CTS	3730
$C_5H_6N_2^+$	$C_5H_4NNH_2$ (4-Pyridinamine) (RN-CAS Registry Number 504-24-5)	**	9.27±0.05	EI	3891
$C_5H_6N_2^+$	$C_5NH_4NH_2$ (4-Pyridinamine) (RN-CAS Registry Number 504-24-5)	**	8.4	CTS	3730
$C_5H_8N_2^+$	$C_5H_8N_2$ (2,3-Diazabicyclo[2.2.1]hept-2-ene) (RN-CAS Registry Number 2721-32-6)	**	8.45±0.04	PE	3828
$C_5H_{10}N_2^+$	$C_4H_7N_2CH_3$ (1,5-Diazabicyclo[3.1.0]hexane, 2-methyl-) (RN-CAS Registry Number 6794-96-3)	**	8.78 (V)	PE	3888
$C_5H_{12}N_2^+$	$(CH_3)_2NN{=}C(CH_3)_2$ (RN-CAS Registry Number 13483-31-3)	**	7.43	PE	3884
$C_5H_{12}N_2^+$	$CN_2(CH_3)_4$ (Diaziridine, tetramethyl-) (RN-CAS Registry Number 50695-43-7)	**	8.94 (V)	PE	3888
$C_6H_4N_2^+$	C_5H_4NCN (2-Pyridinecarbonitrile) (RN-CAS Registry Number 100-70-9)	**	10.33±0.05	EI	3498
$C_6H_7N_2^+$	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(2-aminophenyl)-) (RN-CAS Registry Number 34801-09-7)	CH_3CO	13.93±0.02	EI	3631

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_7N_2^+$	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(4-aminophenyl)-) (RN-CAS Registry Number 122-80-5)	CH_3CO	13.72±0.02	EI	3631
$C_6H_8N_2^+$	$C_6H_4(NH_2)_2$ (1,4-Benzenediamine) (RN-CAS Registry Number 106-50-3)	**	7.16	EI	4089
$C_6H_8N_2^+$	$C_4H_2N_2(CH_3)_2$ (Pyrazine, 2,6-dimethyl-) (RN-CAS Registry Number 108-50-9)	**	8.80	PE	3860
$C_6H_8N_2^+$	$C_5NH_3(CH_3)NH_2$ (2-Pyridinamine, 6-methyl-) (RN-CAS Registry Number 1824-81-3)	**	9.1	CTS	3730
$C_6H_8N_2^+$	$C_5H_4NNHCH_3$ (2-Pyridinamine, *N*-methyl-) (RN-CAS Registry Number 4597-87-9)	**	8.26±0.05	EI	3891
$C_6H_8N_2^+$	$C_5NH_3(CH_3)NH_2$ (3-Pyridinamine, 4-methyl-) (RN-CAS Registry Number 3430-27-1)	**	9.3	CTS	3730
$C_6H_8N_2^+$	$C_5H_4NNHCH_3$ (3-Pyridinamine, *N*-methyl-) (RN-CAS Registry Number 18364-47-1)	**	8.53±0.05	EI	3891
$C_6H_8N_2^+$	$C_5H_4NNHCH_3$ (4-Pyridinamine, *N*-methyl-) (RN-CAS Registry Number 1121-58-0)	**	8.75±0.05	EI	3891
$C_6H_8N_2^+$	$C_5H_4N(=NH)CH_3$ (2(1*H*-Pyridinimine, 1-methyl-) (RN-CAS Registry Number 4088-63-5)	**	7.91±0.05	EI	3891
$C_6H_8N_2^+$	$C_5H_4N(=NH)CH_3$ (4(1*H*)-Pyridinimine, 1-methyl-) (RN-CAS Registry Number 16562-40-6)	**	7.85±0.05	EI	3891
$C_6H_8N_2^+$	$C_5H_4N(NH)CH_3$ (Pyridinium, 3-amino-1-methyl-, hydroxides, inner salt) (RN-CAS Registry Number 38879-42-2)	**	7.45±0.1	EI	3891
$C_6H_8N_2^+$	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(2-aminophenyl)-) (RN-CAS Registry Number 34801-09-7)	$CH_2=C=O$	10.49±0.02	EI	3631
$C_6H_8N_2^+$	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(4-aminophenyl)-) (RN-CAS Registry Number 122-80-5)	$CH_2=C=O$	10.06±0.02	EI	3631
$C_6H_{10}N_2^+$	$C_6H_{10}N_2$ (2,3-Diazabicyclo[2.2.2]oct-2-ene) (RN-CAS Registry Number 3310-62-1)	**	7.79±0.04	PE	3828
$C_6H_{12}N_2^+$	$(CH_3)_2C=NN=C(CH_3)_2$ (RN-CAS Registry Number 627-70-3)	**	7.97	PE	4043
$C_6H_{12}N_2^+$	$C_6H_{12}N_2$ (1,4-Diazabicyclo[2.2.2]octane) (RN-CAS Registry Number 280-57-9)	**	7.52 (V)	PE	4038

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{12}N_2^+$	$C_6H_{12}N_2$ (1*H*,5*H*-Pyrazolo[1,2-*a*]pyrazole, tetrahydro-) (RN-CAS Registry Number 5397-67-1) (ON-Other name: 1,5-Diazabicyclo[3.3.0]octane)	**	7.90 (V)	PE	4085
$C_6H_{12}N_2^+$	$C_6H_{12}N_2$ (1*H*,5*H*-Pyrazolo[1,2-*a*]pyrazole, tetrahydro-) (RN-CAS Registry Number 5397-67-1) (ON-Other name: 1,5-Diazabicyclo[3.3.0]octane)	**	7.91 (V)	PE	3889
$C_6H_{14}N_2^+$	$C_4H_8N_2(CH_3)_2$ (Pyridazine, hexahydro-1,2-dimethyl-) (RN-CAS Registry Number 26163-37-1)	**	7.77 (V)	PE	3887
$C_6H_{16}N_2^+$	$(CH_3)_2CHNHNHCH(CH_3)_2$ (RN-CAS Registry Number 3711-34-0)	**	8.34 (V)	PE	4085
$C_7H_8N_2^+$	$C_7H_8N_2$ (3,4-Diazatricyclo[4.2.1.0^{2,5}]nona-3,7-diene) (RN-CAS Registry Number 23979-29-5)	**	9.05±0.05 (V)	PE	4040
$C_7H_{10}N_2^+$	$C_7H_{10}N_2$ (3,4-Diazatricyclo[4.2.1.0^{2,5}]non-3-ene) (RN-CAS Registry Number 23979-30-8)	**	8.90±0.05 (V)	PE	4040
$C_7H_{10}N_2^+$	$C_5NH_4N(CH_3)_2$ (4-Pyridinamine, *N*,*N*,-dimethyl-) (RN-CAS Registry Number 1122-58-3)	**	7.7	CTS	3730
$C_7H_{12}N_2^+$	$C_5H_6N_2(CH_3)_2$ (2,3-Diazabicyclo[2.2.1]hept-5-ene, 2,3-dimethyl-) (RN-CAS Registry Number 14288-15-4)	**	7.74 (V)	PE	3889
$C_7H_{12}N_2^+$	$C_7H_{12}N_2$ (6,7-Diazabicyclo[3.2.2]non-6-ene) (RN-CAS Registry Number 43195-77-3)	**	7.64±0.04	PE	3828
$C_7H_{12}N_2^+$	$C_3N_2(CH_3)_4$ (4*H*-Pyrazole, 3,4,4,5-tetramethyl-) (RN-CAS Registry Number 19078-32-1)	**	10.12 (V)	PE	4085
$C_7H_{14}N_2^+$	$C_5H_8N_2(CH_3)_2$ (2,3-Diazabicyclo[2.2.1]heptane, 2,3-dimethyl-) (RN-CAS Registry Number 14287-89-9)	**	7.58 (V)	PE	3889
$C_7H_{16}N_2^+$	$C_4H_7N_2(CH_3)_3$ (Pyridazine, hexahydro-1,2,3-trimethyl-) (RN-CAS Registry Number 38704-92-6)	**	7.81 (V)	PE	3887
$C_8H_6N_2^+$	$C_8H_6N_2$ (Cinnoline) (RN-CAS Registry Number 253-66-7)	**	<8.8	PE	3638
$C_8H_6N_2^+$	$C_8H_6N_2$ (Cinnoline) (RN-CAS Registry Number 253-66-7)	**	8.90 (V)	PE	3722

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_6N_2^+$	$C_8H_6N_2$ (1,5-Naphthyridine) (RN-CAS Registry Number 254-79-5)	**	9.20 (V)	PE	3722
$C_8H_6N_2^+$	$C_8H_6N_2$ (1,6-Naphthyridine) (RN-CAS Registry Number 253-72-5)	**	9.07 (V)	PE	3722
$C_8H_6N_2^+$	$C_8H_6N_2$ (1,7-Naphthyridine) (RN-CAS Registry Number 253-69-0)	**	8.99 (V)	PE	3722
$C_8H_6N_2^+$	$C_8H_6N_2$ (1,8-Naphthyridine) (RN-CAS Registry Number 254-60-4)	**	9.20 (V)	PE	3722
$C_8H_6N_2^+$	$C_8H_6N_2$ (2,6-Naphthyridine) (RN-CAS Registry Number 253-50-9)	**	8.87 (V)	PE	3722
$C_8H_6N_2^+$	$C_8H_6N_2$ (2,7-Naphthyridine) (RN-CAS Registry Number 253-45-2)	**	8.98 (V)	PE	3722
$C_8H_6N_2^+$	$C_8H_6N_2$ (Phthalazine) (RN-CAS Registry Number 253-52-1)	**	8.70 (V)	PE	3722
$C_8H_6N_2^+$	$C_8H_6N_2$ (Quinazoline) (RN-CAS Registry Number 253-82-7)	**	9.00	PE	3638
$C_8H_6N_2^+$	$C_8H_6N_2$ (Quinazoline) (RN-CAS Registry Number 253-82-7)	**	9.08 (V)	PE	3722
$C_8H_6N_2^+$	$C_8H_6N_2$ (Quinoxaline) (RN-CAS Registry Number 91-19-0)	**	9.00 (V)	PE	3722
$C_8H_6N_2^+$	$C_8H_6N_2$ (Quinoxaline) (RN-CAS Registry Number 91-19-0)	**	9.01	PE	3638
$C_8H_{14}N_2^+$	$C_6H_8N_2(CH_3)_2$ (2,3-Diazabicyclo[2.2.2]oct-5-ene, 2,3-dimethyl-) (RN-CAS Registry Number 14287-91-3)	**	7.59 (V)	PE	3889
$C_8H_{14}N_2^+$	$C_8H_{14}N_2$ (7,8-Diazabicylco[4.2.2]dec-7-ene) (RN-CAS Registry Number 32634-64-3)	**	7.38±0.04	PE	3828
$C_8H_{16}N_2^+$	$C_8H_{16}N_2$ (Pyridazino[1,2-*a*]pyridazine, octahydro-) (RN-CAS Registry Number 3661-15-2)	**	7.59 (V)	PE	3889
$C_8H_{18}N_2^+$	$C_4H_6N_2(CH_3)_4$ (Pyridazine, hexahydro-1,2,3,6-tetramethyl, *cis*-) (RN-CAS Registry Number 26171-64-2)	**	7.82 (V)	PE	3887
$C_8H_{18}N_2^+$	$C_4H_6N_2(CH_3)_4$ (Pyridazine, hexahydro-1,2,3,6-tetramethyl, *trans*-) (RN-CAS Registry Number 38704-91-5)	**	7.78 (V)	PE	3887

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{20}N_2^+$	$(C_2H_5)_2NN(C_2H_5)_2$ (RN-CAS Registry Number 4267-00-9)	**	8.10 (V)	PE	3889
$C_9H_{20}N_2^+$	$C_3H_6N_2(C_3H_7)_2$ (Pyrazolidine, 1,2-bis(1-methylethyl)-) (RN-CAS Registry Number 38704-87-9)	**	7.89 (V)	PE	3889
$C_{10}H_8N_2^+$	$(C_5H_4N)_2$ (2,2′-Bipyridine) (RN-CAS Registry Number 366-18-7)	**	8.35±0.02	PE	3702
$C_{10}H_8N_2^+$	$(C_5H_4N)_2$ (4,4′-Bipyridine) (RN-CAS Registry Number 553-26-4)	**	9.10±0.02	PE	3702
$C_{10}H_{16}N_2^+$	$C_6H_4(N(CH_3)_2)_2$ (1,4-Benzenediamine, *N,N,N′,N′*-tetramethyl-) (RN-CAS Registry Number 100-22-1)	**	6.20±0.05	PI	3729
$C_{10}H_{16}N_2^+$	$C_6H_4(N(CH_3)_2)_2$ (1,4-Benzenediamine, *N,N,N′,N′*-tetramethyl-) (RN-CAS Registry Number 100-22-1)	**	6.7	CTS	3543
$C_{10}H_{20}N_2^+$	$C_5H_{10}NC_5H_{10}N$ (1,1′-Bipiperidine) (RN-CAS Registry Number 6130-94-5)	**	8.05 (V)	PE	4085
$C_{11}H_8N_2^+$	$C_{11}H_8N_2$ (1*H*-Perimidine) (RN-CAS Registry Number 204-02-4)	**	6.80	CTS	4035
$C_{12}H_{20}N_2^+$	$C_6H_{10}NN(C_6H_{10})$ (Cyclohexanone, cyclohexylidenehydrazone) (RN-CAS Registry Number 4278-87-9)	**	7.84	PE	4043
$C_{13}H_{14}N_2^+$	$(C_6H_4NH_2)_2CH_2$ (Benzenamine, 4,4′-methylenebis-) (RN-CAS Registry Number 101-77-9)	**	7.75±0.05	EI	3806
$C_{14}H_{12}N_2^+$	$C_{13}H_9N_2(CH_3)$ (1*H*-Cyclopenta[*gh*]perimidine, 6,7-dihydro-1-methyl-) (RN-CAS Registry Number 18969-93-2) (ON-Other name: 1-Methylaceperimidine)	**	6.53	CTS	4035
$C_{14}H_{16}N_2^+$	$C_6H_4(NH_2)CH_2CH_2C_6H_4NH_2$ (Benzenamine, 4,4′-(1,2-ethanediyl)bis-) (RN-CAS Registry Number 621-95-4)	**	7.45±0.05	EI	3806
$C_{17}H_{22}N_2^+$	$(C_6H_4N(CH_3)_2)_2CH_2$ (Benzenamine, 4,4′-methylenebis(*N,N*-dimethyl)-) (RN-CAS Registry Number 101-61-1)	**	7.1	CTS	3543

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{18}N_2^+$	$C_6H_5C_3H_3(CN)C_6H_4N(CH_3)_2$ (Cyclopropanecarbonitrile, 2-(*p*-(dimethylamino)phenyl)-1-phenyl-) (RN-CAS Registry Number 6114-58-5)	**	6.90±0.10	EDD	3575
$C_{19}H_{20}N_2^+$	$C_6H_4(CH_3)C_3H_3(CN)C_6H_4N(CH_3)_2$ (Cyclopropanecarbonitrile, 2-(*p*-(dimethylamino)phenyl)-1-*p*-tolyl-) (RN-CAS Registry Number 32589-51-8)	**	6.80±0.07	EDD	3575
$C_{19}H_{24}N_2^+$	$C_{14}H_{12}N(CH_2)_3N(CH_3)_2$ (5*H*-Dibenz[*b*,*f*]azepine-5-propanamine, 10,11-dihydro-*N*,*N*-dimethyl-) (RN-CAS Registry Number 50-49-7) (ON-Other name: Imizine)	**	8.21±0.07	CTS	4079
$CH_3N_3^+(^2A'')$	CH_3N_3 (RN-CAS Registry Number 624-90-8)	**	9.81±0.02	PE	3670
$C_2H_3N_3^+$	$C_2H_3N_3$ (1*H*-1,2,3-Triazole) (RN-CAS Registry Number 288-36-8)	**	10.06 (V)	PE	4009
$C_2H_3N_3^+$	$C_2H_3N_3$ (1*H*-1,2,4-Triazole) (RN-CAS Registry Number 288-88-0)	**	10.0 (V)	PE	4009
$C_3H_3N_3^+$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	9.98	PE	3679
$C_3H_3N_3^+(^2E')$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	10.01±0.01	PE	3720
$C_3H_3N_3^+$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	10.1	PE	3637
$C_3H_3N_3^+(^2E'')$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	11.69±0.01	PE	3720
$C_3H_3N_3^+(^2A_2')$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	13.26±0.01	PE	3720
$C_3H_3N_3^+(^2E')$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	14.56±0.01	PE	3720
$C_3H_3N_3^+(^2A')$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	15.0±0.01	PE	3720
$C_3H_3N_3^+(^2A')$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	17.1±0.01	PE	3720
$C_3H_3N_3^+(^2A')$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	18.05±0.01	PE	3720

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_3N_3^+(^2E')$	$C_3H_3N_3$ (1,3,5-Triazine) (RN-CAS Registry Number 290-87-9)	**	21.0±0.01	PE	3720
$C_{12}H_{11}N_3^+$	$C_{11}H_6N_2(NH_2)CH_3$ (1*H*-Perimindin-2-amine, 1-methyl-) (RN-CAS Registry Number 20551-10-4)	**	6.41	CTS	4035
$CH_2N_4^+$	CH_2N_4 (1*H*-Tetrazole) (RN-CAS Registry Number 288-94-8)	**	11.3 (V)	PE	4009
$C_2H_2N_4^+$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	9.14	PE	3679
$C_2H_2N_4^+(^2B_2)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	9.24	PE	3740
$C_2H_2N_4^+(^2B_1)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	11.6	PE	3740
$C_2H_2N_4^+(^2A_1)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	12.1 (V)	PE	3740
$C_2H_2N_4^+(^2A_2)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	12.5	PE	3740
$C_2H_2N_4^+(^2A_1)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	13.2	PE	3740
$C_2H_2N_4^+(^2B_1)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	15.51	PE	3740
$C_2H_2N_4^+(^2A_1)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	16.5	PE	3740
$C_2H_2N_4^+(^2B_2)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	~17.5 (V)	PE	3740
$C_2H_2N_4^+(^2B_2,^2A_1)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	18.9	PE	3740
$C_2H_2N_4^+(^2A_1)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	22.0	PE	3740
$C_2H_2N_4^+(^2B_2)$	$C_2H_2N_4$ (1,2,4,5-Tetrazine) (RN-CAS Registry Number 290-96-0)	**	~24	PE	3740

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_6N_4^+$	$C_2N_4(CH_3)_2$ (1,2,4,5-Tetrazine, 3,6-dimethyl-) (RN-CAS Registry Number 1558-23-2)	**	9.08 (V)	PE	3679
$C_{10}H_{20}N_4^+$	$C_{10}H_{20}N_4$ (Imidazolidine, 2-(1,3-dimethyl-2-imidazolidinylidene)-1,3-dimethyl-) (RN-CAS Registry Number 1911-01-9)	**	6.06 (V)	PE	3512
$C_{10}H_{24}N_4^+$	$((CH_3)_2N)_2C=C(N(CH_3)_2)_2$ (RN-CAS Registry Number 996-70-3)	**	5.95 (V)	PE	3512
$C_{11}H_{15}N_5^+$	$C_{11}H_{13}N_4NH_2$ (9*H*-Purin-6-amine, 9-cyclohexyl-) (RN-CAS Registry Number 4235-94-3)	**	9.1	CTS	3915
$C_{32}H_{18}N_8^+$	$C_{32}H_{18}N_8$ (29*H*,31*H*-Phthalocyanine) (RN-CAS Registry Number 574-93-6)	**	7.36±0.10	EI	3829
CH_8BN^+	$(CH_3NH_2)(BH_3)$ (RN-CAS Registry Number 1722-33-4)	**	9.66±0.01	PE	3699
$C_2H_8BN^+$	$(CH_3)_2NBH_2$ (RN-CAS Registry Number 1838-13-7)	**	9.51	PE	3584
$C_2H_9BN^+$	$((CH_3)_2NH)(BH_2)$ (RN-CAS Registry Number 74-94-2)	**	9.39±0.01	PE	3699
$C_3H_{12}BN^+$	$((CH_3)_3N)(BH_3)$ (RN-CAS Registry Number 75-22-9)	**	9.28±0.2	PE	3699
$C_4H_{12}BN^+$	$(CH_3)_2NB(CH_3)_2$ (RN-CAS Registry Number 1113-30-0)	**	8.92	PE	3584
$C_6H_{12}BN^+$	$C_6H_{12}BN$ (1*H*,5*H*-[1,2]Azaborolo[1,2-*a*][1,2]azaborole, tetrahydro-) (RN-CAS Registry Number 16153-13-2)	**	8.06	PE	3584
$C_4H_{13}BN_2^+$	$((CH_3)_2N)_2BH$ (RN-CAS Registry Number 2386-98-3)	**	7.76	PE	3584
$C_5H_{15}BN_2^+$	$((CH_3)_2N)_2B(CH_3)$ (RN-CAS Registry Number 6914-63-2)	**	7.63	PE	3584
$C_3H_{12}B_3N_3^+$	$C_3H_{12}B_3N_3$ (Borazine, 1,3,5-trimethyl-) (RN-CAS Registry Number 1004-35-9)	**	8.99 (V)	PE	3944
$C_3H_{12}B_3N_3^+(^2E'')$	$C_3H_{12}B_3N_3$ (Borazine, 1,3,5-trimethyl-) (RN-CAS Registry Number 1004-35-9)	**	9.28±0.02	PE	3506

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_{12}B_3N_3^+$	$C_3H_{12}B_3N_3$ (Borazine, 2,4,6-trimethyl-) (RN-CAS Registry Number 5314-85-2)	**	9.50 (V)	PE	3944
$C_3H_{12}B_3N_3^+(^2E'')$	$C_3H_{12}B_3N_3$ (Borazine, 2,4,6-trimethyl-) (RN-CAS Registry Number 5314-85-2)	**	9.64±0.03	PE	3506
$C_6H_{14}BN_3^+$	$C_6H_{14}BN_3$ ([1,3,2]Diazaborino[1,2-*a*][1,3,2]diazaborine, octahydro-) (RN-CAS Registry Number 1730-15-0)	**	7.90	PE	3584
$C_6H_{18}BN_3^+$	$B(N(CH_3)_2)_3$ (RN-CAS Registry Number 4375-83-1)	**	7.60 (V)	PE	3704
$C_6H_{18}B_3N_3^+$	$C_6H_{18}B_3N_3$ (Borazine, hexamethyl-) (RN-CAS Registry Number 877-07-6)	**	8.53 (V)	PE	3944
$C_8H_{24}B_2N_4^+$	$((CH_3)_2N)_2BB(N(CH_3)_2)_2$ (RN-CAS Registry Number 1630-79-1)	**	7.3 (V)	PE	3512
$C_8H_{24}B_2N_4^+$	$((CH_3)_2N)_2BB(N(CH_3)_2)_2$ (RN-CAS Registry Number 1630-79-1)	**	7.58	PE	3584
$O^+(^2P)$	O (RN-CAS Registry Number 17778-80-2)	**	18.63	PE	3701
O^+	H_2O (RN-CAS Registry Number 7732-18-5)	H_2	19.0	DC	3967
O^+	H_2O (RN-CAS Registry Number 7732-18-5)	2H	26.8	DC	3967
O^+	NO (RN-CAS Registry Number 10102-43-9)	N	20.1±0.3	EI	3945
O^+	HOF (RN-CAS Registry Number 14034-79-8)	HF	14.34	PI	3932
(TV-Threshold value approximately corrected to 0°K)					
O^{+2}	$O^+(^2P)$ (RN-CAS Registry Number 14581-93-2)	**	30	SEQ	3489
O^{+2}	$O^+(^2D)$ (RN-CAS Registry Number 14581-93-2)	**	32	SEQ	3489
$O^{+2}(^1D)$	O^+ (RN-CAS Registry Number 14581-93-2)	**	38	SEQ	3489
$O^{+2}(^5S)$	O^+ (RN-CAS Registry Number 14581-93-2)	**	42	SEQ	3489
O^{+2}	CO (RN-CAS Registry Number 630-08-0)	$C(^1D)$	61	SEQ	3489
O^{+2}	CO^+ (RN-CAS Registry Number 12144-04-6)	$C(^1D)$	47	SEQ	3489
O^{+3}	$O^{+2}(^1S)$ (RN-CAS Registry Number 14127-63-0)	**	49.3	SEQ	3489

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
O^{+3}	$O^{+2}(^1D)$	**	52.6	SEQ	3489
	(RN-CAS Registry Number 14127-63-0)				
O^{+6}	O^{+5}	**	>160	SEQ	3489
	(RN-CAS Registry Number 14127-66-3)				
$O_2^+(X^2\Pi_{1/2})$	$O_2(a^1\Delta_g)$	**	11.108±0.002	S	3878
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(X^2\Pi_g)$	O_2	**	12.07±0.01	PI	4020
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(X^2\Pi_{3/2g})$	O_2	**	12.077	PE	3834
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(X^2\Pi_g)$	O_2	**	12.08	PE	4073
	(RN-CAS-Registry Number 7782-44-7)				
$O_2^+(X^2\Pi_{1/2g})$	O_2	**	12.102	PE	3834
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(a^4\pi u)$	O_2	**	16.105	PE	3664
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(^2\Pi_u)$	$O_2(^1\Delta_g)$	**	~16.5	PE	3698
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(^2\Phi_u?)$	$O_2(^1\Delta_g)$	**	~17.45	PE	3534
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(^2\Phi_u)$	$O_2(^1\Delta_g)$	**	17.5	PE	3698
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(^2\Delta_g?)$	$O_2(^1\Delta_g)$	**	18.81	PE	3534
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(^2\Pi_u)$	O_2	**	22.8±0.1	PE	3975
	(RN-CAS Registry Number 7782-44-7)				
$O_2^+(c^4\Sigma_u^-)$	O_2	**	24.6	PE	3975
	(RN-CAS Registry Number 7782-44-7)				
O_2^{+*}	O_2	**	38.4±0.2	PE	3975
	(RN-CAS Registry Number 7782-44-7)				
OH^+	OH	**	13.5±1.0	EI	4054
	(RN-CAS-Registry Number 3352-57-6)				
(RD-Radical)					
OH^+	OH	**	12.88	D	3932
	(RN-CAS Registry Number 3352-57-6)				
(RD-Radical)					
OH^+	H_2O	H	18.2	DC	3967
	(RN-CAS Registry Number 7732-18-5)				
OH^+	HOF	F	15.07	PI	3932
	(RN-CAS Registry Number 14034-79-8)				
(TV-Threshold value approximately corrected to 0°K)					
H_2O^+	H_2O	**	12.619±0.006	S	3983
	(RN-CAS Registry Number 7732-18-5)				
$H_2O^+(^2B_1)$	H_2O	**	12.619	PE	3941
	(RN-CAS Registry Number 7732-18-5)				
$H_2O^+(^2B_1)$	H_2O	**	12.62	PE	3719
	(RN-CAS Registry Number 7732-18-5)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$H_2O^+(^2B_1)$	H_2O	**	12.624	PE	3530
	(RN–CAS Registry Number 7732–18–5)				
(Center of rotational envelope)					
$H_2O^+(^2A_1)$	H_2O	**	13.78	PE	3719
	(RN–CAS Registry Number 7732–18–5)				
$H_2O^+(^2A_1)$	H_2O	**	13.930±0.010	PE	3530
	(RN–CAS Registry Number 7732–18–5)				
(Origin of rotational envelope)					
$H_2O^+(^2A_1)$	H_2O	**	14.8	PE	3941
	(RN–CAS Registry Number 7732–18–5)				
$H_2O^+(^2B_2)$	H_2O	**	17.02	PE	3719
	(RN–CAS Registry Number 7732–18–5)				
$H_2O^+(^2B_2)$	H_2O	**	17.390	PE	3530
	(RN–CAS Registry Number 7732–18–5)				
$H_2O^+(^2B_2)$	H_2O	**	18.54	PE	3941
	(RN–CAS Registry Number 7732–18–5)				
$H_2O^+(^2A_1)$	H_2O	**	32.2 (V)	PE	3719
	(RN–CAS Registry Number 7732–18–5)				
H_2O^+	H_2O	**	12.7	DC	3967
	(RN–CAS Registry Number 7732–18–5)				
D_2O^+	D_2O	**	12.636±0.006	S	3983
	(RN–CAS Registry Number 7789–20–0)				
$D_2O^+(^2B_1)$	D_2O	**	12.633	PE	3530
	(RN–CAS Registry Number 7789–20–0)				
(Center of rotational envelope)					
$D_2O^+(^2A_1)$	D_2O	**	13.930±0.010	PE	3530
	(RN–CAS Registry Number 7789–20–0)				
(Origin of rotational envelope)					
H_3O^+	C_2H_5OH	C_2H_2+H	14.30±0.02	RPD	3487
	(RN–CAS Registry Number 64–17–5)				
(MT–Metastable transition(s) observed)					
(TR–Other product(s) thermochemically reasonable)					
LiO^+	LiO	**	8.45±0.20	EI	3909
	(RN–CAS Registry Number 12142–77–7)				
Li_2O^+	Li_2O	**	6.19±0.20	EI	3909
	(RN–CAS Registry Number 12057–24–8)				
BO^+	BO	**	13.0±0.5	EI	3473
	(RN–CAS Registry Number 13840–87–4)				
BO_2^+	BO_2	**	14.0±1.0	EI	4054
	(RN–CAS–Registry Number 13840–88–5)				
BHO_2^+	BHO_2	**	13.5±1.0	EI	4054
	(RN–CAS–Registry Number 13460–50–9)				
$CO^+(X^2\Sigma^+)$	CO	**	14.014	S	3760
	(RN–CAS Registry Number 630–08–0)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CO^+(A^2\Pi_{1/2})$	CO	**	16.550	S	3760
	(RN-CAS Registry Number 630-08-0)				
$CO^+(B^2\Sigma^+)$	CO	**	19.672	S	3760
	(RN-CAS Registry Number 630-08-0)				
(RS-Average of two Rydberg series limits)					
$CO^+(X^2\Sigma^+)$	CO	**	14.01	PE	4073
	(RN-CAS-Registry Number 630-08-0)				
$CO^+(^2\Sigma_{2p})$	CO	**	14.01 (V)	PE	4022
	(RN-CAS Registry Number 630-08-0)				
$CO^+(A^2\Pi)$	CO	**	16.55	PE	4073
	(RN-CAS-Registry Number 630-08-0)				
$CO^+(^2\Pi)$	CO	**	16.91 (V)	PE	4022
	(RN-CAS Registry Number 630-08-0)				
$CO^+(B^2\Sigma_u^+)$	CO	**	19.69 (V)	PE	3714
	(RN-CAS Registry Number 630-08-0)				
$CO^+(^2\Sigma_{2s})$	CO	**	19.72 (V)	PE	4022
	(RN-CAS Registry Number 630-08-0)				
$CO^+(C^2\Sigma^+)$	CO	**	39.0	PE	3975
	(RN-CAS Registry Number 630-08-0)				
CO^+	CO_2	$O(^3S)$	29.0	PI	4095
	(RN-CAS Registry Number 124-38-9)				
CO^+	COS	S^-?	15.6	EI	3779
	(RN-CAS Registry Number 463-58-1)				
$CO_2^+(X^2\Pi_{3/2g})$	CO_2	**	13.773±0.002	PI	3925
	(RN-CAS Registry Number 124-38-9)				
$CO_2^+(X^2\Pi_{3/2g})$	CO_2	**	13.776±0.008	PI	4069
	(RN-CAS-Registry Number 124-38-9)				
$CO_2^+(X^2\Pi_g)$	CO_2	**	13.78	PE	4073
	(RN-CAS-Registry Number 124-38-9)				
$CO_2^+(X^2\Pi_g)$	CO_2	**	13.80±0.01	PE	3965
	(RN-CAS Registry Number 124-38-9)				
$CO_2^+(A^2\Pi_u)$	CO_2	**	17.34±0.01	PE	3965
	(RN-CAS Registry Number 124-38-9)				
$CO_2^+(B^2\Sigma_u^+)$	CO_2	**	18.08±0.01	PE	3965
	(RN-CAS Registry Number 124-38-9)				
$CO_2^+(C^2\Sigma_g^+)$	CO_2	**	19.39±0.01	PE	3965
	(RN-CAS Registry Number 124-38-9)				
$CO_2^+(^2\Sigma_u)$	CO_2	**	37	PE	4095
	(RN-CAS Registry Number 124-38-9)				
$CO_2^+(^2\Sigma_g)$	CO_2	**	38.4	PE	4095
	(RN-CAS Registry Number 124-38-9)				
$CO_2^+(^2\Sigma_u?)$	CO_2	**	38.4 (V)	PE	3975
	(RN-CAS Registry Number 124-38-9)				
$CO_2^+(^2\Sigma_g?)$	CO_2	**	40.0 (V)	PE	3975
	(RN-CAS Registry Number 124-38-9)				
$C_3O_2^+(^2\Pi_u)$	C_3O_2	**	10.605	PE	3728
	(RN-CAS Registry Number 504-64-3)				
$C_3O_2^+(^2\Pi_g)$	C_3O_2	**	14.502	PE	3728
	(RN-CAS Registry Number 504-64-3)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3O_2^+(^2\Sigma_u)$	C_3O_2	**	15.751	PE	3728
	(RN-CAS Registry Number 504-64-3)				
$C_3O_2^+(^2\Sigma_g)$	C_3O_2	**	16.978	PE	3728
	(RN-CAS Registry Number 504-64-3)				
$C_3O_2^+(^2\Pi_u)$	C_3O_2	**	17.258	PE	3728
	(RN-CAS Registry Number 504-64-3)				
CHO^+	HCHO	H	11.89±0.03	PI	3554
	(RN-CAS Registry Number 50-00-0)				
CHO^+	CH_3OH	H_2+H	13.06±0.10	PI	3554
	(RN-CAS Registry Number 67-56-1)				
(TR-Other product(s) thermochemically reasonable)					
CHO^+	$(CH_3)_2O$		13.96±0.2	EI	4071
	(RN-CAS-Registry Number 115-10-6)				
CHO^+	CH_3OCD_3		13.97±0.2	EI	4071
	(RN-CAS-Registry Number 13725-27-4)				
CHO^+	$C_2H_5OCD_3$		13.13±0.2	EI	4071
	(RN-CAS-Registry Number 16995-14-5)				
CDO^+	CH_3OCD_3		13.87±0.2	EI	4071
	(RN-CAS-Registry Number 13725-27-4)				
CDO^+	$C_2H_5OCD_3$		13.57±0.2	EI	4071
	(RN-CAS-Registry Number 16995-14-5)				
CH_2O^+	HCHO	**	10.88±0.02	PI	3554
	(RN-CAS Registry Number 50-00-0)				
CH_2O^+	HCHO	**	10.90±0.03	PI	3765
	(RN-CAS Registry Number 50-00-0)				
CH_2O^+	CH_3OH	H_2	12.05±0.12	PI	3554
	(RN-CAS Registry Number 67-56-1)				
(TR-Other product(s) thermochemically reasonable)					
CH_3O^+	CH_3OH	H	11.55±0.03	PI	3554
	(RN-CAS Registry Number 67-56-1)				
CH_3O^+	$(CH_3)_2O$	CH_3	12.42±0.1	EI	4071
	(RN-CAS-Registry Number 115-10-6)				
CH_3O^+	$C_2H_5OCH_3$		12.86±0.1	EI	4071
	(RN-CAS-Registry Number 540-67-0)				
CH_3O^+	n-C_3H_7OH	C_2H_5	11.16±0.03	EDD	3626
	(RN-CAS Registry Number 71-23-8)				
CHD_2O^+	$C_2H_5OCD_3$		12.86±0.05	EI	4071
	(RN-CAS-Registry Number 16995-14-5)				
CH_4O^+	CH_3OH	**	10.83±0.03	PI	3554
	(RN-CAS Registry Number 67-56-1)				
$CH_4O^+(^2A'')$	CH_3OH	**	10.94 (V)	PE	4068
	(RN-CAS-Registry Number 67-56-1)				
CH_4O^+	CH_3OH	**	10.95	PE	4087
	(RN-CAS Registry Number 67-56-1)				
$CH_4O^+(^2A'')$	CH_3OH	**	10.95 (V)	PE	4032
	(RN-CAS Registry Number 67-56-1)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_4O^+(^2A'')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	10.96 (V)	PE	3941
$CH_4O^+(^2A')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	12.62 (V)	PE	3941
$CH_4O^+(^2A')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	12.66 (V)	PE	4032
$CH_4O^+(^2A')$	CH_3OH (RN–CAS–Registry Number 67–56–1)	**	12.68 (V)	PE	4068
$CH_4O^+(^2A')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	15.09 (V)	PE	4032
$CH_4O^+(^2A')$	CH_3OH (RN–CAS–Registry Number 67–56–1)	**	15.19 (V)	PE	4068
$CH_4O^+(^2A')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	15.21 (V)	PE	3941
$CH_4O^+(^2A'')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	15.64 (V)	PE	3941
$CH_4O^+(^2A'')$	CH_3OH (RN–CAS–Registry Number 67–56–1)	**	15.66 (V)	PE	4068
$CH_4O^+(^2A'')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	15.69 (V)	PE	4032
$CH_4O^+(^2A')$	CH_3OH (RN–CAS–Registry Number 67–56–1)	**	17.50 (V)	PE	4068
$CH_4O^+(^2A')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	17.53 (V)	PE	4032
$CH_4O^+(^2A')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	17.62 (V)	PE	3941
$CH_4O^+(^2A')$	CH_3OH (RN–CAS Registry Number 67–56–1)	**	22.65 (V)	PE	3941
$C_2H_2O^+$	C_4H_6O (Cyclobutanone) (RN–CAS Registry Number 1191–95–3)	C_2H_4	10.53±0.15	EDD	3794
(TR–Other product(s) thermochemically reasonable)					
$C_2H_3O^+$	$(CH_3)_2CO$ (RN–CAS Registry Number 67–64–1)	CH_3	10.28±0.05	EDD	3626
$C_2H_3O^+$	$(CH_3)_2CO$ (RN–CAS Registry Number 67–64–1)	CH_3	11.3	EI	3550
$C_2H_3O^+$	$C_6H_5OOCCH_3$ (Acetic acid, phenyl ester) (RN–CAS Registry Number 122–79–2)	*cyclo*–C_6H_5O	12.78±0.2	EI	3484
$C_2H_3O^+$	$C_6H_5OOCCH_3$ (Acetic acid, phenyl ester) (RN–CAS Registry Number 122–79–2)	*cyclo*–C_6H_5O	12.83±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 3–methylphenyl ester) (RN–CAS Registry Number 122–46–3)	$C_6H_4(CH_3)O$	13.83±0.2	EI	3484
$C_2H_3O^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4–methylphenyl ester) (RN–CAS Registry Number 140–39–6)		13.97±0.2	EI	3484
(OP–the other product(s) is(are): *cyclo*–$C_6H_4(CH_3)O$)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3O^+$	$C_6H_5CH_2CH_2OCOCH_3$ (Acetic acid, 2-phenylethyl ester) (RN-CAS Registry Number 103-45-7)		11.70	EI	3590
$C_2H_3O^+$	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methyl-, acetate) (RN-CAS Registry Number 33709-40-9)		11.90	EI	3590
$C_2H_3O^+$	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methyl-, acetate) (RN-CAS Registry Number 22532-47-4)		11.90	EI	3590
$C_2H_3O^+$	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 3-methoxy-, acetate) (RN-CAS Registry Number 5451-83-2)	$C_6H_4(OCH_3)O$	13.92±0.2	EI	3484
$C_2H_3O^+$	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 4-methoxy-, acetate) (RN-CAS Registry Number 1200-06-2)	$C_6H_4(OCH_3)O$	14.57±0.2	EI	3484
$C_2H_3O^+$	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methoxy-, acetate) (RN-CAS Registry Number 33709-39-6)		11.80	EI	3590
$C_2H_3O^+$	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methoxy-, acetate) (RN-CAS Registry Number 22532-51-0)		12.20	EI	3590
$C_2H_3O^+$	$C_6H_4(COOH)OOCCH_3$ (Benzoic acid, 4-(acetyloxy)-) (RN-CAS Registry Number 2345-34-8)	$C_6H_4(COOH)O$	12.46±0.2	EI	3484
$C_2H_3O^+$	$C_5H_8NCOCH_3$ (Pyridine, 1-acetyl-1,2,3,4-tetrahydro-) (RN-CAS Registry Number 19615-27-1)		13.5	EI	4046
$C_2H_3O^+$	$C_5H_{10}NCOCH_3$ (Piperidine, 1-acetyl-) (RN-CAS Registry Number 618-42-8)		15.1	EI	4046
$C_2H_3O^+$	$C_6H_5NHCOCH_3$ (Acetamide, *N*-phenyl-) (RN-CAS Registry Number 103-84-4)		13.22±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4(NH_2)CH_2CH_2OCOCH_3$ (Benzeneethanol, 4-amino-, acetate(ester)) (RN-CAS Registry Number 33709-38-5)		12.30	EI	3590
$C_2H_3O^+$	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 3-nitrophenyl ester) (RN-CAS Registry Number 1523-06-4)		10.94±0.2	EI	3484
(OP-the other product(s) is(are): *cyclo*-$C_6H_4(NO_2)O$)					
$C_2H_3O^+$	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 4-nitrophenyl ester) (RN-CAS Registry Number 830-03-5)		10.85±0.2	EI	3484
(OP-the other product(s) is(are): *cyclo*-$C_6H_4(NO_2)O$)					
$C_2H_3O^+$	$C_6H_4FOOCCH_3$ (Phenol, 2-fluoro-, acetate) (RN-CAS Registry Number 29650-44-0)	*cyclo*-C_6H_4FO	12.23±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4FOOCCH_3$ (Phenol, 4-fluoro-, acetate) (RN-CAS Registry Number 405-51-6)	*cyclo*-C_6H_4FO	12.72±0.03	EI	3483

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3O^+$	$C_6H_3F_2OOCCH_3$ (Phenol, 2,4–difluoro–, acetate) (RN–CAS Registry Number 36914–77–9)		12.00±0.03	EI	3480
$C_2H_3O^+$	$C_6H_3F_2OOCCH_3$ (Phenol, 2,6–difluoro–, acetate) (RN–CAS Registry Number 36914–78–0)		12.24±0.03	EI	3480
$C_2H_3O^+$	CH_3COCF_3 (RN–CAS Registry Number 421–50–1)		11.45	EI	3550
$C_2H_3O^+$	$C_6H_4FNHCOCH_3$ (Acetamide, *N*–(2–fluorophenyl)–) (RN–CAS Registry Number 399–31–5)		13.59±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4FNHCOCH_3$ (Acetamide, *N*–(4–fluorophenyl)–) (RN–CAS Registry Number 351–83–7)		13.42±0.03	EI	3483
$C_2H_3O^+$	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*–(2,4–difluorophenyl)–) (RN–CAS Registry Number 399–36–0)		13.18±0.03	EI	3480
$C_2H_3O^+$	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*–(2,6–difluorophenyl)–) (RN–CAS Registry Number 3869–29–5)		13.80±0.03	EI	3480
$C_2H_3O^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 2–chlorophenyl ester) (RN–CAS Registry Number 4525–75–1)	(OP–the other product(s) is(are): *cyclo*–C_6H_4ClO)	12.55±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 3–chlorophenyl ester) (RN–CAS Registry Number 13031–39–5)	(OP–the other product(s) is(are): *cyclo*–$C_6H_4(Cl)O$)	12.36±0.2	EI	3484
$C_2H_3O^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 4–chlorophenyl ester) (RN–CAS Registry Number 876–27–7)	(OP–the other product(s) is(are): *cyclo*–C_6H_4ClO)	12.39±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 4–chlorophenyl ester) (RN–CAS Registry Number 876–27–7)	(OP–the other product(s) is(are): *cyclo*–$C_6H_4(Cl)O$)	12.73±0.2	EI	3484
$C_2H_3O^+$	$C_6H_4ClCH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*–chloro–, acetate) (RN–CAS Registry Number 33709–41–0)		11.60	EI	3590
$C_2H_3O^+$	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,4–dichloro–, acetate) (RN–CAS Registry Number 6341–97–5)		12.11±0.03	EI	3480
$C_2H_3O^+$	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,6–dichloro–, acetate) (RN–CAS Registry Number 28165–71–1)		12.09±0.03	EI	3480
$C_2H_3O^+$	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*–(2–chlorophenyl)–) (RN–CAS Registry Number 533–17–5)		13.91±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*–(4–chlorophenyl)–) (RN–CAS Registry Number 539–03–7)		13.00±0.03	EI	3483

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3O^+$	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,4-dichlorophenyl)-) (RN-CAS Registry Number 6975-29-7)		13.08±0.03	EI	3480
$C_2H_3O^+$	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,6-dichlorophenyl)-) (RN-CAS Registry Number 17700-54-8)		13.40±0.03	EI	3480
$C_2H_3O^+$	$C_6H_4BrCOOCH_3$ (Phenol, 2-bromo-, acetate) (RN-CAS Registry Number 1829-37-4)		12.24±0.03	EI	3483
(OP-the other product(s) is(are): *cyclo*-C_6H_4BrO)					
$C_2H_3O^+$	$C_6H_4BrOOCCH_3$ (Phenol, 3-bromo-, acetate) (RN-CAS Registry Number 35065-86-2)		12.36±0.2	EI	3484
(OP-the other product(s) is(are): *cyclo*-$C_6H_4(Br)O$)					
$C_2H_3O^+$	$C_6H_4BrOOCCH_3$ (Phenol, 4-bromo-, acetate) (RN-CAS Registry Number 1927-95-3)		12.87±0.2	EI	3484
(OP-the other product(s) is(are): *cyclo*-$C_6H_4(Br)O$)					
$C_2H_3O^+$	$C_6H_4BrOOCCH_3$ (Phenol, 4-bromo-, acetate) (RN-CAS Registry Number 1927-95-3)		13.06±0.03	EI	3483
(OP-the other product(s) is(are): *cyclo*-C_6H_4BrO)					
$C_2H_3O^+$	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,4-dibromo-, acetate) (RN-CAS Registry Number 36914-79-1)		12.01±0.03	EI	3480
$C_2H_3O^+$	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,6-dibromo-, acetate) (RN-CAS Registry Number 28165-72-2)		12.36±0.03	EI	3480
$C_2H_3O^+$	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(2-bromophenyl)-) (RN-CAS Registry Number 614-76-6)		14.68±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(4-bromophenyl)-) (RN-CAS Registry Number 103-88-8)		13.96±0.03	EI	3483
$C_2H_3O^+$	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,4-dibromophenyl)-) (RN-CAS Registry Number 23373-04-8)		13.10±0.03	EI	3480
$C_2H_3O^+$	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,6-dibromophenyl)-) (RN-CAS Registry Number 33098-80-5)		13.21±0.03	EI	3480
$C_2H_3O^+$	$C_6H_4IOOCCH_3$ (Phenol, 2-iodo-, acetate) (RN-CAS Registry Number 32865-61-5)	*cyclo*-C_6H_4IO	12.47±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4IOOCCH_3$ (Phenol, 4-iodo-, acetate) (RN-CAS Registry Number 33527-94-5)	*cyclo*-C_6H_4IO	12.74±0.03	EI	3483
$C_2H_3O^+$	$C_6H_3I_2OOCCH_3$ (Phenol, 2,4-diiodo-, acetate) (RN-CAS Registry Number 36914-80-4)		12.15±0.03	EI	3480
$C_2H_3O^+$	$C_6H_3I_2OOCCH_3$ (Phenol, 2,6-diiodo-, acetate) (RN-CAS Registry Number 28165-73-3)		12.02±0.03	EI	3480

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3O^+$	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(2-iodophenyl)-) (RN-CAS Registry Number 19591-17-4)		13.56±0.03	EI	3483
$C_2H_3O^+$	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(4-iodophenyl)-) (RN-CAS Registry Number 622-50-4)		13.16±0.03	EI	3483
$C_2H_4O^+$	CH_3CHO (RN-CAS Registry Number 75-07-0)	**	10.20±0.03	PI	3765
$C_2H_5O^+$	$(CH_3)_2O$ (RN-CAS-Registry Number 115-10-6)	H	11.55±0.15	EI	4071
$C_2H_5O^+$	$C_2H_5OCH_3$ (RN-CAS-Registry Number 540-67-0)	CH_3	10.91±0.1	EI	4071
$C_2H_3D_2O^+$	CH_3OCD_3 (RN-CAS-Registry Number 13725-27-4)	D	11.53±0.1	EI	4071
$C_2H_2D_3O^+$	CH_3OCD_3 (RN-CAS-Registry Number 13725-27-4)	H	11.15±0.1	EI	4071
$C_2H_2D_3O^+$	$C_2H_5OCD_3$ (RN-CAS-Registry Number 16995-14-5)	CH_3	11.01±0.1	EI	4071
$C_2H_6O^+$	C_2H_5OH (RN-CAS Registry Number 64-17-5)	**	10.62 (V)	PE	3941
$C_2H_6O^+$	C_2H_5OH (RN-CAS-Registry Number 64-17-5)	**	10.64 (V)	PE	4068
$C_2H_6O^+(^2B_1)$	$(CH_3)_2O$ (RN-CAS Registry Number 115-10-6)	**	10.04 (V)	PE	3656
$C_2H_6O^+$	$(CH_3)_2O$ (RN-CAS Registry Number 115-10-6)	**	10.04 (V)	PE	3844
$C_2H_6O^+$	$(CH_3)_2O$ (RN-CAS-Registry Number 115-10-6)	**	10.12±0.2	EI	4071
$C_2H_3D_3O^+$	CH_3OCD_3 (RN-CAS-Registry Number 13725-27-4)	**	10.00±0.1	EI	4071
$C_3H_4O^+$	$CH_2=CHCHO$ (RN-CAS Registry Number 107-02-8)	**	10.13	PE	3864
$C_3H_4O^+$	$CH_2=CHCHO$ (RN-CAS Registry Number 107-02-8)	**	11.07 (V)	PE	3972
$C_3H_6O^+$	$(CH_3)_2CO$ (RN-CAS Registry Number 67-64-1)	**	9.71±0.03	PI	3765
$C_3H_6O^+$	$(CH_3)_2CO$ (RN-CAS Registry Number 67-64-1)	**	9.72	PE	3649
$C_3H_6O^+$	$(CH_3)_2CO$ (RN-CAS Registry Number 67-64-1)	**	9.75±0.025	PE	3626
$C_3H_6O^+$	$(CH_3)_2CO$ (RN-CAS Registry Number 67-64-1)	**	9.74	EDD	3485
$C_3H_6O^+$	$CH_2=CHCH_2OH$ (RN-CAS Registry Number 107-18-6)	**	9.63	PE	3864

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_6O^+$	$CH_2=CHCH_2OH$ (RN-CAS Registry Number 107-18-6)	**	10.22 (V)	PE	3863
$C_3H_6O^+$	$CH_2=CHOCH_3$ (RN-CAS Registry Number 107-25-5)	**	8.95	PE	3863
$C_3H_6O^+$	C_3H_6O (Oxetane) (RN-CAS Registry Number 503-30-0)	**	9.63	PE	3980
$C_3D_6O^+$	$(CD_3)_2CO$ (RN-CAS Registry Number 666-52-4)	**	9.68	PE	3649
$C_3H_7O^+$	$C_2H_5OCH_3$ (RN-CAS-Registry Number 540-67-0)	H	10.32±0.1	EI	4071
$C_3H_7O^+$	n-C_3H_7OH (RN-CAS Registry Number 71-23-8)	H	10.48±0.03	EDD	3626
$C_3H_7O^+$	n-C_3H_7OH (RN-CAS Registry Number 71-23-8)	H	10.2	EI	3916
$C_3H_4D_3O^+$	$C_2H_5OCD_3$ (RN-CAS-Registry Number 16995-14-5)	H	10.22±0.1	EI	4071
$C_3H_8O^+$	$C_2H_5OCH_3$ (RN-CAS-Registry Number 540-67-0)	**	9.62±0.1	EI	4071
$C_3H_8O^+$	n-C_3H_7OH (RN-CAS Registry Number 71-23-8)	**	10.15±0.025	PE	3626
$C_3H_8O^+$	n-C_3H_7OH (RN-CAS-Registry Number 71-23-8)	**	10.49 (V)	PE	4068
$C_3H_8O^+$	n-C_3H_7OH (RN-CAS Registry Number 71-23-8)	**	10.51 (V)	PE	3941
$C_3H_8O^+$	n-C_3H_7OH (RN-CAS Registry Number 71-23-8)	**	10.16±0.03	EDD	3626
$C_3H_8O^+$	n-C_3H_7OH (RN-CAS Registry Number 71-23-8)	**	10.0	EI	3916
$C_3H_8O^+$	*iso*-C_3H_7OH (RN-CAS-Registry Number 67-63-0)	**	10.36 (V)	PE	4068
$C_3H_8O^+$	*iso*-C_3H_7OH (RN-CAS Registry Number 67-63-0)	**	10.42 (V)	PE	3941
$C_3H_5D_3O^+$	$C_2H_5OCD_3$ (RN-CAS-Registry Number 16995-14-5)	**	9.64±0.1	EI	4071
$C_4H_4O^+$	C_4H_4O (Furan) (RN-CAS-Registry Number 110-00-9)	**	8.91±0.01	PI	4058
$C_4H_4O^+$	C_4H_4O (Furan) (RN-CAS Registry Number 110-00-9)	**	8.99±0.05	EI	3482
$C_4H_5O^+$	$C_5H_8NCOCH=CHCH_3$ (Pyridine, 1,2,3,4-tetrahydro-1-(1-oxo-2-butenyl)-, (E)) (RN-CAS Registry Number 50838-23-8)		13.0	EI	4046

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_5O^+$	$C_5H_{10}NCOCH=CHCH_3$ (Piperidine, 1-(1-oxo-2-butenyl)-, (E)) (RN-CAS Registry Number 50838-22-7)	**	14.6	EI	4046
$C_4H_6O^+$	$CH_2=CHCOCH_3$ (RN-CAS Registry Number 78-94-4)	**	10.60 (V)	PE	3972
$C_4H_6O^+$	$CH_3CH=CHCHO$ (RN-CAS Registry Number 4170-30-3)	**	10.28 (V)	PE	3972
$C_4H_6O^+$	C_4H_6O (Cyclobutanone) (RN-CAS Registry Number 1191-95-3)	**	9.61±0.02 (V)	PE	3517
$C_4H_6O^+$	C_4H_6O (Cyclobutanone) (RN-CAS Registry Number 1191-95-3)	**	9.58±0.1	EDD	3794
$C_4H_6O^+$	C_4H_6O (Furan, 2,5-dihydro-) (RN-CAS Registry Number 1708-29-8)	**	9.14±0.02 (V)	PE	3843
$C_4H_8O^+$	$C_2H_5COCH_3$ (RN-CAS Registry Number 78-93-3)	**	9.54±0.03	PI	3765
$C_4H_8O^+$	C_4H_8O (Furan, tetrahydro-) (RN-CAS Registry Number 109-99-9) (RS-Average of four Rydberg series limits)	**	9.41	S	3749
$C_4H_8O^+$	C_4H_8O (Furan, tetrahydro-) (RN-CAS Registry Number 109-99-9)	**	9.57±0.02 (V)	PE	3843
$C_4H_{10}O^+$	*n*-C_4H_9OH (RN-CAS-Registry Number 71-36-3)	**	10.37 (V)	PE	4068
$C_4H_{10}O^+$	*tert*-C_4H_9OH (RN-CAS Registry Number 75-65-0)	**	10.25 (V)	PE	3941
$C_5H_4O^+$	$C_6H_4O_2$ (2,5-Cyclohexadiene-1,4-dione) (RN-CAS Registry Number 106-51-4)	CO	11.10±0.05	PI	3523
$C_5H_6O^+$	$C_4H_3OCH_3$ (Furan, 2-methyl-) (RN-CAS Registry Number 534-22-5)	**	8.47±0.05	EI	3482
$C_5H_8O^+$	$CH_2=C(OCH_3)CH=CH_2$ (RN-CAS Registry Number 3588-30-5)	**	8.43	PE	3892
$C_5H_8O^+$	*trans*-$CH_3OCH=CHCH=CH_2$ (RN-CAS Registry Number 10034-09-0)	**	8.03	PE	3892
$C_5H_8O^+$	C_5H_8O (Cyclopentanone) (RN-CAS Registry Number 120-92-3)	**	9.42±0.03	PI	3765
$C_5H_8O^+$	C_5H_8O (Cyclopentanone) (RN-CAS Registry Number 120-92-3)	**	9.25±0.02 (V)	PE	3517

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_9O^+$	n-$C_4H_9COCH_3$ (RN-CAS Registry Number 591-78-6)	CH_3	9.4	EI	3916
$C_5H_{10}O^+$	n-$C_3H_7COCH_3$ (RN-CAS Registry Number 107-87-9)	**	9.47±0.03	PI	3765
$C_5H_{10}O^+$	$C_5H_{10}O$ (2*H*-Pyran, tetrahydro-) (RN-CAS Registry Number 142-68-7)	**	9.48 (V)	PE	4082
$C_5H_{10}O^+$	$C_5H_{10}O$ (2*H*-Pyran, tetrahydro-) (RN-CAS Registry Number 142-68-7)	**	9.50 (V)	PE	3733
$C_6H_4O^+$	C_6H_4O (Methanone, 2,4-cyclopentadien-1-ylidene-) (RN-CAS Registry Number 4727-22-4)	**	8.95±0.1	EI	3552
$C_6H_4O^+$	$C_5H_4{=}CO$ (Methanone, 2,4-cyclopentadien-1-ylidene-) (RN-CAS Registry Number 4727-22-4)	**	8.99±0.1	EI	3553
$C_6H_5O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	CH_3	11.3	EI	3916
$C_6H_5O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	CH_3	11.80±0.1	EI	3446
$C_6H_5O^+$	$C_6H_4(OH)COOH$ (Benzoic acid, 3-hydroxy-) (RN-CAS Registry Number 99-06-9) (MT-Metastable transition(s) observed)	CO+OH	14.42±0.2	EI	3973
$C_6H_5O^+$	$C_6H_4(OH)COOH$ (Benzoic acid, 4-hydroxy-) (RN-CAS Registry Number 99-96-7) (MT-Metastable transition(s) observed)	CO+OH	14.56±0.2	EI	3973
$C_6H_5O^+$	$C_6H_5NO_2$ (Benzene, nitro-) (RN-CAS Registry Number 98-95-3)	NO	10.35±0.1	EI	3447
$C_6H_5O^+$	$C_6H_4(NO_2)OH$ (Phenol, 4-nitro-) (RN-CAS Registry Number 100-02-7)	NO_2	11.91±0.1	EI	3447
$C_6H_6O^+$	C_6H_5OH (Phenol) (RN-CAS Registry Number 108-95-2)	**	8.37	PE	3955
$C_6H_6O^+$	C_6H_5OH (Phenol) (RN-CAS Registry Number 108-95-2)	**	8.47±0.02	PE	3890
$C_6H_6O^+$	C_6H_5OH (Phenol) (RN-CAS Registry Number 108-95-2)	**	8.69	EDD	3485
$C_6H_6O^+$	C_6H_5OH (Phenol) (RN-CAS Registry Number 108-95-2)	**	8.50	EI	3845

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6O^+$	C_6H_5OH (Phenol) (RN-CAS Registry Number 108-95-2)	**	9.09±0.1	EI	3817
$C_6H_6O^+$	$C_6H_5OC_2H_5$ (Benzene, ethoxy-) (RN-CAS Registry Number 103-73-1)	C_2H_4	11.3	EI	3479
(MT-Metastable transition(s) observed)					
$C_6H_6O^+$	$C_7H_6O_2$ (2,4,6-Cycloheptatrien-1-one, 2-hydroxy-) (RN-CAS Registry Number 533-75-5)	CO	10.8	EI	3479
(MT-Metastable transition(s) observed)					
$C_6H_6O^+$	$C_6H_4(OH)OCH_3$ (Phenol, 4-methoxy-) (RN-CAS Registry Number 150-76-5)	HCHO	10.30	EI	3845
$C_6H_6O^+$	$C_6H_5OOCCH_3$ (Acetic acid, phenyl ester) (RN-CAS Registry Number 122-79-2)	$CH_2=C=O$	9.57±0.03	EI	3483
$C_6H_6O^+$	$C_6H_5OOCCH_3$ (Acetic acid, phenyl ester) (RN-CAS Registry Number 122-79-2)	$CH_2=C=O$	9.89±0.2	EI	3484
$C_6H_8O^+$	$C_4H_3OC_2H_5$ (Furan, 2-ethyl-) (RN-CAS Registry Number 3208-16-0)	**	8.45±0.05	EI	3482
$C_6H_8O^+$	C_6H_8O (7-Oxabicyclo[2.2.1]hept-2-ene) (RN-CAS Registry Number 6705-50-6)	**	9.44±0.02 (V)	PE	3843
$C_6H_{10}O^+$	$C_6H_{10}O$ (Cyclohexanone) (RN-CAS Registry Number 108-94-1)	**	9.14±0.03	PI	3765
$C_6H_{10}O^+$	$C_6H_{10}O$ (Cyclohexanone) (RN-CAS Registry Number 108-94-1)	**	9.14±0.02 (V)	PE	3517
$C_6H_{10}O^+$	$C_6H_{10}O$ (Cyclohexanone) (RN-CAS-Registry Number 108-94-1)	**	9.5±0.2	EI	4074
$C_6H_{10}O^+$	$C_6H_{10}O$ (7-Oxabicyclo[2.2.1]heptane) (RN-CAS Registry Number 279-49-2)	**	9.57±0.02 (V)	PE	3843
$C_6H_{12}O^+$	$(CH_3)_3CCOH_3$ (RN-CAS Registry Number 75-97-8)	**	8.88±0.04	PE	3851
$C_6H_{12}O^+$	$(CH_3)_3CCOCH_3$ (RN-CAS Registry Number 75-97-8)	**	9.18±0.03	PI	3765
$C_6H_{12}O^+$	n-$C_4H_9COCH_3$ (RN-CAS Registry Number 591-78-6)	**	9.44±0.03	PI	3765
$C_6H_{12}O^+$	n-$C_4H_9COCH_3$ (RN-CAS Registry Number 591-78-6)	**	9.2	EI	3916

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_5O^+$	C_6H_5CHO (Benzaldehyde) (RN-CAS Registry Number 100-52-7)	H	11.26	EI	3792
$C_7H_5O^+$	$C_6H_5COCH_3$ (Ethanone, 1-phenyl-) (RN-CAS Registry Number 98-86-2)	CH_3	9.6	EI	3916
$C_7H_5O^+$	$C_6H_5COCH_3$ (Ethanone, 1-phenyl-) (RN-CAS Registry Number 98-86-2)	CH_3	10.38	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_7H_5O^+$	$(C_6H_5)_2CO$ (Methanone, diphenyl-) (RN-CAS Registry Number 119-61-9)	C_6H_5	11.72	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_7H_5O^+$	C_6H_5COOH (Benzoic acid) (RN-CAS Registry Number 65-85-0)	OH	12.11±0.2	EI	3973
$C_7H_5O^+$	C_6H_5COOH (Benzoic acid) (RN-CAS Registry Number 65-85-0)	OH	12.11	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_7H_5O^+$	$C_6H_5COOCH_3$ (Benzoic acid methyl ester) (RN-CAS Registry Number 93-58-3)	CH_3O	11.40	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_7H_5O^+$	$C_6H_5COOC_6H_5$ (Benzoic acid phenyl ester) (RN-CAS Registry Number 93-99-2)		10.0	EI	3897
$C_7H_5O^+$	$C_6H_5COOC_6H_4OCH_3$ (Phenol, 4-methoxy-, benzoate) (RN-CAS Registry Number 1523-19-9)		10.6	EI	3897
$C_7H_5O^+$	$C_6H_5CONH_2$ (Benzamide) (RN-CAS Registry Number 55-21-0)	NH_2	11.09	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_7H_5O^+$	$C_5H_8NCOC_6H_5$ (Pyridine, 1-benzoyl-1,2,3,4-tetrahydro-) (RN-CAS Registry Number 50838-24-9)		12.4	EI	4046
$C_7H_5O^+$	$C_5H_{10}NCOC_6H_5$ (Piperidine, 1-benzoyl-) (RN-CAS Registry Number 776-75-0)		14.4	EI	4046
$C_7H_5O^+$	$C_6H_5COOC_6H_4NO_2$ (Benzoic acid 4-nitro phenyl ester) (RN-CAS Registry Number 959-22-8)		10.2	EI	3897
$C_7H_5O^+$	C_6H_5COCl (Benzoyl chloride) (RN-CAS Registry Number 98-88-4)	Cl	10.31	EI	3792
(TR-Other product(s) thermochemically reasonable)					
$C_7H_6O^+$	C_6H_5CHO (Benzaldehyde) (RN-CAS-Registry Number 100-52-7)	**	9.50±0.02	PI	4057

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_6O^+$	C_6H_5CHO (Benzaldehyde) (RN-CAS Registry Number 100-52-7)	**	9.50±0.02	PI	4031
$C_7H_6O^+$	C_7H_6O (Benzaldehyde) (RN-CAS Registry Number 100-52-7)	**	9.6	PI	3586
$C_7H_6O^+$	C_6H_5CHO (Benzaldehyde) (RN-CAS Registry Number 100-52-7)	**	9.40	PE	3938
$C_7H_6O^+$	C_6H_5CHO (Benzaldehyde) (RN-CAS Registry Number 100-52-7)	**	9.74	EI	3792
$C_7H_6O^+$	$C_6H_5CH_2C_6H_4OH$ (Phenol, 4-(phenylmethyl)-) (RN-CAS Registry Number 101-53-1)	C_6H_5	11.1±0.2	EI	3807
$C_7H_7O^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-3-methyl-) (RN-CAS Registry Number 100-84-5)	CH_3	11.60±0.1	EI	3446
$C_7H_7O^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-4-methyl-) (RN-CAS Registry Number 104-93-8)	CH_3	11.45±0.1	EI	3446
$C_7H_7O^+$	$C_6H_4(OH)C_4H_9$ (Phenol, 3-butyl-) (RN-CAS Registry Number 4074-43-5)		12.79±0.1	EI	3629
$C_7H_7O^+$	$C_6H_4(OH)C_4H_9$ (Phenol, 4-butyl-) (RN-CAS Registry Number 1638-22-8)		11.45±0.1	EI	3629
$C_7H_7O^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 2-methylphenyl ester) (RN-CAS Registry Number 533-18-6)	CH_3CO	13.16±0.02	EI	3631
$C_7H_7O^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4-methylphenyl ester) (RN-CAS Registry Number 140-39-6)	CH_3CO	13.47±0.02	EI	3631
$C_7H_7O^+$	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 3-methoxy-) (RN-CAS Registry Number 586-38-9) (MT-Metastable transition(s) observed)	COOH	13.07±0.2	EI	3973
$C_7H_7O^+$	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 4-methoxy-) (RN-CAS Registry Number 100-09-4) (MT-Metastable transition(s) observed)	COOH	12.80±0.2	EI	3973
$C_7H_7O^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-3-nitro-) (RN-CAS Registry Number 99-08-1)	NO	9.98±0.1	EI	3447
$C_7H_7O^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-4-nitro-) (RN-CAS Registry Number 99-99-0)	NO	10.34±0.1	EI	3447
$C_7H_7O^+$	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-3-nitro-) (RN-CAS Registry Number 555-03-3)	NO_2	11.44±0.1	EI	3447

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7O^+$	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-4-nitro-) (RN-CAS Registry Number 100-17-4)	NO_2	11.63±0.1	EI	3447
$C_7H_8O^+$	$C_6H_5CH_2OH$ (Benzenemethanol) (RN-CAS Registry Number 100-51-6)	**	9.00±0.1	EI	3788
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.20±0.02	PE	3890
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.42 (V)	PE	3781
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.20	EI	3845
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.20	EI	3845
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.25±0.1	EI	3788
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.39±0.1	EI	3446
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.6	EI	3916
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.6	EI	3479
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.76± <0.1	EI	3735
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3)	**	8.18	CTS	3758
$C_7H_8O^+$	$C_6H_5OCH_3$ (Benzene, methoxy-) (RN-CAS Registry Number 100-66-3) (AV-Average of two values)	**	8.37	CTS	4029
$C_7H_8O^+$	$C_6H_4(OH)CH_3$ (Phenol, 2-methyl-) (RN-CAS Registry Number 95-48-7)	**	8.24±0.02	PE	3890
$C_7H_8O^+$	$C_6H_4(OH)CH_3$ (Phenol, 4-methyl-) (RN-CAS Registry Number 106-44-5)	**	8.34	EI	4089
$C_7H_8O^+$	$C_6H_4(OH)C_4H_9$ (Phenol, 3-butyl-) (RN-CAS Registry Number 4074-43-5)	$CH_2=CHCH_3$	11.07±0.1	EI	3629

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_8O^+$	$C_6H_4(OH)C_4H_9$ (Phenol, 4–butyl–) (RN–CAS Registry Number 1638–22–8)	$CH_2=CHCH_3$	10.32±0.1	EI	3629
$C_7H_8O^+$	$C_6H_4(OCH_3)_2$ (Benzene, 1,3–dimethoxy–) (RN–CAS Registry Number 151–10–0)	CH_2O	10.98±0.1	EI	3446
$C_7H_8O^+$	$C_6H_4(OCH_3)_2$ (Benzene, 1,4–dimethoxy–) (RN–CAS Registry Number 150–78–7)	HCHO	11.00	EI	3845
$C_7H_8O^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 2–methylphenyl ester) (RN–CAS Registry Number 533–18–6)	$CH_2=C=O$	9.44±0.02	EI	3631
$C_7H_8O^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 3–methylphenyl ester) (RN–CAS Registry Number 122–46–3)	$CH_2=C=O$	10.03±0.2	EI	3484
$C_7H_8O^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4–methylphenyl ester) (RN–CAS Registry Number 140–39–6)	$CH_2=C=O$	9.26±0.02	EI	3631
$C_7H_8O^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4–methylphenyl ester) (RN–CAS Registry Number 140–39–6)	$CH_2=C=O$	9.75±0.2	EI	3484
$C_7H_8O^+$	$C_6H_5OOCOCH_3$ (Carbonic acid, methyl phenyl ester) (RN–CAS Registry Number 13509–27–8)	CO_2	10.3	EI	3479
(MT–Metastable transition(s) observed)					
$C_7H_8O^+$	$C_6H_5CH_2OHCr(CO)_3$ (Chromium, [(1,2,3,4,5,6–η)–benzenemethanol]tricarbonyl–) (RN–CAS Registry Number 12116–45–9)		9.40±0.1	EI	3788
$C_7H_8O^+$	$C_6H_5OCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6–η)–methoxybenzene]–) (RN–CAS Registry Number 12116–44–8)		8.45±0.1	EI	3788
$C_7H_{12}O^+$	$C_7H_{12}O$ (Cycloheptanone) (RN–CAS Registry Number 502–42–1)	**	9.17±0.02 (V)	PE	3517
$C_7H_{12}O^+$	$C_6H_9(=O)CH_3$ (Cyclohexanone, 2–methyl–) (RN–CAS–Registry Number 583–60–8)	**	9.5±0.2	EI	4074
$C_7H_{14}O^+$	$(n\text{–}C_3H_7)_2CO$ (RN–CAS Registry Number 123–19–3)	**	9.12±0.03	PI	3765
$C_7H_{14}O^+$	$C_6H_{10}(OH)CH_3$ (Cyclohexanol, 1–methyl–) (RN–CAS–Registry Number 590–67–0)	**	9.8±0.2	EI	4074
$C_8H_7O^+$	$C_6H_4(CH_3)COOH$ (Benzoic acid, 3–methyl–) (RN–CAS Registry Number 99–04–7)	OH	12.38±0.2	EI	3973
$C_8H_7O^+$	$C_6H_4(CH_3)COOH$ (Benzoic acid, 4–methyl–) (RN–CAS Registry Number 99–94–5)	OH	12.07±0.2	EI	3973

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_7O^+$	$C_6H_5COCOC_6H_4CH_3$ (Ethanedione, (4–methylphenyl)phenyl–) (RN–CAS Registry Number 2431–00–7)	C_6H_5CO	9.84±0.10	SD	3823
(TR–Other product(s) thermochemically reasonable)					
$C_8H_8O^+$	$C_6H_5CH_2CHO$ (Benzeneacetaldehyde) (RN–CAS Registry Number 122–78–1)	**	8.80	PE	3938
$C_8H_8O^+$	$C_6H_5COCH_3$ (Ethanone, 1–phenyl–) (RN–CAS Registry Number 98–86–2)	**	9.29±0.2	PI	4031
$C_8H_8O^+$	$C_6H_5COCH_3$ (Ethanone, 1–phenyl–) (RN–CAS–Registry Number 98–86–2)	**	9.29±0.2	PI	4057
$C_8H_8O^+$	C_8H_8O (Ethanone, 1–phenyl–) (RN–CAS Registry Number 98–86–2)	**	9.6	PI	3586
$C_8H_8O^+$	$C_6H_5COCH_3$ (Ethanone, 1–phenyl–) (RN–CAS Registry Number 98–86–2)	**	9.1	EI	3916
$C_8H_8O^+$	$C_6H_5COCH_3$ (Ethanone, 1–phenyl–) (RN–CAS Registry Number 98–86–2)	**	9.50	EI	3792
$C_8H_9O^+$	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1–butyl–3–methoxy–) (RN–CAS Registry Number 20893–43–0)		12.04±0.1	EI	3629
$C_8H_9O^+$	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1–butyl–4–methoxy–) (RN–CAS Registry Number 18272–84–9)		10.79±0.1	EI	3629
$C_8H_9O^+$	$C_6H_5CH_2C_6H_4OCH_3$ (Benzene, 1–methoxy–4–(phenylmethyl)–) (RN–CAS Registry Number 834–14–0)	C_6H_5	11.9±0.1	EI	3807
$C_8H_9O^+$	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*–methoxy–, acetate) (RN–CAS Registry Number 33709–39–6)		12.10	EI	3590
$C_8H_9O^+$	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*–methoxy–, acetate) (RN–CAS Registry Number 22532–51–0)		11.50	EI	3590
$C_8H_{10}O^+$	$C_6H_5OC_2H_5$ (Benzene, ethoxy–) (RN–CAS Registry Number 103–73–1)	**	8.6	EI	3479
$C_8H_{10}O^+$	$C_6H_5CH_2OCH_3$ (Benzene, (methoxymethyl)–) (RN–CAS Registry Number 538–86–3)	**	9.12 (V)	PE	3781
$C_8H_{10}O^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1–methoxy–2–methyl–) (RN–CAS Registry Number 578–58–5)	**	8.03±0.02	PE	3890
$C_8H_{10}O^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1–methoxy–3–methyl–) (RN–CAS Registry Number 100–84–5)	**	8.35±0.1	EI	3446

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{10}O^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-4-methyl-) (RN-CAS Registry Number 104-93-8)	**	7.85	EI	3845
$C_8H_{10}O^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-4-methyl-) (RN-CAS Registry Number 104-93-8)	**	8.33±0.1	EI	3446
$C_8H_{10}O^+$	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-4-methyl-) (RN-CAS Registry Number 104-93-8)	**	7.91	CTS	3758
$C_8H_{10}O^+$	$C_6H_3(CH_3)_2OH$ (Phenol, 2,6-dimethyl-) (RN-CAS Registry Number 576-26-1)	**	8.05±0.02	PE	3890
$C_8H_{10}O^+$	$C_8H_{10}O$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-one, (1α,2α,4α,5α)-) (RN-CAS Registry Number 14224-86-3) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]octan-8-one, *endo*-)	**	8.8±0.1	EI	3492
$C_8H_{10}O^+$	$C_8H_{10}O$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-one, *exo*-) (RN-CAS Registry Number 7076-83-7)	**	9.2±0.1	EI	3492
$C_8H_{10}O^+$	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1-butyl-3-methoxy-) (RN-CAS Registry Number 20893-43-0)	$CH_2=CHCH_3$	10.52±0.1	EI	3629
$C_8H_{10}O^+$	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1-butyl-4-methoxy-) (RN-CAS Registry Number 18272-84-9)	$CH_2=CHCH_3$	10.38±0.1	EI	3629
$C_8H_{10}O^+$	$C_6H_5OOCOC_2H_5$ (Carbonic acid, ethyl phenyl ester) (RN-CAS Registry Number 3878-46-4)	CO_2	10.0	EI	3479
(MT-Metastable transition(s) observed)					
$C_8H_{12}O^+$	$C_8H_{11}OH$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, *endo-syn*-) (RN-CAS Registry Number 7076-81-5)	**	8.8±0.1	EI	3492
$C_8H_{12}O^+$	$C_8H_{11}OH$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, *endo-anti*-) (RN-CAS Registry Number 16384-97-7)	**	9.1±0.1	EI	3492
$C_8H_{12}O^+$	$C_8H_{11}OH$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, *exo-syn*-) (RN-CAS Registry Number 7076-80-4)	**	9.1±0.1	EI	3492
$C_8H_{12}O^+$	$C_8H_{11}OH$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, *exo-anti*-)	**	9.3±0.1	EI	3492
$C_8H_{14}O^+$	$C_8H_{14}O$ (Cyclooctanone) (RN-CAS Registry Number 502-49-8)	**	9.09±0.02 (V)	PE	3517
$C_8H_{16}O^+$	n-$C_6H_{13}COCH_3$ (RN-CAS Registry Number 111-13-7)	**	9.40±0.03	PI	3765
$C_8H_{16}O^+$	n-$C_4H_9COCH_2CH_2CH_3$ (RN-CAS Registry Number 589-63-9)	**	9.10±0.05	PI	3765

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_9O^+$	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,4-dimethyl-5-(methyl-*d*-)-) (RN-CAS Registry Number 38479-87-7)	CH_2D	12.3±0.1	EI	4041
$C_9H_9O^+$	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,5-dimethyl-4-(methyl-*d*)-) (RN-CAS Registry Number 38479-86-6)	CH_2D	11.4±0.1	EI	4041
$C_9H_8DO^+$	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,4-dimethyl-5-(methyl-*d*-)-) (RN-CAS Registry Number 38479-87-7)	CH_3	11.5±0.1	EI	4041
$C_9H_8DO^+$	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,5-dimethyl-4-(methyl-*d*)-) (RN-CAS Registry Number 38479-86-6)	CH_3	11.4±0.1	EI	4041
$C_9H_{10}O^+$	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methoxy-, acetate) (RN-CAS Registry Number 33709-39-6)		8.40	EI	3590
$C_9H_{10}O^+$	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methoxy-, acetate) (RN-CAS Registry Number 22532-51-0)		8.25	EI	3590
$C_9H_{12}O^+$	$C_6H_3(CH_3)_2OCH_3$ (Benzene, 2-methoxy-1,3-dimethyl-) (RN-CAS Registry Number 1004-66-6)	**	8.10±0.02	PE	3890
$C_9H_{12}O^+$	$C_{10}H_{12}O_2$ (2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetramethyl-) (RN-CAS Registry Number 527-17-3)	CO	10.1±0.05	PI	3523
$C_9H_{18}O^+$	$((CH_3)_3C)_2CO$ (RN-CAS Registry Number 815-24-7)	**	8.65±0.03	PI	3765
$C_9H_{18}O^+$	(*iso*-$C_4H_9)_2CO$ (RN-CAS Registry Number 108-83-8)	**	9.04±0.03	PI	3765
$C_{10}H_{11}DO^+$	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,4-dimethyl-5-(methyl-*d*-)-) (RN-CAS Registry Number 38479-87-7)	**	8.7±0.1	EI	4041
$C_{10}H_{11}DO^+$	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,5-dimethyl-4-(methyl-*d*)-) (RN-CAS Registry Number 38479-86-6)	**	8.7±0.1	EI	4041
$C_{10}H_{14}O^+$	$C_6H_4(OH)C_4H_9$ (Phenol, 3-butyl-) (RN-CAS Registry Number 4074-43-5)	**	8.92±0.1	EI	3629
$C_{10}H_{14}O^+$	$C_6H_4(OH)C_4H_9$ (Phenol, 4-butyl-) (RN-CAS Registry Number 1638-22-8)	**	8.67±0.1	EI	3629
$C_{10}H_{14}O^+$	$C_6H_4(OH)C_4H_9$ (Phenol, 2-(1,1-dimethylethyl-) (RN-CAS Registry Number 88-18-6)	**	8.10±0.02	PE	3890

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{14}O^+$	$C_{10}H_{14}O$ (Tricyclo[3.3.1.1^{3,7}]decan-2-one) (RN-CAS Registry Number 700-58-3) (ON-Other name: Adamantanone)	**	8.59	PE	3886
$C_{10}H_{16}O^+$	$C_{10}H_{16}O$ (Bicyclo[2,2,1]heptan-2-one, 1,7,7-trimethyl-) (RN-CAS Registry Number 76-22-2)	**	8.76±0.03	PI	3765
$C_{10}H_{16}O^+$	$C_{10}H_{15}OH$ (Tricyclo[3.3.1.1^{3,7}]decan-1-ol) (RN-CAS Registry Number 768-95-6) (ON-Other name: 1-Adamantanol)	**	9.09±0.05	PE	3886
$C_{10}H_{16}O^+$	$C_{10}H_{15}OH$ (Tricyclo[3.3.1.1^{3,7}]decan-2-ol) (RN-CAS Registry Number 700-57-2) (ON-Other name: 2-Adamantanol)	**	9.09±0.07	PE	3886
$C_{11}H_{10}O^+$	$C_{10}H_7OCH_3$ (Naphthalene, 1-methoxy-) (RN-CAS Registry Number 2216-69-5)	**	7.72 (V)	PE	3781
$C_{11}H_{10}O^+$	$C_{10}H_7OCH_3$ (Naphthalene, 2-methoxy-) (RN-CAS Registry Number 93-04-9)	**	7.87 (V)	PE	3781
$C_{11}H_{12}O^+$	$C_{20}H_{26}O_2$ (*D*-Homoestra-1,3,5(10)-trien-17a-one, 3-methoxy-) (RN-CAS Registry Number 1232-89-9)		11.46±0.05	EI	3571
$C_{11}H_{12}O^+$	$C_{20}H_{26}O_2$ (*D*-Homoestra-1,3,5(10)-trien-17a-one, 3-methoxy-, (8α)-) (RN-CAS Registry Number 1232-88-8)		11.20±0.05	EI	3571
$C_{11}H_{13}O^+$	$C_6(CH_3)_4(CH_2D)CHO$ (Benzaldehyde, 2,3,5,6-tetramethyl-4-(methyl-*d*)-) (RN-CAS Registry Number 43022-36-2)	CH_2D	11.2±0.1	EI	4041
$C_{11}H_{12}DO^+$	$C_6(CH_3)_4(CH_2D)CHO$ (Benzaldehyde, 2,3,5,6-tetramethyl-4-(methyl-*d*)-) (RN-CAS Registry Number 43022-36-2)	CH_3	11.2±0.1	EI	4041
$C_{11}H_{16}O^+$	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1-butyl-3-methoxy-) (RN-CAS Registry Number 20893-43-0)	**	8.17±0.1	EI	3629
$C_{11}H_{16}O^+$	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1-butyl-4-methoxy-) (RN-CAS Registry Number 18272-84-9)	**	8.24±0.1	EI	3629
$C_{11}H_{16}O^+$	$C_{10}H_{13}(=O)CH_3$ (2(3*H*)-Naphthalenone, 4,4a,5,6,7,8-hexahydro-4a-methyl-) (RN-CAS-Registry Number 826-56-2)	**	9.6±0.2	EI	4074

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{10}O^+$	$C_6H_5C_6H_4OH$ ([1,1′-Biphenyl]-2-ol) (RN-CAS Registry Number 90-43-7)	**	7.80±0.02	PE	3702
$C_{12}H_{15}DO^+$	$C_6(CH_3)_4(CH_2D)CHO$ (Benzaldehyde, 2,3,5,6-tetramethyl-4-(methyl-*d*)-) (RN-CAS Registry Number 43022-36-2)	**	8.3±0.1	EI	4041
$C_{12}H_{18}O^+$	$C_{10}H_{15}COCH_3$ (Ethanone, 1-tricyclo[3.3.1.1^{3,7}]dec-1-yl-) (RN-CAS Registry Number 1660-04-4) (ON-Other name: 1-Acetyladamantane)	**	8.82±0.05	PE	3851
$C_{13}H_8O^+$	$C_{13}H_8O$ (9*H*-Fluoren-9-one) (RN-CAS Registry Number 486-25-9)	**	8.36±0.02	PI	3523
$C_{13}H_{10}O^+$	$(C_6H_5)_2CO$ (Methanone, diphenyl-) (RN-CAS-Registry Number 119-61-9)	**	9.14±0.03	PI	4057
$C_{13}H_{10}O^+$	$(C_6H_5)_2CO$ (Methanone, diphenyl-) (RN-CAS Registry Number 119-61-9)	**	9.14±0.03	PI	4031
$C_{13}H_{10}O^+$	$(C_6H_5)_2CO$ (Methanone, diphenyl-) (RN-CAS Registry Number 119-61-9)	**	9.4	PI	3586
$C_{13}H_{10}O^+$	$(C_6H_5)_2CO$ (Methanone, diphenyl-) (RN-CAS Registry Number 119-61-9)	**	9.46	EI	3792
$C_{13}H_{11}O^+$	$C_6H_5CH_2C_6H_4OCH_3$ (Benzene, 1-methoxy-4-(phenylmethyl)-) (RN-CAS Registry Number 834-14-0)	CH_3	11.9±0.1	EI	3807
$C_{13}H_{12}O^+$	$C_6H_5CH_2C_6H_4OH$ (Phenol, 4-(phenylmethyl)-) (RN-CAS Registry Number 101-53-1)	**	8.45±0.05	EI	3806
$C_{14}H_{10}O^+$	$C_{14}H_{10}O$ (9(10*H*)-Anthracenone) (RN-CAS Registry Number 90-44-8)	**	8.83±0.03	PI	3523
$C_{14}H_{14}O^+$	$C_6H_5CH_2C_6H_4OCH_3$ (Benzene, 1-methoxy-4-(phenylmethyl)-) (RN-CAS Registry Number 834-14-0)	**	8.20±0.05	EI	3806
$C_{14}H_{22}O^+$	$C_6H_3(C_4H_9)_2OH$ (Phenol, 2,6-bis(1,1-dimethylethyl-) (RN-CAS Registry Number 128-39-2)	**	7.70±0.02	PE	3890

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{22}O^+$	$C_6H_3(C_4H_9)_2OH$ (Phenol, 3,5-bis(1,1-dimethylethyl-) (RN-CAS Registry Number 1138-52-9)	**	7.90±0.02	PE	3890
$C_{15}H_{15}O^+$	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-) (RN-CAS Registry Number 1232-90-2)		11.46±0.05	EI	3571
$C_{15}H_{15}O^+$	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-, (14β)-) (RN-CAS Registry Number 1232-91-3)		10.84±0.09	EI	3571
$C_{16}H_{10}O^+$	$C_{16}H_{10}O$ (4,6-Ethenodibenz[*b*,*f*]oxepine, (*Z*,*Z*)-) (RN-CAS Registry Number 42073-03-0) (ON-Other name: 8,16-Oxido-*cis*[2.2]metacyclophane-1,9-diene)	**	7.95 (V)	PE	4088
$C_{16}H_{16}O^+$	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-) (RN-CAS Registry Number 1232-90-2)		10.79±0.07	EI	3571
$C_{16}H_{16}O^+$	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-, (14β)-) (RN-CAS Registry Number 1232-91-3)		10.44±0.11	EI	3571
$C_{18}H_{18}O^+$	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4-diphenyl-) (RN-CAS-Registry Number 4528-68-1)	**	8.8±0.2	EI	4074
$C_{19}H_{20}O^+$	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2-methyl-5,5-diphenyl-) (RN-CAS-Registry Number 50592-49-9)	**	8.8±0.2	EI	4074
$C_{19}H_{22}O^+$	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-) (RN-CAS-Registry Number 50592-47-7)	**	9.2±0.2	EI	4074
$C_{23}H_{24}O^+$	$C_{10}H_{11}(=O)(CH_3)(C_6H_5)_2$ (2(3*H*-Naphthalenone, 4,4a,5,6,7,8-hexahydro-4a-methyl-7,7-diphenyl-) (RN-CAS-Registry Number 50786-03-3)	**	8.9±0.2	EI	4074
$CH_2O_2^+$	HCOOH (RN-CAS Registry Number 64-18-6)	**	11.05±0.03	PI	3765
$CH_2O_2^+$	HCOOH (RN-CAS Registry Number 64-18-6)	**	11.3	PE	3883
$CH_2O_2^+$	HCOOH (RN-CAS Registry Number 64-18-6)	**	11.33	PE	3874
$CH_2O_2^+$	HCOOH (RN-CAS Registry Number 64-18-6)	**	11.35±0.03	PE	3734
$CH_2O_2^{+*}$	HCOOH (RN-CAS Registry Number 64-18-6)	**	12.4	PE	3883
$CH_2O_2^{+*}$	HCOOH (RN-CAS Registry Number 64-18-6)	**	16.9	PE	3883

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_4O_2^+$	CH_3COOH (RN-CAS Registry Number 64-19-7)	**	10.38±0.03	PI	3765
$C_2H_4O_2^+$	CH_3COOH (RN-CAS Registry Number 64-19-7)	**	10.65	PE	3874
$C_2H_4O_2^+$	CH_3COOH (RN-CAS Registry Number 64-19-7)	**	10.69±0.03	PE	3734
$C_2H_4O_2^+$	CH_3COOH (RN-CAS Registry Number 64-19-7)	**	10.70	PE	3718
$C_2H_4O_2^+$	$HCOOCH_3$ (RN-CAS Registry Number 107-31-3)	**	10.85	PE	3718
$C_3H_4O_2^+$	$CH_2=CHCOOH$ (RN-CAS Registry Number 79-10-7)	**	10.60	PE	3864
$C_3H_6O_2^+$	C_2H_5COOH (RN-CAS Registry Number 79-09-4)	**	10.44±0.03	PE	3734
$C_3H_6O_2^+$	C_2H_5COOH (RN-CAS Registry Number 79-09-4)	**	10.54	PE	3874
$C_3H_6O_2^+$	CH_3COOCH_3 (RN-CAS Registry Number 79-20-9)	**	10.33	PE	3718
$C_3H_6O_2^+$	CH_3COOCH_3 (RN-CAS Registry Number 79-20-9)	**	10.59 (V)	PE	3937
$C_3H_6O_2^+$	$HCOOC_2H_5$ (RN-CAS Registry Number 109-94-4)	**	10.62	PE	3718
$C_3H_6O_2^+$	$C_3H_6O_2$ (1,3-Dioxolane) (RN-CAS Registry Number 646-06-0)	**	10.1 (V)	PE	3733
$C_4H_2O_2^+$	$C_6H_4O_2$ (2,5-Cyclohexadiene-1,4-dione) (RN-CAS Registry Number 106-51-4)	C_2H_2	11.2±0.05	PI	3523
$C_4H_4O_2^+$	$C_4H_4O(=O)$ (2(3*H*)-Furanone) (RN-CAS Registry Number 20825-71-2)	**	10.70 (V)	PE	3826
$C_4H_6O_2^+$	$CH_2=CHCOOCH_3$ (RN-CAS Registry Number 96-33-3)	**	10.72 (V)	PE	3937
$C_4H_6O_2^+$	$CH_2=CHCOOCH_3$ (RN-CAS Registry Number 96-33-3)	**	10.72 (V)	PE	3972
$C_4H_6O_2^+$	$CH_3COCOCH_3$ (RN-CAS Registry Number 431-03-8)	**	9.55 (V)	PE	3936
$C_4H_6O_2^+$	$C_4H_6O(=O)$ (2(3*H*)-Furanone, dihydro-) (RN-CAS Registry Number 96-48-0)	**	10.26 (V)	PE	3826
$C_4H_8O_2^+$	$CH_3CH(CH_3)COOH$ (RN-CAS Registry Number 79-31-2)	**	10.30 (V)	PE	3937
$C_4H_8O_2^+$	$HCOOCH_2CH_2CH_3$ (RN-CAS Registry Number 110-74-7)	**	10.62	PE	3718
$C_4H_8O_2^+$	$CH_3COOC_2H_5$ (RN-CAS Registry Number 141-78-6)	**	10.24	PE	3718

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_8O_2^+$	*n*-C_3H_7COOH (RN-CAS Registry Number 107-92-6)	**	10.46	PE	3874
$C_4H_8O_2^+$	n-C_3H_7COOH (RN-CAS Registry Number 107-92-6)	**	10.22 (V)	PE	3937
$C_4H_8O_2^+$	*iso*-C_3H_7COOH (RN-CAS Registry Number 79-31-2)	**	10.33±0.03	PE	3734
$C_4H_8O_2^+$	*iso*-C_3H_7COOH (RN-CAS Registry Number 79-31-2)	**	10.33	PE	3874
$C_4H_8O_2^+$	$C_4H_8O_2$ (1,3-Dioxane) (RN-CAS Registry Number 505-22-6)	**	10.1 (V)	PE	3733
$C_4H_8O_2^+$	$C_4H_8O_2$ (1,3-Dioxane) (RN-CAS Registry Number 505-22-6)	**	10.12 (V)	PE	4082
$C_4H_8O_2^+$	$C_4H_8O_2$ (1,4-Dioxane) (RN-CAS Registry Number 123-91-1)	**	9.41 (V)	PE	4082
$C_4H_8O_2^+$	$C_4H_8O_2$ (1,4-Dioxane) (RN-CAS Registry Number 123-91-1)	**	9.43 (V)	PE	3733
$C_5H_4O_2^+$	$C_5H_4O_2$ (4-Cyclopentene-1,3-dione) (RN-CAS Registry Number 930-60-9)	**	10.25 (V)	PE	3826
$C_5H_4O_2^+$	C_4H_3OCHO (2-Furancarboxaldehyde) (RN-CAS Registry Number 98-01-1)	**	9.50±0.05	EI	3482
$C_5H_6O_2^+$	$C_5H_6(=O)_2$ (1,3-Cyclopentanedione) (RN-CAS Registry Number 3859-41-4)	**	9.46±0.05	PE	3848
$C_5H_6O_2^+$	$C_5H_5(=O)OH$ (2-Cyclopenten-1-one, 3-hydroxy-) (RN-CAS Registry Number 5870-62-2)	**	9.22±0.05 (V)	PE	3848
$C_5H_8O_2^+$	$CH_2=C(CH_3)COOCH_3$ (RN-CAS Registry Number 80-62-6)	**	10.28 (V)	PE	3937
$C_5H_8O_2^+$	$CH_2=C(CH_3)COOCH_3$ (RN-CAS Registry Number 80-62-6)	**	10.28 (V)	PE	3972
$C_5H_8O_2^+$	$CH_3COCH_2COCH_3$ (RN-CAS Registry Number 123-54-6)	**	8.85±0.05	PE	3848
$C_5H_8O_2^+$	$CH_3COCH_2COCH_3$ (RN-CAS Registry Number 123-54-6)	**	9.18±0.07 (V)	PE	3682
$C_5H_8O_2^+$	$CH_3CH=CHCOOCH_3$ (RN-CAS Registry Number 18707-60-3)	**	10.11 (V)	PE	3972
$C_5H_{10}O_2^+$	$CH_3COOCH(CH_3)_2$ (RN-CAS Registry Number 108-21-4)	**	10.08	PE	3718
$C_5H_{10}O_2^+$	$HCOO(CH_2)_3CH_3$ (RN-CAS Registry Number 592-84-7)	**	10.54	PE	3718
$C_5H_{10}O_2^+$	*n*-C_4H_9COOH (RN-CAS Registry Number 109-52-4)	**	10.53 (V)	PE	3874

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{10}O_2^+$	*iso*-C_4H_9COOH (RN-CAS Registry Number 503-74-2)	**	10.51 (V)	PE	3874
$C_5H_{10}O_2^+$	$C_3H_4O_2(CH_3)_2$ (1,3-Dioxolane, 2,2-dimethyl-) (RN-CAS Registry Number 2916-31-6)	**	9.71 (V)	PE	3733
$C_6H_4O_2^+$	$C_6H_4O_2$ (2,5-Cyclohexadiene-1,4-dione) (RN-CAS Registry Number 106-51-4)	**	9.7	PI	3586
$C_6H_4O_2^+$	$C_6H_4O_2$ (2,5-Cyclohexadiene-1,4-dione) (RN-CAS Registry Number 106-51-4)	**	9.96±0.01	PI	3523
$C_6H_4O_2^+$	$C_6H_4(=O)_2$ (2,5-Cyclohexadiene-1,4-dione) (RN-CAS Registry Number 106-51-4)	**	10.03 (V)	PE	3936
$C_6H_5O_2^+$	$C_6H_4(OH)OCH_3$ (Phenol, 4-methoxy-) (RN-CAS Registry Number 150-76-5)	CH_3	11.10±0.1	EI	3446
$C_6H_5O_2^+$	$C_6H_4(OH)OOCCH_3$ (Benzeneacetic acid, 2-hydroxy-) (RN-CAS Registry Number 614-75-5)	CH_3CO	12.54±0.02	EI	3631
$C_6H_5O_2^+$	$C_6H_4(OH)OOCCH_3$ (Benzeneacetic acid, 4-hydroxy-) (RN-CAS Registry Number 156-38-7)	CH_3CO	13.83±0.02	EI	3631
$C_6H_5O_2^+$	$C_6H_4(NO_2)OH$ (Phenol, 4-nitro-) (RN-CAS Registry Number 100-02-7)	NO	9.90±0.1	EI	3447
$C_6H_6O_2^+$	$C_6H_6O_2$ (1,4-Benzenediol) (RN-CAS Registry Number 123-31-9)	**	7.95±0.03	PI	3523
$C_6H_6O_2^+$	$C_4H_3OCOCH_3$ (Ethanone, 1-(2-furanyl)-) (RN-CAS Registry Number 1192-62-7)	**	9.27±0.05	EI	3482
$C_6H_6O_2^+$	$C_6H_4(OH)OOCCH_3$ (Benzeneacetic acid, 2-hydroxy-) (RN-CAS Registry Number 614-75-5)	$CH_2=C=O$	9.30±0.02	EI	3631
$C_6H_6O_2^+$	$C_6H_4(OH)OOCCH_3$ (Benzeneacetic acid, 4-hydroxy-) (RN-CAS Registry Number 156-38-7)	$CH_2=C=O$	9.28±0.02	EI	3631
$C_6H_8O_2^+$	$C_6H_8(=O)_2$ (1,3-Cyclohexanedione) (RN-CAS Registry Number 504-02-9)	**	9.52±0.05	PE	3848
$C_6H_8O_2^+$	$C_6H_8(=O)_2$ (1,4-Cyclohexanedione) (RN-CAS Registry Number 637-88-7)	**	9.65 (V)	PE	3936
$C_6H_8O_2^+$	$C_5H_5(=O)_2CH_3$ (1,3-Cyclopentanedione, 2-methyl-) (RN-CAS Registry Number 765-69-5)	**	9.40±0.1 (V)	PE	3848

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_8O_2^+$	$C_5H_4(=O)(OH)CH_3$ (2-Cyclopenten-1-one, 3-hydroxy-2-methyl-) (RN-CAS Registry Number 5870-63-3)	**	8.84±0.05	PE	3848
$C_6H_{10}O_2^+$	*trans*-$CH_3CH=CHCOOC_2H_5$ (RN-CAS Registry Number 623-70-1)	**	10.11 (V)	PE	3937
$C_6H_{11}O_2^+$	$C_4H_6O_2(CH_3)_2$ (1,3-Dioxane, 4,6-dimethyl-, *cis*-) (RN-CAS Registry Number 3390-18-9)	H	9.693±0.005	EI	3481
$C_6H_{11}O_2^+$	$C_4H_6O_2(CH_3)_2$ (1,3-Dioxane, 4,6-dimethyl-, *trans*-) (RN-CAS Registry Number 1121-87-5)	H	9.540±0.003	EI	3481
$C_6H_{11}O_2^+$	$C_4H_5O_2(CH_3)_3$ (1,3-Dioxane, 2,4,6-trimethyl-, (2α,4α,6α)-) (RN-CAS Registry Number 19145-91-6) (ON-Other name: *cis*-2-*r*-4-*cis*-6-Trimethyl-1,3-dioxan)	CH_3	9.593±0.006	EI	3481
$C_6H_{11}O_2^+$	$C_4H_5O_2(CH_3)_3$ (1,3-Dioxane, 2,4,6-trimethyl-, (2α,4α,6β)-) (RN-CAS Registry Number 36402-73-0) (ON-Other name: *cis*-2-*r*-4-*trans*-6-Trimethyl-1,3-dioxan)	CH_3	9.448±0.002	EI	3481
$C_6H_{12}O_2^+$	$CH_3COO(CH_2)_3CH_3$ (RN-CAS Registry Number 123-86-4)	**	10.17	PE	3718
$C_6H_{12}O_2^+$	*tert*-$C_4H_9COOCH_3$ (RN-CAS Registry Number 598-98-1)	**	9.90±0.04	PE	3851
$C_7H_5O_2^+$	$C_6H_4(OH)COOH$ (Benzoic acid, 3-hydroxy-) (RN-CAS Registry Number 99-06-9)	OH	12.51±0.2	EI	3973
$C_7H_5O_2^+$	$C_6H_4(OH)COOH$ (Benzoic acid, 4-hydroxy-) (RN-CAS Registry Number 99-96-7)	OH	12.00±0.2	EI	3973
$C_7H_5O_2^+$	$C_6H_4(COOH)_2$ (1,3-Benzenedicarboxylic acid) (RN-CAS Registry Number 121-91-5) (MT-Metastable transition(s) observed)	COOH	12.42±0.2	EI	3973
$C_7H_5O_2^+$	$C_6H_4(COOH)_2$ (1,4-Benzenedicarboxylic acid) (RN-CAS Registry Number 100-21-0) (MT-Metastable transition(s) observed)	COOH	12.56±0.2	EI	3973
$C_7H_6O_2^+$	C_6H_5COOH (Benzoic acid) (RN-CAS Registry Number 65-85-0)	**	9.75±0.2	EI	3973
$C_7H_6O_2^+$	C_6H_5COOH (Benzoic acid) (RN-CAS Registry Number 65-85-0)	**	9.75	EI	3792
$C_7H_6O_2^+$	$C_7H_6O_2$ (2,5-Cyclohexadiene-1,4-dione, 2-methyl-) (RN-CAS Registry Number 553-97-9)	**	9.78±0.02	PI	3523

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7O_2^+$	$C_6H_4(OCH_3)_2$ (Benzene, 1,3-dimethoxy-) (RN-CAS Registry Number 151-10-0)	CH_3	11.17±0.1	EI	3446
$C_7H_7O_2^+$	$C_6H_4(OCH_3)_2$ (Benzene, 1,4-dimethoxy-) (RN-CAS Registry Number 150-78-7)	CH_3	10.98±0.1	EI	3446
$C_7H_7O_2^+$	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-3-nitro-) (RN-CAS Registry Number 555-03-3)	NO	9.39±0.1	EI	3447
$C_7H_7O_2^+$	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-4-nitro-) (RN-CAS Registry Number 100-17-4)	NO	10.03±0.1	EI	3447
$C_7H_8O_2^+$	$C_6H_4(OH)OCH_3$ (Phenol, 4-methoxy-) (RN-CAS Registry Number 150-76-5)	**	7.50	EI	3845
$C_7H_8O_2^+$	$C_6H_4(OH)OCH_3$ (Phenol, 4-methoxy-) (RN-CAS Registry Number 150-76-5)	**	8.02±0.1	EI	3446
$C_7H_8O_2^+$	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 3-methoxy-, acetate) (RN-CAS Registry Number 5451-83-2)	$CH_2=C=O$	9.56±0.2	EI	3484
$C_7H_8O_2^+$	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 4-methoxy-, acetate) (RN-CAS Registry Number 1200-06-2)	$CH_2=C=O$	9.48±0.2	EI	3484
$C_7H_{10}O_2^+$	$C_6H_7(=O)_2CH_3$ (1,3-Cyclohexanedione, 2-methyl-) (RN-CAS Registry Number 1193-55-1)	**	9.37±0.05	PE	3848
$C_7H_{10}O_2^+$	$C_5H_4(=O)_2(CH_3)_2$ (1,3-Cyclopentanedione, 2,2-dimethyl-) (RN-CAS Registry Number 3883-58-7)	**	9.08±0.05	PE	3848
$C_7H_{10}O_2^+$	$C_5H_5(=O)_2C_2H_5$ (1,3-Cyclopentanedione, 2-ethyl-) (RN-CAS Registry Number 823-36-9)	**	9.35±0.1 (V)	PE	3848
$C_7H_{10}O_2^+$	$C_5H_4(=O)(OH)C_2H_5$ (2-Cyclopenten-1-one, 2-ethyl-3-hydroxy-) (RN-CAS Registry Number 5857-25-0)	**	8.79±0.05	PE	3848
$C_7H_{13}O_2^+$	$C_4H_4O_2(CH_3)_4$ (1,3-Dioxane, 2,2,4,6-tetramethyl-, *cis*-) (RN-CAS Registry Number 17227-17-7)	CH_3	9.332±0.006	EI	3481
$C_7H_{13}O_2^+$	$C_4H_4O_2(CH_3)_4$ (1,3-Dioxane, 2,2,4,6-tetramethyl-, *trans*-) (RN-CAS Registry Number 20268-00-2)	CH_3	9.128±0.008	EI	3481
$C_8H_7O_2^+$	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 3-methoxy-) (RN-CAS Registry Number 586-38-9)	OH	12.51±0.2	EI	3973

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_7O_2^+$	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 4–methoxy–) (RN–CAS Registry Number 100–09–4)	OH	12.53±0.2	EI	3973
$C_8H_8O_2^+$	$C_6H_5OOCCH_3$ (Acetic acid, phenyl ester) (RN–CAS Registry Number 122–79–2)	**	8.75±0.03	EI	3483
$C_8H_8O_2^+$	$C_6H_5OOCCH_3$ (Acetic acid, phenyl ester) (RN–CAS Registry Number 122–79–2)	**	8.84±0.2	EI	3484
$C_8H_8O_2^+$	$C_6H_4(CH_3)COOH$ (Benzoic acid, 3–methyl–) (RN–CAS Registry Number 99–04–7)	**	9.43±0.2	EI	3973
$C_8H_8O_2^+$	$C_6H_4(CH_3)COOH$ (Benzoic acid, 4–methyl–) (RN–CAS Registry Number 99–94–5)	**	9.23±0.2	EI	3973
$C_8H_8O_2^+$	$C_6H_5COOCH_3$ (Benzoic acid methyl ester) (RN–CAS Registry Number 93–58–3)	**	9.40±0.025	PE	3626
$C_8H_8O_2^+$	$C_6H_5COOCH_3$ (Benzoic acid methyl ester) (RN–CAS Registry Number 93–58–3)	**	9.35±0.03	EDD	3626
$C_8H_8O_2^+$	$C_6H_5COOCH_3$ (Benzoic acid methyl ester) (RN–CAS Registry Number 93–58–3)	**	9.35±0.1	EI	3788
$C_8H_8O_2^+$	$C_6H_5COOCH_3$ (Benzoic acid methyl ester) (RN–CAS Registry Number 93–58–3)	**	9.49	EI	3792
$C_8H_8O_2^+$	$C_6H_5COOCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6–η)–methylbenzoate]–) (RN–CAS Registry Number 12125–87–0)		9.31±0.1	EI	3788
$C_8H_{10}O_2^+$	$C_6H_4(OCH_3)_2$ (Benzene, 1,3–dimethoxy–) (RN–CAS Registry Number 151–10–0)	**	8.17±0.1	EI	3446
$C_8H_{10}O_2^+$	$C_6H_4(OCH_3)_2$ (Benzene, 1,4–dimethoxy–) (RN–CAS Registry Number 150–78–7)	**	7.90 (V)	PE	3781
$C_8H_{10}O_2^+$	$C_6H_4(OCH_3)_2$ (Benzene, 1,4–dimethoxy–) (RN–CAS Registry Number 150–78–7)	**	7.45	EI	3845
$C_8H_{10}O_2^+$	$C_6H_4(OCH_3)_2$ (Benzene, 1,4–dimethoxy–) (RN–CAS Registry Number 150–78–7)	**	7.88±0.1	EI	3446
$C_8H_{12}O_2^+$	$C_4(=O)_2(CH_3)_4$ (1,3–Cyclobutanedione, 2,2,4,4–tetramethyl–) (RN–CAS Registry Number 933–52–8)	**	8.80 (V)	PE	3936
$C_8H_{12}O_2^+$	$C_6H_6(=O)_2(CH_3)_2$ (1,3–Cyclohexanedione, 5,5–dimethyl–) (RN–CAS Registry Number 126–81–8)	**	9.28±0.05	PE	3848

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{12}O_2^+$	$C_6H_7(=O)OC_2H_5$ (2-Cyclohexen-1-one, 3-ethoxy-) (RN-CAS Registry Number 5323-87-5)	**	8.69±0.05	PE	3848
$C_9H_{10}O_2^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 2-methylphenyl ester) (RN-CAS Registry Number 533-18-6)	**	8.38±0.02	EI	3631
$C_9H_{10}O_2^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 3-methylphenyl ester) (RN-CAS Registry Number 122-46-3)	**	8.98±0.2	EI	3484
$C_9H_{10}O_2^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4-methylphenyl ester) (RN-CAS Registry Number 140-39-6)	**	7.84±0.02	EI	3631
$C_9H_{10}O_2^+$	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4-methylphenyl ester) (RN-CAS Registry Number 140-39-6)	**	8.61±0.2	EI	3484
$C_9H_{14}O_2^+$	$C_6H_7(=O)_2CH(CH_3)_2$ (1,3-Cyclohexanedione, 2-(1-methylethyl)-) (RN-CAS Registry Number 3401-01-2)	**	9.09±0.05	PE	3848
$C_9H_{14}O_2^+$	$C_6H_5(=O)_2(CH_3)_3$ (1,3-Cyclohexanedione, 2,5,5-trimethyl-) (RN-CAS Registry Number 1125-11-7)	**	9.10±0.05	PE	3848
$C_{10}H_6O_2^+$	$C_{10}H_6O_2$ (1,4-Naphthalenedione) (RN-CAS Registry Number 130-15-4)	**	9.56±0.01	PI	3523
$C_{10}H_{12}O_2^+$	$C_{10}H_{12}O_2$ (2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetramethyl-) (RN-CAS Registry Number 527-17-3)	**	9.16±0.03	PI	3523
$C_{10}H_{12}O_2^+$	$C_{10}H_{12}O_2$ (Tricyclo[3.3.1.$1^{3,7}$]decane-2,6-dione) (RN-CAS Registry Number 39751-07-0) (ON-Other name: 2,6-Adamantanedione)	**	9.06	PE	3886
$C_{10}H_{14}O_2^+$	$C_7H_5(=O)_2(CH_3)_3$ (Bicyclo[2.2.1]heptane-2,3-dione, 1,7,7-trimethyl-) (RN-CAS Registry Number 465-29-2)	**	8.80 (V)	PE	3936
$C_{10}H_{14}O_2^+$	$C_8H_{11}OOCCH_3$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, acetate, *endo-syn*-) (RN-CAS Registry Number 32426-26-9)	**	8.6±0.1	EI	3492
$C_{10}H_{14}O_2^+$	$C_8H_{11}OOCCH_3$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, acetate, *endo-anti*-) (RN-CAS Registry Number 32350-51-9)	**	9.0±0.1	EI	3492
$C_{10}H_{14}O_2^+$	$C_8H_{11}OOCCH_3$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, acetate, *exo-syn*-) (RN-CAS Registry Number 32350-52-0)	**	8.9±0.1	EI	3492
$C_{10}H_{14}O_2^+$	$C_8H_{11}OOCCH_3$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, acetate, *exo-anti*-) (RN-CAS Registry Number 32350-50-8)	**	9.3±0.1	EI	3492

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{14}O_2^+$	$C_8H_8(OCH_3)_2$ (Tricyclo[3.2.1.$0^{2,4}$]oct-6-ene, 8,8-dimethoxy-, (1α,2α,4α,5α)-) (RN-CAS Registry Number 14224-84-1) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]oct-6-ene, 8,8-dimethoxy-, *endo*-)	**	8.6±0.1	EI	3492
$C_{10}H_{16}O_2^+$	$C_6H_7(=O)_2C(CH_3)_3$ (1,3-Cyclohexanedione, 2-(1,1-dimethylethyl)-) (RN-CAS Registry Number XXXXX-XX-X)	**	9.05±0.1	PE	3848
$C_{10}H_{16}O_2^+$	$C_6H_4(=O)_2(CH_3)_4$ (1,3-Cyclohexanedione, 2,2,5,5-tetramethyl-) (RN-CAS Registry Number 702-50-1)	**	9.04±0.05	PE	3848
$C_{10}H_{16}O_2^+$	$C_8H_{10}(OCH_3)_2$ (Tricyclo[3.2.1.$0^{2,4}$]octane, 8,8-dimethoxy-, (1α,2α,4α,5α)-) (RN-CAS Registry Number 14224-85-2) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]octane, 8,8-dimethoxy-, *endo*-)	**	8.7±0.1	EI	3492
$C_{10}H_{16}O_2^+$	$C_8H_{10}(OCH_3)_2$ (Tricyclo[3.2.1.$0^{2,4}$]octane, 8,8-dimethoxy-, (1α,2β,4β,5α)-) (RN-CAS Registry Number 7076-82-6) (ON-Other name: Tricyclo[3.2.1.$0^{2,4}$]octane, 8,8-dimethoxy-, *exo*-)	**	8.9±0.1	EI	3492
$C_{11}H_{16}O_2^+$	$C_{10}H_{15}COOH$ (Tricyclo[3.3.1.$1^{3,7}$]decane-1-carboxylic acid) (RN-CAS Registry Number 828-51-3) (ON-Other name: 1-Adamantanecarboxylic acid)	**	9.34	PE	3886
$C_{11}H_{20}O_2^+$	$(CH_3)_3CCOCH_2COC(CH_3)_3$ (RN-CAS Registry Number 1118-71-4)	**	8.86±0.07 (V)	PE	3682
$C_{12}H_{18}O_2^+$	$C_{10}H_{15}COOCH_3$ (Tricyclo[3.3.1.$1^{3,7}$]decane-1-carboxylic acid methyl ester) (RN-CAS Registry Number 711-01-3) (ON-Other name: 1-Carbomethoxyadamantane)	**	9.38±0.03	PE	3851
$C_{14}H_8O_2^+$	$C_{14}H_8O_2$ (9*H*-Xanthen-9-one) (RN-CAS Registry Number 90-47-1)	**	8.42±0.03	PI	3523
$C_{13}H_{10}O_2^+$	$C_6H_5COOC_6H_5$ (Benzoic acid phenyl ester) (RN-CAS Registry Number 93-99-2)	**	9.0	EI	3897
$C_{14}H_8O_2^+$	$C_{14}H_8O_2$ (1,4-Anthracenedione) (RN-CAS Registry Number 635-12-1)	**	8.45±0.02	PI	3523
$C_{14}H_8O_2^+$	$C_{14}H_8O_2$ (9,10-Anthracenedione) (RN-CAS Registry Number 84-65-1)	**	9.25±0.03	PI	3523
$C_{14}H_8O_2^+$	$C_{14}H_8O_2$ (9,10-Anthracenedione) (RN-CAS Registry Number 84-65-1)	**	9.3	PI	3586

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_8O_2^+$	$C_{14}H_8O_2$ (9,10-Anthracenedione) (RN-CAS Registry Number 84-65-1) (ON-Other name: Anthraquinone)	**	9.40±0.08	EI	3571
$C_{14}H_8O_2^+$	$C_{14}H_8O_2$ (9,10-Phenanthrenedione) (RN-CAS Registry Number 84-11-7)	**	8.64±0.03	PI	3523
$C_{14}H_{10}O_2^+$	$C_6H_5COCOC_6H_5$ (Ethanedione, diphenyl-) (RN-CAS Registry Number 134-81-6)	**	8.86±0.15	SD	3823
$C_{15}H_{12}O_2^+$	$C_6H_5COCOC_6H_4CH_3$ (Ethanedione, (4-methylphenyl)phenyl-) (RN-CAS Registry Number 2431-00-7)	**	9.05±0.10	SD	3823
$C_{20}H_{22}O_2^+$	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-) (RN-CAS Registry Number 1232-90-2)	**	7.56±0.07	EI	3571
$C_{20}H_{22}O_2^+$	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-, (14β)-) (RN-CAS Registry Number 1232-91-3)	**	7.82±0.07	EI	3571
$C_{20}H_{26}O_2^+$	$C_{20}H_{26}O_2$ (*D*-Homoestra-1,3,5(10)-trien-17a-one, 3-methoxy-) (RN-CAS Registry Number 1232-89-9)	**	8.22±0.06	EI	3571
$C_{20}H_{26}O_2^+$	$C_{20}H_{26}O_2$ (*D*-Homoestra-1,3,5(10)-trien-17a-one, 3-methoxy-, (8α)-) (RN-CAS Registry Number 1232-88-8)	**	8.17±0.08	EI	3571
$C_{22}H_{12}O_2^+$	$C_{22}H_{12}O_2$ (6,13-Pentacenedione) (RN-CAS Registry Number 3029-32-1)	**	8.07±0.05	PI	3523
$C_3H_2O_3^+$	$C_3H_2O_2(=O)$ (1,3-Dioxol-2-one) (RN-CAS Registry Number 872-36-6)	**	11.91 (V)	PE	3826
$C_3H_4O_3^+$	$C_3H_4O_2(=O)$ (1,3-Dioxolan-2-one) (RN-CAS Registry Number 96-49-1)	**	11.47 (V)	PE	3826
$C_3H_6O_3^+$	$C_3H_6O_3$ (1,3,5-Trioxane) (RN-CAS Registry Number 110-88-3)	**	~10.8 (V)	PE	3733
$C_4H_2O_3^+$	$C_4H_2O(=O)_2$ (2,5-Furandione) (RN-CAS Registry Number 108-31-6)	**	11.45 (V)	PE	3826

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6O_3^+$	$C_4H_3OCOOCH_3$ (2-Furancarboxylic acid, methyl ester) (RN-CAS Registry Number 611-13-2)	**	9.32±0.05	EI	3482
$C_7H_6O_3^+$	$C_6H_4(OH)COOH$ (Benzoic acid, 3-hydroxy-) (RN-CAS Registry Number 99-06-9)	**	9.20±0.2	EI	3973
$C_7H_6O_3^+$	$C_6H_4(OH)COOH$ (Benzoic acid, 4-hydroxy-) (RN-CAS Registry Number 99-96-7)	**	9.22±0.2	EI	3973
$C_7H_6O_3^+$	$C_6H_4(COOH)OOCCH_3$ (Benzoic acid, 4-(acetyloxy)-) (RN-CAS Registry Number 2345-34-8)	$CH_2=C=O$	10.08±0.2	EI	3484
$C_8H_5O_3^+$	$C_6H_4(COOH)_2$ (1,3-Benzenedicarboxylic acid) (RN-CAS Registry Number 121-91-5)	OH	12.17±0.2	EI	3973
$C_8H_5O_3^+$	$C_6H_4(COOH)_2$ (1,4-Benzenedicarboxylic acid) (RN-CAS Registry Number 100-21-0)	OH	12.14±0.2	EI	3973
$C_8H_8O_3^+$	$C_6H_4(OH)OOCCH_3$ (Benzeneacetic acid, 2-hydroxy-) (RN-CAS Registry Number 614-75-5)	**	8.16±0.02	EI	3631
$C_8H_8O_3^+$	$C_6H_4(OH)OOCCH_3$ (Benzeneacetic acid, 4-hydroxy-) (RN-CAS Registry Number 156-38-7)	**	8.12±0.02	EI	3631
$C_8H_8O_3^+$	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 3-methoxy-) (RN-CAS Registry Number 586-38-9)	**	9.06±0.2	EI	3973
$C_8H_8O_3^+$	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 4-methoxy-) (RN-CAS Registry Number 100-09-4)	**	9.04±0.2	EI	3973
$C_9H_7O_3^+$	$C_6H_4(COOCH_3)COSC_6H_4CH_3$ (Benzoic acid, 2-[[(4-methylphenyl)thio]carbonyl]- methyl ester) (RN-CAS-Registry Number 42797-32-0) (OP-The other product(s) is(are): $C_6H_4(S)CH_3$)		10.98±0.2	EI	4062
$C_9H_7O_3^+$	$C_8H_4O(=O)(OCH_3)SC_6H_4CH_3$ (1(3*H*)-Isobenzofuranone, 3-methoxy-3-[(4-methylphenyl)thio]-) (RN-CAS-Registry Number 51053-89-5) (OP-The other product(s) is(are): $C_6H_4(S)CH_3$)		10.7±0.2	EI	4062
$C_9H_{10}O_3^+$	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 3-methoxy-, acetate) (RN-CAS Registry Number 5451-83-2)	**	8.29±0.2	EI	3484
$C_9H_{10}O_3^+$	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 4-methoxy-, acetate) (RN-CAS Registry Number 1200-06-2)	**	7.92±0.2	EI	3484

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_6O_3^+$	$C_{10}H_5O_2(OH)$ (1,4-Naphthalenedione, 5-hydroxy-) (RN-CAS Registry Number 481-39-0)	**	8.70±0.02	PI	3523
$C_{14}H_8O_3^+$	$C_{14}H_7O_2(OH)$ (9,10-Anthracenedione, 1-hydroxy-) (RN-CAS Registry Number 129-43-1)	**	8.43±0.05	PI	3523
$C_{14}H_8O_3^+$	$C_{14}H_7O_2(OH)$ (9,10-Anthracenedione, 2-hydroxy-) (RN-CAS Registry Number 605-32-3)	**	8.70±0.03	PI	3523
$C_{14}H_{12}O_3^+$	$C_6H_5COOC_6H_4OCH_3$ (Phenol, 4-methoxy-, benzoate) (RN-CAS Registry Number 1523-19-9)	**	8.6	EI	3897
$C_2H_4O_4^+$	$(HCOOH)_2$ (RN-CAS Registry Number 14523-98-9)	**	11.3 (V)	PE	3734
$C_4H_8O_4^+$	$(CH_3COOH)_2$ (RN-CAS Registry Number 6993-75-5)	**	10.6 (V)	PE	3734
$C_5H_{10}O_4^+$	(*iso*-C_3H_7COOH)(HCOOH) (RN-CAS Registry Number XXXXX-XX-X)	**	10.5 (V)	PE	3734
$C_6H_6O_4^+$	$CH_3OOCC{\equiv}CCOOCH_3$ (RN-CAS Registry Number 762-42-5)	**	10.9 (V)	PE	3937
$C_6H_8O_4^+$	*cis*-$CH_3OOCCH{=}CHCOOCH_3$ (RN-CAS Registry Number 624-48-6)	**	10.47 (V)	PE	3937
$C_6H_8O_4^+$	*trans*-$CH_3OOCCH{=}CHCOOCH_3$ (RN-CAS Registry Number 624-49-7)	**	10.70 (V)	PE	3937
$C_6H_{12}O_4^+$	$(CH_3CH_2COOH)_2$ (RN-CAS Registry Number XXXXX-XX-X)	**	10.4 (V)	PE	3734
$C_8H_6O_4^+$	$C_6H_4(COOH)_2$ (1,3-Benzenedicarboxylic acid) (RN-CAS Registry Number 121-91-5)	**	9.98±0.2	EI	3973
$C_8H_6O_4^+$	$C_6H_4(COOH)_2$ (1,4-Benzenedicarboxylic acid) (RN-CAS Registry Number 100-21-0)	**	9.86±0.2	EI	3973
$C_9H_8O_4^+$	$C_6H_4(COOH)OOCCH_3$ (Benzoic acid, 4-(acetyloxy)-) (RN-CAS Registry Number 2345-34-8)	**	9.11±0.2	EI	3484
$C_{10}H_6O_4^+$	$C_{10}H_4O_2(OH)_2$ (1,4-Naphthalenedione, 5,8-dihydroxy-) (RN-CAS Registry Number 475-38-7)	**	8.20±0.02	PI	3523

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_8O_4^+$	$C_{14}H_6O_2(OH)_2$ (9,10–Anthracenedione, 1,4–dihydroxy–) (RN–CAS Registry Number 81–64–1)	**	7.94±0.03	PI	3523
$C_{14}H_8O_4^+$	$C_{14}H_6O_2(OH)_2$ (9,10–Anthracenedione, 1,5–dihydroxy–) (RN–CAS Registry Number 117–12–4)	**	8.53±0.03	PI	3523
$C_{14}H_8O_4^+$	$C_{14}H_6O_2(OH)_2$ (9,10–Anthracenedione, 2,6–dihydroxy–) (RN–CAS Registry Number 84–60–6)	**	8.65±0.05	PI	3523
$C_{22}H_{10}O_4^+$	$C_{22}H_{10}O_4$ (5,7,12,14–Pentacenetetrone) (RN–CAS Registry Number 23912–79–0)	**	9.22±0.05	PI	3523
$C_{14}H_8O_6^+$	$C_{14}H_4O_2(OH)_4$ (Anthraquinone, 1,4,5,8–tetrahydroxy–) (RN–CAS Registry Number 81–60–7)	**	7.83±0.02	PI	3523
$C_{10}H_{14}O_4Be^+$	$(CH_3COCHCOCH_3)_2Be$ (Beryllium, bis(2,4–pentanedionato–*O*,*O*′)–, (*T*–4)–) (RN–CAS Registry Number 10210–64–7)	**	8.41±0.07 (V)	PE	3682
$CH_3BO^+(^2E)$	$(BH_3)(CO)$ (RN–CAS Registry Number 13205–44–2)	**	12.51±0.02 (V)	PE	3699
$CH_3BO^+(^2A_1)$	$(BH_3)(CO)$ (RN–CAS Registry Number 13205–44–2)	**	13.73±0.01	PE	3699
$CH_3BO^+(^2E)$	$(BH_3)(CO)$ (RN–CAS Registry Number 13205–44–2)	**	16.09±0.02	PE	3699
$CH_3BO^+(^2A_1)$	$(BH_3)(CO)$ (RN–CAS Registry Number 13205–44–2)	**	18.48±0.02	PE	3699
CH_3BO^+	$(BH_3)(CO)$ (RN–CAS Registry Number 13205–44–2)	**	11.14±0.02	PE	3699
$C_3H_9BO^+$	$(CH_3)_2BOCH_3$ (RN–CAS–Registry Number 7318–81–2)	**	10.32 (V)	PE	4065
$C_3H_9BO_2^+$	$(CH_3O)_2BCH_3$ (RN–CAS–Registry Number 7318–81–2)	**	10.40 (V)	PE	4065
$C_3H_9BO_3^+$	$B(OCH_3)_3$ (RN–CAS–Registry Number 121–43–7)	**	10.40 (V)	PE	4065
$NO^+(^3\Pi)$	NO (RN–CAS Registry Number 10102–43–9) (RS–Average of two Rydberg series limits)	**	21.721±0.006	S	3761
$NO^+(X^1\Sigma^+)$	NO (RN–CAS Registry Number 10102–43–9)	**	9.262±0.003	PE	3516
$NO^+(X^1\Sigma^+)$	NO (RN–CAS–Registry Number 10102–43–9)	**	9.27	PE	4073
$NO^+(a^3\Sigma^+)$	NO (RN–CAS Registry Number 10102–43–9)	**	15.667±0.003	PE	3516

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$NO^+(b^3\Pi)$	NO (RN-CAS Registry Number 10102-43-9)	**	16.562±0.003	PE	3516
$NO^+(w^3\Delta)$	NO (RN-CAS Registry Number 10102-43-9)	**	16.863±0.003	PE	3516
$NO^+(b'^3\Sigma^-)$	NO (RN-CAS Registry Number 10102-43-9)	**	17.586±0.003	PE	3516
$NO^+(A'^1\Sigma^-)$	NO (RN-CAS Registry Number 10102-43-9)	**	17.811±0.003	PE	3516
$NO^+(A^1\Pi)$	NO (RN-CAS Registry Number 10102-43-9)	**	18.319±0.003	PE	3516
$NO^+(w'\Delta)$	NO (RN-CAS Registry Number 10102-43-9)	**	<18.36	PE	3516
$NO^+(c^3\Pi)$	NO (RN-CAS Registry Number 10102-43-9)	**	21.722±0.010	PE	3516
$NO^+(B^1\Pi)$	NO (RN-CAS Registry Number 10102-43-9)	**	21.722±0.010	PE	3516
$NO^+(B'^1\Sigma^+)$	NO (RN-CAS Registry Number 10102-43-9)	**	22.727±0.010	PE	3516
$NO^+(^1\Sigma^+)$	NO (RN-CAS Registry Number 10102-43-9)	**	9.27±0.05	RPD	3453
NO^+	CH_3NO_2 (RN-CAS Registry Number 75-52-5)		11.75±0.01	PI	3524
NO^+	CH_3ONO (RN-CAS Registry Number 624-91-9) (TR-Other product(s) thermochemically reasonable)	CH_3O	10.917±0.008	PI	3524
$N_2O^+(X^2\Pi)$	N_2O (RN-CAS Registry Number 10024-97-2)	**	12.90	TPE	3998
$N_2O^+(A^2\Sigma^+)$	N_2O (RN-CAS Registry Number 10024-97-2)	**	16.40	TPE	3998
NO_2^+	NO_2 (RN-CAS Registry Number 10102-44-0)	**	⩽9.62±0.01	PI	3927
$C_3N_2O^+(^2B_2)$	$(CN)_2CO$ (RN-CAS Registry Number 1115-12-4)	**	12.56 (V)	PE	3726
$C_3N_2O^{+*}$	$(CN)_2CO$ (RN-CAS Registry Number 1115-12-4)	**	13.76 (V)	PE	3726
$C_3N_2O^{+*}$	$(CN)_2CO$ (RN-CAS Registry Number 1115-12-4)	**	14.41 (V)	PE	3726
$C_3N_2O^{+*}$	$(CN)_2CO$ (RN-CAS Registry Number 1115-12-4)	**	14.79 (V)	PE	3726
$C_3N_2O^+(^2B_1)$	$(CN)_2CO$ (RN-CAS Registry Number 1115-12-4)	**	16.7 (V)	PE	3726
$C_3N_2O^{+*}$	$(CN)_2CO$ (RN-CAS Registry Number 1115-12-4)	**	17.9 (V)	PE	3726
$C_6H_5NO_3$	$C_6H_4(OH)NO_2$ (Phenol, 4-nitro-) (RN-CAS Registry Number 100-02-7)	**	7.38	EI	4089

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CHNO^+(^2A'')$	HNCO	**	11.62±0.02	PE	3670
	(RN-CAS Registry Number 75-13-8)				
$CHNO^+(^2A')$	HNCO	**	12.30±0.02 (V)	PE	3670
	(RN-CAS Registry Number 75-13-8)				
$CHNO^{+*}$	HNCO	**	15.8±0.1 (V)	PE	3670
	(RN-CAS Registry Number 75-13-8)				
$CHNO^{+*}$	HNCO	**	17.50±0.02 (V)	PE	3670
	(RN-CAS Registry Number 75-13-8)				
$CHNO^{+*}$	HNCO	**	19.24±0.02 (V)	PE	3670
	(RN-CAS Registry Number 75-13-8)				
CH_3NO^+	$HCONH_2$	**	10.16±0.03	PI	3765
	(RN-CAS Registry Number 75-12-7)				
$C_2H_3NO^+(^2A'')$	CH_3NCO	**	10.67±0.02	PE	3670
	(RN-CAS Registry Number 624-83-9)				
$C_2H_5NO^+$	CH_3CONH_2	**	9.65±0.03	PI	3765
	(RN-CAS Registry Number 60-35-5)				
$C_2H_5NO^+$	CH_3CONH_2	**	9.80	PE	3718
	(RN-CAS Registry Number 60-35-5)				
$C_2H_5NO^+$	C_2H_5NO	**	10.1±0.2	EI	4099
	(RN-CAS Registry Number 925-91-7)				
$C_2H_7NO^+$	$NH_2CH_2CH_2OH$	**	9.87±0.06 (V)	PE	3987
	(RN-CAS Registry Number 141-43-5)				
$C_3H_7NO^+$	$CH_3CONHCH_3$	**	~9.85 (V)	PE	3718
	(RN-CAS Registry Number 79-16-3)				
$C_3H_9NO^+$	$CH_3OCH_2CH_2NH_2$	**	9.45±0.09 (V)	PE	3987
	(RN-CAS Registry Number 109-85-3)				
$C_3H_9NO^+$	$NH_2(CH_2)_3OH$	**	9.77±0.20 (V)	PE	3987
	(RN-CAS Registry Number 156-87-6)				
$C_4H_9NO^+$	$CH_3CON(CH_3)_2$	**	9.43 (V)	PE	3718
	(RN-CAS Registry Number 127-19-5)				
$C_4H_{11}NO^+$	$(CH_3)_2NCH_2CH_2OH$	**	8.85±0.04 (V)	PE	3987
	(RN-CAS Registry Number 108-01-0)				
$C_4H_{11}NO^+$	$CH_3O(CH_2)_3NH_2$	**	9.37±0.12 (V)	PE	3987
	(RN-CAS Registry Number 5332-73-0)				
$C_5H_3NO^+$	C_4H_3OCN	**	9.77±0.05	EI	3482
	(2-Furancarbonitrile)				
	(RN-CAS Registry Number 617-90-3)				
$C_5H_5NO^+$	$C_5H_4N(OH)$	**	9.28±0.02	EI	3636
	(2-Pyridinol)				
	(RN-CAS Registry Number 109-10-4)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_5NO^+$	$C_5H_4N(OH)$ (3-Pyridinol) (RN-CAS Registry Number 109-00-2)	**	9.55±0.02	EI	3636
$C_5H_5NO^+$	$C_5H_4N(OH)$ (3-Pyridinol) (RN-CAS Registry Number 109-00-2)	**	9.55±0.05	EI	3635
$C_5H_5NO^+$	$C_5H_4N(OH)$ (4-Pyridinol) (RN-CAS Registry Number 626-64-2)	**	9.89±0.02	EI	3636
$C_5H_5NO^+$	C_4H_4NCHO (1-*H*-Pyrrole-2-carboxaldehyde) (RN-CAS Registry Number 1003-29-8)	**	8.93±0.05	EI	3482
$C_5H_8NO^+$	$(CH_3)_2NCOCH=CHCH_3$ (RN-CAS Registry Number 23135-18-4)	CH_3	11.0±0.1	EI	3996
$C_5H_{13}NO^+$	$(CH_3)_2N(CH_2)_3OH$ (RN-CAS Registry Number 3179-63-3)	**	8.74±0.04 (V)	PE	3987
$C_6H_5NO^+$	C_6H_5NO (Benzene, nitroso-) (RN-CAS Registry Number 586-96-9)	**	8.09	PE	3938
$C_6H_6NO^+$	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 3-methoxy-) (RN-CAS Registry Number 536-90-3)	CH_3	11.07±0.1	EI	3446
$C_6H_6NO^+$	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 4-methoxy-) (RN-CAS Registry Number 104-94-9)	CH_3	10.43±0.1	EI	3446
$C_6H_6NO^+$	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(2-hydroxyphenyl)-) (RN-CAS Registry Number 614-80-2)	CH_3CO	13.46±0.02	EI	3631
$C_6H_6NO^+$	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(4-hydroxyphenyl)-) (RN-CAS Registry Number 103-90-2)	CH_3CO	13.52±0.02	EI	3631
$C_6H_6NO^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 3-nitro-) (RN-CAS Registry Number 99-09-2)	NO	9.12±0.1	EI	3447
$C_6H_6NO^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 4-nitro-) (RN-CAS Registry Number 100-01-6)	NO	9.56±0.1	EI	3447
$C_6H_7NO^+$	$C_5H_4N(OCH_3)$ (Pyridine, 2-methoxy-) (RN-CAS Registry Number 1628-89-3)	**	8.96±0.02	EI	3636
$C_6H_7NO^+$	$C_5H_4N(OCH_3)$ (Pyridine, 3-methoxy-) (RN-CAS Registry Number 7295-76-3)	**	9.34±0.02	EI	3636
$C_6H_7NO^+$	$C_5H_4N(OCH_3)$ (Pyridine, 3-methoxy-) (RN-CAS Registry Number 7295-76-3)	**	9.34±0.05	EI	3635

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_7NO^+$	$C_5H_4N(OCH_3)$ (Pyridine, 4-methoxy-) (RN-CAS Registry Number 620-08-6)	**	9.58±0.02	EI	3636
$C_6H_7NO^+$	$C_5H_4N(=0)CH_3$ (2(1*H*)-Pyridinone, 1-methyl-) (RN-CAS Registry Number 694-85-9)	**	8.58±0.02	EI	3636
$C_6H_7NO^+$	$C_5H_4N(=0)CH_3$ (4(1*H*)-Pyridinone, 1-methyl-) (RN-CAS Registry Number 695-19-2)	**	8.48±0.02	EI	3636
$C_6H_7NO^+$	$C_4H_4NCOCH_3$ (Ethanone, 1-(1*H*-pyrrol-2-yl)-) (RN-CAS Registry Number 1072-83-9)	**	8.72±0.05	EI	3482
$C_6H_7NO^+$	$C_5H_4N(O)CH_3$ (Pyridinium, 3-hydroxy-1-methyl-, hydroxide, inner salt) (RN-CAS Registry Number 25065-00-3)	**	7.90±0.02	EI	3636
$C_6H_7NO^+$	$C_5H_4N(O)CH_3$ (Pyridinium, 3-hydroxy-1-methyl-, hydroxide, inner salt) (RN-CAS Registry Number 25065-00-3)	**	7.90±0.05	EI	3635
$C_6H_7NO^+$	$C_5H_3N(OH)CH_3$ (3-Pyridinol, 6-methyl-) (RN-CAS Registry Number 1121-78-4)	**	9.15±0.05	EI	3635
$C_6H_7NO^+$	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(2-hydroxyphenyl)-) (RN-CAS Registry Number 614-80-2)	$CH_2=C=O$	9.41±0.02	EI	3631
$C_6H_7NO^+$	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(4-hydroxyphenyl)-) (RN-CAS Registry Number 103-90-2)	$CH_2=C=O$	9.82±0.02	EI	3631
$C_6H_{11}NO^+$	$(CH_3)_2NCOCH=CHCH_3$ (RN-CAS Registry Number 23135-18-4)	**	9.0±0.1	EI	3996
$C_6H_{15}NO^+$	$(C_2H_5)_2NCH_2CH_2OH$ (RN-CAS Registry Number 100-37-8)	**	8.58±0.03 (V)	PE	3987
$C_7H_4NO^+$	$C_6H_4(CN)OCH_3$ (Benzonitrile, 3-methoxy-) (RN-CAS Registry Number 1527-89-5)	CH_3	12.75±0.1	EI	3446
$C_7H_4NO^+$	$C_6H_4(CN)OCH_3$ (Benzonitrile, 4-methoxy-) (RN-CAS Registry Number 874-90-8)	CH_3	12.65±0.1	EI	3446
$C_7H_4NO^+$	$C_6H_4(NO_2)CN$ (Benzonitrile, 3-nitro-) (RN-CAS Registry Number 619-24-9)	NO	10.45±0.1	EI	3447
$C_7H_4NO^+$	$C_6H_4(NO_2)CN$ (Benzonitrile, 4-nitro-) (RN-CAS Registry Number 619-72-7)	NO	10.80±0.1	EI	3447
$C_7H_6NO^+$	$C_6H_4(NH_2)COOH$ (Benzoic acid, 3-amino-) (RN-CAS Registry Number 99-05-8)	OH	12.18±0.2	EI	3973

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_6NO^+$	$C_6H_4(NH_2)COOH$ (Benzoic acid, 4-amino-) (RN-CAS Registry Number 150-13-0)	OH	12.12±0.2	EI	3973
$C_7H_7NO^+$	$C_6H_5CONH_2$ (Benzamide) (RN-CAS Registry Number 55-21-0)	**	9.60	EI	3792
$C_7H_9NO^+$	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 3-methoxy-) (RN-CAS Registry Number 536-90-3)	**	7.76±0.1	EI	3446
$C_7H_9NO^+$	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 4-methoxy-) (RN-CAS Registry Number 104-94-9)	**	6.92	EI	3845
$C_7H_9NO^+$	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 4-methoxy-) (RN-CAS Registry Number 104-94-9)	**	7.60±0.1	EI	3446
$C_7H_9NO^+$	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 4-methoxy-) (RN-CAS Registry Number 104-94-9)	**	9.39	EI	4089
$C_7H_{10}NO^+$	$C_4H_8NCOCH{=}CHCH_3$ (Pyrrolidine, 1-(1-oxo-2-butenyl)-) (RN-CAS Registry Number 51944-65-1)	CH_3	11.2±0.1	EI	3996
$C_7H_{11}NO^+$	$C_5H_8NCOCH_3$ (Pyridine, 1-acetyl-1,2,3,4-tetrahydro-) (RN-CAS Registry Number 19615-27-1)	**	8.8	EI	4046
$C_7H_{13}NO^+$	$C_5H_{10}NCOCH_3$ (Piperidine, 1-acetyl-) (RN-CAS Registry Number 618-42-8)	**	9.1	EI	4046
$C_7H_{17}NO^+$	$(C_2H_5)_2N(CH_2)_3OH$ (RN-CAS Registry Number 622-93-5)	**	8.56±0.05 (V)	PE	3987
$C_8H_4NO^+$	$C_6H_4(CN)COOH$ (Benzoic acid, 4-cyano-) (RN-CAS Registry Number 619-65-8)	OH	12.68±0.2	EI	3973
$C_8H_7NO^+$	$C_6H_4(CN)OCH_3$ (Benzonitrile, 3-methoxy-) (RN-CAS Registry Number 1527-89-5)	**	9.11±0.1	EI	3446
$C_8H_7NO^+$	$C_6H_4(CN)OCH_3$ (Benzonitrile, 4-methoxy-) (RN-CAS Registry Number 874-90-8)	**	8.74	EI	3845
$C_8H_7NO^+$	$C_6H_4(CN)OCH_3$ (Benzonitrile, 4-methoxy-) (RN-CAS Registry Number 874-90-8)	**	8.97±0.1	EI	3446

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_8NO^+$	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*-(2-chlorophenyl)-) (RN-CAS Registry Number 533-17-5)		8.86±0.03	EI	3483
$C_8H_8NO^+$	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(2-bromophenyl)-) (RN-CAS Registry Number 614-76-6)		9.08±0.03	EI	3483
$C_8H_8NO^+$	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(2-iodophenyl)-) (RN-CAS Registry Number 19591-17-4)		8.57±0.03	EI	3483
$C_8H_9NO^+$	$C_6H_5NHCOCH_3$ (Acetamide, *N*-phenyl-) (RN-CAS Registry Number 103-84-4)	**	8.18±0.03	EI	3483
$C_8H_{12}NO^+$	$C_5H_{10}NCOCH{=}CHCH_3$ (Piperidine, 1-(1-oxo-2-butenyl)-) (RN-CAS Registry Number 3626-69-5)	**	11.1±0.1	EI	3996
$C_8H_{13}NO^+$	$C_4H_8NCOCH{=}CHCH_3$ (Pyrrolidine, 1-(1-oxo-2-butenyl)-) (RN-CAS Registry Number 51944-65-1)	**	9.0±0.1	EI	3996
$C_8H_{18}NO^+$ (RD-Radical)	(*tert*-C_4H_9)$_2$NO (RN-CAS Registry Number 2406-25-9)	**	6.77	PE	3712
$C_9H_8NO^+$	$C_6H_5NHCOCH{=}CHCH_3$ (2-Butenamide, *N*-phenyl-) (RN-CAS Registry Number 1733-40-0)	CH_3	12.1±0.3	EI	3996
$C_9H_{11}NO^+$	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(2-methylphenyl)-) (RN-CAS Registry Number 120-66-1)	**	8.03±0.02	EI	3631
$C_9H_{11}NO^+$	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(4-methylphenyl)-) (RN-CAS Registry Number 103-89-9)	**	7.75±0.02	EI	3631
$C_9H_{11}NO^+$	$C_6H_4(CHO)N(CH_3)_2$ (Benzaldehyde, 4-(dimethylamino)-) (RN-CAS Registry Number 100-10-7)	**	7.36±0.02	PI	4028
$C_9H_{13}NO^+$	$C_6H_4(OCH_3)N(CH_3)_2$ (Benzenamine, 2-methoxy-*N*,*N*-dimethyl-) (RN-CAS Registry Number 700-75-4)	**	7.59±0.02	EI	3630
$C_9H_{13}NO^+$	$C_6H_4(O)N(CH_3)_3$ (Benzenaminium, 2-hydroxy-*N*,*N*,*N*-trimethyl-, hydroxide, inner salt) (RN-CAS Registry Number 31061-58-2)	**	~6.8	EI	3630
$C_9H_{13}NO^+$	$C_5H_8NCOCH{=}CHCH_3$ (Pyridine, 1,2,3,4-tetrahydro-1-(1-oxo-2-butenyl)-, (E)) (RN-CAS Registry Number 50838-23-8)	**	8.6	EI	4046

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{15}NO^+$	$C_5H_{10}NCOCH=CHCH_3$ (Piperidine, 1-(1-oxo-2-butenyl)-, (E)) (RN-CAS Registry Number 50838-22-7)		8.9	EI	4046
$C_9H_{15}NO^+$	$C_5H_{10}NCOCH=CHCH_3$ (Piperidine, 1-(1-oxo-2-butenyl)-) (RN-CAS Registry Number 3626-69-5)	CH_3	8.9±0.1	EI	3996
$C_9H_{17}NO^+$	$C_5H_5N(=O)(CH_3)_4$ (4-Piperidinone, 2,2,6,6-tetramethyl-) (RN-CAS Registry Number 826-36-8)	**	8.30±0.05	EI	3494
$C_9H_{18}NO^+$ (RD-Radical)	$C_5H_6N(CH_3)_4O$ (1-Piperidinyloxy, 2,2,6,6-tetramethyl-) (RN-CAS Registry Number 2564-83-2)	**	6.73	PE	3712
$C_{10}H_{10}NO^+$	$C_6H_5CH_2NHCOCH=CHCH_3$ (2-Butenamide, *N*-(phenylmethyl)-) (RN-CAS Registry Number 51944-67-3)	CH_3	10.7±0.1	EI	3996
$C_{10}H_{11}NO^+$	$C_6H_5NHCOCH=CHCH_3$ (2-Butenamide, *N*-phenyl-) (RN-CAS Registry Number 1733-40-0)	**	8.7±0.1	EI	3996
$C_{11}H_{13}NO^+$	$C_6H_5CH_2NHCOCH=CHCH_3$ (2-Butenamide, *N*-(phenylmethyl)-) (RN-CAS Registry Number 51944-67-3)	**	8.6±0.1	EI	3996
$C_{12}H_{13}NO^+$	$C_5H_8NCOC_6H_5$ (Pyridine, 1-benzoyl-1,2,3,4-tetrahyro-) (RN-CAS Registry Number 50838-24-9)	**	8.4	EI	4046
$C_{12}H_{15}NO^+$	$C_5H_{10}NCOC_6H_5$ (Piperidine, 1-benzoyl-) (RN-CAS Registry Number 776-75-0)	**	8.8	EI	4046
$C_6H_4N_2O^+$	$C_6H_4N_2O$ (Benzofurazan) (RN-CAS Registry Number 273-09-6)	**	9.37	PE	4017
$C_8H_{10}N_2O^+$	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(2-aminophenyl)-) (RN-CAS Registry Number 34801-09-7)	**	7.39±0.02	EI	3631
$C_8H_{10}N_2O^+$	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(4-aminophenyl)-) (RN-CAS Registry Number 122-80-5)	**	7.12±0.02	EI	3631
$C_{10}H_{22}N_2O^+$	$C_2H_4N_2O(C_4H_9)_2$ (1,3,4-Oxadiazolidine, 3,4-bis(1,1-dimethylethyl)-) (RN-CAS Registry Number 38786-33-3)	**	8.15 (V)	PE	3889

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{17}H_{20}N_2O^+$	$(C_6H_4N(CH_3)_2)_2CO$ (Methanone, diphenyl-, bis(dimethylamino)deriv.) (RN-CAS Registry Number 58211-66-8)	**	7.25±0.1	PI	4028
$CH_3NO_2^+$	CH_3NO_2 (RN-CAS Registry Number 75-52-5)	**	11.040±0.017	PI	3524
$CH_3NO_2^+(^2A_1)$	CH_3NO_2 (RN-CAS Registry Number 75-52-5)	**	11.07±0.01	PE	3721
$CH_3NO_2^+$	CH_3NO_2 (RN-CAS Registry Number 75-52-5)	**	11.31±0.015 (V)	PE	4107
$CH_3NO_2^+(^2A_2)$	CH_3NO_2 (RN-CAS Registry Number 75-52-5)	**	11.73±0.01	PE	3721
$CH_3NO_2^+(^2B_2)$	CH_3NO_2 (RN-CAS Registry Number 75-52-5)	**	13.85±0.01	PE	3721
$CH_3NO_2^+(^2B_1)$	CH_3NO_2 (RN-CAS Registry Number 75-52-5)	**	15.75±0.01 (V)	PE	3721
$CH_3NO_2^+(^2B_2)$	CH_3NO_2 (RN-CAS Registry Number 75-52-5)	**	~16.7	PE	3721
$CH_3NO_2^+(^2A_1)$	CH_3NO_2 (RN-CAS Registry Number 75-52-5)	**	19.1 (V)	PE	3721
$CH_3NO_2^+$	CH_3ONO (RN-CAS Registry Number 624-91-9)	**	10.475±0.007	PI	3524
$CD_3NO_2^+(^2A_1)$	CD_3NO_2 (RN-CAS Registry Number 13031-32-8)	**	11.08±0.01	PE	3721
$CD_3NO_2^+(^2A_2)$	CD_3NO_2 (RN-CAS Registry Number 13031-32-8)	**	11.73±0.01	PE	3721
$C_2H_5NO_2^+$	$C_2H_5NO_2$ (RN-CAS Registry Number 56-40-6)	**	9.21±0.05	EI	3571
$C_6H_4NO_2^+$	$C_6H_4(NO_2)_2$ (Benzene, 1,3-dinitro-) (RN-CAS Registry Number 99-65-0)	NO_2	12.34±0.1	EI	3447
$C_6H_4NO_2^+$	$C_6H_4(NO_2)_2$ (Benzene, 1,4-dinitro-) (RN-CAS Registry Number 100-25-4)	NO_2	12.50±0.1	EI	3447
$C_6H_5NO_2^+$	$C_6H_5NO_2$ (Benzene, nitro-) (RN-CAS Registry Number 98-95-3)	**	9.88±0.015 (V)	PE	4107
$C_6H_5NO_2^+$	$C_6H_5NO_2$ (Benzene, nitro-) (RN-CAS Registry Number 98-95-3)	**	9.94±0.025	PE	3626
$C_6H_5NO_2^+(^2B_1)$	$C_6H_5NO_2$ (Benzene, nitro-) (RN-CAS Registry Number 98-95-3)	**	9.99±0.01	PE	3721
$C_6H_5NO_2^+$	$C_6H_5NO_2$ (Benzene, nitro-) (RN-CAS Registry Number 98-95-3)	**	9.99	PE	3856

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5NO_2^+$	$C_6H_5NO_2$ (Benzene, nitro–) (RN-CAS Registry Number 98-95-3)	**	9.90	EDD	3485
$C_6H_5NO_2^+$	$C_6H_5NO_2$ (Benzene, nitro–) (RN-CAS Registry Number 98-95-3)	**	9.6	EI	3916
$C_6H_5NO_2^+$	$C_6H_5NO_2$ (Benzene, nitro–) (RN-CAS Registry Number 98-95-3)	**	9.65±0.1	EI	3447
$C_6H_7NO_2^+$	$C_4H_4NCOOCH_3$ (1*H*-Pyrrole-2-carboxylic acid, methyl ester) (RN-CAS Registry Number 1193-62-0)	**	8.65±0.05	EI	3482
$C_7H_6NO_2^+$	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-3-nitro–) (RN-CAS Registry Number 20651-76-7)		13.08±0.1	EI	3629
$C_7H_6NO_2^+$	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-4-nitro–) (RN-CAS Registry Number 20651-75-6)		12.54±0.1	EI	3629
$C_7H_7NO_2^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-2-nitro–) (RN-CAS Registry Number 88-72-2)	**	9.69±0.015 (V)	PE	4107
$C_7H_7NO_2^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-3-nitro–) (RN-CAS Registry Number 99-08-1)	**	9.49±0.015 (V)	PE	4107
$C_7H_7NO_2^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-3-nitro–) (RN-CAS Registry Number 99-08-1)	**	9.48±0.1	EI	3447
$C_7H_7NO_2^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-4-nitro–) (RN-CAS Registry Number 99-99-0)	**	9.54±0.015 (V)	PE	4107
$C_7H_7NO_2^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-4-nitro–) (RN-CAS Registry Number 99-99-0)	**	9.50±0.1	EI	3447
$C_7H_7NO_2^+$	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-4-nitro–) (RN-CAS Registry Number 99-99-0)	**	9.56	EI	4089
$C_7H_7NO_2^+$	$C_6H_4(NH_2)COOH$ (Benzoic acid, 3-amino–) (RN-CAS Registry Number 99-05-8)	**	8.41±0.2	EI	3973
$C_7H_7NO_2^+$	$C_6H_4(NH_2)COOH$ (Benzoic acid, 4-amino–) (RN-CAS Registry Number 150-13-0)	**	8.36±0.2	EI	3973
$C_7H_7NO_2^+$	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-3-nitro–) (RN-CAS Registry Number 20651-76-7)	$CH_2=CHCH_3$	11.52±0.1	EI	3629
$C_7H_7NO_2^+$	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-4-nitro–) (RN-CAS Registry Number 20651-75-6)	$CH_2=CHCH_3$	11.44±0.1	EI	3629

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{10}NO_2^+$	$C_4H_8NO(COCH=CHCH_3)$ (Morpholine, 4-(1-oxo-2-butenyl)-) (RN-CAS Registry Number 51944-66-2)	**	11.1±0.1	EI	3996
$C_8H_5NO_2^+$	$C_6H_4(CN)COOH$ (Benzoic acid, 4-cyano-) (RN-CAS Registry Number 619-65-8)	**	10.27±0.2	EI	3973
$C_8H_9NO_2^+$	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(2-hydroxyphenyl)-) (RN-CAS Registry Number 614-80-2)	**	7.01±0.02	EI	3631
$C_8H_9NO_2^+$	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(4-hydroxyphenyl)-) (RN-CAS Registry Number 103-90-2)	**	7.57±0.02	EI	3631
$C_8H_9NO_2^+$	$C_6H_3(CH_3)_2NO_2$ (Benzene, 1,3-dimethyl-2-nitro-) (RN-CAS Registry Number 81-20-9)	**	9.17±0.015	PE	4107
$C_8H_9NO_2^+$	$C_6H_3(CH_3)_2NO_2$ (Benzene, 2,4-dimethyl-1-nitro-) (RN-CAS Registry Number 89-87-2)	**	9.38±0.015 (V)	PE	4107
$C_8H_9NO_2^+$	$C_5H_4NCH_2COOCH_3$ (2-Pyridineacetic acid methyl ester) (RN-CAS Registry Number 1658-42-0)	**	9.40±0.02	EI	3627
$C_8H_9NO_2^+$	$C_5H_4NCH_2COOCH_3$ (3-Pyridineacetic acid methyl ester) (RN-CAS Registry Number 39998-25-9)	**	9.52±0.02	EI	3627
$C_8H_9NO_2^+$	$C_5H_4NCH_2COOCH_3$ (4-Pyridineacetic acid methyl ester) (RN-CAS Registry Number 29800-89-3)	**	9.62±0.02	EI	3627
$C_8H_{13}NO_2^+$	$C_4H_8NO(COCH=CHCH_3)$ (Morpholine, 4-(1-oxo-2-butenyl)-) (RN-CAS Registry Number 51944-66-2)	**	8.8±0.1	EI	3996
$C_9H_{11}NO_2^+$	$C_5H_4N(CH_3)=CHCOOCH_3$ (Acetic acid, (1-methyl-2(1*H*)-pyridinylidene)-, methyl ester) (RN-CAS Registry Number 39998-21-5)	**	7.02±0.02	EI	3627
$C_9H_{11}NO_2^+$	$C_5H_4N(CH_3)=CHCOOCH_3$ (Acetic acid, (1-methyl-4(1*H*)-pyridinylidene)-, methyl ester) (RN-CAS Registry Number 39998-22-6)	**	6.82±0.02	EI	3627
$C_9H_{11}NO_2^+$	$C_6H_5CH_2CH(NH_2)COOH$ (DL-Phenylalanine) (RN-CAS Registry Number 150-30-1)	**	⩽8.4	PI	3766
$C_9H_{13}NO_2^+$	$C_5H_5N(CH_3)CH_2COOCH_3$ (3-Pyridineacetic acid, 1,4-dihydro-1-methyl-, methyl ester) (RN-CAS Registry Number 39998-23-7)	**	6.94±0.02	EI	3627

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{16}NO_2^+$ (RD-Radical)	$C_5H_4N(O)(=O)(CH_3)_4$ (1-Piperidinyloxy, 2,2,6,6-tetramethyl-4-oxo-) (RN-CAS Registry Number 2896-70-0)	**	7.40±0.05	EI	3494
$C_9H_{17}NO_2^+$	*trans*-$(C_2H_5)_2NCH=CHCOC_2H_5$ (RN-CAS Registry Number 13894-28-5)	**	7.63 (V)	PE	3885
$C_9H_{17}NO_2^+$	$C_5H_4N(=O)(OH)(CH_3)_4$ (4-Piperidinone, 1-hydroxy-2,2,6,6-tetramethyl-) (RN-CAS Registry Number 3637-11-4)	**	8.51±0.05	EI	3494
$C_{10}H_{13}NO_2^+$	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-3-nitro-) (RN-CAS Registry Number 20651-76-7)	**	9.94±0.1	EI	3629
$C_{10}H_{13}NO_2^+$	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-4-nitro-) (RN-CAS Registry Number 20651-75-6)	**	10.07±0.1	EI	3629
$C_{13}H_{10}NO_2^+$	$(C_6H_4NO_2)_2CH_2$ (Benzene, 1,1'-methylenebis[4-nitro-) (RN-CAS Registry Number 1817-74-9)	NO_2	11.1±0.1	EI	3807
$C_{13}H_{11}NO_2^+$	$C_6H_5CH_2C_6H_4NO_2$ (Benzene, 1-nitro-4-(phenylmethyl)-) (RN-CAS Registry Number 1817-77-2)	**	9.35±0.05	EI	3806
$C_{14}H_{13}NO_2^+$	$C_6H_5CH_2CH_2C_6H_4NO_2$ (Benzene, 1-nitro-4-(2-phenylethyl-) (RN-CAS Registry Number 14310-29-3)	**	9.17±0.05	EI	3806
$C_4H_4N_2O_2^+$	$C_4H_4N_2O_2$ (2,4(1*H*,3*H*)-Pyrimidinedione) (RN-CAS Registry Number 66-22-8) (ON-Other name: Uracil)	**	9.53±0.02	EI	3571
$C_4H_4N_2O_2^+$	$C_4H_4NNO_2$ (Pyrrole, 2-nitro-) (RN-CAS Registry Number 5919-26-6)	**	9.30±0.05	EI	3482
$C_6H_6N_2O_2^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 2-nitro-) (RN-CAS Registry Number 88-74-4)	**	8.43 (V)	PE	3856
$C_6H_6N_2O_2^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 3-nitro-) (RN-CAS Registry Number 99-09-2)	**	8.60 (V)	PE	3856
$C_6H_6N_2O_2^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 3-nitro-) (RN-CAS Registry Number 99-09-2)	**	8.73±0.1	EI	3447
$C_6H_6N_2O_2^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 4-nitro-) (RN-CAS Registry Number 100-01-6)	**	8.60 (V)	PE	3856

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6N_2O_2^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 4-nitro-) (RN-CAS Registry Number 100-01-6)	**	8.43	EI	4089
$C_6H_6N_2O_2^+$	$C_6H_4(NO_2)NH_2$ (Benzenamine, 4-nitro-) (RN-CAS Registry Number 100-01-6)	**	8.62±0.1	EI	3447
$C_7H_4N_2O_2^+$	$C_6H_4(NO_2)CN$ (Benzonitrile, 3-nitro-) (RN-CAS Registry Number 619-24-9)	**	10.29±0.1	EI	3447
$C_7H_4N_2O_2^+$	$C_6H_4(NO_2)CN$ (Benzonitrile, 4-nitro-) (RN-CAS Registry Number 619-72-7)	**	10.23±0.1	EI	3447
$C_7H_8N_2O_2^+$	$C_6H_4(NO_2)NHCH_3$ (Benzenamine, *N*-methyl-2-nitro-) (RN-CAS Registry Number 612-28-2)	**	8.02 (V)	PE	3856
$C_7H_8N_2O_2^+$	$C_6H_4(NO_2)NHCH_3$ (Benzenamine, *N*-methyl-4-nitro-) (RN-CAS Registry Number 100-15-2)	**	8.17 (V)	PE	3856
$C_8H_{10}N_2O_2^+$	$C_6H_2NO_2(CH_3)_2NH_2$ (Benzenamine, 2,6-dimethyl-4-nitro-) (RN-CAS Registry Number 16947-63-0)	**	8.33 (V)	PE	3856
$C_8H_{10}N_2O_2^+$	$C_6H_2NO_2(CH_3)_2NH_2$ (Benzenamine, 3,5-dimethyl-4-nitro-) (RN-CAS Registry Number 34761-82-5)	**	8.23 (V)	PE	3856
$C_8H_{10}N_2O_2^+$	$C_6H_4(NO_2)N(CH_3)_2$ (Benzenamine, *N*,*N*-dimethyl-4-nitro-) (RN-CAS Registry Number 100-23-2)	**	8.0 (V)	PE	3856
$C_9H_{12}N_2O_2^+$	$C_6H_3NO_2(CH_3)N(\dot{C}H_3)_2$ (Benzenamine, *N*,*N*,2-trimethyl-4-nitro-) (RN-CAS Registry Number 32417-74-6)	**	8.30 (V)	PE	3856
$C_9H_{15}N_2O_2^+$ (RD-Radical)	$C_4HN(O)(CH_3)_4CONH_2$ (1*H*-Pyrrol-1-yloxy, 3-(aminocarbonyl)-2,5-dihydro-2,2,5,5-tetramethyl-) (RN-CAS Registry Number 3229-73-0)	**	7.40±0.05	EI	3494
$C_9H_{17}N_2O_2^+$ (RD-Radical)	$C_4H_3N(O)(CH_3)_4CONH_2$ (1-Pyrrolidinyloxy, 3-(aminocarbonyl)-2,2,5,5-tetramethyl-) (RN-CAS Registry Number 4399-80-8)	**	7.40±0.05	EI	3494
$C_{11}H_{12}N_2O_2^+$	$C_{11}H_{12}N_2O_2$ (DL-Tryptophan) (RN-CAS Registry Number 54-12-6)	**	⩽7.5	EI	3766

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{21}N_2O_2^+$ (RD-Radical)	$C_5H_5N(O)(CH_3)_4NHCOCH_3$ (1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl-) (RN-CAS Registry Number 14691-89-5)	**	7.40±0.05	EI	3494
$C_{12}H_{20}N_2O_2^+$	$C_{12}H_{20}O_2N_2$ (2-Pentanone, 4,4'-(1,2-ethanediyldinitrilo)bis-) (RN-CAS Registry Number 6310-76-5)	**	7.71 (V)	PE	3822
$C_{13}H_{12}N_2O_2^+$	$C_6H_4(NO_2)CH_2C_6H_4NH_2$ (Benzenamine, 4-[(4-nitrophenyl)methyl]-) (RN-CAS Registry Number 726-17-0)	**	7.87±0.05	EI	3806
$C_{14}H_{14}N_2O_2^+$	$C_6H_4(NH_2)CH_2CH_2C_6H_4NO_2$ (Benzenamine, 4-[2-(4-nitrophenyl)ethyl]-) (RN-CAS Registry Number 7357-96-2)	**	7.78±0.05	EI	3806
$C_{16}H_{10}N_2O_2^+$	$C_{16}H_{10}N_2O_2$ ([$\Delta^{2,2'}$-Biindoline]-3,3'-dione) (RN-CAS Registry Number 12626-73-2) (ON-Other name: Indigo Blue)	**	7.17	PI	3586
$C_{16}H_{12}N_2O_2^+$	$C_6H_4(NO_2)C_3H_3(CN)C_6H_5$ (Cyclopropanecarbonitrile, 1-(*p*-nitrophenyl)-2-phenyl-) (RN-CAS Registry Number 10432-22-1)	**	9.05±0.10	EDD	3575
$C_{18}H_{17}N_3O_2^+$	$C_6H_4(NO_2)C_3H_3(CN)C_6H_4N(CH_3)_2$ (Cyclopropanecarbonitrile, 2-(*p*-(dimethylamino)phenyl)-1-(*p*-nitrophenyl)-) (RN-CAS Registry Number 28752-34-3)	**	8.30±0.07	EDD	3575
$C_4H_3NO_3^+$	$C_4H_3ONO_2$ (Furan, 2-nitro-) (RN-CAS Registry Number 609-39-2)	**	10.04±0.05	EI	3482
$C_6H_5NO_3^+$	$C_6H_4(NO_2)OH$ (Phenol, 4-nitro-) (RN-CAS Registry Number 100-02-7)	**	8.84±0.1	EI	3447
$C_6H_5NO_3^+$	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 3-nitrophenyl ester) (RN-CAS Registry Number 1523-06-4)	$CH_2=C=O$	10.85±0.2	EI	3484
$C_6H_5NO_3^+$	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 4-nitrophenyl ester) (RN-CAS Registry Number 830-03-5)	$CH_2=C=O$	10.76±0.2	EI	3484
$C_7H_4NO_3^+$	$C_6H_4(NO_2)COOH$ (Benzoic acid, 3-nitro-) (RN-CAS Registry Number 121-92-6)	OH	13.00±0.2	EI	3973
$C_7H_4NO_3^+$	$C_6H_4(NO_2)COOH$ (Benzoic acid, 4-nitro-) (RN-CAS Registry Number 62-23-7)	OH	11.58±0.2	EI	3973

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7NO_3^+$	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-3-nitro-) (RN-CAS Registry Number 555-03-3)	**	9.09±0.1	EI	3447
$C_7H_7NO_3^+$	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-4-nitro-) (RN-CAS Registry Number 100-17-4)	**	9.04±0.1	EI	3447
$C_9H_{11}NO_3^+$	$C_6H_4(OH)CH_2CH(NH_2)COOH$ (DL-Tyrosine) (RN-CAS Registry Number 556-03-6)	**	⩽8.4	EI	3766
$C_9H_7N_2O_3^+$	$C_6H_4(NO_2)NHCOCH=CHCH_3$ (2-Butenamide, *N*-(4-nitrophenyl)-) (RN-CAS Registry Number 51944-68-4)	CH_3	13.6±0.3	EI	3996
$C_{10}H_{10}N_2O_3^+$	$C_6H_4(NO_2)NHCOCH=CHCH_3$ (2-Butenamide, *N*-(4-nitrophenyl)-) (RN-CAS Registry Number 51944-68-4)	**	9.1±0.1	EI	3996
$C_7H_5NO_4^+$	$C_6H_4(NO_2)COOH$ (Benzoic acid, 3-nitro-) (RN-CAS Registry Number 121-92-6)	**	10.31±0.2	EI	3973
$C_7H_5NO_4^+$	$C_6H_4(NO_2)COOH$ (Benzoic acid, 4-nitro-) (RN-CAS Registry Number 62-23-7)	**	10.18±0.2	EI	3973
$C_8H_7NO_4^+$	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 3-nitrophenyl ester) (RN-CAS Registry Number 1523-06-4)	**	9.43±0.2	EI	3484
$C_8H_7NO_4^+$	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 4-nitrophenyl ester) (RN-CAS Registry Number 830-03-5)	**	9.48±0.2	EI	3484
$C_{13}H_9NO_4^+$	$C_6H_5COOC_6H_4NO_2$ (Benzoic acid 4-nitro phenyl ester) (RN-CAS Registry Number 959-22-8)	**	9.3	EI	3897
$C_{17}H_9NO_4^+$	$C_{17}H_9NO_4$ (Naptho[2,3-*f*]quinoline-7,12-dione, 5,6-dihydroxy-) (RN-CAS Registry Number 568-02-5) (ON-Other name: Alizarine Blue)	**	7.35	PI	3586
$C_6H_4N_2O_4^+$	$C_6H_4(NO_2)_2$ (Benzene, 1,3-dinitro-) (RN-CAS Registry Number 99-65-0)	**	10.62±0.1	EI	3447
$C_6H_4N_2O_4^+$	$C_6H_4(NO_2)_2$ (Benzene, 1,4-dinitro-) (RN-CAS Registry Number 100-25-4)	**	10.63±0.1	EI	3447

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{10}N_2O_4^+$	$(C_6H_4NO_2)_2CH_2$ (Benzene, 1,1′-methylenebis[4-nitro-) (RN-CAS Registry Number 1817-74-9)	**	9.98±0.05	EI	3806
$C_{14}H_{12}N_2O_4^+$	$C_6H_4(NO_2)CH_2CH_2C_6H_4NO_2$ (Benzene, 1,1′-(1,2-ethanediyl)bis[4-nitro-) (RN-CAS Registry Number 736-30-1)	**	9.77±0.05	EI	3806
$C_{18}H_{30}N_2O_4^+$	$C_4(N(C_2H_5)_2)_2(COOC_2H_5)_2$ (1,3-Cyclobutadiene-1,3-dicarboxylic acid, 2,4-bis(diethylamino)-, diethyl ester) (RN-CAS Registry Number 20913-35-3)	**	7.55 (V)	PE	3885
$C_{16}H_{11}N_3O_4^+$	$C_3H_3(CN)((C_6H_4)NO_2)_2$ (Cyclopropanecarbonitrile, 1,2-bis(*p*-nitrophenyl)-) (RN-CAS Registry Number 28752-28-5)	**	9.30±0.05	EDD	3575
F^+	F_2 (RN-CAS Registry Number 7782-41-4)	F	19.008	PI	3928
(TV-Threshold value approximately corrected to 0°K)					
$F_2^+(^2\Pi_g)$	F_2 (RN-CAS Registry Number 7782-41-4)	**	15.70±0.02	S	3743
(RS-Average of two Rydberg series limits)					
$F_2^+(^2\Pi_g)$	F_2 (RN-CAS Registry Number 7782-41-4)	**	15.70	PE	3507
$F_2^+(^2\Pi_u)$	F_2 (RN-CAS Registry Number 7782-41-4)	**	18.98 (V)	PE	3507
$F_2^+(^2\Pi_u)$	F_2 (RN-CAS Registry Number 7782-41-4)	**	~18.45	D	3743
$HF^+(X^2\Pi)$	HF (RN-CAS Registry Number 7664-39-3)	**	16.03±0.01	PE	3500
$HF^+(^2\Sigma^+)$	HF (RN-CAS Registry Number 7664-39-3)	**	19.118	PE	3500
$DF^+(^2\Sigma^+)$	DF (RN-CAS Registry Number 14333-26-7)	**	19.172	PE	3500
BF^+	BF (RN-CAS-Registry Number 13768-60-0)	**	12±1	EI	4054
BF_2^+	BF_2 (RN-CAS Registry Number 13842-55-2)	**	8±1	EI	3465
BF_2^+	BF_2 (RN-CAS-Registry Number 13842-55-2)	**	9±1	EI	4054
BF_2^+	BF_3 (RN-CAS-Registry Number 7637-07-2)		~16	EI	4054
$BF_3^+(^2A_2')$	BF_3 (RN-CAS Registry Number 7637-07-2)	**	15.95 (V)	PE	3704
$BF_3^+(^2E')$	BF_3 (RN-CAS Registry Number 7637-07-2)	**	16.65 (V)	PE	3704

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$BF_3^+(^2E'')$	BF_3	**	17.10 (V)	PE	3704
	(RN-CAS Registry Number 7637-07-2)				
$BF_3^+(^2A_2)$	BF_3	**	19.15 (V)	PE	3704
	(RN-CAS Registry Number 7637-07-2)				
$BF_3^+(^2E')$	BF_3	**	20.10 (V)	PE	3704
	(RN-CAS Registry Number 7637-07-2)				
BF_3^+	BF_3	**	15.71±0.10	RPD	3540
	(RN-CAS Registry Number 7637-07-2)				
BF_3^+	BF_3	**	17±1	EI	4054
	(RN-CAS-Registry Number 7637-07-2)				
BF_3^+	$(C_2H_5)_2OBF_3$	$(C_2H_5)_2O$	15.00±0.10	RPD	3540
	(RN-CAS Registry Number 109-63-7)				
$B_2F_4^+(^2A_1)$	B_2F_4	**	⩽12.23±0.06	PE	3709
	(RN-CAS Registry Number 13965-73-6)				
$B_2F_4^+(^2E)$	B_2F_4	**	⩽15.50±0.03	PE	3709
	(RN-CAS Registry Number 13965-73-6)				
$B_2F_4^+(^2B_1)$	B_2F_4	**	16.32±0.01 (V)	PE	3709
	(RN-CAS Registry Number 13965-73-6)				
$B_2F_4^+(^2B_2)$	B_2F_4	**	17.20±0.01	PE	3709
	(RN-CAS Registry Number 13965-73-6)				
$B_2F_4^+(^2E)$	B_2F_4	**	⩽18.71±0.03	PE	3709
	(RN-CAS Registry Number 13965-73-6)				
$B_2F_4^+(^2E,^2A_1)$	B_2F_4	**	20.52±0.01	PE	3709
	(RN-CAS Registry Number 13965-73-6)				
CF^+	CF	**	9.24	D	3930
	(RN-CAS Registry Number 3889-75-6)				
(RD-Radical)					
CF^+	$CH_2=CF_2$	CH_2F	14.92±0.02	PI	3930
	(RN-CAS Registry Number 75-38-7)				
(TR-Other product(s) thermochemically reasonable)					
CF^+	C_2F_3Cl	CF_2Cl	16.7±0.1	EI	4070
	(RN-CAS-Registry Number 79-38-9)				
CF^+	CFCl=CFCl	$CFCl_2$	16.5±0.1	EI	4070
	(RN-CAS-Registry Number 598-88-9)				
CF_2^+	CF_2	**	11.54±0.10	EI	3818
	(RN-CAS Registry Number 2154-59-8)				
(RD-Radical)					
CF_2^+	CF_2	**	9.74	D	3930
	(RN-CAS Registry Number 2154-59-8)				
(RD-Radical)					
CF_2^+	C_2F_4	CF_2	15.2±0.1	EI	3539
	(RN-CAS Registry Number 116-14-3)				
CF_3^+	CH_3CF_3	CH_3	13.94±0.1	EI	3478
	(RN-CAS Registry Number 71-55-6)				
CF_3^+	$(CF_3)_2CO$		13.8	EI	3550
	(RN-CAS Registry Number 684-16-2)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
CF_3^+	CH_3COCF_3 (RN-CAS Registry Number 421-50-1)		14.6	EI	3550
$C_2F_3^+$	C_2F_3Cl (RN-CAS-Registry Number 79-38-9)	Cl	15.4±0.1	EI	4070
$CF_4^+(^2T_1)$	CF_4 (RN-CAS Registry Number 75-73-0)	**	16.25±0.04 (V)	PE	3880
$CF_4^+(^2T_2)$	CF_4 (RN-CAS Registry Number 75-73-0)	**	17.46±0.04 (V)	PE	3880
$CF_4^+(^2E)$	CF_4 (RN-CAS Registry Number 75-73-0)	**	18.58±0.04 (V)	PE	3880
$C_2F_4^+(^2B_{2u})$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	10.10	PE	3649
$C_2F_4^+$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	10.32	PE	3589
$C_2F_4^+$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	10.52 (V)	PE	4084
$C_2F_4^+(^2A_g)$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	15.6	PE	3649
$C_2F_4^+(^2B_{2g})$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	16.4 (V)	PE	3649
$C_2F_4^+(^2B_{1u})$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	16.6 (V)	PE	3649
$C_2F_4^+(^2A_u)$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	16.9 (V)	PE	3649
$C_2F_4^+(^2B_{3g})$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	17.50	PE	3649
$C_2F_4^+(^2B_{3u})$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	18.0	PE	3649
$C_2F_4^+(^2B_{1u})$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	19.19	PE	3649
$C_2F_4^+(^2A_g)$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	~20.6	PE	3649
$C_2F_4^+(^2B_{3u})$	C_2F_4 (RN-CAS Registry Number 116-14-3)	**	~22.3	PE	3649
$C_3F_6^+$	$CF_3CF=CF_2$ (RN-CAS Registry Number 116-15-4)	**	10.62	PE	3589
$C_4F_6^+$	$CF_3C\equiv CCF_3$ (RN-CAS Registry Number 692-50-2)	**	12.31	PE	3589
$C_6F_6^+$	C_6F_6 (Benzene, hexafluoro-) (RN-CAS Registry Number 392-56-3)	**	9.90±0.01	S	3559
$C_6F_6^{+*}$	C_6F_6 (Benzene, hexafluoro-) (RN-CAS Registry Number 392-56-3)	**	12.62±0.01	S	3559

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6F_6^+$	C_6F_6 (Benzene, hexafluoro–) (RN-CAS Registry Number 392–56–3)	**	9.90 (V)	PE	3873
$C_6F_6^+(^2E_{1g})$	C_6F_6 (Benzene, hexafluoro–) (RN-CAS Registry Number 392–56–3)	**	9.93	PE	3637
$C_4F_8^+$	*cis*–2–C_4F_8 (RN-CAS Registry Number 1516–65–0)	**	11.46 (V)	PE	4084
$C_4F_8^+$	*trans*–2–C_4F_8 (RN-CAS Registry Number 1516–64–9)	**	11.55 (V)	PE	4084
$C_4F_8^+$	*trans*–2–C_4F_8 (RN-CAS Registry Number 1516–64–9)	**	11.55 (V)	PE	3649
$C_{10}F_8^+$	$C_{10}F_8$ (Naphthalene, octafluoro–) (RN-CAS Registry Number 313–72–4)	**	8.85	PE	3637
$C_{12}F_{10}^+$	$(C_6F_5)_2$ (1,1′–Biphenyl, decafluoro–) (RN-CAS Registry Number 434–90–2)	**	9.40±0.02	PE	3702
$C_6F_{12}^+$	$(CF_3)_2C{=}C(CF_3)_2$ (RN-CAS Registry Number 360–57–6)	**	12.61 (V)	PE	4084
CH_2F^+ (RD–Radical)	CH_2F (RN-CAS Registry Number 3744–29–4)	**	8.90	EM	3732
CH_2F^+ (RD–Radical)	CH_2F (RN-CAS Registry Number 3744–29–4)	**	9.16±0.02	D	3930
CH_2F^+ (TR–Other product(s) thermochemically reasonable)	CH_2F_2 (RN-CAS Registry Number 75–10–5)	F	14.06	EM	3732
CH_2F^+ (TR–Other product(s) thermochemically reasonable)	$CH_2{=}CF_2$ (RN-CAS Registry Number 75–38–7)	CF	14.84±0.02	PI	3930
C_2HF^+ (TR–Other product(s) thermochemically reasonable)	C_2H_3F (RN-CAS Registry Number 75–02–5)	H_2	13.72±0.02	PI	3930
C_2HF^+	$CH_2{=}CF_2$ (RN-CAS Registry Number 75–38–7)	HF	14.18±0.03	PI	3930
$C_2H_2F^+$	C_2H_3F (RN-CAS Registry Number 75–02–5)	H	13.56±0.04	PI	3930
$C_2H_2F^+$ (TR–Other product(s) thermochemically reasonable)	$CH_2{=}CF_2$ (RN-CAS Registry Number 75–38–7)	F	14.37±0.02	PI	3930
$C_2H_2F^+$	$CH_2{=}CFCl$ (RN-CAS-Registry Number 2317–91–1)	Cl	13.7±0.1	EI	4070

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3F^+$	C_2H_3F (RN-CAS Registry Number 75-02-5)	**	10.35±0.01	PI	3930
$C_2H_4F^+$	CH_3CHF_2 (RN-CAS Registry Number 75-37-6)	F	14.80±0.1	EI	3478
$C_2H_5F^+(^2A')$	C_2H_5F (RN-CAS Registry Number 353-36-6)	**	12.43 (V)	PE	3984
$C_2H_5F^+(^2A'')$	C_2H_5F (RN-CAS Registry Number 353-36-6)	**	12.87 (V)	PE	3984
$C_2H_5F^+(^2A')$	C_2H_5F (RN-CAS Registry Number 353-36-6)	**	13.96 (V)	PE	3984
$C_2H_5F^+(^2A'')$	C_2H_5F (RN-CAS Registry Number 353-36-6)	**	14.57 (V)	PE	3984
$C_2H_5F^+(^2A')$	C_2H_5F (RN-CAS Registry Number 353-36-6)	**	16.00 (V)	PE	3984
$C_2H_5F^+(^2A',^2A'')$	C_2H_5F (RN-CAS Registry Number 353-36-6)	**	17.23 (V)	PE	3984
C_3HF^+	$CHF_2C{\equiv}CH$ (RN-CAS Registry Number 18371-25-0)	HF	12.6±0.15	EI	3769
$C_3H_2F^+$	$CHF_2C{\equiv}CH$ (RN-CAS Registry Number 18371-25-0)	F	14.2±0.2	EI	3769
$C_3H_5F^+$	$CH_2{=}CHCH_2F$ (RN-CAS Registry Number 818-92-8)	**	10.11	PE	3863
$C_3H_5F^+$	$CH_2{=}CHCH_2F$ (RN-CAS Registry Number 818-92-8)	**	10.56 (V)	PE	4091
$C_3H_7F^+$	n-C_3H_7F (RN-CAS Registry Number 460-13-9)	**	11.96 (V)	PE	3984
$C_6H_4F^+$	$C_6H_4(F)COOH$ (Benzoic acid, 3-fluoro-) (RN-CAS Registry Number 455-38-9) (MT-Metastable transition(s) observed)	CO+OH	15.25±0.2	EI	3973
$C_6H_4F^+$	$C_6H_4(F)COOH$ (Benzoic acid, 4-fluoro-) (RN-CAS Registry Number 456-22-4) (MT-Metastable transition(s) observed)	CO+OH	15.33±0.2	EI	3973
$C_6H_4F^+$	$C_6H_4FNO_2$ (Benzene, 1-fluoro-3-nitro-) (RN-CAS Registry Number 402-67-5)	NO_2	12.22±0.1	EI	3447
$C_6H_4F^+$	$C_6H_4FNO_2$ (Benzene, 1-fluoro-4-nitro-) (RN-CAS Registry Number 350-46-9)	NO_2	12.37±0.1	EI	3447
$C_6H_5F^+$	C_6H_5F (Benzene, fluoro-) (RN-CAS Registry Number 462-06-6)	**	9.20	S	3559

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5F^{+*}$	C_6H_5F (Benzene, fluoro–) (RN-CAS Registry Number 462-06-6)	**	11.82	S	3559
$C_6H_5F^+$	C_6H_5F (Benzene, fluoro–) (RN-CAS Registry Number 462-06-6)	**	9.11	PE	3955
$C_6H_5F^+$	C_6H_5F (Benzene, fluoro–) (RN-CAS Registry Number 462-06-6)	**	9.19 (V)	PE	3873
$C_6H_5F^+$	C_6H_5F (Benzene, fluoro–) (RN-CAS Registry Number 462-06-6)	**	9.35±0.03 (V)	PE	3713
$C_6H_5F^+$	$C_6H_4FOCH_3$ (Benzene, 1-fluoro-3-methoxy–) (RN-CAS Registry Number 456-49-5)	CH_2O	11.76±0.1	EI	3446
$C_6H_5F^+$	$C_6H_4FOCH_3$ (Benzene, 1-fluoro-4-methoxy–) (RN-CAS Registry Number 459-60-9)	CH_2O	11.55±0.1	EI	3446
$C_7H_6F^+$	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-3-fluoro–) (RN-CAS Registry Number 20651-66-5)		11.69±0.1	EI	3629
$C_7H_6F^+$	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-4-fluoro–) (RN-CAS Registry Number 20651-65-4)		11.25±0.1	EI	3629
$C_7H_7F^+$	$C_6H_5CH_2F$ (Benzene, (fluoromethyl)–) (RN-CAS Registry Number 350-50-5)	**	9.55 (V)	PE	3992
$C_7H_7F^+$	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-3-fluoro–) (RN-CAS Registry Number 20651-66-5)	$CH_2=CHCH_3$	10.21±0.1	EI	3629
$C_7H_7F^+$	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-4-fluoro–) (RN-CAS Registry Number 20651-65-4)	$CH_2=CHCH_3$	10.29±0.1	EI	3629
$C_{10}H_{13}F^+$	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-3-fluoro–) (RN-CAS Registry Number 20651-66-5)	**	9.19±0.1	EI	3629
$C_{10}H_{13}F^+$	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-4-fluoro–) (RN-CAS Registry Number 20651-65-4)	**	9.15±0.1	EI	3629
$C_{10}H_{15}F^+$	$C_{10}H_{15}F$ (Tricyclo[3.3.1.1^{3,7}]decane, 2-fluoro–) (RN-CAS Registry Number 16668-83-0) (ON-Other name: 2-Fluoroadamantane)	**	9.46	PE	3886
$C_{12}H_9F^+$	$C_6H_5C_6H_4F$ (1,1′-Biphenyl, 2-fluoro–) (RN-CAS Registry Number 321-60-8)	**	8.20±0.02	PE	3702

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_9F^+$	$C_6H_5C_6H_4F$ (1,1′-Biphenyl, 4-fluoro-) (RN-CAS Registry Number 324-74-3)	**	8.00±0.02	PE	3702
CHF_2^+	CHF_2 (RN-CAS Registry Number 2670-13-5)	**	⩽8.90	EM	3732
(RD-Radical)					
CHF_2^+	CH_2F_2 (RN-CAS Registry Number 75-10-5)	H	13.11	EM	3732
CHF_2^+	$CHF_2C{\equiv}CH$ (RN-CAS Registry Number 18371-25-0)	C_2H	13.8±0.1	EI	3769
$C_2HF_2^+$	$CH_2{=}CF_2$ (RN-CAS Registry Number 75-38-7)	H	15.80±0.04	PI	3930
$C_2H_2F_2^+$	$CH_2{=}CF_2$ (RN-CAS Registry Number 75-38-7)	**	10.29±0.01	PI	3930
$C_2H_2F_2^+$	*cis*-CHF=CHF (RN-CAS Registry Number 1630-77-9)	**	10.43 (V)	PE	3649
$C_2H_2F_2^+$	*trans*-CHF=CHF (RN-CAS Registry Number 1630-78-0)	**	10.38 (V)	PE	3649
$C_2H_3F_2^+$	CH_3CF_3 (RN-CAS Registry Number 71-55-6)	F	15.14±0.1	EI	3478
$C_3HF_2^+$	$CHF_2C{\equiv}CH$ (RN-CAS Registry Number 18371-25-0)	H	12.9±0.1	EI	3769
$C_3H_2F_2^+$	$CHF_2C{\equiv}CH$ (RN-CAS Registry Number 18371-25-0)	**	11.6±0.1	EI	3769
$C_6H_4F_2^+$	$C_6H_4F_2$ (Benzene, 1,2-difluoro-) (RN-CAS Registry Number 367-11-3)	**	9.30 (V)	PE	3873
$C_6H_4F_2^+$	$C_6H_4F_2$ (Benzene, 1,2-difluoro-) (RN-CAS Registry Number 367-11-3)	**	9.6±0.03 (V)	PE	3713
$C_6H_4F_2^+$	$C_6H_4F_2$ (Benzene, 1,3-difluoro-) (RN-CAS Registry Number 372-18-9)	**	9.32 (V)	PE	3873
$C_6H_4F_2^+$	$C_6H_4F_2$ (Benzene, 1,3-difluoro-) (RN-CAS Registry Number 372-18-9)	**	9.6±0.03 (V)	PE	3713
$C_6H_4F_2^+$	$C_6H_4F_2$ (Benzene, 1,4-difluoro-) (RN-CAS Registry Number 540-36-3)	**	9.15 (V)	PE	3873
$C_6H_4F_2^+$	$C_6H_4F_2$ (Benzene, 1,4-difluoro-) (RN-CAS Registry Number 540-36-3)	**	9.4±0.03 (V)	PE	3713

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_8F_2^+$	$(C_6H_4F)_2$ (1,1′-Biphenyl, 2,2′-difluoro-) (RN-CAS Registry Number 388-82-9)	**	8.35±0.02	PE	3702
$C_{12}H_8F_2^+$	$(C_6H_4F)_2$ (1,1′-Biphenyl, 3,3′-difluoro-) (RN-CAS Registry Number 396-64-5)	**	8.35±0.02	PE	3702
$C_{12}H_8F_2^+$	$(C_6H_4F)_2$ (1,1′-Biphenyl, 4,4′-difluoro-) (RN-CAS Registry Number 398-23-2)	**	8.00±0.02	PE	3702
$C_2HF_3^+$	C_2HF_3 (RN-CAS Registry Number 359-11-5)	**	10.53 (V)	PE	3649
$C_2H_3F_3^+$	CH_3CF_3 (RN-CAS Registry Number 71-55-6)	**	13.26±0.1	EI	3478
$C_3HF_3^+$	$CF_3C{\equiv}CH$ (RN-CAS Registry Number 661-54-1)	**	11.83	PE	3589
$C_6H_3F_3^+(^2E'')$	$C_6H_3F_3$ (Benzene, 1,3,5-trifluoro-) (RN-CAS Registry Number 372-38-3) (RS-Average of two Rydberg series limits)	**	9.64	S	3764
$C_6H_3F_3^+(^2A_2'')$	$C_6H_3F_3$ (Benzene, 1,3,5-trifluoro-) (RN-CAS Registry Number 372-38-3)	**	12.35	S	3764
$C_6H_3F_3^+$	$C_6H_3F_3$ (Benzene, 1,3,5-trifluoro-) (RN-CAS Registry Number 372-38-3)	**	9.26 (V)	PE	3873
$C_6H_3F_3^+(^2E'')$	$C_6H_3F_3$ (Benzene, 1,3,5-trifluoro-) (RN-CAS Registry Number 372-38-3)	**	9.64	PE	3764
$C_6H_3F_3^+(^2A_2'')$	$C_6H_3F_3$ (Benzene, 1,3,5-trifluoro-) (RN-CAS Registry Number 372-38-3)	**	12.35	PE	3764
$C_6H_3F_3^{+*}$	$C_6H_3F_3$ (Benzene, 1,3,5-trifluoro-) (RN-CAS Registry Number 372-38-3)	**	13.58 (V)	PE	3764
$C_6H_2F_4^+$	$C_6H_2F_4$ (Benzene, 1,2,3,4-tetrafluoro-) (RN-CAS Registry Number 551-62-2)	**	9.56 (V)	PE	3873
$C_6H_2F_4^+$	$C_6H_2F_4$ (Benzene, 1,2,3,5-tetrafluoro-) (RN-CAS Registry Number 2367-82-0)	**	9.56 (V)	PE	3873
$C_6H_2F_4^+$	$C_6H_2F_4$ (Benzene, 1,2,4,5-tetrafluoro-) (RN-CAS Registry Number 327-54-8)	**	9.36 (V)	PE	3873
$C_6H_2F_4^+$	$C_6H_2F_4$ (1,2,4,5-Tetrafluorobenzene) (RN-CAS Registry Number 327-54-8)	**	8.92	PE	3522

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6HF_5^+$	C_6HF_5 (Benzene, pentafluoro–) (RN–CAS Registry Number 363–72–4)	**	9.82	S	3559
(RS–Average of two Rydberg series limits)					
$C_6HF_5^+$*	C_6HF_5 (Benzene, pentafluoro–) (RN–CAS Registry Number 363–72–4)	**	12.44	S	3559
$C_6HF_5^+$	C_6HF_5 (Benzene, pentafluoro–) (RN–CAS Registry Number 363–72–4)	**	9.64 (V)	PE	3873
$C_8H_3F_5^+$	$C_6F_5CH=CH_2$ (Benzene, ethenylpentafluoro–) (RN–CAS Registry Number 653–34–9)	**	9.18±0.02	PE	3854
NF^+	NF_2 (RN–CAS Registry Number 3744–07–8)	F^-	11.86±0.2	EI	3785
(TR–Other product(s) thermochemically reasonable)					
NF^+	NF_2 (RN–CAS Registry Number 3744–07–8)	F	15.46±0.2	EI	3785
(TR–Other product(s) thermochemically reasonable)					
NF^+	N_2F_4 (RN–CAS Registry Number 10036–47–2)	NF_2+F	~16.6	EI	3785
(TR–Other product(s) thermochemically reasonable)					
NF^+	$(CH_2NF_2)CH_2$ (RN–CAS Registry Number 21298–22–6)		13.0±0.3	EI	3634
NF^+	$(CH_3)_2C(NF_2)_2$ (RN–CAS Registry Number 19309–63–8)		13.9±0.3	EI	3634
N_2F^+	N_2F_4 (RN–CAS Registry Number 10036–47–2)	F_2+F	14.2±0.3	EI	3785
(TR–Other product(s) thermochemically reasonable)					
N_2F^+	N_2F_4 (RN–CAS Registry Number 10036–47–2)	3F	16.7±0.3	EI	3785
(TR–Other product(s) thermochemically reasonable)					
$NF_2^+(^1A_1)$	NF_2 (RN–CAS Registry Number 3744–07–8)	**	12.1±0.1 (V)	PE	3671
(RD–Radical)					
$NF_2^+(^1A_1)$	NF_2 (RN–CAS Registry Number 3744–07–8)	**	12.1	PE	3693
(RD–Radical)					
$NF_2^+(^3B_1)$	NF_2 (RN–CAS Registry Number 3744–07–8)	**	14.6±0.1 (V)	PE	3671
(RD–Radical)					
$NF_2^+(^3B_1)$	NF_2 (RN–CAS Registry Number 3744–07–8)	**	14.6	PE	3693
(RD–Radical)					
$NF_2^+(^1B_1,^3B_2,^3A_2)$	NF_2 (RN–CAS Registry Number 3744–07–8)	**	~16.4±0.1 (V)	PE	3671
(RD–Radical)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
NF_2^+	NF_2	**	16.4	PE	3693
	(RN-CAS Registry Number 3744-07-8)				
(RD-Radical)					
NF_2^{+*}	NF_2	**	~17.6±0.1 (V)	PE	3671
	(RN-CAS Registry Number 3744-07-8)				
(RD-Radical)					
$NF_2^+(^1B_2)$	NF_2	**	17.6	PE	3693
	(RN-CAS Registry Number 3744-07-8)				
(RD-Radical)					
NF_2^+	NF_2	**	11.76±0.1	EI	3785
	(RN-CAS Registry Number 3744-07-8)				
(RD-Radical)					
NF_2^+	N_2F_4	F^-+NF	12.40±0.1	DC	3785
	(RN-CAS Registry Number 10036-47-2)				
NF_2^+	N_2F_4	NF_2	12.70±0.1	DC	3785
	(RN-CAS Registry Number 10036-47-2)				
(TR-Other product(s) thermochemically reasonable)					
NF_2^+	$(CH_2NF_2)CH_2$		14.8±0.4	EI	3634
	(RN-CAS Registry Number 21298-22-6)				
NF_2^+	$(CH_3)_2C(NF_2)_2$		13.9±0.4	EI	3634
	(RN-CAS Registry Number 19309-63-8)				
$N_2F_2^+(^2A_g)$	*trans*-N_2F_2	**	12.8	PE	3649
	(RN-CAS Registry Number 13776-62-0)				
$N_2F_2^+(^2A_u)$	*trans*-N_2F_2	**	13.65	PE	3649
	(RN-CAS Registry Number 13776-62-0)				
$N_2F_2^+(^2A_u)$	*trans*-N_2F_2	**	18.0	PE	3649
	(RN-CAS Registry Number 13776-62-0)				
$N_2F_2^+(^2B_u)$	*trans*-N_2F_2	**	19.8 (V)	PE	3649
	(RN-CAS Registry Number 13776-62-0)				
$N_2F_2^+(^2A_g)$	*trans*-N_2F_2	**	21.0 (V)	PE	3649
	(RN-CAS Registry Number 13776-62-0)				
$N_2F_2^+(^2B_u)$	*trans*-N_2F_2	**	22.3	PE	3649
	(RN-CAS Registry Number 13776-62-0)				
$N_2F_2^+$	N_2F_4	2F	16.0±0.1	EI	3785
	(RN-CAS Registry Number 10036-47-2)				
(TR-Other product(s) thermochemically reasonable)					
$NF_3^+(^2A_1)$	NF_3	**	12.97±0.04	PE	3641
	(RN-CAS Registry Number 7783-54-2)				
NF_3^{+*}	NF_3	**	15.49±0.04	PE	3641
	(RN-CAS Registry Number 7783-54-2)				
NF_3^{+*}	NF_3	**	16.55±0.05 (V)	PE	3641
	(RN-CAS Registry Number 7783-54-2)				
$NF_3^+(^2E)$	NF_3	**	17.16±0.03	PE	3641
	(RN-CAS Registry Number 7783-54-2)				
$NF_3^+(^2A_1)$	NF_3	**	19.24±0.03	PE	3641
	(RN-CAS Registry Number 7783-54-2)				
$NF_3^+(^2E)$	NF_3	**	21.14±0.07 (V)	PE	3641
	(RN-CAS Registry Number 7783-54-2)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
NF_3^+	NF_3 (RN-CAS Registry Number 7783-54-2)	**	13.18±0.1	EI	3578
$N_2F_4^+$	N_2F_4 (RN-CAS Registry Number 10036-47-2)	**	12.00±0.1	EI	3785
$B_3H_3N_3F_3^+$	$B_3H_3N_3F_3$ (Borazine, 2,4,6-trifluoro-) (RN-CAS Registry Number 13779-24-3)	**	10.46	PE	3637
$B_3H_3N_3F_3^+$	$B_3H_3N_3F_3$ (Borazine, 2,4,6-trifluoro-) (RN-CAS Registry Number 13779-24-3)	**	10.66 (V)	PE	3944
$B_3H_3N_3F_3^+$	$B_3H_3N_3F_3$ (Borazine, 2,4,6-trifluoro-) (RN-CAS Registry Number 13779-24-3)	**	10.66 (V)	PE	3673
$CN_2F_2^+(^2B_1)$	CF_2N_2 (3*H*-Diazirine, 3,3-difluoro-) (RN-CAS Registry Number 693-85-6)	**	11.2	PE	3727
$CN_2F_2^+(^2B_2,^2A_1)$	CF_2N_2 (3*H*-Diazirine, 3,3-difluoro-) (RN-CAS Registry Number 693-85-6)	**	15.00	PE	3727
$CN_2F_2^+(^2B_2,^2A_1)$	CF_2N_2 (3*H*-Diazirine, 3,3-difluoro-) (RN-CAS Registry Number 693-85-6)	**	16.75 (V)	PE	3727
$CN_2F_2^+(^2A_2)$	CF_2N_2 (3*H*-Diazirine, 3,3-difluoro-) (RN-CAS Registry Number 693-85-6)	**	17.8 (V)	PE	3727
$CN_2F_2^+(^2B_1)$	CF_2N_2 (3*H*-Diazirine, 3,3-difluoro-) (RN-CAS Registry Number 693-85-6)	**	19.0	PE	3727
$CN_2F_2^+(^2A_1,^2B_2)$	CF_2N_2 (3*H*-Diazirine, 3,3-difluoro-) (RN-CAS Registry Number 693-85-6)	**	20.9 (V)	PE	3727
$CN_2F_2^+(^2A_1,^2B_1)$	CF_2N_2 (3*H*-Diazirine, 3,3-difluoro-) (RN-CAS Registry Number 693-85-6)	**	23.4 (V)	PE	3727
$C_3N_3F_3^+$	$C_3N_3F_3$ (1,3,5-Triazine, 2,4,6-trifluoro-) (RN-CAS Registry Number 675-14-9)	**	11.5	PE	3637
$C_5NF_5^+$	C_5NF_5 (Pyridine, pentafluoro-) (RN-CAS Registry Number 700-16-3)	**	10.08	PE	3637
$C_2N_2F_6^+$	*cis*-$CF_3N{=}NCF_3$ (RN-CAS Registry Number XXXXX-XX-X)	**	~10.5	PE	3649
$C_8N_2F_6^+$	$C_8N_2(F)_6$ (Cinnoline, hexafluoro-) (RN-CAS Registry Number 28734-86-3)	**	9.66 (V)	PE	3959

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8N_2F_6^+$	$C_8N_2(F)_6$ (Phthalazine, hexafluoro–) (RN–CAS Registry Number 25732–35–8)	**	9.90 (V)	PE	3959
$C_8N_2F_6^+$	$C_8N_2(F)_6$ (Quinazoline, hexafluoro–) (RN–CAS Registry Number 28734–87–4)	**	9.43 (V)	PE	3959
$C_8N_2F_6^+$	$C_8N_2(F)_6$ (Quinoxaline, hexafluoro–) (RN–CAS Registry Number 21271–15–8)	**	9.65 (V)	PE	3959
$C_9NF_7^+$	C_9NF_7 (Isoquinoline, heptafluoro–) (RN–CAS Registry Number 13180–39–7)	**	9.29 (V)	PE	3723
$C_9NF_7^+$	C_9NF_7 (Quinoline, heptafluoro–) (RN–CAS Registry Number 13180–38–6)	**	9.51 (V)	PE	3723
CH_2NF^+	$(CH_2NF_2)CH_2$ (RN–CAS Registry Number 21298–22–6)		11.9±0.2	EI	3634
CH_2NF^+	$CH_2(NF_2)CH(NF_2)CH_3$ (RN–CAS Registry Number 15403–25–5)	$CH_3C(NF_2)FH$?	11.5±0.2	EI	3634
$C_2H_3NF^+$	$(CH_2NF_2)CH_2$ (RN–CAS Registry Number 21298–22–6)		16.8±0.4	EI	3634
$C_3H_6NF^+$	$CH_2(NF_2)CH(NF_2)CH_3$ (RN–CAS Registry Number 15403–25–5)		14.6±0.3	EI	3634
$C_6H_6NF^+$	$C_6H_4FNHCOCH_3$ (Acetamide, *N*–(2–fluorophenyl)–) (RN–CAS Registry Number 399–31–5)	$CH_2=C=O$	9.80±0.03	EI	3483
$C_6H_6NF^+$	$C_6H_4FNHCOCH_3$ (Acetamide, *N*–(4–fluorophenyl)–) (RN–CAS Registry Number 351–83–7)	$CH_2=C=O$	10.12±0.03	EI	3483
$CHNF_2^+$	$(CH_2NF_2)CH_2$ (RN–CAS Registry Number 21298–22–6)		13.7±0.3	EI	3634
$CHNF_2^+$	$(CH_3)_2C(NF_2)_2$ (RN–CAS Registry Number 19309–63–8)		13.2±0.3	EI	3634
$CH_2NF_2^+$	$(CH_2NF_2)CH_2$ (RN–CAS Registry Number 21298–22–6)		13.6±0.3	EI	3634
$CH_2NF_2^+$	$CH_2(NF_2)CH(NF_2)CH_3$ (RN–CAS Registry Number 15403–25–5)		13.1±0.2	EI	3634
$C_2H_6NF_2^+$	$(CH_2NF_2)CH_2$ (RN–CAS Registry Number 21298–22–6)		11.8±0.3	EI	3634
$C_2H_6NF_2^+$	$CH_2(NF_2)CH(NF_2)CH_3$ (RN–CAS Registry Number 15403–25–5)		10.8±0.2	EI	3634
$C_2H_6NF_2^+$	$(CH_3)_2C(NF_2)_2$ (RN–CAS Registry Number 19309–63–8)		11.1±0.3	EI	3634

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5NF_2^+$	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*-(2,4-difluorophenyl)-) (RN-CAS Registry Number 399-36-0)	$CH_2=C=O$	9.70±0.03	EI	3480
$C_6H_5NF_2^+$	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*-(2,6-difluorophenyl)-) (RN-CAS Registry Number 3896-29-5)	$CH_2=C=O$	9.52±0.03	EI	3480
$C_8H_4N_2F_2^+$	$C_8H_4N_2(F)_2$ (Quinoxaline, 2,3-difluoro-) (RN-CAS Registry Number 7066-36-6)	**	9.30 (V)	PE	3959
$C_8H_2N_2F_4^+$	$C_8H_2N_2(F)_4$ (Quinoxaline, 5,6,7,8-tetrafluoro-) (RN-CAS Registry Number 33319-19-6)	**	9.50 (V)	PE	3959
$C_6H_2NF_5^+$	$C_6F_5NH_2$ (Benzenamine, 2,3,4,5,6-pentafluoro-) (RN-CAS Registry Number 771-60-8)	**	8.40±0.02	PE	3890
$C_6H_2NF_5^+$	$C_6F_5NH_2$ (Benzenamine, 2,3,4,5,6-pentafluoro-) (RN-CAS Registry Number XXXXX-XX-X)	**	8.60	PE	3955
$C_6H_7NF_6^+$	$(CH_3)_2NC(CF_3)=C(CF_3)H$ (RN-CAS Registry Number 35186-00-6)	**	8.22	PE	3589
$C_4H_{12}BN_2F^+$	$((CH_3)_2N)_2BF_2$ (RN-CAS Registry Number 383-90-4)	**	8.04	PE	3584
$C_2H_6BNF_2^+$	$(CH_3)_2NBF_2$ (RN-CAS Registry Number 359-18-2)	**	9.71	PE	3584
$C_3H_9B_3N_3F_3^+$	$C_3H_9B_3N_3F_3$ (Borazine, 2,4,6-trifluoro-1,3,5-trimethyl-) (RN-CAS Registry Number 13722-15-1)	**	9.48 (V)	PE	3944
OF^+ (RD-Radical)	OF (RN-CAS Registry Number 12061-70-0)	**	12.79±0.1	D	3920
OF^+ (TV-Threshold value approximately corrected to 0°K)	OF_2 (RN-CAS Registry Number 7783-41-7)	F	⩽14.438	PI	3920
OF_2^+	OF_2 (RN-CAS Registry Number 7783-41-7)	**	13.11±0.01	PI	3920
$OF_2^+(^2B_2)$	OF_2 (RN-CAS Registry Number 7783-41-7)	**	13.11	PE	3649
$OF_2^+(^2B_1)$	OF_2 (RN-CAS Registry Number 7783-41-7)	**	13.26 (V)	PE	3694
$OF_2^+(^2A_1)$	OF_2 (RN-CAS Registry Number 7783-41-7)	**	15.74	PE	3649
$OF_2^+(^2B_2)$	OF_2 (RN-CAS Registry Number 7783-41-7)	**	16.17 (V)	PE	3694

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$OF_2^+(^2B_1)$	OF_2 (RN-CAS Registry Number 7783-41-7)	**	16.44 (V)	PE	3649
$OF_2^+(^2A_2)$	OF_2 (RN-CAS Registry Number 7783-41-7)	**	16.47 (V)	PE	3694
$OF_2^+(^2A_2)$	OF_2 (RN-CAS Registry Number 7783-41-7)	**	~17.9	PE	3649
OF_2^{+*}	OF_2 (RN-CAS Registry Number 7783-41-7)	**	18.68 (V)	PE	3694
OF_2^{+*}	OF_2 (RN-CAS Registry Number 7783-41-7)	**	19.50 (V)	PE	3694
$OF_2^+(^2B_1,^2A_1)$	OF_2 (RN-CAS Registry Number 7783-41-7)	**	19.55 (V)	PE	3649
$OF_2^+(^2B_2)$	OF_2 (RN-CAS Registry Number 7783-41-7)	**	20.7 (V)	PE	3649
OF_2^{+*}	OF_2 (RN-CAS Registry Number 7783-41-7)	**	20.9 (V)	PE	3694
HOF^+	HOF (RN-CAS Registry Number 14034-79-8)	**	12.71±0.01	PI	3932
$HOF^+(^2A'')$	HOF (RN-CAS Registry Number 14034-79-8)	**	12.69±0.03	PE	3831
$HOF^+(^2A')$	HOF (RN-CAS Registry Number 14034-79-8)	**	14.50±0.03	PE	3831
$HOF^+(^2A')$	HOF (RN-CAS Registry Number 14034-79-8)	**	15.9±0.05	PE	3831
BOF^+	BOF (RN-CAS-Registry Number 23361-56-0)	**	14±1	EI	4054
BOF_2^+	BOF_2 (RN-CAS-Registry Number 12006-82-5)	**	17±1	EI	4054
$COF_2^+(^2B_1)$	CF_2O (RN-CAS Registry Number 353-50-4)	**	13.02	PE	3649
$COF_2^+(^2B_2)$	CF_2O (RN-CAS Registry Number 353-50-4)	**	13.04	PE	3726
$COF_2^+(^2B_2)$	CF_2O (RN-CAS Registry Number 353-50-4)	**	14.09	PE	3649
COF_2^{+*}	CF_2O (RN-CAS Registry Number 353-50-4)	**	⩽14.26	PE	3726
$COF_2^+(^2A_1,^2B_1,^2A_2)$	CF_2O (RN-CAS Registry Number 353-50-4)	**	16.1	PE	3649
COF_2^{+*}	CF_2O (RN-CAS Registry Number 353-50-4)	**	16.6 (V)	PE	3726
$COF_2^+(^2B_1)$	CF_2O (RN-CAS Registry Number 353-50-4)	**	16.90	PE	3726
$COF_2^+(^2A_1,^2B_1,^2A_2)$	CF_2O (RN-CAS Registry Number 353-50-4)	**	16.91	PE	3649
COF_2^{+*}	CF_2O (RN-CAS Registry Number 353-50-4)	**	19.06	PE	3726
$COF_2^+(^2A_1)$	CF_2O (RN-CAS Registry Number 353-50-4)	**	19.15	PE	3649

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
COF_2^{+*}	CF_2O	**	19.46	PE	3726
	(RN-CAS Registry Number 353-50-4)				
$COF_2^+(^2B_2)$	CF_2O	**	19.8 (V)	PE	3649
	(RN-CAS Registry Number 353-50-4)				
$COF_2^+(^2B_1)$	CF_2O	**	21.1 (V)	PE	3649
	(RN-CAS Registry Number 353-50-4)				
$COF_2^+(^2A_1)$	CF_2O	**	~22.7	PE	3649
	(RN-CAS Registry Number 353-50-4)				
$C_2OF_3^+$	$(CF_3)_2CO$		11.65	EI	3550
	(RN-CAS Registry Number 684-16-2)				
$CF_4O^+(^2A'')$	CF_3OF	**	13.6 (V)	PE	3941
	(RN-CAS Registry Number 373-91-1)				
CF_4O^{+*}	CF_3OF	**	16.6 (V)	PE	3941
	(RN-CAS Registry Number 373-91-1)				
CF_4O^{+*}	CF_3OF	**	17.5 (V)	PE	3941
	(RN-CAS Registry Number 373-91-1)				
CF_4O^{+*}	CF_3OF	**	19.0 (V)	PE	3941
	(RN-CAS Registry Number 373-91-1)				
CF_4O^{+*}	CF_3OF	**	20.40 (V)	PE	3941
	(RN-CAS Registry Number 373-91-1)				
$C_3OF_5^+$	$(CF_3)_2CO$		16	EI	3550
	(RN-CAS Registry Number 684-16-2)				
$C_3F_6O^+$	$(CF_3)_2CO$	**	11.44	PE	3649
	(RN-CAS Registry Number 684-16-2)				
$C_6H_4OF^+$	$C_6H_4FOCH_3$	CH_3	12.53±0.1	EI	3446
	(Benzene, 1-fluoro-3-methoxy-)				
	(RN-CAS Registry Number 456-49-5)				
$C_6H_4OF^+$	$C_6H_4FOCH_3$	CH_3	11.99±0.1	EI	3446
	(Benzene, 1-fluoro-4-methoxy-)				
	(RN-CAS Registry Number 459-60-9)				
$C_6H_4OF^+$	$C_6H_4FNO_2$	NO	10.25±0.1	EI	3447
	(Benzene, 1-fluoro-3-nitro-)				
	(RN-CAS Registry Number 402-67-5)				
$C_6H_4OF^+$	$C_6H_4FNO_2$	NO	10.64±0.1	EI	3447
	(Benzene, 1-fluoro-4-nitro-)				
	(RN-CAS Registry Number 350-46-9)				
$C_6H_5OF^+$	$C_6H_4FOOCCH_3$	$CH_2=C=O$	9.17±0.03	EI	3483
	(Phenol, 2-fluoro-, acetate)				
	(RN-CAS Registry Number 29650-44-0)				
$C_6H_5OF^+$	$C_6H_4FOOCCH_3$	$CH_2=C=O$	9.55±0.03	EI	3483
	(Phenol, 4-fluoro-, acetate)				
	(RN-CAS Registry Number 405-51-6)				
$C_7H_4OF^+$	$C_6H_4(F)COOH$	OH	12.50±0.2	EI	3973
	(Benzoic acid, 3-fluoro-)				
	(RN-CAS Registry Number 455-38-9)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_4OF^+$	$C_6H_4(F)COOH$ (Benzoic acid, 4–fluoro–) (RN–CAS Registry Number 456–22–4)	OH	12.33±0.2	EI	3973
$C_7H_7OF^+$	$C_6H_4FOCH_3$ (Benzene, 1–fluoro–3–methoxy–) (RN–CAS Registry Number 456–49–5)	**	8.70±0.1	EI	3446
$C_7H_7OF^+$	$C_6H_4FOCH_3$ (Benzene, 1–fluoro–4–methoxy–) (RN–CAS Registry Number 459–60–9)	**	8.58±0.1	EI	3446
$C_7H_5O_2F^+$	$C_6H_4(F)COOH$ (Benzoic acid, 3–fluoro–) (RN–CAS Registry Number 455–38–9)	**	9.91±0.2	EI	3973
$C_7H_5O_2F^+$	$C_6H_4(F)COOH$ (Benzoic acid, 4–fluoro–) (RN–CAS Registry Number 456–22–4)	**	9.91±0.2	EI	3973
$C_8H_7O_2F^+$	$C_6H_4FOOCCH_3$ (Phenol, 2–fluoro–, acetate) (RN–CAS Registry Number 29650–44–0)	**	8.78±0.03	EI	3483
$C_8H_7O_2F^+$	$C_6H_4FOOCCH_3$ (Phenol, 4–fluoro–, acetate) (RN–CAS Registry Number 405–51–6)	**	8.27±0.03	EI	3483
$C_6H_4OF_2^+$	$C_6H_3F_2OOCCH_3$ (Phenol, 2,4–difluoro–, acetate) (RN–CAS Registry Number 36914–77–9)	$CH_2=C=O$	9.63±0.03	EI	3480
$C_6H_4OF_2^+$	$C_6H_3F_2OOCCH_3$ (Phenol, 2,6–difluoro–, acetate) (RN–CAS Registry Number 36914–78–0)	$CH_2=C=O$	9.69±0.03	EI	3480
$C_8H_6O_2F_2^+$	$C_6H_3F_2OOCCH_3$ (Phenol, 2,4–difluoro–, acetate) (RN–CAS Registry Number 36914–77–9)	**	8.60±0.03	EI	3480
$C_8H_6O_2F_2^+$	$C_6H_3F_2OOCCH_3$ (Phenol, 2,6–difluoro–, acetate) (RN–CAS Registry Number 36914–78–0)	**	8.88±0.03	EI	3480
$C_2H_3OF_3^+$	CF_3CH_2OH (RN–CAS Registry Number 75–89–8)	**	11.7 (V)	PE	3941
$C_2HO_2F_3^+$	CF_3COOH (RN–CAS Registry Number 76–05–1)	**	11.46	PE	3718
$C_2HO_2F_3^+$	CF_3COOH (RN–CAS Registry Number 76–05–1)	**	12.00±0.03 (V)	PE	3734
$C_2HO_2F_3^+$	CF_3COOH (RN–CAS Registry Number 76–05–1)	**	12.00 (V)	PE	3874
$C_3H_3O_2F_3^+$	$HCOOCH_2CF_3$ (RN–CAS Registry Number 32042–38–9)	**	11.31	PE	3718

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_5O_2F_3^+$	$CF_3COOC_2H_5$ (RN-CAS Registry Number 383-63-1)	**	~11.6 (V)	PE	3718
$C_4H_5O_2F_3^+$	$CH_3COOCH_2CF_3$ (RN-CAS Registry Number 406-95-1)	**	10.84	PE	3718
$C_5H_5O_2F_3^+$	$CF_3COCH_2COCH_3$ (RN-CAS Registry Number 367-57-7)	**	9.92±0.07 (V)	PE	3682
$C_6H_3O_2F_3^+$	$C_4H_3OCOCF_3$ (Ethanone, 2,2,2-trifluoro-1-(2-furanyl)-) (RN-CAS Registry Number 18207-47-1)	**	9.77±0.05	EI	3482
$C_8H_{11}O_2F_3^+$	$(CH_3)_3CCOCH_2COCF_3$ (RN-CAS Registry Number 22767-90-4)	**	9.87±0.07 (V)	PE	3682
$C_4H_5O_4F_3^+$	$(CF_3COOH)(CH_3COOH)$ (RN-CAS Registry Number XXXXX-XX-X)	**	11.1 (V)	PE	3734
$C_5H_7O_4F_3^+$	$(C_2H_5COOH)(CF_3COOH)$ (RN-CAS Registry Number XXXXX-XX-X)	**	10.9 (V)	PE	3734
$C_6H_9O_4F_3^+$	(*iso*-$C_3H_7COOH)(CF_3COOH)$ (RN-CAS Registry Number XXXXX-XX-X)	**	10.7 (V)	PE	3734
$C_3H_3OF_5^+$	$C_2F_5CH_2OH$ (RN-CAS Registry Number 422-05-9)	**	11.68 (V)	PE	3941
$C_6HOF_5^+$	C_6F_5OH (Phenol, pentafluoro-) (RN-CAS Registry Number 771-61-9)	**	9.20±0.02	PE	3890
$C_7H_3OF_5^+$	$C_6F_5OCH_3$ (Benzene, pentafluoromethoxy-) (RN-CAS Registry Number 389-40-2)	**	9.10±0.02	PE	3890
$C_3H_2OF_6^+$	$CF_3CH(OH)CF_3$ (RN-CAS Registry Number 920-66-1)	**	12.23 (V)	PE	3941
$C_5H_2O_2F_6^+$	$CF_3COCH_2COCF_3$ (RN-CAS Registry Number 1522-22-1)	**	10.74±0.07 (V)	PE	3682
$C_{10}H_2O_4F_{12}Be^+$	$(CF_3COCHCOCF_3)_2Be$ (Beryllium, bis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O'*)-, (*T*-4)-) (RN-CAS Registry Number 19648-82-9)	**	10.39±0.07 (V)	PE	3682
$NOF_3^+(^2E)$	NOF_3 (RN-CAS Registry Number 13847-65-9)	**	13.36±0.01	PE	3641
(This value probably corresponds to the first vibrationally excited state of the ion.)					
NOF_3^{+*}	NOF_3 (RN-CAS Registry Number 13847-65-9)	**	14.83±0.06	PE	3641

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
NOF_3^+*	NOF_3 (RN–CAS Registry Number 13847–65–9)	**	16.34±0.03	PE	3641
$NOF_3^+(^2E)$	NOF_3 (RN–CAS Registry Number 13847–65–9)	**	19.90±0.02	PE	3641
$NOF_3^+(^2A_1)$	NOF_3 (RN–CAS Registry Number 13847–65–9)	**	21.1±0.1 (V)	PE	3641
$C_2NOF_6^+$ (RD–Radical)	$(CF_3)_2NO$ (RN–CAS Registry Number 2154–71–4)	**	10,7±0.1 (V)	PE	3671
$C_8H_8NOF^+$	$C_6H_4FNHCOCH_3$ (Acetamide, *N*–(2–fluorophenyl)–) (RN–CAS Registry Number 399–31–5)	**	8.27±0.03	EI	3483
$C_8H_8NOF^+$	$C_6H_4FNHCOCH_3$ (Acetamide, *N*–(4–fluorophenyl)–) (RN–CAS Registry Number 351–83–7)	**	8.20±0.03	EI	3483
$C_6H_4NO_2F^+$	$C_6H_4FNO_2$ (Benzene, 1–fluoro–3–nitro–) (RN–CAS Registry Number 402–67–5)	**	9.93±0.1	EI	3447
$C_6H_4NO_2F^+$	$C_6H_4FNO_2$ (Benzene, 1–fluoro–4–nitro–) (RN–CAS Registry Number 350–46–9)	**	10.00±0.1	EI	3447
$C_8H_7NOF_2^+$	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*–(2,4–difluorophenyl)–) (RN–CAS Registry Number 399–36–0)	**	8.21±0.03	EI	3480
$C_8H_7NOF_2^+$	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*–(2,6–difluorophenyl)–) (RN–CAS Registry Number 3896–29–5)	**	8.52±0.03	EI	3480
$C_6H_4NOF_3^+$	$C_4H_4NCOCF_3$ (Ethanone, 2,2,2–trifluoro–1–(1*H*–pyrrol–2–yl)–) (RN–CAS Registry Number 2557–70–2)	**	9.18±0.05	EI	3482
$Ne^+(^2P_{3/2})$	Ne (RN–CAS Registry Number 7440–01–9)	**	21.56471±0.00001	S	3754
Na^+	Na (RN–CAS Registry Number 7440–23–5)	**	5.3±0.2	EI	3609
Na^+	NaF (RN–CAS Registry Number 7681–49–4)		~12	EI	3464
Na_2^+	Na_2 (RN–CAS Registry Number 25681–79–2)	**	⩽6±2	EI	3609
Mg^+	$(C_5H_5)_2Mg$ (Magnesium, bis(η^5–2,4–cyclopentadien–1–yl)–) (RN–CAS Registry Number 1284–72–6) (ON–Other name: Magnesocene)		13.9±0.5	RPD	3793

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_5Mg^+$	$(C_5H_5)_2Mg$ (Magnesium, bis(η^5-2,4-cyclopentadien-1-yl)-) (RN-CAS Registry Number 1284-72-6) (ON-Other name: Magnesocene)		11.0±0.2	RPD	3793
$C_{10}H_{10}Mg^+$	$(C_5H_5)_2Mg$ (Magnesium, bis(η^5-2,4-cyclopentadien-1-yl)-) (RN-CAS Registry Number 1284-72-6) (ON-Other name: Magnesocene)	**	8.11 (V)	PE	3688
$C_{10}H_{10}Mg^+$	$(C_5H_5)_2Mg$ (Magnesium, bis(η^5-2,4-cyclopentadien-1-yl)-) (RN-CAS Registry Number 1284-72-6) (ON-Other name: Magnesocene)	**	8.0±0.1	RPD	3793
$C_{12}H_{14}Mg^+$	$(C_5H_4CH_3)_2Mg$ (Magnesocene, 1,1'-dimethyl-) (RN-CAS Registry Number 40672-08-0)	**	7.78 (V)	PE	3688
Al^+	Al (RN-CAS Registry Number 7429-90-5)	**	6.6±0.6	EI	3440
Al_2^+	Al_2 (RN-CAS Registry Number 32752-94-6)	**	5.4±1.0	EI	4005
Al_2^+	Al_2 (RN-CAS Registry Number 37361-48-1)	**	5.4±1.0	EI	4014
Al_2^+	Al_2O (RN-CAS Registry Number 12004-36-3)		15.2±0.5	EI	4005
AlC^+	AlC_2? (RN-CAS Registry Number 37297-57-7)		14.0±1.0	EI	4014
AlC_2^+	AlC_2 (RN-CAS Registry Number 37297-57-7)	**	9.3±1.0	EI	4014
$Al_2C_2^+$	Al_2C_2 (RN-CAS Registry Number 12122-01-9)	**	8.0±0.5	EI	4014
$C_{18}H_{15}Al^+$	$(C_6H_5)_3Al$ (Aluminum, triphenyl-) (RN-CAS-Registry Number 841-76-9)	**	8.53±0.03	PI	4055
AlO^+	AlO (RN-CAS Registry Number 14457-64-8)	**	9.5±1	EI	3617
AlO^+	AlO (RN-CAS Registry Number 14457-64-8)	**	9.53±0.15	EI	3816
AlO^+	AlO (RN-CAS Registry Number 14457-64-8)	**	9±1	EI	3463
AlO^+	AlO (RN-CAS Registry Number 14457-64-8)	**	10±1	EI	3620
AlO^+	Al_2O (RN-CAS Registry Number 12004-36-3)		15.1±0.3	EI	4005

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
AlO_2^+	AlO_2 (RN–CAS Registry Number 11092–32–3)	**	10±1	EI	3463
AlO_2^+	AlO_2 (RN–CAS Registry Number 11092–32–3)	**	10±1	EI	3617
Al_2O^+	Al_2O (RN–CAS Registry Number 12004–36–3)	**	7.7±0.2	EI	4005
Al_2O^+	Al_2O (RN–CAS Registry Number 12004–36–3)	**	7.7±0.5	EI	3985
Al_2O^+	Al_2O (RN–CAS Registry Number 12004–36–3)	**	8.20±0.15	EI	3816
Al_2O^+	Al_2O (RN–CAS Registry Number 12004–36–3)	**	8.5±1	EI	3617
Al_2O^+	Al_2O (RN–CAS Registry Number 12004–36–3)	**	9±1	EI	3620
$Al_2O_2^+$	Al_2O_2 (RN–CAS Registry Number 12252–63–0)	**	10±1	EI	3617
AlF^+	AlF (RN–CAS Registry Number 13595–82–9)	**	9	EI	3606
AlF_2^+	AlF_2 (RN–CAS Registry Number 13569–23–8)	**	10	EI	3606
$AlOF^+$	AlOF (RN–CAS Registry Number 13596–12–8)	**	10.5±1	EI	3462
$AlOF^+$	AlOF (RN–CAS Registry Number 13596–12–8)	**	11	EI	3606
$AlOF_2^+$	$AlOF_2$ (RN–CAS Registry Number 38344–66–0)	**	13±1	EI	3606
$C_{15}H_{12}O_6F_9Al^+$	$(CF_3COCHCOCH_3)_3Al$ (Aluminum, tris(1,1,1–trifluoro–2,4–pentanedionato–*O*,*O*′)–) (RN–CAS Registry Number 14354–59–7)	**	9.22±0.07 (V)	PE	3682
$C_{15}H_3O_6F_{18}Al^+$	$(CF_3COCHCOCF_3)_3Al$ (Aluminum, tris(1,1,1,5,5,5–hexafluoro–2,4–pentanedionato–*O*,*O*′)–, (*OC*–6–11)–) (RN–CAS Registry Number 15306–18–0)	**	10.33±0.07 (V)	PE	3682
Si^+	Si (RN–CAS Registry Number 7440–21–3)	**	8.1±0.5	EI	3969
Si^+	Si (RN–CAS Registry Number 7440–21–3)	**	8.5±0.5	EI	3610
Si^+	SiH_4 (RN–CAS Registry Number 7803–62–5)		13.3	DC	3813
$SiH^+(X^1\Sigma^+)$	SiH (RN–CAS Registry Number 13774–94–2)	**	7.91	D	3564

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
SiH^+	SiH_4 (RN-CAS Registry Number 7803-62-5)		14.7	DC	3813
SiH_2^+	SiH_4 (RN-CAS Registry Number 7803-62-5)	H_2	11.8	DC	3813
SiH_2^+	SiH_4 (RN-CAS Registry Number 7803-62-5)	2H?	16.2	DC	3813
SiH_3^+	SiH_4 (RN-CAS Registry Number 7803-62-5)	H	12.2	DC	3813
$SiH_4^+(^2B_2)$	SiH_4 (RN-CAS Registry Number 7803-62-5)	**	11.60	PE	3716
$SiH_4^+(^2A_1)$	SiH_4 (RN-CAS Registry Number 7803-62-5)	**	17.95	PE	3716
$Si_2H_6Te^+$	$(SiH_3)_2Te$ (RN-CAS Registry Number 19415-73-7)	**	8.63 (V)	PE	3656
SiC_2^+	SiC_2 (RN-CAS Registry Number 12071-27-1)	**	10.1±0.5	EI	4005
SiC_2^+	SiC_2 (RN-CAS Registry Number 12071-27-1)	**	10.3±0.5	EI	3969
Si_2C^+	Si_2C (RN-CAS Registry Number XXXXX-XX-X)	**	9.0±0.5	EI	4005
Si_2C^+	Si_2C (RN-CAS Registry Number XXXXX-XX-X)	**	9.5±0.5	EI	3969
CH_3Si^+	$CH_2=CHSi(CH_3)_3$ (RN-CAS Registry Number 754-05-2)		~15	EI	3809
CH_5Si^+	$CH_2=CHSi(CH_3)_3$ (RN-CAS Registry Number 754-05-2)		~15	EI	3809
$C_2H_6Si^+$	$1\text{-}C_4H_8$ (RN-CAS Registry Number 7291-09-0)	**	10.37 (V)	PE	3950
$C_2H_6Si^+$	$CH_2=CHSiH_3$ (RN-CAS Registry Number 7291-09-0)	**	10.4 (V)	PE	3940
$C_2H_7Si^+$	$CH_2=CHSi(CH_3)_3$ (RN-CAS Registry Number 754-05-2)		~13	EI	3809
$C_3H_8Si^+$	$CH_2=CHCH_2SiH_3$ (RN-CAS Registry Number 18191-59-8)	**	9.49 (V)	PE	3950
$C_3H_8Si^+$	C_3H_8Si (Silacyclobutane) (RN-CAS Registry Number 287-29-6)	**	10.05 (V)	PE	4077
$C_3H_8Si^+$	$CH_2=CHSi(CH_3)_3$ (RN-CAS Registry Number 754-05-2)	C_2H_4	~10	EI	3809

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_9Si^+$	$(CH_3)_4Si$	CH_3	10.53±0.20	EI	3548
	(RN-CAS Registry Number 75-76-3)				
$C_3H_9Si^+$	$CH_2=CHSi(CH_3)_3$	C_2H_3	~11	EI	3809
	(RN-CAS Registry Number 754-05-2)				
$C_3H_9Si^+$	$(CH_3)_3SiSi(CH_3)_3$	$(CH_3)_3Si$	10.22±0.18	EI	3548
	(RN-CAS Registry Number 1450-14-2)				
$C_3H_9Si^+$	$C_6H_5Si_2(CH_3)_5$	$C_6H_5Si(CH_3)_2$	10.08±0.09	EI	3549
	(Disilane, pentamethylphenyl-)				
	(RN-CAS Registry Number 1130-17-2)				
	(TR-Other product(s) thermochemically reasonable)				
$C_3H_9Si^+$	$(C_6H_5)_2SiCH_3Si(CH_3)_3$		10.59±0.03	EI	3549
	(Disilane, 1,1,1,2-tetramethyl-2,2-diphenyl-)				
	(RN-CAS Registry Number 1450-16-4)				
	(TR-Other product(s) thermochemically reasonable)				
	(OP-the other product(s) is(are): $(C_6H_5)_2SiCH_3$)				
$C_3H_9Si^+$	$(C_6H_5(CH_3)_2Si)_2$	$(C_6H_5)_2SiCH_3$	11.04±0.03	EI	3549
	(Disilane, 1,1,2,2-tetramethyl-1,2-diphenyl-)				
	(RN-CAS Registry Number 1145-98-8)				
	(TR-Other product(s) thermochemically reasonable)				
$C_3H_9Si^+$	$(C_6H_5)_3SiSi(CH_3)_3$	$(C_6H_5)_3Si$	10.83±0.09	EI	3549
	(Disilane, 1,1,1-trimethyl-2,2,2-triphenyl-)				
	(RN-CAS Registry Number 1450-18-6)				
	(TR-Other product(s) thermochemically reasonable)				
$C_3H_9Si^+$	$(CH_3)_3SiOSi(CH_3)_3$		15.4±0.2	EI	3444
	(RN-CAS Registry Number 107-46-0)				
$C_3H_9Si^+$	$(CH_3)_3SiOSi(CH_3)_2OSi(CH_3)_3$		15.8±0.2	EI	3444
	(RN-CAS Registry Number 107-51-7)				
$C_3H_9Si^+$	$(CH_3)_3SiOSi(CH_3)(C_2H_3)OSi(CH_3)_3$		15.4±0.2	EI	3444
	(RN-CAS Registry Number 5356-85-4)				
$C_3H_9Si^+$	$(CH_3)_3SiOSi(CH_3)(C_2H_5)OSi(CH_3)_3$		15.3±0.2	EI	3444
	(RN-CAS Registry Number 17861-60-8)				
$C_3H_9Si^+$	$(CH_3)_3SiGe(CH_3)_3$	$(CH_3)_3Ge$	10.19±0.12	EI	3548
	(RN-CAS Registry Number 31608-80-7)				
$C_3H_9Si^+$	$(CH_3)_3SiSn(CH_3)_3$	$(CH_3)_3Sn$	10.18±0.26	EI	3548
	(RN-CAS Registry Number 16393-88-7)				
$C_4H_9Si^+$	$CH_2=CHSi(CH_3)_3$	CH_3	~9	EI	3809
	(RN-CAS Registry Number 754-05-2)				
$C_4H_{12}Si^+$	$(CH_3)_4Si$	**	9.42±0.1	PE	3677
	(RN-CAS Registry Number 75-76-3)				
$C_4H_{12}Si^+$	$(CH_3)_4Si$	**	9.79±0.04	PE	3880
	(RN-CAS Registry Number 75-76-3)				
$C_4H_{12}Si^+(^2A_1)$	$(CH_3)_4Si$	**	15.62 (V)	PE	3503
	(RN-CAS Registry Number 75-76-3)				
$C_4H_{12}Si^+$	$(CH_3)_4Si$	**	9.85±0.16	EI	3548
	(RN-CAS Registry Number 75-76-3)				
$C_5H_{10}Si^+$	$(CH_3)_3SiC\equiv CH$	**	9.9±0.1	PE	4002
	(RN-CAS Registry Number 1066-54-2)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{12}Si^+$	$(CH_3)_3SiCH=CH_2$ (RN-CAS Registry Number 754-05-2)	**	9.8 (V)	PE	3940
$C_5H_{12}Si^+$	$(CH_3)_3SiCH=CH_2$ (RN-CAS Registry Number 754-05-2)	**	9.8 (V)	PE	3908
$C_5H_{12}Si^+$	$CH_2=CHSi(CH_3)_3$ (RN-CAS Registry Number 754-05-2)	**	9.2	EI	3809
$C_5H_{12}Si^+$	$C_3H_6Si(CH_3)_2$ (Silacyclobutane, 1,1-dimethyl-) (RN-CAS Registry Number 2295-12-7)	**	9.40 (V)	PE	4077
$C_6H_8Si^+$	$C_6H_5SiH_3$ (Silane, phenyl-) (RN-CAS Registry Number 694-53-1)	**	9.09	PE	3868
$C_6H_8Si^+$	$C_6H_5SiH_3$ (Silane, phenyl-) (RN-CAS Registry Number 694-53-1)	**	9.25	PE	3922
$C_6H_{12}Si^+$	$(C_2H_3)_2Si(CH_3)_2$ (RN-CAS Registry Number 10519-87-6)	**	9.8 (V)	PE	3994
$C_6H_{14}Si^+$	$(CH_3)_3SiCH_2CH=CH_2$ (RN-CAS Registry Number 762-72-1)	**	9.0 (V)	PE	3908
$C_6H_{14}Si^+$	$(CH_3)_3SiCH_2CH=CH_2$ (RN-CAS Registry Number 762-72-1)	**	9.0 (V)	PE	3940
$C_6H_{14}Si^+$	$C_3H_5Si(CH_3)_3$ (Silacyclobutane, 1,1,2-trimethyl-) (RN-CAS Registry Number 30681-90-4)	**	9.20 (V)	PE	4077
$C_6H_{14}Si^+$	$C_4H_8Si(CH_3)_2$ (Silacyclopentane, 1,1-dimethyl-) (RN-CAS Registry Number 1072-54-4)	**	9.75 (V)	PE	4077
$C_8H_{11}Si^+$	$C_6H_5Si(CH_3)_2H$ (Silane, dimethylphenyl-) (RN-CAS Registry Number 766-77-8) (TR-Other product(s) thermochemically reasonable)	H	10.43±0.04	EI	3549
$C_8H_{11}Si^+$	$C_6H_5Si(CH_3)_3$ (Silane, trimethylphenyl-) (RN-CAS Registry Number 768-32-1) (TR-Other product(s) thermochemically reasonable)	CH_3	10.26±0.03	EI	3549
$C_8H_{11}Si^+$	$C_6H_5Si_2(CH_3)_5$ (Disilane, pentamethylphenyl-) (RN-CAS Registry Number 1130-17-2) (TR-Other product(s) thermochemically reasonable)	$Si(CH_3)_3$	9.86±0.06	EI	3549
$C_8H_{11}Si^+$	$(C_6H_5)_2SiCH_3Si(CH_3)_3$ (Disilane, 1,1,1,2-tetramethyl-2,2-diphenyl-) (RN-CAS Registry Number 1450-16-4) (TR-Other product(s) thermochemically reasonable)	$C_6H_5Si(CH_3)_2$	9.75±0.04	EI	3549
$C_8H_{11}Si^+$	$(C_6H_5(CH_3)_2Si)_2$ (Disilane, 1,1,2,2-tetramethyl-1,2-diphenyl-) (RN-CAS Registry Number 1145-98-8) (TR-Other product(s) thermochemically reasonable)	$C_6H_5Si(CH_3)_2$	9.87±0.08	EI	3549

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{11}Si^+$	$(C_6H_5)_3SiSi(CH_3)_3$ (Disilane, 1,1,1-trimethyl-2,2,2-triphenyl-) (RN-CAS Registry Number 1450-18-6)	$(C_6H_5)_2SiCH_3$	10.13±0.03	EI	3549
(TR-Other product(s) thermochemically reasonable)					
$C_8H_{12}Si^+$	$(C_2H_3)_4Si$ (RN-CAS Registry Number 1112-55-6)	**	9.7 (V)	PE	3994
$C_8H_{12}Si^+$	$C_6H_5Si(CH_3)_2H$ (Silane, dimethylphenyl-) (RN-CAS Registry Number 766-77-8)	**	8.92±0.15	EI	3549
$C_9H_{14}Si^+$	$C_6H_5Si(CH_3)_3$ (Silane, trimethylphenyl-) (RN-CAS Registry Number 768-32-1)	**	8.81±0.15	EI	3549
$C_9H_{14}Si^+$	$C_6H_5Si(CH_3)_3$ (Silane, trimethylphenyl-) (RN-CAS Registry Number 768-32-1)	**	8.79	CTS	3922
$C_{10}H_{10}Si^+$	$C_{10}H_7SiH_3$ (Silane, 1-naphthalenyl-) (RN-CAS Registry Number 38274-75-8)	**	8.12	CTS	3922
$C_{10}H_{14}Si^+$	$C_8H_8Si(CH_3)_2$ (1-Silaindan, 1,1-dimethyl-) (RN-CAS Registry Number 17158-48-4)	**	8.54	CTS	3546
$C_{10}H_{14}Si^+$	$C_8H_8Si(CH_3)_2$ (1*H*-2-Silaindene, 2,3-dihydro-2,2-dimethyl-) (RN-CAS Registry Number 2764-87-6)	**	8.41	CTS	3546
$C_{10}H_{16}Si^+$	$C_6H_5CH_2Si(CH_3)_3$ (Silane, trimethyl(phenylmethyl)-) (RN-CAS Registry Number 770-09-2)	**	8.27	CTS	3922
$C_{10}H_{16}Si^+$	$C_6H_5CH_2Si(CH_3)_3$ (Silane, trimethyl(phenylmethyl)-) (RN-CAS Registry Number 770-09-2)	**	8.37	CTS	3546
$C_{11}H_{16}Si^+$	$C_6H_5CH{=}CHSi(CH_3)_3$ (Silane, trimethyl(2-phenylethenyl)-, (E)-) (RN-CAS Registry Number 19372-00-0)	**	7.89±0.04	RPD	4097
$C_{11}H_{16}Si^+$	$C_6H_5CH{=}CHSi(CH_3)_3$ (Silane, trimethyl(2-phenylethenyl)-, (Z)-) (RN-CAS Registry Number 19319-11-0)	**	8.19±0.04	RPD	4097
$C_{11}H_{16}Si^+$	$C_6H_5C(Si(CH_3)_3){=}CH_2$ (Silane, trimethyl(1-phenylethenyl)-) (RN-CAS Registry Number 1923-01-9)	**	8.23±0.04	RPD	4097
$C_{12}H_{16}Si^+$	$C_9H_7Si(CH_3)_3$ (Silane, 1*H*-inden-1-yltrimethyl-)) (RN-CAS Registry Number 18053-75-3)	**	7.65±0.01	EI	3805

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{18}Si^+$	$C_9H_9Si(CH_3)_3$ (Silane, (2,3-dihydro-1*H*-inden-1-yl)trimethyl-) (RN-CAS Registry Number 18036-88-9)	**	7.87±0.01	EI	3805
$C_{12}H_{18}Si^+$	$C_9H_9Si(CH_3)_3$ (Silane, 1-indanyltrimethyl-) (RN-CAS Registry Number 18036-88-9)	**	8.13	CTS	3546
$C_{12}H_{18}Si^+$	$C_6H_5CH=CHCH_2Si(CH_3)_3$ (Silane, trimethyl(3-phenyl-2-propenyl)-, (E)-) (RN-CAS Registry Number 40595-34-4)	**	7.61±0.04	RPD	4097
$C_{12}H_{18}Si^+$	$C_6H_5CH=CHCH_2Si(CH_3)_3$ (Silane, trimethyl(3-phenyl-2-propenyl)-, (Z)-) (RN-CAS Registry Number 40595-35-5)	**	7.77±0.04	RPD	4097
$C_{13}H_{13}Si^+$	$(C_6H_5)_2Si(CH_3)H$ (Silane, methyldiphenyl-) (RN-CAS Registry Number 776-76-1)	H	10.97±0.12	EI	3549
$C_{13}H_{13}Si^+$	$(C_6H_5)_2SiCH_3Si(CH_3)_3$ (Disilane, 1,1,1,2-tetramethyl-2,2-diphenyl-) (RN-CAS Registry Number 1450-16-4)	$(CH_3)_3Si$	9.63±0.02	EI	3549
(MT-Metastable transition(s) observed) (TR-Other product(s) thermochemically reasonable)					
$C_{13}H_{13}Si^+$	$(C_6H_5(CH_3)_2Si)_2$ (Disilane, 1,1,2,2-tetramethyl-1,2-diphenyl-) (RN-CAS Registry Number 1145-98-8)	$(CH_3)_3Si$	9.60±0.02	EI	3549
(TR-Other product(s) thermochemically reasonable)					
$C_{13}H_{13}Si^+$	$((C_6H_5)_2CH_3Si)_2$ (Disilane, 1,2-dimethyl-1,1,2,2-tetraphenyl-) (RN-CAS Registry Number 1172-76-5)	$(C_6H_5)_2SiCH_3$	9.51±0.05	EI	3549
(TR-Other product(s) thermochemically reasonable)					
$C_{13}H_{14}Si^+$	$(C_6H_5)_2Si(CH_3)H$ (Silane, methyldiphenyl-) (RN-CAS Registry Number 776-76-1)	**	8.75±0.15	EI	3549
$C_{13}H_{16}Si^+$	$C_{10}H_7Si(CH_3)_3$ (Silane, trimethyl-1-naphthalenyl-) (RN-CAS Registry Number 18052-80-7)	**	8.03	CTS	3758
$C_{14}H_{14}Si^+$	$C_{12}H_8Si(CH_3)_2$ (5*H*-Dibenzosilole, 5,5-dimethyl-) (RN-CAS Registry Number 13688-68-1)	**	7.9 (V)	PE	4081
$C_{14}H_{18}Si^+$	$C_{10}H_7CH_2Si(CH_3)_3$ (Silane, trimethyl(1-naphthalenylmethyl)-) (RN-CAS Registry Number 18410-58-7)	**	7.83	CTS	3922
$C_{14}H_{18}Si^+$	$C_{10}H_7CH_2Si(CH_3)_3$ (Silane, trimethyl(1-naphthalenylmethyl)-) (RN-CAS Registry Number 18410-58-7)	**	7.83	CTS	3758

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{17}H_{18}Si^+$	$C_9H_7Si(CH_3)_2C_6H_5$ (Silane, 1*H*-inden-1-yldimethylphenyl-) (RN-CAS Registry Number 27490-90-0)	**	7.69±0.04	EI	3805
$C_{17}H_{20}Si^+$	$C_9H_9Si(CH_3)_2C_6H_5$ (Silane, (2,3-dihydro-1*H*-inden-1-yl)dimethylphenyl-) (RN-CAS Registry Number 41273-54-5)	**	7.94±0.01	EI	3805
$C_{18}H_{15}Si^+$	$(C_6H_5)_3SiH$ (Silane, triphenyl-) (RN-CAS Registry Number 789-25-3)	H	9.58±0.08	EI	3549
(TR-Other product(s) thermochemically reasonable)					
$C_{18}H_{15}Si^+$	$(C_6H_5)_4Si$ (Silane, tetraphenyl-) (RN-CAS-Registry Number 1048-08-4)	C_6H_5	9.7	PI	4055
$C_{18}H_{15}Si^+$	$(C_6H_5)_4Si$ (Silane, tetraphenyl-) (RN-CAS Registry Number 1048-08-4)	C_6H_5	9.93±0.08	EI	3549
(TR-Other product(s) thermochemically reasonable)					
$C_{18}H_{15}Si^+$	$(C_6H_5)_3SiSi(CH_3)_3$ (Disilane, 1,1,1-trimethyl-2,2,2-triphenyl-) (RN-CAS Registry Number 1450-18-6)	$(CH_3)_3Si$	9.35±0.03	EI	3549
(TR-Other product(s) thermochemically reasonable)					
$C_{18}H_{15}Si^+$	$((C_6H_5)_2CH_3Si)_2$ (Disilane, 1,2-dimethyl-1,1,2,2-tetraphenyl-) (RN-CAS Registry Number 1172-76-5)	$C_6H_5Si(CH_3)_2$	9.35±0.03	EI	3549
(TR-Other product(s) thermochemically reasonable)					
$C_{18}H_{15}Si^+$	$((C_6H_5)_3Si)_2$ (Disilane, hexaphenyl-) (RN-CAS Registry Number 1450-23-3)	$(C_6H_5)_3Si$	9.61±0.09	EI	3549
(TR-Other product(s) thermochemically reasonable)					
$C_{18}H_{16}Si^+$	$(C_6H_5)_3SiH$ (Silane, triphenyl-) (RN-CAS Registry Number 789-25-3)	**	8.80±0.15	EI	3549
$C_{22}H_{20}Si^+$	$C_{10}H_7Si(CH_3)_2C_{10}H_7$ (Silane, dimethyl-di-1-naphthalenyl-) (RN-CAS Registry Number 18753-19-0)	**	8.03	CTS	3758
$C_{24}H_{16}Si^+$	$C_{24}H_{16}Si$ (5,5'-Spirobi[5*H*-dibenzosilole]) (RN-CAS Registry Number 159-68-2)	**	7.85 (V)	PE	4081
$C_{24}H_{20}Si^+$	$(C_6H_5)_4Si$ (Silane, tetraphenyl-) (RN-CAS-Registry Number 1048-08-4)	**	8.50±0.03	PI	4055
$C_{24}H_{20}Si^+$	$(C_6H_5)_4Si$ (Silane, tetraphenyl-) (RN-CAS Registry Number 1048-08-4)	**	8.65±0.15	EI	3549

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{18}Si_2^+$	$(CH_3)_3SiSi(CH_3)_3$ (RN-CAS Registry Number 1450-14-2)	**	8.69 (V)	PE	3504
$C_6H_{18}Si_2^+$	$(CH_3)_3SiSi(CH_3)_3$ (RN-CAS Registry Number 1450-14-2)	**	8.35±0.12	EI	3548
$C_6H_{18}Si_2^+$	$(CH_3)_3SiSi(CH_3)_3$ (RN-CAS Registry Number 1450-14-2)	**	8.46±0.15	EI	3549
$C_{11}H_{20}Si_2^+$	$C_6H_5Si_2(CH_3)_5$ (Disilane, pentamethylphenyl-) (RN-CAS Registry Number 1130-17-2)	**	8.35 (V)	PE	3946
$C_{11}H_{20}Si_2^+$	$C_6H_5Si_2(CH_3)_5$ (Disilane, pentamethylphenyl-) (RN-CAS Registry Number 1130-17-2)	**	8.35±0.15	EI	3549
$C_{11}H_{20}Si_2^+$	$C_6H_5Si_2(CH_3)_5$ (Disilane, pentamethylphenyl-) (RN-CAS Registry Number 1130-17-2)	**	8.37	CTS	3946
$C_{12}H_{10}Si_2^+$	$C_8H_8Si(CH_3)Si(CH_3)_3$ (2-Silaindan, 2-methyl-2-(trimethylsilyl)-) (RN-CAS Registry Number 27490-20-6)	**	8.37	CTS	3546
$C_{12}H_{22}Si_2^+$	$C_6H_5CH_2Si_2(CH_3)_5$ (Disilane, pentamethyl(phenylmethyl)-) (RN-CAS Registry Number 3098-82-6)	**	8.27	CTS	3546
$C_{13}H_{22}Si_2^+$	$C_6H_5CH=CHSi_2(CH_3)_5$ (Disilane, pentamethyl(2-phenylethenyl)-, (E)-) (RN-CAS Registry Number 40595-36-6)	**	7.73±0.04	RPD	4097
$C_{14}H_{24}Si_2^+$	$C_9H_9Si_2(CH_3)_5$ (Disilane, 1-indanylpentamethyl-) (RN-CAS Registry Number 27490-23-9)	**	8.07	CTS	3546
$C_{14}H_{24}Si_2^+$	$C_6H_5CH=C(Si(CH_3)_3)_2$ (Silane, (phenylethenylidene)bis[trimethyl-) (RN-CAS Registry Number 18415-23-1)	**	8.12±0.04	RPD	4097
$C_{15}H_{22}Si_2^+$	$C_{10}H_7Si_2(CH_3)_5$ (Disilane, pentamethyl-1-naphthalenyl-) (RN-CAS Registry Number 38446-40-1)	**	7.95	CTS	3758
$C_{15}H_{24}Si_2^+$	$C_9H_6(Si(CH_3)_3)_2$ (Silane, 1*H*-indene-1,2-diylbis[trimethyl-) (RN-CAS Registry Number 26205-36-7)	**	7.54±0.01	EI	3805
$C_{16}H_{22}Si_2^+$	$(C_6H_5)_2SiCH_3Si(CH_3)_3$ (Disilane, 1,1,1,2-tetramethyl-2,2-diphenyl-) (RN-CAS Registry Number 1450-16-4)	**	8.38±0.15	EI	3549
$C_{16}H_{22}Si_2^+$	$(C_6H_5(CH_3)_2Si)_2$ (Disilane, 1,1,2,2-tetramethyl-1,2-diphenyl-) (RN-CAS Registry Number 1145-98-8)	**	8.11±0.15	EI	3549

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{21}H_{24}Si_2^+$	$(C_6H_5)_3SiSi(CH_3)_3$ (Disilane, 1,1,1-trimethyl-2,2,2-triphenyl-) (RN-CAS Registry Number 1450-18-6)	**	8.30±0.15	EI	3549
$C_{24}H_{26}Si_2^+$	$C_{10}H_7(Si(CH_3)_2)_2C_{10}H_7$ (Disilane, 1,1,2,2-tetramethyl-1,2-di-1-naphthalenyl-) (RN-CAS Registry Number 38446-41-2)	**	7.91	CTS	3758
$C_{26}H_{26}Si_2^+$	$((C_6H_5)_2CH_3Si)_2$ (Disilane, 1,2-dimethyl-1,1,2,2-tetraphenyl-) (RN-CAS Registry Number 1172-76-5)	**	8.05±0.15	EI	3549
$C_{36}H_{30}Si_2^+$	$((C_6H_5)_3Si)_2$ (Disilane, hexaphenyl-) (RN-CAS Registry Number 1450-23-3)	**	8.16±0.15	EI	3549
$C_8H_{24}Si_3^+$	$Si_3(CH_3)_8$ (RN-CAS Registry Number 3704-44-7)	**	8.19 (V)	PE	3504
$C_{17}H_{28}Si_3^+$	$C_{10}H_7Si_3(CH_3)_7$ (Trisilane, 1,1,1,2,2,3,3-heptamethyl-3-(1-naphthalenyl)-) (RN-CAS Registry Number 38446-42-3)	**	7.93	CTS	3758
$C_{17}H_{28}Si_3^+$	$C_{10}H_7Si(Si(CH_3)_3)_2CH_3$ (Trisilane, 1,1,1,2,3,3,3-heptamethyl-2-)(-naphthalenyl)-) (RN-CAS Registry Number 38446-43-4)	**	7.85	CTS	3758
$C_{26}H_{32}Si_3^+$	$C_{10}H_7(Si(CH_3)_2)_3C_{10}H_7$ (Trisilane, 1,1,2,2,3,3-hexamthyl-1,3-di-1-naphthalenyl-) (RN-CAS Registry Number 38580-43-7)	**	7.92	CTS	3758
$C_6H_{16}Si_4^+$	$C_6H_{16}Si_4$ (1,3,5,7-Tetrasilatricyclo[3.3.1.1^{3,7}]decane) (RN-CAS Registry Number 281-44-7) (ON-Other name: 1,3,5,7-Tetrasilaadamantane)	**	9.0±0.05	PE	3855
$C_6H_{16}Si_4^+$	$C_6H_{16}Si_4$ (1,3,5,7-Tetrasilatricyclo[3.3.1.1^{3,7}]decane) (RN-CAS Registry Number 281-44-7) (ON-Other name: Silamantane)	**	9.7 (V)	PE	4000
$C_{10}H_{24}Si_4^+$	$C_6H_{12}Si_4(CH_3)_4$ (1,3,5,7-Tetrasilatricyclo[3.3.1.1^{3,7}]decane, 1,3,5,7-tetramethyl)-) (RN-CAS Registry Number 17995-33-4) (ON-Other name: 1,3,5,7-Tetramethyl-1,3,5,7-tetrasilaadamantane)	**	8.45±0.05	PE	3855
$C_{10}H_{30}Si_4^+$	n-$Si_4(CH_3)_{10}$ (RN-CAS Registry Number 865-76-9)	**	7.98 (V)	PE	3504
$C_{10}H_{30}Si_5^+$	$Si_5(CH_3)_{10}$ (Cyclopentasilane, decamethyl-) (RN-CAS Registry Number 13452-92-1)	**	7.94 (V)	PE	3504

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{36}Si_5^+$	$Si(Si(CH_3)_3)_4$ (RN-CAS Registry Number 4098-98-0)	**	8.24 (V)	PE	3504
$C_{12}H_{36}Si_6^+$	$Si_6(CH_3)_{12}$ (Cyclohexasilane, dodecamethyl-) (RN-CAS Registry Number 4098-30-0)	**	7.79 (V)	PE	3504
$C_{16}H_{36}Si_7^+$	$C_{10}H_{18}Si_7(CH_3)_6$ (2*H*-1,5:8,12-Dimethano-3,6a,10-metheno-1,3,5,6a,8,10,12-heptasilaoctalene, dodecahydro-1, 3,5,8,10,12-hexamethyl-) (RN-CAS Registry Number 26393-20-4) (ON-Other name: Carborundane)	**	7.9±0.05	PE	3855
Si_2N^+	Si_2N (RN-CAS Registry Number XXXXX-XX-X)	**	9.5±0.5	EI	3810
$SiH_3N_3^+(^2A'')$	SiH_3N_3 (RN-CAS Registry Number 13847-60-4)	**	10.33±0.02 (V)	PE	3670
$Si_3H_9N^+$	$(SiH_3)_3N$ (RN-CAS Registry Number 13862-16-3)	**	9.7±0.1 (V)	PE	3661
$C_2H_9NSi^+$	$(CH_3)_2NSiH_3$ (RN-CAS Registry Number 2875-98-1)	**	8.5±0.1 (V)	PE	3661
$C_8H_{13}NSi^+$	$C_5H_4NS(CH_3)_3$ (Pyridine, 2-(trimethylsilyl)-) (RN-CAS Registry Number 13737-04-7)	**	8.90±0.05 (V)	PE	3685
$C_8H_{13}NSi^+$	$C_5H_4NS(CH_3)_3$ (Pyridine, 4-(trimethylsilyl)-) (RN-CAS Registry Number 18301-46-7)	**	9.30±0.05 (V)	PE	3685
$C_3H_9N_3Si^+$	$(CH_3)_3SiN_3$ (RN-CAS Registry Number 4648-54-8)	**	9.7±0.1 (V)	PE	3670
$C_8H_{24}N_4Si^+$	$((CH_3)_2N)_4Si$ (RN-CAS Registry Number 1624-01-7)	**	8.39 (V)	PE	3503
$CH_9NSi_2^+$	$(SiH_3)_2NCH_3$ (RN-CAS Registry Number 4459-06-7)	**	9.2±0.1 (V)	PE	3661
$C_{11}H_{21}NSi_2^+$	$C_5H_3N(S(CH_3)_3)_2$ (Pyridine, 2,5-bis(trimethylsilyl)-) (RN-CAS Registry Number 35505-51-2)	**	8.65±0.05 (V)	PE	3685
$C_{11}H_{21}NSi_2^+$	$C_5H_3N(S(CH_3)_3)_2$ (Pyridine, 2,6-bis(trimethylsilyl)-) (RN-CAS Registry Number 35505-52-3)	**	8.50±0.05 (V)	PE	3685
SiO^+	SiO (RN-CAS Registry Number 10097-28-6)	**	10.2±0.5	EI	3985
SiO^+	SiO (RN-CAS Registry Number 10097-28-6)	**	11.3±0.3	EI	4005

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
SiO^+	SiO (RN–CAS Registry Number 10097–28–6)	**	11.3±0.5	EI	3810
SiO^+	SiO (RN–CAS Registry Number 10097–28–6)	**	11.5±0.3	EI	3610
$Si_2H_6O^+(^2B_1)$	$(SiH_3)_2O$ (RN–CAS Registry Number 13597–73–4)	**	11.17 (V)	PE	3656
$Si_2H_6O^+$	$(SiH_3)_2O$ (RN–CAS Registry Number 13597–73–4)	**	11.19 (V)	PE	3844
CH_6OSi^+	CH_3OSiH_3 (RN–CAS Registry Number 2171–96–2)	**	10.61 (V)	PE	3844
$C_3H_9SiO^+$	$(CH_3)_3SiOSi(CH_3)_3$ (RN–CAS Registry Number 107–46–0)		21.8±0.2	EI	3444
$C_3H_9SiO^+$	$(CH_3)_3SiOSi(CH_3)_2OSi(CH_3)_3$ (RN–CAS Registry Number 107–51–7)		21.8±0.2	EI	3444
$C_3H_9SiO^+$	$(CH_3)_3SiOSi(CH_3)(C_2H_3)OSi(CH_3)_3$ (RN–CAS Registry Number 5356–85–4)		23.6±0.2	EI	3444
$C_3H_9SiO^+$	$(CH_3)_3SiOSi(CH_3)(C_2H_5)OSi(CH_3)_3$ (RN–CAS Registry Number 17861–60–8)		21.8±0.2	EI	3444
$C_{10}H_{16}OSi^+$	$C_6H_4(OCH_3)Si(CH_3)_3$ (Silane, (4–methoxyphenyl)trimethyl–) (RN–CAS Registry Number 877–68–9)	**	8.03	CTS	3758
$C_{13}H_{18}OSi^+$	$C_9H_7Si(CH_3)_2OC_2H_5$ (Silane, ethoxy–1*H*–inden–1–yldimethyl–) (RN–CAS Registry Number 41273–57–8)	**	7.63±0.01	EI	3805
$C_{13}H_{20}OSi^+$	$C_9H_9Si(CH_3)_2OC_2H_5$ (Silane, (2,3–dihydro–1*H*–inden–1–yl)ethoxydimethyl–) (RN–CAS Registry Number 41273–53–4)	**	7.81±0.01	EI	3805
$C_5H_{12}O_2Si^+$	$C_3H_6Si(OCH_3)_2$ (Silacyclobutane, 1,1–dimethoxy–) (RN–CAS Registry Number 33446–84–3)	**	10.15 (V)	PE	4077
$C_8H_{20}O_4Si^+$	$(C_2H_5O)_4Si$ (RN–CAS Registry Number 78–10–4)	**	9.77 (V)	PE	3503
$C_{12}H_{22}OSi_2^+$	$C_6H_4(OCH_3)Si_2(CH_3)_5$ (Disilane, (4–methoxphenyl)pentametyl–) (RN–CAS Registry Number 4199–03–5)	**	7.85	CTS	3758
Si_2NO^+	Si_2NO (RN–CAS Registry Number 12033–47–5)	**	10.8±0.5	EI	3810
CH_3NOSi^+	SiH_3NCO (RN–CAS Registry Number 13730–13–7)	**	11.10±0.02 (V)	PE	3670

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_9NOSi^+$	$(CH_3)_3SiNCO$ (RN-CAS Registry Number 1118-02-1)	**	10.3±0.1 (V)	PE	3670
$SiF_4^+(^2T_1)$	SiF_4 (RN-CAS Registry Number 7783-61-1)	**	16.46±0.04 (V)	PE	3880
$SiF_4^+(^2T_2)$	SiF_4 (RN-CAS Registry Number 7783-61-1)	**	17.55±0.04 (V)	PE	3880
$SiF_4^+(^2A_1)$	SiF_4 (RN-CAS Registry Number 7783-61-1)	**	18.09±0.04 (V)	PE	3880
$SiF_4^+(^2E)$	SiF_4 (RN-CAS Registry Number 7783-61-1)	**	19.51±0.04 (V)	PE	3880
$Si_2F_6^+$	Si_2F_6 (RN-CAS Registry Number 13830-68-7)	**	13.20±0.02 (V)	PE	4026
$SiH_3F^+(^2E)$	SiH_3F (RN-CAS Registry Number 13537-33-2)	**	12.58 (V)	PE	3511
$SiH_3F^+(^2E)$	SiH_3F (RN-CAS Registry Number 13537-33-2)	**	12.6±0.1 (V)	PE	3510
$SiH_3F^+(^2A_1)$	SiH_3F (RN-CAS Registry Number 13537-33-2)	**	~16 (V)	PE	3510
SiH_3F^+	SiH_3F (RN-CAS Registry Number 13537-33-2)	**	16.1±0.1 (V)	PE	3502
$SiH_3F^+(^2A_1)$	SiH_3F (RN-CAS Registry Number 13537-33-2)	**	~16.13 (V)	PE	3511
$SiH_3F^+(^2E)$	SiH_3F (RN-CAS Registry Number 13537-33-2)	**	16.2±0.1 (V)	PE	3510
$SiH_3F^+(^2E)$	SiH_3F (RN-CAS Registry Number 13537-33-2)	**	~16.58 (V)	PE	3511
$SiH_3F^+(^2A_1)$	SiH_3F (RN-CAS Registry Number 13537-33-2)	**	19.29 (V)	PE	3511
$SiH_2F_2^+(^2B_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	12.85 (V)	PE	3511
$SiH_2F_2^+(^2B_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	12.85 (V)	PE	3694
$SiH_2F_2^+(^2B_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	12.9±0.1 (V)	PE	3510
$SiH_2F_2^+(^2A_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	15.20 (V)	PE	3511
$SiH_2F_2^+(^2A_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	15.20 (V)	PE	3694
$SiH_2F_2^+(^2B_2)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	16.07 (V)	PE	3511
$SiH_2F_2^+(^2B_2)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	16.07 (V)	PE	3694
$SiH_2F_2^+(^2A_2)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	16.37 (V)	PE	3511
$SiH_2F_2^+(^2A_2)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	16.37 (V)	PE	3694
$SiH_2F_2^+(^2B_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	17.60 (V)	PE	3511

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SiH_2F_2^+(^2B_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	17.60 (V)	PE	3694
$SiH_2F_2^+(^2A_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	17.93 (V)	PE	3511
$SiH_2F_2^+(^2B_2)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	17.93 (V)	PE	3694
$SiH_2F_2^+(^2B_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	18.30 (V)	PE	3511
$SiH_2F_2^+(^2A_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	18.30 (V)	PE	3694
$SiH_2F_2^+(^2A_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	20.19 (V)	PE	3511
$SiH_2F_2^+(^2A_1)$	SiH_2F_2 (RN-CAS Registry Number 13824-36-7)	**	20.19 (V)	PE	3694
$SiHF_3^+(^2A_1)$	$SiHF_3$ (RN-CAS Registry Number 13465-71-9)	**	14.48±0.02 (V)	PE	4026
$SiHF_3^+(^2A_2)$	$SiHF_3$ (RN-CAS Registry Number 13465-71-9)	**	15.94±0.02 (V)	PE	4026
$SiHF_3^+(^2E)$	$SiHF_3$ (RN-CAS Registry Number 13465-71-9)	**	16.38±0.02 (V)	PE	4026
$SiHF_3^+(^2E)$	$SiHF_3$ (RN-CAS Registry Number 13465-71-9)	**	17.24±0.02 (V)	PE	4026
$SiHF_3^+(^2A_1)$	$SiHF_3$ (RN-CAS Registry Number 13465-71-9)	**	18.20±0.02 (V)	PE	4026
$SiHF_3^+(^2E)$	$SiHF_3$ (RN-CAS Registry Number 13465-71-9)	**	18.61±0.02 (V)	PE	4026
$SiHF_3^+(^2A_1)$	$SiHF_3$ (RN-CAS Registry Number 13465-71-9)	**	20.94±0.02 (V)	PE	4026
$SiF_3C^+(^2A_1)$	SiF_3Cl (RN-CAS Registry Number 14049-36-6)	**	20.86±0.02 (V)	PE	4026
$C_5H_9SiF^+$	$(CH_3)_3SiC{\equiv}CF$ (RN-CAS Registry Number 38346-22-4)	**	9.8±0.1	PE	4002
$CH_3F_3Si^+$	CH_3SiF_3 (RN-CAS Registry Number 373-74-0)	**	13.24±0.02 (V)	PE	4026
$C_7H_{10}F_6Si^+$	*cis*-$(CH_3)_3SiC(CF_3){=}C(CF_3)H$ (RN-CAS Registry Number 35186-03-9)	**	9.86	PE	3589
$C_6H_{12}F_4Si_4^+$	$C_6H_{12}Si_4F_4$ (1,3,5,7-Tetrasilatricyclo[3.3.1.1^{3,7}]decane, 1,3,5,7-tetrafluoro-) (RN-CAS Registry Number 33664-21-0) (ON-Other name: 1,3,5,7-Tetrafluoro-1,3,5,7-tetrasilaadamantane)	**	9.8±0.05	PE	3855
$SiAl^+$	SiAl (RN-CAS Registry Number 12042-55-6)	**	6.5±1.0	EI	4005
$SiAlO^+$	SiAlO (RN-CAS Registry Number 37361-47-0)	**	6.3±1.0	EI	4005

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SiAlO^+$	AlSiO	**	8.0±1	EI	3985
	(RN-CAS Registry Number 37361-47-0)				
P^+	P_2		15.9	EI	3472
	(RN-CAS Registry Number 12185-09-0)				
P^+	PH_3	H_2+H	16.3	DC	3811
	(RN-CAS Registry Number 7803-51-2)				
P^+	PCl_3	Cl_2+Cl	18.5±0.7	EDD	3556
	(RN-CAS Registry Number 7719-12-2)				
(TR-Other product(s) thermochemically reasonable)					
P^+	PBr_3	Br_2+Br	16.7±0.7	EDD	3556
	(RN-CAS Registry Number 7789-60-8)				
(TR-Other product(s) thermochemically reasonable)					
P_2^+	P_2	**	10.7±0.1	S	3567
	(RN-CAS Registry Number 12185-09-0)				
(RS-Average of two Rydberg series limits)					
$P_2^+(^2\Pi_u)$	P_2	**	10.60	PE	3695
	(RN-CAS Registry Number 12185-09-0)				
$P_2^+(^2\Sigma_g)$	P_2	**	10.84 (V)	PE	3695
	(RN-CAS Registry Number 12185-09-0)				
P_2^+	P_2	**	9.7±0.5	EI	3458
	(RN-CAS Registry Number 12185-09-0)				
P_2^+	P_2	**	9.7	EI	4001
	(RN-CAS Registry Number 12185-09-0)				
P_2^+	P_2	**	11.2	EI	3472
	(RN-CAS Registry Number 12185-09-0)				
P_2^+	P_2	**	11.4±0.5	EI	4098
	(RN-CAS Registry Number 12185-09-0)				
P_2^+	P_2	**	11.8±0.5	EI	3555
	(RN-CAS Registry Number 12185-09-0)				
P_4^+	P_4	**	9.10±0.05	PE	3683
	(RN-CAS Registry Number 12185-10-3)				
$P_4^+(^2E)$	P_4	**	9.2	PE	3643
	(RN-CAS Registry Number 12185-10-3)				
$P_4^+(^2T_2)$	P_4	**	10.2	PE	3643
	(RN-CAS Registry Number 12185-10-3)				
$P_4^+(^2A_1)$	P_4	**	11.80±0.07	PE	3643
	(RN-CAS Registry Number 12185-10-3)				
$P_4^+(^2T_2)$	P_4	**	~14.2	PE	3643
	(RN-CAS Registry Number 12185-10-3)				
P_4^+	P_4	**	10.0±0.5	EI	4098
	(RN-CAS Registry Number 12185-10-3)				
P_4^+	P_4	**	10.8±0.3	EI	3555
	(RN-CAS Registry Number 12185-10-3)				
PH^+	PH_3	H_2	12.9	DC	3811
	(RN-CAS Registry Number 7803-51-2)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
PH_2^+	PH_3 (RN-CAS Registry Number 7803-51-2)	H	13.4	DC	3811
$PH_3^+(^2A_1)$	PH_3 (RN-CAS Registry Number 7803-51-2)	**	9.96±0.01	PE	3703
$PH_3^+(^2A_1)$	PH_3 (RN-CAS Registry Number 7803-51-2)	**	9.96	PE	3719
$PH_3^+(^2E)$	PH_3 (RN-CAS Registry Number 7803-51-2)	**	12.40±0.02	PE	3703
$PH_3^+(^2E)$	PH_3 (RN-CAS Registry Number 7803-51-2)	**	12.64±0.02	PE	3719
$PH_3^+(^2A_1)$	PH_3 (RN-CAS Registry Number 7803-51-2)	**	19.0 (V)	PE	3719
PH_3^+	PH_3 (RN-CAS Registry Number 7803-51-2)	**	10.0	DC	3811
BP^+	BP (RN-CAS Registry Number 20205-91-8)	**	⩽13±2	EI	3619
PC^+	PC (RN-CAS Registry Number 12326-85-1)	**	10.5±0.5	EI	3458
C_2P^+	C_2P (RN-CAS Registry Number 12602-39-0)	**	10.9±0.5	EI	3458
CP_2^+	CP_2 (RN-CAS Registry Number 12601-93-3)	**	9.4±0.5	EI	3458
$CHP^+(X^2\Pi)$	HCP (RN-CAS Registry Number 6829-52-3)	**	10.79±0.01	PE	3840
$CHP^+(A^2\Sigma)$	HCP (RN-CAS Registry Number 6829-52-3)	**	12.86±0.01	PE	3840
CH_5P^+	CH_3PH_2 (RN-CAS Registry Number 593-54-4)	**	9.6±0.1 (V)	PE	3661
$C_3H_9P^+$	$(CH_3)_3P$ (RN-CAS Registry Number 594-09-2)	**	8.6±0.1 (V)	PE	3661
$C_4H_{11}P^+$	$(C_2H_5)_2PH$ (RN-CAS Registry Number 627-49-6)	**	8.69	PE	3589
$C_5H_5P^+$	C_5H_5P (Phosphorin) (RN-CAS Registry Number 289-68-9)	**	9.2 (V)	PE	3832
$C_{10}H_9P^+$	$C_6H_5C_4H_4P$ (1*H*-Phosphole, 1-phenyl-) (RN-CAS Registry Number 20342-00-1)	**	8.45 (V)	PE	4090

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{13}P^+$	$C_6H_5C_4H_8P$ (Phospholane, 1-phenyl-) (RN-CAS Registry Number 3302-87-2)	**	8.35 (V)	PE	4090
$C_{12}H_{13}P^+$	$C_6H_5C_4H_2P(CH_3)_2$ (1*H*-Phosphole, 2,5-dimethyl-1-phenyl-) (RN-CAS Registry Number 13904-58-0)	**	8.0 (V)	PE	4090
$C_{12}H_{17}P^+$	$C_6H_5C_4H_6P(CH_3)_2$ (Phospholane, 2,5-dimethyl-1-phenyl-) (RN-CAS Registry Number 40358-68-7)	**	8.35 (V)	PE	4090
$C_{15}H_{11}P^+$	$C_9H_6PC_6H_5$ (Phosphinoline, 2-phenyl-) (RN-CAS-Registry Number 39768-04-2)	**	7.65	PE	4066
$C_{17}H_{29}P^+$	$C_5H_2P(C(CH_3)_3)_3$ (Phosphorin, 2,4,6-tris(1,1-dimethylethyl)-) (RN-CAS Registry Number 17420-29-0)	**	8.0 (V)	PE	3934
$C_{19}H_{13}P^+$	$C_{13}H_8PC_6H_5$ (Acridophosphine, 10-phenyl-) (RN-CAS Registry Number 20995-81-7)	**	7.25 (V)	PE	3896
$C_{29}H_{25}P^+$	$C_9H_6P(C_6H_5)(CH_2C_6H_5)_2$ (Phosphinoline, 1,1-dihydro-2-phenyl-1,1-bis(phenylmethyl)-) (RN-CAS-Registry Number 39767-95-8)	**	6.00	PE	4066
$C_6H_{18}N_3P^+$	$((CH_3)_2N)_3P$ (RN-CAS Registry Number 1608-26-0)	**	7.61 (V)	PE	3825
$C_6H_{18}N_3P^+$	$(((CH_3)_2N)_3P)_2Mo(CO)_4$ (RN-CAS Registry Number 27342-90-1)		10.1±0.05	EI	3952
$C_8H_{18}N_3P^+$	$(((CH_3)_2N)_3P)_2Mo(CO)_4$ (RN-CAS Registry Number 27342-90-1)		10.1±0.05	EI	3952
PO^+	PO (RN-CAS Registry Number 14452-66-5)	**	8.231	S	3762
PO^+	PO (RN-CAS Registry Number 14452-66-5)	**	8.38	S	3560
PO^+	PO (RN-CAS Registry Number 14452-66-5)	**	8.5±1	EI	3819
PO^+	PO (RN-CAS Registry Number 14452-66-5)	**	9.5±0.5	EI	4098
PO^+	P_2O_3 (RN-CAS Registry Number 1314-24-5)		13.5±1.0	EI	4098
PO^+	$(CH_3O)_3PO$ (RN-CAS Registry Number 512-56-1)	$O+CH_3O+2H$	18.90±0.50	EI	3989
PO_2^+	PO_2 (RN-CAS Registry Number 12164-97-5)	**	10.5±1	EI	3819

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
PO_2^+	PO_2	**	11.5±0.5	EI	4098
	(RN-CAS Registry Number 12164-97-5)				
PO_2^+	P_2O_3		15.4±1.0	EI	4098
	(RN-CAS Registry Number 1314-24-5)				
$P_2O_3^+$	P_2O_3	**	10.4±0.5	EI	4098
	(RN-CAS Registry Number 1314-24-5)				
$P_2O_4^+$	P_2O_4	**	10.8±1.0	EI	4098
	(RN-CAS Registry Number XXXXX-XX-X)				
$P_2O_5^+$	P_2O_5	**	12.0±1.0	EI	4098
	(RN-CAS Registry Number 1314-56-3)				
$P_3O_6^+$	P_3O_6	**	12.3±1.0	EI	4098
	(RN-CAS Registry Number XXXXX-XX-X)				
$P_3O_7^+$	P_4O_9		15.0±1.0	EI	4098
	(RN-CAS Registry Number XXXXX-XX-X)				
$P_4O_7^+$	P_4O_7	**	11.4±0.5	EI	4098
	(RN-CAS Registry Number 12065-80-4)				
$P_4O_8^+$	P_4O_8	**	11.9±0.5	EI	4098
	(RN-CAS Registry Number 12037-06-8)				
$P_4O_9^+$	P_4O_9	**	12.4±0.5	EI	4098
	(RN-CAS Registry Number XXXXX-XX-X)				
$P_4O_{10}^+$	P_4O_{10}	**	13.0±0.5	EI	4098
	(RN-CAS Registry Number XXXXX-XX-X)				
CH_4OP^+	$(CH_3O)_2P(CH_3S)S$		13.40±0.30	EI	3989
	(RN-CAS Registry Number 2953-29-9)				
$CH_4O_2P^+$	$(CH_3O)_3PO$	2HCHO+H	14.90±0.20	EI	3989
	(RN-CAS Registry Number 512-56-1)				
$CH_4O_2P^+$	$(CH_3O)_2P(CH_3S)O$	CH_3S+HCHO	12.25±0.20	EI	3989
	(RN-CAS Registry Number 152-20-5)				
(MT-Metastable transition(s) observed)					
$CH_4O_2P^+$	$(CH_3O)_2P(CH_3S)S$	CH_3S+HCHS	12.75±0.20	EI	3989
	(RN-CAS Registry Number 2953-29-9)				
(MT-Metastable transition(s) observed)					
$CH_4O_2P^+$	$(CH_3S)_2P(CH_3O)O$	CH_3S+HCHS	11.90±0.10	EI	3989
	(RN-CAS Registry Number 22608-53-3)				
$CH_5O_2P^+$	$(CH_3O)_3PO$	2HCHO	12.91±0.10	EI	3989
	(RN-CAS Registry Number 512-56-1)				
$CH_5O_2P^+$	$(CH_3O)_2P(CH_3S)O$	HCHS+HCHO	12.35±0.20	EI	3989
	(RN-CAS Registry Number 152-20-5)				
(MT-Metastable transition(s) observed)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_6O_2P^+$	$(CH_3O)_2P(CH_3S)S$ (RN–CAS Registry Number 2953–29–9)		10.40±0.10	EI	3989
$C_{19}H_{35}O_2P^+$	$C_5H_2P(OCH_3)_2(C_4H_9)_3$ (Phosphorin, 2,4,6–tris(1,1–dimethylethyl)–1,1–dihydro–1,1–dimethoxy–) (RN–CAS–Registry Number 37912–85–9)	**	6.7 (V)	PE	4053
$CH_4O_3P^+$	$(CH_3O)_3PO$ (RN–CAS Registry Number 512–56–1)	$HCHO+CH_3$	13.90±0.20	EI	3989
(MT–Metastable transition(s) observed)					
$CH_4O_3P^+$	$(CH_3O)_2P(CH_3S)O$ (RN–CAS Registry Number 152–20–5)	$HCHS+CH_3$	13.20±0.20	EI	3989
$C_2H_6O_3P^+$	$(CH_3O)_3PO$ (RN–CAS Registry Number 512–56–1)	HCHO+H	14.1±0.20	EI	3989
$C_2H_6O_3P^+$	$(CH_3O)_2P(CH_3S)O$ (RN–CAS Registry Number 152–20–5)	CH_3S	11.90±0.10	EI	3989
$C_2H_7O_3P^+$	$(CH_3O)_3PO$ (RN–CAS Registry Number 512–56–1)	HCHO	11.62±0.10	EI	3989
(MT–Metastable transition(s) observed)					
$C_2H_7O_3P^+$	$(CH_3O)_2P(CH_3S)O$ (RN–CAS Registry Number 152–20–5)	HCHS	11.00±0.10	EI	3989
(MT–Metastable transition(s) observed)					
$C_3H_8O_4P^+$	$(CH_3O)_3PO$ (RN–CAS Registry Number 512–56–1)	H	12.73±0.20	EI	3989
$C_3H_9O_4P^+$	$(CH_3O)_3PO$ (RN–CAS Registry Number 512–56–1)	**	10.70±0.10	EI	3989
$PF_3^+(^2A_1)$	PF_3 (RN–CAS Registry Number 7783–55–3)	**	11.57±0.01	PE	3703
$PF_3^+(^2A_1)$	PF_3 (RN–CAS Registry Number 7783–55–3)	**	11.66±0.01	PE	3641
PF_3^+	PF_3 (RN–CAS Registry Number 7783–55–3)	**	12.23±0.02 (V)	PE	3662
$PF_3^+(^2A_2)$	PF_3 (RN–CAS Registry Number 7783–55–3)	**	15.31±0.05	PE	3641
$PF_3^+(^2E)$	PF_3 (RN–CAS Registry Number 7783–55–3)	**	16.31±0.07 (V)	PE	3641
$PF_3^+(^2E)$	PF_3 (RN–CAS Registry Number 7783–55–3)	**	17.08±0.01	PE	3641
$PF_3^+(^2A_1)$	PF_3 (RN–CAS Registry Number 7783–55–3)	**	18.26±0.01	PE	3641
$PF_3^+(^2E)$	PF_3 (RN–CAS Registry Number 7783–55–3)	**	19.06±0.01	PE	3641
$PF_3^+(^2A_1)$	PF_3 (RN–CAS Registry Number 7783–55–3)	**	22.6 (V)	PE	3641
PF_3^+	PF_3 (RN–CAS Registry Number 7783–55–3)	**	11.72±0.1	EI	3578

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
PF_5^+	PF_5 (RN–CAS Registry Number 7647–19–0)	**	15.54 (V)	PE	3872
PF_5^+	PF_5 (RN–CAS Registry Number 7647–19–0)	**	15.6 (V)	PE	3669
$P_2F_4^+$	P_2F_4 (RN–CAS Registry Number 13824–74–3)	**	9.64 (V)	PE	3662
PHF_2^+	PF_2H (RN–CAS Registry Number 14984–74–8)	**	11.0±0.1 (V)	PE	3662
$BH_3F_3P^+$	$(PF_3)(BH_3)$ (RN–CAS Registry Number 14931–39–6)	**	11.02±0.03	PE	3699
$B_3H_5F_3P^+$	$B_3H_7PF_3$ (RN–CAS Registry Number 11126–95–7)		10.8±0.3	EI	3652
$PH_2NF_2^+$	PF_2NH_2 (RN–CAS Registry Number 25757–74–8)	**	10.9 (V)	PE	3662
CNF_2P^+	PF_2CN (RN–CAS Registry Number 14118–40–2)	**	11.9±0.1 (V)	PE	3662
$C_4H_{12}N_2PF^+$	$((CH_3)_2N)_2PF$ (RN–CAS Registry Number 1735–82–6)	**	8.18 (V)	PE	3825
$C_2H_6NPF_2^+$	$(CH_3)_2NPF_2$ (RN–CAS Registry Number 814–97–1)	**	9.58 (V)	PE	3825
$C_2H_6NF_2P^+$	$(CH_3)_2NPF_2$ (RN–CAS Registry Number 814–97–1)	**	9.6 (V)	PE	3662
$C_2H_6NF_2P^+$	$(CH_3)_2NF_2P$ (RN–CAS Registry Number 814–97–1)	**	10.2±0.3	EI	3652
$C_6H_{18}N_3F_2P^+$	$((CH_3)_2N)_3PF_2$ (RN–CAS Registry Number 7549–83–9)	**	8.04 (V)	PE	3825
$C_4H_{12}N_2F_3P^+$	$((CH_3)_2N)_2PF_3$ (RN–CAS Registry Number 1735–83–7)	**	8.84 (V)	PE	3825
$C_2H_6NF_4P^+$	$(CH_3)_2NPF_4$ (RN–CAS Registry Number 2353–98–2)	**	10.35 (V)	PE	3825
$C_2H_9BNF_2P^+$	$(CH_3)_2NF_2PBH_3$? (RN–CAS Registry Number 2851–73–2)	**	12.2±0.3	EI	3652
$C_2H_{11}B_3NF_2P^+$	$(CH_3)_2NF_2PB_3H_7$ (RN–CAS Registry Number 11126–93–5)		10.4±0.3	EI	3652
$C_2H_{12}B_3NF_2P^+$	$(CH_3)_2NF_2PB_3H_7$ (RN–CAS Registry Number 11126–93–5)	H	10.5±0.3	EI	3652

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_{12}B_4NF_2P^+$	$(CH_3)_2NF_2PB_4H_8$ (RN-CAS Registry Number 12602-24-3)		10.0±0.3	EI	3652
$C_2H_{14}B_4NF_2P^+$	$(CH_3)_2NF_2PB_4H_8$ (RN-CAS Registry Number 12602-24-3)	**	9.6±0.3	EI	3652
$POF_3^+(^2E)$	POF_3 (RN-CAS Registry Number 13478-20-1)	**	12.77±0.04	PE	3641
$POF_3^+(^2A_1)$	POF_3 (RN-CAS Registry Number 13478-20-1)	**	15.16±0.04	PE	3641
$POF_3^+(^2A_2)$	POF_3 (RN-CAS Registry Number 13478-20-1)	**	16.69±0.05	PE	3641
$POF_3^+(^2E)$	POF_3 (RN-CAS Registry Number 13478-20-1)	**	17.68 (V)	PE	3641
$POF_3^+(^2E)$	POF_3 (RN-CAS Registry Number 13478-20-1)	**	18.45±0.02	PE	3641
$POF_3^+(^2A_1)$	POF_3 (RN-CAS Registry Number 13478-20-1)	**	19.61 (V)	PE	3641
$POF_3^+(^2E)$	POF_3 (RN-CAS Registry Number 13478-20-1)	**	20.36±0.02	PE	3641
$POF_3^+(^2A_1)$	POF_3 (RN-CAS Registry Number 13478-20-1)	**	23.4±0.1 (V)	PE	3641
$P_2OF_4^+$	PF_2OPF_2 (RN-CAS Registry Number 13812-07-2)	**	11.2 (V)	PE	3662
$CNOF_2P^+$	PF_2NCO (RN-CAS Registry Number 461-59-6)	**	11.05±0.02 (V)	PE	3662
$NaPO_2^+$	$NaPO_2$ (RN-CAS Registry Number XXXXX-XX-X)	**	8.6	EI	4098
PSi^+	PSi (RN-CAS Registry Number 12137-64-3)	**	9.1±0.5	EI	4102
PSi_2^+	PSi_2 (RN-CAS Registry Number 37347-46-9)	**	8.4±0.5	EI	4102
P_2Si^+	P_2Si (RN-CAS Registry Number 12137-68-7)	**	9.0±0.5	EI	4102
SiH_5P^+	SiH_3PH_2 (RN-CAS Registry Number 14616-47-8)	**	9.9±0.1 (V)	PE	3661
$Si_3H_9P^+$	$(SiH_3)_3P$ (RN-CAS Registry Number 15110-33-5)	**	9.3±0.1 (V)	PE	3661
$CSiP^+$	CSiP (RN-CAS Registry Number 37342-74-8)	**	8.9±0.5	EI	4102

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{19}SiP^+$	$(CH_3)_3P{=}CHSi(CH_3)_3$ (RN-CAS Registry Number 3272-86-4)	**	6.80	PE	3782
$C_9H_{25}Si_2P^+$	$(CH_3)_3P{=}CHSi_2(CH_3)_5$ (RN-CAS Registry Number 29947-67-9)	**	6.87	PE	3782
S^+	S (RN-CAS Registry Number 7704-34-9)	**	10.3±0.3	EI	3449
S^+	S (RN-CAS Registry Number 7704-34-9)	**	10.5±0.3	EI	3616
S^+	S (RN-CAS Registry Number 7704-34-9)	**	~11±0.5	EI	3448
S^+	H_2S (RN-CAS Registry Number 7783-06-4)	H_2	13.5	DC	3967
S^+	CS_2 (RN-CAS Registry Number 75-15-0) (CD-Metastable transition indicates <0.25 eV kinetic energy release) (PC-Appearance potential of the corresponding metastable transition)	CS	15±1	EI	3812
S^+	CS_2 (RN-CAS Registry Number 75-15-0) (CD-Metastable transition indicates <0.25 eV kinetic energy release) (PC-Appearance potential of the corresponding metastable transition)	CS	17±1	EI	3812
S^+	COS (RN-CAS Registry Number 463-58-1)	CO	13.7	EI	3779
S_2^+	S_2 (RN-CAS Registry Number 12185-11-4)	**	9.42±0.10	EI	3616
S_2^+	S_2 (RN-CAS Registry Number 12185-11-4)	**	9.8±0.5	EI	3615
S_2^+	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3) (TR-Other product(s) thermochemically reasonable)	$CH_2{=}CHCH_3$	10.7±0.1	EI	3598
S_2^+	S_2F_2 (RN-CAS Registry Number 13709-35-8)		17.6±0.4	EI	3738
S_8^+	S_8 (RN-CAS Registry Number 10544-50-0)	**	9.23 (V)	PE	3846
HS^+	H_2S (RN-CAS Registry Number 7783-06-4)	H	14.4	DC	3967
$H_2S^+(^2B_1)$	H_2S (RN-CAS-Registry Number 7783-06-4)	**	10.43	PE	4073
H_2S^+	H_2S (RN-CAS Registry Number 7783-06-4)	**	10.47	PE	3678
$H_2S^+(^2B_1)$	H_2S (RN-CAS Registry Number 7783-06-4)	**	10.47	PE	3719
H_2S^+	H_2S (RN-CAS Registry Number 7783-06-4)	**	10.48	PE	3697
$H_2S^+(^2A_1)$	H_2S (RN-CAS Registry Number 7783-06-4)	**	12.752	PE	3515

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$H_2S^+(^2A_1)$	H_2S	**	12.78	PE	3719
	(RN-CAS Registry Number 7783-06-4)				
H_2S^{+*}	H_2S	**	13.21 (V)	PE	3697
	(RN-CAS Registry Number 7783-06-4)				
$H_2S^+(^2B_2)$	H_2S	**	14.78	PE	3719
	(RN-CAS Registry Number 7783-06-4)				
$H_2S^+(^2A_1)$	H_2S	**	22.2 (V)	PE	3719
	(RN-CAS Registry Number 7783-06-4)				
H_2S^+	H_2S	**	10.45	DC	3967
	(RN-CAS Registry Number 7783-06-4)				
H_3S^+	C_2H_5SH	C_2H_3	12.41±0.02	RPD	3487
	(RN-CAS Registry Number 75-08-1)				
(MT-Metastable transition(s) observed)					
(TR-Other product(s) thermochemically reasonable)					
H_3S^+	$(CH_3)_2S$	C_2H_2+H	14.14±0.02	RPD	3487
	(RN-CAS Registry Number 75-18-3)				
(MT-Metastable transition(s) observed)					
(TR-Other product(s) thermochemically reasonable)					
$BHS^+(X^2\Pi)$	HBS	**	11.11±0.03	PE	3982
	(RN-CAS Registry Number 14457-85-3)				
BHS^+	HBS	**	11.12	PE	3871
	(RN-CAS Registry Number 14457-85-3)				
$BHS^+(A^2\Sigma^+)$	HBS	**	13.54±0.03	PE	3982
	(RN-CAS Registry Number 14457-85-3)				
$BHS^+(B^2\Sigma^+)$	HBS	**	15.83±0.1	PE	3982
	(RN-CAS Registry Number 14457-85-3)				
$CS^+(X^2\Sigma_g^+)$	CS	**	11.33±0.01	PE	3691
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
CS^+	CS	**	11.33±0.02	PE	3696
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(X^2\Sigma)$	CS	**	11.34±0.02	PE	3690
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(X^2\Sigma)$	CS	**	11.34	PE	3689
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
CS^{+*}	CS	**	12.56±0.02	PE	3696
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(A^2\pi)$	CS	**	12.78±0.02	PE	3690
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(A^2\pi)$	CS	**	12.78	PE	3689
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CS^+(A^2\pi_u)$	CS	**	12.79±0.01	PE	3691
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(B^2\Sigma)$	CS	**	15.83±0.02	PE	3690
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(B^2\Sigma)$	CS	**	15.83	PE	3689
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(B^2\Sigma_u^+)$	CS	**	15.84±0.01	PE	3691
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(E^2\Sigma_u^+)$	CS	**	18.00±0.01	PE	3691
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(C^2\Sigma)$	CS	**	18.03±0.02	PE	3690
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
$CS^+(C^2\Sigma)$	CS	**	18.03	PE	3689
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
CS^+	CS	**	11.39±0.10	EI	3616
	(RN-CAS Registry Number 2944-05-0)				
(RD-Radical)					
CS^+	CS_2	S	16.3±1	EI	3812
	(RN-CAS Registry Number 75-15-0)				
(CD-Metastable transition indicates <0.40 eV kinetic energy release)					
(PC-Appearance potential of the corresponding metastable transition)					
CS^+	COS	O^-?	16.7	EI	3779
	(RN-CAS Registry Number 463-58-1)				
$CS_2^+(A^2\Pi_{1/2u})$	CS_2	**	12.586	S	3573
	(RN-CAS Registry Number 75-15-0)				
$CS_2^+(X^2\Pi_g)$	CS_2	**	10.06±0.01	PE	3965
	(RN-CAS Registry Number 75-15-0)				
$CS_2^+(X^2\Pi_{3/2})$	CS_2	**	10.06	PE	4073
	(RN-CAS-Registry Number 75-15-0)				
CS_2^+	CS_2	**	10.06	PE	3697
	(RN-CAS Registry Number 75-15-0)				
$CS_2^+(A^2\Pi_u)$	CS_2	**	12.67±0.01	PE	3965
	(RN-CAS Registry Number 75-15-0)				
CS_2^{+*}	CS_2	**	12.83 (V)	PE	3697
	(RN-CAS Registry Number 75-15-0)				
$CS_2^+(B^2\Sigma_u^+)$	CS_2	**	14.47±0.01	PE	3965
	(RN-CAS Registry Number 75-15-0)				
$CS_2^+(C^2\Sigma_g^+)$	CS_2	**	16.18±0.01	PE	3965
	(RN-CAS Registry Number 75-15-0)				
CS_2^{+*}	CS_2	**	16.70±0.01	PE	3965
	(RN-CAS Registry Number 75-15-0)				
CS_2^+	CS_2	**	10.07±0.10	EI	3616
	(RN-CAS Registry Number 75-15-0)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
CHS^+	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)	$CHS+CH_4$?	13±0.4	EI	3598
(MT-Metastable transition(s) observed)					
CHS^+	C_3H_6OS (1,3-Oxathiolane) (RN-CAS Registry Number 2094-97-5)		12.9±0.2	EI	3598
$CH_2S^+(^2B_2)$	CH_2S (RN-CAS Registry Number 865-36-1)	**	9.338±0.010	PE	3697
$CH_2S^+(^2B_1)$	CH_2S (RN-CAS Registry Number 865-36-1)	**	11.78±0.01	PE	3697
CH_2S^+	CH_3SH (RN-CAS Registry Number 74-93-1)	H_2	10.8±0.1	PI	4025
CH_2S^+	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	CH_4	10.46±0.08	PI	4025
CH_2S^+	$(C_2H_5)_2S$ (RN-CAS Registry Number 352-93-2)	$C_2H_4+CH_4$	11.75±0.03	PI	4025
CH_2S^+	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)		11±0.4	EI	3598
CH_2S^+	C_3H_6OS (1,3-Oxathiolane) (RN-CAS Registry Number 2094-97-5)		12.5±0.2	EI	3598
CH_2S^+	$C_5H_{10}O_2S$ (1,3,6-Dioxathiocane) (RN-CAS Registry Number 2094-92-0)	$2HCHO+C_2H_4$	12.55±0.1	EI	3903
(TR-Other product(s) thermochemically reasonable)					
CH_3S^+	CH_3SH (RN-CAS Registry Number 74-93-1)	H	11.37±0.05	PI	4025
CH_3S^+	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	CH_3	10.79±0.04	PI	4025
CH_3S^+	$(C_2H_5)_2S$ (RN-CAS Registry Number 352-93-2)	$C_2H_4+CH_3$	12.00±0.05	PI	4025
CH_3S^+	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)		11.4±0.4	EI	3598
CH_3S^+	$(CH_3O)_2P(CH_3S)O$ (RN-CAS Registry Number 152-20-5)		13.1±0.30	EI	3989
CH_3S^+	$(CH_3S)_2P(CH_3O)O$ (RN-CAS Registry Number 22608-53-3)		12.60±0.20	EI	3989
CH_4S^+	CH_3SH (RN-CAS Registry Number 74-93-1)	**	9.44±0.01	PI	4025
CH_4S^+	CH_3SH (RN-CAS Registry Number 74-93-1)	**	9.415	PE	3697
$CH_4S^+(^2A'')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	9.42	PE	3678
$CH_4S^+(^2A'')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	9.44	PE	4032

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
CH_4S^+	CH_3SH (RN-CAS Registry Number 74-93-1)	**	9.44	PE	4087
$CH_4S^+(^2A'')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	9.44 (V)	PE	3656
CH_4S^+	CH_3SH (RN-CAS Registry Number 74-93-1)	**	9.44 (V)	PE	3898
CH_4S^{+*}	CH_3SH (RN-CAS Registry Number 74-93-1)	**	11.90 (V)	PE	3697
$CH_4S^+(^2A')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	12.0 (V)	PE	3678
$CH_4S^+(^2A')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	12.08 (V)	PE	4032
CH_4S^{+*}	CH_3SH (RN-CAS Registry Number 74-93-1)	**	13.50 (V)	PE	3697
$CH_4S^+(^2A')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	13.67 (V)	PE	4032
$CH_4S^+(^2A')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	13.9 (V)	PE	3678
CH_4S^{+*}	CH_3SH (RN-CAS Registry Number 74-93-1)	**	14.90 (V)	PE	3697
$CH_4S^+(^2A'')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	15.0 (V)	PE	3678
$CH_4S^+(^2A'')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	15.5 (V)	PE	3678
CH_4S^{+*}	CH_3SH (RN-CAS Registry Number 74-93-1)	**	15.5 (V)	PE	3697
$CH_4S^+(^2A'')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	15.63 (V)	PE	4032
$CH_4S^+(^2A')$	CH_3SH (RN-CAS Registry Number 74-93-1)	**	~20.0 (V)	PE	3678
$C_2H_3S^+$	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)	CH_3S	10.8±0.4	EI	3598
$C_2H_3S^+$	C_3H_6OS (1,3-Oxathiolane) (RN-CAS Registry Number 2094-97-5)	CH_2O+H	12.3±0.1	EI	3598
(MT-Metastable transition(s) observed) (TR-Other product(s) thermochemically reasonable)					
$C_2H_4S^+$	C_2H_4S (Thiirane) (RN-CAS Registry Number 420-12-2)	**	9.051±0.006	S	3882
(RS-Average of three Rydberg series limits)					
$C_2H_4S^+$	C_2H_4S (Thiirane) (RN-CAS Registry Number 420-12-2)	**	9.00	PE	3861
$C_2H_4S^+$	C_2H_4S (Thiirane) (RN-CAS Registry Number 420-12-2)	**	9.05 (V)	PE	3837
$C_2H_4S^+$	$(C_2H_5)_2S$ (RN-CAS Registry Number 352-93-2)	C_2H_6	9.89±0.3	PI	4025

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_4S^+$	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)	CH_2S	11.2±0.3	EI	3598
$C_2H_4S^+$	C_3H_6OS (1,3-Oxathiolane) (RN-CAS Registry Number 2094-97-5)	CH_2O	10.5±0.1	EI	3598
(MT-Metastable transition(s) observed)					
$C_2H_4S^+$	$C_5H_{10}O_2S$ (1,3,6-Dioxathiocane) (RN-CAS Registry Number 2094-92-0)		10.4±0.02	EI	3903
$C_2H_5S^+$	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	H	10.93±0.02	PI	4025
$C_2H_5S^+$	$(C_2H_5)_2S$ (RN-CAS Registry Number 352-93-2)	C_2H_5	10.23±0.03	PI	4025
$C_2H_5S^+$	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)	CHS	11.4±0.3	EI	3598
(TR-Other product(s) thermochemically reasonable)					
$C_2H_5S^+$	C_3H_6OS (1,3-Oxathiolane) (RN-CAS Registry Number 2094-97-5)	CHO	10.4±0.1	EI	3598
(TR-Other product(s) thermochemically reasonable)					
$C_2H_5S^+$	$C_5H_{10}O_2S$ (1,3,6-Dioxathiocane) (RN-CAS Registry Number 2094-92-0)	$CH_3CO+HCHO$	10.8±0.2	EI	3903
(MT-Metastable transition(s) observed)					
(TR-Other product(s) thermochemically reasonable)					
$C_2H_6S^+$	C_2H_5SH (RN-CAS Registry Number 75-08-1)	**	9.29	PE	4032
$C_2H_6S^+$	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	**	8.706±0.010	S	3970
(RS-Average of three Rydberg series limits)					
$C_2H_6S^+$	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	**	8.69±0.01	PI	4025
$C_2H_6S^+$	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	**	8.57±0.04	PE	3842
$C_2H_6S^+$	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	**	8.65 (V)	PE	3678
$C_2H_6S^+$	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	**	8.67	PE	3867
$C_2H_6S^+$	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	**	8.67 (V)	PE	3898
$C_2H_6S^+$	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	**	8.7	PE	4104
$C_2H_6S^+(^2B_1)$	$(CH_3)_2S$ (RN-CAS Registry Number 75-18-3)	**	8.71 (V)	PE	3656
$C_2H_6S^+$	$(C_2H_5)_2S$ (RN-CAS Registry Number 352-93-2)	C_2H_4	9.90±0.03	PI	4025

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_5S^+$	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)	SH	10.5±0.1	EI	3598
$C_3H_6S^+$	$CH_2=CHCH_2SH$ (RN-CAS Registry Number 870-23-5)	**	9.25	PE	3864
$C_3H_6S^+$	$CH_2=CHSCH_3$ (RN-CAS Registry Number 1822-74-8)	**	8.45 (V)	PE	3898
$C_3H_6S^+$	$C_5H_{10}O_2S$ (1,3,6-Dioxathiocane) (RN-CAS Registry Number 2094-92-0) (TR-Other product(s) thermochemically reasonable)	2HCHO	11.35±0.01	EI	3903
$C_3H_7S^+$	$(C_2H_5)_2S$ (RN-CAS Registry Number 352-93-2)	CH_3	10.16±0.05	PI	4025
$C_3H_8S^+$	*n*-C_3H_7SH (RN-CAS Registry Number 107-03-9)	**	9.19	PE	4032
$C_3H_8S^+$	*iso*-C_3H_7SH (RN-CAS Registry Number 75-33-2)	**	9.14	PE	4032
$C_4H_4S^+$	C_4H_4S (Thiophene) (RN-CAS Registry Number 110-02-1)	**	8.874±0.005	S	3731
$C_4H_4S^+$	C_4H_4S (Thiophene) (RN-CAS-Registry Number 110-02-1)	**	8.86±0.01	PI	4058
$C_4H_4S^+$	C_4H_4S (Thiophene) (RN-CAS Registry Number 110-02-1)	**	8.87 (V)	PE	3858
$C_4H_4S^+$	C_4H_4S (Thiophene) (RN-CAS Registry Number 110-02-1)	**	8.90	PE	4017
$C_4H_4S^+$	C_4H_4S (Thiophene) (RN-CAS Registry Number 110-02-1)	**	9.12±0.05	EI	3482
$C_4H_4S^+$	C_4H_4S (Thiophene) (RN-CAS Registry Number 110-02-1)	**	9.05	CTS	3787
$C_4D_4S^+$	C_4D_4S (Thiophene-d_4) (RN-CAS Registry Number 2036-39-7)	**	8.874±0.005	S	3731
$C_4H_6S^+$	C_4H_6S (Thiophene, 2,5-dihydro-) (RN-CAS Registry Number 1708-32-3)	**	8.54 (V)	PE	3995
$C_4H_8S^+$	$CH_3SCH_2CH=CH_2$ (RN-CAS Registry Number 10152-76-8)	**	8.6	PE	4104

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_8S^+$	C_4H_8S (Thiophene, tetrahydro–) (RN–CAS Registry Number 110–01–0)	**	8.40 (V)	PE	3995
$C_4H_8S^+$	C_4H_8S (Thiophene, tetrahydro–) (RN–CAS Registry Number 110–01–0)	**	8.62±0.05	EI	3498
$C_4H_9S^+$	$(C_2H_5)_2S$ (RN–CAS Registry Number 352–93–2)	H	10.2±0.1	PI	4025
$C_4H_{10}S^+$	$(C_2H_5)_2S$ (RN–CAS Registry Number 352–93–2)	**	8.42±0.01	PI	4025
$C_4H_{10}S^+$	$(C_2H_5)_2S$ (RN–CAS Registry Number 352–93–2)	**	8.44 (V)	PE	3898
$C_4H_{10}S^+$	*n*–C_4H_9SH (RN–CAS Registry Number 109–79–5)	**	9.15	PE	4032
$C_4H_{10}S^+$	*sec*–C_4H_9SH (RN–CAS Registry Number 513–53–1)	**	9.10	PE	4032
$C_4H_{10}S^+$	*iso*–C_4H_9SH (RN–CAS Registry Number 513–44–0)	**	9.12	PE	4032
$C_4H_{10}S^+$	*tert*–C_4H_9SH (RN–CAS Registry Number 75–66–1)	**	9.03	PE	4032
$C_5H_6S^+$	$C_4H_3SCH_3$ (Thiophene, 2–methyl–) (RN–CAS Registry Number 554–14–3)	**	8.63±0.05	EI	3482
$C_5H_6S^+$	$C_4H_3SCH_3$ (Thiophene, 2–methyl–) (RN–CAS Registry Number 554–14–3)	**	8.61	CTS	3787
$C_5H_6S^+$	$C_4H_3SCH_3$ (Thiophene, 3–methyl–) (RN–CAS Registry Number 616–44–4)	**	8.72	EI	3787
$C_5H_6S^+$	$C_4H_3SCH_3$ (Thiophene, 3–methyl–) (RN–CAS Registry Number 616–44–4)	**	8.84	CTS	3787
$C_5H_{10}S^+$	$C_5H_{10}S$ (2*H*–Thiopyran, tetrahydro–) (RN–CAS Registry Number 1613–51–0)	**	8.45 (V)	PE	3733
$C_6H_6S^+$	C_6H_5SH (Benzenethiol) (RN–CAS Registry Number 108–98–5)	**	8.28	PE	3678
$C_6H_6S^+$	C_6H_5SH (Benzenethiol) (RN–CAS Registry Number 108–98–5)	**	8.95±0.1	EI	3817
$C_6H_8S^+$	$C_4H_2S(CH_3)_2$ (Thiophene, 2,5–dimethyl–) (RN–CAS Registry Number 638–02–8)	**	8.10	EI	3787

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_8S^+$	$C_4H_2S(CH_3)_2$ (Thiophene, 2,5–dimethyl–) (RN–CAS Registry Number 638–02–8)	**	8.18	CTS	3787
$C_6H_8S^+$	$C_4H_3SC_2H_5$ (Thiophene, 2–ethyl–) (RN–CAS Registry Number 872–55–9)	**	8.67±0.05	EI	3482
$C_6H_8S^+$	$C_4H_3SC_2H_5$ (Thiophene, 2–ethyl–) (RN–CAS Registry Number 872–55–9)	**	8.57	CTS	3787
$C_6H_{10}S^+$	$C_6H_{10}S$ (7–Thiabicyclo[2.2.1]heptane) (RN–CAS Registry Number 279–59–4)	**	8.28±0.04	PE	3842
$C_6H_{14}S^+$	$(n\text{–}C_3H_7)_2S$ (RN–CAS Registry Number 111–47–7)	**	8.34 (V)	PE	3898
$C_6H_{14}S^+$	$(iso\text{–}C_3H_7)_2S$ (RN–CAS Registry Number 625–80–9)	**	8.26 (V)	PE	3898
$C_7H_8S^+$	$C_6H_5CH_2SH$ (Benzenemethanethiol) (RN–CAS Registry Number 100–53–8)	**	8.85 (V)	PE	3678
$C_7H_8S^+$	$C_6H_5SCH_3$ (Benzene, (methylthio)–) (RN–CAS Registry Number 100–68–5)	**	8.07 (V)	PE	3781
$C_7H_8S^+$	$C_6H_5SCH_3$ (Benzene, (methylthio)–) (RN–CAS Registry Number 100–68–5)	**	8.07 (V)	PE	3898
$C_8H_6S^+$	C_8H_6S (Benzo[*b*]thiophene) (RN–CAS Registry Number 95–15–8)	**	8.20	PE	4017
$C_8H_6S^+$	C_8H_6S (Benzo[*c*]thiophene) (RN–CAS Registry Number 270–82–6)	**	7.75	PE	4017
$C_8H_{10}S^+$	$C_6H_5CH_2SCH_3$ (Benzene, [(methylthio)methyl]–) (RN–CAS Registry Number 766–92–7)	**	9.01 (V)	PE	3781
$C_8H_{12}S^+$	$C_4H_3SC_4H_9$ (Thiophene, 2–(1,1–dimethylethyl)–) (RN–CAS Registry Number 1689–78–7)	**	8.54±0.05	EI	3482
$C_8H_{18}S^+$	$(tert\text{–}C_4H_9)_2S$ (RN–CAS Registry Number 107–47–1)	**	8.07 (V)	PE	3898
$C_9H_{10}S^+$	$C_6H_5CH{=}CHSCH_3$ (Benzene, [2–(methylthio)ethenyl]–(*Z*)–) (RN–CAS Registry Number 35822–50–5)	**	7.75 (V)	PE	3781

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{10}S^+$	$C_6H_5CH=CHSCH_3$ (Benzene, [2-(methylthio)ethenyl]-, (*Z*)-) (RN-CAS Registry Number 35822-50-5)	**	8.75 (V)	PE	3898
$C_{11}H_{10}S^+$	$C_{10}H_7SCH_3$ (Naphthalene, 1-(methylthio)-) (RN-CAS Registry Number 10075-72-6)	**	7.67 (V)	PE	3781
$C_{11}H_{10}S^+$	$C_{10}H_7SCH_3$ (Naphthalene, 2-(methylthio)-) (RN-CAS Registry Number 7433-79-6)	**	7.71 (V)	PE	3781
$C_{11}H_{10}S^+$	$C_{10}H_7SCH_3$ (Naphthalene, 2-(methylthio)-) (RN-CAS Registry Number 7433-79-6)	**	7.71 (V)	PE	3898
$C_{12}H_8S^+$	$C_{12}H_8S$ (Dibenzothiophene) (RN-CAS Registry Number 132-65-0)	**	8.01 (V)	PE	3852
$C_{12}H_8S^+$	$C_{12}H_8S$ (Dibenzothiophene) (RN-CAS Registry Number 132-65-0)	**	8.34	EI	3787
$C_{12}H_8S^+$	$C_{12}H_8S$ (Dibenzothiophene) (RN-CAS Registry Number 132-65-0)	**	8.23	CTS	3787
$C_{12}H_{10}S^+$	$(C_6H_5)_2S$ (Benzene, 1,1′-thiobis-) (RN-CAS Registry Number 139-66-2)	**	7.88±0.05	EI	3498
$C_{12}H_{10}S^+$	$(C_6H_5)_2S$ (Benzene, 1,1′-thiobis-) (RN-CAS Registry Number 139-66-2)	**	8.45±0.1	EI	3817
$C_{12}H_{10}S^+$	$C_4H_3SCH=CHC_6H_5$ (Thiophene, 2-(2-phenylethenyl)-) (RN-CAS Registry Number 3783-65-1)	**	7.55	EI	3787
$C_{12}H_{10}S^+$	$C_4H_3SCH=CHC_6H_5$ (Thiophene, 2-(2-phenylethenyl)-) (RN-CAS Registry Number 3783-65-1)	**	7.78	CTS	3787
$CH_2S_2^+$	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)	C_2H_4	10.8±0.2	EI	3598
$C_2H_6S_2^+$	CH_3SSCH (RN-CAS Registry Number 624-92-0)	**	8.97 (V)	PE	3898
$C_2H_6S_2^+$	CH_3SSCH_3 (RN-CAS Registry Number 624-92-0)	**	8.82 (V)	PE	3697
$C_3H_5S_2^+$	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)	H	11.2±0.2	EI	3598

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_6S_2^+$	$C_3H_6S_2$ (1,3-Dithiolane) (RN-CAS Registry Number 4829-04-3)	**	9.0±0.05	EI	3598
$C_3H_8S_2^+$	$(CH_3S)_2CH_2$ (RN-CAS Registry Number 1618-26-4)	**	8.65 (V)	PE	3898
$C_4H_8S_2^+$	*trans*-$CH_3SCH{=}CHSCH_3$ (RN-CAS Registry Number 764-45-4)	**	7.96 (V)	PE	3898
$C_4H_8S_2^+$	$C_4H_8S_2$ (1,2-Dithiane) (RN-CAS Registry Number 505-20-4)	**	8.36 (V)	PE	3898
$C_4H_8S_2^+$	$C_4H_8S_2$ (1,3-Dithiane) (RN-CAS Registry Number 505-23-7)	**	8.33 (V)	PE	3898
$C_4H_8S_2^+$	$C_4H_8S_2$ (1,3-Dithiane) (RN-CAS Registry Number 505-23-7)	**	8.54 (V)	PE	3733
$C_4H_8S_2^+$	$C_4H_8S_2$ (1,4-Dithiane) (RN-CAS Registry Number 505-29-3)	**	8.58 (V)	PE	3733
$C_4H_{10}S_2^+$	$C_2H_5SSC_2H_5$ (RN-CAS Registry Number 110-81-6)	**	8.70 (V)	PE	3898
$C_4H_{10}S_2^+$	$CH_3SCH_2CH_2SCH_3$ (RN-CAS Registry Number 6628-18-8)	**	8.64 (V)	PE	3898
$C_5H_6S_2^+$	$C_4H_3SSCH_3$ (Thiophene, 2-(methylthio)-) (RN-CAS Registry Number 5780-36-9)	**	8.10±0.05	EI	3482
$C_6H_4S_2^+$	$C_6H_4S_2$ (Thieno[2,3-*b*]thiophene) (RN-CAS Registry Number 250-84-0)	**	8.32	PE	4017
$C_6H_4S_2^+$	$C_6H_4S_2$ (Thieno[3,2-*b*]thiophene) (RN-CAS Registry Number 251-41-2)	**	8.10	PE	4017
$C_6H_4S_2^+$	$C_6H_4S_2$ (Thieno[3,2-*b*]thiophene) (RN-CAS Registry Number 251-41-1)	**	8.14 (V)	PE	3852
$C_6H_{10}S_2^+$	*cis,cis*-$CH_3SCH{=}CHCH{=}CHSCH_3$ (RN-CAS Registry Number 35822-49-2)	**	7.48 (V)	PE	3898
$C_6H_{14}S_2^+$	$(CH_3)_2CHSSCH(CH_3)_2$ (RN-CAS Registry Number 4253-89-8)	**	8.54 (V)	PE	3898
$C_6H_{14}S_2^+$	$(n\text{-}C_3H_7)_2S_2$ (RN-CAS Registry Number 629-19-6)	**	8.62 (V)	PE	3898

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{10}S_2^+$	$C_6H_4(SCH_3)_2$ (Benzene, 1,4–bis(methylthio)–) (RN–CAS Registry Number 699–20–7)	**	7.93 (V)	PE	3781
$C_8H_{18}S_2^+$	$(CH_3)_3CSSC(CH_3)_3$ (RN–CAS Registry Number 110–06–5)	**	8.17 (V)	PE	3898
$C_3H_6S_3^+$	$C_3H_6S_3$ (1,3,5–Trithiane) (RN–CAS Registry Number XXXXX–XX–X)	**	8.76 (V)	PE	3733
$C_5H_4S_3^+$	$C_5H_4S_3$ ([1,2]Dithiolo[1,5–*b*][1,2]dithiole–7–S^{IV}) (RN–CAS Registry Number 252–09–5) (ON–Other name: Thiathiophthene)	**	8.11 (V)	PE	3569
$C_6H_6S_3^+$	$C_5H_3S_3CH_3$ ([1,2]Dithiolo[1,5–*b*][1,2]dithiole–7–S^{IV}, 2–methyl–) (RN–CAS Registry Number 20718–55–2) (ON–Other name: 2–Methylthiathiophthene)	**	7.83 (V)	PE	3569
$C_7H_8S_3^+$	$C_5H_2S_3(CH_3)_2$ ([1,2]Dithiolo[1,5–*b*][1,2]dithiole–7–S^{IV}, 2,5–dimethyl–) (RN–CAS Registry Number 2080–35–5) (ON–Other name: 2,5–Dimethylthiathiophthene)	**	7.73 (V)	PE	3569
$C_7H_8S_3^+$	$C_5H_2S_3(CH_3)_2$ ([1,2]Dithiolo[1,5–*b*][1,2]dithiole–7–S^{IV}, 3,4–dimethyl–) (RN–CAS Registry Number 29977–00–2) (ON–Other name: 3,4–Dimethylthiathiophthene)	**	7.63 (V)	PE	3569
$C_{10}H_{12}S_3^+$	$C_8H_6S_3(CH_3)_2$ (3*H*–[1,2]Dithiolo[4,5,1–*hi*][1,2]benzodithiole–8–S^{IV}, 4,5–dihydro–2,6–dimethyl–) (RN–CAS Registry Number 35437–21–9)	**	7.34 (V)	PE	3569
$C_{12}H_{16}S_3^+$	$C_8H_6S_3(C_2H_5)_2$ (3*H*–[1,2]Dithiolo[4,5,1–*hi*][1,2]benzodithiole–8–S^{IV}, 2,6–diethyl–4,5–dihydro–) (RN–CAS Registry Number 35505–46–5)	**	7.33 (V)	PE	3569
$C_{14}H_{20}S_3^+$	$C_8H_6S_3(C_3H_7)_2$ (3*H*–[1,2]Dithiolo[4,5,1–*hi*][1,2]benzodithiole–8–S^{IV}, 4,5–dihydro–2,6–bis(1–methylethyl)–) (RN–CAS Registry Number 35505–47–6)	**	7.19 (V)	PE	3569
$C_{17}H_{12}S_3^+$	$C_5H_2S_3(C_6H_5)_2$ ([1,2]Dithiolo[1,5–*b*][1,2]dithiole–7–S^{IV}, 3,4–diphenyl–) (RN–CAS Registry Number 25730–47–6) (ON–Other name: 3,4–Diphenylthiathiophthene)	**	7.57 (V)	PE	3569
$C_6H_4S_4^+$	$C_6H_4S_4$ (1,3–Dithiole, 2–(1,3–dithiol–2–ylidene)–) (RN–CAS Registry Number 31366–25–3) (ON–Other name: Tetrathiofulvalene)	**	6.83 (V)	PE	3981

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{18}S_6^+$	$C_4H_8S_2$ (1,4–Dithiane) (RN–CAS Registry Number 505–29–3)	**	8.46 (V)	PE	3898
$C_3H_9BS^+$	$(CH_3)_2BSCH_3$ (RN–CAS–Registry Number 19163–05–4)	**	9.40 (V)	PE	4065
$C_3H_9BS_2^+$	$(CH_3S)_2BCH_3$ (RN–CAS–Registry Number 19163–08–7)	**	8.74 (V)	PE	4065
$C_3H_9BS_3^+$	$B(SCH_3)_3$ (RN–CAS–Registry Number 997–49–9)	**	8.74 (V)	PE	4065
$CHNS^+(^2A'')$	HNCS (RN–CAS Registry Number 3129–90–6)	**	9.94±0.02 (V)	PE	3670
$CHNS^+(^2A')$	HNCS (RN–CAS Registry Number 3129–90–6)	**	10.3±0.1 (V)	PE	3670
$CHNS^{+*}$	HNCS (RN–CAS Registry Number 3129–90–6)	**	13.31±0.02 (V)	PE	3670
$CHNS^{+*}$	HNCS (RN–CAS Registry Number 3129–90–6)	**	15.12±0.02 (V)	PE	3670
$C_2H_3NS^+$	CH_3NCS (RN–CAS Registry Number 556–61–6)	**	9.37±0.02 (V)	PE	3670
$C_3H_3NS^+$	C_3H_3NS (Isothiazole) (RN–CAS Registry Number 288–16–4)	**	9.55	PE	3587
$C_3H_3NS^+$	C_3H_3NS (Isothiazole) (RN–CAS Registry Number 288–16–4)	**	9.55	PE	3736
$C_3H_3NS^+$	C_3H_3NS (Isothiazole) (RN–CAS Registry Number 288–16–4)	**	9.80	EI	3587
$C_4H_5NS^+$	$C_3H_2NS(CH_3)$ (Isothiazole, 3–methyl–) (RN–CAS Registry Number 693–92–5)	**	9.60	EI	3587
$C_4H_5NS^+$	$C_3H_2NS(CH_3)$ (Isothiazole, 4–methyl–) (RN–CAS Registry Number 693–90–3)	**	9.25	PE	3587
$C_4H_5NS^+$	$C_3H_2NS(CH_3)$ (Isothiazole, 4–methyl–) (RN–CAS Registry Number 693–90–3)	**	9.25	PE	3736
$C_4H_5NS^+$	$C_3H_2NS(CH_3)$ (Isothiazole, 4–methyl–) (RN–CAS Registry Number 693–90–3)	**	9.65	EI	3587
$C_4H_5NS^+$	$C_3H_2NS(CH_3)$ (Isothiazole, 5–methyl–) (RN–CAS Registry Number 693–97–0)	**	9.65	EI	3587

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_3NS^+$	C_4H_3SCN (2–Thiophenecarbonitrile) (RN–CAS Registry Number 1003–31–2)	**	9.83±0.05	EI	3482
$C_5H_5NS^+$	$C_5H_4N(SH)$ (2–Pyridinethiol) (RN–CAS Registry Number 2637–34–5)	**	8.92±0.02	EI	3636
$C_5H_5NS^+$	$C_5H_4N(SH)$ (3–Pyridinethiol) (RN–CAS Registry Number 16133–26–9)	**	9.41±0.02	EI	3636
$C_5H_5NS^+$	$C_5H_4N(SH)$ (4–Pyridinethiol) (RN–CAS Registry Number 4556–23–4)	**	9.50±0.02	EI	3636
$C_6H_7NS^+$	$C_5H_4N(SCH_3)$ (Pyridine, 2–(methylthio–) (RN–CAS Registry Number 18438–38–5)	**	8.47±0.02	EI	3636
$C_6H_7NS^+$	$C_5H_4N(SCH_3)$ (Pyridine, 3–(methylthio)–) (RN–CAS Registry Number 18794–33–7)	**	8.93±0.02	EI	3636
$C_6H_7NS^+$	$C_5H_4N(SCH_3)$ (Pyridine, 4–(methylthio)–) (RN–CAS Registry Number 22581–72–2)	**	9.00±0.02	EI	3636
$C_6H_7NS^+$	$C_5H_4N(=S)CH_3$ (2(1*H*)–Pyridinethione, 1–methyl–) (RN–CAS Registry Number 2044–27–1)	**	7.84±0.02	EI	3636
$C_6H_7NS^+$	$C_5H_4N(=S)CH_3$ (4(1*H*)–Pyridinethione, 1–methyl–) (RN–CAS Registry Number 6887–59–8)	**	7.54±0.02	EI	3636
$C_{10}H_9NS^+$	$C_6H_5CH_2(C_3H_2NS)$ (Isothiazole, 4–(phenylmethyl)–) (RN–CAS Registry Number 36412–26–7)	**	9.05	PE	3587
$C_{10}H_9NS^+$	$C_6H_5CH_2(C_3H_2NS)$ (Isothiazole, 4–(phenylmethyl)–) (RN–CAS Registry Number 36412–26–7)	**	9.35	EI	3587
$C_{10}H_9NS^+$	$C_3H_2NSCH_2C_6H_5$ (Isothiazole, 4–(phenylmethyl)–) (RN–CAS Registry Number 36412–26–7)	**	9.05	PE	3736
$C_{12}H_9NS^+$	$C_{12}H_9NS$ (10*H*–Phenothiazine) (RN–CAS Registry Number 92–84–2)	**	6.74±0.07	CTS	4079
$C_{12}H_9NS^+$	$C_{12}H_9NS$ (10*H*–Phenothiazine) (RN–CAS Registry Number 92–84–2)	**	6.87	CTS	4035
$C_{13}H_{11}NS^+$	$C_{12}H_8NSCH_3$ (10*H*–Phenothiazine, 10–methyl–) (RN–CAS Registry Number 1207–72–3)	**	6.73±0.07	CTS	4079

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_6N_2S^+$	$C_2H_3N_2SCH_3$ (1,2,5-Thia(S^{IV})diazole, 3,4-dihydro-3-methyl-) (RN-CAS Registry Number 24692-43-1)	**	8.92 (V)	PE	4024
$C_4H_2N_2S^+$	$C_3H_2NS(CN)$ (4-Isothiazolecarbonitrile) (RN-CAS Registry Number 3912-37-6)	**	10.55	EI	3587
$C_4H_8N_2S^+$	$C_2H_2N_2S(CH_3)_2$ (1,2,5-Thia(S^{IV})diazole, 3,4-dihydro-3,3-dimethyl-) (RN-CAS Registry Number 24692-45-3)	**	9.62 (V)	PE	4024
$C_6H_4N_2S^+$	$C_6H_4N_2S$ (1,2,3-Benzothiadiazole) (RN-CAS Registry Number 273-77-8)	**	9.15 (V)	PE	3852
$C_6H_4N_2S^+$	$C_6H_4N_2S$ (2,1,3-Benzothiadiazole) (RN-CAS Registry Number 273-13-2)	**	8.98	PE	4017
$C_6H_4N_2S^+$	$C_6H_4N_2S$ (2,1,3-Benzothiadiazole) (RN-CAS Registry Number 273-13-2)	**	9.00 (V)	PE	3852
$C_8H_{18}N_2S^+$	$((CH_3)_3CN)_2S$ (RN-CAS Registry Number 2056-74-8)	**	8.65 (V)	PE	4024
$C_{16}H_{18}N_2S^+$	$C_{12}H_8NSCH_2CH_2N(CH_3)_2$ (10*H*-Phenothiazine-10-ethanamine, *N*,*N*-dimethyl-) (RN-CAS Registry Number 522-24-7) (ON-Other name: Ethizine)	**	8.25±0.07	CTS	4079
$C_{17}H_{20}N_2S^+$	$C_{12}H_8NS(CH_2)_3N(CH_3)_2$ (10*H*-Phenothiazine-10-propanamine, *N*,*N*-dimethyl-) (RN-CAS Registry Number 58-40-2) (ON-Other name: Promazine)	**	8.22±0.07	CTS	4079
$C_{18}H_{22}N_2S^+$	$C_{12}H_8NSCH_2CH_2N(C_2H_5)_2$ (10*H*-Phenothiazine-10-ethanamine, *N*,*N*-diethyl-) (RN-CAS Registry Number 60-91-3) (ON-Other name: Dinezine)	**	7.85±0.07	CTS	4079
$C_{20}H_{25}N_3S^+$	$C_{12}H_8NS(CH_2)_3C_4H_8N_2CH_3$ (10*H*-Phenothiazine, 10-[3-(4-methyl-1-piperazinyl)propyl]-) (RN-CAS Registry Number 84-97-9) (ON-Other name: Perazine)	**	6.87±0.07	CTS	4079
$SO^+(^2\Pi)$ (RD-Radical)	$SO(^3\Sigma^-)$ (RN-CAS Registry Number 13827-32-2)	**	10.32	PE	3701
$SO^+(^4\Pi)$ (RD-Radical)	$SO(^3\Sigma^-)$ (RN-CAS Registry Number 13827-32-2)	**	~11.3	PE	3701

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SO^+(^4\Sigma^-)$	$SO(^3\Sigma^-)$ (RN-CAS Registry Number 13827-32-2)	**	14.96	PE	3701
(RD-Radical)					
SO^+	SO (RN-CAS Registry Number 13827-32-2)	**	10.28±0.02	EI	3816
(RD-Radical)					
SO^+	COS (RN-CAS Registry Number 463-58-1)	C	19.8	EI	3779
$SO_2^+(^2A_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	12.3	PE	3865
$SO_2^+(^2A_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	12.31	PE	4092
$SO_2^+(^2A_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	12.50 (V)	PE	3879
$SO_2^+(^2A_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	12.54 (V)	PE	4024
$SO_2^+(^2A_2)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	13.01 (V)	PE	4092
$SO_2^+(^2A_2)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	13.24 (V)	PE	3879
$SO_2^+(^2A_2)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	13.25 (V)	PE	4024
$SO_2^+(^2B_2)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	13.30 (V)	PE	4092
$SO_2^+(^2B_2)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	13.47 (V)	PE	3879
$SO_2^+(^2B_2)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	13.56 (V)	PE	4024
$SO_2^+(^2B_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	15.99	PE	3879
$SO_2^+(^2B_2)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	15.992±0.003	PE	3865
$SO_2^+(^2A_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	16.324±0.004	PE	3865
$SO_2^+(^2A_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	16.33	PE	3879
$SO_2^+(^2B_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	16.498±0.004	PE	3865
$SO_2^+(^2B_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	16.57 (V)	PE	4092
$SO_2^+(^2B_1,{}^2B_2)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	~16.6 (V)	PE	4024
$SO_2^+(^2B_2,{}^2A_1)$	SO_2 (RN-CAS Registry Number 7446-09-5)	**	16.65 (V)	PE	4092
SO_2^{+*}	SO_2 (RN-CAS Registry Number 7446-09-5)	**	20.06±0.05	PE	3865
$S_2O^+(^2A')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	10.52	PE	4092
$S_2O^+(^2A')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	10.53±0.02	PE	3841

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$S_2O^+(^2A')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	10.62	PE	3692
$S_2O^+(^2A'')$	SSO (RN-CAS Registry Number 20901-21-7)	**	11.22	PE	4092
$S_2O^+(^2A')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	11.25±0.02	PE	3841
$S_2O^+(^2A'')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	11.31±0.02	PE	3841
$S_2O^+(^2A')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	11.32	PE	3692
$S_2O^+(^2A')$	SSO (RN-CAS Registry Number 20901-21-7)	**	11.34	PE	4092
$S_2O^+(^2A'')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	11.37	PE	3692
$S_2O^+(^2A')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	14.3±0.02	PE	3841
$S_2O^+(^2A'')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	14.3	PE	3692
$S_2O^+(^2A'')$	SSO (RN-CAS Registry Number 20901-21-7)	**	14.62 (V)	PE	4092
$S_2O^+(^2A')$	SSO (RN-CAS Registry Number 20901-21-7)	**	14.84 (V)	PE	4092
$S_2O^+(^2A'')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	14.9±0.02	PE	3841
$S_2O^+(^2A')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	15.5±0.02	PE	3841
$S_2O^+(^2A')$	S_2O (RN-CAS Registry Number 20901-21-7)	**	15.5	PE	3692
$S_2O^+(^2A')$	SSO (RN-CAS Registry Number 20901-21-7)	**	15.80 (V)	PE	4092
$S_2O^+(^2A')$	SSO (RN-CAS Registry Number 20901-21-7)	**	18.50 (V)	PE	4092
$COS^+(X^2\Pi)$	COS (RN-CAS Registry Number 463-58-1)	**	11.18±0.01	PE	3965
$COS^+(X^2\Pi_{3/2})$	COS (RN-CAS-Registry Number 463-58-1)	**	11.22	PE	4073
$COS^+(A^2\Pi)$	COS (RN-CAS Registry Number 463-58-1)	**	15.09±0.01	PE	3965
$COS^+(B^2\Sigma^+)$	COS (RN-CAS Registry Number 463-58-1)	**	16.05±0.01	PE	3965
$COS^+(C^2\Sigma^+)$	COS (RN-CAS Registry Number 463-58-1)	**	17.96±0.01	PE	3965
COS^+	COS (RN-CAS Registry Number 463-58-1)	**	11.3	EI	3779
CH_2OS^+	C_3H_6OS (1,3-Oxathiolane) (RN-CAS Registry Number 2094-97-5)	C_2H_4	10.4±0.3	EI	3598

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_4OS^+$	C_2H_4SO (Thiirane, 1-oxide) (RN-CAS Registry Number 7117-41-1)	**	9.66 (V)	PE	3646
$C_2H_6OS^+$	$(CH_3)_2SO$ (RN-CAS Registry Number 67-68-5)	**	9.01 (V)	PE	3646
$C_2H_6OS^+$	$(CH_3)_2SO$ (RN-CAS Registry Number 67-68-5)	**	9.11 (V)	PE	3705
$C_2H_6OS^+$	$(CH_3)_2SO$ (Sulfinylbis(methane)) (RN-CAS Registry Number 67-68-5)	**	9.20±0.05	EI	3498
$C_3H_5OS^+$	C_3H_6OS (1,3-Oxathiolane) (RN-CAS Registry Number 2094-97-5)	H	10.8±0.1	EI	3598
$C_3H_6OS^+$	C_3H_6OS (1,3-Oxathiolane) (RN-CAS Registry Number 2094-97-5)	**	9±0.05	EI	3598
$C_4H_8OS^+$	C_4H_8OS (1,4-Oxathiane) (RN-CAS Registry Number 15980-15-1)	**	8.67 (V)	PE	3733
$C_4H_8OS^+$	C_4H_8SO (Thiophene, tetrahydro-1-oxide) (RN-CAS Registry Number 1600-44-8)	**	8.77 (V)	PE	3646
$C_4H_8OS^+$	C_4H_8SO (Thiophene, tetrahydro-, 1-oxide) (RN-CAS Registry Number 1600-44-8)	**	9.07±0.05	EI	3498
$C_4H_8OS^+$	$C_5H_{10}O_2S$ (1,3,6-Dioxathiocane) (RN-CAS Registry Number 2094-92-0)	HCHO	9.1±0.01	EI	3903
(MT-Metastable transition(s) observed) (TR-Other product(s) thermochemically reasonable)					
$C_4H_{10}OS^+$	$(CH_3CH_2)_2SO$ (RN-CAS Registry Number 70-29-1)	**	8.76 (V)	PE	3646
$C_5H_4OS^+$	C_4H_3SCHO (2-Thiophenecarboxaldehyde) (RN-CAS Registry Number 98-03-3)	**	9.55±0.05	EI	3482
$C_5H_6OS^+$	$C_4H_3SOCH_3$ (Thiophene, 2-methoxy-) (RN-CAS Registry Number 16839-97-7)	**	8.30±0.05	EI	3482
$C_6H_6OS^+$	$C_4H_3SCOCH_3$ (Ethanone, 1-(2-thienyl)-) (RN-CAS Registry Number 88-15-3)	**	9.20±0.05	EI	3482

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6OS^+$	$C_4H_3SCOCH_3$ (Ethanone, 1-(3-thienyl)-) (RN-CAS Registry Number 1468-83-3)	**	9.32±0.05	EI	3482
$C_6H_{11}OS^+$	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4α,6α)-) (RN-CAS Registry Number 22521-88-6)	CH_3	8.54±0.01	EI	3803
$C_6H_{11}OS^+$	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4α,6β)-) (RN-CAS Registry Number 22425-91-8)	CH_3	8.67	EI	3803
$C_6H_{11}OS^+$	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4β,6α)-) (RN-CAS Registry Number 22425-90-7)	CH_3	8.64	EI	3803
$C_6H_{12}OS^+$	$C_4H_6OS(CH_3)_2$ (1,3-Oxathiane, 4,6-dimethyl-, *cis*-) (RN-CAS Registry Number 22452-25-1)	**	8.75	EI	3803
$C_6H_{12}OS^+$	$C_4H_6OS(CH_3)_2$ (1,3-Oxathiane, 4,6-dimethyl-, *trans*-) (RN-CAS Registry Number 22452-26-2)	**	8.67±0.01	EI	3803
$C_6H_{14}OS^+$	$((CH_3)_2CH)_2SO$ (RN-CAS Registry Number 2211-89-4)	**	8.46 (V)	PE	3646
$C_7H_{13}OS^+$	$C_4H_4OS(CH_3)_4$ (1,3-Oxathiane, 2,2,4,6-tetramethyl-, *cis*-) (RN-CAS Registry Number 34560-79-7)	CH_3	8.63±0.01	EI	3803
$C_7H_{13}OS^+$	$C_4H_4OS(CH_3)_4$ (1,3-Oxathiane, 2,2,4,6-tetramethyl, *trans*-) (RN-CAS Registry Number 34560-78-6)	CH_3	8.54±0.01	EI	3803
$C_7H_{14}OS^+$	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4α,6α)-) (RN-CAS Registry Number 22521-88-6)	**	8.55	EI	3803
$C_7H_{14}OS^+$	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4α,6β)-) (RN-CAS Registry Number 22425-91-8)	**	8.54	EI	3803
$C_7H_{14}OS^+$	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4β,6α)-) (RN-CAS Registry Number 22425-90-7)	**	8.58	EI	3803
$C_8H_{16}OS^+$	$C_4H_4OS(CH_3)_4$ (1,3-Oxathiane, 2,2,4,6-tetramethyl-, *cis*-) (RN-CAS Registry Number 34560-79-7)	**	8.48±0.02	EI	3803
$C_8H_{16}OS^+$	$C_4H_4OS(CH_3)_4$ (1,3-Oxathiane, 2,2,4,6-tetramethyl, *trans*-) (RN-CAS Registry Number 34560-78-6)	**	8.45±0.01	EI	3803
$C_8H_{18}OS^+$	$((CH_3)_3C)_2SO$ (RN-CAS Registry Number 2211-92-9)	**	8.18 (V)	PE	3646

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{10}OS^+$	$(C_6H_5)_2SO$ (RN-CAS Registry Number 945-51-7)	**	9.02±0.05	EI	3498
$C_2H_6O_2S^+$	$(CH_3)_2SO_2$ (RN-CAS Registry Number 67-71-0)	**	10.80 (V)	PE	3993
$C_2H_6O_2S^+$	$(CH_3)_2SO_2$ (RN-CAS Registry Number 67-71-0)	**	10.97 (V)	PE	3705
$C_3H_6SO_2^+$	$CH_2=CHS(CH_3)O_2$ (RN-CAS Registry Number 3680-02-2)	**	10.82 (V)	PE	3993
$C_4H_6SO_2^+$	$(C_2H_3)_2SO_2$ (RN-CAS Registry Number 77-77-0)	**	10.62 (V)	PE	3993
$C_5H_4O_2S^+$	C_4H_3SCOOH (2-Thiophenecarboxylic acid) (RN-CAS Registry Number 527-72-0)	**	9.35	EI	3804
$C_5H_{10}O_2S^+$	$C_5H_{10}O_2S$ (1,3,6-Dioxathiocane) (RN-CAS Registry Number 2094-92-0)	**	8.67±0.05	EI	3903
$C_6H_6O_2S^+$	$C_4H_3SCOOCH_3$ (2-Thiophenecarboxylic acid, methyl ester) (RN-CAS Registry Number 5380-42-7)	**	9.22±0.05	EI	3482
$C_{14}H_9O_2S^+$	$C_6H_4(COSC_6H_5)_2$ (1,2-Benzenedicarbothioic acid *S,S*-diphenyl ester) (RN-CAS-Registry Number 42797-33-1)	C_6H_5S	10.3±0.2	EI	4062
$C_{14}H_9O_2S^+$	$C_8H_4O(=O)(SC_6H_5)_2$ (1(3*H*)-Isobenzofuranone, 3,3-bis(phenylthio)-) (RN-CAS-Registry Number 4792-31-8)	C_6H_5S	10.3±0.2	EI	4062
$C_{15}H_{11}O_2S^+$	$C_6H_4(COSC_6H_4CH_3)_2$ (1,2-Benzenedicarbothioic acid *S,S*-bis(4-methylphenyl)ester) (RN-CAS-Registry Number 42797-34-2)	$C_6H_4(S)CH_3$	10.1±0.2	EI	4062
$C_{15}H_{11}O_2S^+$	$C_8H_4O(=O)(SC_6H_4CH_3)_2$ (1(3*H*)-Isobenzofuranone, 3,3-bis[(4-methylphenyl)thio]-) (RN-CAS-Registry Number 42797-36-4)	$C_6H_4(S)CH_3$	9.9±0.2	EI	4062
$C_2H_4O_3S^+$	$C_2H_4O_2SO$ (1,3,2-Dioxathiolane 2-oxide) (RN-CAS Registry Number 3741-38-6)	**	10.93 (V)	PE	3646
$C_2H_4O_3S^+$	$C_2H_4O_2SO$ (1,3,2-Dioxathiolane 2-oxide) (RN-CAS Registry Number 3741-38-6)	**	10.30±0.05	EI	3498
$C_2H_6O_3S^+$	$(CH_3O)_2SO$ (RN-CAS Registry Number 616-42-2)	**	10.25 (V)	PE	3646

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_3NSO^+$	$C_3H_2NS(CHO)$ (5–Isothiazolecarboxaldehyde) (RN–CAS Registry Number 5242–57–9)	**	10.25	EI	3587
$C_4H_9NOS^+$	$(CH_3)_3CNSO$ (RN–CAS Registry Number38662–39–4)	**	10.54 (V)	PE	4024
$C_6H_7NOS^+$	$C_5H_2NH(=S)(OH)CH_3$ (2(1*H*)–Pyridinethione, 3–hydroxy–6–methyl–) (RN–CAS Registry Number 22989–67–9)	**	8.04±0.05	EI	3635
$C_6H_7NOS^+$	$C_5H_3N(OH)SCH_3$ (3–Pyridinol, 2–(methylthio)–) (RN–CAS Registry Number 32637–37–9)	**	8.53±0.05	EI	3977
$C_6H_{11}NOS^+$	$C_6H_{11}NSO$ (Cyclohexanamine, *N*–sulfinyl–) (RN–CAS Registry Number 30980–11–1)	**	~10.0 (V)	PE	4024
$C_7H_5NOS^+$	$C_7H_5NS(O)$ (Thiazolo[3,2–*a*]pyridinium, 3–hydroxy–, hydroxide, inner salt) (RN–CAS Registry Number 42715–25–3)	**	6.92±0.05	EI	3977
$C_7H_9NOS^+$	$C_5H_2N(OH)(CH_3)SCH_3$ (3–Pyridinol, 6–methyl–2–(methylthio)–) (RN–CAS Registry Number 23003–25–0)	**	8.24±0.05	EI	3635
$C_8H_7NOS^+$	$C_7H_4NS(O)CH_3$ (Thiazolo[3,2–*a*]pyridinium, 3–hydroxy–2–methyl–, hydroxide, inner salt) (RN–CAS Registry Number 35143–56–7)	**	6.82±0.05	EI	3977
$C_8H_7NOS^+$	$C_7H_4NS(O)CH_3$ (Thiazolo[3,2–*a*]pyridinium, 8–hydroxy–5–methyl–, hydroxide, inner salt) (RN–CAS Registry Number 30277–17–9)	**	7.03±0.05	EI	3635
$C_8H_9NOS^+$	$C_7H_6NOS(CH_3)$ (1,4–Oxathiino[3,2–*b*]pyridine, 2,3–dihydro–6–methyl–) (RN–CAS Registry Number 35688–70–1)	**	8.03±0.05	EI	3635
$C_8H_9NOS^+$	$C_5H_2N(=S)(OH)(CH_3)C_2H_3$ (2(1*H*)–Pyridinethione, 1–ethenyl–3–hydroxy–6–methyl–) (RN–CAS Registry Number 35688–69–8)	**	7.73±0.05	EI	3635
$C_8H_9NOS^+$	$C_7H_6NS(O)CH_3$ (Thiazolo[3,2–*a*]pyridinium, 2,3–dihydro–8–hydroxy–5–methyl–, hydroxide, inner salt) (RN–CAS Registry Number 23003–43–2)	**	7.35±0.05	EI	3635
$C_8H_{11}NOS^+$	$C_5H_2N(=S)(OH)(CH_3)C_2H_5$ (2(1*H*)–Pyridinethione, 1–ethyl–3–hydroxy–6–methyl–) (RN–CAS Registry Number 24207–15–6)	**	7.75±0.05	EI	3635
$C_{13}H_9NOS^+$	$C_7H_4NS(O)C_6H_5$ (Thiazolo[3,2–*a*]pyridinium, 3–hydroxy–2–phenyl–, hydroxide, inner salt) (RN–CAS Registry Number 32044–03–4)	**	6.70±0.05	EI	3977

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_2N_2OS^+$	C_3H_2NSNO (Isothiazole, 4-nitro-) (RN-CAS Registry Number 931-07-7)	**	10.45	PE	3736
$C_4H_{12}N_2OS^+$	$((CH_3)_2N)_2SO$ (RN-CAS Registry Number 3768-60-3)	**	8.53 (V)	PE	3646
$C_{17}H_{18}N_2OS^+$	$C_{12}H_8NSCOCH_2CH_2N(CH_3)_2$ (10*H*-Phenothiazine, 10-[3-(dimethylamino)-1-oxopropyl]-) (RN-CAS Registry Number 3576-44-1)	**	8.26±0.07	CTS	4079
$C_{18}H_{22}N_2OS^+$	$C_{12}H_7NS(OCH_3)CH_2CH(CH_3)N(CH_3)_2$ (10*H*-Phenothiazine-10-ethanamine, 2-methoxy-*N*,*N*,α-trimethyl-) (RN-CAS Registry Number 7624-74-0) (ON-Other name: Thisercine)	**	8.18±0.07	CTS	4079
$C_{19}H_{22}N_2OS^+$	$C_{12}H_8NSCOCH_2CH_2N(C_2H_5)_2$ (10*H*-Phenothiazine, 10-[3-(diethylamino)-1-oxopropyl]-) (RN-CAS Registry Number 3576-47-4) (ON-Other name: Acizine)	**	7.85±0.07	CTS	4079
$C_{20}H_{24}N_2OS^+$	$C_{12}H_8NSCO(CH_2)_3N(C_2H_5)_2$ (10*H*-Phenothiazine, 10-[4-(diethylamino)-1-oxobutyl]-) (RN-CAS Registry Number 51307-45-0)	**	7.88±0.07	CTS	4079
$C_{19}H_{23}N_3OS^+$	$C_{12}H_7NS(CH_3)NHCOCH_2N(C_2H_5)_2$ (Acetamide, 2-(diethylamino)-*N*-(10-methyl-10*H*-phenothiazin-3-yl)-) (RN-CAS Registry Number 1952-62-1)	**	7.13±0.07	CTS	4079
$C_{22}H_{27}N_3OS^+$	$C_{22}H_{27}N_3OS$ (Ethanone, 1-[10-[3-(4-methyl-1-piperazinyl)propyl]-10*H*-phenothiazin-2-yl]-) (RN-CAS Registry Number 1053-74-3)	**	9.05±0.07	CTS	4079
$C_{23}H_{29}N_3OS^+$	$C_{23}H_{29}N_3OS$ (1-Propanone, 1-[10-[3-(4-methyl-1-piperazinyl)propyl]-10*H*-phenothiazin-2-yl]-) (RN-CAS Registry Number 20686-45-7)	**	9.08±0.07	CTS	4079
$C_3H_7NO_2S^+$	$SHCH_2CH(NH_2)COOH$ (RN-CAS Registry Number 3374-22-9)	**	~9	PI	3766
$C_4H_3NO_2S^+$	$C_4H_3SNO_2$ (Thiophene, 2-nitro-) (RN-CAS Registry Number 609-40-5)	**	9.77±0.05	EI	3482
$C_5H_{11}NO_2S^+$	$CH_3SCH_2CH_2CH(NH_2)COOH$ (RN-CAS Registry Number 59-51-8)	**	~9	PI	3766
$C_7H_5NO_2S^+$	$C_7H_4NS(O)OH$ (Thiazolo[3,2-*a*]pyridinium, 3,8-dihydroxy-, hydroxide, inner salt) (RN-CAS Registry Number 35143-55-6)	**	8.70±0.05	EI	3977

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_7NO_2S^+$	$C_7H_3NS(O)(OH)CH_3$ (Thiazolo[3,2-*a*]pyridinium, 3,8-dihydroxy-2-methyl-, hydroxide, inner salt) (RN-CAS Registry Number 35191-20-9)	**	8.60±0.05	EI	3977
$C_8H_9NO_2S^+$	$C_5H_3N(SCH_3)OCOCH_3$ (3-Pyridinol, 2-(methylthio)- acetate (ester)) (RN-CAS Registry Number 42715-30-0)	**	7.91±0.05	EI	3977
$C_{13}H_9NO_2S^+$	$C_7H_3NS(O)(OH)C_6H_5$ (Thiazolo[3,2-*a*]pyridinium, 3,8-dihydroxy-2-phenyl-, hydroxide, inner salt) (RN-CAS Registry Number 35143-57-8)	**	8.42±0.05	EI	3977
$C_3H_2N_2O_2S^+$	$C_3H_2NS(NO_2)$ (Isothiazole, 4-nitro-) (RN-CAS Registry Number 931-07-7)	**	10.45	PE	3587
$C_3H_2N_2O_2S^+$	$C_3H_2NS(NO_2)$ (Isothiazole, 4-nitro-) (RN-CAS Registry Number 931-07-7)	**	10.80	EI	3587
$C_{15}H_{11}NO_3S^+$	$C_7H_3NOS(OCOCH_3)C_6H_5$ (Thiazolo[3,2-*a*]pyridinium, 8-(acetyloxy)-3-hydroxy-2-phenyl-, hydroxide, inner salt) (RN-CAS Registry Number 32002-92-9)	**	6.27±0.05	EI	3977
$C_{22}H_{30}N_4O_2S_2^+$	$C_{22}H_{30}N_4O_2S_2$ (10*H*-Phenothiazine-2-sulfonamide, *N*,*N*-dimethyl-10[3-(4-methyl-1-piperazinyl)propyl]-) (RN-CAS Registry Number 316-81-4) (ON-Other name: Majeptil)	**	6.81±0.07	CTS	4079
SF^+	SF (RN-CAS Registry Number 16068-96-5)	**	10.09±0.10	EI	3818
(RD-Radical)					
SF^+	SF_6 (RN-CAS Registry Number 2551-62-4)		30.5±0.5	EI	3818
SF_2^+	SF_2 (RN-CAS Registry Number 13814-25-0)	**	10.29±0.10	EI	3818
(RD-Radical)					
SF_2^+	SF_4 (RN-CAS Registry Number 7783-60-0)		17.4±0.5	EI	3818
SF_2^+	SF_6 (RN-CAS Registry Number 2551-62-4)		27.5±0.5	EI	3818
SF_2^+	S_2F_2 (RN-CAS Registry Number 13709-35-8)		16.2±0.4	EI	3738
SF_3^+	SF_4 (RN-CAS Registry Number 7783-60-0)	F	12.63±0.10	EI	3818
SF_3^+	SF_6 (RN-CAS Registry Number 2551-62-4)		20.0±0.5	EI	3818
SF_4^+	SF_4 (RN-CAS Registry Number 7783-60-0)	**	12.03±0.05	EI	3578

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
SF_4^+	SF_4	**	12.08±0.10	EI	3818
	(RN-CAS Registry Number 7783-60-0)				
SF_4^+	SF_6	2F	18.44±0.10	EI	3818
	(RN-CAS Registry Number 2551-62-4)				
SF_5^+	SF_6	F	15.50±0.10	EI	3818
	(RN-CAS Registry Number 2551-62-4)				
S_2F^+	S_2F_2		14.0±0.4	EI	3738
	(RN-CAS Registry Number 13709-35-8)				
$S_2F_2^+$	S_2F_2	**	11.6±0.4	EI	3738
	(RN-CAS Registry Number 13709-35-8)				
$CF_2S^+(^2B_2)$	F_2CS	**	10.45±0.01	PE	3708
	(RN-CAS Registry Number 420-32-6)				
$CF_2S^+(^2B_2)$	F_2CS	**	10.52	PE	4080
	(RN-CAS Registry Number 420-32-6)				
(HB-Threshold value approximately corrected for hot bands)					
CSF_2^+	F_2CS	**	10.64 (V)	PE	3746
	(RN-CAS Registry Number 420-32-6)				
$CF_2S^+(^2B_1)$	F_2CS	**	11.34±0.01	PE	3708
	(RN-CAS Registry Number 420-32-6)				
$CF_2S^+(^2B_1)$	F_2CS	**	11.39	PE	4080
	(RN-CAS Registry Number 420-32-6)				
$CF_2S^+(^2A_1)$	F_2CS	**	14.87	PE	3708
	(RN-CAS Registry Number 420-32-6)				
CF_2S^{+*}	F_2CS	**	14.91	PE	4080
	(RN-CAS Registry Number 420-32-6)				
(HB-Threshold value approximately corrected for hot bands)					
CF_2S^{+*}	F_2CS	**	15.87 (V)	PE	4080
	(RN-CAS Registry Number 420-32-6)				
CF_2S^{+*}	F_2CS	**	16.48 (V)	PE	4080
	(RN-CAS Registry Number 420-32-6)				
CF_2S^{+*}	F_2CS	**	17.65	PE	3708
	(RN-CAS Registry Number 420-32-6)				
$CF_2S^+(^2B_1)$	F_2CS	**	17.67 (V)	PE	4080
	(RN-CAS Registry Number 420-32-6)				
CF_2S^{+*}	F_2CS	**	18.76 (V)	PE	4080
	(RN-CAS Registry Number 420-32-6)				
CF_2S^{+*}	F_2CS	**	19.20 (V)	PE	4080
	(RN-CAS Registry Number 420-32-6)				
CF_2S^+	F_2CS	**	10.53±0.10	EI	3818
	(RN-CAS Registry Number 420-32-6)				
$NSF^+(^2A')$	NSF	**	11.49±0.02	PE	3665
	(RN-CAS Registry Number 18820-63-8)				
$NSF^+(^2A')$	NSF	**	11.54±0.01	PE	3666
	(RN-CAS Registry Number 18820-63-8)				
$NSF^+(^2A')$	NSF	**	11.82 (V)	PE	3518
	(RN-CAS Registry Number 18820-63-8)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$NSF^+(^2A')$	NSF	**	11.82 (V)	PE	3660
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	13.382±0.004	PE	3666
	(RN–CAS Registry Number 18820–63–8)				
(HB–Threshold value approximately corrected for hot bands)					
$NSF^+(^2A')$	NSF	**	13.39±0.02	PE	3665
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	13.50 (V)	PE	3518
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	13.50 (V)	PE	3660
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A'')$	NSF	**	13.775±0.005	PE	3666
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A'')$	NSF	**	13.78±0.02	PE	3665
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A'')$	NSF	**	13.87 (V)	PE	3518
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A'')$	NSF	**	13.87 (V)	PE	3660
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	14.93±0.01	PE	3666
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	15.35±0.02	PE	3665
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	15.61 (V)	PE	3518
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	15.61 (V)	PE	3660
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A',^2A'')$	NSF	**	~16.3	PE	3665
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	16.47 (V)	PE	3518
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A'')$	NSF	**	16.56±0.03 (V)	PE	3666
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	17.24±0.08 (V)	PE	3666
	(RN–CAS Registry Number 18820–63–8)				
$NSF^+(^2A')$	NSF	**	21.1±0.1 (V)	PE	3666
	(RN–CAS Registry Number 18820–63–8)				
$NSF_3^+(^2E)$	NSF_3	**	12.50 (V)	PE	3660
	(RN–CAS Registry Number 15930–75–3)				
$NSF_3^+(^2A_1)$	NSF_3	**	14.15 (V)	PE	3660
	(RN–CAS Registry Number 15930–75–3)				
$NSF_3^+(^2E)$	NSF_3	**	16.65 (V)	PE	3660
	(RN–CAS Registry Number 15930–75–3)				
$NSF_3^+(^2A_2?)$	NSF_3	**	18.35 (V)	PE	3660
	(RN–CAS Registry Number 15930–75–3)				
$C_{21}H_{24}N_3F_3S^+$	$C_{12}H_7NS(CF_3)(CH_2)_3C_4H_8N_2CH_3$	**	7.10±0.07	CTS	4079
	(10*H*–Phenothiazine, 10–[3–(4–methyl–1–piperazinyl)propyl]–2–(trifluoromethyl)–)				
	(RN–CAS Registry Number 117–89–5)				
	(ON–Other name: Triphthazine)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SO_3F^+(^2A_2)$ (RD-Radical)	SO_3F (RN-CAS Registry Number 21549-02-0)	**	12.85±0.1 (V)	PE	3671
$SOF_2^+(^2A')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	12.19	PE	3705
$SOF_2^+(^2A')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	12.25	PE	3879
SOF_2^+	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	12.58 (V)	PE	3646
$SOF_2^+(^2A')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	12.6 (V)	PE	3694
$SOF_2^+(^2A'')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	~13.4	PE	3879
$SOF_2^+(^2A'')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	14.04 (V)	PE	3705
$SOF_2^+(^2A'')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	14.14 (V)	PE	3694
$SOF_2^+(^2A')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	14.54	PE	3705
$SOF_2^+(^2A'')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	14.55	PE	3879
$SOF_2^+(^2A')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	14.8 (V)	PE	3694
$SOF_2^+(^2A')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	16.2 (V)	PE	3694
SOF_2^+*	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	16.4 (V)	PE	3705
$SOF_2^+(^2A'')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	16.6 (V)	PE	3879
SOF_2^+*	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	16.97 (V)	PE	3705
$SOF_2^+(^2A'')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	17.0 (V)	PE	3694
$SOF_2^+(^2A')$	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	17.0 (V)	PE	3879
SOF_2^+*	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	18.03	PE	3705
SOF_2^+	SOF_2 (RN-CAS Registry Number 7783-42-8)	**	12.58±0.10	EI	3818
$SO_2F_2^+(^2B_2)$	SO_2F_2 (RN-CAS Registry Number 2699-79-8)	**	~13.0	PE	3879
$SO_2F_2^+(^2B_2)$	SO_2F_2 (RN-CAS Registry Number 2699-79-8)	**	13.04±0.01	PE	3675
$SO_2F_2^+(^2A_2)$	SO_2F_2 (RN-CAS Registry Number 2699-79-8)	**	13.43 (V)	PE	3705
$SO_2F_2^+(^2A_2)$	SO_2F_2 (RN-CAS Registry Number 2699-79-8)	**	13.55	PE	3879
$SO_2F_2^+(^2B_1)$	SO_2F_2 (RN-CAS Registry Number 2699-79-8)	**	13.55 (V)	PE	3694

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SO_2F_2^+(^2A_2)$	SO_2F_2	**	13.57±0.02	PE	3675
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_2)$	SO_2F_2	**	13.61 (V)	PE	3694
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_2)$	SO_2F_2	**	13.78 (V)	PE	3705
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_1)$	SO_2F_2	**	14.8	PE	3705
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_1)$	SO_2F_2	**	14.85±0.01	PE	3675
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_1)$	SO_2F_2	**	14.89	PE	3879
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_2)$	SO_2F_2	**	15.18 (V)	PE	3694
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_1)$	SO_2F_2	**	15.181±0.006	PE	3675
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_2)$	SO_2F_2	**	15.23	PE	3879
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_1)$	SO_2F_2	**	15.30 (V)	PE	3705
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_2)$	SO_2F_2	**	15.35 (V)	PE	3694
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_2)$	SO_2F_2	**	16.676±0.005	PE	3675
	(RN–CAS Registry Number 2699–79–8)				
(HB–Threshold value approximately corrected for hot bands)					
$SO_2F_2^+$*	SO_2F_2	**	16.68	PE	3705
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_1)$	SO_2F_2	**	16.68	PE	3879
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_1)$	SO_2F_2	**	16.68 (V)	PE	3694
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_1)$	SO_2F_2	**	17.89	PE	3879
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_1)$	SO_2F_2	**	18.07±0.03	PE	3675
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+$*	SO_2F_2	**	18.29 (V)	PE	3705
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_2)$	SO_2F_2	**	18.34 (V)	PE	3694
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_2)$	SO_2F_2	**	19.175±0.007	PE	3675
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_1)$	SO_2F_2	**	19.699±0.007	PE	3675
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_2)$	SO_2F_2	**	19.70	PE	3879
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+$*	SO_2F_2	**	19.80 (V)	PE	3705
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+$*	SO_2F_2	**	19.89 (V)	PE	3694
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_1)$	SO_2F_2	**	20.5	PE	3879
	(RN–CAS Registry Number 2699–79–8)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SO_2F_2^+$	SO_2F_2	**	~21 (V)	PE	3694
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2A_1)$	SO_2F_2	**	24.2±0.1 (V)	PE	3675
	(RN–CAS Registry Number 2699–79–8)				
$SO_2F_2^+(^2B_1)$	SO_2F_2	**	27.7±0.1 (V)	PE	3675
	(RN–CAS Registry Number 2699–79–8)				
$CH_3O_2FS^+$	CH_3SO_2F	**	12.61 (V)	PE	3705
	(RN–CAS Registry Number 558–25–8)				
$C_6H_3OF_3S^+$	$C_4H_3SCOCF_3$	**	9.70±0.05	EI	3482
	(Ethanone, 2,2,2–trifluoro–1–(2–thienyl)–)				
	(RN–CAS Registry Number 651–70–7)				
$C_6H_3OF_3S^+$	$C_4H_3SCOCF_3$	**	9.63±0.05	EI	3482
	(Ethanone, 2,2,2–trifluoro–1–(3–thienyl)–)				
	(RN–CAS Registry Number 30933–31–4)				
$C_{20}H_{21}N_2OF_3S^+$	$C_{12}H_7NS(CF_3)COCH_2CH_2N(C_2H_5)_2$	**	7.89±0.07	CTS	4079
	(10*H*–Phenothiazine, 10–[3–(diethylamino)–1–oxopropyl]–2–(trifluoromethyl)–)				
	(RN–CAS Registry Number 30223–48–4)				
	(ON–Other name: Fluoracizine)				
$C_{22}H_{26}N_3OF_3S^+$	$C_{22}H_{26}N_3OF_3S$	**	8.64±0.07	CTS	4079
	(1–Piperazineethanol, 4–[3–[2–(trifluoromethyl)–10*H*–phenothiazin–10–yl]propyl]–)				
	(RN–CAS Registry Number 69–23–8)				
	(ON–Other name: Fluorphenazine)				
$C_{20}H_{19}N_2O_2F_3S^+$	$C_{12}H_7NS(CF_3)COCH_2CH_2C_4H_8NO$	**	8.54±0.07	CTS	4079
	(10*H*–Phenothiazine, 10–[3–(4–morpholinyl)–1–oxopropyl]–2–(trifluoromethyl)–)				
	(RN–CAS Registry Number 33414–29–8)				
$C_{22}H_{24}N_3O_2F_3S^+$	$C_{22}H_{24}N_3O_2F_3S$	**	8.71±0.07	CTS	4079
	(10*H*–Phenothiazine, 10–[3–[4–(2–hydroxyethyl)–1–piperazinyl]–1–oxopropyl]–2–(trifluoromethyl)–)				
	(RN–CAS Registry Number 33414–36–7)				
$SiH_4S^+(^2A'')$	SiH_3SH	**	9.97 (V)	PE	3656
	(RN–CAS Registry Number 14044–97–4)				
$Si_2H_6S^+$	$(SiH_3)_2S$	**	9.59 (V)	PE	3867
	(RN–CAS Registry Number 16544–95–9)				
$Si_2H_6S^+(^2B_1)$	$(SiH_3)_2S$	**	9.70 (V)	PE	3656
	(RN–CAS Registry Number 16544–95–9)				
CH_6SiS^+	CH_3SSiH_3	**	9.10 (V)	PE	3867
	(RN–CAS Registry Number 16643–15–5)				
CH_3NSiS^+	SiH_3NCS	**	9.54±0.02 (V)	PE	3670
	(RN–CAS Registry Number 14311–54–7)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_9NSiS^+$	$(CH_3)_3SiNCS$ (RN-CAS Registry Number 2290-65-5)	**	9.3±0.1 (V)	PE	3670
PS^+	PS (RN-CAS Registry Number 12281-36-6)	**	9.0	EI	4001
P_4S^+	P_4S (RN-CAS Registry Number XXXXX-XX-X)	**	10.6±0.5	EI	3615
$P_4S_2^+$	P_4S_2 (RN-CAS Registry Number 12165-70-7)	**	10.6±0.5	EI	3615
$P_4S_3^+$	P_4S_3 (RN-CAS Registry Number 1314-85-8)	**	9.7±0.5	EI	3615
$P_4S_4^+$	P_4S_4 (RN-CAS Registry Number XXXXX-XX-X)	**	10.1±0.5	EI	3615
$P_4S_5^+$	P_4S_5 (RN-CAS Registry Number 12137-70-1)	**	10.4±0.5	EI	3615
$P_4S_6^+$	P_4S_6 (RN-CAS Registry Number XXXXX-XX-X)	**	10.0±0.5	EI	3615
$P_4S_7^+$	P_4S_7 (RN-CAS Registry Number 12037-82-0)	**	10.1±0.5	EI	3615
$P_4S_8^+$	P_4S_8 (RN-CAS Registry Number 37295-14-0)	**	9.8±0.5	EI	3615
$P_4S_9^+$	P_4S_9 (RN-CAS Registry Number 25070-46-6)	**	9.8±0.5	EI	3615
$P_4S_{10}^+$	P_4S_{10} (RN-CAS Registry Number 12066-62-5)	**	9.6±0.5	EI	3615
CH_2PS^+	$(CH_3O)_2P(CH_3S)S$ (RN-CAS Registry Number 2953-29-9) (MT-Metastable transition(s) observed)	H+HCHO+HS	14.05±0.30	EI	3989
$C_6H_{18}N_3PS^+$	$PS(N(CH_3)_2)_3$ (RN-CAS Registry Number 3732-82-9)	**	7.66±0.003	PE	4086
$C_2H_6OPS^+$	$(CH_3O)_2P(CH_3S)S$ (RN-CAS Registry Number 2953-29-9) (MT-Metastable transition(s) observed)	HCHO+HS	11.70±0.20	EI	3989
$C_2H_6O_2PS^+$	$(CH_3O)_2P(CH_3S)O$ (RN-CAS Registry Number 152-20-5)	CH_3O	11.82±0.20	EI	3989
$C_2H_6O_2PS^+$	$(CH_3O)_2P(CH_3S)S$ (RN-CAS Registry Number 2953-29-9) (MT-Metastable transition(s) observed)	CH_3S	10.10±0.10	EI	3989

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_6O_2PS^+$	$(CH_3S)_2P(CH_3O)O$	CH_3S	10.50±0.10	EI	3989
	(RN-CAS Registry Number 22608-53-3)				
$C_2H_7O_2PS^+$	$(CH_3O)_2P(CH_3S)O$	HCHO	10.51±0.10	EI	3989
	(RN-CAS Registry Number 152-20-5)				
(MT-Metastable transition(s) observed)					
$C_2H_7O_2PS^+$	$(CH_3O)_2P(CH_3S)S$	HCHS	10.35±0.10	EI	3989
	(RN-CAS Registry Number 2953-29-9)				
$C_2H_7O_2PS^+$	$(CH_3S)_2P(CH_3O)O$	HCHS	10.10±0.10	EI	3989
	(RN-CAS Registry Number 22608-53-3)				
(MT-Metastable transition(s) observed)					
$C_2H_6O_3PS^+$	$(CH_3O)_2P(CH_3S)O$	CH_3	10.03±0.10	EI	3989
	(RN-CAS Registry Number 152-20-5)				
(MT-Metastable transition(s) observed)					
$C_3H_9O_3PS^+$	$(CH_3O)_2P(CH_3S)O$	**	9.55±0.10	EI	3989
	(RN-CAS Registry Number 152-20-5)				
$C_2H_6OPS_2^+$	$(CH_3O)_2P(CH_3S)S$	CH_3O	10.20±0.30	EI	3989
	(RN-CAS Registry Number 2953-29-9)				
$C_2H_6OPS_2^+$	$(CH_3S)_2P(CH_3O)O$	CH_3O	10.15±0.10	EI	3989
	(RN-CAS Registry Number 22608-53-3)				
$C_2H_7OPS_2^+$	$(CH_3O)_2P(CH_3S)S$	HCHO	10.00±0.10	EI	3989
	(RN-CAS Registry Number 2953-29-9)				
(MT-Metastable transition(s) observed)					
$C_2H_7OPS_2^+$	$(CH_3S)_2P(CH_3O)O$	HCHO	9.90±0.20	EI	3989
	(RN-CAS Registry Number 22608-53-3)				
(MT-Metastable transition(s) observed)					
$C_2H_6O_2PS_2^+$	$(CH_3O)_2P(CH_3S)S$	CH_3	9.65±0.20	EI	3989
	(RN-CAS Registry Number 2953-29-9)				
$C_2H_6O_2PS_2^+$	$(CH_3S)_2P(CH_3O)O$	CH_3	9.47±0.10	EI	3989
	(RN-CAS Registry Number 22608-53-3)				
(MT-Metastable transition(s) observed)					
$C_3H_9O_2PS_2^+$	$(CH_3O)_2P(CH_3S)S$	**	9.0±0.10	EI	3989
	(RN-CAS Registry Number 2953-29-9)				
$C_3H_9O_2PS_2^+$	$(CH_3S)_2P(CH_3O)O$	**	9.20±0.10	EI	3989
	(RN-CAS Registry Number 22608-53-3)				
CNF_2PS^+	PF_2NCS	**	10.2±0.1 (V)	PE	3662
	(RN-CAS Registry Number 461-60-9)				
Cl^+	CH_2Cl_2	CH_2Cl	17.4	RPD	3490
	(RN-CAS Registry Number 75-09-2)				
(AD-0.219 eV average translational energy of decomposition at threshold)					
(TR-Other product(s) thermochemically reasonable)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Cl^+	CH_2Cl_2	CH_2Cl	17.4±0.1	EI	3442
	(RN-CAS Registry Number 75-09-2)				
(AD-0.22 eV average translational energy of decomposition at threshold)					
(TR-Other product(s) thermochemically reasonable)					
Cl^+	Ag_3Cl_3		~15.5	EI	3605
	(RN-CAS Registry Number 12444-97-2)				
Cl^{+2}	Cl^+	**	23.8137±0.0002	S	3756
	(RN-CAS Registry Number 14835-24-6)				
$Cl_2^+(^2\Pi_g)$	Cl_2	**	11.49	PE	3507
	(RN-CAS Registry Number 7782-50-5)				
$Cl_2^+(^2\Pi_u)$	Cl_2	**	14.43 (V)	PE	3507
	(RN-CAS Registry Number 7782-50-5)				
$Cl_2^+(^2\Sigma^+)$	Cl_2	**	16.10 (V)	PE	3507
	(RN-CAS Registry Number 7782-50-5)				
BCl^+	BCl	**	12±1	EI	3465
	(RN-CAS Registry Number 20583-55-5)				
BCl_2^+	BCl_2	**	12±1.0	EI	3465
	(RN-CAS Registry Number 13842-52-9)				
$BCl_3^+(^2A_2')$	BCl_3	**	11.62 (V)	PE	3704
	(RN-CAS Registry Number 10294-34-5)				
$BCl_3^+(^2E')$	BCl_3	**	12.28 (V)	PE	3704
	(RN-CAS Registry Number 10294-34-5)				
$BCl_3^+(^2E'')$	BCl_3	**	12.53 (V)	PE	3704
	(RN-CAS Registry Number 10294-34-5)				
$BCl_3^+(^2A_2)$	BCl_3	**	14.35 (V)	PE	3704
	(RN-CAS Registry Number 10294-34-5)				
$BCl_3^+(^2E')$	BCl_3	**	15.49 (V)	PE	3704
	(RN-CAS Registry Number 10294-34-5)				
$BCl_3^+(^2A_1')$	BCl_3	**	17.70 (V)	PE	3704
	(RN-CAS Registry Number 10294-34-5)				
$B_2Cl_4^+(^2A_1)$	B_2Cl_4	**	⩽10.42±0.02	PE	3709
	(RN-CAS Registry Number 13701-67-2)				
$B_2Cl_4^+(^2E)$	B_2Cl_4	**	⩽11.49±0.01	PE	3709
	(RN-CAS Registry Number 13701-67-2)				
$B_2Cl_4^+(^2A_2)$	B_2Cl_4	**	12.25±0.01 (V)	PE	3709
	(RN-CAS Registry Number 13701-67-2)				
$B_2Cl_4^+(^2B_1)$	B_2Cl_4	**	12.49±0.01 (V)	PE	3709
	(RN-CAS Registry Number 13701-67-2)				
$B_2Cl_4^+(^2B_2)$	B_2Cl_4	**	13.02±0.02 (V)	PE	3709
	(RN-CAS Registry Number 13701-67-2)				
$B_2Cl_4^+(^2E)$	B_2Cl_4	**	⩽13.34±0.02	PE	3709
	(RN-CAS Registry Number 13701-67-2)				
$B_2Cl_4^+(^2E)$	B_2Cl_4	**	⩽14.42±0.02	PE	3709
	(RN-CAS Registry Number 13701-67-2)				
$B_2Cl_4^+(^2A_1)$	B_2Cl_4	**	15.20±0.01 (V)	PE	3709
	(RN-CAS Registry Number 13701-67-2)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$B_2Cl_4^+(^2B_2)$	B_2Cl_4 (RN–CAS Registry Number 13701–67–2)	**	⩽16.60±0.01	PE	3709
$B_2Cl_4^+(^2A_1)$	B_2Cl_4 (RN–CAS Registry Number 13701–67–2)	**	⩽17.90±0.03	PE	3709
CCl^+	C_2F_3Cl (RN–CAS–Registry Number 79–38–9)	CF_3	16.9±0.1	EI	4070
CCl^+	CFCl=CFCl (RN–CAS–Registry Number 598–88–9)	CF_2Cl	16.4±0.2	EI	4070
CCl_2^+ (TR–Other product(s) thermochemically reasonaable)	CFCl=CFCl (RN–CAS–Registry Number 598–88–9)	CF_2	13.8±0.1	EI	4070
CCl_3^+ (RD–Radical)	CCl_3 (RN–CAS Registry Number 3170–80–7)	**	8.28	EM	3732
CCl_3^+	CCl_4 (RN–CAS Registry Number 56–23–5)	Cl	11.37	EM	3732
CCl_3^+	$(CCl_3)_2CO$ (RN–CAS Registry Number 116–16–5)		11.75	EI	3550
$C_6Cl_4^+$	C_6Cl_4 (1,3–Cyclohexadien–5–yne, 1,2,3,4–tetrachloro–) (RN–CAS Registry Number 13280–72–3)	**	10.66±0.2	RPD	3583
$C_6Cl_4^+$	$C_8O_3Cl_4$ (1,3–Isobenzofurandione, 4,5,6,7–tetrachloro–) (RN–CAS Registry Number 117–08–8) (ON–Other name: Tetrachlorophthalic anhydride)		14.31±0.2	RPD	3583
$C_6Cl_4^+$	C_6Cl_5I (Benzene, pentachloroiodo–) (RN–CAS Registry Number 16478–18–5)		14.51±0.2	RPD	3583
$C_6Cl_4^+$	$C_6Cl_4I_2$ (Tetrachloro–1,2–diiodobenzene) (RN–CAS Registry Number XXXXX–XX–X)		12.85±0.2	RPD	3583
$C_6Cl_6^+$	C_6Cl_6 (Benzene, hexachloro–) (RN–CAS Registry Number 118–74–1)	**	9.20 (V)	PE	3873
CH_2Cl^+ (RD–Radical)	CH_2Cl (RN–CAS Registry Number 6806–86–6)	**	8.80	EM	3732
CH_2Cl^+	CH_3Cl (RN–CAS Registry Number 74–87–3)	H	12.96	EM	3732
CH_2Cl^+ (TR–Other product(s) thermochemically reasonable)	CH_2Cl_2 (RN–CAS Registry Number 75–09–2)	Cl	12.15	EM	3732
CH_3Cl^+	CH_3Cl (RN–CAS Registry Number 74–87–3)	**	11.27	EM	3732

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
C_2HCl^+	$CH{\equiv}CCl$ (RN-CAS Registry Number 593-63-5)	**	11.044±0.004	S	3876
$C_2H_2Cl^+$	$CH_2{=}CFCl$ (RN-CAS-Registry Number 2317-91-1)	F	14.8±0.1	EI	4070
$C_2H_3Cl^+$	C_2H_3Cl (RN-CAS Registry Number 75-01-4)	**	9.99±0.02	PI	3930
$C_2H_3Cl^+(^2A')$	C_2H_3Cl (RN-CAS Registry Number 75-01-4)	**	11.65	PI	3930
$C_2H_3Cl^+$	$CH_2{=}CHCl$ (RN-CAS Registry Number 75-01-4)	**	10.01	PE	3863
$C_2H_5Cl^+$	C_2H_5Cl (RN-CAS Registry Number 75-00-3)	**	11.01 (V)	PE	4076
$C_3H_5Cl^+$	$CH_2{=}CHCH_2Cl$ (RN-CAS Registry Number 107-05-1)	**	10.05	PE	3863
$C_3H_5Cl^+$	$CH_2{=}CHCH_2Cl$ (RN-CAS Registry Number 107-05-1)	**	10.34 (V)	PE	4091
$C_3H_7Cl^+$	*n*-C_3H_7Cl (RN-CAS Registry Number 540-54-5)	**	10.88 (V)	PE	4076
$C_3H_7Cl^+$	*iso*-C_3H_7Cl (RN-CAS Registry Number 75-29-6)	**	11.0± <0.1	EI	3735
$C_4H_9Cl^+$	*n*-C_4H_9Cl (RN-CAS Registry Number 109-69-3)	**	10.84 (V)	PE	4076
$C_6H_4Cl^+$	$C_6H_4ClNO_2$ (Benzene, 1-chloro-3-nitro-) (RN-CAS Registry Number 121-73-3)	NO_2	12.00±0.1	EI	3447
$C_6H_4Cl^+$	$C_6H_4ClNO_2$ (Benzene, 1-chloro-4-nitro-) (RN-CAS Registry Number 100-00-5)	NO_2	12.30±0.1	EI	3447
$C_6H_5Cl^+$	C_6H_5Cl (Benzene, chloro-) (RN-CAS Registry Number 108-90-7)	**	9.09 (V)	PE	3873
$C_6H_5Cl^+$	C_6H_5Cl (Benzene, chloro-) (RN-CAS Registry Number 108-90-7)	**	8.99	EI	3845
$C_6H_5Cl^+$	C_6H_5Cl (Benzene, chloro-) (RN-CAS Registry Number 108-90-7)	**	9.12±0.1	EI	3788
$C_6H_5Cl^+$	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-3-methoxy-) (RN-CAS Registry Number 2845-89-8)	CH_2O	11.68±0.1	EI	3446
$C_6H_5Cl^+$	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-4-methoxy-) (RN-CAS Registry Number 623-12-1)	HCHO	11.42	EI	3845

(CD-Metastable transition indicates 0.35 eV kinetic energy release)

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5Cl^+$	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-4-methoxy-) (RN-CAS Registry Number 623-12-1)	CH_2O	11.56±0.1	EI	3446
$C_6H_5Cl^+$	$C_6H_5ClCr(CO)_3$ (Chromium, tricarbonyl(η^6-chlorobenzene)-) (RN-CAS Registry Number 12082-03-0)		9.15±0.1	EI	3788
$C_6H_{11}Cl^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro-) (RN-CAS Registry Number 542-18-7)	**	10.10±0.01	PI	4078
$C_6H_{11}Cl^+$	$C_6H_{11}Cl$ (Cyclohexane, chloro-) (RN-CAS Registry Number 542-18-7)	**	10.67 (V)	PE	4078
$C_7H_6Cl^+$	$C_6H_4ClCH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-chloro-, acetate) (RN-CAS Registry Number 33709-41-0)		12.90	EI	3590
$C_7H_7Cl^+$	$C_6H_5CH_2Cl$ (Benzene, (chloromethyl)-) (RN-CAS Registry Number 100-44-7)	**	9.30 (V)	PE	3992
$C_7H_7Cl^+$	$C_6H_4ClCH_3$ (Benzene, 1-chloro-2-methyl-) (RN-CAS Registry Number 95-49-8)	**	8.72±0.1	EI	3777
$C_7H_7Cl^+$	$C_6H_4ClCH_3$ (Benzene, 1-chloro-3-methyl-) (RN-CAS Registry Number 108-41-8)	**	8.67±0.1	EI	3777
$C_7H_7Cl^+$	$C_6H_4ClCH_3$ (Benzene, 1-chloro-4-methyl-) (RN-CAS Registry Number 106-43-4)	**	8.78±0.1	EI	3777
$C_8H_7Cl^+$	$C_6H_4ClCH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-chloro-, acetate) (RN-CAS Registry Number 33709-41-0)		8.90	EI	3590
$C_{10}H_{15}Cl^+$	$C_{10}H_{15}Cl$ (Tricyclo[3.3.1.$1^{3,7}$]decane, 1-chloro-) (RN-CAS Registry Number 935-56-8) (ON-Other name: 1-Chloroadamantane)	**	9.30	PE	3886
$C_{12}H_9Cl^+$	$C_6H_5C_6H_4Cl$ (1,1'-Biphenyl, 2-chloro-) (RN-CAS Registry Number 2051-60-7)	**	8.20±0.02	PE	3702
$C_{12}H_9Cl^+$	$C_6H_5C_6H_4Cl$ (1,1'-Biphenyl, 4-chloro-) (RN-CAS Registry Number 2051-62-9)	**	8.10±0.02	PE	3702
$CHCl_2^+$ (RD-Radical)	$CHCl_2$ (RN-CAS Registry Number 3474-12-2)	**	8.45	EM	3732

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CHCl_2^+$	$CHCl_3$	Cl	11.52	EM	3732
	(RN-CAS Registry Number 67-66-3)				
(TR-Other product(s) thermochemically reasonable)					
$CHCl_2^+$	$CHCl_2CH_2Cl$	CH_2Cl	11.80	EM	3732
	(RN-CAS Registry Number 79-00-5)				
(TR-Other product(s) thermochemically reasonable)					
$CH_2Cl_2^+$	CH_2Cl_2	**	11.28	EM	3732
	(RN-CAS Registry Number 75-09-2)				
$C_2H_2Cl_2^+$	*trans*-CHCl=CHCl	**	9.72 (V)	PE	3648
	(RN-CAS Registry Number 156-60-5)				
$C_2H_2Cl_2^+(^2A_g)$	*trans*-CHCl=CHCl	**	11.92 (V)	PE	4022
	(RN-CAS Registry Number 156-60-5)				
$C_2H_2Cl_2^+(^2B_g)$	*trans*-CHCl=CHCl	**	12.11 (V)	PE	4022
	(RN-CAS Registry Number 156-60-5)				
$C_2H_2Cl_2^+(^2B_U)$	*trans*-CHCl=CHCl	**	12.67 (V)	PE	4022
	(RN-CAS Registry Number 156-60-5)				
$C_2H_2Cl_2^+(^2A_u)$	*trans*-CHCl=CHCl	**	13.87 (V)	PE	4022
	(RN-CAS Registry Number 156-60-5)				
$C_6H_2Cl_2^+$	$C_6H_2Cl_2$	**	9.66±0.2	RPD	3583
	(1,3-Cyclohexadien-5-yne, 1,2-dichloro-)				
	(RN-CAS Registry Number 24634-92-2)				
$C_6H_2Cl_2^+$	$C_6H_2Cl_2$	**	9.97±0.2	RPD	3583
	(1,3-Cyclohexadien-5-yne, 1,3-dichloro-)				
	(RN-CAS Registry Number 24634-94-4)				
$C_6H_2Cl_2^+$	$C_6H_2Cl_2$	**	9.11±0.2	RPD	3583
	(1,3-Cyclohexadien-5-yne, 1,4-dichloro-)				
	(RN-CAS Registry Number XXXXX-XX-X)				
$C_6H_2Cl_2^+$	$C_6H_2Cl_2$	**	9.58±0.2	RPD	3583
	(1,3-Cyclohexadien-5-yne, 2,3-dichloro-)				
	(RN-CAS Registry Number 24634-93-3)				
$C_6H_2Cl_2^+$	$C_8H_2O_3Cl_2$		13.60±0.2	RPD	3583
	(1,3-Isobenzofurandione, 4,7-dichloro-)				
	(RN-CAS Registry Number 4466-59-5)				
	(ON-Other name: 3,6-Dichlorophthalic anhydride)				
$C_6H_2Cl_2^+$	$C_8H_2O_3Cl_2$		14.06±0.2	RPD	3583
	(1,3-Isobenzofurandione, 5,6-dichloro-)				
	(RN-CAS Registry Number 942-06-3)				
	(ON-Other name: 4,5-Dichlorophthalic anhydride)				
$C_6H_2Cl_2^+$	$C_6H_2Cl_2I_2$		14.11±0.2	RPD	3583
	(3,4-Dichloro-1,2-diiodobenzene)				
	(RN-CAS Registry Number XXXXX-XX-X)				
$C_6H_2Cl_2^+$	$C_6H_2Cl_2I_2$		14.43±0.2	RPD	3583
	(3,5-Dichloro-1,2-diiodobenzene)				
	(RN-CAS Registry Number XXXXX-XX-X)				
$C_6H_2Cl_2^+$	$C_6H_2Cl_2I_2$		14.11±0.2	RPD	3583
	(4,5-Dichloro-1,2-diiodobenzene)				
	(RN-CAS Registry Number XXXXX-XX-X)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_4Cl_2^+$	$C_6H_4Cl_2$ (Benzene, 1,2-dichloro-) (RN-CAS Registry Number 95-50-1)	**	9.08 (V)	PE	3873
$C_6H_4Cl_2^+$	$C_6H_4Cl_2$ (Benzene, 1,3-dichloro-) (RN-CAS Registry Number 541-73-1)	**	9.15 (V)	PE	3873
$C_6H_4Cl_2^+$	$C_6H_4Cl_2$ (Benzene, 1,4-dichloro-) (RN-CAS Registry Number 106-46-7)	**	9.00 (V)	PE	3873
$C_8H_6Cl_2^+$	$C_6H_3(Cl)_2CH=CH_2$ (Benzene, 1,3-dichloro-2-ethenyl-) (RN-CAS Registry Number 28469-92-3)	**	8.70±0.02	PE	3854
$CHCl_3^+$	$CHCl_3$ (RN-CAS Registry Number 67-66-3)	**	11.41	EM	3732
$C_6H_3Cl_3^+$	$C_6H_3Cl_3$ (Benzene, 1,2,3-trichloro-) (RN-CAS Registry Number 87-61-6)	**	9.22 (V)	PE	3873
$C_6H_3Cl_3^+$	$C_6H_3Cl_3$ (Benzene, 1,3,5-trichloro-) (RN-CAS Registry Number 108-70-3)	**	9.36 (V)	PE	3873
$C_6H_2Cl_4^+$	$C_6H_2Cl_4$ (Benzene, 1,2,3,4-tetrachloro-) (RN-CAS Registry Number 634-66-2)	**	9.11 (V)	PE	3873
$C_6H_2Cl_4^+$	$C_6H_2Cl_4$ (Benzene, 1,2,3,5-tetrachloro-) (RN-CAS Registry Number 634-90-2)	**	9.16 (V)	PE	3873
$C_6H_2Cl_4^+$	$C_6H_2Cl_4$ (Benzene, 1,2,4,5-tetrachloro-) (RN-CAS Registry Number 95-94-3)	**	9.06 (V)	PE	3873
$C_6HCl_5^+$	C_6HCl_5 (Benzene, pentachloro-) (RN-CAS Registry Number 608-93-5)	**	9.11 (V)	PE	3873
$B_3H_3N_3Cl_3^+$	$B_3H_3N_3Cl_3$ (Borazine, 2,4,6-trichloro-) (RN-CAS Registry Number 933-18-6)	**	10.55 (V)	PE	3944
$B_3H_3N_3Cl_3^+$	$B_3H_3N_3Cl_3$ (Borazine,2,4,6-trichloro-) (RN-CAS Registry Number 933-18-6)	**	10.55 (V)	PE	3673
$C_6H_6NCl^+$	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*-(2-chlorophenyl)-) (RN-CAS Registry Number 533-17-5)	$CH_2=C=O$	10.76±0.03	EI	3483
$C_6H_6NCl^+$	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*-(4-chlorophenyl)-) (RN-CAS Registry Number 539-03-7)	$CH_2=C=O$	10.11±0.03	EI	3483

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{12}NCl^+$	$C_6H_4(Cl)C_3H_3(CN)C_6H_5$ (Cyclopropanecarbonitrile, 1-(*p*-chlorophenyl)-2-phenyl-) (RN-CAS Registry Number 32589-55-2)	**	8.18±0.10	EDD	3575
$C_6H_5NCl_2^+$	$C_6H_3(Cl)_2NH_2$ (Benzenamine, 2,6-dichloro-) (RN-CAS Registry Number 608-31-1)	**	7.60±0.02	PE	3890
$C_6H_5NCl_2^+$	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,4-dichlorophenyl)-) (RN-CAS Registry Number 6975-29-7)	$CH_2=C=O$	10.09±0.03	EI	3480
$C_6H_5NCl_2^+$	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,6-dichlorophenyl)-) (RN-CAS Registry Number 17700-54-8)	$CH_2=C=O$	9.93±0.03	EI	3480
$C_4H_{12}BN_2Cl^+$	$B(N(CH_3)_2)_2Cl$ (RN-CAS Registry Number 6562-41-0)	**	8.15 (V)	PE	3704
$C_4H_{12}BN_2Cl^+$	$((CH_3)_2N)_2BCl_2$ (RN-CAS Registry Number 6562-41-0)	**	8.08	PE	3584
$C_2H_6BNCl_2^+$	$(CH_3)_2NBCl_2$ (RN-CAS Registry Number 1113-31-1)	**	9.56	PE	3584
$C_2H_6BNCl_2^+$	$(CH_3)_2NBCl_2$ (RN-CAS Registry Number 1113-31-1)	**	9.68 (V)	PE	3704
$C_3H_9B_3N_3Cl_3^+$	$(CH_3)_3B_3N_3Cl_3$ (Borazine, 2,4,6-trichloro-1,3,5-trimethyl-) (RN-CAS Registry Number 703-86-6)	**	9.45 (V)	PE	3944
ClO_2^+ (RD-Radical)	ClO_2 (RN-CAS Registry Number 10049-04-4)	**	10.36±0.02	PE	3499
$ClO_2^+(^2A_1)$ (RD-Radical)	ClO_2 (RN-CAS Registry Number 10049-04-4)	**	10.5±0.1 (V)	PE	3671
$ClO_2^+(^3B_1?)$ (RD-Radical)	ClO_2 (RN-CAS Registry Number 10049-04-4)	**	12.32±0.02	PE	3499
$ClO_2^+(^3B_1,{}^1B_1,{}^3B_2)$ (RD-Radical)	ClO_2 (RN-CAS Registry Number 10049-04-4)	**	12.9±0.1 (V)	PE	3671
$ClO_2^+(^3B_1,{}^1B_1,{}^3B_2)$ (RD-Radical)	ClO_2 (RN-CAS Registry Number 10049-04-4)	**	13.4±0.1 (V)	PE	3671
$ClO_2^+(^1B_1?)$ (RD-Radical)	ClO_2 (RN-CAS Registry Number 10049-04-4)	**	15.27±0.02	PE	3499
$ClO_2^+(^1B_2)$ (RD-Radical)	ClO_2 (RN-CAS Registry Number 10049-04-4)	**	15.5±0.1 (V)	PE	3671

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$ClO_2^+(^3A_2)$ (RD-Radical)	ClO_2 (RN-CAS Registry Number 10049-04-4)	**	>17 (V)	PE	3671
$Cl_2O^+(^2B_1)$	Cl_2O (RN-CAS Registry Number 7791-21-1)	**	11.02 (V)	PE	3694
$Cl_2O^+(^2B_2)$	Cl_2O (RN-CAS Registry Number 7791-21-1)	**	12.37 (V)	PE	3694
$Cl_2O^+(^2A_1)$	Cl_2O (RN-CAS Registry Number 7791-21-1)	**	12.65 (V)	PE	3694
$Cl_2O^+(^2A_2)$	Cl_2O (RN-CAS Registry Number 7791-21-1)	**	12.79 (V)	PE	3694
$Cl_2O^+(^2B_1)$	Cl_2O (RN-CAS Registry Number 7791-21-1)	**	15.90 (V)	PE	3694
Cl_2O^{+*}	Cl_2O (RN-CAS Registry Number 7791-21-1)	**	16.65 (V)	PE	3694
Cl_2O^{+*}	Cl_2O (RN-CAS Registry Number 7791-21-1)	**	17.68 (V)	PE	3694
Cl_2O^{+*}	Cl_2O (RN-CAS Registry Number 7791-21-1)	**	20.64 (V)	PE	3694
$COCl_2^+$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	~11.2	PE	3726
$COCl_2^+(^2B_2)$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	11.55±0.02	PE	3667
$COCl_2^{+*}$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	~12.3 (V)	PE	3726
$COCl_2^+(^2B_1,^2B_2)$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	12.6±0.1 (V)	PE	3667
$COCl_2^+(^2B_2?)$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	12.6 (V)	PE	3726
$COCl_2^{+*}$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	~13.0 (V)	PE	3726
$COCl_2^+(^2A_1)$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	13.05±0.05 (V)	PE	3667
$COCl_2^{+*}$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	13.31	PE	3726
$COCl_2^+(^2A_2)$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	13.39±0.02	PE	3667
$COCl_2^+(^2A_1)$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	15.80±0.02	PE	3667
$COCl_2^{+*}$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	16.63	PE	3726
$COCl_2^+(^2B_1)$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	16.66±0.02	PE	3667
$COCl_2^{+*}$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	16.75	PE	3726
$COCl_2^{+*}$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	17.0 (V)	PE	3726
$COCl_2^+(^2B_2)$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	17.11±0.02 (V)	PE	3667

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$COCl_2^+(^2A_1)$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	19.29±0.02	PE	3667
$COCl_2^{+*}$	CCl_2O (RN-CAS Registry Number 75-44-5)	**	19.5 (V)	PE	3726
$C_2OCl_3^+$	$(CCl_3)_2CO$ (RN-CAS Registry Number 116-16-5)		12.0	EI	3550
$C_8O_3Cl_4^+$	$C_8O_3Cl_4$ (1,3-Isobenzofurandione, 4,5,6,7-tetrachloro-) (RN-CAS Registry Number 117-08-8) (ON-Other name: Tetrachlorophthalic anhydride)	**	10.77±0.2	RPD	3583
$C_3H_5OCl^+$	CH_3COCH_2Cl (RN-CAS Registry Number 78-95-5)	**	9.91±0.03	PI	3765
$C_6H_4OCl^+$	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-3-methoxy-) (RN-CAS Registry Number 2845-89-8)	CH_3	11.89±0.1	EI	3446
$C_6H_4OCl^+$	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-4-methoxy-) (RN-CAS Registry Number 623-12-1)	CH_3	11.84±0.1	EI	3446
$C_6H_4OCl^+$	$C_6H_4ClNO_2$ (Benzene, 1-chloro-3-nitro-) (RN-CAS Registry Number 121-73-3)	NO	10.31±0.1	EI	3447
$C_6H_4OCl^+$	$C_6H_4ClNO_2$ (Benzene, 1-chloro-4-nitro-) (RN-CAS Registry Number 100-00-5)	NO	10.61±0.1	EI	3447
$C_6H_5OCl^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 2-chlorophenyl ester) (RN-CAS Registry Number 4525-75-1)	$CH_2=C=O$	9.19±0.03	EI	3483
$C_6H_5OCl^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 3-chlorophenyl ester) (RN-CAS Registry Number 13031-39-5)	$CH_2=C=O$	10.11±0.2	EI	3484
$C_6H_5OCl^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 4-chlorophenyl ester) (RN-CAS Registry Number 876-27-7)	$CH_2=C=O$	9.60±0.03	EI	3483
$C_6H_5OCl^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 4-chlorophenyl ester) (RN-CAS Registry Number 876-27-7)	$CH_2=C=O$	10.17±0.2	EI	3484
$C_7H_5OCl^+$	C_6H_5COCl (Benzoyl chloride) (RN-CAS Registry Number 98-88-4)	**	9.85	EI	3792
$C_7H_7OCl^+$	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-3-methoxy-) (RN-CAS Registry Number 2845-89-8)	**	8.72±0.1	EI	3446
$C_7H_7OCl^+$	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-4-methoxy-) (RN-CAS Registry Number 623-12-1)	**	8.18	EI	3845

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7OCl^+$	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-4-methoxy-) (RN-CAS Registry Number 623-12-1)	**	8.52±0.1	EI	3446
$C_2H_3O_2Cl^+$	$CH_2ClCOOH$ (RN-CAS Registry Number 79-11-8)	**	10.99 (V)	PE	3874
$C_8H_7O_2Cl^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 2-chlorophenyl ester) (RN-CAS Registry Number 4525-75-1)	**	8.67±0.03	EI	3483
$C_8H_7O_2Cl^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 3-chlorophenyl ester) (RN-CAS Registry Number 13031-39-5)	**	8.83±0.2	EI	3484
$C_8H_7O_2Cl^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 4-chlorophenyl ester) (RN-CAS Registry Number 876-27-7)	**	8.42±0.03	EI	3483
$C_8H_7O_2Cl^+$	$C_6H_4ClOOCCH_3$ (Acetic acid, 4-chlorophenyl ester) (RN-CAS Registry Number 876-27-7)	**	8.79±0.2	EI	3484
$C_6H_4OCl_2^+$	$C_6H_3(Cl)_2OH$ (Phenol, 2,6-dichloro-) (RN-CAS Registry Number 87-65-0)	**	8.65±0.02	PE	3890
$C_6H_4OCl_2^+$	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,4-dichloro-, acetate) (RN-CAS Registry Number 6341-97-5)	$CH_2=C=O$	9.37±0.03	EI	3480
$C_6H_4OCl_2^+$	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,6-dichloro-, acetate) (RN-CAS Registry Number 28165-71-1)	$CH_2=C=O$	9.88±0.03	EI	3480
$C_8H_6O_2Cl_2^+$	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,4-dichloro-, acetate) (RN-CAS Registry Number 6341-97-5)	**	8.16±0.03	EI	3480
$C_8H_6O_2Cl_2^+$	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,6-dichloro-, acetate) (RN-CAS Registry Number 28165-71-1)	**	8.68±0.03	EI	3480
$C_8H_7NOCl^+$	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,4-dichlorophenyl)-) (RN-CAS Registry Number 6975-29-7)		8.81±0.03	EI	3480
$C_8H_7NOCl^+$	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,6-dichlorophenyl)-) (RN-CAS Registry Number 17700-54-8)		8.79±0.03	EI	3480
$C_8H_8NOCl^+$	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*-(2-chlorophenyl)-) (RN-CAS Registry Number 533-17-5)	**	8.07±0.03	EI	3483
$C_8H_8NOCl^+$	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*-(4-chlorophenyl)-) (RN-CAS Registry Number 539-03-7)	**	8.07±0.03	EI	3483

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{17}H_{14}NOCl^+$	$C_6H_4(Cl)C_3H_3(CN)C_6H_4(OCH_3)$ (Cyclopropanecarbonitrile, 1-(*p*-chlorophenyl)-2-(*p*-methoxyphenyl)-) (RN-CAS Registry Number 32589-54-1)	**	7.70±0.05	EDD	3575
$C_6H_4NO_2Cl^+$	$C_6H_4ClNO_2$ (Benzene, 1-chloro-3-nitro-) (RN-CAS Registry Number 121-73-3)	**	9.92±0.1	EI	3447
$C_6H_4NO_2Cl^+$	$C_6H_4ClNO_2$ (Benzene, 1-chloro-4-nitro-) (RN-CAS Registry Number 100-00-5)	**	9.96±0.1	EI	3447
$C_8H_7NOCl_2^+$	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,4-dichlorophenyl)-) (RN-CAS Registry Number 6975-29-7)	**	8.09±0.03	EI	3480
$C_8H_7NOCl_2^+$	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,6-dichlorophenyl)-) (RN-CAS Registry Number 17700-54-8)	**	8.25±0.03	EI	3480
$ClF^+(^2\Pi_{3/2g})$	ClF (RN-CAS Registry Number 7790-89-8)	**	12.66±0.01	PE	3507
$ClF^+(^2\Pi_{3/2})$	ClF (RN-CAS Registry Number 7790-89-8)	**	12.66±0.01	PE	3680
(HB-Threshold value approximately corrected for hot bands)					
$ClF^+(^2\Pi_{1/2g})$	ClF (RN-CAS Registry Number 7790-89-8)	**	12.74±0.01	PE	3507
$ClF^+(^2\Pi_{1/2})$	ClF (RN-CAS Registry Number 7790-89-8)	**	12.74±0.01	PE	3680
$ClF^+(^2\Pi_{3/2},^2\Pi_{1/2})$	ClF (RN-CAS Registry Number 7790-89-8)	**	16.25±0.08	PE	3680
$ClF^+(^2\Pi_u)$	ClF (RN-CAS Registry Number 7790-89-8)	**	16.39±0.01	PE	3507
$ClF^+(^2\Sigma^+)$	ClF (RN-CAS Registry Number 7790-89-8)	**	17.80±0.01	PE	3507
$ClF^+(^2\Sigma^+)$	ClF (RN-CAS Registry Number 7790-89-8)	**	17.81±0.08	PE	3680
$ClF_3^+(^2B_2,^2A_1)$	ClF_3 (RN-CAS Registry Number 7790-91-2)	**	12.65±0.05	PE	3680
$ClF_3^+(^2A_1)$	ClF_3 (RN-CAS Registry Number 7790-91-2)	**	13.76±0.06	PE	3680
$ClF_3^+(^2B_1)$	ClF_3 (RN-CAS Registry Number 7790-91-2)	**	14.83±0.03 (V)	PE	3680
$ClF_3^+(^2A_2)$	ClF_3 (RN-CAS Registry Number 7790-91-2)	**	15.36±0.03 (V)	PE	3680
$ClF_3^+(^2B_2)$	ClF_3 (RN-CAS Registry Number 7790-91-2)	**	16.07±0.01 (V)	PE	3680
$ClF_3^+(^2B_1)$	ClF_3 (RN-CAS Registry Number 7790-91-2)	**	16.82±0.06	PE	3680
$ClF_3^+(^2A_1,^2B_2)$	ClF_3 (RN-CAS Registry Number 7790-91-2)	**	~19 (V)	PE	3680

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$ClF_3^+(^2B_1)$	ClF_3 (RN-CAS Registry Number 7790-91-2)	**	~19.5 (V)	PE	3680
$BClF^+$	BClF (RN-CAS Registry Number 22395-93-3)	**	11±1	EI	3465
$BClF_2^+$	$BClF_2$ (RN-CAS Registry Number 14720-30-0)	**	13±1	EI	3465
BCl_2F^+	BCl_2F (RN-CAS Registry Number 14720-31-1)	**	14±1	EI	3465
$CFCl^+$	C_2F_3Cl (RN-CAS Registry Number 79-38-9)	CF_2	15.0±0.1	EI	3539
$CFCl^+$	CFCl=CFCl (RN-CAS Registry Number 598-88-9)	CFCl	15.3±0.15	EI	3539
$CFCl^+$	$CFCl_3$ (RN-CAS Registry Number 75-69-4)	2Cl	17.1±0.1	EI	3539
$CFCl^+$	CH_2=CFCl (RN-CAS Registry Number 2317-91-1)	CH_2	16.8±0.1	EI	3539
CF_2Cl^+	C_2F_3Cl (RN-CAS-Registry Number 79-38-9)	CF	14.9±0.1	EI	4070
(TR-Other product(s) thermochemically reasonaable)					
CF_2Cl^+	$(CF_2Cl)_2CO$ (RN-CAS Registry Number 127-21-9)		11.95	EI	3550
$C_2F_2Cl^+$	C_2F_3Cl (RN-CAS-Registry Number 79-38-9)	F	15.9±0.2	EI	4070
$C_2F_2Cl^+$	CFCl=CFCl (RN-CAS-Registry Number 598-88-9)	Cl	14.8±0.1	EI	4070
$CF_3Cl^+(^2E)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	13.0 (V)	PE	3914
$CF_3Cl^+(^2E)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	13.08±0.02 (V)	PE	4026
$CF_3Cl^+(^2A_1)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	15.0 (V)	PE	3914
$CF_3Cl^+(^2A_1)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	15.15±0.02 (V)	PE	4026
$CF_3Cl^+(^2A_2)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	15.55 (V)	PE	3914
$CF_3Cl^+(^2A_2)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	15.82±0.02 (V)	PE	4026
$CF_3Cl^+(^2E)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	16.5 (V)	PE	3914
$CF_3Cl^+(^2E)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	16.56±0.02 (V)	PE	4026
$CF_3Cl^+(^2E)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	17.4 (V)	PE	3914
$CF_3Cl^+(^2E)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	17.53±0.02 (V)	PE	4026

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CF_3Cl^+(^2A_1)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	20.1 (V)	PE	4026
$CF_3Cl^+(^2E)$	CF_3Cl (RN-CAS Registry Number 75-72-9)	**	~21.0 (V)	PE	4026
$C_2F_3Cl^+$	C_2F_3Cl (RN-CAS Registry Number 79-38-9)	**	9.76	S	3776
$C_2F_3Cl^+$	C_2F_3Cl (RN-CAS Registry Number 79-38-9)	**	9.82	PE	3589
$C_2F_3Cl^+$	C_2F_3Cl (RN-CAS-Registry Number 79-38-9)	**	10.6±0.1	EI	4070
$CFCl_2^+$	CFCl=CFCl (RN-CAS-Registry Number 598-88-9)	CF	14.3±0.1	EI	4070
(TR-Other product(s) thermochemically reasonaable)					
$C_2FCl_2^+$	CFCl=CFCl (RN-CAS-Registry Number 598-88-9)	F	15.7±0.1	EI	4070
$CF_2Cl_2^+$	CF_2Cl_2 (RN-CAS Registry Number 75-71-8)	**	12.3 (V)	PE	3914
$CF_2CCl_2^+$	$CF_2=CCl_2$ (RN-CAS Registry Number 79-35-6)	**	9.62	PE	3589
$C_2F_2Cl_2^+$	CFCl=CFCl (RN-CAS-Registry Number 598-88-9)	**	10.2±0.1	EI	4070
$CFCl_3^+$	$CFCl_3$ (RN-CAS Registry Number 75-69-4)	**	11.9 (V)	PE	3914
CH_2FCl^+	CH_2FCl (RN-CAS Registry Number 593-70-4)	**	11.74	PE	3914
C_2HFCl^+	$CH_2=CFCl$ (RN-CAS-Registry Number 2317-91-1)	H	16.2±0.2	EI	4070
$C_2H_2FCl^+$	$CH_2=CFCl$ (RN-CAS Registry Number 2317-91-1)	**	9.97	S	3776
$C_2H_2FCl^+$	$CH_2=CFCl$ (RN-CAS-Registry Number 2317-91-1)	**	10.7±0.2	EI	4070
$C_2H_2FCl^+$	$CH_2=CFCl$ (RN-CAS Registry Number 2317-91-1)	**	10.7±0.2	EI	3539
CHF_2Cl^+	CHF_2Cl (RN-CAS Registry Number 75-45-6)	**	12.6 (V)	PE	3914
$C_2HF_2Cl^+$	$CF_2=CHCl$ (RN-CAS Registry Number 359-10-4)	**	9.76	S	3776
$CHFCl_2^+$	$CHFCl_2$ (RN-CAS Registry Number 75-43-4)	**	12.0 (V)	PE	3914

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$ClO_3F^+(^2A_2)$	ClO_3F (RN-CAS Registry Number 7616-94-6)	**	12.945±0.005	PE	3675
$ClO_3F^+(^2E)$	ClO_3F (RN-CAS Registry Number 7616-94-6)	**	13.68±0.02	PE	3675
$ClO_3F^+(^2A_1)$	ClO_3F (RN-CAS Registry Number 7616-94-6)	**	14.29±0.02 (V)	PE	3675
$ClO_3F^+(^2E)$	ClO_3F (RN-CAS Registry Number 7616-94-6)	**	15.385±0.008	PE	3675
$ClO_3F^+(^2E)$	ClO_3F (RN-CAS Registry Number 7616-94-6)	**	19.70±0.01	PE	3675
$ClO_3F^+(^2A_1)$	ClO_3F (RN-CAS Registry Number 7616-94-6)	**	21.3±0.1 (V)	PE	3675
$ClO_3F^+(^2A_1)$	ClO_3F (RN-CAS Registry Number 7616-94-6)	**	23.8±0.1 (V)	PE	3675
$AlOCl^+$	AlOCl (RN-CAS Registry Number 13596-11-7)	**	12±1	EI	3462
$SiCl^+$	$Cl_3SiCo(Co)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		16.4±0.5	EI	3653
$SiCl^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		16.2±0.5	EI	3653
$SiCl_4^+(^2T_1)$	$SiCl_4$ (RN-CAS Registry Number 10026-04-7)	**	12.06 (V)	PE	3514
$SiCl_4^+(^2T_2)$	$SiCl_4$ (RN-CAS Registry Number 10026-04-7)	**	12.95 (V)	PE	3514
$SiCl_4^+(^2E)$	$SiCl_4$ (RN-CAS Registry Number 10026-04-7)	**	13.44 (V)	PE	3514
$SiH_3Cl^+(^2E)$	SiH_3Cl (RN-CAS Registry Number 13465-78-6)	**	11.61±0.02 (V)	PE	3510
SiH_3Cl^+	SiH_3Cl (RN-CAS Registry Number 13465-78-6)	**	11.61±0.05 (V)	PE	3502
$SiH_3Cl^+(^2E)$	SiH_3Cl (RN-CAS Registry Number 13465-78-6)	**	11.65 (V)	PE	3511
$SiH_3Cl^+(^2A_1)$	SiH_3Cl (RN-CAS Registry Number 13465-78-6)	**	13.4±0.1 (V)	PE	3510
$SiH_3Cl^+(^2A_1?)$	SiH_3Cl (RN-CAS Registry Number 13465-78-6)	**	13.51 (V)	PE	3511
$SiH_3Cl^+(^2E)$	SiH_3Cl (RN-CAS Registry Number 13465-78-6)	**	13.7±0.1 (V)	PE	3510
$SiH_3Cl^+(^2E?)$	SiH_3Cl (RN-CAS Registry Number 13465-78-6)	**	13.99 (V)	PE	3511
$SiH_3Cl^+(^2A_1)$	SiH_3Cl (RN-CAS Registry Number 13465-78-6)	**	18.04±0.02 (V)	PE	3510
$SiH_3Cl^+(^2A_1)$	SiH_3Cl (RN-CAS Registry Number 13465-78-6)	**	18.13 (V)	PE	3511
$SiH_2Cl_2^+$	SiH_2Cl_2 (RN-CAS Registry Number 4109-96-0)	**	11.64±0.02 (V)	PE	3510

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SiH_2Cl_2^+(^2B_2)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	11.70 (V)	PE	3511
$SiH_2Cl_2^+(^2B_2)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	11.70 (V)	PE	3694
$SiH_2Cl_2^+(^2B_1)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	12.09 (V)	PE	3511
$SiH_2Cl_2^+(^2B_1)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	12.09 (V)	PE	3694
$SiH_2Cl_2^+(^2A_2)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	12.53 (V)	PE	3511
$SiH_2Cl_2^+(^2A_2)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	12.53 (V)	PE	3694
$SiH_2Cl_2^+(^2A_1)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	12.76 (V)	PE	3694
$SiH_2Cl_2^+(^2A_1)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	~12.76 (V)	PE	3511
$SiH_2Cl_2^+(^2B_2?)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	14.20 (V)	PE	3511
$SiH_2Cl_2^+$*	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	14.20 (V)	PE	3694
$SiH_2Cl_2^+(^2A_1?)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	14.45 (V)	PE	3511
$SiH_2Cl_2^+$*	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	14.45 (V)	PE	3694
$SiH_2Cl_2^+(^2B_1?)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	14.60 (V)	PE	3511
$SiH_2Cl_2^+$*	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	14.60 (V)	PE	3694
$SiH_2Cl_2^+(^2A_1)$	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	18.32 (V)	PE	3511
$SiH_2Cl_2^+$*	SiH_2Cl_2 (RN–CAS Registry Number 4109–96–0)	**	18.32 (V)	PE	3694
$SiHCl_3^+(^2A_2)$	$SiHCl_3$ (RN–CAS Registry Number 10025–78–2)	**	11.94 (V)	PE	3511
$SiHCl_3^+(^2A_1)$	$SiHCl_3$ (RN–CAS Registry Number 10025–78–2)	**	12.41 (V)	PE	3511
$SiHCl_3^+(^2E'')$	$SiHCl_3$ (RN–CAS Registry Number 10025–78–2)	**	12.41 (V)	PE	3511
$SiHCl_3^+(^2E')$	$SiHCl_3$ (RN–CAS Registry Number 10025–78–2)	**	13.07 (V)	PE	3511
$SiHCl_3^+(^2E)$	$SiHCl_3$ (RN–CAS Registry Number 10025–78–2)	**	14.75 (V)	PE	3511
$SiHCl_3^+(^2A_1)$	$SiHCl_3$ (RN–CAS Registry Number 10025–78–2)	**	14.98 (V)	PE	3511
$SiHCl_3^+(^2A_1)$	$SiHCl_3$ (RN–CAS Registry Number 10025–78–2)	**	18.14 (V)	PE	3511
$C_3H_9SiCl^+$	$(CH_3)_3SiCl$ (RN–CAS Registry Number 75–77–4)	**	10.76 (V)	PE	3503

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_9SiCl^+$	$C_3H_6Si(Cl)CH_3$ (Silacyclobutane, 1-chloro-1-methyl-) (RN-CAS Registry Number 2351-34-0)	**	9.95 (V)	PE	4077
$C_4H_{11}SiCl^+$	$(CH_3)_3SiCH_2Cl$ (RN-CAS Registry Number 2344-80-1)	**	10.17±0.1 (V)	PE	3830
$C_5H_9SiCl^+$	$(CH_3)_3SiC{\equiv}CCl$ (RN-CAS Registry Number 7652-06-4)	**	9.4±0.1	PE	4002
$C_2H_6SiCl_2^+$	$(CH_3)_2SiCl_2$ (RN-CAS Registry Number 75-78-5)	**	10.99 (V)	PE	3503
$C_3H_6SiCl_2^+$	$C_3H_6SiCl_2$ (Silacyclobutane, 1,1-dichloro-) (RN-CAS Registry Number 2351-33-9)	**	10.50 (V)	PE	4077
$C_6H_{12}Si_4Cl_4^+$	$C_6H_{12}Si_4Cl_4$ (1,3,5,7-Tetrasilatricyclo[3.3.1.1^{3,7}]decane, 1,3,5,7-tetrachloro-) (RN-CAS Registry Number 18222-89-4) (ON-Other name: 1,3,5,7-Tetrachloro-1,3,5,7-tetrasilaadamantane)	**	9.4±0.05	PE	3855
$C_4H_{12}N_2SiCl_2^+$	$((CH_3)_2N)_2SiCl_2$ (RN-CAS Registry Number 13328-30-8)	**	8.81 (V)	PE	3503
$C_2H_6NSiCl_3^+$	$((CH_3)_2N)SiCl_3$ (RN-CAS Registry Number 13307-04-5)	**	9.30 (V)	PE	3503
$C_6H_{15}O_3SiCl^+$	$(C_2H_5O)_3SiCl$ (RN-CAS Registry Number 4667-99-6)	**	10.52 (V)	PE	3503
$C_4H_{10}O_2SiCl_2^+$	$(C_2H_5O)_2SiCl_2$ (RN-CAS Registry Number 4667-38-3)	**	10.78 (V)	PE	3503
$C_2H_5OSiCl_3^+$	$(C_2H_5O)SiCl_3$ (RN-CAS Registry Number 1825-82-7)	**	11.30 (V)	PE	3503
$SiF_3Cl^+(^2E)$	SiF_3Cl (RN-CAS Registry Number 14049-36-6)	**	13.44±0.02 (V)	PE	4026
$SiF_3Cl^+(^2A_1)$	SiF_3Cl (RN-CAS Registry Number 14049-36-6)	**	15.33±0.02 (V)	PE	4026
$SiF_3Cl^+(^2A_2)$	SiF_3Cl (RN-CAS Registry Number 14049-36-6)	**	16.35±0.02 (V)	PE	4026
$SiF_3Cl^+(^2E)$	SiF_3Cl (RN-CAS Registry Number 14049-36-6)	**	16.70±0.02 (V)	PE	4026
$SiF_3Cl^+(^2E)$	SiF_3Cl (RN-CAS Registry Number 14049-36-6)	**	17.49±0.02 (V)	PE	4026
$SiF_3Cl^+(^2A_1)$	SiF_3Cl (RN-CAS Registry Number 14049-36-6)	**	18.26±0.02 (V)	PE	4026
$SiF_3Cl^+(^2E)$	SiF_3Cl (RN-CAS Registry Number 14049-36-6)	**	18.92±0.02 (V)	PE	4026

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
PCl^+	PCl_3 (RN-CAS Registry Number 7719-12-2)		16.0±0.2	EDD	3556
PCl_2^+	PCl_3 (RN-CAS Registry Number 7719-12-2)	Cl	11.9±0.1	EDD	3556
PCl_2^+	PCl_2Br (RN-CAS Registry Number 13536-48-6)	Br	11.3±0.1	EDD	3556
$PCl_3^+(^2A_1)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	10.51 (V)	PE	4023
$PCl_3^+(^2A_1)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	10.52±0.03 (V)	PE	3669
$PCl_3^+(^2A_2)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	11.69±0.03 (V)	PE	3669
$PCl_3^+(^2A_2)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	11.70 (V)	PE	4023
$PCl_3^+(^2E)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	11.97±0.03 (V)	PE	3669
$PCl_3^+(^2E)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	12.00 (V)	PE	4023
$PCl_3^+(^2E)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	12.94±0.03 (V)	PE	3669
$PCl_3^+(^2E)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	12.97 (V)	PE	4023
$PCl_3^+(^2A_1)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	14.23±0.03 (V)	PE	3669
$PCl_3^+(^2A_1)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	14.23 (V)	PE	4023
$PCl_3^+(^2E)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	15.19±0.03 (V)	PE	3669
$PCl_3^+(^2E)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	15.20 (V)	PE	4023
$PCl_3^+(^2A_1)$	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	18.81±0.03 (V)	PE	3669
PCl_3^+	PCl_3 (RN-CAS Registry Number 7719-12-2)	**	10.5±0.1	EDD	3556
PCl_5^+	PCl_5 (RN-CAS Registry Number 10026-13-8)	**	10.88 (V)	PE	3669
$POCl^+(^2E)$	POCl (RN-CAS Registry Number 21295-50-1)	**	11.85 (V)	PE	4023
$POCl^+(^2A_2)$	POCl (RN-CAS Registry Number 21295-50-1)	**	12.35 (V)	PE	4023
$POCl^+(^2E_{3/2})$	POCl (RN-CAS Registry Number 21295-50-1)	**	12.93 (V)	PE	4023
$POCl^+(^2E_{1/2})$	POCl (RN-CAS Registry Number 21295-50-1)	**	12.98 (V)	PE	4023
$POCl^+(^2A_1)$	POCl (RN-CAS Registry Number 21295-50-1)	**	13.48 (V)	PE	4023
$POCl^+(^2E)$	POCl (RN-CAS Registry Number 21295-50-1)	**	13.85 (V)	PE	4023

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$POCl^+(^2A_1)$	POCl (RN-CAS Registry Number 21295-50-1)	**	15.37 (V)	PE	4023
$POCl^+(^2E)$	POCl (RN-CAS Registry Number 21295-50-1)	**	16.53 (V)	PE	4023
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	11.36±0.02	PE	3835
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	11.58±0.05	PE	3641
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	11.89±0.03 (V)	PE	3669
$POCl_3^+(^2A_2)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	12.36±0.03 (V)	PE	3669
$POCl_3^+(^2A_2)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	12.38±0.02 (V)	PE	3835
$POCl_3^+(^2A_2)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	12.52±0.04 (V)	PE	3641
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	12.97±0.03 (V)	PE	3669
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	12.98±0.01 (V)	PE	3835
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	13.18±0.05 (V)	PE	3641
$POCl_3^+(^2A_1)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	13.46±0.03 (V)	PE	3669
$POCl_3^+(^2A_1)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	13.47±0.01 (V)	PE	3835
$POCl_3^+(^2A_1)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	13.63±0.04 (V)	PE	3641
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	13.84±0.03 (V)	PE	3669
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	13.85±0.02 (V)	PE	3835
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	13.99±0.05 (V)	PE	3641
$POCl_3^+(^2A_1)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	15.10±0.01	PE	3835
$POCl_3^+(^2A_1)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	15.35±0.06	PE	3641
$POCl_3^+(^2A_1)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	15.36±0.03 (V)	PE	3669
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	16.13±0.02	PE	3835
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	16.34±0.02	PE	3641
$POCl_3^+(^2E)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	16.53±0.03 (V)	PE	3669
$POCl_3^+(^2A_1)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	19.48±0.03	PE	3641
$POCl_3^+(^2A_1)$	$POCl_3$ (RN-CAS Registry Number 10025-87-3)	**	19.53±0.03 (V)	PE	3669

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$POCl_3^+(^2A_1)$	$POCl_3$ (RN–CAS Registry Number 10025–87–3)	**	19.55±0.04 (V)	PE	3835
PF_2Cl^+	PF_2Cl (RN–CAS Registry Number 14335–40–1)	**	12.8±0.1 (V)	PE	3662
$CSCl_2^+(^2B_2)$	CCl_2S (RN–CAS Registry Number 463–71–8)	**	9.61±0.02	PE	3667
(HB–Threshold value approximately corrected for hot bands)					
$CSCl_2^+(^2B_2)$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	9.68	PE	4080
$CSCl_2^+$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	9.80 (V)	PE	3746
$CSCl_2^+(^2B_1)$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	10.63	PE	4080
$CSCl_2^+(^2B_1)$	CCl_2S (RN–CAS Registry Number 463–71–8)	**	10.65±0.02	PE	3667
$CSCl_2^+(^2B_2)$	CCl_2S (RN–CAS Registry Number 463–71–8)	**	11.67±0.02	PE	3667
$CSCl_2^{+*}$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	11.93 (V)	PE	4080
$CSCl_2^{+*}$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	12.36 (V)	PE	4080
$CSCl_2^+(^2A_1)$	CCl_2S (RN–CAS Registry Number 463–71–8)	**	12.38±0.02 (V)	PE	3667
$CSCl_2^{+*}$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	12.68 (V)	PE	4080
$CSCl_2^+(^2A_2)$	CCl_2S (RN–CAS Registry Number 463–71–8)	**	12.69±0.02 (V)	PE	3667
$CSCl_2^+(^2A_1)$	CCl_2S (RN–CAS Registry Number 463–71–8)	**	14.23±0.02	PE	3667
$CSCl_2^+(^2B_1)$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	14.27	PE	4080
$CSCl_2^+(^2B_1)$	CCl_2S (RN–CAS Registry Number 463–71–8)	**	14.99±0.02	PE	3667
$CSCl_2^{+*}$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	15.11 (V)	PE	4080
$CSCl_2^+(^2B_2)$	CCl_2S (RN–CAS Registry Number 463–71–8)	**	15.99±0.02	PE	3667
$CSCl_2^{+*}$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	16.22 (V)	PE	4080
$CSCl_2^+(^2A_1)$	CCl_2S (RN–CAS Registry Number 463–71–8)	**	18.09±0.02	PE	3667
$CSCl_2^{+*}$	Cl_2CS (RN–CAS Registry Number 463–71–8)	**	18.32 (V)	PE	4080
$C_2S_2Cl_4^+$	$C_2S_2Cl_4$ (1,3–Dithietane, 2,2,4,4–tetrachloro–) (RN–CAS Registry Number 20464–23–7)	**	9.69 (V)	PE	3898

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_3SCl^+$	C_4H_3SCl (Thiophene, 2-chloro-) (RN-CAS Registry Number 96-43-5)	**	9.06±0.05	EI	3482
$C_4H_3SCl^+$	C_4H_3SCl (Thiophene, 2-chloro-) (RN-CAS Registry Number 96-43-5)	**	8.83	CTS	3787
$NSCl^+(^2A')$	NSCl (RN-CAS Registry Number 17178-58-4)	**	10.96 (V)	PE	3660
$NSCl^+(^2A',^2A'')$	NSCl (RN-CAS Registry Number 17178-58-4)	**	11.80 (V)	PE	3660
$NSCl^+(^2A')$	NSCl (RN-CAS Registry Number 17178-58-4)	**	13.77 (V)	PE	3660
$NSCl^+(^2A')$	NSCl (RN-CAS Registry Number 17178-58-4)	**	14.46 (V)	PE	3660
$C_{17}H_{19}N_2SCl^+$	$C_{12}H_7NS(Cl)(CH_2)_3N(CH_3)_2$ (10*H*-Phenothiazine-10-propanamine, 2-chloro-*N*,*N*-dimethyl-) (RN-CAS Registry Number 50-53-3) (ON-Other name: Aminazine)	**	8.25±0.07	CTS	4079
$C_{20}H_{24}N_3SCl^+$	$C_{12}H_7NS(Cl)(CH_2)_3C_4H_8N_2CH_3$ (10*H*-Phenothiazine, 2-chloro-10-[3-(4-methyl-1-piperazinyl)propyl]-) (RN-CAS Registry Number 58-38-8) (ON-Other name: Metherazine)	**	7.03±0.07	CTS	4079
$SOCl_2^+$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	11.12 (V)	PE	3705
$SOCl_2^+$	$socl_2$ (RN-CAS Registry Number 7719-09-7)	**	11.13 (V)	PE	3646
$SOCl_2^+(^2A')$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	11.3 (V)	PE	3694
$SOCl_2^+(^2A')$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	11.3 (V)	PE	3879
$SOCl_2^{+*}$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	11.89 (V)	PE	3705
$SOCl_2^+(^2A'')$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	11.9 (V)	PE	3694
$SOCl_2^+(^2A'')$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	11.9 (V)	PE	3879
$SOCl_2^+(^2A')$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	12.15 (V)	PE	3705
$SOCl_2^+(^2A')$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	12.21 (V)	PE	3694
$SOCl_2^+(^2A')$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	12.21 (V)	PE	3879
$SOCl_2^+(^2A'')$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	12.55 (V)	PE	3694
$SOCl_2^{+*}$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	12.55 (V)	PE	3705
$SOCl_2^+(^2A'',^2A')$	$SOCl_2$ (RN-CAS Registry Number 7719-09-7)	**	12.55 (V)	PE	3879

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SOCl_2^+(^2A',^2A'')$	$SOCl_2$	**	13.04 (V)	PE	3694
	(RN-CAS Registry Number 7719-09-7)				
$SOCl_2^+(^2A'')$	$SOCl_2$	**	13.04 (V)	PE	3879
	(RN-CAS Registry Number 7719-09-7)				
$SOCl_2^{+*}$	$SOCl_2$	**	13.15 (V)	PE	3705
	(RN-CAS Registry Number 7719-09-7)				
$SOCl_2^{+*}$	$SOCl_2$	**	13.25 (V)	PE	3705
	(RN-CAS Registry Number 7719-09-7)				
$SOCl_2^+(^2A')$	$SOCl_2$	**	15.69 (V)	PE	3705
	(RN-CAS Registry Number 7719-09-7)				
$SOCl_2^+(^2A')$	$SOCl_2$	**	15.8 (V)	PE	3694
	(RN-CAS Registry Number 7719-09-7)				
$SOCl_2^+(^2A')$	$SOCl_2$	**	16 (V)	PE	3879
	(RN-CAS Registry Number 7719-09-7)				
$SOCl_2^{+*}$	$SOCl_2$	**	16.32 (V)	PE	3705
	(RN-CAS Registry Number 7719-09-7)				
$SO_2Cl_2^+$	SO_2Cl_2	**	12.05	PE	3879
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+(^2A_2,^2B_1)$	SO_2Cl_2	**	12.4 (V)	PE	3694
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+$	SO_2Cl_2	**	12.42 (V)	PE	3705
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+(^2A_1)$	SO_2Cl_2	**	13.0	PE	3879
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+(^2B_2)$	SO_2Cl_2	**	13.25 (V)	PE	3694
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^{+*}$	SO_2Cl_2	**	13.26 (V)	PE	3705
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+(^2A_1)$	SO_2Cl_2	**	13.74 (V)	PE	3694
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+$	SO_2Cl_2	**	13.74 (V)	PE	3879
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+(^2B_2?)$	SO_2Cl_2	**	13.74 (V)	PE	3879
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^{+*}$	SO_2Cl_2	**	13.81 (V)	PE	3705
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+(^2A_2,^2B_1)$	SO_2Cl_2	**	14.1 (V)	PE	3694
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^{+*}$	SO_2Cl_2	**	14.20 (V)	PE	3705
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+(^2A_1?)$	SO_2Cl_2	**	16.93	PE	3879
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+(^2A_1)$	SO_2Cl_2	**	16.93 (V)	PE	3694
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^{+*}$	SO_2Cl_2	**	16.98 (V)	PE	3705
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+$	SO_2Cl_2	**	17.61 (V)	PE	3694
	(RN-CAS Registry Number 7791-25-5)				
$SO_2Cl_2^+(^2B_1)$	SO_2Cl_2	**	17.61 (V)	PE	3879
	(RN-CAS Registry Number 7791-25-5)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SO_2Cl_2^{+*}$	SO_2Cl_2 (RN-CAS Registry Number 7791-25-5)	**	17.70 (V)	PE	3705
$SO_2Cl_2^+$	SO_2Cl_2 (RN-CAS Registry Number 7791-25-5)	**	18.12 (V)	PE	3694
$SO_2Cl_2^+(^2B_2)$	SO_2Cl_2 (RN-CAS Registry Number 7791-25-5)	**	18.12 (V)	PE	3879
$SO_2Cl_2^{+*}$	SO_2Cl_2 (RN-CAS Registry Number 7791-25-5)	**	18.20 (V)	PE	3705
$SOCl_3^+(^2E)$	$SOCl_3$ (RN-CAS Registry Number XXXXX-XX-X)	**	9.63±0.02	PE	3835
$SOCl_3^+(^2A_2)$	$SOCl_3$ (RN-CAS Registry Number XXXXX-XX-X)	**	10.67±0.02	PE	3835
$SOCl_3^+(^2A_1)$	$SOCl_3$ (RN-CAS Registry Number XXXXX-XX-X)	**	~12.4 (V)	PE	3835
$SOCl_3^+(^2E)$	$SOCl_3$ (RN-CAS Registry Number XXXXX-XX-X)	**	12.54±0.01 (V)	PE	3835
$SOCl_3^+(^2E)$	$SOCl_3$ (RN-CAS Registry Number XXXXX-XX-X)	**	13.39±0.02 (V)	PE	3835
$SOCl_3^+(^2A_1)$	$SOCl_3$ (RN-CAS Registry Number XXXXX-XX-X)	**	14.54±0.01	PE	3835
$SOCl_3^+(^2E)$	$SOCl_3$ (RN-CAS Registry Number XXXXX-XX-X)	**	15.36±0.01	PE	3835
$SOCl_3^+(^2A_1)$	$SOCl_3$ (RN-CAS Registry Number XXXXX-XX-X)	**	~18.7 (V)	PE	3835
$CH_3O_2SCl^+$	CH_3SO_2Cl (RN-CAS Registry Number 124-63-0)	**	11.74 (V)	PE	3705
$C_{17}H_{17}N_2OSCl^+$	$C_{12}H_7NS(Cl)COCH_2CH_2N(CH_3)_2$ (10*H*-Phenothiazine, 2-chloro-10-[3-(dimethylamino)-1-oxopropyl]-) (RN-CAS Registry Number 3576-45-2)	**	8.24±0.07	CTS	4079
$C_{19}H_{21}N_2OSCl^+$	$C_{12}H_7NS(Cl)COCH_2CH_2N(C_2H_5)_2$ (10*H*-Phenothiazine, 2-chloro-10-[3-(diethylamino)-1-oxopropyl]-) (RN-CAS Registry Number 800-22-6) (ON-Other name: Chloracizine)	**	7.87±0.07	CTS	4079
$C_{21}H_{26}N_3OSCl^+$	$C_{21}H_{26}N_3OSCl$ (1-Piperazineethanol, 4-[3-(2-chloro-10*H*-phenothiazin-10-yl)propyl]-) (RN-CAS Registry Number 58-39-9) (ON-Other name: Ethaperazine)	**	8.63±0.07	CTS	4079
SF_5Cl^+	SF_5Cl (RN-CAS Registry Number 13780-57-9)	**	12.335±0.005	PE	3655
$CFSCl^+$	FClCS (RN-CAS Registry Number 1495-18-7)	**	10.20 (V)	PE	3746
SO_2FCl^+	SO_2FCl (RN-CAS Registry Number 13637-84-8)	**	12.61 (V)	PE	3705

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
SO_2FCl^+	SO_2FCl (RN–CAS Registry Number 13637–84–8)	**	13.36 (V)	PE	3705
SO_2FCl^+	SO_2FCl (RN–CAS Registry Number 13637–84–8)	**	14.14 (V)	PE	3705
SO_2FCl^+	SO_2FCl (RN–CAS Registry Number 13637–84–8)	**	14.63 (V)	PE	3705
SO_2FCl^+	SO_2FCl (RN–CAS Registry Number 13637–84–8)	**	15.04 (V)	PE	3705
SO_2FCl^+	SO_2FCl (RN–CAS Registry Number 13637–84–8)	**	16.58 (V)	PE	3705
SO_2FCl^+	SO_2FCl (RN–CAS Registry Number 13637–84–8)	**	16.8 (V)	PE	3705
SO_2FCl^+	SO_2FCl (RN–CAS Registry Number 13637–84–8)	**	18.8 (V)	PE	3705
$PSCl_3^+(^2E)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	9.71±0.003	PE	4086
$PSCl_3^+(^2E)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	10.11 (V)	PE	4023
$PSCl_3^+(^2E)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	10.13±0.03 (V)	PE	3669
$PSCl_3^+(^2A_2)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	11.74±0.1	PE	4086
$PSCl_3^+(^2A_2)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	11.99 (V)	PE	4023
$PSCl_3^+(^2A_2)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	12.01±0.03 (V)	PE	3669
$PSCl_3^+(^2A_1)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	12.15±0.1	PE	4086
$PSCl_3^+(^2A_1)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	12.56±0.03 (V)	PE	3669
$PSCl_3^+(^2A_1)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	~12.65 (V)	PE	4023
$PSCl_3^+(^2E)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	~12.65 (V)	PE	4023
$PSCl_3^+(^2E)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	12.68±0.1 (V)	PE	4086
$PSCl_3^+(^2E)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	13.11±0.1	PE	4086
$PSCl_3^+(^2E)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	13.39±0.03 (V)	PE	3669
$PSCl_3^+(^2E)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	13.39 (V)	PE	4023
$PSCl_3^+(^2A_1)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	14.59±0.1	PE	4086
$PSCl_3^+(^2A_1)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	14.77±0.03 (V)	PE	3669
$PSCl_3^+(^2A_1)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	14.78 (V)	PE	4023
$PSCl_3^+(^2E)$	$PSCl_3$ (RN–CAS Registry Number 3982–91–0)	**	15.37±0.1	PE	4086

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$PSCl_3^+(^2E)$	$PSCl_3$ (RN-CAS Registry Number 3982-91-0)	**	15.80±0.03 (V)	PE	3669
$PSCl_3^+(^2E)$	$PSCl_3$ (RN-CAS Registry Number 3982-91-0)	**	15.80 (V)	PE	4023
$PSCl_3^+(^2A_1)$	$PSCl_3$ (RN-CAS Registry Number 3982-91-0)	**	18.34±0.1	PE	4086
$PSCl_3^+(^2A_1)$	$PSCl_3$ (RN-CAS Registry Number 3982-91-0)	**	18.62±0.03 (V)	PE	3669
$C_4H_{12}N_2PSCl^+$	$PSCl(N(CH_3)_2)_2$ (RN-CAS Registry Number 3732-81-8)	**	8.23±0.003	PE	4086
$C_2H_6NPSCl_2^+$	$PSCl_2N(CH_3)_2$ (RN-CAS Registry Number 1498-65-3)	**	8.97±0.003	PE	4086
$Ar^+(^2P_{3/2})$	Ar (RN-CAS Registry Number 7440-37-1)	**	15.75973±0.00001	S	3923
$Ar^+(^2P_{3/2})$	Ar (RN-CAS Registry Number 7440-37-1)	**	15.753±0.002	TPE	3525
$Ar^+(^2P_{1/2})$	Ar (RN-CAS Registry Number 7440-37-1)	**	15.930±0.002	TPE	3525
$Ar^+(^2P_{3/2})$	Ar (RN-CAS Registry Number 7440-37-1)	**	15.713±0.003	PEN	3541
Ar^{+2}	Ar (RN-CAS Registry Number 7440-37-1)	**	43.7±0.5	SRP	3625
Ar^{+2}	Ar (RN-CAS Registry Number 7440-37-1)	**	~43	EI	3445
Ar^{+3}	Ar (RN-CAS Registry Number 7440-37-1)	**	~84	EI	3445
Ar^{+4}	Ar (RN-CAS Registry Number 7440-37-1)	**	~145	EI	3445
Ca^+	Ca (RN-CAS Registry Number 7440-70-2)	**	~6.1	EI	3486
Ca^{+2}	Ca (RN-CAS Registry Number 7440-70-2)	**	18	EI	3486
Ca^{+3}	Ca (RN-CAS Registry Number 7440-70-2)	**	~69	EI	3486
$Ca^{+3}(^2P_{3/2})$	Ca^{+2} (RN-CAS-Registry Number 14127-61-8)	**	50.91357±0.0003	S	4059
$Ca^{+3}(^2P_{1/2})$	Ca^{+2} (RN-CAS-Registry Number 14127-61-8)	**	51.30014±0.0003	S	4059
Sc^+	Sc (RN-CAS Registry Number 7440-20-2)	**	6.7	EI	3600

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Sc^{+3}	Sc^{+2}	**	24.75700±0.00006	S	3905
	(RN-CAS Registry Number 14336-96-0)				
Sc^{+3}	Sc^{+2}	**	24.75704±0.00001	S	4007
	(RN-CAS Registry Number 14336-96-0)				
$Sc^{+4}(^2P_{3/2})$	Sc^{+3}	**	73.49004±.00037	S	4064
	(RN-CAS-Registry Number 22537-29-7)				
$Sc^{+4}(^2P_{1/2})$	Sc^{+3}	**	74.02635±.00037	S	4064
	(RN-CAS-Registry Number 22537-29-7)				
ScC_2^+	ScC_2	**	7.7±0.2	EI	3470
	(RN-CAS Registry Number 12175-91-6)				
$C_{15}H_3O_6F_{18}Sc^+$	$(CF_3COCHCOCF_3)_3Sc$	**	10.13±0.07 (V)	PE	3682
	(Scandium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*OC*-6-11)-)				
	(RN-CAS Registry Number 18990-42-6)				
Ti^+	Ti	**	6.6±0.5	EI	3449
	(RN-CAS Registry Number 7440-32-6)				
Ti^+	Ti	**	7.3±0.6	EI	3902
	(RN-CAS Registry Number 7440-32-6)				
Ti^+	Ti	**	7.4±0.5	EI	3594
	(RN-CAS Registry Number 7440-32-6)				
Ti^+	TiO		14.5±0.7	EI	3594
	(RN-CAS Registry Number 12137-20-1)				
Ti^+	TiO	O	14.51±0.36	EI	4103
	(RN-CAS Registry Number 12137-20-1)				
TiC_2^+	TiC_2	**	8.2±0.6	EI	3902
	(RN-CAS Registry Number 12071-32-8)				
TiO^+	TiO	**	6.8±0.5	EI	3449
	(RN-CAS Registry Number 12137-20-1)				
TiO^+	TiO	**	7.22±0.35	EI	4103
	(RN-CAS Registry Number 12137-20-1)				
TiO^+	TiO	**	7.3±0.5	EI	3594
	(RN-CAS Registry Number 12137-20-1)				
TiO_2^+	TiO_2	**	8.5±0.5	EI	3594
	(RN-CAS Registry Number 13463-67-7)				
TiO_2^+	TiO_2	**	11.56±0.14	EI	4103
	(RN-CAS Registry Number 13463-67-7)				
$C_{15}H_3O_6F_{18}Ti^+$	$(CF_3COCHCOCF_3)_3Ti$	**	7.94±0.07 (V)	PE	3682
	(Titanium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*OC*-6-11)-)				
	(RN-CAS Registry Number 22854-59-7)				
$C_{15}H_3O_6F_{18}Ti^+$	$(CF_3COCHCOCF_3)_3Ti$	**	7.98 (V)	PE	3681
	(Titanium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*OC*-6-11)-)				
	(RN-CAS Registry Number 22854-59-7)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
TiS^+	TiS (RN-CAS Registry Number 12039-07-5)	**	7.1±0.3	EI	3449
V^+	V (RN-CAS Registry Number 7440-62-2)	**	7±1	EI	3801
VN^+	VN (RN-CAS Registry Number 24646-85-3)	**	8±1	EI	3801
VO^+	VO (RN-CAS Registry Number 12035-98-2)	**	8±1	EI	3620
VO_2^+	VO_2 (RN-CAS Registry Number 12036-21-4)	**	10±2	EI	3620
$V_4O_8^+$	V_4O_8 (RN-CAS Registry Number 12503-87-6)	**	13±1	EI	3620
$V_4O_{10}^+$	V_4O_{10} (RN-CAS Registry Number 12503-98-9)	**	12±1	EI	3620
$C_{15}H_3O_6F_{18}V^+$	$(CF_3COCHCOCF_3)_3V$ (Vanadium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*')-, (*OC*-6-11)-) (RN-CAS Registry Number 15695-77-9)	**	8.68±0.07 (V)	PE	3682
$C_{15}H_3O_6F_{18}V^+$	$(CF_3COCHCOCF_3)_3V$ (Vanadium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*')-, (*OC*-6-11)-) (RN-CAS Registry Number 15695-77-9)	**	8.68 (V)	PE	3681
Cr^+	$C_6H_6Cr(CO)_3$ (Chromium, (η^6-benzene)tricarbonyl-) (RN-CAS Registry Number 12082-08-5) (MT-Metastable transition(s) observed)	C_6H_6+3CO	12.2±0.2	EI	3786
Cr^+	$C_6H_6Cr(CO)_3$ (Chromium, (η^6-benzene)tricarbonyl-) (RN-CAS Registry Number 12082-08-5) (MT-Metastable transition(s) observed)	C_6H_6+3CO	13.50±0.1	EI	3788
Cr^+	$C_6H_5CH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-) (RN-CAS Registry Number 12083-24-8) (MT-Metastable transition(s) observed)	$C_6H_5CH_3+3CO$	13.42±0.1	EI	3788
Cr^+	$C_6H_4(CH_3)_2Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-) (RN-CAS Registry Number 12129-29-2) (MT-Metastable transition(s) observed) (OP-The other product(s) is(are): $C_6H_4(CH_3)_2+3CO$)		13.06±0.1	EI	3788
Cr^+	$C_6H_3(CH_3)_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-) (RN-CAS Registry Number 12129-67-8) (OP-The other product(s) is(are): $C_6H_3(CH_3)_3+3CO$) (MT-Metastable transition(s) observed)		13.90±0.1	EI	3788

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Cr^+	$C_6(CH_3)_6Cr(CO)_3$	$C_6(CH_3)_6+3CO$	13.00±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-)				
	(RN-CAS Registry Number 12088-11-8)				
(MT-Metastable transition(s) observed)					
Cr^+	$C_6H_5CH_2OHCr(CO)_3$		14.01±0.1	EI	3788
	(Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-)				
	(RN-CAS Registry Number 12116-45-9)				
(MT-Metastable transition(s) observed)					
(OP-The other product(s) is(are): $C_6H_5CH_2OH+3CO$)					
Cr^+	$C_6H_5OCH_3Cr(CO)_3$		12.65±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-)				
	(RN-CAS Registry Number 12116-44-8)				
(MT-Metastable transition(s) observed)					
(OP-The other product(s) is(are): $C_6H_5OCH_3+3CO$)					
Cr^+	$C_6H_5COOCH_3Cr(CO)_3$		14.00±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)				
	(RN-CAS Registry Number 12125-87-0)				
(OP-The other product(s) is(are): $C_6H_5COOCH_3+3CO$)					
(MT-Metastable transition(s) observed)					
Cr^+	$C_6H_5NH_2Cr(CO)_3$	$C_6H_5NH_2+3CO$	13.17±0.1	EI	3788
	(Chromium, (η^6-benzenamine)tricarbonyl-)				
	(RN-CAS Registry Number 12108-11-1)				
(MT-Metastable transition(s) observed)					
Cr^+	$((CH_3)_2N)_3PCr(CO)_5$		22.3±0.05	EI	3952
	(RN-CAS Registry Number XXXXX-XX-X)				
Cr^+	$(((CH_3)_2N)_3P)_2Cr(CO)_4$		22.2±0.05	EI	3952
	(RN-CAS Registry Number 19976-85-3)				
Cr^+	$C_6H_5ClCr(CO)_3$	$C_6H_5Cl+3CO$	14.10±0.1	EI	3788
	(Chromium, tricarbonyl(η^6-chlorobenzene)-)				
	(RN-CAS Registry Number 12082-03-0)				
(MT-Metastable transition(s) observed)					
$C_6H_6Cr^+$	$C_6H_6Cr(CO)_3$	3CO	9.0±0.2	EI	3786
	(Chromium, (η^6-benzene)tricarbonyl-)				
	(RN-CAS Registry Number 12082-08-5)				
(MT-Metastable transition(s) observed)					
$C_6H_6Cr^+$	$C_6H_6Cr(CO)_3$	3CO	10.34±0.1	EI	3788
	(Chromium, (η^6-benzene)tricarbonyl-)				
	(RN-CAS Registry Number 12082-08-5)				
(MT-Metastable transition(s) observed)					
$C_7H_8Cr^+$	$C_6H_5CH_3Cr(CO)_3$	3CO	10.04±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-)				
	(RN-CAS Registry Number 12083-24-8)				
(MT-Metastable transition(s) observed)					
$C_8H_{10}Cr^+$	$C_6H_4(CH_3)_2Cr(CO)_3$	3CO	9.60±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-)				
	(RN-CAS Registry Number 12129-29-2)				
(MT-Metastable transition(s) observed)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{12}Cr^+$	$C_6H_3(CH_3)_3Cr(CO)_3$	3CO	10.35±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)				
	(RN-CAS Registry Number 12129-67-8)				
	(MT-Metastable transition(s) observed)				
$C_{10}H_{10}Cr^+$	$(C_5H_5)_2Cr$	**	5.50	PE	3725
	(Chromocene)				
	(RN-CAS Registry Number 1271-24-5)				
$C_{11}H_{11}Cr^+$	$C_5H_5CrC_6H_6$	**	6.20±0.1 (V)	PE	3686
	(Chromium, (η^6-benzene)(η^5-2,4-cyclopentadien-1-yl)-)				
	(RN-CAS Registry Number 12093-16-2)				
$C_{12}H_{12}Cr^+$	$(C_6H_6)_2Cr$	**	5.4±0.1 (V)	PE	3686
	(Chromium, bis(benzene)-)				
	(RN-CAS Registry Number 1271-54-1)				
$C_{12}H_{18}Cr^+$	$C_6(CH_3)_6Cr(CO)_3$	3CO	9.82±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-)				
	(RN-CAS Registry Number 12088-11-8)				
	(MT-Metastable transition(s) observed)				
$C_{14}H_{16}Cr^+$	$(C_6H_5CH_3)_2Cr$	**	5.24±0.1 (V)	PE	3686
	(Chromium, bis(η^6-methyl benzene)-)				
	(RN-CAS Registry Number 12087-58-0)				
$C_{20}H_{44}Cr^+$	$((CH_3)_3CCH_2)_4Cr$	**	7.25±0.1 (V)	PE	3830
	(RN-CAS Registry Number 37007-84-4)				
$C_6H_7NCr^+$	$C_6H_5NH_2Cr(CO)_3$	3CO	9.96±0.1	EI	3788
	(Chromium, (η^6-benzenamine)tricarbonyl-)				
	(RN-CAS Registry Number 12108-11-1)				
	(MT-Metastable transition(s) observed)				
$CrCO^{+2}$	CrCO	**	17.3±1.0	EI	3572
	(RN-CAS Registry Number XXXXX-XX-X)				
$C_6O_6Cr^+$	$Cr(CO)_6$	**	8.40±0.02 (V)	PE	3979
	(RN-CAS Registry Number 13007-92-6)				
$C_6O_6Cr^+$	$Cr(CO)_6$	**	8.19±0.1	EI	3582
	(RN-CAS Registry Number 13007-92-6)				
$C_7H_6OCr^+$	$C_6H_6Cr(CO)_3$	2CO	7.9±0.2	EI	3786
	(Chromium, (η^6-benzene)tricarbonyl-)				
	(RN-CAS Registry Number 12082-08-5)				
	(MT-Metastable transition(s) observed)				
$C_7H_6OCr^+$	$C_6H_6Cr(CO)_3$	2CO	8.09±0.1	EI	3788
	(Chromium, (η^6-benzene)tricarbonyl-)				
	(RN-CAS Registry Number 12082-08-5)				
	(MT-Metastable transition(s) observed)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_8OCr^+$	$C_6H_5CH_2OHCr(CO)_3$ (Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-) (RN-CAS Registry Number 12116-45-9)	3CO	10.35±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_7H_8OCr^+$	$C_6H_5OCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-) (RN-CAS Registry Number 12116-44-8)	3CO	9.90±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_8H_8OCr^+$	$C_6H_5CH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-) (RN-CAS Registry Number 12083-24-8)	2CO	8.11±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_9H_{10}OCr^+$	$C_6H_4(CH_3)_2Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-) (RN-CAS Registry Number 12129-29-2)	2CO	7.85±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_{10}H_{12}OCr^+$	$C_6H_3(CH_3)_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-) (RN-CAS Registry Number 12129-67-8)	2CO	8.00±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_{13}H_{18}OCr^+$	$C_6(CH_3)_6Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-) (RN-CAS Registry Number 12088-11-8)	2CO	7.70±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_8H_6O_2Cr^+$	$C_6H_6Cr(CO)_3$ (Chromium, (η^6-benzene)tricarbonyl-) (RN-CAS Registry Number 12082-08-5)	CO	7.25±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_8H_6O_2Cr^+$	$C_6H_6Cr(CO)_3$ (Chromium, (η^6-benzene)tricarbonyl-) (RN-CAS Registry Number 12082-08-5)	CO	7.4±0.2	EI	3786
(MT-Metastable transition(s) observed)					
$C_8H_8O_2Cr^+$	$C_6H_5CH_2OHCr(CO)_3$ (Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-) (RN-CAS Registry Number 12116-45-9)	2CO	8.19±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_8H_8O_2Cr^+$	$C_6H_5OCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-) (RN-CAS Registry Number 12116-44-8)	2CO	7.90±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_8H_8O_2Cr^+$	$C_6H_5COOCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-) (RN-CAS Registry Number 12125-87-0)	3CO	10.00±0.1	EI	3788
(MT-Metastable transition(s) observed)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_8O_2Cr^+$	$C_6H_5CH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-) (RN-CAS Registry Number 12083-24-8)	CO	7.09±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_{10}H_{10}O_2Cr^+$	$C_6H_4(CH_3)_2Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-) (RN-CAS Registry Number 12129-29-2)	CO	7.00±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_{11}H_{12}O_2Cr^+$	$C_6H_3(CH_3)_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-) (RN-CAS Registry Number 12129-67-8)	CO	6.69±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_{14}H_{18}O_2Cr^+$	$C_6(CH_3)_6Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-) (RN-CAS Registry Number 12088-11-8)	CO	6.45±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_9H_6O_3Cr^+$	$C_6H_6Cr(CO)_3$ (Chromium, (η^6-benzene)tricarbonyl-) (RN-CAS Registry Number 12082-08-5)	**	6.74±0.1	EI	3788
$C_9H_6O_3Cr^+$	$C_6H_6Cr(CO)_3$ (Chromium, (η^6-benzene)tricarbonyl-) (RN-CAS Registry Number 12082-08-5)	**	7.0±0.2	EI	3786
$C_9H_6O_3Cr^+$	$C_6H_6Cr(CO)_3$ (Chromium, (η^6-benzene)tricarbonyl-) (RN-CAS Registry Number 12082-08-5)	**	7.28	CTS	4029
(AV-Average of two values)					
$C_9H_8O_3Cr^+$	$C_6H_5CH_2OHCr(CO)_3$ (Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-) (RN-CAS Registry Number 12116-45-9)	CO	7.32±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_9H_8O_3Cr^+$	$C_6H_5OCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-) (RN-CAS Registry Number 12116-44-8)	CO	6.95±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_9H_8O_3Cr^+$	$C_6H_5COOCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-) (RN-CAS Registry Number 12125-87-0)	2CO	8.27±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_{10}H_8O_3Cr^+$	$C_6H_5CH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-) (RN-CAS Registry Number 12083-24-8)	**	6.69±0.1	EI	3788
$C_{10}H_8O_3Cr^+$	$C_6H_5CH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-) (RN-CAS Registry Number 12083-24-8)	**	7.29	CTS	4029
(AV-Average of two values)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{10}O_3Cr^+$	$C_6H_4(CH_3)_2Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-) (RN-CAS Registry Number 12129-29-2)	**	6.70±0.1	EI	3788
$C_{11}H_{10}O_3Cr^+$	$C_6H_4(CH_3)_2Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-) (RN-CAS Registry Number 12129-29-2)	**	7.29	CTS	4029
(AV-Average of two values)					
$C_{12}H_{12}O_3Cr^+$	$C_6H_3(CH_3)_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-) (RN-CAS Registry Number 12129-67-8)	**	6.60±0.1	EI	3788
$C_{12}H_{12}O_3Cr^+$	$C_6H_3(CH_3)_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-) (RN-CAS Registry Number 12129-67-8)	**	7.29	CTS	4029
(AV-Average of two values)					
$C_{15}H_{18}O_3Cr^+$	$C_6(CH_3)_6Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-) (RN-CAS Registry Number 12088-11-8)	**	6.35±0.1	EI	3788
$C_{10}H_8O_4Cr^+$	$C_6H_5CH_2OHCr(CO)_3$ (Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-) (RN-CAS Registry Number 12116-45-9)	**	6.92±0.1	EI	3788
$C_{10}H_8O_4Cr^+$	$C_6H_5OCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-) (RN-CAS Registry Number 12116-44-8)	**	6.75±0.1	EI	3788
$C_{10}H_8O_4Cr^+$	$C_6H_5OCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-) (RN-CAS Registry Number12116-44-8)	**	7.32	CTS	4029
(AV-Average of two values)					
$C_{10}H_8O_4Cr^+$	$C_6H_5COOCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-) (RN-CAS Registry Number 12125-87-0)	CO	7.60±0.1	EI	3788
(MT-Metastable transition(s) observed)					
$C_{11}H_8O_5Cr^+$	$C_6H_5COOCH_3Cr(CO)_3$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-) (RN-CAS Registry Number 12125-87-0)	**	7.02±0.1	EI	3788
$C_8H_6O_6Cr^+$	$(CO)_5CrC(OCH_3)CH_3$ (Chromium, pentacarbonyl(1-methoxyethylidene)-, (*OC*-6-21)) (RN-CAS Registry Number 20540-69-6)	**	7.46±0.1	EI	3582
$C_{13}H_8O_6Cr^+$	$C_6H_5C(OCH_3)Cr(CO)_5$ (Chromium, pentacarbonyl(methoxyphenylmethylene)-, (*OC*-6-21)-) (RN-CAS Registry Number 27436-93-7)	**	7.26±0.1	EI	3582
$C_{14}H_{10}O_6Cr^+$	$C_6H_4(CH_3)C(OCH_3)Cr(CO)_5$ (Chromium, pentacarbonyl(methoxy(4-methylphenyl)methylene)-, (*OC*-6-21)-) (RN-CAS Registry Number 29160-36-9)	**	7.13±0.1	EI	3582

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{21}O_6Cr^+$	$(CH_3COCHCOCH_3)_3Cr$ (Chromium, tris(2,4-pentanedionato-*O*,*O*′)-, (*OC*-6-11)-) (RN-CAS Registry Number 21679-31-2)	**	7.46±0.07 (V)	PE	3682
$C_{14}H_{10}O_7Cr^+$	$C_6H_4(OCH_3)C(OCH_3)Cr(CO)_5$ (Chromium, pentacarbonyl(*o*,α-dimethoxybenzylidene)-) (RN-CAS Registry Number 27436-99-3)	**	7.05±0.1	EI	3582
$C_7H_7NOCr^+$	$C_6H_5NH_2Cr(CO)_3$ (Chromium, (η^6-benzenamine)tricarbonyl-) (RN-CAS Registry Number 12108-11-1) (MT-Metastable transition(s) observed)	2CO	7.84±0.1	EI	3788
$C_8H_7NO_2Cr^+$	$C_6H_5NH_2Cr(CO)_3$ (Chromium, (η^6-benzenamine)tricarbonyl-) (RN-CAS Registry Number 12108-11-1) (MT-Metastable transition(s) observed)	CO	6.75±0.1	EI	3788
$C_7H_5NO_3Cr^+$	$C_5H_5Cr(NO)(CO)_2$ (Chromium, dicarbonyl(η^5-2,4-cyclopentadien-1-yl)nitrosyl-) (RN-CAS Registry Number 36312-04-6)	**	7.80	EI	3579
$C_9H_7NO_3Cr^+$	$C_6H_5NH_2Cr(CO)_3$ (Chromium, (η^6-benzenamine)tricarbonyl-) (RN-CAS Registry Number 12108-11-1)	**	6.52±0.1	EI	3788
$C_{11}H_{11}NO_3Cr^+$	$C_6H_5N(CH_3)_2Cr(CO)_3$ (Chromium, tricarbonyl(*N*,*N*-dimethylbenzenamine)-) (RN-CAS Registry Number 12109-10-3)	**	7.38	CTS	4029
$C_{13}H_7O_6FCr^+$	$C_6H_4FC(OCH_3)Cr(CO)_5$ (Chromium, pentacarbonyl[(4-fluorophenyl)methoxymethylene]-, (*OC*-6-21)-) (RN-CAS Registry Number 27436-94-8)	**	7.32±0.1	EI	3582
$C_{14}H_7O_6F_3Cr^+$	$C_6H_4(CF_3)C(OCH_3)Cr(CO)_5$ (Chromium, pentacarbonyl[α-methoxy-*o*-(trifluoromethyl)benzylidene]-) (RN-CAS Registry Number 32011-10-2)	**	7.34±0.1	EI	3582
$C_{14}H_7O_6F_3Cr^+$	$C_6H_4(CF_3)C(OCH_3)Cr(CO)_5$ (Chromium, pentacarbonyl[methoxy[4-(trifluoromethyl)phenyl]methylene]-, (*OC*-6-21)-) (RN-CAS Registry Number 27637-27-0)	**	7.42±0.1	EI	3582
$C_{15}H_{12}O_6F_9Cr^+$	$(CF_3COCHCOCH_3)_3Cr$ (Chromium, tris(1,1,1-trifluoro-2,4-pentanedionato-*O*,*O*′) (RN-CAS Registry Number 14592-89-3)	**	8.58±0.07 (V)	PE	3682
$C_{15}H_3O_6F_{18}Cr^+$	$(CF_3COCHCOCF_3)_3Cr$ (Chromium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*′)-, (*OC*-6-11)-) (RN-CAS Registry Number 14592-80-4)	**	9.53 (V)	PE	3681
$C_{15}H_3O_6F_{18}Cr^+$	$(CF_3COCHCOCF_3)_3Cr$ (Chromium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*′)-, (*OC*-6-11)-) (RN-CAS Registry Number 14592-80-4)	**	9.57±0.07 (V)	PE	3682

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{44}Si_4Cr^+$	$((CH_3)_3SiCH_2)_4Cr$ (RN-CAS Registry Number 35394-18-4)	**	7.26±0.1 (V)	PE	3830
$C_6H_{18}N_3PCr^+$	$((CH_3)_2N)_3PCr(CO)_5$ (RN-CAS Registry Number XXXXX-XX-X)	5CO	12.5±0.05	EI	3952
$C_6H_{18}N_3PCr^+$	$(((CH_3)_2N)_3P)_2Cr(CO)_4$ (RN-CAS Registry Number 19976-85-3)		11.0±0.05	EI	3952
$C_7H_{18}N_3OPCr^+$	$((CH_3)_2N)_3PCr(CO)_5$ (RN-CAS Registry Number XXXXX-XX-X)	4CO	9.8±0.05	EI	3952
$C_9H_{18}N_3O_3PCr^+$	$((CH_3)_2N)_3PCr(CO)_5$ (RN-CAS Registry Number XXXXX-XX-X)	2CO	8.6±0.05	EI	3952
$C_{10}H_{18}N_3O_4PCr^+$	$((CH_3)_2N)_3PCr(CO)_5$ (RN-CAS Registry Number XXXXX-XX-X)	CO	7.6±0.05	EI	3952
$C_{11}H_{18}N_3O_5PCr^+$	$((CH_3)_2N)_3PCr(CO)_5$ (RN-CAS Registry Number XXXXX-XX-X)	**	6.6±0.05	EI	3952
$C_{15}H_{36}N_6O_3P_2Cr^+$	$(((CH_3)_2N)_3P)_2Cr(CO)_4$ (RN-CAS Registry Number 19976-85-3)	CO	9.5±0.05	EI	3952
$C_{16}H_{36}N_6O_4P_2Cr^+$	$(((CH_3)_2N)_3P)_2Cr(CO)_4$ (RN-CAS Registry Number 19976-85-3)	**	6.5±0.05	EI	3952
$CrP_6F_{18}^+$	$Cr(PF_3)_6$ (RN-CAS Registry Number 26117-61-3)	**	9.0	PE	4021
$C_9H_8O_5SCr^+$	$C_4H_8SCr(CO)_5$ ((*OC*-6-22)-Pentacarbonyl(tetrahydrothiophene)chromium) (RN-CAS Registry Number 15038-40-1)	**	7.45±0.05	EI	3498
$C_7H_6O_6SCr^+$	$SO(CH_3)_2Cr(CO)_5$ ((*OC*-6-22)-Pentacarbonyl(sulfinylbis(methane)-*S*)chromium) (RN-CAS Registry Number 36083-80-4)	**	7.64±0.05	EI	3498
$C_7H_4O_8SCr^+$	$C_2H_4O_2SOCr(CO)_5$ ((*OC*-6-22)-Pentacarbonyl(1,3,2-dioxathiolane 2-oxide-*S*)chromium) (RN-CAS Registry Number 36252-44-5)	**	7.80±0.05	EI	3498
$C_6H_5ClCr^+$	$C_6H_5ClCr(CO)_3$ (Chromium, tricarbonyl(η^6-chlorobenzene)-) (RN-CAS Registry Number 12082-03-0) (MT-Metastable transition(s) observed)	3CO	10.10±0.1	EI	3788
$C_7H_5OClCr^+$	$C_6H_5ClCr(CO)_3$ (Chromium, tricarbonyl(η^6-chlorobenzene)-) (RN-CAS Registry Number 12082-03-0) (MT-Metastable transition(s) observed)	2CO	8.18±0.1	EI	3788

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_5O_2ClCr^+$	$C_6H_5ClCr(CO)_3$ (Chromium, tricarbonyl(η^6-chlorobenzene)-) (RN-CAS Registry Number 12082-03-0) (MT-Metastable transition(s) observed)	CO	7.45±0.1	EI	3788
$C_9H_5O_3ClCr^+$	$C_6H_5ClCr(CO)_3$ (Chromium, tricarbonyl(η^6-chlorobenzene)-) (RN-CAS Registry Number 12082-03-0)	**	7.00±0.1	EI	3788
$C_{13}H_7O_6ClCr^+$	$C_6H_4ClC(OCH_3)Cr(CO)_5$ (Chromium, pentacarbonyl[(4-chlorophenyl)methoxymethylene]-, (*OC*-6-21)-) (RN-CAS Registry Number 29160-37-0)	**	7.34±0.1	EI	3582
Mn^+	$HMn(CO)_5$ (RN-CAS Registry Number 16972-33-1)		17.3	EI	3814
Mn^+	$(CH_3)_3SiMn(CO)_5$ (RN-CAS Registry Number 26500-16-3)		21.7	EI	3814
Mn^+	$(CH_3)_3SiMn(CO)_4PF_3$ (RN-CAS Registry Number 33989-27-4)		21.9	EI	3814
MnH^+	$HMn(CO)_5$ (RN-CAS Registry Number 16972-33-1)	5CO	13.8	EI	3814
$C_{10}H_{10}Mn^+$	$(C_5H_5)_2Mn$ (Manganocene) (RN-CAS Registry Number 1271-27-8)	**	6.55	PE	3725
$C_{11}H_{11}Mn^+$	$C_5H_5MnC_6H_6$ (Manganese, (η^6-benzene)(η^5-2,4-cyclopentadien-1-yl)-) (RN-CAS Registry Number 1271-43-8)	**	6.36±0.1 (V)	PE	3686
$C_{32}H_{16}N_8Mn^+$	$C_{32}H_{16}N_8Mn$ (Manganese, [29*H*,31*H*-phthalocyaninato(2$^-$)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-) (RN-CAS Registry Number 14325-24-7) (ON-Other name: Manganese phthalocyanine)	**	7.26±0.10	EI	3829
$MnCO^+$	$(CH_3)_3SiMn(CO)_5$ (RN-CAS Registry Number 26500-16-3)		17.9	EI	3814
$MnC_2O_2^+$	$HMn(CO)_5$ (RN-CAS Registry Number 16972-33-1)		13.7	EI	3814
$MnC_3O_3^+$	$HMn(CO)_5$ (RN-CAS Registry Number 16972-33-1)		13.2	EI	3814
$MnC_4O_4^+$	$HMn(CO)_5$ (RN-CAS Registry Number 16972-33-1)		11.2	EI	3814
$CHOMn^+$	$HMn(CO)_5$ (RN-CAS Registry Number 16972-33-1)	4CO	12.7	EI	3814

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2HO_2Mn^+$	$HMn(CO)_5$	3CO	10.3	EI	3814
	(RN-CAS Registry Number 16972-33-1)				
$C_3HO_3Mn^+$	$HMn(CO)_5$	2CO	9.9	EI	3814
	(RN-CAS Registry Number 16972-33-1)				
$C_8H_5O_3Mn^+$	$C_5H_5Mn(CO)_3$	**	8.12±0.1	EI	3578
	(Manganese, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)				
	(RN-CAS Registry Number 12079-65-1)				
$C_4HO_4Mn^+$	$HMn(CO)_5$	CO	8.7	EI	3814
	(RN-CAS Registry Number 16972-33-1)				
$C_5HO_5Mn^+$	$HMn(CO)_5$	**	8.5±0.1	EI	3814
	(RN-CAS Registry Number 16972-33-1)				
$C_{15}H_{21}O_6Mn^+$	$(CH_3COCHCOCH_3)_3Mn$	**	7.32±0.07 (V)	PE	3682
	(Manganese, tris(2,4-pentanedionato-*O*,*O*')-, (*OC*-6-11)-)				
	(RN-CAS Registry Number 14284-89-0)				
MnF^+	MnF	**	8.51±0.2	EI	3623
	(RN-CAS Registry Number 13569-25-0)				
(TW-Threshold value approximately corrected to 298°K)					
MnF^+	MnF_2		13.60±0.2	EI	3623
	(RN-CAS Registry Number 7782-64-1)				
(TW-Threshold value approximately corrected to 298°K)					
MnF_2^+	MnF_2	**	11.38±0.2	EI	3623
	(RN-CAS Registry Number 7782-64-1)				
(TW-Threshold value approximately corrected to 298°K)					
MnF_2^+	MnF_3		14.79±0.2	EI	3623
	(RN-CAS Registry Number 7783-53-1)				
(TW-Threshold value approximately corrected to 298°K)					
MnF_3^+	MnF_3	**	12.57±0.2	EI	3623
	(RN-CAS Registry Number 7783-53-1)				
(TW-Threshold value approximately corrected to 298°K)					
MnF_3^+	MnF_4		15.50±0.2	EI	3623
	(RN-CAS Registry Number 15195-58-1)				
(TW-Threshold value approximately corrected to 298°K)					
MnF_4^+	MnF_4	**	13.46±0.2	EI	3623
	(RN-CAS Registry Number 15195-58-1)				
(TW-Threshold value approximately corrected to 298°K)					
$C_{15}H_3O_6F_{18}Mn^+$	$(CF_3COCHCOCF_3)_3Mn$	**	9.2 (V)	PE	3682
	(Manganese, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*')-, (*OC*-6-11)-)				
	(RN-CAS Registry Number 14354-50-8)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{19}H_3O_{10}F_{18}Mn^+$	$(CF_3COCHCOCF_3)_3(CO)_4Mn$ (Tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)manganese tetracarbonyl) (RN-CAS Registry Number XXXXX-XX-X)	**	8.11±0.07 (V)	PE	3682
$C_3H_9SiMn^+$	$(CH_3)_3SiMn(CO)_5$ (RN-CAS Registry Number 26500-16-3)		12.8	EI	3814
$C_4H_9OSiMn^+$	$(CH_3)_3SiMn(CO)_5$ (RN-CAS Registry Number 26500-16-3)	4CO	12.0	EI	3814
$C_4H_9OSiMn^+$	$(CH_3)_3SiMn(CO)_4PF_3$ (RN-CAS Registry Number 33989-27-4)	$3CO+PF_3$	12.7	EI	3814
$C_5H_9O_2SiMn^+$	$(CH_3)_3SiMn(CO)_5$ (RN-CAS Registry Number 26500-16-3)	3CO	10.8	EI	3814
$C_5H_9O_2SiMn^+$	$(CH_3)_3SiMn(CO)_4PF_3$ (RN-CAS Registry Number 33989-27-4)	$2CO+PF_3$	11.1	EI	3814
$C_6H_9O_3SiMn^+$	$(CH_3)_3SiMn(CO)_5$ (RN-CAS Registry Number 26500-16-3)	2CO	10.2	EI	3814
$C_7H_9O_4SiMn^+$	$(CH_3)_3SiMn(CO)_5$ (RN-CAS Registry Number 26500-16-3)	CO	9.2	EI	3814
$C_7H_9O_4SiMn^+$	$(CH_3)_3SiMn(CO)_4PF_3$ (RN-CAS Registry Number 33989-27-4)	PF_3	9.9	EI	3814
$C_5H_3O_5SiMn^+$	$SiH_3Mn(CO)_5$ (RN-CAS Registry Number 15770-61-3)	**	8.99±0.02 (V)	PE	3827
$C_8H_9O_5SiMn^+$	$Si(CH_3)_3Mn(CO)_5$ (RN-CAS Registry Number XXXXX-XX-X)	**	9.0±0.1 (V)	PE	3827
$C_8H_9O_5SiMn^+$	$(CH_3)_3SiMn(CO)_5$ (RN-CAS Registry Number 26500-16-3)	**	8.7±0.2	EI	3814
$C_7H_9O_4F_3SiPMn^+$	$(CH_3)_3SiMn(CO)_4PF_3$ (RN-CAS Registry Number 33989-27-4)	**	8.7±0.2	EI	3814
$C_6H_9O_3F_6SiP_2Mn^+$	$(CH_3)_3SiMn(CO)_3(PF_3)_2$ (RN-CAS Registry Number 36087-62-4)	**	8.1±0.1	EI	3814
$C_5H_9O_2F_9SiP_3Mn^+$	$(CH_3)_3SiMn(CO)_2(PF_3)_3$ (RN-CAS Registry Number 36087-61-3)	**	9.1±0.2	EI	3814
$C_{10}H_{15}SMn^+$	$C_4H_8SC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl)(tetrahydrothiophene)manganese) (RN-CAS Registry Number 12153-94-5)	2CO	7.9±0.1	EI	3498
$C_{18}H_{17}SMn^+$	$(C_6H_5)_2SC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl)(1,1'-thiobis(benzene)-*S*)manganese) (RN-CAS Registry Number 36154-47-9)	2CO	8.0±0.1	EI	3498

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{13}OSMn^+$	$C_5H_4CH_3Mn(CO)_2SO(CH_3)_2$ (Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl)(sulfinylbis(methane)-*S*)manganese) (RN-CAS Registry Number 12153-02-5)	2CO	7.9±0.1	EI	3498
$C_{10}H_{15}OSMn^+$	$C_4H_8SOC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadiene-1-yl)(tetrahydrothiohene 1-oxide-*S*)manganese) (RN-CAS Registry Number 12153-95-6)	2CO	7.5±0.1	EI	3498
$C_{18}H_{17}OSMn^+$	$(C_6H_5)_2SOC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl)(1,1′-sulfinylbis(benzene)-*S*)manganese) (RN-CAS Registry Number 36154-49-1)	2CO	7.8±0.1	EI	3498
$C_{12}H_{15}O_2SMn^+$	$C_4H_8SC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl)(tetrahydrothiophene)manganese) (RN-CAS Registry Number 12153-94-5)	**	6.45±0.05	EI	3498
$C_{20}H_{17}O_2SMn^+$	$(C_6H_5)_2SC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl)(1,1′-thiobis(benzene)-*S*)manganese) (RN-CAS Registry Number 36154-47-9)	**	6.27±0.05	EI	3498
$C_8H_{11}O_3SMn^+$	$C_2H_4O_2SOC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl(1,3,2-dioxathiolane 2-oxide-*S*)((1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl)manganese) (RN-CAS Registry Number 12152-97-5)	2CO	7.75±0.1	EI	3498
$C_{10}H_{13}O_3SMn^+$	$C_5H_4CH_3Mn(CO)_2SO(CH_3)_2$ (Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl)(sulfinylbis(methane)-*S*)manganese) (RN-CAS Registry Number 12153-02-5)	**	7.19±0.05	EI	3498
$C_{12}H_{15}O_3SMn^+$	$C_4H_8SOC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-η)-1-methyl-2,4-cyclopentadiene-1-yl)(tetrahydrothiophene 1-oxide-*S*)manganese) (RN-CAS Registry Number 12153-95-6)	**	6.79±0.05	EI	3498
$C_{20}H_{17}O_3SMn^+$	$(C_6H_5)_2SOC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl)(1,1′-sulfinylbis(benzene)-*S*)manganese) (RN-CAS Registry Number 36154-49-1)	**	6.76±0.05	EI	3498
$C_{10}H_{11}O_5SMn^+$	$C_2H_4O_2SOC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl(1,3,2-dioxathiolane 2-oxide-*S*)((1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl)manganese) (RN-CAS Registry Number 12152-97-5)	**	7.38±0.05	EI	3498

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5O_5ClMn^+$	$Mn(CO)_5Cl$ (RN-CAS Registry Number 14100-30-2)	**	8.94 (V)	PE	3866
Fe^+	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5)		12.0±1.5	RPD	3793
Fe^+	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS-Registry Number 102-54-5)		14.10±0.15	EDD	4072
Fe^+	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5) (MT-Metastable transition(s) observed)	$(C_5H_5)_2$	14.00±0.25	DC	3628
Fe^+	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5) (PC-Appearance potential of the corresponding metastable transition)	$(C_5H_5)_2$	14.4±0.5	EI	3628
Fe^+	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5) (PC-Appearance potential of the corresponding metastable transition)	$2C_5H_5$	18.9±0.5	EI	3628
Fe^+	$((CH_3)_2N)_3PFe(CO)_4$ (RN-CAS Registry Number 19372-47-5)		17.0±0.05	EI	3952
$C_3H_3Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS-Registry Number 102-54-5)		17.75±0.2	EDD	4072
$C_3H_3Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5)		18.06±0.10	EI	3628
$C_5H_5Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5)		13.9±0.2	RPD	3793
$C_5H_5Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS-Registry Number 102-54-5)		12.95±0.15	EDD	4072
$C_5H_5Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5) (MT-Metastable transition(s) observed)	C_5H_5	14.25±0.25	DC	3628
$C_5H_5Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5) (PC-Appearance potential of the corresponding metastable transition)	C_5H_5	14.0±0.5	EI	3628
$C_{10}H_{10}Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5)	**	6.78±0.05	PI	3729
$C_{10}H_{10}Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5)	**	6.72	PE	3725

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{10}Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5)	**	6.88 (V)	PE	3688
$C_{10}H_{10}Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5)	**	~7.0 (V)	PE	3527
$C_{10}H_{10}Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS-Registry Number 102-54-5)	**	7.10 (V)	PE	4072
$C_{10}H_{10}Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5)	**	6.9±0.1	RPD	3793
$C_{10}H_{10}Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS-Registry Number 102-54-5)	**	6.90±0.1	EDD	4072
$C_{10}H_{10}Fe^+$	$(C_5H_5)_2Fe$ (Ferrocene) (RN-CAS Registry Number 102-54-5)	**	6.75±0.25	DC	3628
$C_{12}H_{12}Fe^+$	$C_5H_5FeC_5H_4C_2H_3$ (Ferrocene, ethenyl-) (RN-CAS Registry Number 1271-51-8)	**	6.75±0.05	PI	3729
$C_{12}H_{14}Fe^+$	$(C_5H_4CH_3)_2Fe$ (Ferrocene, 1,1′-dimethyl-) (RN-CAS Registry Number 1291-47-0)	**	6.72 (V)	PE	3688
$C_{12}H_{14}Fe^+$	$C_5H_5FeC_5H_4C_2H_5$ (Ferrocene, ethyl-) (RN-CAS Registry Number 1273-89-8)	**	6.70±0.05	PI	3729
$C_{32}H_{16}N_8Fe^+$	$C_{32}H_{16}N_8Fe$ (Iron, [29*H*,31*H*-phthalocyaninato(2⁻)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-) (RN-CAS Registry Number 132-16-1) (ON-Other name: Iron phthalocyanine)	**	7.22±0.10	EI	3829
$C_{15}H_{21}O_6Fe^+$	$(CH_3COCHCOCH_3)_3Fe$ (Iron, tris(2,4-pentanedionato-*O*,*O*′)-, (*OC*-6-11)-) (RN-CAS Registry Number 14024-18-1)	**	8.10±0.07 (V)	PE	3682
$C_{33}H_{57}O_6Fe^+$	$((CH_3)_3CCOCHCOC(CH_3)_3)_3Fe$ (Iron, tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)-) (RN-CAS Registry Number 14876-47-2)	**	7.92±0.07 (V)	PE	3682
$C_{15}H_{12}O_6F_9Fe^+$	$(CF_3COCHCOCH_3)_3Fe$ (Iron, tris(1,1,1-trifluoro-2,4-pentanedionato-*O*,*O*′)- (RN-CAS Registry Number 14526-22-8)	**	9.18±0.07 (V)	PE	3682
$C_{15}H_3O_6F_{18}Fe^+$	$(CF_3COCHCOCF_3)_3Fe$ (Iron, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*′)-, (*OC*-6-11)-) (RN-CAS Registry Number 17786-67-3)	**	10.13±0.07 (V)	PE	3682

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{18}SiFe^+$	$C_5H_5FeC_5H_4Si(CH_3)_3$ (Ferrocene, (trimethylsilyl)-) (RN-CAS Registry Number 12215-68-8)	**	9.5±0.10	PI	3729
$C_6H_{18}N_3PFe^+$	$((CH_3)_2N)_3PFe(CO)_4$ (RN-CAS Registry Number 19372-47-5)	4CO	10.2±0.05	EI	3952
$C_{12}H_{36}N_6P_2Fe^+$	$(((CH_3)_2N)_3P)_2Fe(CO)_3$ (RN-CAS Registry Number 19372-46-4	3CO	11.7±0.05	EI	3952
$C_7H_{18}N_3OPFe^+$	$((CH_3)_2N)_3PFe(CO)_4$ (RN-CAS Registry Number 19372-47-5)	3CO	10.2±0.05	EI	3952
$C_8H_{18}N_3O_2PFe^+$	$((CH_3)_2N)_3PFe(CO)_4$ (RN-CAS Registry Number 19372-47-5)	2CO	9.8±0.05	EI	3952
$C_9H_{18}N_3O_3PFe^+$	$((CH_3)_2N)_3PFe(CO)_4$ (RN-CAS Registry Number 19372-47-5)	CO	9.4±0.05	EI	3952
$C_{10}H_{18}N_3O_4PFe^+$	$((CH_3)_2N)_3PFe(CO)_4$ (RN-CAS Registry Number 19372-47-5)	**	9.0±0.05	EI	3952
$C_{13}H_{36}N_6OP_2Fe^+$	$(((CH_3)_2N)_3P)_2Fe(CO)_3$ (RN-CAS Registry Number 19372-46-4)	2CO	10.2±0.05	EI	3952
$C_{14}H_{36}N_6O_2P_2Fe^+$	$(((CH_3)_2N)_3P)_2Fe(CO)_3$ (RN-CAS Registry Number 19372-46-4)	CO	9.7±0.05	EI	3952
$C_{15}H_{36}N_6O_3P_2Fe^+$	$(((CH_3)_2N)_3P)_2Fe(CO)_3$ (RN-CAS Registry Number 19372-46-4)	**	7.7±0.05	EI	3952
$FeP_5F_{15}^+$	$Fe(PF_3)_5$ (RN-CAS Registry Number 13815-34-4)	**	8.9	PE	4021
$C_{10}H_9ClFe^+$	$C_5H_5FeC_5H_4Cl$ (Ferrocene, chloro-) (RN-CAS Registry Number 1273-74-1)	**	6.83±0.05	PI	3729
$C_{10}H_8Cl_2Fe^+$	$(C_5H_4Cl)_2Fe$ (Ferrocene, 1,1'-dichloro-) (RN-CAS Registry Number 1293-67-0)	**	7.03 (V)	PE	3688
Co^+	$(C_5H_5)_2Co$ (Cobaltocene) (RN-CAS-Registry Number 1277-43-6)		14.10±0.15	EDD	4072
Co^+	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		18.9±0.5	EI	3653
Co^+	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		18.9±0.4	EI	3653

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_3Co^+$	$(C_5H_5)_2Co$ (Cobaltocene) (RN-CAS-Registry Number 1277-43-6)		17.50±0.2	EDD	4072
$C_5H_5Co^+$	$(C_5H_5)_2Co$ (Cobaltocene) (RN-CAS Registry Number 1277-43-6)		14.0±0.3	RPD	3793
$C_5H_5Co^+$	$(C_5H_5)_2Co$ (Cobaltocene) (RN-CAS-Registry Number 1277-43-6)		13.20±0.2	EDD	4072
$C_{10}H_{10}Co^+$	$(C_5H_5)_2Co$ (Cobaltocene) (RN-CAS Registry Number 1277-43-6)	**	5.7±0.2	RPD	3793
$C_{10}H_{10}Co^+$	$(C_5H_5)_2Co$ (Cobaltocene) (RN-CAS-Registry Number 1277-43-6)	**	5.95±0.1	EDD	4072
$C_{11}H_{13}BCo^+$	$C_5H_5CoC_5H_5BCH_3$ (Cobalt, (η^5-2,4-cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-methylboratabenzene]-) (RN-CAS Registry Number 36534-25-5)	**	6.56±0.1	EI	3545
$C_{12}H_{16}B_2Co^+$	$(C_5H_5BCH_3)_2Co$ (Cobalt, bis[(1,2,3,4,5,6-η)-1-methylboratabenzene]-) (RN-CAS Registry Number 36534-27-7)	**	7.15±0.1	EI	3545
$C_{16}H_{15}BCo^+$	$C_5H_5CoC_5H_5BC_6H_5$ (Cobalt, (η^5-2,4-cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-phenylboratabenzene]-) (RN-CAS Registry Number 36682-12-9)	**	6.63±0.1	EI	3545
$C_{22}H_{20}B_2Co^+$	$(C_5H_5BC_6H_5)_2Co$ (Cobalt, bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]-) (RN-CAS Registry Number 36534-31-3)	**	7.25±0.1	EI	3545
$C_{32}H_{16}N_8Co^+$	$C_{32}H_{16}N_8Co$ (Cobalt, [29*H*,31*H*-phthalocyaninato(2$^-$)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-) (RN-CAS Registry Number 3317-67-7) (ON-Other name: Cobalt phthalocyanine)	**	7.46±0.10	EI	3829
$COCo^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		16.7±0.3	EI	3653
$COCo^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		16.9±0.4	EI	3653
$C_2O_2Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		15.5±0.4	EI	3653
$C_2O_2Co^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		15.5±0.3	EI	3653
$C_4HO_4Co^+$	$HCo(CO)_4$ (RN-CAS Registry Number 16842-03-8)	**	8.90±0.02 (V)	PE	3827

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{21}O_6Co^+$	$(CH_3COCHCOCH_3)_3Co$ (Cobalt, tris(2,4-pentanedionato-*O*,*O*')-, (*OC*-6-11)-) (RN-CAS Registry Number 21679-46-9)	**	7.52±0.07 (V)	PE	3682
$C_{12}H_{16}B_2O_2Co^+$	$(C_5H_5BOCH_3)_2Co$ (Cobalt, bis[(1,2,3,4,5,6-η)-1-methoxyboratabenzene]-) (RN-CAS Registry Number 36534-20-0)	**	7.02±0.1	EI	3545
$C_{15}H_3O_6F_{18}Co^+$	$(CF_3COCHCOCF_3)_3Co$ (Cobalt, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*')-, (*OC*-6-11)-) (RN-CAS Registry Number 16702-37-7)	**	9.73±0.07 (V)	PE	3682
$C_4H_3O_4SiCo^+$	$SiH_3Co(CO)_4$ (RN-CAS Registry Number 14652-62-1)	**	8.85±0.02 (V)	PE	3827
F_3PCo^+	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		16.9±0.4	EI	3653
F_3PCo^+	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		16.7±0.3	EI	3653
$ClCo^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		18.7±0.4	EI	3653
$ClCo^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		18.9±0.5	EI	3653
$SiCl_2Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		18.4±0.6	EI	3653
$SiCl_2Co^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		18.4±0.3	EI	3653
$SiCl_3Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		13.5±0.4	EI	3653
$SiCl_3Co^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		13.6±0.2	EI	3653
$COSiCl_3Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		11.9±0.3	EI	3653
$COSiCl_3Co^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		11.9±0.3	EI	3653
$C_2O_2SiCl_3Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		10.8±0.4	EI	3653
$C_2O_2SiCl_3Co^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		11.0±0.2	EI	3653
$C_3O_3SiCl_3Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		9.6±0.3	EI	3653
$F_3SiPCl_3Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		10.2±0.5	EI	3653

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$F_3SiPCl_3Co^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		10.2±0.4	EI	3653
$C_3O_3F_3SiPCl_2Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		9.8±0.2	EI	3653
$COF_3SiPCl_3Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)		10.7±0.3	EI	3653
$COF_3SiPCl_3Co^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		10.9±0.2	EI	3653
$C_3O_3F_3SiPCl_3Co^+$	$Cl_3SiCo(CO)_3PF_3$ (RN-CAS Registry Number 37769-28-1)	**	9.4±0.2	EI	3653
$COF_6SiP_2Cl_3Co^+$	$Cl_3SiClCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)		9.7±0.2	EI	3653
$C_2O_2F_6SiP_2Cl_3Co^+$	$Cl_3SiCo(CO)_2(PF_3)_2$ (RN-CAS Registry Number 37769-29-2)	**	9.3±0.2	EI	3653
Ni^+	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)		13.9±0.4	RPD	3793
Ni^+	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)	$(C_5H_5)_2$	13.00±0.25	DC	3628
(MT-Metastable transition(s) observed)					
Ni^+	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)	$(C_5H_5)_2$	14.3±0.5	EI	3628
(PC-Appearance potential of the corresponding metastable transition)					
Ni^+	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)	$2C_5H_5$	17.7±0.5	EI	3628
Ni^+	C_5H_5NiNO (Nickel, (η^5-2,4-cyclopentadien-1-yl)nitrosyl-) (RN-CAS Registry Number 12071-73-7)		14.8	EI	4015
$C_3H_3Ni^+$	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)		16.7±0.1	EI	3628
$C_5H_5Ni^+$	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)		12.6±0.2	RPD	3793
$C_5H_5Ni^+$	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)	C_5H_5	13.00±0.25	DC	3628
(MT-Metastable transition(s) observed)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_5Ni^+$	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)	C_5H_5	13.0±0.5	EI	3628
(PC-Appearance potential of the corresponding metastable transition)					
$C_5H_5Ni^+$	C_5H_5NiNO (Nickel, (η^5-2,4-cyclopentadien-1-yl)nitrosyl-) (RN-CAS Registry Number 12071-73-7)		10.5	EI	4015
$C_6H_{10}Ni^+$	$(C_3H_5)_2Ni$ (Nickel, bis(η^3-2-propenyl)-) (RN-CAS Registry Number 12077-85-9)	**	7.33±0.04	PE	3711
$C_8H_8Ni^+$	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)	C_2H_2	12.6±0.1	EI	3628
(MT-Metastable transition(s) observed)					
$C_{10}H_{10}Ni^+$	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)	**	6.2	PE	3725
$C_{10}H_{10}Ni^+$	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)	**	6.8±0.1	RPD	3793
$C_{10}H_{10}Ni^+$	$(C_5H_5)_2Ni$ (Nickelocene) (RN-CAS Registry Number 1271-28-9)	**	6.50±0.25	DC	3628
$C_{32}H_{16}N_8Ni^+$	$C_{32}H_{16}N_8Ni$ (Nickel, [29*H*,31*H*-phthalocyaninato(2$^-$)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-) (RN-CAS Registry Number 14055-02-8) (ON-Other name: Nickel phthalocyanine)	**	7.45±0.10	EI	3829
$C_5H_5NONi^+$	C_5H_5NiNO (Nickel, (η^5-2,4-cyclopentadien-1-yl)nitrosyl-) (RN-CAS Registry Number 12071-73-7)	**	8.5	EI	4015
$C_{12}H_{18}N_2O_2Ni^+$	$C_{12}H_{18}O_2N_2Ni$ (Nickel, [[4,4′-(1,2-ethanediyldinitrilo)bis[2-pentanonato]](2$^-$)-*N*,*N*′,*O*,*O*′]-) (RN-CAS Registry Number 13878-48-3)	**	6.80 (V)	PE	3822
Cu^+	Cu (RN-CAS Registry Number 7440-50-8)	**	7.72634±0.00002	S	4011
Cu^+	Cu (RN-CAS Registry Number 7440-50-8)	**	7.71±0.05	RPD	3745
Cu^+	Cu_3Cl_3? (RN-CAS Registry Number 11093-65-5)		14.0±0.5	EI	3455
Cu^+	Cu_4Cl_4? (RN-CAS Registry Number 11093-67-7)		14.0±0.5	EI	3455
Cu^+	Cu_3I_3 (RN-CAS Registry Number XXXXX-XX-X)		15.2±0.5	EI	3603

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Cu_2^+	Cu_2	**	7.8	EI	3775
	(RN-CAS Registry Number 34015-11-7)				
Cu_2^+	Cu_3I_3		15.2±0.5	EI	3603
	(RN-CAS Registry Number XXXXX-XX-X)				
Cu_3^+	Cu_3I_3		17.0±0.5	EI	3603
	(RN-CAS Registry Number XXXXX-XX-X)				
$C_{32}H_{16}N_8Cu^+$	$C_{32}H_{16}N_8Cu$	**	7.37±0.10	EI	3829
	(Copper, [29*H*,31*H*-phthalocyaninato(2$^-$)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-)				
	(RN-CAS Registry Number 147-14-8)				
	(ON-Other name: Copper phthalocyanine)				
$C_{12}H_{18}N_2O_2Cu^+$	$C_{12}H_{18}O_2N_2Cu$	**	7.00 (V)	PE	3822
	(Copper, [[4,4'-(1,2-ethanediyldinitrilo)bis[2-pentanonato]](2$^-$)-*N*,*N'*,*O*,*O'*]-)				
	(RN-CAS Registry Number 14263-53-7)				
$CuCl^+$	CuCl	**	10.7±0.3	EI	3901
	(RN-CAS Registry Number 7758-89-6)				
Cu_2Cl^+	Cu_3Cl_3	$CuCl_2$	12.0±0.5	EI	3455
	(RN-CAS Registry Number 11093-65-5)				
Cu_2Cl^+	Cu_3Cl_3	CuCl?+Cl?	14.8±0.5	EI	3455
	(RN-CAS Registry Number 11093-65-5)				
Cu_2Cl^+	Cu_4Cl_4?	$CuCl_2$?+Cl?	14.8±0.5	EI	3455
	(RN-CAS Registry Number 11093-67-7)				
Cu_2Cl^+	Cu_4Cl_4?	Cu_2Cl_2?+Cl?	14.8±0.5	EI	3455
	(RN-CAS Registry Number 11093-67-7)				
$Cu_2Cl_2^+$	Cu_2Cl_2	**	9.6±0.03	EI	3901
	(RN-CAS Registry Number 12258-96-7)				
$Cu_2Cl_2^+$	Cu_4Cl_4		14.0±0.5	EI	3455
	(RN-CAS Registry Number 11093-67-7)				
$Cu_3Cl_2^+$	Cu_3Cl_3?		12.7±0.5	EI	3455
	(RN-CAS Registry Number 11093-65-5)				
$Cu_3Cl_2^+$	Cu_4Cl_4?	$CuCl_2$?	12.7±0.5	EI	3455
	(RN-CAS Registry Number 11093-67-7)				
$Cu_3Cl_3^+$	Cu_3Cl_3	**	9.9±0.5	EI	3455
	(RN-CAS Registry Number 11093-65-5)				
$Cu_4Cl_3^+$	Cu_4Cl_4		12.4±0.5	EI	3455
	(RN-CAS Registry Number 11093-67-7)				
$Cu_4Cl_4^+$	Cu_4Cl_4	**	9.9±0.5	EI	3455
	(RN-CAS Registry Number 11093-67-7)				
$Cu_5Cl_4^+$	Cu_5Cl_5		10.6±0.5	EI	3455
	(RN-CAS Registry Number 11093-68-8)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Cu_5Cl_5^+$	Cu_5Cl_5 (RN-CAS Registry Number 11093-68-8)	**	9.7±0.5	EI	3455
Zn^+	Zn (RN-CAS Registry Number 7440-66-6)	**	9.57±0.07	RPD	3745
$C_{32}H_{16}N_8Zn^+$	$C_{32}H_{16}N_8Zn$ (Zinc, [29*H*,31*H*-phthalocyaninato(2⁻)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-) (RN-CAS Registry Number 14320-04-8) (ON-Other name: Zinc phthalocyanine)	**	7.37±0.10	EI	3829
$ZnCl_2^+(^2\Pi_g)$	$ZnCl_2$ (RN-CAS Registry Number 7646-85-7)	**	11.7 (V)	PE	3963
$ZnCl_2^+$	$ZnCl_2$ (RN-CAS Registry Number 7646-85-7	**	11.87±0.05 (V)	PE	3833
$ZnCl_2^+(^2\Pi_u)$	$ZnCl_2$ (RN-CAS Registry Number 7646-85-7)	**	12.3 (V)	PE	3963
$ZnCl_2^+(^2\Pi_u)$	$ZnCl_2$ (RN-CAS Registry Number 7646-85-7	**	12.39±0.05 (V)	PE	3833
$ZnCl_2^+(^2\Sigma_u)$	$ZnCl_2$ (RN-CAS Registry Number 7646-85-7)	**	13.0 (V)	PE	3963
$ZnCl_2^+(^2\Sigma_u)$	$ZnCl_2$ (RN-CAS Registry Number 7646-85-7	**	13.07±0.05 (V)	PE	3833
$ZnCl_2^+(^2\Sigma_g)$	$ZnCl_2$ (RN-CAS Registry Number 7646-85-7)	**	14.0 (V)	PE	3963
$ZnCl_2^+(^2\Sigma_g)$	$ZnCl_2$ (RN-CAS Registry Number 7646-85-7	**	14.10±0.05 (V)	PE	3833
$ZnCl_2^{+*}$	$ZnCl_2$ (RN-CAS Registry Number 7646-85-7	**	19.02±0.05 (V)	PE	3833
Ga^+	Ga (RN-CAS Registry Number 7440-55-3)	**	6.1	EI	3472
Ga^+	$(CH_3)_3Ga$ (RN-CAS Registry Number 1445-79-0) (MT-Metastable transition(s) observed)	$C_2H_6+CH_3$	13.24±0.03	EI	3474
Ga^+	$(CH_2=CH)_3Ga$ (RN-CAS Registry Number 1188-13-2) (MT-Metastable transition(s) observed)	$C_4H_6+C_2H_3$	11.17±0.05	EI	3474
CH_3Ga^+	$(CH_3)_3Ga$ (RN-CAS Registry Number 1445-79-0) (MT-Metastable transition(s) observed)	$2CH_3$	13.65±0.07	EI	3474
$C_2H_3Ga^+$	$(CH_2=CH)_3Ga$ (RN-CAS Registry Number 1188-13-2)	C_4H_6	10.95±0.05	EI	3474
$C_2H_4Ga^+$	$(CH_2=CH)_3Ga$ (RN-CAS Registry Number 1188-13-2) (MT-Metastable transition(s) observed)	$C_2H_3+C_2H_2$	11.85±0.05	EI	3474

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_6Ga^+$	$(CH_3)_3Ga$ (RN–CAS Registry Number 1445–79–0)	CH_3	10.16±0.03	EI	3474
(MT–Metastable transition(s) observed)					
$C_3H_9Ga^+$	$(CH_3)_3Ga$ (RN–CAS Registry Number 1445–79–0)	**	9.87±0.02	EI	3474
$C_4H_6Ga^+$	$(CH_2=CH)_3Ga$ (RN–CAS Registry Number 1188–13–2)	C_2H_3	11.04±0.08	EI	3474
$C_6H_9Ga^+$	$(CH_2=CH)_3Ga$ (RN–CAS Registry Number 1188–13–2)	**	10.81±0.1	EI	3474
$C_{12}H_{10}Ga^+$	$(C_6H_5)_3Ga$ (Gallium, triphenyl–) (RN–CAS–Registry Number 1088–02–4)	C_6H_5	8.63	PI	4055
$C_{18}H_{15}Ga^+$	$(C_6H_5)_3Ga$ (Gallium, triphenyl–) (RN–CAS–Registry Number 1088–02–4)	**	8.46±0.03	PI	4055
GaF^+	GaF (RN–CAS Registry Number 13966–78–4)	**	10.7±0.6	EI	3613
GaF_2^+	GaF_3 (RN–CAS Registry Number 7783–51–9)		15.1±0.5	EI	3613
$Ga_2F_5^+$	Ga_2F_6 (RN–CAS Registry Number 38586–87–7)		15.6±0.5	EI	3613
$C_{15}H_3O_6F_{18}Ga^+$	$(CF_3COCHCOCF_3)_3Ga$ (Gallium, tris(1,1,1,5,5,5–hexafluoro–2,4–pentanedionato–*O,O'*)–, (*OC*–6–11)–) (RN–CAS Registry Number 19648–92–1)	**	10.19±0.07 (V)	PE	3682
GaP^+	GaP (RN–CAS Registry Number 12063–98–8)	**	⩽9	EI	3472
Ge^+	Ge (RN–CAS Registry Number 7440–56–4)	**	8.0±0.3	EI	3610
Ge_2^+	Ge_2 (RN–CAS Registry Number 12596–05–3)	**	7.8	EI	3775
$GeH_4^+(^2B_2)$	GeH_4 (RN–CAS Registry Number 7782–65–2)	**	11.34	PE	3716
$GeH_4^+(^2T_2)$	GeH_4 (RN–CAS Registry Number 7782–65–2)	**	12.0 (V)	PE	3508
$GeH_4^+(^2A_1)$	GeH_4 (RN–CAS Registry Number 7782–65–2)	**	18.21	PE	3716
$GeH_4^+(^2A_1)$	GeH_4 (RN–CAS Registry Number 7782–65–2)	**	18.65 (V)	PE	3508

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_9Ge^+$	$(CH_3)_4Ge$	CH_3	10.05±0.14	EI	3548
	(RN-CAS Registry Number 865-52-1)				
$C_3H_9Ge^+$	$(CH_3)_3CGe(CH_3)_3$	$(CH_3)_3C$	9.91±0.22	EI	3548
	(RN-CAS Registry Number 1184-91-4)				
$C_3H_9Ge^+$	$(CH_3)_3GeGe(CH_3)_3$	$(CH_3)_3Ge$	9.96±0.16	EI	3548
	(RN-CAS Registry Number 993-52-2)				
$C_3H_9Ge^+$	$(CH_3)_3SiGe(CH_3)_3$	$(CH_3)_3Si$	9.99±0.14	EI	3548
	(RN-CAS Registry Number 31608-80-7)				
$C_3H_9Ge^+$	$(CH_3)_3GeCl$	Cl	11.75±0.04	EI	3939
	(RN-CAS Registry Number 1529-47-1)				
$C_3H_9Ge^+$	$C_5H_5(CO)_3CrGe(CH_3)_3$	$C_5H_5(CO)_3Cr$?	9.06±0.1	EI	3495
	(Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium)				
	(RN-CAS Registry Number 34962-34-0)				
$C_3H_9Ge^+$	$C_5H_5(CO)_3MoGe(CH_3)_3$	$C_5H_5(CO)_3Mo$?	9.63±0.14	EI	3495
	(Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)molybdenum)				
	(RN-CAS Registry Number 33306-91-1)				
$C_3H_9Ge^+$	$(CH_3)_3GeSn(CH_3)_3$	$(CH_3)_3Sn$	10.01±0.18	EI	3548
	(RN-CAS Registry Number 16393-89-8)				
$C_3H_9Ge^+$	$C_5H_5(CO)_3WGe(CH_3)_3$	$C_5H_5(CO)_3W$?	9.84±0.1	EI	3495
	(Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)tungsten)				
	(RN-CAS Registry Number 33306-93-3)				
$C_4H_{12}Ge^+$	$(CH_3)_4Ge$	**	9.33±0.04	PE	3880
	(RN-CAS Registry Number 865-52-1)				
$C_4H_{12}Ge^+$	$(CH_3)_4Ge$	**	9.38±0.1	PE	3677
	(RN-CAS Registry Number 865-52-1)				
$C_4H_{12}Ge^+$	$(CH_3)_4Ge$	**	9.29±0.14	EI	3548
	(RN-CAS Registry Number 865-52-1)				
$C_7H_{18}Ge^+$	$(CH_3)_3CGe(CH_3)_3$	**	8.98±0.12	EI	3548
	(RN-CAS Registry Number 1184-91-4)				
$C_8H_{18}Ge^+$	$CH_2=CHGe(C_2H_5)_3$	**	9.2 (V)	PE	3850
	(RN-CAS Registry Number 6207-41-6)				
$C_8H_{20}Ge^+$	$(C_2H_5)_4Ge$	**	9.3 (V)	PE	3850
	(RN-CAS Registry Number 597-63-7)				
$C_9H_{14}Ge^+$	$C_6H_5Ge(CH_3)_3$	**	~8.75	CTS	3922
	(Germane, trimethylphenyl-)				
	(RN-CAS Registry Number 1626-00-2)				
$C_9H_{20}Ge^+$	$CH_2=CHCH_2Ge(C_2H_5)_3$	**	8.8 (V)	PE	3850
	(RN-CAS Registry Number 1793-90-4)				
$C_{10}H_{14}Ge^+$	$C_8H_8Ge(CH_3)_2$	**	8.39	CTS	3546
	(1*H*-2-Benzogermole, 2,3-dihydro-2,2-dimethyl-)				
	(RN-CAS Registry Number 27490-21-7)				
$C_{10}H_{16}Ge^+$	$C_6H_5CH_2Ge(CH_3)_3$	**	8.19	CTS	3922
	(Germane, trimethyl(phenylmethyl)-)				
	(RN-CAS Registry Number 2848-62-6)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{16}Ge^+$	$C_6H_5CH_2Ge(CH_3)_3$ (Germane, trimethyl(phenylmethyl)–) (RN-CAS Registry Number 2848-62-6)	**	8.26	CTS	3546
$C_{12}H_{18}Ge^+$	$C_9H_9Ge(CH_3)_3$ (Germane, 1-indanyltrimethyl-) (RN-CAS Registry Number 27490-24-0)	**	8.02	CTS	3546
$C_{13}H_{15}Ge^+$	$C_{10}H_7Ge(CH_3)_3$ (Germane, trimethyl-1-naphthalenyl-) (RN-CAS Registry Number XXXXX-XX-X)	**	8.00	CTS	3922
$C_{14}H_{18}Ge^+$	$C_{10}H_7CH_2Ge(CH_3)_3$ (Germane, trimethyl(1-naphthalenylmethyl)-) (RN-CAS Registry Number 51220-35-0)	**	7.78	CTS	3922
$C_6H_{18}Ge_2^+$	$(CH_3)_3GeGe(CH_3)_3$ (RN-CAS Registry Number 993-52-2)	**	8.18±0.11	EI	3548
$GeH_3N_3^+(^2A'')$	GeH_3N_3 (RN-CAS Registry Number 21138-22-7)	**	10.01±0.02 (V)	PE	3670
$Ge_3H_9N^+$	$(GeH_3)_3N$ (RN-CAS Registry Number 22856-27-5)	**	9.2±0.1 (V)	PE	3661
GeO^+	GeO (RN-CAS Registry Number 20619-16-3)	**	11.0±0.3	EI	3610
$Ge_2H_6O^+(^2B_1)$	$(GeH_3)_2O$ (RN-CAS Registry Number 14939-17-4)	**	10.40 (V)	PE	3656
CH_3NOGe^+	GeH_3NCO (RN-CAS Registry Number 6928-42-3)	**	10.76±0.02 (V)	PE	3670
GeF_2^+	GeF_2 (RN-CAS Registry Number 13940-63-1)	**	12.9±0.3	EI	3570
$GeF_4^+(^2T_1)$	GeF_4 (RN-CAS Registry Number 7783-58-6)	**	16.06±0.04 (V)	PE	3880
$GeF_4^+(^2T_2)$	GeF_4 (RN-CAS Registry Number 7783-58-6)	**	16.08 (V)	PE	3508
GeF_4^{+*}	GeF_4 (RN-CAS Registry Number 7783-58-6)	**	16.50 (V)	PE	3508
$GeF_4^+(^2T_2)$	GeF_4 (RN-CAS Registry Number 7783-58-6)	**	16.55±0.04 (V)	PE	3880
GeF_4^{+*}	GeF_4 (RN-CAS Registry Number 7783-58-6)	**	17.04 (V)	PE	3508
$GeF_4^+(^2A_1)$	GeF_4 (RN-CAS Registry Number 7783-58-6)	**	17.06±0.04 (V)	PE	3880
$GeF_4^+(^2T_2)$	GeF_4 (RN-CAS Registry Number 7783-58-6)	**	18.55±0.04 (V)	PE	3880

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
GeF_4^+*	GeF_4 (RN-CAS Registry Number 7783-58-6)	**	18.60 (V)	PE	3508
$GeF_4^+(^2A_1)$	GeF_4 (RN-CAS Registry Number 7783-58-6)	**	21.3 (V)	PE	3508
$Ge_2F_4^+$	Ge_2F_4 (RN-CAS Registry Number 12332-08-0)	**	13.1±0.3	EI	3570
$GeH_3F^+(^2E)$	GeH_3F (RN-CAS Registry Number 13537-30-9)	**	12.3±0.1 (V)	PE	3510
$GeH_3F^+(^2A_1)$	GeH_3F (RN-CAS Registry Number 13537-30-9)	**	~15 (V)	PE	3510
GeH_3F^+	GeH_3F (RN-CAS Registry Number 13537-30-9)	**	15.0±0.1 (V)	PE	3502
$GeH_3F^+(^2E)$	GeH_3F (RN-CAS Registry Number 13537-30-9)	**	15.0±0.1 (V)	PE	3510
$GeH_2F_2^+$	GeH_2F_2 (RN-CAS Registry Number 14986-65-3)	**	13.0±0.1 (V)	PE	3510
$GeOF_2^+$	$GeOF_2$ (RN-CAS Registry Number XXXXX-XX-X)	**	12.3±0.3	EI	3570
$C_6H_{18}SiGe^+$	$(CH_3)_3SiGe(CH_3)_3$ (RN-CAS Registry Number 31608-80-7)	**	8.31±0.10	EI	3548
GeH_5P^+	GeH_3PH_2 (RN-CAS Registry Number 13573-06-3)	**	9.7±0.1 (V)	PE	3661
$Ge_3H_9P^+$	$(GeH_3)_3P$ (RN-CAS Registry Number 15587-38-9)	**	9.0±0.1 (V)	PE	3661
$GeH_4S^+(^2A'')$	GeH_3SH (RN-CAS Registry Number 21847-06-3)	**	9.69 (V)	PE	3656
$Ge_2H_6S^+(^2B_1)$	$(GeH_3)_2S$ (RN-CAS Registry Number 18852-54-5)	**	9.25 (V)	PE	3656
CH_3NSGe^+	GeH_3NCS (RN-CAS Registry Number 16475-45-9)	**	9.14±0.02 (V)	PE	3670
Cl_3Ge^+	$GeCl_4$ (RN-CAS Registry Number 10038-98-9)	Cl	12.12±0.04	EI	3939
Cl_3Ge^+	CH_3GeCl_3 (RN-CAS Registry Number 993-10-2)	CH_3	12.22±0.05	EI	3939
Cl_4Ge^+	$GeCl_4$ (RN-CAS Registry Number 10038-98-9)	**	11.68±0.05	EI	3939
$GeH_3Cl^+(^2E)$	GeH_3Cl (RN-CAS Registry Number 13637-65-5)	**	11.30±0.02 (V)	PE	3510

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
GeH_3Cl^+	GeH_3Cl (RN-CAS Registry Number 13637-65-5)	**	11.34±0.05 (V)	PE	3502
$GeH_3Cl^+(^2A_1)$	GeH_3Cl (RN-CAS Registry Number 13637-65-5)	**	13.05±0.02 (V)	PE	3510
$GeH_3Cl^+(^2E)$	GeH_3Cl (RN-CAS Registry Number 13637-65-5)	**	13.3±0.1 (V)	PE	3510
$GeH_2Cl_2^+$	GeH_2Cl_2 (RN-CAS Registry Number 15230-48-5)	**	11.42±0.02 (V)	PE	3510
$C_2H_6ClGe^+$	$(CH_3)_3GeCl$ (RN-CAS Registry Number 1529-47-1)	CH_3	10.44±0.04	EI	3939
$C_2H_6ClGe^+$	$(CH_3)_2GeCl_2$ (RN-CAS Registry Number 1529-48-2)	Cl	11.56±0.04	EI	3939
$C_3H_9ClGe^+$	$(CH_3)_3GeCl$ (RN-CAS Registry Number 1529-47-1)	**	9.62±0.04	EI	3939
$CH_3Cl_2Ge^+$	$(CH_3)_2GeCl_2$ (RN-CAS Registry Number 1529-48-2)	CH_3	11.08±0.05	EI	3939
$CH_3Cl_2Ge^+$	CH_3GeCl_3 (RN-CAS Registry Number 993-10-2)	Cl	11.78±0.05	EI	3939
$C_2H_6Cl_2Ge^+$	$(CH_3)_2GeCl_2$ (RN-CAS Registry Number 1529-48-2)	**	10.18±0.05	EI	3939
$CH_3Cl_3Ge^+$	CH_3GeCl_3 (RN-CAS Registry Number 993-10-2)	**	11.11±0.04	EI	3939
$C_8H_{14}CrGe^+$	$C_5H_5(CO)_3CrGe(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium) (RN-CAS Registry Number 34962-34-0)	3CO	10.57±0.24	EI	3495
$C_9H_{14}OCrGe^+$	$C_5H_5(CO)_3CrGe(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium) (RN-CAS Registry Number 34962-34-0)	2CO	9.53±0.15	EI	3495
$C_{10}H_{14}O_2CrGe^+$	$C_5H_5(CO)_3CrGe(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium) (RN-CAS Registry Number 34962-34-0)	CO	9.13±0.1	EI	3495
$C_{11}H_{14}O_3CrGe^+$	$C_5H_5(CO)_3CrGe(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium) (RN-CAS Registry Number 34962-34-0)	**	7.79±0.1	EI	3495
$C_5H_3O_5MnGe^+$	$GeH_3Mn(CO)_5$ (RN-CAS Registry Number 25069-08-3)	**	8.90±0.02 (V)	PE	3827
$C_4H_3O_4GeCo^+$	$GeH_3Co(CO)_4$ (RN-CAS Registry Number 28360-37-4)	**	8.80±0.02 (V)	PE	3827

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$GeCu^+$	GeCu (RN-CAS Registry Number 12394-89-7)	**	7.5	EI	3775
As^+	As (RN-CAS Registry Number 7440-38-2)	**	>10.0	EI	3475
As_2^+	As_2 (RN-CAS Registry Number 23878-46-8)	**	10.1±0.2	S	3567
As_2^+	As_2? (RN-CAS Registry Number 23878-46-8)	**	9.7±0.7	EI	3475
As_2^+	As_2 (RN-CAS Registry Number 23878-46-8)	**	11.0±0.5	EI	3555
As_4^+	As_4? (RN-CAS Registry Number 12597-17-0)	**	8.5±0.7	EI	3475
As_4^+	As_4 (RN-CAS Registry Number 12597-17-0)	**	9.9±0.2	EI	3555
$AsH_3^+(^2A_1)$	AsH_3 (RN-CAS Registry Number 7784-42-1)	**	9.89	PE	3719
$AsH_3^+(^2E)$	AsH_3 (RN-CAS Registry Number 7784-42-1)	**	12.12±0.03	PE	3719
$C_2H_7As^+$	$(CH_3)_2AsH$ (RN-CAS Registry Number 593-57-7)	**	8.58	PE	3589
$C_5H_5As^+$	C_5H_5As (Arsenin) (RN-CAS Registry Number 289-31-6)	**	8.8 (V)	PE	3832
$C_{12}H_{13}As^+$	$C_6H_5C_4H_2As(CH_3)_2$ (1*H*-Arsole, 2,5-dimethyl-1-phenyl-) (RN-CAS Registry Number 20527-10-0)	**	8.0 (V)	PE	4090
$C_{19}H_{13}As^+$	$C_{13}H_8AsC_6H_5$ (Acridarsine, 10-phenyl-) (RN-CAS Registry Number 28660-45-9)	**	7.05 (V)	PE	3896
AsF_3^+	AsF_3 (RN-CAS Registry Number 7784-35-2)	**	12.84±0.05	EI	3578
$C_6H_7F_6As^+$	*cis*-$(CH_3)_2AsC(CF_3)=C(CF_3)H$ (RN-CAS Registry Number 4648-64-0)	**	8.61	PE	3589
$C_6H_7F_6As^+$	*trans*-$(CH_3)_2AsC(CF_3)=C(CF_3)H$ (RN-CAS Registry Number 4648-63-9)	**	8.71	PE	3589
$C_8H_{11}F_6As^+$	$(C_2H_5)_2AsC(CF_3)=C(CF_3)H$ (RN-CAS Registry Number XXXXX-XX-X)	**	8.44	PE	3589
$Si_3H_9As^+$	$(SiH_3)_3As$ (RN-CAS Registry Number 15110-34-6)	**	9.3±0.1 (V)	PE	3661

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
AsP^+	AsP (RN–CAS Registry Number 12255–33–3)	**	11.2±0.5	EI	3555
AsP_3^+	AsP_3 (RN–CAS Registry Number 12511–95–4)	**	10.3±0.3	EI	3555
$As_2P_2^+$	As_2P_2 (RN–CAS Registry Number 12512–03–7)	**	10.3±0.3	EI	3555
As_3P^+	As_3P (RN–CAS Registry Number 12512–11–7)	**	10.0±0.3	EI	3555
AsS^+	AsS? (RN–CAS Registry Number 12044–79–0)	**	9.0±0.7	EI	3475
$As_2S_2^+$	As_2S_2? (RN–CAS Registry Number 1303–32–8)	**	9.0±0.7	EI	3475
$As_3S_2^+$	As_3S_2? (RN–CAS Registry Number 39350–11–3)	**	~11.0±0.7	EI	3475
$As_3S_3^+$	As_4S_4 (RN–CAS Registry Number 12279–90–2)		9.0±0.7	EI	3475
$As_4S_3^+$	As_4S_3? (RN–CAS Registry Number 12512–13–9)	**	8.7±0.7	EI	3475
$As_4S_4^+$	As_4S_4 (RN–CAS Registry Number 12279–90–2)	**	9.0±0.7	EI	3475
$AsCl_3^+$	$AsCl_3$ (RN–CAS Registry Number 7784–34–1)	**	10.55±0.025	PE	3626
$AsCl_3^+$	$AsCl_3$ (RN–CAS Registry Number 7784–34–1)	**	10.57±0.03	EDD	3626
Se^+	Se (RN–CAS Registry Number 7782–49–2)	**	9.9±0.5	EI	3600
Se^+	H_2Se (RN–CAS Registry Number 7783–07–5)		12.6±0.1	EI	3633
Se^{+4}	Se^{+3} (RN–CAS Registry Number 14700–98–2)	**	42.947±0.003	S	3562
SeH^+	SeH (RN–CAS Registry Number 13940–22–2)	**	9.79	S	3742
SeH^+	H_2Se (RN–CAS Registry Number 7783–07–5)	H	13.8±0.2	EI	3633
$H_2Se^+(^2B_1)$	H_2Se (RN–CAS Registry Number 7783–07–5)	**	9.88	PE	3719
$H_2Se^+(^2B_1)$	H_2Se (RN–CAS–Registry Number 7783–07–5)	**	9.93	PE	4073

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$H_2Se^+(^2A_1)$	H_2Se	**	12.40	PE	3719
	(RN-CAS Registry Number 7783-07-5)				
$H_2Se^+(^2B_2)$	H_2Se	**	14.11	PE	3719
	(RN-CAS Registry Number 7783-07-5)				
$H_2Se^+(^2A_1)$	H_2Se	**	21.0 (V)	PE	3719
	(RN-CAS Registry Number 7783-07-5)				
$CSe_2^+(X^2\Pi_{3/2})$	CSe_2	**	9.27±0.01	PE	3965
	(RN-CAS Registry Number 506-80-9)				
$CSe_2^+(X^2\Pi_{1/2})$	CSe_2	**	9.54±0.01	PE	3965
	(RN-CAS Registry Number 506-80-9)				
$CSe_2^+(A^2\Pi_u)$	CSe_2	**	11.49±0.01	PE	3965
	(RN-CAS Registry Number 506-80-9)				
$CSe_2^+(B^2\Sigma_u^+)$	CSe_2	**	13.63±0.01	PE	3965
	(RN-CAS Registry Number 506-80-9)				
$CSe_2^+(C^2\Sigma_g^+)$	CSe_2	**	15.90±0.01	PE	3965
	(RN-CAS Registry Number 506-80-9)				
$C_2H_5Se^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$		12.03±0.06	EI	3443
	(RN-CAS Registry Number 1464-42-2)				
$C_2H_6Se^+$	$(CH_3)_2Se$	**	8.400±0.010	S	3970
	(RN-CAS Registry Number 593-79-3)				
(RS-Average of three Rydberg series limits)					
$C_2H_6Se^+(^2B_1)$	$(CH_3)_2Se$	**	8.40 (V)	PE	3656
	(RN-CAS Registry Number 593-79-3)				
$C_3H_7Se^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$	$C_2H_4NO_2$	9.34±0.15	EI	3443
	(RN-CAS Registry Number 1464-42-2)				
(MT-Metastable transition(s) observed)					
$C_4H_4Se^+$	C_4H_4Se	**	8.80 (V)	PE	3858
	(Selenophene)				
	(RN-CAS Registry Number 288-05-1)				
$C_4H_4Se^+$	C_4H_4Se	**	⩽8.92 (V)	PE	3804
	(Selenophene)				
	(RN-CAS Registry Number 288-05-1)				
$C_4H_4Se^+$	C_4H_4Se	**	9.01±0.05	EI	3482
	(Selenophene)				
	(RN-CAS Registry Number 288-05-1)				
$C_5H_6Se^+$	$C_4H_3SeCH_3$	**	8.38±0.1	EI	3804
	(Selenophene, 2-methyl-)				
	(RN-CAS Registry Number 7559-42-4)				
$C_3H_6NSe^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$		10.33±0.07	EI	3443
	(RN-CAS Registry Number 1464-42-2)				
$C_4H_{10}NSe^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$	CO_2H	9.83±0.16	EI	3443
	(RN-CAS Registry Number 1464-42-2)				
(MT-Metastable transition(s) observed)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$COSe^+(X^2\Pi_{3/2})$	COSe (RN-CAS Registry Number 1603-84-5)	**	10.36±0.01	PE	3965
(RD-Radical)					
$COSe^+(X^2\Pi_{1/2})$	COSe (RN-CAS Registry Number 1603-84-5)	**	10.57±0.01	PE	3965
(RD-Radical)					
$COSe^+(A^2\Pi)$	COSe (RN-CAS Registry Number 1603-84-5)	**	14.58±0.01	PE	3965
(RD-Radical)					
$COSe^+(B^2\Sigma^+)$	COSe (RN-CAS Registry Number 1603-84-5)	**	15.75±0.01	PE	3965
(RD-Radical)					
$COSe^+(C^2\Sigma^+)$	COSe (RN-CAS Registry Number 1603-84-5)	**	17.90±0.01	PE	3965
(RD-Radical)					
$C_5H_4OSe^+$	C_4H_3SeCHO (2-Selenophenecarboxaldehyde) (RN-CAS Registry Number 25109-26-6)	**	9.47±0.05	EI	3482
$C_6H_6OSe^+$	$C_4H_3SeCOCH_3$ (Ethanone, 1-selenophene-2-yl-) (RN-CAS Registry Number 15429-03-5)	**	9.30±0.05	EI	3482
$C_5H_4O_2Se^+$	$C_4H_3SeCOOH$ (2-Selenophenecarboxylic acid) (RN-CAS Registry Number 22968-45-2)	**	9.25±0.1	EI	3804
$C_4H_6NOSe^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$ (RN-CAS Registry Number 1464-42-2) (MT-Metastable transition(s) observed)	H_2O+CH_3	10.00±0.05	EI	3443
$C_5H_9NOSe^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$ (RN-CAS Registry Number 1464-42-2) (MT-Metastable transition(s) observed)	H_2O	8.73±0.10	EI	3443
$C_4H_8NO_2Se^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$ (RN-CAS Registry Number 1464-42-2) (MT-Metastable transition(s) observed)	CH_3	9.35±0.10	EI	3443
$C_5H_{11}NO_2Se^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$ (RN-CAS Registry Number 1464-42-2)	**	8.26±0.03	EI	3443
$C_6H_3OF_3Se^+$	$C_4H_3SeCOCF_3$ (Ethanone, 2,2,2-trifluoro-1-(selenophene-2-yl)-) (RN-CAS Registry Number 26149-08-6)	**	9.64±0.05	EI	3482
$Si_2H_6Se^+(^2B_1)$	$(SiH_3)_2Se$ (RN-CAS Registry Number 14939-45-8)	**	9.18 (V)	PE	3656

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
SeP^+	SeP	**	8.2	EI	4001
	(RN-CAS Registry Number 12509-41-0)				
$CSSe^+(X^2\Pi_{3/2})$	SCSe	**	9.58±0.01	PE	3965
	(RN-CAS Registry Number 5951-19-9)				
(RD-Radical)					
$CSSe^+(X^2\Pi_{1/2})$	SCSe	**	9.77±0.01	PE	3965
	(RN-CAS Registry Number 5951-19-9)				
(RD-Radical)					
$CSSe^+(A^2\Pi)$	SCSe	**	12.13±0.01	PE	3965
	(RN-CAS Registry Number 5951-19-9)				
(RD-Radical)					
$CSSe^+(B^2\Sigma^+)$	SCSe	**	14.07±0.01	PE	3965
	(RN-CAS Registry Number 5951-19-9)				
(RD-Radical)					
$CSSe^+(C^2\Sigma^+)$	SCSe	**	16.06±0.01	PE	3965
	(RN-CAS Registry Number 5951-19-9)				
(RD-Radical)					
$ScSe^+$	ScSe	**	7.5	EI	3600
	(RN-CAS Registry Number 12138-19-1)				
(RD-Radical)					
$Ge_2H_6Se^+(^2B_1)$	$(GeH_3)_2Se$	**	8.84 (V)	PE	3656
	(RN-CAS Registry Number 24254-18-0)				
Br^+	CH_2Br_2	CH_2Br	16.0	RPD	3490
	(RN-CAS Registry Number 74-95-3)				
(AD-0.192 eV average translational energy of decomposition at threshold)					
(TR-Other product(s) thermochemically reasonable)					
Br^+	CH_2Br_2	CH_2Br	15.5±0.1	EI	3442
	(RN-CAS Registry Number 74-95-3)				
(AD-0.19 eV average translational energy of decomposition at threshold)					
(TR-Other product(s) thermochemically reasonable)					
$Br^{+4}(^2P_{1/2}{}^0)$	Br^{+3}	**	45.0556	S	3593
	(RN-CAS Registry Number 22788-29-0)				
Br^{+5}	Br^{+4}	**	62.35	S	3592
	(RN-CAS Registry Number 22541-82-8)				
$HBr^+(X^2\Pi_{3/2})$	HBr	**	11.645±0.005	PE	3839
	(RN-CAS Registry Number 10035-10-6)				
$HBr^+(X^2\Pi_{1/2})$	HBr	**	11.979±0.005	PE	3839
	(RN-CAS Registry Number 10035-10-6)				
$HBr^+(A^2\Sigma^+)$	HBr	**	15.288±0.005	PE	3839
	(RN-CAS Registry Number 10035-10-6)				
$DBr^+(X^2\Pi_{3/2})$	DBr	**	11.673±0.005	PE	3839
	(RN-CAS Registry Number 13536-59-9)				
$DBr^+(X^2\Pi_{1/2})$	DBr	**	12.002±0.005	PE	3839
	(RN-CAS Registry Number 13536-59-9)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$DBr^+(A^2\Sigma^+)$	DBr (RN-CAS Registry Number 13536-59-9)	**	15.284±0.005	PE	3839
C_2HBr^+	CH≡CBr (RN-CAS Registry Number 593-61-3) (RS-Average of two Rydberg series limits)	**	10.762±0.004	S	3876
$C_2H_3Br^+(^2A'')$	CH_2=CHBr (RN-CAS Registry Number 593-60-2)	**	9.80±0.02	PE	3659
$C_2H_3Br^+$	CH_2=CHBr (RN-CAS Registry Number 593-60-2)	**	9.83	PE	3863
$C_2H_3Br^+(^2A')$	CH_2=CHBr (RN-CAS Registry Number 593-60-2)	**	10.90±0.02	PE	3659
$C_2H_3Br^+(^2A'')$	CH_2=CHBr (RN-CAS Registry Number 593-60-2)	**	12.28±0.02 (V)	PE	3659
$C_2H_3Br^+(^2A')$	CH_2=CHBr (RN-CAS Registry Number 593-60-2)	**	12.94±0.02 (V)	PE	3659
$C_2H_3Br^+(^2A')$	CH_2=CHBr (RN-CAS Registry Number 593-60-2)	**	15.02±0.02 (V)	PE	3659
$C_2H_3Br^+(^2A')$	CH_2=CHBr (RN-CAS Registry Number 593-60-2)	**	16.21±0.02 (V)	PE	3659
$C_2H_3Br^+$*	CH_2=CHBr (RN-CAS Registry Number 593-60-2)	**	19.20±0.02 (V)	PE	3659
$C_2H_5Br^+(^2E_{3/2})$	C_2H_5Br (RN-CAS Registry Number 74-96-4)	**	10.28 (V)	PE	4076
$C_2H_5Br^+(^2E_{1/2})$	C_2H_5Br (RN-CAS Registry Number 74-96-4)	**	10.60 (V)	PE	4076
$C_3H_5Br^+$	CH_2=$CHCH_2Br$ (RN-CAS Registry Number 106-95-6)	**	10.06	PE	3863
$C_3H_5Br^+$	CH_2=$CHCH_2Br$ (RN-CAS Registry Number 106-95-6)	**	10.18 (V)	PE	4091
$C_3H_5Br^+(^2A'')$	CH_2=$CBrCH_3$ (RN-CAS Registry Number 557-93-7)	**	9.58±0.02 (V)	PE	3659
$C_3H_5Br^+(^2A')$	CH_2=$CBrCH_3$ (RN-CAS Registry Number 557-93-7)	**	10.51±0.02	PE	3659
$C_3H_5Br^+(^2A'')$	CH_2=$CBrCH_3$ (RN-CAS Registry Number 557-93-7)	**	11.62±0.02 (V)	PE	3659
$C_3H_5Br^+(^2A')$	CH_2=$CBrCH_3$ (RN-CAS Registry Number 557-93-7)	**	12.40±0.02 (V)	PE	3659
$C_3H_5Br^+$*	CH_2=$CBrCH_3$ (RN-CAS Registry Number 557-93-7)	**	13.53±0.01 (V)	PE	3659
$C_3H_5Br^+$*	CH_2=$CBrCH_3$ (RN-CAS Registry Number 557-93-7)	**	15.15±0.02 (V)	PE	3659
$C_3H_5Br^+$*	CH_2=$CBrCH_3$ (RN-CAS Registry Number 557-93-7)	**	15.84 ±0.02 (V)	PE	3659
$C_3H_7Br^+(^2E_{3/2})$	n-C_3H_7Br (RN-CAS Registry Number 106-94-5)	**	10.18	PE	4076
$C_3H_7Br^+(^2E_{1/2})$	n-C_3H_7Br (RN-CAS Registry Number 106-94-5)	**	10.50	PE	4076

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_7Br^+$	*iso*-C_3H_7Br	**	10.4± <0.1	EI	3735
	(RN-CAS Registry Number 75-26-3)				
$C_4H_7Br^+$	$CH_2=CHCH_2CH_2Br$	**	9.9	EI	3900
	(RN-CAS Registry Number 5162-44-7)				
$C_4H_9Br^+(^2E_{3/2})$	*n*-C_4H_9Br	**	10.15	PE	4076
	(RN-CAS Registry Number 109-65-9)				
$C_4H_9Br^+(^2E_{1/2})$	*n*-C_4H_9Br	**	10.44	PE	4076
	(RN-CAS Registry Number 109-65-9)				
$C_5H_9Br^+$	$CH_2=CH(CH_2)_3Br$	**	9.6	EI	3900
	(RN-CAS Registry Number 1119-51-3)				
$C_5H_9Br^+$	C_5H_9Br	**	9.94±0.02	PE	4003
	(Cyclopentane, bromo-)				
	(RN-CAS Registry Number 137-43-9)				
$C_5H_{11}Br^+(^2E_{3/2})$	*n*-$C_5H_{11}Br$	**	10.09	PE	3532
	(RN-CAS Registry Number 110-53-2)				
$C_5H_{11}Br^+(^2E_{1/2})$	*n*-$C_5H_{11}Br$	**	10.40	PE	3532
	(RN-CAS Registry Number 110-53-2)				
$C_6H_4Br^+$	$C_6H_4(Br)COOH$	CO+OH	14.91±0.2	EI	3973
	(Benzoic acid, 3-bromo-)				
	(RN-CAS Registry Number 585-76-2)				
(MT-Metastable transition(s) observed)					
$C_6H_4Br^+$	$C_6H_4(Br)COOH$	CO+OH	15.13±0.2	EI	3973
	(Benzoic acid, 4-bromo-)				
	(RN-CAS Registry Number 586-76-5)				
(MT-Metastable transition(s) observed)					
$C_6H_4Br^+$	$C_6H_4BrNO_2$	NO_2	12.01±0.1	EI	3447
	(Benzene, 1-bromo-3-nitro-)				
	(RN-CAS Registry Number 585-79-5)				
$C_6H_4Br^+$	$C_6H_4BrNO_2$	NO_2	12.19±0.1	EI	3447
	(Benzene, 1-bromo-4-nitro-)				
	(RN-CAS Registry Number 586-78-7)				
$C_6H_5Br^+$	C_6H_5Br	**	9.00 (V)	PE	3873
	(Benzene, bromo-)				
	(RN-CAS Registry Number 108-86-1)				
$C_6H_5Br^+$	$C_6H_4BrOCH_3$	CH_2O	11.59±0.1	EI	3446
	(Benzene, 1-bromo-3-methoxy-)				
	(RN-CAS Registry Number 2398-37-0)				
$C_6H_5Br^+$	$C_6H_4BrOCH_3$	CH_2O	11.52±0.1	EI	3446
	(Benzene, 1-bromo-4-methoxy-)				
	(RN-CAS Registry Number 104-92-7)				
$C_6H_{11}Br^+$	$C_6H_{11}Br$	**	9.85±0.01	PI	4078
	(Cyclohexane, bromo-)				
	(RN-CAS Registry Number 108-85-0)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{11}Br^+$	$C_6H_{11}Br$ (Cyclohexane, bromo–) (RN–CAS Registry Number 108–85–0)	**	9.90±0.02	PE	4003
$C_6H_{11}Br^+$	$C_6H_{11}Br$ (Cyclohexane, bromo–) (RN–CAS Registry Number 108–85–0)	**	10.00 (V)	PE	4078
$C_7H_7Br^+$	$C_6H_5CH_2Br$ (Benzene, (bromomethyl)–) (RN–CAS Registry Number 100–39–0)	**	9.23 (V)	PE	3992
$C_7H_7Br^+$	$C_6H_4BrCH_3$ (Benzene, 1–bromo–2–methyl–) (RN–CAS Registry Number 95–46–5)	**	8.58±0.1	EI	3777
$C_7H_7Br^+$	$C_6H_4BrCH_3$ (Benzene, 1–bromo–3–methyl–) (RN–CAS Registry Number 591–17–3)	**	8.77	PE	4089
$C_7H_7Br^+$	$C_6H_4BrCH_3$ (Benzene, 1–bromo–3–methyl–) (RN–CAS Registry Number 591–17–3)	**	8.60±0.1	EI	3777
$C_7H_7Br^+$	$C_6H_4BrCH_3$ (Benzene, 1–bromo–4–methyl–) (RN–CAS Registry Number 106–38–7)	**	8.67	PE	4089
$C_7H_7Br^+$	$C_6H_4BrCH_3$ (Benzene, 1–bromo–4–methyl–) (RN–CAS Registry Number 106–38–7)	**	8.70±0.1	EI	3777
$C_7H_9Br^+$	C_7H_9Br (bicyclo[2.2.1]hept–2–ene, 5–bromo–, *exo*–) (RN–CAS Registry Number 5810–82–2)	**	9.2	EI	3900
$C_7H_9Br^+$	C_7H_9Br (Bicyclo[2.2.1]hept–2–ene, 5–bromo–, *endo*–) (RN–CAS Registry Number 5810–82–2)	**	9.2	EI	3900
$C_{10}H_{15}Br^+$	$C_{10}H_{15}Br$ (tricyclo[3.3.1.1^{3,7}]decane, 1–bromo–) (RN–CAS Registry Number 768–90–1) (ON–Other name: 1–Bromoadamantane)	**	9.2	PE	3907
$C_{10}H_{15}Br^+$	$C_{10}H_{15}Br$ (Tricyclo[3.3.1.1^{3,7}]decane, 1–bromo–) (RN–CAS Registry Number 768–90–1) (ON–Other name: 1–Bromoadamantane)	**	9.30±0.06	PE	3886
$C_{10}H_{15}Br^+$	$C_{10}H_{15}Br$ (Tricyclo[3.3.1.1^{3,7}]decane, 2–bromo–) (RN–CAS Registry Number 7314–85–4) (ON–Other name: 2–Bromoadamantane)	**	9.31±0.05	PE	3886
$C_{12}H_9Br^+$	$C_6H_5C_6H_4Br$ (1,1′–Biphenyl, 4–bromo–) (RN–CAS Registry Number 92–66–0)	**	8.05±0.02	PE	3702
$C_2H_2Br_2^+(^2B_1)$	*cis*–CHBr=CHBr (RN–CAS Registry Number 590–11–4)	**	9.32±0.02	PE	3659

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_2Br_2^+(^2B_2)$	*cis*-CHBr=CHBr (RN-CAS Registry Number 590-11-4)	**	10.74±0.02 (V)	PE	3659
$C_2H_2Br_2^+(^2A_2)$	*cis*-CHBr=CHBr (RN-CAS Registry Number 590-11-4)	**	11.24±0.02 (V)	PE	3659
$C_2H_2Br_2^+(^2A_1)$	*cis*-CHBr=CHBr (RN-CAS Registry Number 590-11-4)	**	11.56±0.02 (V)	PE	3659
$C_2H_2Br_2^+(^2B_2)$	*cis*-CHBr=CHBr (RN-CAS Registry Number 590-11-4)	**	12.85±0.02 (V)	PE	3659
$C_2H_2Br_2^+(^2B_1)$	*cis*-CHBr=CHBr (RN-CAS Registry Number 590-11-4)	**	13.27±0.02 (V)	PE	3659
$C_2H_2Br_2^+(^2B_2)$	*cis*-CHBr=CHBr (RN-CAS Registry Number 590-11-4)	**	14.80±0.02 (V)	PE	3659
$C_2H_2Br_2^+(^2A_1)$	*cis*-CHBr=CHBr (RN-CAS Registry Number 590-11-4)	**	16.49±0.02 (V)	PE	3659
$C_2H_2Br_2^+(^2A_u)$	*trans*-CHBr=CHBr (RN-CAS Registry Number 590-12-5)	**	9.30±0.02	PE	3659
$C_2H_2Br_2^+$	*trans*-CHBr=CHBr (RN-CAS Registry Number 590-12-5)	**	9.56 (V)	PE	3648
$C_2H_2Br_2^+(^2A_g,^2B_g)$	*trans*-CHBr=CHBr (RN-CAS Registry Number 590-12-5)	**	11.05±0.02	PE	3659
$C_2H_2Br_2^+(^2Bu)$	*trans*-CHBr=CHBr (RN-CAS Registry Number 590-12-5)	**	11.60±0.02 (V)	PE	3659
$C_2H_2Br_2^+(^2A_g,^2A_u)$	*trans*-CHBr=CHBr (RN-CAS Registry Number 590-12-5)	**	13.00±0.02 (V)	PE	3659
$C_2H_2Br_2^+(^2A_g,^2B_u)$	*trans*-CHBr=CHBr (RN-CAS Registry Number 590-12-5)	**	15.90±0.02 (V)	PE	3659
$C_2H_2Br_2^{+*}$	*trans*-CHBr=CHBr (RN-CAS Registry Number 590-12-5)	**	19.14±0.02 (V)	PE	3659
$C_5H_8Br_2^+$	$C_5H_8Br_2$ (Cyclopentane, 1,2-dibromo-, *cis*-) (RN-CAS Registry Number 33547-17-0)	**	10.02±0.02	PE	4003
$C_5H_8Br_2^+$	$C_5H_8Br_2$ (Cyclopentane, 1,2-dibromo-, *trans*-) (RN-CAS Registry Number 10230-26-9)	**	10.08±0.02	PE	4003
$C_6H_4Br_2^+$	$C_6H_4Br_2$ (Benzene, 1,2-dibromo-) (RN-CAS Registry Number 583-53-9)	**	9.02 (V)	PE	3873
$C_6H_4Br_2^+$	$C_6H_4Br_2$ (Benzene, 1,3-dibromo-) (RN-CAS Registry Number 108-36-1)	**	9.10 (V)	PE	3873
$C_6H_4Br_2^+$	$C_6H_4Br_2$ (Benzene, 1,4-dibromo-) (RN-CAS Registry Number 106-37-6)	**	8.91 (V)	PE	3873
$C_6H_{10}Br_2^+$	$C_6H_{10}Br_2$ (Cyclohexane, 1,2-dibromo- *cis*-) (RN-CAS Registry Number 19246-38-9)	**	9.94±0.02	PE	4003

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{10}Br_2^+$	$C_6H_{10}Br_2$ (Cyclohexane, 1,2-dibromo-, *trans*-) (RN-CAS Registry Number 7429-37-0)	**	10.02±0.02	PE	4003
$C_{12}H_8Br_2^+$	$(C_6H_4Br)_2$ (1,1'-Biphenyl, 2,2'-dibromo-) (RN-CAS Registry Number 13029-09-9)	**	8.40±0.02	PE	3702
$C_6H_3Br_3^+$	$C_6H_3Br_3$ (Benzene, 1,3,5-tribromo-) (RN-CAS Registry Number 626-39-1)	**	8.91 (V)	PE	3873
$C_6H_6NBr^+$	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(2-bromophenyl)-) (RN-CAS Registry Number 614-76-6)	$CH_2=C=O$	11.17±0.03	EI	3483
$C_6H_6NBr^+$	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(4-bromophenyl)-) (RN-CAS Registry Number 103-88-8)	$CH_2=C=O$	10.56±0.03	EI	3483
$C_{18}H_{17}N_2Br^+$	$C_6H_4(Br)C_3H_3(CN)C_6H_4N(CH_3)_2$ (Cyclopropanecarbonitrile, 1-(*p*-bromophenyl)-2-(*p*-(dimethylamino)phenyl)-) (RN-CAS Registry Number 32589-49-4)	**	7.10±0.05	EDD	3575
$C_6H_5NBr_2^+$	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,4-dibromophenyl)-) (RN-CAS Registry Number 23373-04-8)	$CH_2=C=O$	10.24±0.03	EI	3480
$C_6H_5NBr_2^+$	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,6-dibromophenyl)-) (RN-CAS Registry Number 33098-80-5)	$CH_2=C=O$	10.02±0.03	EI	3480
$C_4H_{12}BN_2Br^+$	$((CH_3)_2N)_2BBr$ (RN-CAS Registry Number 6990-27-8)	**	8.13	PE	3584
$C_4H_{12}BN_2Br^+$	$B(N(CH_3)_2)_2Br$ (RN-CAS Registry Number 6990-27-8)	**	8.16 (V)	PE	3704
$C_2H_6BNBr_2^+$	$(CH_3)_2NBBr$ (RN-CAS Registry Number 7360-64-7)	**	9.55 (V)	PE	3704
$C_2H_6BNBr_2^+$	$(CH_3)_2NBBr$ (RN-CAS Registry Number 7360-64-7)	**	9.60	PE	3584
$COBr_2^+$	CBr_2O (RN-CAS Registry Number 593-95-3)	**	11.0 (V)	PE	3726
$COBr_2^{+*}$	CBr_2O (RN-CAS Registry Number 593-95-3)	**	11.5 (V)	PE	3726
$COBr_2^+(^2B_2)$	CBr_2O (RN-CAS Registry Number 593-95-3)	**	11.6 (V)	PE	3726
$COBr_2^+$	CBr_2O (RN-CAS Registry Number 593-95-3)	**	12.0 (V)	PE	3726
$COBr_2^{+*}$	CBr_2O (RN-CAS Registry Number 593-95-3)	**	12.4 (V)	PE	3726
$COBr_2^+(^2B_1)$	CBr_2O (RN-CAS Registry Number 593-95-3)	**	14.8	PE	3726

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$COBr_2^{+*}$	CBr_2O (RN–CAS Registry Number 593–95–3)	**	16.2 (V)	PE	3726
$C_5H_9OBr^+$	$C_5H_8(Br)OH$ (Cyclopentanol, 2–bromo–, *cis*–) (RN–CAS Registry Number 28435–62–3)	**	10.19±0.02	PE	4003
$C_5H_9OBr^+$	$C_5H_8(Br)OH$ (Cyclopentanol, 2–bromo–, *trans*–) (RN–CAS Registry Number 20377–79–1)	**	10.11±0.02	PE	4003
$C_6H_4OBr^+$	$C_6H_4BrOCH_3$ (Benzene, 1–bromo–3–methoxy–) (RN–CAS Registry Number 2398–37–0)	CH_3	12.29±0.1	EI	3446
$C_6H_4OBr^+$	$C_6H_4BrOCH_3$ (Benzene, 1–bromo–4–methoxy–) (RN–CAS Registry Number 104–92–7)	CH_3	11.89±0.1	EI	3446
$C_6H_4OBr^+$	$C_6H_4BrNO_2$ (Benzene, 1–bromo–3–nitro–) (RN–CAS Registry Number 585–79–5)	NO	10.26±0.1	EI	3447
$C_6H_4OBr^+$	$C_6H_4BrNO_2$ (Benzene, 1–bromo–4–nitro–) (RN–CAS Registry Number 586–78–7)	NO	10.55±0.1	EI	3447
$C_6H_5OBr^+$	$C_6H_4(OH)Br$ (Phenol, 2–bromo–) (RN–CAS Registry Number 95–56–7)	**	9.09±0.1	EI	3553
$C_6H_5OBr^+$	$C_6H_4BrOOCCH_3$ (Phenol, 2–bromo–, acetate) (RN–CAS Registry Number 1829–37–4)	$CH_2=C=O$	9.62±0.03	EI	3483
$C_6H_5OBr^+$	$C_6H_4BrOOCCH_3$ (Phenol, 3–bromo–, acetate) (RN–CAS Registry Number 35065–86–2)	$CH_2=C=O$	10.02±0.2	EI	3484
$C_6H_5OBr^+$	$C_6H_4BrOOCCH_3$ (Phenol, 4–bromo–, acetate) (RN–CAS Registry Number 1927–95–3)	$CH_2=C=O$	9.84±0.03	EI	3483
$C_6H_5OBr^+$	$C_6H_4BrOOCCH_3$ (Phenol, 4–bromo–, acetate) (RN–CAS Registry Number 1927–95–3)	$CH_2=C=O$	10.08±0.2	EI	3484
$C_7H_4OBr^+$	$C_6H_4(Br)COOH$ (Benzoic acid, 3–bromo–) (RN–CAS Registry Number 585–76–2)	OH	12.23±0.2	EI	3973
$C_7H_4OBr^+$	$C_6H_4(Br)COOH$ (Benzoic acid, 4–bromo–) (RN–CAS Registry Number 586–76–5)	OH	12.34±0.2	EI	3973
$C_7H_7OBr^+$	$C_6H_4BrOCH_3$ (Benzene, 1–bromo–3–methoxy–) (RN–CAS Registry Number 2398–37–0)	**	8.69±0.1	EI	3446

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7OBr^+$	$C_6H_4BrOCH_3$ (Benzene, 1-bromo-4-methoxy-) (RN-CAS Registry Number 104-92-7)	**	8.39±0.1	EI	3446
$C_2H_3O_2Br^+$	$CH_2BrCOOH$ (RN-CAS Registry Number 79-08-3)	**	11.0 (V)	PE	3874
$C_7H_5O_2Br^+$	$C_6H_4(Br)COOH$ (Benzoic acid, 3-bromo-) (RN-CAS Registry Number 585-76-2)	**	9.66±0.2	EI	3973
$C_7H_5O_2Br^+$	$C_6H_4(Br)COOH$ (Benzoic acid, 4-bromo-) (RN-CAS Registry Number 586-76-5)	**	9.72±0.2	EI	3973
$C_7H_{11}O_2Br^+$	$C_5H_8(Br)OCOCH_3$ (Cyclopentanol, 2-bromo-, acetate, *cis*-) (RN-CAS Registry Number 53093-41-7)	**	10.00±0.02	PE	4003
$C_7H_{11}O_2Br^+$	$C_5H_8(Br)OCOCH_3$ (Cyclopentanol, 2-bromo-, acetate, *trans*-) (RN-CAS Registry Number 53093-42-8)	**	10.07±0.02	PE	4003
$C_8H_7O_2Br^+$	$C_6H_4BrOOCCH_3$ (Phenol, 2-bromo-, acetate) (RN-CAS Registry Number 1829-37-4)	**	8.66±0.03	EI	3483
$C_8H_7O_2Br^+$	$C_6H_4BrOOCCH_3$ (Phenol, 3-bromo-, acetate) (RN-CAS Registry Number 35065-86-2)	**	8.79±0.2	EI	3484
$C_8H_7O_2Br^+$	$C_6H_4BrOOCCH_3$ (Phenol, 4-bromo-, acetate) (RN-CAS Registry Number 1927-95-3)	**	8.42±0.03	EI	3483
$C_8H_7O_2Br^+$	$C_6H_4BrOOCCH_3$ (Phenol, 4-bromo-, acetate) (RN-CAS Registry Number 1927-95-3)	**	8.61±0.2	EI	3484
$C_6H_4OBr_2^+$	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,4-dibromo-, acetate) (RN-CAS Registry Number 36914-79-1)	$CH_2=C=O$	9.45±0.03	EI	3480
$C_6H_4OBr_2^+$	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,6-dibromo-, acetate) (RN-CAS Registry Number 28165-72-2)	$CH_2=C=O$	9.74±0.03	EI	3480
$C_8H_6O_2Br_2^+$	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,4-dibromo-, acetate) (RN-CAS Registry Number 36914-79-1)	**	8.21±0.03	EI	3480
$C_8H_6O_2Br_2^+$	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,6-dibromo-, acetate) (RN-CAS Registry Number 28165-72-2)	**	8.42±0.03	EI	3480
$C_8H_7NOBr^+$	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,4-dibromophenyl)-) (RN-CAS Registry Number 23373-04-8)		8.84±0.03	EI	3480

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_7NOBr^+$	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,6-dibromophenyl)-) (RN-CAS Registry Number 33098-80-5)		8.88±0.03	EI	3480
$C_8H_8NOBr^+$	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(2-bromophenyl)-) (RN-CAS Registry Number 614-76-6)	**	8.17±0.03	EI	3483
$C_8H_8NOBr^+$	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(4-bromophenyl)-) (RN-CAS Registry Number 103-88-8)	**	8.17±0.03	EI	3483
$C_6H_4NO_2Br^+$	$C_6H_4BrNO_2$ (Benzene, 1-bromo-3-nitro-) (RN-CAS Registry Number 585-79-5)	**	9.82±0.1	EI	3447
$C_6H_4NO_2Br^+$	$C_6H_4BrNO_2$ (Benzene, 1-bromo-4-nitro-) (RN-CAS Registry Number 586-78-7)	**	9.76±0.1	EI	3447
$C_8H_7NOBr_2^+$	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,4-dibromophenyl)-) (RN-CAS Registry Number 23373-04-8)	**	8.08±0.03	EI	3480
$C_8H_7NOBr_2^+$	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,6-dibromophenyl)-) (RN-CAS Registry Number 33098-80-5)	**	8.32±0.03	EI	3480
$BrF^+(X^2\Pi_{3/2})$	BrF (RN-CAS Registry Number 13863-59-7)	**	11.78±0.01	PE	3680
$BrF^+(X^2\Pi_{1/2})$	BrF (RN-CAS Registry Number 13863-59-7)	**	12.09±0.01	PE	3680
$BrF_3^+(^2B_2,^2A_1)$	BrF_3 (RN-CAS Registry Number 7787-71-5)	**	12.15±0.04	PE	3680
$BrF_3^+(^2A_1)$	BrF_3 (RN-CAS Registry Number 7787-71-5)	**	13.58±0.01	PE	3680
$BrF_3^+(^2B_1)$	BrF_3 (RN-CAS Registry Number 7787-71-5)	**	14.60±0.04 (V)	PE	3680
$BrF_3^+(^2A_2)$	BrF_3 (RN-CAS Registry Number 7787-71-5)	**	15.05±0.03 (V)	PE	3680
$BrF_3^+(^2B_2)$	BrF_3 (RN-CAS Registry Number 7787-71-5)	**	15.61±0.03 (V)	PE	3680
$BrF_3^+(^2B_1)$	BrF_3 (RN-CAS Registry Number 7787-71-5)	**	16.26±0.03	PE	3680
$BrF_3^+(^2A_1,^2B_2)$	BrF_3 (RN-CAS Registry Number 7787-71-5)	**	17.59±0.02 (V)	PE	3680
$BrF_3^+(^2B_1)$	BrF_3 (RN-CAS Registry Number 7787-71-5)	**	18.76±0.04 (V)	PE	3680
BrF_5^+	BrF_5 (RN-CAS Registry Number 7789-30-2)	**	13.172±0.005	PE	3655
CF_3Br^+	CF_3Br (RN-CAS Registry Number 75-63-8)	**	12.0 (V)	PE	3914

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CF_3Br^+(^2E)$	CF_3Br (RN-CAS Registry Number 75-63-8)	**	12.12±0.02 (V)	PE	4026
$CF_3Br^+(^2A_1)$	CF_3Br (RN-CAS Registry Number 75-63-8)	**	14.26±0.02 (V)	PE	4026
$CF_3Br^+(^2A_2)$	CF_3Br (RN-CAS Registry Number 75-63-8)	**	15.78±0.02 (V)	PE	4026
$CF_3Br^+(^2E)$	CF_3Br (RN-CAS Registry Number 75-63-8)	**	16.51±0.02 (V)	PE	4026
$CF_3Br^+(^2E)$	CF_3Br (RN-CAS Registry Number 75-63-8)	**	17.42±0.02 (V)	PE	4026
$CF_3Br^+(^2A_1)$	CF_3Br (RN-CAS Registry Number 75-63-8)	**	19.8 (V)	PE	4026
$C_2F_3Br^+$	C_2F_3Br (RN-CAS Registry Number 598-73-2)	**	9.67	PE	3589
$C_5H_8FBr^+$	C_5H_8FBr (Cyclopentane, 1-bromo-2-fluoro-, *cis*-) (RN-CAS Registry Number 51422-72-1)	**	10.10±0.02	PE	4003
$C_5H_8FBr^+$	C_5H_8FBr (Cyclopentane, 1-bromo-2-fluoro-, *trans*-) (RN-CAS Registry Number 51422-73-2)	**	10.25±0.02	PE	4003
$C_6H_{10}FBr^+$	$C_6H_{10}FBr$ (Cyclohexane, 1-bromo-2-fluoro-, *cis*-) (RN-CAS Registry Number 51422-74-3)	**	10.04±0.02	PE	4003
$C_6H_{10}FBr^+$	$C_6H_{10}FBr$ (Cyclohexane, 1-bromo-2-fluoro-, *trans*-) (Rn 17170-96-6)	**	10.18±0.02	PE	4003
$C_{12}H_8FBr^+$	$C_6H_4(Br)C_6H_4F$ (1,1′-Biphenyl, 4-bromo-4′-fluoro-) (RN-CAS Registry Number 398-21-0)	**	8.10±0.02	PE	3702
$SiBr^+$	SiBr (RN-CAS Registry Number 14791-57-2)	**	7.3	D	3558
$SiH_3Br^+(^2E)$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	10.90 (V)	PE	3511
$SiH_3Br^+(^2E_{3/2})$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	10.96±0.02 (V)	PE	3510
SiH_3Br^+	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	11.03±0.05 (V)	PE	3502
$SiH_3Br^+(^2E_{1/2})$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	11.10±0.02 (V)	PE	3510
$SiH_3Br^+(^2A_1)$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	12.85±0.02 (V)	PE	3510
$SiH_3Br^+(^2A_1)$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	12.96 (V)	PE	3511
$SiH_3Br^+(^2E)$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	13.3±0.1 (V)	PE	3510

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SiH_3Br^+(^2E)$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	13.43 (V)	PE	3511
$SiH_3Br^+(^2A_1)$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	18.04 (V)	PE	3511
$SiH_3Br^+(^2A_1)$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	18.1±0.1 (V)	PE	3510
$SiH_3Br^+(^2A_1)$	SiH_3Br (RN-CAS Registry Number 13465-73-1)	**	19.5±0.1 (V)	PE	3510
$SiH_2Br_2^+$	SiH_2Br_2 (RN-CAS Registry Number 13768-94-0)	**	10.92±0.02 (V)	PE	3510
$C_5H_9SiBr^+$	$(CH_3)_3SiC{\equiv}CBr$ (RN-CAS Registry Number 18243-59-9)	**	9.4±0.1	PE	4002
$SiF_3Br^+(^2E)$	SiF_3Br (RN-CAS Registry Number 14049-39-9)	**	12.46±0.02 (V)	PE	4026
$SiF_3Br^+(^2A_1)$	SiF_3Br (RN-CAS Registry Number 14049-39-9)	**	14.55±0.02 (V)	PE	4026
$SiF_3Br^+(^2A_2)$	SiF_3Br (RN-CAS Registry Number 14049-39-9)	**	16.10±0.02 (V)	PE	4026
$SiF_3Br^+(^2E)$	SiF_3Br (RN-CAS Registry Number 14049-39-9)	**	16.63±0.02 (V)	PE	4026
$SiF_3Br^+(^2E)$	SiF_3Br (RN-CAS Registry Number 14049-39-9)	**	17.36±0.02 (V)	PE	4026
$SiF_3Br^+(^2A_1)$	SiF_3Br (RN-CAS Registry Number 14049-39-9)	**	18.10±0.02 (V)	PE	4026
$SiF_3Br^+(^2E)$	SiF_3Br (RN-CAS Registry Number 14049-39-9)	**	18.80±0.02 (V)	PE	4026
$SiF_3Br^+(^2A_1)$	SiF_3Br (RN-CAS Registry Number 14049-39-9)	**	20.80±0.02 (V)	PE	4026
PBr^+	PBr_3 (RN-CAS Registry Number 7789-60-8)		14.2±0.2	EDD	3556
PBr_2^+	PBr_3 (RN-CAS Registry Number 7789-60-8)	Br	11.2±0.1	EDD	3556
$PBr_3^+(^2A_1)$	PBr_3 (RN-CAS Registry Number 7789-60-8)	**	9.96 (V)	PE	4023
$PBr_3^+(^2A_1)$	PBr_3 (RN-CAS Registry Number 7789-60-8)	**	10.00±0.03 (V)	PE	3669
$PBr_3^+(^2A_2)$	PBr_3 (RN-CAS Registry Number 7789-60-8)	**	10.61 (V)	PE	4023
$PBr_3^+(^2A_2)$	PBr_3 (RN-CAS Registry Number 7789-60-8)	**	10.67±0.03 (V)	PE	3669
$PBr_3^+(^2E_{3/2})$	PBr_3 (RN-CAS Registry Number 7789-60-8)	**	10.83 (V)	PE	4023
$PBr_3^+(^2E)$	PBr_3 (RN-CAS Registry Number 7789-60-8)	**	10.87±0.03 (V)	PE	3669
$PBr_3^+(^2E_{1/2})$	PBr_3 (RN-CAS Registry Number 7789-60-8)	**	11.16 (V)	PE	4023

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$PBr_3^+(^2E)$	PBr_3 (RN–CAS Registry Number 7789–60–8)	**	11.79 (V)	PE	4023
$PBr_3^+(^2E)$	PBr_3 (RN–CAS Registry Number 7789–60–8)	**	11.85±0.03 (V)	PE	3669
$PBr_3^+(^2A_1)$	PBr_3 (RN–CAS Registry Number 7789–60–8)	**	13.09±0.03 (V)	PE	3669
$PBr_3^+(^2A_1)$	PBr_3 (RN–CAS Registry Number 7789–60–8)	**	13.13 (V)	PE	4023
$PBr_3^+(^2E)$	PBr_3 (RN–CAS Registry Number 7789–60–8)	**	14.09±0.03 (V)	PE	3669
$PBr_3^+(^2E)$	PBr_3 (RN–CAS Registry Number 7789–60–8)	**	14.12 (V)	PE	4023
PBr_3^+	PBr_3 (RN–CAS Registry Number 7789–60–8)	**	10.1±0.1	EDD	3556
$POBr_3^+(^2E_{3/2})$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	10.75±0.02	PE	3835
$POBr_3^+(^2E_{3/2})$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	10.99 (V)	PE	4023
$POBr_3^+(^2E)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.03±0.03 (V)	PE	3669
$POBr_3^+(^2E_{1/2})$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.13±0.02 (V)	PE	3835
$POBr_3^+(^2E_{1/2})$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.13 (V)	PE	4023
$POBr_3^+(^2A_2)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.36 (V)	PE	4023
$POBr_3^+(^2A_2)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.38±0.02 (V)	PE	3835
$POBr_3^+(^2A_2)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.38±0.03 (V)	PE	3669
$POBr_3^+(^2E_{3/2})$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.73 (V)	PE	4023
$POBr_3^+(^2E_{3/2})$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.74±0.02 (V)	PE	3835
$POBr_3^+(^2E)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.75±0.03 (V)	PE	3669
$POBr_3^+(^2E_{1/2})$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.97 (V)	PE	4023
$POBr_3^+(^2E_{1/2})$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	11.98±0.02 (V)	PE	3835
$POBr_3^+(^2A_1)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	12.39 (V)	PE	4023
$POBr_3^+(^2A_1)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	12.41±0.03 (V)	PE	3669
$POBr_3^+(^2A_1)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	12.43±0.02 (V)	PE	3835
$POBr_3^+(^2E)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	12.60±0.03 (V)	PE	3669
$POBr_3^+(^2E)$	$POBr_3$ (RN–CAS Registry Number 7789–59–5)	**	12.61 (V)	PE	4023

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$POBr_3^+(^2E_{3/2}, ^2E_{1/2})$	$POBr_3$ (RN-CAS Registry Number 7789-59-5)	**	12.66±0.03 (V)	PE	3835
$POBr_3^+(^2A_1)$	$POBr_3$ (RN-CAS Registry Number 7789-59-5)	**	14.37±0.02	PE	3835
$POBr_3^+(^2A_1)$	$POBr_3$ (RN-CAS Registry Number 7789-59-5)	**	14.57±0.03 (V)	PE	3669
$POBr_3^+(^2A_1)$	$POBr_3$ (RN-CAS Registry Number 7789-59-5)	**	14.60 (V)	PE	4023
$POBr_3^+(^2E)$	$POBr_3$ (RN-CAS Registry Number 7789-59-5)	**	15.34±0.03 (V)	PE	3669
$POBr_3^+(^2E)$	$POBr_3$ (RN-CAS Registry Number 7789-59-5)	**	15.35 (V)	PE	4023
$POBr_3^+(^2E_{3/2}, ^2E_{1/2})$	$POBr_3$ (RN-CAS Registry Number 7789-59-5)	**	15.39±0.02 (V)	PE	3835
PF_2Br^+	PF_2Br (RN-CAS Registry Number 15597-40-7)	**	11.08±0.1 (V)	PE	3662
$C_4H_3SBr^+$	C_4H_3SBr (Thiophene, 2-bromo-) (RN-CAS Registry Number 1003-09-4)	**	8.664±0.005	PE	3911
$C_4H_3SBr^+$	C_4H_3SBr (Thiophene, 2-bromo-) (RN-CAS Registry Number 1003-09-4)	**	8.664	PE	3645
$C_4H_3SBr^+$	C_4H_3SBr (Thiophene, 2-bromo-) (RN-CAS Registry Number 1003-09-4)	**	8.93±0.05	EI	3482
$C_4H_3SBr^+$	C_4H_3SBr (Thiophene, 2-bromo-) (RN-CAS Registry Number 1003-09-4)	**	8.80	CTS	3787
$C_4H_3SBr^+$	C_4H_3SBr (Thiophene, 3-bromo-) (RN-CAS Registry Number 872-31-1)	**	8.812±0.005	PE	3911
$C_4H_3SBr^+$	C_4H_3SBr (Thiophene, 3-bromo-) (RN-CAS Registry Number 872-31-1)	**	8.812	PE	3645
$C_4H_3SBr^+$	C_4H_3SBr (Thiophene, 3-bromo-) (RN-CAS Registry Number 872-31-1)	**	9.02±0.05	EI	3482
$SOBr_2^+$	$SOBr_2$ (RN-CAS Registry Number 507-16-4)	**	10.54 (V)	PE	3646
$SOBr_2^+$	$SOBr_2$ (RN-CAS Registry Number 507-16-4)	**	10.63 (V)	PE	3705
$SOBr_2^{+*}$	$SOBr_2$ (RN-CAS Registry Number 507-16-4)	**	10.92 (V)	PE	3705
$SOBr_2^{+*}$	$SOBr_2$ (RN-CAS Registry Number 507-16-4)	**	11.24 (V)	PE	3705
$SOBr_2^{+*}$	$SOBr_2$ (RN-CAS Registry Number 507-16-4)	**	11.68 (V)	PE	3705
$SOBr_2^+(^2A')$	$SOBr_2$ (RN-CAS Registry Number 507-16-4)	**	12.13 (V)	PE	3705

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SOBr_2^+(^2A'')$	$SOBr_2$	**	12.37 (V)	PE	3705
	(RN-CAS Registry Number 507-16-4)				
$SOBr_2^+(^2A')$	$SOBr_2$	**	14.70 (V)	PE	3705
	(RN-CAS Registry Number 507-16-4)				
$SOBr_2^+$*	$SOBr_2$	**	15.81 (V)	PE	3705
	(RN-CAS Registry Number 507-16-4)				
$SOBr_3^+(^2E_{3/2},^2E_{1/2})$	$SOBr_3$	**	9.41±0.02	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+(^2A_2)$	$SOBr_3$	**	10.92±0.01 (V)	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+(^2E_{3/2})$	$SOBr_3$	**	11.20±0.02 (V)	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+(^2E_{1/2})$	$SOBr_3$	**	11.42±0.01 (V)	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+(^2A_1)$	$SOBr_3$	**	11.83±0.01 (V)	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+(^2E_{3/2},^2E_{1/2})$	$SOBr_3$	**	12.20±0.01 (V)	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+(^2A_1)$	$SOBr_3$	**	13.68±0.02	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+(^2E_{3/2},^2E_{1/2})$	$SOBr_3$	**	14.68±0.02 (V)	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+$*	$SOBr_3$	**	~18.2 (V)	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+$*	$SOBr_3$	**	~18.9 (V)	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$SOBr_3^+$*	$SOBr_3$	**	~20.2 (V)	PE	3835
	(RN-CAS Registry Number XXXXX-XX-X)				
$PSBr_3^+(^2E)$	$PSBr_3$	**	9.82 (V)	PE	4023
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2E)$	$PSBr_3$	**	9.89±0.03 (V)	PE	3669
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2A_2)$	$PSBr_3$	**	10.86 (V)	PE	4023
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2A_2)$	$PSBr_3$	**	10.94±0.03 (V)	PE	3669
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2E_{3/2})$	$PSBr_3$	**	11.16 (V)	PE	4023
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2E)$	$PSBr_3$	**	11.21±0.03 (V)	PE	3669
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2E_{1/2})$	$PSBr_3$	**	11.38 (V)	PE	4023
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2A_1)$	$PSBr_3$	**	11.80 (V)	PE	4023
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2A_1)$	$PSBr_3$	**	11.87±0.03 (V)	PE	3669
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2E)$	$PSBr_3$	**	12.15 (V)	PE	4023
	(RN-CAS Registry Number 3931-89-3)				
$PSBr_3^+(^2E)$	$PSBr_3$	**	12.23±0.03 (V)	PE	3669
	(RN-CAS Registry Number 3931-89-3)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$PSBr_3^+(^2A_1)$	$PSBr_3$ (RN-CAS Registry Number 3931-89-3)	**	13.91 (V)	PE	4023
$PSBr_3^+(^2A_1)$	$PSBr_3$ (RN-CAS Registry Number 3931-89-3)	**	13.97±0.03 (V)	PE	3669
$PSBr_3^+(^2E)$	$PSBr_3$ (RN-CAS Registry Number 3931-89-3)	**	14.59 (V)	PE	4023
$PSBr_3^+(^2E)$	$PSBr_3$ (RN-CAS Registry Number 3931-89-3)	**	14.63±0.03 (V)	PE	3669
$C_5H_8ClBr^+$	C_5H_8ClBr (Cyclopentane, 1-bromo-2-chloro-, *cis*-) (RN-CAS Registry Number 37722-39-7)	**	10.13±0.02	PE	4003
$C_5H_8ClBr^+$	C_5H_8ClBr (Cyclopentane, 1-bromo-2-chloro-, *trans*-) (RN-CAS Registry Number 14376-82-0)	**	10.23±0.02	PE	4003
$C_6H_{10}ClBr^+$	$C_6H_{10}ClBr$ (Cyclohexane, 1-bromo-2-chloro-, *cis*-) (RN-CAS Registry Number 51422-75-4)	**	10.03±0.02	PE	4003
$C_6H_{10}ClBr^+$	$C_6H_{10}ClBr$ (Cyclohexane, 1-bromo-2-chloro-, *trans*-) (RN-CAS Registry Number 13898-96-9)	**	10.13±0.02	PE	4003
$PClBr^+$	$PClBr_2$ (RN-CAS Registry Number 13550-32-8) (TR-Other product(s) thermochemically reasonable)	Br	11.3±0.1	EDD	3556
PCl_2Br^+	PCl_2Br (RN-CAS Registry Number 13536-48-6)	**	10.4±0.1	EDD	3556
$PClBr_2^+$	$PClBr_2$ (RN-CAS Registry Number 13550-32-8)	**	10.2±0.1	EDD	3556
$C_5O_5BrMn^+$	$Mn(CO)_5Br$ (RN-CAS Registry Number 14516-54-2)	**	8.86 (V)	PE	3866
$C_6H_3NO_4MnBr^+$	*cis*-$BrMn(CO)_4(CCH_3)$ (RN-CAS Registry Number 37474-14-9)	**	8.26 (V)	PE	3866
$Cu_3Br_3^+$	Cu_3Br_3 (RN-CAS Registry Number 37190-22-0)	**	9.7	EI	3954
$Cu_4Br_3^+$	Cu_4Br_4 (RN-CAS Registry Number XXXXX-XX-X)		10.4	EI	3954
$Cu_4Br_4^+$	Cu_4Br_4 (RN-CAS Registry Number XXXXX-XX-X)	**	9.2	EI	3954
$ZnBr_2^+(^2\Pi_{3/2g})$	$ZnBr_2$ (RN-CAS Registry Number XXXXX-XX-X)	**	10.89±0.05 (V)	PE	3833
$ZnBr_2^+(^2\Pi_{1/2g})$	$ZnBr_2$ (RN-CAS Registry Number XXXXX-XX-X)	**	11.22±0.05 (V)	PE	3833

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$ZnBr_2^+(^2\Pi_u)$	$ZnBr_2$	**	11.40±0.05 (V)	PE	3833
	(RN-CAS Registry Number XXXXX-XX-X)				
$ZnBr_2^+(^2\Sigma_u)$	$ZnBr_2$	**	12.28±0.05 (V)	PE	3833
	(RN-CAS Registry Number XXXXX-XX-X)				
$ZnBr_2^+(^2\Sigma_g)$	$ZnBr_2$	**	13.55±0.05 (V)	PE	3833
	(RN-CAS Registry Number XXXXX-XX-X)				
$ZnBr_2^{+*}$	$ZnBr_2$	**	18.69±0.05 (V)	PE	3833
	(RN-CAS Registry Number XXXXX-XX-X)				
$ZnBr_2^+(^2\Pi_{3/2g})$	$ZnBr_2$	**	10.8 (V)	PE	3963
	(RN-CAS Registry Number 7699-45-8)				
$ZnBr_2^+(^2\Pi_{3/2u})$	$ZnBr_2$	**	11.1 (V)	PE	3963
	(RN-CAS Registry Number 7699-45-8)				
$ZnBr_2^+(^2\Pi_{1/2g})$	$ZnBr_2$	**	11.2 (V)	PE	3963
	(RN-CAS Registry Number 7699-45-8)				
$ZnBr_2^+(^2\Pi_{1/2u})$	$ZnBr_2$	**	11.4 (V)	PE	3963
	(RN-CAS Registry Number 7699-45-8)				
$ZnBr_2^+(^2\Sigma_u)$	$ZnBr_2$	**	12.3 (V)	PE	3963
	(RN-CAS Registry Number 7699-45-8)				
$ZnBr_2^+(^2\Sigma_g)$	$ZnBr_2$	**	13.0 (V)	PE	3963
	(RN-CAS Registry Number 7699-45-8)				
$GeH_3Br^+(^2E_{3/2})$	GeH_3Br	**	10.61±0.02 (V)	PE	3510
	(RN-CAS Registry Number 13569-43-2)				
GeH_3Br^+	GeH_3Br	**	10.72±0.05 (V)	PE	3502
	(RN-CAS Registry Number 13569-43-2)				
$GeH_3Br^+(^2E_{1/2})$	GeH_3Br	**	10.83±0.02 (V)	PE	3510
	(RN-CAS Registry Number 13569-43-2)				
$GeH_3Br^+(^2A_1)$	GeH_3Br	**	12.51±0.02 (V)	PE	3510
	(RN-CAS Registry Number 13569-43-2)				
$GeH_3Br^+(^2E)$	GeH_3Br	**	12.9±0.1 (V)	PE	3510
	(RN-CAS Registry Number 13569-43-2)				
$GeH_2Br_2^+$	GeH_2Br_2	**	10.69±0.02 (V)	PE	3510
	(RN-CAS Registry Number 13769-36-3)				
$Kr^+(^2P_{3/2})$	Kr	**	14.0010±0.0012	S	3881
	(RN-CAS Registry Number 7439-90-9)				
(RS-Average of eight Rydberg series limits)					
$Kr^+(^2P_{3/2})$	Kr	**	13.992±0.002	TPE	3525
	(RN-CAS Registry Number 7439-90-9)				
$Kr^+(^2P_{1/2})$	Kr	**	14.661±0.002	TPE	3525
	(RN-CAS Registry Number 7439-90-9)				
$Kr^+(^2P_{3/2})$	Kr	**	13.974±0.004	PEN	3541
	(RN-CAS Registry Number 7439-90-9)				
$KrF_2^+(^2\Pi_u)$	KrF_2	**	13.06-13.16	PE	3642
	(RN-CAS Registry Number 13773-81-4)				
$KrF_2^+(^2\Pi_{3/2u})$	KrF_2	**	13.34 (V)	PE	3501
	(RN-CAS Registry Number 13773-81-4)				
$KrF_2^+(^2\Pi_{1/2u})$	KrF_2	**	13.47 (V)	PE	3501
	(RN-CAS Registry Number 13773-81-4)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$KrF_2^+(^2\Sigma_g)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	13.75	PE	3642
$KrF_2^+(^2\Sigma_g)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	13.90 (V)	PE	3501
$KrF_2^+(^2\Pi_g)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	14.0	PE	3642
$KrF_2^+(^2\Pi_g)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	14.37 (V)	PE	3501
$KrF_2^+(^2\Pi_u)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	16.25	PE	3642
$KrF_2^+(^2\Pi_u)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	16.92 (V)	PE	3501
$KrF_2^+(^2\Sigma_u)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	17.7 (V)	PE	3501
$KrF_2^+(^2\Sigma_u)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	17.7 (V)	PE	3642
$KrF_2^+(^2\Sigma_g?)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	22.0	PE	3642
$KrF_2^+(^2\Sigma_g)$	KrF_2 (RN-CAS Registry Number 13773-81-4)	**	23.0 (V)	PE	3501
Rb^+	RbOH (RN-CAS Registry Number 1310-82-3)	OH	~10	EI	3461
Rb^+	RbCl (RN-CAS Registry Number 7791-11-9) (TV-Threshold value approximately corrected to 0°K)	Cl	8.695±0.03	PI	3536
Rb^+	RbBr (RN-CAS Registry Number 7789-39-1) (TV-Threshold value approximately corrected to 0°K)	Br	8.12±0.03	PI	3536
Rb^+	RbI (RN-CAS Registry Number 7790-29-6) (TV-Threshold value approximately corrected to 0°K)	I	7.53±0.03	PI	3536
Rb^{+2}	Rb^+ (RN-CAS Registry Number 22537-38-8)	**	27.285±0.003	S	3924
$RbCl^+$	RbCl (RN-CAS Registry Number 7791-11-9) (HB-Threshold value approximately corrected for hot bands)	**	8.50±0.03	PI	3536
$RbBr^+$	RbBr (RN-CAS Registry Number 7789-39-1) (HB-Threshold value approximately corrected for hot bands)	**	7.935±0.03	PI	3536
Rb_2Br^+	Rb_2Br_2 (RN-CAS Registry Number 12409-58-4) (TV-Threshold value approximately corrected to 0°K)	Br	8.485±0.05	PI	3536
Sr^+	Sr (RN-CAS Registry Number 7440-24-6)	**	~5.7	EI	3486

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Sr^{+2}	Sr	**	16	EI	3486
	(RN–CAS Registry Number 7440–24–6)				
Sr^{+3}	Sr	**	~60	EI	3486
	(RN–CAS Registry Number 7440–24–6)				
$Sr^{+3}(^2P_{3/2})$	Sr^{+2}	**	42.88388±0.00019	S	3926
	(RN–CAS Registry Number 22537–39–9)				
$Sr^{+3}(^2P_{1/2})$	Sr^{+2}	**	44.08999±0.00019	D	3926
	(RN–CAS Registry Number 22537–39–9)				
$SrCl^+$	SrCl	**	5.10±0.06	SI	3526
	(RN–CAS Registry Number 14989–33–4)				
Y^+	Y	**	6.7±0.5	EI	3600
	(RN–CAS Registry Number 7440–65–5)				
$Y^{+6}(^4S_{3/2})$	Y^{+5}	**	89.26±0.25	S	3917
	(RN–CAS Registry Number 39956–79–1)				
$Y^{+6}(^2D_{5/2})$	Y^{+5}	**	92.57±0.20	S	3917
	(RN–CAS Registry Number 39956–79–1)				
(RS–Average of two Rydberg series limits)					
YS^+	YS	**	6.0	EI	4001
	(RN–CAS Registry Number 12210–79–6)				
YSe^+	YSe	**	7.9±0.5	EI	3600
	(RN–CAS Registry Number 12067–44–6)				
$Zr^{+5}(^2P_{3/2})$	$Zr^{+4}(^1S_0)$	**	78.95±0.01	S	3591
	(RN–CAS Registry Number 15543–40–5)				
$Zr^{+5}(^2P_{1/2})$	$Zr^{+4}(^1S_0)$	**	80.89±0.01	S	3591
	(RN–CAS Registry Number 15543–40–5)				
Zr^{+6}	Zr^{+5}	**	95.8±0.6	S	3895
	(RN–CAS Registry Number 20679–76–9)				
Zr^{+6}	Zr^{+5}	**	95.8±0.6	S	3912
	(RN–CAS Registry Number 20679–76–9)				
$ZrCl^+$	$ZrCl_4$		21.9	EI	3783
	(RN–CAS Registry Number 10026–11–6)				
$ZrCl_2^+$	$ZrCl_4$		16.8	EI	3783
	(RN–CAS Registry Number 10026–11–6)				
$ZrCl_3^+$	$ZrCl_4$		12.3	EI	3783
	(RN–CAS Registry Number 10026–11–6)				
$ZrCl_4^+$	$ZrCl_4$	**	10.6	EI	3783
	(RN–CAS Registry Number 10026–11–6)				
$Nb^{+6}(^2P_{3/2})$	$Nb^{+5}(^1S_0)$	**	102.73±0.01	S	3591
	(RN–CAS Registry Number 22537–41–3)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Nb^{+6}(^2P_{1/2})$	$Nb^{+5}(^1S_0)$ (RN-CAS Registry Number 22537-41-3)	**	105.11±0.01	S	3591
Nb^{+7}	Nb^{+6} (RN-CAS Registry Number 23844-85-1)	**	118.9±0.07	PE	3894
NbF_3^+	NbF_4? (RN-CAS Registry Number 13842-88-1)	F?	21.0	EI	3783
NbF_4^+	NbF_4? (RN-CAS Registry Number 13842-88-1)	**	14.0	EI	3783
$Nb_2F_9^+$	Nb_2F_9? (RN-CAS Registry Number XXXXX-XX-X)	**	14.2	EI	3783
$Nb_3F_{14}^+$	Nb_3F_{14}? (RN-CAS Registry Number XXXXX-XX-X)	**	13.0	EI	3783
$NbCl^+$	$NbCl_5$ (RN-CAS Registry Number 10026-12-7)		24.2	EI	3783
$NbCl_2^+$	$NbCl_5$ (RN-CAS Registry Number 10026-12-7)		19.5	EI	3783
$NbCl_3^+$	$NbCl_5$ (RN-CAS Registry Number 10026-12-7)		14.6	EI	3783
$NbCl_4^+$	$NbCl_5$ (RN-CAS Registry Number 10026-12-7)		10.7	EI	3783
Mo^+	$((CH_3)_2N)_3PMo(CO)_5$ (RN-CAS Registry Number 14971-43-8		18.4±0.05	EI	3952
Mo^+	$(((CH_3)_2N)_3P)_2Mo(CO)_4$ (RN-CAS Registry Number 27342-90-1)		15.3±0.05	EI	3952
Mo^+	$MoCl_5$ (RN-CAS Registry Number 10241-05-1)		23.1	EI	3783
$Mo^{+7}(^2P_{3/2})$	$Mo^{+6}(^1S_0)$ (RN-CAS Registry Number 16065-87-5)	**	126.81±0.01	S	3591
$Mo^{+7}(^2P_{1/2})$	$Mo^{+6}(^1S_0)$ (RN-CAS Registry Number 16065-87-5)	**	129.70±0.01	S	3591
Mo^{+8}	Mo^{+7} (RN-CAS Registry NumBer 20908-14-9)	**	144.0±1.0	PE	3893
$C_6O_6Mo^+$	$Mo(CO)_6$ (RN-CAS Registry Number 13939-06-5)	**	8.50±0.02 (V)	PE	3979
$C_6H_{18}N_3PMo^+$	$((CH_3)_2N)_3PMo(CO)_5$ (RN-CAS Registry Number 14971-43-8	5CO	10.3±0.05	EI	3952

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{18}N_3PMo^+$	$(((CH_3)_2N)_3P)_2Mo(CO)_4$ (RN–CAS Registry Number 27342–90–1)		16.1±0.05	EI	3952
$C_{12}H_{36}N_6P_2Mo^+$	$(((CH_3)_2N)_3P)_2Mo(CO)_4$ (RN–CAS Registry Number 27342–90–1)	4CO	14.8±0.05	EI	3952
$C_7H_{18}N_3OPMo^+$	$((CH_3)_2N)_3PMo(CO)_5$ (RN–CAS Registry Number 14971–43–8	4CO	12.1±0.05	EI	3952
$C_8H_{18}N_3O_2PMo^+$	$((CH_3)_2N)_3PMo(CO)_5$ (RN–CAS Registry Number 14971–43–8	3CO	9.9±0.05	EI	3952
$C_9H_{18}N_3O_3PMo^+$	$((CH_3)_2N)_3PMo(CO)_5$ (RN–CAS Registry Number 14971–43–8)	2CO	9.6±0.05	EI	3952
$C_{10}H_{18}N_3O_4PMo^+$	$((CH_3)_2N)_3PMo(CO)_5$ (RN–CAS Registry Number 14971–43–8)	CO	7.8±0.05	EI	3952
$C_{11}H_{18}N_3O_5PMo^+$	$((CH_3)_2N)_3PMo(CO)_5$ (RN–CAS Registry Number 14971–43–8)	**	5.7±0.05	EI	3952
$C_{13}H_{36}N_6OP_2Mo^+$	$(((CH_3)_2N)_3P)_2Mo(CO)_4$ (RN–CAS Registry Number 27342–90–1)	3CO	14.0±0.05	EI	3952
$C_{14}H_{36}N_6O_2P_2Mo^+$	$(((CH_3)_2N)_3P)_2Mo(CO)_4$ (RN–CAS Registry Number 27342–90–1)	2CO	11.2±0.05	EI	3952
$C_{15}H_{36}N_6O_3P_2Mo^+$	$(((CH_3)_2N)_3P)_2Mo(CO)_4$ (RN–CAS Registry Number 27342–90–1)	CO	11.1±0.05	EI	3952
$C_{16}H_{36}N_6O_4P_2Mo^+$	$(((CH_3)_2N)_3P)_2Mo(CO)_4$ (RN–CAS Registry Number 27342–90–1)	**	6.8±0.05	EI	3952
$MoCl^+$	$MoCl_5$ (RN–CAS Registry Number 10241–05–1)		20.3	EI	3783
$MoCl_2^+$	$MoCl_5$ (RN–CAS Registry Number 10241–05–1)		17.1	EI	3783
$MoCl_3^+$	$MoCl_5$ (RN–CAS Registry Number 10241–05–1)		12.9	EI	3783
$MoCl_4^+$	$MoCl_5$ (RN–CAS Registry Number 10241–05–1)		10.1	EI	3783
$MoCl_5^+$	$MoCl_5$ (RN–CAS Registry Number 10241–05–1)	**	9.2	EI	3783
$MoO_2Cl_2^+$	MoO_2Cl_2 (RN–CAS Registry Number 13637–68–8)	**	12.2± ~0.5	EI	3604

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$MoOCl_3^+$	$MoOCl_4$ (RN-CAS Registry Number 13814-75-0)		10.9±0.5	EI	3604
$MoOCl_4^+$	$MoOCl_4$ (RN-CAS Registry Number 13814-75-0)	**	10.6±1	EI	3604
$MoO_2Br_2^+$	MoO_2Br_2 (RN-CAS Registry Number 13595-98-7)	**	10.9±~0.5	EI	3604
MoO_2ClBr^+	MoO_2ClBr (RN-CAS Registry Number XXXXX-XX-X)	**	11.1±~0.5	EI	3604
Ru^+	$(C_5H_5)_2Ru$ (Ruthenocene) (RN-CAS Registry Number 1287-13-4) (MT-Metastable transition(s) observed)	$(C_5H_5)_2$	16.50±0.25	DC	3628
$C_3H_3Ru^+$	$(C_5H_5)_2Ru$ (Ruthenocene) (RN-CAS Registry Number 1287-13-4)		19.6±0.2	EI	3628
$C_5H_5Ru^+$	$(C_5H_5)_2Ru$ (Ruthenocene) (RN-CAS Registry Number 1287-13-4) (MT-Metastable transition(s) observed)	C_5H_5	14.75±0.25	DC	3628
$C_5H_5Ru^+$	$(C_5H_5)_2Ru$ (Ruthenocene) (RN-CAS Registry Number 1287-13-4) (PC-Appearance potential of the corresponding metastable transition)	C_5H_5	14.2±1	EI	3628
$C_5H_5Ru^+$	$(C_5H_5)_2Ru$ (Ruthenocene) (RN-CAS Registry Number 1287-13-4)	$C_3H_3+C_2H_2$	16.5±1	EI	3628
$C_8H_8Ru^+$	$(C_5H_5)_2Ru$ (Ruthenocene) (RN-CAS Registry Number 1287-13-4) (PC-Appearance potential of the corresponding metastable transition)	C_2H_2	14.1±1	EI	3628
$C_8H_8Ru^+$	$(C_5H_5)_2Ru$ (Ruthenocene) (RN-CAS Registry Number 1287-13-4) (MT-Metastable transition(s) observed)	C_2H_2	14.6±0.2	EI	3628
$C_{10}H_{10}Ru^+$	$(C_5H_5)_2Ru$ (Ruthenocene) (RN-CAS Registry Number 1287-13-4)	**	7.45 (V)	PE	3688
$C_{10}H_{10}Ru^+$	$(C_5H_5)_2Ru$ (Ruthenocene) (RN-CAS Registry Number 1287-13-4)	**	7.50±0.25	DC	3628

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{14}Ru^+$	$(C_5H_4CH_3)_2Ru$ (Ruthenocene, 1,1′-dimethyl-) (RN-CAS Registry Number 33292-37-4)	**	7.25 (V)	PE	3688
$RuO_4^+(^2T_2)$	RuO_4 (RN-CAS Registry Number 20427-56-9)	**	12.09	PE	3836
RuO_4^+	RuO_4 (RN-CAS Registry Number 20427-56-9)	**	12.16	PE	3838
$RuO_4^+(^2T_1)$	RuO_4 (RN-CAS Registry Number 20427-56-9)	**	12.91	PE	3836
$RuO_4^+(^2A_1)$	RuO_4 (RN-CAS Registry Number 20427-56-9)	**	13.78	PE	3836
$RuO_4^+(^2E)$	RuO_4 (RN-CAS Registry Number 20427-56-9)	**	13.88	PE	3836
$RuO_4^+(^2T_2)$	RuO_4 (RN-CAS Registry Number 20427-56-9)	**	16.03 (V)	PE	3836
$C_{15}H_3O_6F_{18}Ru^+$	$(CF_3COCHCOCF_3)_3Ru$ (Ruthenium, tris(1,1,1,5,5,5-hexafluoropentanedionato-*O*,*O*′)-, (*OC*-6-11)-) (RN-CAS Registry Number 16827-63-7)	**	8.85±0.07 (V)	PE	3682
RhC^+	RhC (RN-CAS Registry Number 12127-42-3)	**	8.1±0.6	EI	3978
RhC^+	RhC (RN-CAS Registry Number 12127-42-3)	**	8.6±0.04	EI	3902
RhC_2^+	RhC_2 (RN-CAS Registry Number 37306-47-1)	**	8.1±0.04	EI	3902
$C_7H_7O_4Rh^+$	$(CH_3COCHCOCH_3)Rh(CO)_2$ (Dicarbonyl(2,4-pentanedionato)rhodium) (RN-CAS Registry Number 14874-82-9)	**	8.6±0.1	EI	3497
$C_{12}H_9O_4Rh^+$	$(CH_3COCHCOC_6H_5)Rh(CO)_2$ (Dicarbonyl(1-phenyl-1,3-butanedionato)rhodium) (RN-CAS Registry Number 24151-55-1)	**	8.4±0.1	EI	3497
$C_{17}H_{11}O_4Rh^+$	$(C_6H_5COCHCOC_6H_5)Rh(CO)_2$ (Dicarbonyl(1,3-diphenyl-1,3-propanedionato)rhodium) (RN-CAS Registry Number 24151-56-2)	**	8.4±0.1	EI	3497
$C_{15}H_{21}O_6Rh^+$	$(CH_3COCHCOCH_3)_3Rh$ (Tris(2,4-pentanedionato)rhodium) (RN-CAS Registry Number 14284-92-5)	**	7.34±0.01	EI	3496
$C_{15}H_{21}O_6Rh^+$	$(CH_3COCHCOCH_3)_3Rh$ (Tris(2,4-pentanedionato)rhodium) (RN-CAS Registry Number 14284-92-5)	**	7.75±0.05	EI	3497
$C_{15}H_{20}NO_8Rh^+$	$((CH_3CO)_2CH)_2Rh(NO_2C(OCCH_3)_2)$ (*OC*-6-22-(3-Nitro-2,4-pentanedionato-O^2,O^4)bis(2,4-pentanedionato-*O*,*O*′)rhodium) (RN-CAS Registry Number 36530-11-7)	**	7.65±0.02	EI	3496

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{19}N_2O_{10}Rh^+$	$((CH_3CO)_2CNO_2)_2Rh(CH(OCCH_3)_2)$ (*OC*-6-21-Bis(3-nitro-2,4-pentanedionato-O^2,O^4)(2,4-pentanedionato-*O,O'*)rhodium) (RN-CAS Registry Number 36530-12-8)	**	7.97±0.03	EI	3496
$C_{15}H_{18}N_3O_{12}Rh^+$	$(CH_3COC(NO_2)COCH_3)_3Rh$ (*OC*-6-11-Tris(3-nitro-2,4-pentanedionato-O^2,O^4)rhodium) (RN-CAS Registry Number 36530-13-9)	**	8.39±0.04	EI	3496
$C_7H_4O_4F_3Rh^+$	$(CH_3COCHCOCF_3)Rh(CO)_2$ (Dicarbonyl(1,1,1-trifluoro-2,4-pentanedionato)rhodium) (RN-CAS Registry Number 18517-13-0)	**	8.85±0.05	EI	3497
$C_7HO_4F_6Rh^+$	$(CF_3COCHCOCF_3)Rh(CO)_2$ (Dicarbonyl(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)rhodium) (RN-CAS Registry Number 18517-12-9)	**	9.2±0.1	EI	3497
$RhP_4F_{12}H^+$	$HRh(PF_3)_4$ (RN-CAS Registry Number 16949-48-7)	**	9.7	PE	4021
Pd^+	Pd (RN-CAS Registry Number 7440-05-3)	**	8.0±0.4	EI	3597
$C_6H_{10}Pd^+$	$(C_3H_5)_2Pd$ (Palladium, bis(η^3-2-propenyl)-) (RN-CAS Registry Number 12240-87-8)	**	7.24±0.03	PE	3711
$C_{12}H_{18}N_2O_2Pd^+$	$C_{12}H_{18}O_2N_2Pd$ (Palladium, [[4,4'-(1,2-ethanediyldinitrilo)bis[2-pentanonato]](2$^-$)-*N,N',O,O'*]- (*SP*-4-2)-) (RN-CAS Registry Number 38337-62-1)	**	6.88 (V)	PE	3822
Ag^+	Ag (RN-CAS Registry Number 7440-22-4)	**	7.51±0.07	RPD	3574
Ag^+	Ag (RN-CAS Registry Number 7440-22-4)	**	7.6	EI	3472
Ag^+	Ag (RN-CAS Registry Number 7440-22-4)	**	7.8±0.2	EI	3609
Ag^+	AgCl (RN-CAS Registry Number 7783-90-6)		11.1±0.3	EI	3622
Ag^+	Ag_3Cl_3 (RN-CAS Registry Number 12444-97-2)		14.5	EI	3622
Ag^+	Ag_3Br_2? (RN-CAS Registry Number 11078-32-3)		11.2±0.4	EI	3467
Ag^+	Ag_3Br_3? (RN-CAS Registry Number 11078-33-4)		11.2±0.4	EI	3467
Ag_2^+	Ag_2 (RN-CAS Registry Number 12187-06-3)	**	7.35±0.05	RPD	3574
Ag_2^+	Ag_2 (RN-CAS Registry Number 12187-06-3)	**	6.4±0.7	EI	3440
Ag_2^+	Ag_2 (RN-CAS Registry Number 12187-06-3)	**	7.4±0.8	EI	3597

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Ag_2^+	Ag_2 (RN–CAS Registry Number 12187–06–3)	**	8.0±1.0	EI	3609
Ag_2^+	Ag_3Cl_3 (RN–CAS Registry Number 12444–97–2)		18.0±0.5	EI	3622
Ag_2^+	Ag_3Br_2? (RN–CAS Registry Number 11078–32–3)		12.5±1.0	EI	3467
Ag_2^+	Ag_3Br_3? (RN–CAS Registry Number 11078–33–4)		12.5±1.0	EI	3467
Ag_3^+	Ag_3Cl_3 (RN–CAS Registry Number 12444–97–2)		18.4±0.5	EI	3605
$NaAg^+$	NaAg (RN–CAS Registry Number 38782–42–2)	**	⩽9±2	EI	3609
$AgAl^+$	AgAl (RN–CAS Registry Number 12379–67–8)	**	7.8±0.5	EI	3796
$AgPO_2^+$	$AgPO_2$ (RN–CAS Registry Number XXXXX–XX–X)	**	9.3	EI	4098
$AgCl^+$	AgCl (RN–CAS Registry Number 7783–90–6)	**	10.8±0.4	EI	3622
$AgCl^+$	AgCl (RN–CAS Registry Number 7783–90–6)	**	11.3±0.5	EI	3605
$AgCl^+$	Ag_3Cl_3 (RN–CAS Registry Number 12444–97–2)		14.2	EI	3622
Ag_2Cl^+	Ag_2Cl_2? (RN–CAS Registry Number XXXXX–XX–X)		10.8±0.5	EI	3622
Ag_2Cl^+	Ag_3Cl_3 (RN–CAS Registry Number 12444–97–2)		12.9	EI	3622
$Ag_2Cl_2^+$	Ag_2Cl_2 (RN–CAS Registry Number XXXXX–XX–X)	**	10.3±0.5	EI	3605
Ag_3Cl^+	Ag_3Cl_3 (RN–CAS Registry Number 12444–97–2)		14.9±0.5	EI	3605
$Ag_3Cl_2^+$	Ag_3Cl_3 (RN–CAS Registry Number 12444–97–2)		11.1±0.3	EI	3622
$Ag_3Cl_2^+$	Ag_3Cl_3 (RN–CAS Registry Number 12444–97–2)		11.1±0.5	EI	3605
$Ag_3Cl_3^+$	Ag_3Cl_3 (RN–CAS Registry Number 12444–97–2)	**	10.0±0.5	EI	3605
$Ag_3Cl_3^+$	Ag_3Cl_3 (RN–CAS Registry Number 12444–97–2)	**	10.4±0.3	EI	3622
$Ag_4Cl_3^+$	Ag_4Cl_4 (RN–CAS Registry Number XXXXX–XX–X)		10.9±0.5	EI	3605

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Ag_4Cl_4^+$	Ag_4Cl_4 (RN-CAS Registry Number XXXXX-XX-X)	**	9.6±1.0	EI	3605
$Ag_5Cl_4^+$	Ag_5Cl_5? (RN-CAS Registry Number XXXXX-XX-X)		10.0±1.5	EI	3605
$AgBr^+$	AgBr (RN-CAS Registry Number 7785-23-1)	**	9.5±0.3	EI	3467
Ag_2Br^+	Ag_3Br_2? (RN-CAS Registry Number 11078-32-3)		11.4±0.7	EI	3467
Ag_2Br^+	Ag_3Br_3? (RN-CAS Registry Number 11078-33-4)		11.4±0.7	EI	3467
$Ag_3Br_2^+$	Ag_3Br_2 (RN-CAS Registry Number 11078-32-3)	**	10.0±0.2	EI	3467
$Ag_3Br_3^+$	Ag_3Br_3 (RN-CAS Registry Number 11078-33-4)	**	9.8±0.2	EI	3467
$Cd^+(^2S_{1/2})$	Cd (RN-CAS Registry Number 7440-43-9)	**	8.99	PEN	3537
$Cd^+(^2P_{1/2})$	Cd (RN-CAS Registry Number 7440-43-9)	**	14.5	PEN	3537
$Cd^+(^2P_{3/2})$	Cd (RN-CAS Registry Number 7440-43-9)	**	14.9	PEN	3537
$Cd^+(^2D_{5/2})$	Cd (RN-CAS Registry Number 7440-43-9)	**	17.6	PEN	3537
$Cd^+(^2D_{3/2})$	Cd (RN-CAS Registry Number 7440-43-9)	**	18.4	PEN	3537
$Cd^+(^2D_{3/2})$	Cd (RN-CAS Registry Number 7440-43-9)	**	20.2	PEN	3537
Cd^+	Cd (RN-CAS Registry Number 7440-43-9)	**	9.07±0.07	RPD	3745
$CdCl_2^+(^2\Pi_g)$	$CdCl_2$ (RN-CAS Registry Number 10108-64-2)	**	11.3 (V)	PE	3963
$CdCl_2^+$	$CdCl_2$ (RN-CAS Registry Number 10108-64-2)	**	11.44±0.05 (V)	PE	3833
$CdCl_2^+(^2\Pi_u)$	$CdCl_2$ (RN-CAS Registry Number 10108-64-2)	**	11.8 (V)	PE	3963
$CdCl_2^+(^2\Pi_u)$	$CdCl_2$ (RN-CAS Registry Number 10108-64-2)	**	11.93±0.05 (V)	PE	3833
$CdCl_2^+(^2\Sigma_u)$	$CdCl_2$ (RN-CAS Registry Number 10108-64-2)	**	12.4 (V)	PE	3963
$CdCl_2^+(^2\Sigma_u)$	$CdCl_2$ (RN-CAS Registry Number 10108-64-2)	**	12.53±0.05 (V)	PE	3833
$CdCl_2^+(^2\Sigma_g)$	$CdCl_2$ (RN-CAS Registry Number 10108-64-2)	**	13.1 (V)	PE	3963
$CdCl_2^+(^2\Sigma_g)$	$CdCl_2$ (RN-CAS Registry Number 10108-64-2)	**	13.12±0.05 (V)	PE	3833

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CdBr_2^+(^2\Pi_{3/2g})$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	10.3 (V)	PE	3963
$CdBr_2^+(^2\Pi_{3/2g})$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	10.58±0.05 (V)	PE	3833
$CdBr_2^+(^2\Pi_{3/2u})$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	10.6 (V)	PE	3963
$CdBr_2^+(^2\Pi_{1/2g})$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	10.7 (V)	PE	3963
$CdBr_2^+(^2\Pi_{1/2u})$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	10.8 (V)	PE	3963
$CdBr_2^+(^2\Pi_{1/2g})$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	10.94±0.05 (V)	PE	3833
$CdBr_2^+(^2\Pi_u)$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	11.15±0.05 (V)	PE	3833
$CdBr_2^+(^2\Sigma_u)$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	11.7 (V)	PE	3963
$CdBr_2^+(^2\Sigma_u)$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	11.85±0.05 (V)	PE	3833
$CdBr_2^+(^2\Sigma_g)$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	12.4 (V)	PE	3963
$CdBr_2^+(^2\Sigma_g)$	$CdBr_2$ (RN-CAS Registry Number 7789-42-6)	**	12.78±0.05 (V)	PE	3833
In^+	In (RN-CAS Registry Number 7440-74-6)	**	5.85±0.07	RPD	3745
In_2^+	In_2O? (RN-CAS Registry Number 12030-22-7)		12.9±0.5	EI	3491
InO^+	In_2O? (RN-CAS Registry Number 12030-22-7)	In?	14.8±0.5	EI	3491
In_2O^+	In_2O? (RN-CAS Registry Number 12030-22-7)	**	8.3±0.3	EI	3491
$InCl^+(X^2\Sigma)$	InCl (RN-CAS Registry Number 13465-10-6)	**	9.51	PE	3640
$InCl^+(^2\Pi)$	InCl (RN-CAS Registry Number 13465-10-6)	**	10.17	PE	3640
$InCl^+(^2\Sigma)$	InCl (RN-CAS Registry Number 13465-10-6)	**	12.82	PE	3640
$InBr^+(^2\Pi)$	InBr (RN-CAS Registry Number 14280-53-6)	**	6.62	PE	3640
$InBr^+(X^2\Sigma)$	InBr (RN-CAS Registry Number 14280-53-6)	**	9.09	PE	3640
$InBr^+(^2\Sigma)$	InBr (RN-CAS Registry Number 14280-53-6)	**	12.38	PE	3640
Sn^+	Sn (RN-CAS Registry Number 7440-31-5)	**	7.28±0.07	RPD	3745

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SnH_4^+(^2B_2)$	SnH_4 (RN-CAS Registry Number 2406-52-2)	**	10.75	PE	3716
$SnH_4^+(^2A_1)$	SnH_4 (RN-CAS Registry Number 2406-52-2)	**	16.68	PE	3716
$C_3H_9Sn^+$	$(CH_3)_4Sn$ (RN-CAS Registry Number 594-27-4)	CH_3	9.58±0.19	EI	3548
$C_3H_9Sn^+$	$(CH_3)_3CSn(CH_3)_3$ (RN-CAS Registry Number 3531-47-3)	$(CH_3)_3C$	9.32±0.16	EI	3548
$C_3H_9Sn^+$	$(CH_3)_3SnSn(CH_3)_3$ (RN-CAS Registry Number 661-69-8)	$(CH_3)_3Sn$	9.51±0.22	EI	3548
$C_3H_9Sn^+$	$(CH_3)_3SiSn(CH_3)_3$ (RN-CAS Registry Number 16393-88-7)	$(CH_3)_3Si$	9.80±0.24	EI	3548
$C_3H_9Sn^+$	$C_5H_5(CO)_3CrSn(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)chromium) (RN-CAS Registry Number 31854-87-2)	$C_5H_5(CO)_3Cr$?	9.09±0.1	EI	3495
$C_3H_9Sn^+$	$(CH_3)_3GeSn(CH_3)_3$ (RN-CAS Registry Number 16393-89-8)	$(CH_3)_3Ge$	9.85±0.22	EI	3548
$C_3H_9Sn^+$	$C_5H_5(CO)_3MoSn(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)molybdenum) (RN-CAS Registry Number 12214-92-5)	$C_5H_5(CO)_3Mo$?	9.85±0.1	EI	3495
$C_3H_9Sn^+$	$C_5H_5(CO)_3WSn(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)tungsten) (RN-CAS Registry Number 12093-29-7)	$C_5H_5(CO)_3W$?	10.05±0.15	EI	3495
$C_4H_{12}Sn^+$	$(CH_3)_4Sn$ (RN-CAS Registry Number 594-27-4)	**	8.85±0.1	PE	3677
$C_4H_{12}Sn^+$	$(CH_3)_4Sn$ (RN-CAS Registry Number 594-27-4)	**	8.93±0.04	PE	3880
$C_4H_{12}Sn^+$	$(CH_3)_4Sn$ (RN-CAS Registry Number 594-27-4)	**	8.76±0.12	EI	3548
$C_7H_{18}Sn^+$	$(CH_3)_3CSn(CH_3)_3$ (RN-CAS Registry Number 3531-47-3)	**	8.34±0.11	EI	3548
$C_9H_{14}Sn^+$	$C_6H_5Sn(CH_3)_3$ (Stannane, trimethylphenyl-) (RN-CAS Registry Number 934-56-5)	**	~8.75	CTS	3922
$C_{10}H_{16}Sn^+$	$C_6H_5CH_2Sn(CH_3)_3$ (Stannane, trimethyl(phenylmethyl)-) (RN-CAS Registry Number 4314-94-7)	**	7.91	CTS	3922
$C_{12}H_{16}Sn^+$	$C_9H_7Sn(CH_3)_3$ (Stannane, 1*H*-inden-1-yltrimethyl-) (RN-CAS Registry Number 23022-40-4)	**	7.29±0.01	EI	3805
$C_{12}H_{18}Sn^+$	$C_9H_9Sn(CH_3)_3$ (Stannane, (2,3-dihydro-1*H*-inden-1-yl)trimethyl-) (RN-CAS Registry Number 41273-55-6)	**	7.29±0.01	EI	3805

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{16}Sn^+$	$C_{10}H_7Sn(CH_3)_3$ (Stannane, trimethyl-1-naphthalenyl-) (RN-CAS Registry Number 944-85-4)	**	7.99	CTS	3922
$C_{14}H_{18}Sn^+$	$C_{10}H_7CH_2Sn(CH_3)_3$ (Stannane, trimethyl(1-naphthalenylmethyl)-) (RN-CAS Registry Number 51220-36-1)	**	~7.6	CTS	3922
$C_{14}H_{30}Sn^+$	$CH_2=CHSn(n-C_4H_9)_3$ (RN-CAS Registry Number 7486-35-3)	**	8.6 (V)	PE	3850
$C_{15}H_{32}Sn^+$	$CH_2=CHCH_2Sn(n-C_4H_9)_3$ (RN-CAS Registry Number 24850-33-7)	**	8.4 (V)	PE	3850
$C_{16}H_{36}Sn^+$	$(n-C_4H_9)_4Sn$ (RN-CAS Registry Number 1461-25-2)	**	8.7 (V)	PE	3850
$C_{24}H_{20}Sn^+$	$(C_6H_5)_4Sn$ (Stannane, tetraphenyl-) (RN-CAS-Registry Number 595-90-4)	**	8.34±0.03	PI	4055
$C_6H_{18}Sn_2^+$	$(CH_3)_3SnSn(CH_3)_3$ (RN-CAS Registry Number 661-69-8)	**	8.02±0.15	EI	3548
SnO^+	SnO (RN-CAS Registry Number 21651-19-4)	**	9.5±1	EI	3819
$C_6H_{18}SiSn^+$	$(CH_3)_3SiSn(CH_3)_3$ (RN-CAS Registry Number 16393-88-7)	**	8.18±0.14	EI	3548
$C_{16}H_{44}Si_4Sn^+$	$((CH_3)_3SiCH_2)_4Sn$ (RN-CAS Registry Number 18547-12-1)	**	8.71±0.1 (V)	PE	3830
$C_6H_{18}GeSn^+$	$(CH_3)_3GeSn(CH_3)_3$ (RN-CAS Registry Number 16393-89-8)	**	8.20±0.10	EI	3548
$SnBrCl^+$	SnBrCl (RN-CAS Registry Number 13595-90-9)	**	10.3±0.3	EI	3800
$SnBr_2Cl^+$	$SnBr_2Cl_2$? (RN-CAS Registry Number 13550-35-1)		12.0	EI	3800
$SnBr_2Cl^+$	$SnBr_3Cl$? (RN-CAS Registry Number 14779-73-8)		12.0	EI	3800
$SnBr_3Cl^+$	$SnBr_3Cl$ (RN-CAS Registry Number 14779-73-8)	**	11.1±0.3	EI	3800
Sb^+	Sb (RN-CAS Registry Number 7440-36-0)	**	8.68±0.06	EI	3956
Sb_2^+	Sb_2 (RN-CAS Registry Number 32679-33-7)	**	9.3±0.2	S	3567

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Sb_2^+	Sb_2 (RN-CAS Registry Number 32679-33-7)	**	8.4±0.3	RPD	3599
Sb_2^+	Sb_2 (RN-CAS Registry Number 32679-33-7)	**	8.64±0.06	EI	3956
Sb_2^+	Sb_2 (RN-CAS Registry Number 32679-33-7)	**	8.9±0.3	EI	3961
Sb_2^+	Sb_2 (RN-CAS Registry Number 32679-33-7)	**	9.5±0.5	EI	3555
Sb_2^+	Sb_4 (RN-CAS Registry Number 12597-17-0)		11.4±0.4	RPD	3599
Sb_3^+	Sb_3 (RN-CAS Registry Number 37267-70-2)	**	8.5±0.3	RPD	3599
Sb_3^+	Sb_3 (RN-CAS Registry Number 37267-70-2)	**	7.50±0.13	EI	3956
Sb_3^+	Sb_3 (RN-CAS Registry Number 37267-70-2)	**	9.0±0.2	EI	3961
Sb_3^+	Sb_4 (RN-CAS Registry Number 12597-17-0)		10.8±0.5	RPD	3599
Sb_3^+	Sb_4 (RN-CAS Registry Number 12597-17-0)	Sb	10.8±0.3	EI	3961
Sb_4^+	Sb_4 (RN-CAS Registry Number 12597-17-0)	**	7.70±0.06	EI	3956
Sb_4^+	Sb_4 (RN-CAS Registry Number 12597-17-0)	**	8.4±0.3	EI	3961
Sb_4^+	Sb_4 (RN-CAS Registry Number 12597-17-0)	**	9.1±0.3	EI	3555
$SbH_3^+(^2A_1)$	SbH_3 (RN-CAS Registry Number 7803-52-3)	**	9.51	PE	3719
$SbH_3^+(^2E)$	SbH_3 (RN-CAS Registry Number 7803-52-3)	**	11.39±0.02	PE	3719
$C_5H_5Sb^+$	C_5H_5Sb (Antimonin) (RN-CAS Registry Number 289-75-8)	**	8.3 (V)	PE	3832
SbF_3^+	SbF_3 (RN-CAS Registry Number 7783-56-4)	**	12.61±0.1	EI	3578
SbP^+	SbP (RN-CAS Registry Number 25889-81-0)	**	9.9±0.3	EI	3596
TeH^+	TeH (RN-CAS Registry Number 13940-36-8)	**	9.09	S	3742
$H_2Te^+(^2B_1)$	H_2Te (RN-CAS Registry Number 7783-09-7)	**	9.14	PE	3719
$H_2Te^+(^2A_1)$	H_2Te (RN-CAS Registry Number 7783-09-7)	**	11.63	PE	3719

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$H_2Te^+(^2B_2)$	H_2Te (RN-CAS Registry Number 7783-09-7)	**	13.04	PE	3719
$H_2Te^+(^2A_1)$	H_2Te (RN-CAS Registry Number 7783-09-7)	**	18.6 (V)	PE	3719
$C_2H_6Te^+$	$(CH_3)_2Te$ (RN-CAS Registry Number 593-80-6)	**	7.926±0.010	S	3970
(RS-Average of three Rydberg series limits)					
$C_2H_6Te^+(^2B_1)$	$(CH_3)_2Te$ (RN-CAS Registry Number 593-80-6)	**	7.89 (V)	PE	3656
$C_4H_4Te^+$	C_4H_4Te (Tellurophene) (RN-CAS Registry Number 288-08-4)	**	8.27	PE	3858
$C_4H_4Te^+$	C_4H_4Te (Tellurophene) (RN-CAS Registry Number 288-08-4)	**	8.40±0.03	PE	3804
$C_4H_4Te^+$	C_4H_4Te (Tellurophene) (RN-CAS Registry Number 288-08-4)	**	8.60±0.1	EI	3804
$C_5H_6Te^+$	$C_4H_3TeCH_3$ (Tellurophene, 2-methyl-) (RN-CAS Registry Number 35246-25-4)	**	8.25±0.1	EI	3804
$C_5H_4OTe^+$	C_4H_3TeCHO (2-Tellurophenecarboxaldehyde) (RN-CAS Registry Number 35273-64-4)	**	8.88±0.1	EI	3804
$C_6H_6OTe^+$	$C_4H_3TeCOCH_3$ (Ethanone, 1-tellurophene-2-yl-) (RN-CAS Registry Number 35273-65-5)	**	8.60±0.1	EI	3804
$C_5H_4O_2Te^+$	$C_4H_3TeCOOH$ (2-Tellurophenecarboxylic acid) (RN-CAS Registry Number 35246-22-1)	**	8.80±0.1	EI	3804
$C_6H_6O_2Te^+$	$C_4H_3TeCOOCH_3$ (2-Tellurophenecarboxylic acid methyl ester) (RN-CAS Registry Number 35246-23-2)	**	8.64±0.1	EI	3804
TeP^+	TeP (RN-CAS Registry Number 51890-39-2)	**	7.8±1.0	EI	4001
$C_5H_6STe^+$	$C_4H_3TeSCH_3$ (Tellurophene, 2-(methylthio)-) (RN-CAS Registry Number 51299-95-7)	**	8.15±0.1	EI	3804
$Ge_2H_6Te^+(^2B_1)$	$(GeH_3)_2Te$ (RN-CAS Registry Number 24312-07-0)	**	8.34 (V)	PE	3656

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
I^+	CH_2I_2	CH_2I	13.8	RPD	3490
	(RN–CAS Registry Number 75–11–6)				
(AD–0.131 eV average translational energy of decomposition at threshold)					
(TR–Other product(s) thermochemically reasonable)					
I^+	CH_2I_2	CH_2I	13.2±0.1	EI	3442
	(RN–CAS Registry Number 75–11–6)				
(AD–0.13 eV average translational energy of decomposition at threshold)					
(TR–Other product(s) thermochemically reasonable)					
$I_2^+(^2\Pi_{3/2g})$	I_2	**	9.311±0.002	PE	3870
	(RN–CAS Registry Number 7553–56–2)				
(HB–Threshold value approximately corrected for hot bands)					
$I_2^+(^2\Pi_{1/2g})$	I_2	**	9.953±0.002	PE	3870
	(RN–CAS Registry Number 7553–56–2)				
(HB–Threshold value approximately corrected for hot bands)					
I_2^+	WO_2I_2		15.0±0.8	EI	3451
	(RN–CAS Registry Number 14447–89–3)				
I_2^{2+}	I_2	**	25.5±0.4	EI	4052
	(RN–CAS Registry Number 7553–56–2)				
$CH_3I^+(^2E_{3/2})$	CH_3I	**	9.538	S	3748
	(RN–CAS Registry Number 74–88–4)				
(RS–Average of three Rydberg series limits)					
$CH_3I^+(^2E_{1/2})$	CH_3I	**	10.17	S	3748
	(RN–CAS Registry Number 74–88–4)				
(RS–Average of three Rydberg series limits)					
$CH_3I^+(^2E_{3/2})$	CH_3I	**	9.52	PE	3532
	(RN–CAS Registry Number 74–88–4)				
$CH_3I^+(^2E_{1/2})$	CH_3I	**	10.14	PE	3532
	(RN–CAS Registry Number 74–88–4)				
CH_3I^+	CH_3I	**	9.48±0.03	EDD	3626
	(RN–CAS Registry Number 74–88–4)				
$C_2HI^+(^2E_{3/2})$	CH≡CI	**	9.7397	S	3751
	(RN–CAS Registry Number 14545–08–5)				
$C_2HI^+(^2E_{1/2})$	CH≡CI	**	10.143	S	3751
	(RN–CAS Registry Number 14545–08–5)				
$C_2H_3I^+$	CH_2=CHI	**	9.33	PE	3863
	(RN–CAS Registry Number 593–66–8)				
$C_2H_5I^+(^2E_{3/2})$	C_2H_5I	**	9.346	S	3748
	(RN–CAS Registry Number 75–03–6)				
(RS–Average of three Rydberg series limits)					
$C_2H_5I^+(^2E_{1/2})$	C_2H_5I	**	9.929	S	3748
	(RN–CAS Registry Number 75–03–6)				
(RS–Average of three Rydberg series limits)					
$C_2H_5I^+(^2E_{3/2})$	C_2H_5I	**	9.34 (V)	PE	4076
	(RN–CAS Registry Number 75–03–6)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_5I^+(^2E_{3/2})$	C_2H_5I (RN-CAS Registry Number 75-03-6)	**	9.35	PE	3532
$C_2H_5I^+$	C_2H_5I (RN-CAS Registry Number 75-03-6)	**	9.45±0.02 (V)	PE	3987
$C_2H_5I^+(^2E_{1/2})$	C_2H_5I (RN-CAS Registry Number 75-03-6)	**	9.93	PE	3532
$C_2H_5I^+(^2E_{1/2})$	C_2H_5I (RN-CAS Registry Number 75-03-6)	**	9.93 (V)	PE	4076
$C_3H_5I^+$	$CH_2=CHCH_2I$ (RN-CAS Registry Number 556-56-9)	**	9.30	PE	4091
$C_3H_5I^+$	$CH_2=CHCH_2I$ (RN-CAS Registry Number 556-56-9)	**	9.30 (V)	PE	3863
$C_3H_7I^+(^2E_{3/2})$	*n*-C_3H_7I (RN-CAS Registry Number 107-08-4)	**	9.269	S	3748
(RS-Average of three Rydberg series limits)					
$C_3H_7I^+(^2E_{1/2})$	*n*-C_3H_7I (RN-CAS Registry Number 107-08-4)	**	9.847	S	3748
(RS-Average of three Rydberg series limits)					
$C_3H_7I^+(^2E_{3/2})$	*n*-C_3H_7I (RN-CAS Registry Number 107-08-4)	**	9.25	PE	3532
$C_3H_7I^+(^2E_{3/2})$	*n*-C_3H_7I (RN-CAS Registry Number 107-08-4)	**	9.27	PE	4076
$C_3H_7I^+(^2E_{1/2})$	*n*-C_3H_7I (RN-CAS Registry Number 107-08-4)	**	9.82	PE	4076
$C_3H_7I^+(^2E_{1/2})$	*n*-C_3H_7I (RN-CAS Registry Number 107-08-4)	**	9.83	PE	3532
$C_3H_7I^+(^2E_{3/2})$	*iso*-C_3H_7I (RN-CAS Registry Number 75-30-9)	**	9.19	PE	3532
$C_3H_7I^+(^2E_{1/2})$	*iso*-C_3H_7I (RN-CAS Registry Number 75-30-9)	**	9.75	PE	3532
$C_3H_7I^+$	*iso*-C_3H_7I (RN-CAS Registry Number 75-30-9)	**	9.2± <0.1	EI	3735
$C_4H_9I^+(^2E_{3/2})$	*n*-C_4H_9I (RN-CAS Registry Number 542-69-8)	**	9.229	S	3748
(RS-Average of four Rydberg series limits)					
$C_4H_9I^+(^2E_{1/2})$	*n*-C_4H_9I (RN-CAS Registry Number 542-69-8)	**	9.791	S	3748
(RS-Average of three Rydberg series limits)					
$C_4H_9I^+(^2E_{3/2})$	*n*-C_4H_9I (RN-CAS Registry Number 542-69-8)	**	9.23	PE	3532
$C_4h_9I^+$	*n*-C_4H_9I (RN-CAS Registry Number 542-69-8)	**	9.24	PE	4076
$C_4H_9I^+(^2E_{1/2})$	*n*-C_4H_9I (RN-CAS Registry Number 542-69-8)	**	9.79	PE	4076
$C_4H_9I^+(^2E_{1/2})$	*n*-C_4H_9I (RN-CAS Registry Number 542-69-8)	**	9.81	PE	3532
$C_4H_9I^+(^2E_{3/2})$	*tert*-C_4H_9I (RN-CAS Registry Number 558-17-8)	**	9.08	PE	3532

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_9I^+(^2E_{1/2})$	*tert*-C_4H_9I (RN-CAS Registry Number 558-17-8)	**	9.64	PE	3532
$C_5H_{11}I^+(^2E_{3/2})$	*n*-$C_5H_{11}I$ (RN-CAS Registry Number 628-17-1)	**	9.201	S	3748
(RS-Average of three Rydberg series limits)					
$C_5H_{11}I^+(^2E_{1/2})$	*n*-$C_5H_{11}I$ (RN-CAS Registry Number 628-17-1)	**	9.760	S	3748
(RS-Average of two Rydberg series limits)					
$C_5H_{11}I^+(^2E_{3/2})$	*n*-$C_5H_{11}I$ (RN-CAS Registry Number 628-17-1)	**	9.22	PE	3532
$C_5H_{11}I^+(^2E_{1/2})$	*n*-$C_5H_{11}I$ (RN-CAS Registry Number 628-17-1)	**	9.78	PE	3532
$C_6H_{13}I^+(^2E_{3/2})$	*n*-$C_6H_{13}I$ (RN-CAS Registry Number 638-45-9)	**	9.179	S	3748
(RS-Average of three Rydberg series limits)					
$C_6H_{13}I^+(^2E_{1/2})$	*n*-$C_6H_{13}I$ (RN-CAS Registry Number 638-45-9)	**	9.742	S	3748
(RS-Average of three Rydberg series limits)					
$C_7H_7I^+$	$C_6H_5CH_2I$ (Benzene, (iodomethyl)-) (RN-CAS Registry Number 620-05-3)	**	8.91 (V)	PE	3992
$C_7H_7I^+$	$C_6H_4ICH_3$ (Benzene, 1-iodo-2-methyl-) (RN-CAS Registry Number 615-37-2)	**	8.53±0.1	EI	3777
$C_7H_7I^+$	$C_6H_4ICH_3$ (Benzene, 1-iodo-3-methyl-) (RN-CAS Registry Number 625-95-6)	**	8.55±0.1	EI	3777
$C_7H_7I^+$	$C_6H_4ICH_3$ (Benzene, 1-iodo-4-methyl-) (RN-CAS Registry Number 624-31-7)	**	8.60±0.1	EI	3777
$C_{12}H_9I^+$	$C_6H_5C_6H_4I$ (1,1'-Biphenyl, 2-iodo-) (RN-CAS Registry Number 2113-51-1)	**	8.20±0.02	PE	3702
$C_2H_2I_2^+$	*trans*-CHI=CHI (RN-CAS Registry Number 590-27-2)	**	8.92 (V)	PE	3648
$C_6H_6NI^+$	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(2-iodophenyl)-) (RN-CAS Registry Number 19591-17-4)	$CH_2=C=O$	10.48±0.03	EI	3483
$C_6H_6NI^+$	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(4-iodophenyl)-) (RN-CAS Registry Number 622-50-4)	$CH_2=C=O$	9.72±0.03	EI	3483

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{25}H_{25}N_2I^+$	$C_{25}H_{25}N_2I$ (Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1*H*)-quinolinylidene)-1-propenyl]-, iodide) (RN-CAS Registry Number 605-91-4) (ON-Other name: Pinacyanol)	**	7.25	PI	3586
$C_{29}H_{35}N_2I^+$	$C_{29}H_{35}N_2I$ (Quinolinium, 1-(3-methylbutyl)-4-[[1-(3-methylbutyl)-4(1*H*)-quinolinylidene]methyl]-, iodide) (RN-CAS Registry Number 523-42-2) (ON-Other name: Quinoline Blue)	**	7.35	PI	3586
$C_4H_{12}BN_2I^+$	$((CH_3)_2N)_2BI$ (RN-CAS Registry Number 7318-71-0)	**	8.11 (V)	PE	3704
$C_2H_6BNI_2^+$	$(CH_3)_2NBI_2$ (RN-CAS Registry Number 7318-72-1)	**	8.95 (V)	PE	3704
$C_2H_5OI^+$	CH_2ICH_2OH (RN-CAS Registry Number 624-76-0)	**	9.66±0.07 (V)	PE	3987
$C_3H_7OI^+$	$CH_3OCH_2CH_2I$ (RN-CAS Registry Number 4296-15-5)	**	9.43±0.04 (V)	PE	3987
$C_6H_5OI^+$	$C_6H_4IOOCCH_3$ (Phenol, 2-iodo-, acetate) (RN-CAS Registry Number 32865-61-5)	$CH_2=C=O$	9.72±0.03	EI	3483
$C_6H_5OI^+$	$C_6H_4IOOCCH_3$ (Phenol, 4-iodo-, acetate) (RN-CAS Registry Number 33527-94-5)	$CH_2=C=O$	9.38±0.03	EI	3483
$C_2H_3O_2I^+$	CH_2ICOOH (RN-CAS Registry Number 64-69-7)	**	11.03 (V)	PE	3874
$C_8H_7O_2I^+$	$C_6H_4IOOCCH_3$ (Phenol, 2-iodo-, acetate) (RN-CAS Registry Number 32865-61-5)	**	8.25±0.03	EI	3483
$C_8H_7O_2I^+$	$C_6H_4IOOCCH_3$ (Phenol, 4-iodo-, acetate) (RN-CAS Registry Number 33527-94-5)	**	8.20±0.03	EI	3483
$C_6H_4OI_2^+$	$C_6H_3I_2OOCCH_3$ (Phenol, 2,4-diiodo-, acetate) (RN-CAS Registry Number 36914-80-4)	$CH_2=C=O$	8.94±0.03	EI	3480
$C_6H_4OI_2^+$	$C_6H_3I_2OOCCH_3$ (Phenol, 2,6-diiodo-, acetate) (RN-CAS Registry Number 28165-73-3)	$CH_2=C=O$	9.18±0.03	EI	3480
$C_8H_6O_2I_2^+$	$C_6H_3I_2OOCCH_3$ (Phenol, 2,4-diiodo-, acetate) (RN-CAS Registry Number 36914-80-4)	**	7.90±0.03	EI	3480

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_6O_2I_2^+$	$C_6H_3I_2OOCCH_3$ (Phenol, 2,6-diiodo-, acetate) (RN-CAS Registry Number 28165-73-3)	**	8.07±0.03	EI	3480
$C_8H_8NOI^+$	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(2-iodophenyl)-) (RN-CAS Registry Number 19591-17-4)	**	7.98±0.03	EI	3483
$C_8H_8NOI^+$	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(4-iodophenyl)-) (RN-CAS Registry Number 622-50-4)	**	7.87±0.03	EI	3483
IF_5^+	IF_5 (RN-CAS Registry Number 7783-66-6)	**	12.943±0.005	PE	3655
NaI^+	NaI (RN-CAS Registry Number 7681-82-5) (HB-Threshold value approximately corrected for hot bands)	**	7.64±0.02	PI	3536
MgI_2^+	MgI_2 (RN-CAS Registry Number 10377-58-9)	**	9.57±0.03	PI	3536
$SiH_3I^+(^2E_{3/2})$	SiH_3I (RN-CAS Registry Number 13598-42-0)	**	9.78±0.02 (V)	PE	3510
SiH_3I^+	SiH_3I (RN-CAS Registry Number 13598-42-0)	**	10.05±0.05 (V)	PE	3502
$SiH_3I^+(^2E_{1/2})$	SiH_3I (RN-CAS Registry Number 13598-42-0)	**	10.33±0.02 (V)	PE	3510
$SiH_3I^+(^2A_1)$	SiH_3I (RN-CAS Registry Number 13598-42-0)	**	12.04±0.02 (V)	PE	3510
$SiH_3I^+(^2E)$	SiH_3I (RN-CAS Registry Number 13598-42-0)	**	12.8±0.1 (V)	PE	3510
$SiH_2I_2^+$	SiH_2I_2 (RN-CAS Registry Number 13760-02-6)	**	9.69±0.02 (V)	PE	3510
$C_5H_9SiI^+$	$(CH_3)_3SiC{\equiv}CI$ (RN-CAS Registry Number 18163-47-8)	**	9.1±0.1	PE	4002
$PI_3^+(^2A_1)$	PI_3 (RN-CAS Registry Number 13455-01-1)	**	9.15 (V)	PE	4023
$PI_3^+(^2A_2)$	PI_3 (RN-CAS Registry Number 13455-01-1)	**	9.42 (V)	PE	4023
$PI_3^+(^2E_{3/2})$	PI_3 (RN-CAS Registry Number 13455-01-1)	**	9.57 (V)	PE	4023
$PI_3^+(^2E_{1/2})$	PI_3 (RN-CAS Registry Number 13455-01-1)	**	10.24 (V)	PE	4023
$PI_3^+(^2E_{1/2})$	PI_3 (RN-CAS Registry Number 13455-01-1)	**	10.53 (V)	PE	4023
$PI_3^+(^2E_{3/2})$	PI_3 (RN-CAS Registry Number 13455-01-1)	**	10.68 (V)	PE	4023
$PI_3^+(^2A_1)$	PI_3 (RN-CAS Registry Number 13455-01-1)	**	11.80 (V)	PE	4023

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$PI_3^+(^2E)$	PI_3 (RN-CAS Registry Number 13455-01-1)	**	12.70 (V)	PE	4023
PF_2I^+	PF_2I (RN-CAS Registry Number 13819-11-9)	**	10.1±0.1 (V)	PE	3662
$C_4H_2SI_2^+$	$C_4H_2S(I)_2$ (Thiophene, 2,5-diiodo-) (RN-CAS Registry Number 625-88-7)	**	8.32	EI	3787
$C_4H_2SI_2^+$	$C_4H_2S(I)_2$ (Thiophene, 2,5-diiodo-) (RN-CAS Registry Number 625-88-7)	**	8.35	CTS	3787
$ICl^+(^2\Pi_{3/2})$	ICl (RN-CAS Registry Number 7790-99-0)	**	10.088±0.01	S	4027
$ICl^+(^2\Pi_{1/2})$	ICl (RN-CAS Registry Number 7790-99-0)	**	10.662±0.01	S	4027
$C_5O_5IMn^+$	$Mn(CO)_5I$ (RN-CAS Registry Number 14879-42-6)	**	8.44-8.74 (V)	PE	3866
CuI^+	CuI (RN-CAS Registry Number 7681-65-4)	**	8.7±0.5	EI	3603
CuI^+	Cu_3I_3 (RN-CAS Registry Number XXXXX-XX-X)		14.4±0.5	EI	3603
Cu_2I^+	Cu_3I_3 (RN-CAS Registry Number XXXXX-XX-X)		13.4±0.5	EI	3603
Cu_3I^+	Cu_3I_3 (RN-CAS Registry Number XXXXX-XX-X)		15.2±0.5	EI	3603
CuI_2^+	Cu_3I_3 (RN-CAS Registry Number XXXXX-XX-X)		16.1±0.5	EI	3603
$Cu_2I_2^+$	Cu_2I_2 (RN-CAS Registry Number XXXXX-XX-X)	**	9.3±0.5	EI	3603
$Cu_2I_2^+$	Cu_3I_3 (RN-CAS Registry Number XXXXX-XX-X)		14.8±0.5	EI	3603
$Cu_3I_2^+$	Cu_3I_3 (RN-CAS Registry Number XXXXX-XX-X)		10.8±0.5	EI	3603
$Cu_2I_3^+$	Cu_3I_3 (RN-CAS Registry Number XXXXX-XX-X)		13.6±0.5	EI	3603
$Cu_3I_3^+$	Cu_3I_3 (RN-CAS Registry Number XXXXX-XX-X)	**	9.1±0.5	EI	3603
$Cu_4I_3^+$	Cu_4I_4 (RN-CAS Registry Number XXXXX-XX-X)		9.5±0.5	EI	3603

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Cu_4I_4^+$	Cu_4I_4	**	8.7±0.5	EI	3603
	(RN-CAS Registry Number XXXXX-XX-X)				
$ZnI_2(^2\Pi_{3/2g})$	ZnI_2	**	9.73±0.05 (V)	PE	3833
	(RN-CAS Registry Number 10139-47-6)				
$ZnI_2^+(^2\Pi_{3/2g})$	ZnI_2	**	9.7 (V)	PE	3963
	(RN-CAS Registry Number 10139-47-6)				
$ZnI_2^+(^2\Pi_{3/2u})$	ZnI_2	**	10.2 (V)	PE	3963
	(RN-CAS Registry Number 10139-47-6)				
$ZnI_2^+(^2\Pi_{1/2g},{}^2\Pi_u)$	ZnI_2	**	10.32±0.05 (V)	PE	3833
	(RN-CAS Registry Number 10139-47-6)				
$ZnI_2^+(^2\Pi_{1/2g})$	ZnI_2	**	10.35 (V)	PE	3963
	(RN-CAS Registry Number 10139-47-6)				
$ZnI_2^+(^2\Pi_{1/2u})$	ZnI_2	**	10.5 (V)	PE	3963
	(RN-CAS Registry Number 10139-47-6)				
$ZnI_2^+(^2\Sigma_u)$	ZnI_2	**	11.4 (V)	PE	3963
	(RN-CAS Registry Number 10139-47-6)				
$ZnI_2^+(^2\Sigma_u)$	ZnI_2	**	11.45±0.05 (V)	PE	3833
	(RN-CAS Registry Number 10139-47-6)				
$ZnI_2^+(^2\Sigma_g)$	ZnI_2	**	12.4 (V)	PE	3963
	(RN-CAS Registry Number 10139-47-6)				
$ZnI_2^+(^2\Sigma_g)$	ZnI_2	**	12.74±0.05 (V)	PE	3833
	(RN-CAS Registry Number 10139-47-6)				
ZnI_2^{+*}	ZnI_2	**	18.39±0.05 (V)	PE	3833
	(RN-CAS Registry Number 10139-47-6)				
$GeH_3I^+(^2E_{3/2})$	GeH_3I	**	9.59±0.02 (V)	PE	3510
	(RN-CAS Registry Number 13573-02-9)				
GeH_3I^+	GeH_3I	**	9.84±0.05 (V)	PE	3502
	(RN-CAS Registry Number 13573-02-9)				
$GeH_3I^+(^2E_{1/2})$	GeH_3I	**	10.14±0.02 (V)	PE	3510
	(RN-CAS Registry Number 13573-02-9)				
$GeH_3I^+(^2A_1)$	GeH_3I	**	11.71±0.02 (V)	PE	3510
	(RN-CAS Registry Number 13573-02-9)				
$GeH_3I^+(^2E)$	GeH_3I	**	12.6±0.1 (V)	PE	3510
	(RN-CAS Registry Number 13573-02-9)				
$GeH_2I_2^+$	GeH_2I_2	**	9.56±0.02 (V)	PE	3510
	(RN-CAS Registry Number 14694-31-6)				
$IBr^+(^2\Pi_{3/2})$	IBr	**	9.790±0.004	PE	3870
	(RN-CAS Registry Number 7789-33-5)				
(HB-Threshold value approximately corrected for hot bands)					
$IBr^+(^2\Pi_{1/2})$	IBr	**	10.386±0.004	PE	3870
	(RN-CAS Registry Number 7789-33-5)				
(HB-Threshold value approximately corrected for hot bands)					
RbI^+	RbI	**	7.308±0.03	PI	3536
	(RN-CAS Registry Number 7790-29-6)				
(HB-Threshold value approximately corrected for hot bands)					

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Rb_2I^+	Rb_2I_2 (RN–CAS Registry Number 12532–37–5)	I	7.674	PI	3536
(TV–Threshold value approximately corrected to 0°K)					
AgI^+	AgI (RN–CAS Registry Number 7783–96–2)	**	~8.4	PI	3536
$CdI_2^+(^2\Pi_{3/2g})$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	9.5 (V)	PE	3963
$CdI_2^+(^2\Pi_{3/2g})$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	9.57±0.05 (V)	PE	3833
$CdI_2^+(^2\Pi_{3/2u})$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	10.0 (V)	PE	3963
$CdI_2^+(^2\Pi_{1/2g},{}^2\Pi_u)$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	10.11±0.05 (V)	PE	3833
$CdI_2^+(^2\Pi_{1/2g})$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	10.2 (V)	PE	3963
$CdI_2^+(^2\Pi_{1/2u})$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	10.4 (V)	PE	3963
$CdI_2^+(^2\Sigma_u)$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	11.15±0.05 (V)	PE	3833
$CdI_2^+(^2\Sigma_u)$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	11.2 (V)	PE	3963
$CdI_2^+(^2\Sigma_g)$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	12.10±0.05 (V)	PE	3833
$CdI_2^+(^2\Sigma_g)$	CdI_2 (RN–CAS Registry Number 7790–80–9)	**	12.3 (V)	PE	3963
$InI^+(X^2\Sigma)$	InI (RN–CAS Registry Number 13966–94–4)	**	8.50	PE	3640
$InI^+(^2\Pi_{3/2})$	InI (RN–CAS Registry Number 13966–94–4)	**	8.78	PE	3640
$InI^+(^2\Pi_{1/2})$	InI (RN–CAS Registry Number 13966–94–4)	**	9.46	PE	3640
$InI^+(^2\Sigma)$	InI (RN–CAS Registry Number 13966–94–4)	**	11.89	PE	3640
$Xe^+(^2P_{3/2})$	Xe (RN–CAS Registry Number 7440–63–3)	**	12.127±0.002	TPE	3525
$Xe^+(^2P_{1/2})$	Xe (RN–CAS Registry Number 7440–63–3)	**	13.434±0.002	TPE	3525
$Xe^+(^2P_{3/2})$	Xe (RN–CAS Registry Number 7440–63–3)	**	12.125±0.004	PEN	3541
Xe^+	Xe (RN–CAS Registry Number 7440–63–3)	**	12.09±0.03	EDD	3626
$XeOF_4^+$	$XeOF_4$ (RN–CAS Registry Number 13774–85–1)	**	⩾12.0	PE	3943
$XeOF_4^{+*}$	$XeOF_4$ (RN–CAS Registry Number 13774–85–1)	**	~14.6	PE	3943
$XeOF_4^{+*}$	$XeOF_4$ (RN–CAS Registry Number 13774–85–1)	**	<15.3	PE	3943

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$XeOF_4^{+*}$	$XeOF_4$ (RN-CAS Registry Number 13774-85-1)	**	<16.2	PE	3943
$XeOF_4^{+*}$	$XeOF_4$ (RN-CAS Registry Number 13774-85-1)	**	16.90 (V)	PE	3943
$XeOF_4^{+*}$	$XeOF_4$ (RN-CAS Registry Number 13774-85-1)	**	18.10	PE	3943
$XeOF_4^{+*}$	$XeOF_4$ (RN-CAS Registry Number 13774-85-1)	**	~19.3	PE	3943
$XeOF_4^{+*}$	$XeOF_4$ (RN-CAS Registry Number 13774-85-1)	**	<20.3	PE	3943
Cs^+	CsOH (RN-CAS Registry Number 21351-79-1)	OH	~10	EI	3461
Cs^+	$CsNO_3$ (RN-CAS Registry Number XXXXX-XX-X)		10.50±0.5	EI	4100
Cs^{+3}	Cs^{+2} (RN-CAS Registry Number 18933-37-4)	**	37.3±~2	SEQ	3568
Cs^{+4}	Cs^{+3} (RN-CAS Registry Number 18933-38-5)	**	50±~2	SEQ	3568
Cs^{+5}	Cs^{+4} (RN-CAS Registry Number XXXXX-XX-X)	**	62±~2	SEQ	3568
Cs^{+6}	Cs^{+5} (RN-CAS Registry Number XXXXX-XX-X)	**	74±~2	SEQ	3568
Cs^{+7}	Cs^{+6} (RN-CAS Registry Number XXXXX-XX-X)	**	86±~2	SEQ	3568
Cs^{+8}	Cs^{+7} (RN-CAS Registry Number XXXXX-XX-X)	**	114±~2	SEQ	3568
Cs^{+9}	Cs^{+8} (RN-CAS Registry Number XXXXX-XX-X)	**	130±~2	SEQ	3568
Cs^{+10}	Cs^{+9} (RN-CAS Registry Number XXXXX-XX-X)	**	~250	SEQ	3568
Cs_2^+	Cs_2 (RN-CAS Registry Number 12184-83-7)	**	3.60-3.71	PI	3772
$Cs_2NO_3^+$	$(CsNO_3)_2$ (RN-CAS Registry Number XXXXX-XX-X)		14.1±1.0	EI	4100
CsF^+	CsF (RN-CAS Registry Number 13400-13-0)	**	8.80±0.10	PE	3958
$CsCl^+$	CsCl (RN-CAS Registry Number 7647-17-8)	**	7.84±0.05	PE	3958

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CsBr^+$	CsBr (RN-CAS Registry Number 7787-69-1)	**	7.46±0.05	PE	3958
$CsI^+(^2\Pi_{3/2})$	CsI (RN-CAS Registry Number 7789-17-5)	**	7.10±0.05	PE	3958
$CsI^+(^2\Pi_{1/2})$	CsI (RN-CAS Registry Number 7789-17-5)	**	8.00±0.10	PE	3958
Ba^+	Ba (RN-CAS Registry Number 7440-39-3)	**	~5.2	EI	3486
Ba^+	BaO (RN-CAS Registry Number 1304-28-5) (HB-Threshold value approximately corrected for hot bands)	O	10.95±0.18	EI	3821
Ba^{+2}	Ba (RN-CAS Registry Number 7440-39-3)	**	12	EI	3486
Ba^{+3}	Ba (RN-CAS Registry Number 7440-39-3)	**	~53	EI	3486
Ba^{+3}	Ba^{+2} (RN-CAS Registry Number 22541-12-4)	**	36.3±3	SEQ	3568
Ba^{+4}	Ba^{+3} (RN-CAS Registry Number XXXXX-XX-X)	**	55±3	SEQ	3568
Ba^{+5}	Ba^{+4} (RN-CAS Registry Number XXXXX-XX-X)	**	67±3	SEQ	3568
Ba^{+6}	Ba^{+5} (RN-CAS Registry Number XXXXX-XX-X)	**	80±3	SEQ	3568
Ba^{+7}	Ba^{+6} (RN-CAS Registry Number XXXXX-XX-X)	**	94±3	SEQ	3568
Ba^{+8}	Ba^{+7} (RN-CAS Registry Number XXXXX-XX-X)	**	105±3	SEQ	3568
Ba^{+9}	Ba^{+8} (RN-CAS Registry Number XXXXX-XX-X)	**	141±3	SEQ	3568
Ba^{+10}	Ba^{+9} (RN-CAS Registry Number XXXXX-XX-X)	**	167±3	SEQ	3568
BaO^+	BaO (RN-CAS Registry Number 1304-28-5)	**	6.97±0.12	EI	3821
La^+	La (RN-CAS Registry Number 7439-91-0)	**	5.0±0.5	EI	3600
La^+	La (RN-CAS Registry Number 7439-91-0)	**	6.9±1.2	EI	3978
La^+	LaF_3 (RN-CAS Registry Number 13709-38-1)		26	EI	3456

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
La^+	LaF_3 (RN-CAS Registry Number 13709-38-1)		26.9	EI	3466
LaC^+	LaC_2 (RN-CAS Registry Number 12071-15-7)	C?	14.9±0.5	EI	3457
LaC_2^+	LaC_2 (RN-CAS Registry Number 12071-15-7)	**	5.4±0.3	EI	3457
LaC_3^+	LaC_3 (RN-CAS Registry Number 12602-63-0)	**	6.8±0.5	EI	3457
LaC_4^+	LaC_4 (RN-CAS Registry Number 12603-31-5)	**	4.7±0.5	EI	3457
LaF^+	LaF_3 (RN-CAS Registry Number 13709-38-1)		16	EI	3456
LaF^+	LaF_3 (RN-CAS Registry Number 13709-38-1)		18.5	EI	3466
LaF_2^+	LaF_3 (RN-CAS Registry Number 13709-38-1)		9	EI	3456
LaF_2^+	LaF_3 (RN-CAS Registry Number 13709-38-1)		11.8	EI	3466
$La_2F_5^+$	$(LaF_3)_2$ (RN-CAS Registry Number 12592-31-3)		12.4	EI	3466
$LaSe^+$	LaSe (RN-CAS Registry Number 12031-31-1)	**	6.0±0.5	EI	3600
$LaRh^+$	LaRh (RN-CAS Registry Number 12142-68-6)	**	7.7±1.0	EI	3978
Ce^+	Ce (RN-CAS Registry Number 7440-45-1)	**	5.6±0.5	EI	3969
Ce^+	Ce (RN-CAS Registry Number 7440-45-1)	**	5.7±0.3	EI	3597
Ce^+	Ce? (RN-CAS Registry Number 7440-45-1)	**	5.9±0.4	EI	3471
Ce^+	Ce (RN-CAS Registry Number 7440-45-1)	**	5.9±0.4	EI	3468
Ce^+	Ce (RN-CAS Registry Number 7440-45-1)	**	5.9±0.6	EI	3621
Ce^+	Ce (RN-CAS Registry Number 7440-45-1)	**	6.0±0.5	EI	3986
Ce^+	Ce (RN-CAS Registry Number 7440-45-1)	**	6.0±0.5	EI	3473
Ce^+	CeO (RN-CAS-Registry Number 12014-74-3)		~13.5	EI	4061
Ce^+	CeF_3 (RN-CAS Registry Number 7758-88-5)		25.2	EI	3607

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Ce^+	CeI_3 (RN-CAS Registry Number 7790-87-6)	3I	17.7±0.5	EI	3820
Ce^{+2}	Ce? (RN-CAS Registry Number 7440-45-1)	**	22.7±0.8	EI	3471
Ce^{+3}	Ce^{+2} (RN-CAS Registry Number 16679-11-1)	**	20.197±0.003	S	3744
Ce^{+4}	Ce^{+3} (RN-CAS Registry Number 18923-26-7)	**	36.758±0.005	S	3744
Ce_2^+	Ce_2 (RN-CAS Registry Number 12595-88-9)	**	5.9±0.4	EI	3471
C_2Ce^+	C_2Ce (RN-CAS Registry Number 12012-32-7)	**	5.6±0.4	EI	3597
CeC_2^+	CeC_2 (RN-CAS Registry Number 12012-32-7)	**	6.2±0.5	EI	3969
CeN^+	CeN (RN-CAS Registry Number 25764-08-3)	**	5.8±0.6	EI	3469
CeO^+	CeO (RN-CAS-Registry Number 12014-74-3)	**	5.2±0.2	EI	4061
CeO^+	CeO (RN-CAS Registry Number 12014-74-3)	**	5.3±0.5	EI	3986
CeO^+	CeO (RN-CAS Registry Number 12014-74-3)	**	6.0±0.5	EI	3473
CeO^+	CeO_2 (RN-CAS-Registry Number 1306-38-3)		~11	EI	4061
CeO^+	CeO_2? (RN-CAS Registry Number 1306-38-3)	**	13±1	EI	3986
CeO_2^+	CeO_2 (RN-CAS Registry Number 1306-38-3)	**	9.7±0.5	EI	3986
CeO_2^+	CeO_2 (RN-CAS-Registry Number 1306-38-3)	**	10.3±0.2	EI	4061
$Ce_2O_2^+$	$(CeO)_2$ (RN-CAS Registry Number 12258-89-8)	**	8±1	EI	3986
CeF^+	CeF_3 (RN-CAS Registry Number 7758-88-5)		17.2	EI	3607
CeF_2^+	CeF_3 (RN-CAS Registry Number 7758-88-5)		13.5	EI	3607
CeF_3^+	CeF_3 (RN-CAS Registry Number 7758-88-5)	**	11.4	EI	3607

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Ce_2F_5^+$	Ce_2F_6 (RN-CAS Registry Number 37346-47-7)		13.1	EI	3607
$CSiCe^+$	CSiCe (RN-CAS Registry Number 51257-45-5)	**	~9	EI	3969
CeS^+	CeS (RN-CAS Registry Number 12014-82-3)	**	6.0±0.6	EI	3621
CeS_2^+	CeS_2 (RN-CAS Registry Number 12133-58-3)	**	13.5±1	EI	3621
$CePd^+$	CePd (RN-CAS Registry Number 12292-14-7)	**	6.2±0.5	EI	3597
CeI^+	CeI_3 (RN-CAS Registry Number 7790-87-6)	2I	13.6±0.5	EI	3820
CeI^{+2}	CeI_3 (RN-CAS Registry Number 7790-87-6)		28±1	EI	3820
CeI_2^+	CeI_3 (RN-CAS Registry Number 7790-87-6)	I	9.7±0.5	EI	3820
CeI_3^+	CeI_3 (RN-CAS Registry Number 7790-87-6)	**	9.6±0.5	EI	3820
Pr^+	PrI_3 (RN-CAS Registry Number 13813-23-5)	3I	17.0±0.2	EI	3820
Pr^{+3}	Pr^{+2} (RN-CAS Registry Number 14700-75-5)	**	21.624±0.003	S	3744
Pr^{+4}	Pr^{+3} (RN-CAS Registry Number 22541-14-6)	**	38.981±0.025	S	3744
Pr^{+5}	Pr^{+4} (RN-CAS Registry Number 20334-17-2)	**	57.45±0.05	S	3563
PrI^+	PrI_3 (RN-CAS Registry Number 13813-23-5)	2I	12.9±0.2	EI	3820
PrI_2^+	PrI_3 (RN-CAS Registry Number 13813-23-5)	I	10.0±0.2	EI	3820
PrI_3^+	PrI_3 (RN-CAS Registry Number 13813-23-5)	**	9.2±0.2	EI	3820
Nd^+	Nd (RN-CAS Registry Number 7440-00-8)	**	6.5	EI	4030
Nd^+	$NdCl_3$ (RN-CAS Registry Number 10024-93-8)	3Cl?	20.9±1.0	EI	3802

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Nd^+	$NdBr_3$ (RN–CAS Registry Number 13536–80–6)		16.9±0.7	EI	3976
Nd^+	NdI_3 (RN–CAS Registry Number 13813–24–6)	3I	15.9±0.2	EI	3820
Nd^{+3}	Nd^{+2} (RN–CAS Registry Number 16727–26–7)	**	22.14±0.30	S	3744
Nd^{+4}	Nd^{+3} (RN–CAS Registry Number 14913–52–1)	**	40.42±0.30	S	3744
$NdCl^+$	$NdCl_3$ (RN–CAS Registry Number 10024–93–8)	2Cl?	17.3±1.0	EI	3802
$NdCl_2^+$	$NdCl_3$ (RN–CAS Registry Number 10024–93–8)	Cl?	11.9±0.3	EI	3802
$NdCl_3^+$	$NdCl_3$ (RN–CAS Registry Number 10024–93–8)	**	<11.4	EI	3802
$NdBr_2^+$	$NdBr_3$ (RN–CAS Registry Number 13536–80–6)		10.5±0.7	EI	3976
NdI^+	NdI_3 (RN–CAS Registry Number 13813–24–6)	2I	13.6±0.5	EI	3820
NdI_2^+	NdI_3 (RN–CAS Registry Number 13813–24–6)	I	9.3±0.5	EI	3820
NdI_3^+	NdI_3 (RN–CAS Registry Number 13813–24–6)	**	9.2±0.5	EI	3820
Pm^{+3}	Pm^{+2} (RN–CAS Registry Number 24151–74–4)	**	22.42±0.41	S	3744
Pm^{+4}	Pm^{+3} (RN–CAS Registry Number 22541–16–8)	**	41.09±0.32	S	3744
Sm^+	SmI_2 (RN–CAS Registry Number 32248–43–4)		12.5	EI	3820
Sm^{+3}	Sm^{+2} (RN–CAS Registry Number 16396–66–0)	**	23.45±0.30	S	3744
Sm^{+4}	Sm^{+3} (RN–CAS Registry Number 22541–17–9)	**	41.47±0.43	S	3744
SmI^+	SmI_2 (RN–CAS Registry Number 32248–43–4)		9.2	EI	3820

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
SmI_2^+	SmI_2 (RN-CAS Registry Number 32248-43-4)	**	8.7	EI	3820
Eu^+	Eu (RN-CAS Registry Number 7440-53-1)	**	5.6±0.5	EI	3611
Eu^+	Eu (RN-CAS Registry Number 7440-53-1)	**	5.9±0.2	EI	3459
Eu^+	EuI_2 (RN-CAS Registry Number 22015-35-6)		12.45±0.2	EI	3612
Eu^{+3}	Eu^{+2} (RN-CAS Registry Number 16910-54-6)	**	24.71±0.32	S	3744
Eu^{+4}	Eu^{+3} (RN-CAS Registry Number 22541-18-0)	**	42.65±0.32	S	3744
Eu_2^+	Eu_2 (RN-CAS Registry Number 12596-00-8)	**	6.3±1.0	EI	4012
EuC_2^+	EuC_2 (RN-CAS Registry Number 12127-44-5)	**	6.6±0.7	EI	3611
$EuCN^+$	EuCN (RN-CAS Registry Number 50647-38-6)	**	5.5±1.5	EI	3798
$EuAg^+$	EuAg (RN-CAS Registry Number 12249-50-2)	**	6.1±0.5	EI	4012
EuI^+	EuI_2 (RN-CAS Registry Number 22015-35-6)		9.90±0.2	EI	3612
EuI_2^+	EuI_2 (RN-CAS Registry Number 22015-35-6)	**	8.85±0.2	EI	3612
Gd^+	$GdCl_3$ (RN-CAS Registry Number 10138-52-0)	3Cl?	20.9±1.0	EI	3802
Gd^+	GdI_3 (RN-CAS Registry Number 13572-98-0)	3I	17.0±0.2	EI	3820
Gd^{+3}	Gd^{+2} (RN-CAS Registry Number 18195-96-5)	**	20.38±0.21	S	3744
Gd^{+4}	Gd^{+3} (RN-CAS Registry Number 22541-19-1)	**	44.03±0.35	S	3744
$GdCl^+$	$GdCl_3$ (RN-CAS Registry Number 10138-52-0)	2Cl?	16.5±1.0	EI	3802
$GdCl_2^+$	$GdCl_3$ (RN-CAS Registry Number 10138-52-0)	Cl?	11.9±0.3	EI	3802

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$NaGdCl_3^+$	$NaGdCl_3$ (RN-CAS Registry Number XXXXX-XX-X)		10.1±0.5	EI	3802
GdI^+	GdI_3 (RN-CAS Registry Number 13572-98-0)	2I	13.5±0.2	EI	3820
GdI_2^+	GdI_3 (RN-CAS Registry Number 13572-98-0)	I	10.1±0.2	EI	3820
GdI_3^+	GdI_3 (RN-CAS Registry Number 13572-98-0)	**	9.2±0.2	EI	3820
Tb^+	TbI_3 (RN-CAS Registry Number 13813-40-6)	3I	17.6±0.2	EI	3820
Tb^{+3}	Tb^{+2} (RN-CAS Registry Number 18195-97-6)	**	21.98±0.21	S	3744
Tb^{+4}	Tb^{+3} (RN-CAS Registry Number 22541-20-4)	**	39.84±0.35	S	3744
TbI^+	TbI_3 (RN-CAS Registry Number 13813-40-6)	2I	13.7±0.2	EI	3820
TbI_2^+	TbI_3 (RN-CAS Registry Number 13813-40-6)	I	10.5±0.2	EI	3820
TbI_3^+	TbI_3 (RN-CAS Registry Number 13813-40-6)	**	9.5±0.2	EI	3820
Dy^+	DyI_3 (RN-CAS Registry Number 15474-63-2)	3I	16.4±0.2	EI	3820
Dy^{+3}	Dy^{+2} (RN-CAS Registry Number 14701-44-1)	**	22.83±0.32	S	3744
Dy^{+4}	Dy^{+3} (RN-CAS Registry Number 22541-21-5)	**	41.56±0.35	S	3744
DyI^+	DyI_3 (RN-CAS Registry Number 15474-63-2)	2I	13.1±0.2	EI	3820
DyI_2^+	DyI_3 (RN-CAS Registry Number 15474-63-2)	I	10.5±0.2	EI	3820
DyI_3^+	DyI_3 (RN-CAS Registry Number 15474-63-2)	**	9.6±0.2	EI	3820
Ho^+	Ho (RN-CAS Registry Number 7440-60-0)	**	5.8±0.2	EI	3440

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Ho^+	HoI_3 (RN-CAS Registry Number 13813-41-7)	3I	16.7±0.2	EI	3820
Ho^{+3}	Ho^{+2} (RN-CAS Registry Number 16468-44-3)	**	22.84±0.10	S	3744
Ho^{+4}	Ho^{+3} (RN-CAS Registry Number 22541-22-6)	**	42.51±0.35	S	3744
Ho_2^+	Ho_2 (RN-CAS Registry Number 12596-28-0)	**	6.0±1.0	EI	3440
$HoAg^+$	HoAg (RN-CAS Registry Number 12002-74-3)	**	5.7±0.6	EI	3440
HoI^+	HoI_3 (RN-CAS Registry Number 13813-41-7)	2I	13.2±0.2	EI	3820
HoI_2^+	HoI_3 (RN-CAS Registry Number 13813-41-7)	I	10.4±0.2	EI	3820
HoI_3^+	HoI_3 (RN-CAS Registry Number 13813-41-7)	**	9.2±0.2	EI	3820
Er^+	ErI_3 (RN-CAS Registry Number 13813-42-8)	3I	16.2±0.2	EI	3820
Er^{+3}	Er^{+2} (RN-CAS Registry Number 18195-92-1)	**	22.74±0.10	S	3744
Er^{+4}	Er^{+3} (RN-CAS Registry Number 18472-30-5)	**	42.66±0.20	S	3744
ErI^+	ErI_3 (RN-CAS Registry Number 13813-42-8)	2I	13.3±0.2	EI	3820
ErI_2^+	ErI_3 (RN-CAS Registry Number 13813-42-8)	I	10.2±0.2	EI	3820
ErI_3^+	ErI_3 (RN-CAS Registry Number 13813-42-8)	**	9.0±0.2	EI	3820
Tm^+	Tm (RN-CAS Registry Number 7440-30-4)	**	5.7	EI	3460
Tm^+	$TmBr_3$ (RN-CAS Registry Number 14456-51-0)		17.5±0.7	EI	3976
Tm^{+3}	Tm^{+2} (RN-CAS Registry Number 16910-52-4)	**	23.68±0.10	S	3744

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Tm^{+4}	Tm^{+3} (RN–CAS Registry Number 22541–23–7)	**	42.69±0.30	S	3744
$TmBr_2^+$	$TmBr_3$ (RN–CAS Registry Number 14456–51–0)		11.1±0.7	EI	3976
$TmBr_3^+$	$TmBr_3$ (RN–CAS Registry Number 14456–51–0)	**	9.6±0.7	EI	3976
Yb^+	Yb (RN–CAS Registry Number 7440–64–4)	**	6.3±0.3	EI	4105
Yb^+	$YbCl_2$ (RN–CAS Registry Number 13874–77–6)		15.05±0.26	EI	3614
Yb^+	$YbBr_3$? (RN–CAS Registry Number 13759–89–2)		14.7±0.7	EI	3976
Yb^{+2}	Yb^+ (RN–CAS Registry Number 20205–78–1)	**	12.184±0.006	S	3974
Yb^{+3}	Yb^{+2} (RN–CAS Registry Number 22541–96–4)	**	25.03±0.02	S	3744
Yb^{+4}	Yb^{+3} (RN–CAS Registry Number 18923–27–8)	**	43.74±0.30	S	3744
Yb_2^+	Yb_2 (RN–CAS Registry Number 12771–79–8)	**	4–5	EI	4105
$YbCl^+$	$YbCl_2$ (RN–CAS Registry Number 13874–77–6)		10.70±0.21	EI	3614
$YbCl_2^+$	$YbCl_2$ (RN–CAS Registry Number 13874–77–6)	**	9.73±0.21	EI	3614
$YbBr^+$	$YbBr_2$? (RN–CAS Registry Number 25502–05–0)		10.0±0.7	EI	3976
$YbBr_2^+$	$YbBr_3$? (RN–CAS Registry Number 13759–89–2)		10.0±0.7	EI	3976
Lu^+	Lu (RN–CAS–Registry Number 7439–94–3)	**	5.425889±0.00001	S	4060
Lu^+	Lu (RN–CAS Registry Number 7439–94–3)	**	5.3±0.3	EI	3618
Lu^{+4}	Lu^{+3} (RN–CAS Registry Number 22541–24–8)	**	45.20±0.025	PE	3899
LuC_2^+	LuC_2 (RN–CAS Registry Number 12175–89–2)	**	7.8±1	EI	3618

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
LuC_4^+	LuC_4 (RN-CAS Registry Number 37215-84-2)	**	11.1±1	EI	3618
Hf^{+4}	Hf^{+3} (RN-CAS Registry Number 36756-51-1)	**	33.319±0.025	S	3744
Ta^{+5}	Ta^{+4} (RN-CAS Registry Number 16044-71-6)	**	48.4±0.1	S	4101
TaF_3^+	TaF_4? (RN-CAS Registry Number 15192-46-8)	F?	22.0	EI	3783
TaF_4^+	TaF_4? (RN-CAS Registry Number 15192-46-8)	**	14.6	EI	3783
$Ta_2F_9^+$	Ta_2F_9? (RN-CAS Registry Number XXXXX-XX-X)	**	14.9	EI	3783
$Ta_3F_{14}^+$	Ta_3F_{14}? (RN-CAS Registry Number XXXXX-XX-X)	**	14.0	EI	3783
$TaCl_2^+$	$TaCl_5$ (RN-CAS Registry Number 7721-01-9)		20.3	EI	3783
$TaCl_3^+$	$TaCl_5$ (RN-CAS Registry Number 7721-01-9)		15.2	EI	3783
$TaCl_4^+$	$TaCl_5$ (RN-CAS Registry Number 7721-01-9)		10.9	EI	3783
$C_6H_{18}W^+$	$(CH_3)_6W$ (RN-CAS Registry Number 36133-73-0)	**	9.8	PE	3663
$C_6O_6W^+$	$W(CO)_6$ (RN-CAS Registry Number 14040-11-0)	**	8.30±0.02 (V)	PE	3979
$C_{10}H_5NO_5W^+$	$C_5H_5NW(CO)_5$ (*OC*-6-22)-Pentacarbonyl(pyridine)tungsten) (RN-CAS Registry Number 14586-49-3)	**	7.53±0.05	EI	3498
$C_{11}H_7NO_5W^+$	$C_5H_4N(CH_3)W(CO)_5$ (Pentacarbonyl(4-methylpyridine)tungsten) (RN-CAS Registry Number 17000-14-5)	**	7.46±0.05	EI	3498
$C_{12}H_9NO_5W^+$	$C_5H_3N(CH_3)_2W(CO)_5$ ((*OC*-6-22)-Pentacarbonyl(2,6-dimethylpyridine)tungsten) (RN-CAS Registry Number 36252-39-8)	**	7.43±0.05	EI	3498
$C_{11}H_4N_2O_5W^+$	$C_5H_4N(CN)W(CO)_5$ ((*OC*-6-22)-Pentacarbonyl(2-pyridinecarbonitrile-N^1)tungsten) (RN-CAS Registry Number 36252-42-3)	**	7.65±0.05	EI	3498

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{36}N_6P_2W^+$	$(((CH_3)_2N)_3P)_2W(CO)_4$ (RN–CAS Registry Number 19976–86–4)	4CO	10.7±0.05	EI	3952
$C_{14}H_{36}N_6O_2P_2W^+$	$(((CH_3)_2N)_3P)_2W(CO)_4$ (RN–CAS Registry Number 19976–86–4)	2CO	12.2±0.05	EI	3952
$C_{15}H_{36}N_6O_3P_2W^+$	$(((CH_3)_2N)_3P)_2W(CO)_4$ (RN–CAS Registry Number 19976–86–4)	CO	10.3±0.05	EI	3952
$C_{16}H_{36}N_6O_4P_2W^+$	$(((CH_3)_2N)_3P)_2W(CO)_4$ (RN–CAS Registry Number 19976–86–4)	**	5.5±0.05	EI	3952
WCl^+	WCl_6 (RN–CAS Registry Number 13283–01–7)		22.9	EI	3783
WCl_2^+	WCl_6 (RN–CAS Registry Number 13283–01–7)		19.4	EI	3783
WCl_3^+	WCl_6 (RN–CAS Registry Number 13283–01–7)		15.4	EI	3783
WCl_4^+	WCl_6 (RN–CAS Registry Number 13283–01–7)		11.4	EI	3783
WCl_4^+	$WOCl_4$ (RN–CAS Registry Number 13520–78–0)		16.0±1	EI	3604
WCl_5^+	WCl_6 (RN–CAS Registry Number 13283–01–7)		10.9	EI	3783
WCl_6^+	WCl_6 (RN–CAS Registry Number 13283–01–7)	**	9.5	EI	3783
$WOCl_3^+$	$WOCl_4$ (RN–CAS Registry Number 13520–78–0)		10.0±0.5	EI	3604
$WOCl_4^+$	$WOCl_4$ (RN–CAS Registry Number 13520–78–0)	**	10.8±0.5	EI	3604
WS_2Cl^+	WS_2Cl_2 (RN–CAS Registry Number 24664–20–8)		12.6±0.5	EI	3604
$WS_2Cl_2^+$	WS_2Cl_2 (RN–CAS Registry Number 24664–20–8)	**	10.5±0.5	EI	3604
$WSCl_3^+$	$WSCl_4$ (RN–CAS Registry Number 25127–53–1)		9.5±0.5	EI	3604
$WSCl_4^+$	$WSCl_4$ (RN–CAS Registry Number 25127–53–1)	**	10.4±1	EI	3604

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$WOSCl^+$	$WOSCl_2$ (RN-CAS Registry Number XXXXX-XX-X)		13.8±0.5	EI	3604
$WOSCl_2^+$	$WOSCl_2$ (RN-CAS Registry Number XXXXX-XX-X)	**	10.6±0.5	EI	3604
WBr_2^+	$WOBr_4$ (RN-CAS Registry Number 13520-77-9)		21.4±0.5	EI	3450
WBr_3^+	$WOBr_4$ (RN-CAS Registry Number 13520-77-9)		18.1±0.5	EI	3450
$WOBr^+$	WO_2Br_2 (RN-CAS Registry Number 13520-75-7)		20.0±0.8	EI	3450
$WOBr^+$	$WOBr_4$ (RN-CAS Registry Number 13520-77-9)		18.1±0.8	EI	3450
WO_2Br^+	WO_2Br_2 (RN-CAS Registry Number 13520-75-7)		13.0±0.4	EI	3450
$WOBr_2^+$	$WOBr_4$ (RN-CAS Registry Number 13520-77-9)		14.4±0.5	EI	3450
$WO_2Br_2^+$	WO_2Br_2 (RN-CAS Registry Number 13520-75-7)	**	11.4±0.2	EI	3450
$WOBr_3^+$	$WOBr_4$ (RN-CAS Registry Number 13520-77-9)		10.3±0.2	EI	3450
$WOBr_3^+$	$WOBr_4$ (RN-CAS Registry Number 13520-77-9)		10.5±0.5	EI	3604
$WOBr_4^+$	$WOBr_4$ (RN-CAS Registry Number 13520-77-9)	**	10.3±0.3	EI	3450
$WOBr_4^+$	$WOBr_4$ (RN-CAS Registry Number 13520-77-9)	**	11.5±0.5	EI	3604
WO_2I^+	WO_2I_2 (RN-CAS Registry Number 14447-89-3)		12.5±0.5	EI	3451
$WO_2I_2^+$	WO_2I_2 (RN-CAS Registry Number 14447-89-3)	**	10.4±0.4	EI	3451
ReO^+	ReO_3 (RN-CAS Registry Number 1314-28-9) (TR-Other product(s) thermochemically reasonable)		~18	EI	4016
ReO_2^+	ReO_3 (RN-CAS Registry Number 1314-28-9) (TR-Other product(s) thermochemically reasonable)		14.4±1.0	EI	4016
ReO_2^+	Re_2O_7 (RN-CAS Registry Number 1314-68-7)		21.9±1.0	EI	4016

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
ReO_3^+	ReO_3 (RN-CAS Registry Number 1314-28-9)	**	12.5±0.4	EI	4016
(TR-Other product(s) thermochemically reasonable)					
ReO_3^+	Re_2O_7 (RN-CAS Registry Number 1314-68-7)		16.2±0.5	EI	4016
ReO_3^+	ReO_3Cl (RN-CAS Registry Number 7791-09-5)		15.6±0.5	EI	3604
$Re_2O_5^+$	Re_2O_7 (RN-CAS Registry Number 1314-68-7)		17.5±0.2	EI	4016
$Re_2O_6^+$	Re_2O_7 (RN-CAS Registry Number 1314-68-7)		16.2±0.5	EI	4016
$Re_2O_7^+$	Re_2O_7 (RN-CAS Registry Number 1314-68-7)	**	12.7±0.2	EI	4016
$C_5HO_5Re^+$	$HRe(CO)_5$ (RN-CAS Registry Number 16457-30-0)	**	8.86±0.02 (V)	PE	3827
ReF_6^+	ReF_6 (RN-CAS Registry Number 10049-17-9)	**	7.99	S	3565
$C_5H_3O_5SiRe^+$	$SiH_3Re(CO)_5$ (RN-CAS Registry Number 40628-33-9)	**	8.9±0.1 (V)	PE	3827
$ReCl_4^+$	$ReOCl_4$ (RN-CAS Registry Number 13814-76-1)		16.5±0.5	EI	3604
ReO_2Cl^+	ReO_3Cl (RN-CAS Registry Number 7791-09-5)		12.3±0.5	EI	3604
$ReOCl_3^+$	$ReOCl_4$ (RN-CAS Registry Number 13814-76-1)		12.3±0.5	EI	3604
$ReOCl_4^+$	$ReOCl_4$ (RN-CAS Registry Number 13814-76-1)	**	10.7±0.5	EI	3604
$C_5H_3O_5GeRe^+$	$GeH_3Re(CO)_5$ (RN-CAS Registry Number 30012-26-1)	**	8.9±0.1 (V)	PE	3827
ReO_3I^+	ReO_3I (RN-CAS Registry Number 39327-80-5)	**	10.9±0.5	EI	4013
$BaReO_4^+$	$Ba(ReO_4)_2$? (RN-CAS Registry Number XXXXX-XX-X)		13.4±0.5	EI	4108
$C_{12}H_{14}Os^+$	$(C_5H_4CH_3)_2Os$ (Osmocene, 1,1′-dimethyl-) (RN-CAS Registry Number 40672-07-9)	**	6.93 (V)	PE	3688

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$OsO_4^+(^2T_2)$	OsO_4	**	12.320	PE	3836
	(RN-CAS Registry Number 20816-12-0)				
OsO_4^+	OsO_4	**	12.39	PE	3838
	(RN-CAS Registry Number 20816-12-0)				
$OsO_4^+(^2T_1)$	OsO_4	**	13.138	PE	3836
	(RN-CAS Registry Number 20816-12-0)				
$OsO_4^+(^2E)$	OsO_4	**	13.502	PE	3836
	(RN-CAS Registry Number 20816-12-0)				
$OsO_4^+(^2A_1)$	OsO_4	**	14.543	PE	3836
	(RN-CAS Registry Number 20816-12-0)				
$OsO_4^+(^2T_2)$	OsO_4	**	16.31 (V)	PE	3836
	(RN-CAS Registry Number 20816-12-0)				
$OsOCl_3^+$	$OsOCl_4$		12.4±0.5	EI	3604
	(RN-CAS Registry Number 14998-32-4)				
$OsOCl_4^+$	$OsOCl_4$	**	11.3±0.5	EI	3604
	(RN-CAS Registry Number 14998-32-4)				
$C_7H_7O_4Ir^+$	$(CH_3COCHCOCH_3)Ir(CO)_2$	**	8.6±0.1	EI	3497
	(Dicarbonyl(2,4-pentanedionato)iridium)				
	(RN-CAS Registry Number 14023-80-4)				
$C_7HO_4F_6Ir^+$	$(CF_3COCHCOCF_3)Ir(CO)_2$	**	8.85±0.05	EI	3497
	(Dicarbonyl(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)iridium)				
	(RN-CAS Registry Number 14049-69-5)				
Au^+	Au	**	9.21±0.05	RPD	3745
	(RN-CAS Registry Number 7440-57-5)				
Au^+	Au	**	8.5±0.8	EI	3978
	(RN-CAS Registry Number 7440-57-5)				
Au^+	Au	**	9.0±0.5	EI	3473
	(RN-CAS Registry Number 7440-57-5)				
Au_2^+	Au_2	**	9.5±0.3	EI	4014
	(RN-CAS Registry Number XXXXX-XX-X)				
Au_2^+	Au_2	**	9.5±0.3	EI	4005
	(RN-CAS Registry Number 12187-09-6)				
Au_2^+	Au_2	**	9.7±0.4	EI	3468
	(RN-CAS Registry Number 12187-09-6)				
AuB^+	AuB	**	8.7±0.5	EI	3468
	(RN-CAS Registry Number 12408-81-0)				
AuB^+	AuBO?		14.5±0.5	EI	3473
	(RN-CAS Registry Number 12588-90-8)				
$AuBO^+$	AuBO	**	9.7±0.2	EI	3473
	(RN-CAS Registry Number 12588-90-8)				
$AuAl^+$	AuAl	**	7.6±0.3	EI	4014
	(RN-CAS Registry Number XXXXX-XX-X)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$AuAl^+$	AuAl (RN-CAS Registry Number 12250-38-3)	**	7.6±0.3	EI	4005
$AuAl^+$	AuAl (RN-CAS Registry Number 12250-38-3)	**	7.8±0.3	EI	3440
$AuAl^+$	AuAl (RN-CAS Registry Number 12250-38-3)	**	9.0±1.0	EI	3796
$AuAl_2^+$	$AuAl_2$ (RN-CAS Registry Number 12004-03-4)	**	6.2±1.0	EI	3966
Au_2Al^+	Au_2Al (RN-CAS Registry Number 12250-39-4)	**	7.7±1.0	EI	3966
$AuGe^+$	AuGe (RN-CAS Registry Number 12256-41-6)	**	7.7	EI	3775
$AuCe^+$	AuCe (RN-CAS Registry Number 12408-82-1)	**	6.0±0.3	EI	3468
$AuHo^+$	AuHo (RN-CAS Registry Number 12044-80-3)	**	6.2±0.5	EI	3440
$Hg^+(^2S_{1/2})$	Hg (RN-CAS Registry Number 7439-97-6)	**	10.4	PE	3672
$Hg^+(^2D_{5/2})$	Hg (RN-CAS Registry Number 7439-97-6)	**	14.8	PE	3672
$Hg^+(^2S_{1/2})$	Hg (RN-CAS Registry Number 7439-97-6)	**	10.487±0.005	PEN	3541
$Hg^+(^2D_{5/2})$	Hg (RN-CAS Registry Number 7439-97-6)	**	14.907±0.015	PEN	3541
$Hg^+(^2D_{3/2})$	Hg (RN-CAS Registry Number 7439-97-6)	**	16.787±0.015	PEN	3541
$Hg^+(^2P_{3/2})$	Hg (RN-CAS Registry Number 7439-97-6)	**	18.050±0.050	PEN	3541
Hg^+	Hg (RN-CAS Registry Number 7439-97-6)	**	10.47±0.05	RPD	3745
$C_{12}H_{10}Hg$	$(C_6H_5)_2Hg$ (Mercury, diphenyl-) (RN-CAS-Registry Number 587-85-9)	**	8.30±0.03	PI	4055
$HgCl_2^+$	$HgCl_2$ (RN-CAS Registry Number 7487-94-7)	**	11.5 (V)	PE	3963
$C_3H_5ClHg^+$	$CH_2=CHCH_2HgCl$ (RN-CAS Registry Number 14155-77-2)	**	9.35 (V)	PE	3859
Tl^+	$TlBO_2$ (RN-CAS Registry Number XXXXX-XX-X)	BO_2	10.43±0.07	EI	4096

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Tl^{+3}	Tl^{+2} (RN-CAS Registry Number 14877-28-2)	**	29.8523±0.0006	S	4093
Tl_2^+	Tl_2O (RN-CAS Registry Number 1314-12-1)		11.97±0.09	EI	4096
TlO^+	$TlBO_2$ (RN-CAS Registry Number XXXXX-XX-X)		10.68±0.11	EI	4096
Tl_2O^+	Tl_2O (RN-CAS Registry Number 1314-12-1)	**	8.02±0.10	EI	4096
$TlBO^+$	TlBO? (RN-CAS Registry Number XXXXX-XX-X)	**	11.8±0.6	EI	4096
$TlBO^+$	$TlBO_2$? (RN-CAS Registry Number XXXXX-XX-X)	**	15.02±0.23	EI	4096
$TlBO_2^+$	$TlBO_2$ (RN-CAS Registry Number XXXXX-XX-X)	**	9.92±0.11	EI	4096
$Tl_2BO_2^+$	$(TlBO_2)_2$ (RN-CAS Registry Number XXXXX-XX-X)		9.17±0.10	EI	4096
$TlF^+(^2\Sigma)$	TlF (RN-CAS Registry Number 7789-27-7)	**	10.52	PE	3971
$TlF^+(^2\Pi)$	TlF (RN-CAS Registry Number 7789-27-7)	**	11.15	PE	3971
$TlF^+(^2\Sigma)$	TlF (RN-CAS Registry Number 7789-27-7)	**	~14.05	PE	3971
Tl_2F^+	$(TlF)_2$ (RN-CAS Registry Number 31970-97-5)		9.97±0.02	PI	3971
$Tl_2F_2^+$	$(TlF)_2$ (RN-CAS Registry Number 31970-97-5)	**	9.71±0.02	PI	3971
$Tl_2F_2^+(^2\Pi_u)$	$(TlF)_2$ (RN-CAS Registry Number 31970-97-5)	**	9.62	PE	3971
$Tl_2F_2^+(^2\Pi_g, ^2\Pi_u, ^2\Sigma_g)$	$(TlF)_2$ (RN-CAS Registry Number 31970-97-5)	**	13.63	PE	3971
$Tl_2F_2^+(^2\Sigma_u)$	$(TlF)_2$ (RN-CAS Registry Number 31970-97-5)	**	17.07	PE	3971
$Tl_2F_2^+(^2\Sigma_g)$	$(TlF)_2$ (RN-CAS Registry Number 31970-97-5)	**	~17.80	PE	3971
$TlCl^+(^2\Sigma)$	TlCl	**	13.79	PE	3913
$TlCl^+(X^2\Sigma)$	TlCl (RN-CAS Registry Number 7791-12-0)	**	9.894 (V)	PE	3913
$TlCl^+(^2\Pi)$	TlCl (RN-CAS Registry Number 7791-12-0)	**	9.925 (V)	PE	3536
$TlCl^+(^2\Pi)$	TlCl (RN-CAS Registry Number 7791-12-0)	**	10.384 (V)	PE	3913

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$TlAs^+$	TlAs	**	9±1	EI	3947
	(RN-CAS Registry Number 12006-09-6)				
$TlBr^+(^2\Pi)$	TlBr	**	9.832 (V)	PE	3913
	(RN-CAS Registry Number 7789-40-4)				
$TlBr^+(^2\Sigma)$	TlBr	**	13.57	PE	3913
	(RN-CAS Registry Number 7789-40-4)				
TlI^+	TlI	**	8.47±0.02	PI	3536
	(RN-CAS Registry Number 7790-30-9)				
	(HB-Threshold value approximately corrected for hot bands)				
$TlI^+(^2\Sigma_{1/2},^2\Pi_{3/2})$	TlI	**	8.47±0.02	PE	3913
	(RN-CAS Registry Number 7790-30-9)				
TlI^+	TlI	**	8.93 (V)	PE	3676
	(RN-CAS Registry Number 7790-30-9)				
$TlI^+(^2\Pi)$	TlI	**	9.39	PE	3913
	(RN-CAS Registry Number 7790-30-9)				
TlI^+*	TlI	**	9.71 (V)	PE	3676
	(RN-CAS Registry Number 7790-30-9)				
$TlI^+(^2\Sigma)$	TlI	**	13.0	PE	3913
	(RN-CAS Registry Number 7790-30-9)				
TlI^+*	TlI	**	13.52 (V)	PE	3676
	(RN-CAS Registry Number 7790-30-9)				
Pb^{+4}	Pb^{+3}	**	42.3333±0.0006	S	4093
	(RN-CAS Registry Number 18466-73-4)				
$C_3H_9Pb^+$	$(CH_3)_4Pb$	CH_3	8.77±0.16	EI	3548
	(RN-CAS Registry Number 75-74-1)				
$C_3H_9Pb^+$	$(CH_3)_3CPb(CH_3)_3$	$(CH_3)_3C$	8.67±0.21	EI	3548
	(RN-CAS Registry Number 32997-03-8)				
$C_3H_9Pb^+$	$(CH_3)_3PbPb(CH_3)_3$	$(CH_3)_3Pb$	9.02±0.14	EI	3548
	(RN-CAS Registry Number 6713-83-3)				
$C_4H_{12}Pb^+$	$(CH_3)_4Pb$	**	8.50±0.04	PE	3880
	(RN-CAS Registry Number 75-74-1)				
$C_4H_{12}Pb^+$	$(CH_3)_4Pb$	**	8.83±0.1	PE	3677
	(RN-CAS Registry Number 75-74-1)				
$C_4H_{12}Pb^+$	$(CH_3)_4Pb$	**	8.26±0.17	EI	3548
	(RN-CAS Registry Number 75-74-1)				
$C_7H_{18}Pb^+$	$(CH_3)_3CPb(CH_3)_3$	**	7.99±0.13	EI	3548
	(RN-CAS Registry Number 32997-03-8)				
$C_6H_{18}Pb_2^+$	$(CH_3)_3PbPb(CH_3)_3$	**	7.41±0.10	EI	3548
	(RN-CAS Registry Number 6713-83-3)				
$C_{16}H_{44}Si_4Pb^+$	$((CH_3)_3SiCH_2)_4Pb$	**	8.14±0.1 (V)	PE	3830
	(RN-CAS Registry Number 18547-13-2)				

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
$PbCl_2^+$	$PbCl_2$ (RN-CAS Registry Number 7758-95-4)	**	10.11 (V)	PE	3650
PbI_2^+	PbI_2 (RN-CAS Registry Number 10101-63-0)	**	8.86±0.03	PI	3536
Bi_3^+	Bi_3? (RN-CAS Registry Number 12595-63-0)	**	7.6±0.3	EI	3599
Bi_4^+	Bi_4 (RN-CAS Registry Number XXXXX-XX-X)	**	7.7±0.3	EI	3599
BiF_3^+	BiF_3 (RN-CAS Registry Number 7787-62-4)	**	~12	EI	3551
BiF_4^+	BiF_5 (RN-CAS Registry Number 7787-62-4)		14.5-15	EI	3551
$Bi_2F_9^+$	$(BiF_5)_2$? (RN-CAS Registry Number XXXXX-XX-X)		14.5-15	EI	3551
$GaBi^+$	GaBi (RN-CAS Registry Number 12010-43-4)	**	7±1	EI	3608
$BiTl^+$	BiTl (RN-CAS Registry Number 26257-16-9)	**	7.5±0.4	EI	3949
Ac^+	Ac (RN-CAS Registry Number 7440-34-8)	**	5.17±0.12	D	3875
Th^+	Th (RN-CAS Registry Number 7440-29-1)	**	5.9±0.15	EI	3962
Th^+	Th (RN-CAS Registry Number 7440-29-1)	**	7.83±0.25	SI	4042
Th^+	Th (RN-CAS Registry Number 7440-29-1)	**	6.08±0.12	D	3875
ThO^+	ThO (RN-CAS Registry Number 12035-93-7)	**	6.1±0.15	EI	3962
ThO_2^+	ThO_2 (Rn 1314-20-1)	**	8.7±0.15	EI	3962
$ThCl_4^+$	$ThCl_4$ (RN-CAS Registry Number 10026-08-1)	**	12.7±0.3	EI	3795
$ThPt^+$	ThPt (RN-CAS Registry Number 12038-30-1)	**	8±2	EI	3968
Pa^+	Pa (RN-CAS Registry Number 7440-13-3)	**	5.89±0.12	D	3875

Table of Ion Energetics Measurements—Continued

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
U^+	U (RN-CAS Registry Number 7440-61-1)	**	6.22±0.5	S	3566
U^+	U (RN-CAS Registry Number 7440-61-1)	**	6.1±0.3	RPD	3557
U^+	U (RN-CAS Registry Number 7440-61-1)	**	6.8±1.5	EI	3595
U^+	U (RN-CAS Registry Number 7440-61-1)	**	~6±0.5	EI	3448
U^+	U (RN-CAS Registry Number 7440-61-1)	**	6.05±0.07	D	3875
U^{+2}	U^+ (RN-CAS Registry Number 15721-70-7)	**	10.6±1	S	3566
UO^+	UO (RN-CAS Registry Number 12035-97-1)	**	5.7±0.4	RPD	3557
UO^+	UO (RN-CAS Registry Number 12035-97-1)	**	4.3±1.5	EI	3595
UO^+	UO (RN-CAS Registry Number 12035-97-1)	**	~6±0.5	EI	3448
UO_2^+	UO_2 (RN-CAS Registry Number 1344-57-6)	**	5.5±0.4	RPD	3557
UO_2^+	UO_2 (RN-CAS Registry Number 1344-57-6)	**	4.5±1.5	EI	3595
UO_2^+	UO_2? (RN-CAS Registry Number 1344-57-6)	**	~6±0.5	EI	3448
UO_3^+	UO_3 (RN-CAS Registry Number 1344-58-7)	**	11.1±0.4	RPD	3557
UO_3^+	UO_3 (RN-CAS Registry Number 1344-58-7)	**	9.5±1.5	EI	3595
US^+	US? (RN-CAS Registry Number 12039-11-1)	**	~6±0.5	EI	3448
UOS^+	UOS (RN-CAS Registry Number 22201-28-1)	**	~8±0.5	EI	3448
UCl_3^+	UCl_3? (RN-CAS Registry Number 10025-93-1)	**	~10.0±0.5	EI	3795
UCl_4^+	UCl_4 (RN-CAS Registry Number 10026-10-5)	**	11.0±0.3	EI	3795
Np^+	Np (RN-CAS Registry Number 7439-99-8)	**	6.32±0.12	SI	4042
Np^+	Np (RN-CAS Registry Number 7439-99-8)	**	6.20±0.12	D	3875
Pu^+	Pu (RN-CAS Registry Number 7440-07-5)	**	4.99±0.15	SI	4042

Ion	Reactant	Other products	Ionization or appearance potential (eV)	Method	Ref.
Pu^+	Pu (RN-CAS Registry Number 7440-07-5)	**	6.06±0.02	D	3875
Am^+	Am (RN-CAS Registry Number 7440-35-9)	**	5.993±0.010	D	3875
Cm^+	Cm (RN-CAS Registry Number 7440-51-9)	**	6.09±0.02	D	3875
Bk^+	Bk (RN-CAS Registry Number 7440-40-6)	**	6.30±0.09	D	3875
Cf^+	Cf (RN-CAS Registry Number 7440-71-3)	**	6.41±0.10	D	3875
Es^+	Es (RN-CAS Registry Number 7429-92-7)	**	6.52±0.10	D	3875
Fm^+	Fm (RN-CAS Registry Number 7440-72-4)	**	6.64±0.11	D	3875
Md^+	Md (RN-CAS Registry Number 7440-11-1)	**	6.74±0.12	D	3875
No^+	No (RN-CAS Registry Number 10028-14-5)	**	6.84±0.12	D	3875

[3440] Cocke, D. L., and Gingerich, K. A. Mass spectrometric determination of the dissociation energies of the molecules Ho_2, HoAg, and HoAu, J. Phys. Chem. **75,** 3264 (1971).

[3441] Baylis, A. B., Pressley, G. A., Jr., and Stafford, F. E. Mass spectrometric investigation of the pyrolysis of boranes. IV. Diborane, J. Am. Chem. Soc. **88,** 2428 (1966).

[3442] DeCorpo, J. J., Bafus, D. A., and Franklin, J. L. Enthalpies of formation of the monohalomethyl radicals from mass spectrometric studies of the dihalomethanes, J. Chem. Thermodyn. **3,** 125 (1971).

[3443] Bentley, T. W., Johnstone, R. A. W., and Mellon, F. A. Aspects of mass spectra of organic compounds. Part IX. Evidence against charge localization in the fragmentation of methionine and selenomethionine, J. Chem. Soc. (B), 1800 (1971).

[3444] Borossay, J., Csákvári, B., and Szepes, L. Determination of bond energies of organic silicon compounds on the basis of appearance potentials, Intern. J. Mass Spectrom. Ion Phys. **7,** 47 (1971).

[3445] Daly, N. R. Higher autoionization processes in argon and xenon, Proc. Phys. Soc. **85,** 897 (1965).

[3446] Brown, P. Kinetic studies in mass spectrometry. VIII. Competing $[M-CH_3]$ and $[M-CH_2O]$ reactions in substituted anisoles. Approximate activation energies from ionization and appearance potentials, Org. Mass Spectrom. **4,** 519 (1970).

[3447] Brown, P. Kinetic studies in mass spectrometry. IX. Competing $[M-NO_2]$ and [M–NO] reactions in substituted nitrobenzenes. Approximate activation energies from ionization and appearance potentials, Org. Mass Spectrom. **4,** 533 (1970).

[3448] Cater, E. D., Rauh, E. G., and Thorn, R. J. Thermochemistry of UOS; evaporation of US–UO_2 mixtures; on the attainment of equilibrium in Knudsen cells, J. Chem. Phys. **49,** 5244 (1968).

[3449] Edwards, J. G., Franzen, H. F., and Gilles, P. W. High-temperature mass spectrometry, vaporization, and thermodynamics of titanium monosulfide, J. Chem. Phys. **54,** 545 (1971).

[3450] Gupta, S. K. A thermodynamic investigation of the tungsten–oxygen–bromine system, J. Phys. Chem. **75,** 112 (1971).

[3451] Gupta, S. K. Thermal stabilities of tungsten oxyiodides, J. Phys. Chem. **73,** 4086 (1969).

[3452] Daly, N. R., and Powell, R. E. Electron collisions in nitrogen, Proc. Phys. Soc. **89,** 273 (1966).

[3453] Cantone, B., Emma, V., and Grasso, F. Fine structure near the ionization threshold of Kr, O_2, NO by electron impact, Advan. Mass Spectrom. **4,** 599 (1968).

[3454] Dougherty, R. C., Bertorello, H. E., and Martínez de Bertorello, M. Mass spectra and thermochemistry of methyl phenanthrenes. A contribution to the analogy between mass spectral and thermal fragmentation reactions, Org. Mass Spectrom. **5,** 1321 (1971).

[3455] Guido, M., Balducci, G., Gigli, G., and Spoliti, M. Mass spectrometric study of the vaporization of cuprous chloride and the dissociation energy of Cu_3Cl_3, Cu_4Cl_4, and Cu_5Cl_5, J. Chem. Phys. **55,** 4566 (1971).

[3456] Smagina, E. I., and Kutsev, V. S. A mass-spectrometric study of the mechanism of the decomposition of lanthanum oxide fluoride, Zh. Fiz. Khim. **45,** 46 (1971) [Engl. transl.: Rus. J. Phys. Chem. **45,** 24 (1971)].

[3457] Stearns, C. A., and Kohl, F. J. Vaporization thermodynamics of the lanthanum carbon system. Mass spectrometric determination of the dissociation energy of LaC_2, LaC_3, and LaC_4, J. Chem. Phys. **54,** 5180 (1971).

[3458] Smoes, S., Myers, C. E., and Drowart, J. Determination of the atomization energies of CP, C_2P, CP_2 and C_2P_2 by high temperature Knudsen cell mass spectrometry, Chem. Phys. Letters **8,** 10 (1971).

[3459] Hariharan, A. V., and Eick, H. A. Vaporization thermodynamics of europium(II) sulfide, High Temp. Sci. **3,** 123 (1971).

[3460] Seiver, R. L., and Eick, H. A. Vapor pressure measurements in the samarium dicarbide–carbon and thulium dicarbide–carbon systems, High Temp. Sci. **3,** 292 (1971).

[3461] Schoonmaker, R. C., and Porter, R. F. Mass spectrometric study of alkali hydroxide vapors, J. Chem. Phys. **31,** 830 (1959).

[3462] Srivastava, R. D., and Farber, M. Mass spectrometric determination of the heats of formation of AlOCl(g) and AlOF(g), J. Phys. Chem. **75,** 1760 (1971).

[3463] Farber, M., Srivastava, R. D., and Uy, O. M. Mass spectrometric determination of the heat of formation of the AlO_2 molecule, J. Chem. Phys. **55,** 4142 (1971).

[3464] Porter, R. F., and Schoonmaker, R. C. Mass spectrometric study of the vaporization of LiF, NaF, and LiF–NaF mixtures, J. Chem. Phys. **29,** 1070 (1958).

[3465] Srivastava, R. D., and Farber, M. Thermodynamic properties of the B–Cl–F system from mass spectrometer investigations, Trans. Faraday Soc. **67,** 2298 (1971).

[3466] Skinner, H. B., and Searcy, A. W. Demonstration of the existence of La_2F_6 gas and determination of its stability, J. Phys. Chem. **75,** 108 (1971).

[3467] Visnapuu, A., and Marek, B. C., Properties of silver bromide vapors, J. Less-Common Metals **25,** 89 (1971).

[3468] Gingerich, K. A. Gaseous metal borides. III. The dissociation energy and heat of formation of gold monoboride, J. Chem. Phys. **54,** 2646 (1971).

[3469] Gingerich, K. A. Gaseous metal nitrides. IV. The dissociation energy of cerium mononitride, J. Chem. Phys. **54,** 3720 (1971).

[3470] Kohl, F. J., and Stearns, C. A. Mass spectrometric determination of the dissociation energy of ScC_2 and ScC_4, J. Chem. Phys. **54,** 1414 (1971).

[3471] Gingerich, K. A., and Finkbeiner, H. C. Dissociation energy of diatomic cerium and predicted stability of gaseous intermetallic cerium compounds, J. Chem. Phys. **54,** 2621 (1971).

[3472] Gingerich, K. A., and Piacente, V. Gaseous phosphorus compounds. IV. Thermodynamic study of gallium monophosphide with a mass spectrometer and dissociation energy of aluminum diphosphide, J. Chem. Phys. **54,** 2498 (1971).

[3473] Gingerich, K. A., and Pupp, C. Mass spectrometric determination of the heats of formation and atomization of gaseous AuBO, J. Chem. Phys. **54,** 3713 (1971).

[3474] Glockling, F., and Strafford, R. G. Electron impact studies on some group III metal alkyls, J. Chem. Soc. (A), 1761 (1971).

[3475] Munir, Z. A., Street, G. B., and Winters, H. F. Mass-spectrometric and vapor pressure studies on the sublimation of realgar (As_4S_4), J. Chem. Phys. **55,** 4520 (1971).

[3476] Hedaya, E., Kent, M. E., McNeil, D. W., Lossing, F. P., and McAllister, T. The thermal rearrangement of phenylnitrene to cyanocyclopentadiene, Tetrahedron Letters **30,** 3415 (1968).

[3477] Harris, M. M., Loudon, A. G., and Mazengo, R. Z. Ring expansion reactions in aromatic systems. A study of steric strain in some n,n'-dimethyl-1,1'-binaphthyls, Org. Mass Spectrom. **5,** 1123 (1971).

[3478] Simmie, J. M., and Tschuikow-Roux, E. Mass spectrum, appearance potentials and bond dissociation energies of 1,1,1-Trifluoroethane, Intern. J. Mass Spectrom. Ion Phys. **7,** 41 (1971).

[3479] Williams, D. H., Cooks, R. G., and Howe, I. Studies in mass spectrometry. XXXI. A comparison of reaction rates in common ions generated via fragmentation and direct ionization, J. Am. Chem. Soc. **90,** 6759 (1968).

[3480] Benezra, S. A., and Bursey, M. M. *ortho*-Effects in mass spectra. Alteration of the molecular-ion energy distribution in disubstituted acetanilides, Z. Naturforsch. **27a,** 670 (1972).

[3481] Pihlaja, K., and Jalonen, J. Appearance potentials determined by the electron-impact method as an analytical aid in the evaluation of conformational energies and clarification of ring conformation-I: Appearance potentials of the $[M-R]^+$ ions formed in the primary fragmentation of stereo-isomeric 1,3-dioxans. A direct route to conformational energies, Org. Mass Spectrom. **5,** 1363 (1971).

[3482] Linda, P., Marino, G., and Pignataro, S. A comparison of sensitivities to substituent effects of five-membered heteroaromatic rings in gas phase ionization, J. Chem. Soc. (B), 1585 (1971).

[3483] Benezra, S. A., and Bursey, M. M. *ortho*-Effects on ordering factors in mass spectral rearrangements. Loss of keten from halogenated phenyl acetates and acetanilides, J. Chem. Soc. (B), 1515 (1971).

[3484] Gamble, A. A., Gilbert, J. R., and Tillett, J. G. Substituent effects on the mass spectra of substituted phenyl acetates, Org. Mass Spectrom. **5,** 1093 (1971).

[3485] Johnstone, R. A. W., Mellon, F. A., and Ward, S. D. On-line computer methods used in conjunction with the measurement of ionization and appearance potentials, Advan. Mass Spectrom. **5,** 334 (1971).

[3486] Okudaira, S. Multiple ionization of Ca, Sr and Ba by electron impact, J. Phys. Soc. Japan **29,** 409 (1970).

[3487] Haney, M. A., and Franklin, J. L. Heats of formation of H_3O^+, H_3S^+, and NH_4^+ by electron impact, J. Chem. Phys. **50,** 2028 (1969).

[3488] Hickling, R. D., and Jennings, K. R. Kinetic shifts and metastable transitions, Org. Mass Spectrom. **3,** 1499 (1970).

[3489] Redhead, P. A. Multiple ionization in carbon monoxide by successive electron impacts, Can. J. Phys. **47,** 2449 (1969).

[3490] Franklin, J. L., and Haney, M. A. Energy distribution in ionic decomposition processes, Recent Developments in Mass Spectroscopy, ed. K. Ogata and T. Hayakawa (Baltimore University Park Press, Baltimore, 1970) p. 909.

[3491] Makowiecki, D. M., Lynch, D. A., and Carlson, K. D. Infrared spectra of the aluminum family suboxides, J. Phys. Chem. **75,** 1963 (1971).

[3492] Brion, C. E., Farmer, J. S. H., Pincock, R. E., and Stewart, W. B. Mass spectra of some geometric isomers at 1216 Å and 584 Å: The photoionization of isomeric tricyclo $[3.2.1.0^{2,4}]$ octanes and related compounds, Org. Mass Spectrom. **4,** 587 (1970).

[3493] Meisels, G. G., and Giessner, B. G. Threshold behavior and the determination of appearance potentials from second differential ionization efficiencies, Intern. J. Mass Spectrom. Ion Phys. **7,** 489 (1971).

[3494] Hvistendahl, G., and Undheim, K. Ionization potentials of stable free radicals, Chemica Scripta **1,** 123 (1971).

[3495] Cardin, D. J., Keppie, S. A., Lappert, M. F., Litzow, M. R., and Spalding, T. R. Binuclear organometallic compounds. Part III. Metal-metal bond dissociation energies, Raman, and infrared spectra for the series $(\pi\text{-}C_5H_5)(CO)_3M^1M^2Me_3$: ($M^1$=Cr, Mo, or W; M^2= Ge or Sn), J. Chem. Soc. (A), 2262 (1971).

[3496] Bursey, M. M., and Rogerson, P. F. The electron-impact ionization potentials of successively substituted acetylacetonates of rhodium(III), Inorg. Chem. **10,** 1313 (1971).

[3497] Bonati, F., Distefano, G., Innorta, G., Minghetti, G., and Pignataro, S. Ionization energies of rhodium and iridium β-diketonates: on the nature of the last occupied orbital, Z. Anorg. Allg. Chem. **386,** 107 (1971).

[3498] Distefano, G., Foffani, A., Innorta, G., and Pignataro, S. Mass spectrometric study of transition metal complexes with ligands having nitrogen or sulphur as donor atom, Advan. Mass Spectrom. **5,** 696 (1971).

[3499] Cornford, A. B., Frost, D. C., Herring, F. G., and McDowell, C. A. The photoelectron spectrum of the free radical chlorine dioxide, Chem. Phys. Letters **10,** 345 (1971).

[3500] Berkowitz, J. Experimental potential energy curves for $X^2\Pi$ and $^2\Sigma^+$ states of HF^+, Chem. Phys. Letters **11,** 21 (1971).

[3501] Brundle, C. R., and Jones, G. R. The molecular orbital energy levels and bonding in krypton difluoride, Chem. Commun., 1198 (1971).

[3502] Cradock, S., and Ebsworth, E. A. V. Photo-electron spectra of silyl and germyl halides and (p→ d)πbonding, Chem. Commun., 57 (1971).

[3503] Green, M. C., Lappert, M. F., Pedley, J. B., Schmidt, W., and Wilkins, B. T. Photoelectron spectra and energy level trends in Me_nSiCl_{4-n} and related series, J. Organometal. Chem. **31,** C55 (1971).

[3504] Bock, H., and Ensslin, W. Bond-bond interaction in polysilanes, Angew. Chem. Intern. Ed. **10,** 404 (1971).

[3505] Haselbach, E., Heilbronner, E., Mannschreck, A., and Seitz, W. Lone pair interaction in 3,3dimethyldiazirine, Angew. Chem. Intern. Ed. **9,** 902 (1970).

[3506] Lloyd, D. R., and Lynaugh, N. Photoelectron spectra of the symmetric trimethylborazines, Chem. Commun. **3,** 125 (1971).

[3507] Anderson, C. P., Mamantov, G., Bull, W. E., Grimm, F. A., Carver, J. C., and Carlson, T. A. Photoelectron spectrum of chlorine monofluoride, Chem. Phys. Letters **12,** 137 (1971).

[3508] Cradock, S. The photoelectron spectra of GeH_4 and GeF_4, Chem. Phys. Letters **10,** 291 (1971).

[3509] Bischof, P., Heilbronner, E., Prinzbach, H., and Martin, H. D. A photoelectron-spectroscopic investigation of the homoconjugative interaction between π- and *Walsh*-orbitals in *endo*- and *exo*cyclopropano-norbornene, Helv. Chim. Acta **54,** 1072 (1971).

[3510] Cradock, S., and Whiteford, R. A. Photo-electron spectra of the mono and dihalo silanes and germanes, Trans. Faraday Soc. **67,** 3425 (1971).

[3511] Frost, D. C., Herring, F. G., Katrib, A., McLean, R. A. N., Drake, J. E., and Westwood, N. P. C. Photoelectron spectra and bonding in some halosilanes, Can. J. Chem. **49,** 4033 (1971).

[3512] Cetinkaya, B., King, G. H., Krishnamurthy, S. S., Lappert, M. F., and Pedley, J. B. Photoelectron spectra of electron-rich olefins and an isostructural boron compound; olefins of exceptionally low first ionisation potential, Chem. Commun., 1370 (1971).

[3513] Gleiter, R., Heilbronner, E., and Hornung, V. Lone pair interaction in pyridazine, pyrimidine, and pyrazine, Angew. Chem. Intern. Ed. **9,** 901 (1970).

[3514] Frost, D. C., Herring, F. G., Katrib, A., McLean, R. A. N., Drake, J. E., and Westwood, N. P. C. $(p\rightarrow d)\pi$ Bonding in halosilanes; evidence from photoelectron spectroscopy, Chem. Phys. Letters **10,** 347 (1971).

[3515] Frost, D. C., Katrib, A., McDowell, C. A., and McLean, R. A. N. The $^2A_1$ band in the photoelectron spectrum of hydrogen sulphide, Intern. J. Mass Spectrom. Ion Phys. **7,** 485 (1971).

[3516] Edqvist, O., Åsbrink, L., and Lindholm, E. On the photoelectron spectrum of NO, Z. Naturforsch. **26a,** 1407 (1971).

[3517] Chadwick, D., Frost, D. C., and Weiler, L. The photoelectron spectra of cyclic ketones, Tetrahedron Letters **47,** 4543 (1971).

[3518] Cowan, D. O., Gleiter, R., Glemser, O., Heilbronner, E., and Schäublin, J. The photoelectron spectrum of thiazyl fluoride (NSF), Helv. Chim. Acta **54,** 1559 (1971).

[3519] Comes, J. Private communication reported in: Momigny, J. and Lorquet, J. C., Reply to the paper "The interpretation of photoelectron spectra, especially those of benzene and water" by A. D. Baker, C. R. Brundle and D. W. Turner, Intern. J. Mass Spectrom. Ion Phys. **2,** 495 (1969).

[3520] Baker, A. D., Brundle, C. R., and Turner, D. W. The interpretation of photoelectron spectra-especially those of benzene and water, Intern. J. Mass Spectrom. Ion Phys. **1,** 443 (1968).

[3521] Appell, J., and Kubach, C. On the formation of energetic protons by electron impact on methane, Chem. Phys. Letters **11,** 486 (1971).

[3522] Clark, I. D., and Frost, D. C. Unpublished results reported in: Caldow, G. L. Some calculations on the vertical ionization potentials of fluorine-substituted benzenes, Chem. Phys. Letters **2,** 88 (1968).

[3523] Potapov, V. K., and Sorokin, V. V. Photoionization and ion-molecule reactions in quinones and alcohols, Khim. Vys. Energ. **5,** 487 (1971) [Engl. transl.: High Energy Chem. **5,** 435 (1971)].

[3524] Nicholson, A. J. C. Determination of bond dissociation energies from photoionization efficiency curves, Recent Developments in Mass Spectrometry, ed. K. Ogata and T. Hayakawa (University Park Press, Baltimore, 1970) p. 745.

[3525] Spohr, R., Guyon, P. M., Chupka, W. A., and Berkowitz, J. Threshold photoelectron detector for use in the vacuum ultraviolet, Rev. Sci. Instr. **42,** 1872 (1971).

[3526] Loginov, M. V., and Mittsev, M. A. Thermal dissociation of $SrCl_2$ molecules at a tungsten surface, Zh. Tekh. Fiz. **41,** 709 (1971) [Engl. transl.: Sov. Phys.-Tech. Phys. **16,** 557 (1971)].

[3527] Evans, S., Orchard, A. F., and Turner, D. W. A simple, medium resolution helium(I) photoelectron spectrometer, Intern. J. Mass Spectrom. Ion Phys. **7,** 261 (1971).

[3528] Carlson, T. A., and Anderson, C. P. Angular distribution of the photoelectron spectrum for benzene, Chem. Phys. Letters **10,** 561 (1971).

[3529] Rabalais, J. W., Bergmark, T., Werme, L. O., Karlsson, L., and Siegbahn, K. The Jahn-Teller effect in the electron spectrum of methane, Phys. Scr. **3,** 13 (1971).

[3530] Åsbrink, L., and Rabalais, J. W. Comments on the high resolution photoelectron spectrum of H_2O and D_2O, Chem. Phys. Letters **12,** 182 (1971).

[3531] Åsbrink, L. The photoelectron spectrum of H_2, Chem. Phys. Letters **7,** 549 (1970).

[3532] Brogli, F., and Heilbronner, E. The competition between spin orbit coupling and conjugation in alkyl halides and its repercussion on their photoelectron spectra, Helv. Chim. Acta **54,** 1423 (1971).

[3533] Frost, D. C., and Sandhu, J. S. Ionization potentials of ethylene and some methyl-substituted ethylenes as determined by photoelectron spectroscopy, Indian J. Chem. **9,** 1105 (1971).

[3534] Jonathan, N., Morris, A., Ross, K. J., and Smith, D. J. High resolution vacuum ultraviolet photoelectron spectra of transient species: $O_2(^1\Delta_g)$ and previously unobserved states of O_2^+, J. Chem. Phys. **54,** 4954 (1971).

[3535] Holmes, J. L., and McGillivray, D. The mass spectra of isomeric hydrocarbons-I: Norbornene and nortricyclene; The mechanisms and energetics of their fragmentations, Org. Mass Spectrom. **5,** 1349 (1971).

[3536] Berkowitz, J. Photoionization mass spectrometry and photoelectron spectroscopy of high temperature vapors, Advan. High Temp. Chem. **3,** 123 (1971).

[3537] Čermák, V. Penning ionization electron spectroscopy. III. Ionization of cadmium, Coll. Czech. Chem. Com. **36,** 948 (1971).

[3538] Matsumoto, A., Taniguchi, S., and Hayakawa, T. Studies of dissociation of hydrogen and n-butane metastable ions by a pulsed ion source, Recent Developments in Mass Spectrometry, ed. K. Ogata and T. Hayakawa (University Park Press, Baltimore, 1970) p. 820.

[3539] Syrvatka, B. G., Bel'ferman, A. L., Gil'burd, M. M., and Moin, F. B. Determination of the dissociation energy of the double bond in some fluorochlorosubstituted ethylenes and their ions by electron bombardment, Zh. Org. Khim. 7, 9 (1971) [Engl. transl.: J. Org. Chem. USSR **7,** 8 (1971)].

[3540] Murphy, Jr., C. B., and Enrione, R. E. Mass spectrometric determination of bond dissociation energies in $BF_3{\bullet}OEt_2$, Chem. Comm., 1622 (1971).

[3541] Hotop, H., and Niehaus, A. Reactions of excited atoms and molecules with atoms and molecules. II. Energy analysis of Penning electrons, Z. Physik **228,** 68 (1969).

[3542] Stalherm, D., Cleff, B., Hillig, H., and Mehlhorn, W. Energies of excited states of doubly ionized molecules by means of Auger electron spectroscopy. Part I. Electronic states of N_2^{+2}, Z. Naturforsch. **24a,** 1728 (1969).

[3543] Foster, R. Ionization potentials of electron donors, Nature **183,** 1253 (1959).

[3544] Gross, M. L., and Wilkins, C. L. Computer-assisted ion cyclotron resonance appearance potential measurements for C_5H_{10} isomers, Anal. Chem. **43,** 1624 (1971).

[3545] Herberich, G. E., Greiss, G., Heil, H. F., and Müller, J. Paramagnetic borabenzene cobalt complexes, Chem. Comm., 1328 (1971).

[3546] Pitt, C. G. Hyperconjugation: an alternative to the concept of the p_π–d_π bond in Group IV chemistry, J. Organometal. Chem. **23,** C35 (1970).

[3547] Murphy, C. B., and Enrione, R. E. Bond dissociation energies of the 1- and 2- isomers of pentaborane derivatives by electron impact and by extended Hückel calculations, Intern. J. Mass Spectrom. Ion Phys. **7,** 327 (1971).

[3548] Lappert, M. F., Pedley, J. B., Simpson, J., and Spalding, T. R. Bonding studies of compounds of boron and the Group IV elements. VI. Mass spectrometric studies on compounds Me_4M and Me_3M–$M'Me_3$ (M and M'=C, Si, Ge, Sn, and Pb): thermochemical data, J. Organometal. Chem. **29,** 195 (1971).

[3549] Gaidis, J. M., Briggs, P. R., and Shannon, T. W. Mass spectra of disilanes. Phenyl-silicon interaction and silicon-silicon bond strength, J. Phys. Chem. **75,** 974 (1971).

[3550] Majer, J. R., Olavesen, C., and Robb, J. C. Wavelength effect in the photolysis of halogenated ketones, J. Chem. Soc. (B), 48 (1971).

[3551] Lawless, E. W. Mass spectrometric evidence of dimers in bismuth pentafluoride and antimony pentafluoride, Inorg. Chem. **10,** 2084 (1971).

[3552] Grützmacher, H. F., and Hübner, J. Bildung und Struktur von C_6H_4O bei der Pyrolyse von Salicylsäureestern und verwandten Verbindungen, Liebigs Ann. Chem. **748,** 154 (1971).

[3553] Grützmacher, H. F., and Hübner, J. Massenspektrometrie instabiler Moleküle. VII. Thermische Bildung von Fulven-6-on durch zweifache Ringverengung von 3-Bromtropolon, Tetrahedron Letters **19,** 1455 (1971).

[3554] Warneck, P. Photoionisation von Methanol und Formaldehyd, Z. Naturforsch. **26a,** 2047 (1971).

[3555] Gutbier, H. Massenspektrometrische Untersuchungen der Verdampfungsvorgänge bei einigen Verbindungen mit Zinkblende-Gitter im Temperaturbereich um 1000°K, Z. Naturforsch. **16a,** 268 (1961).

[3556] Varmuza, K., and Krenmayr, P. Massenspektrometrische Untersuchungen einfacher und gemischter Phosphortrihalogenide, Monatsh. Chem. **102,** 1037 (1971).

[3557] Pattoret, A., Drowart, J., and Smoes, S. Etudes thermodynamiques par spectrometrie de masse sur le systeme uranium-oxygene, Thermodyn. Nucl. Mater., Proc. Symp., Vienna, 1967, 613 (1968).

[3558] Kuznetsova, L. A., Kuzmenko, N. E., and Kuzyakov, Yu. Ya. Emission spectrum of the $SiBr^+$ molecule, Opt. Spektrosk. **24,** 812 (1968) [Engl. transl.: Opt. Spectry. **24,** 434 (1968)].

[3559] Smith, D. R., and Raymonda, J. W. Rydberg states in fluorinated benzenes; hexa-, penta-, and monofluorobenzene, Chem. Phys. Letters **12,** 269 (1971).

[3560] Verma, R. D., Dixit, M. N., Jois, S. S., Nagaraj, S., and Singhal. S. R. Emission spectrum of the PO molecule. Part II. $^2\Sigma$–$^2\Sigma$ transitions, Can. J. Phys. **49,** 3180 (1971).

[3561] Worley, R. E., and Jenkins, F. A. A new Rydberg series in N_2, Phys. Rev. **54,** 305 (1938).

[3562] Joshi, Y. N., and George, S. Ionization potential of Se IV, Sci. Light (Tokyo) **19,** 43 (1970).

[3563] Kaufman, V., and Sugar, J. The fifth spectrum of praseodymium, J. Res. NBS **71A,** 583 (1967).

[3564] Rao, T. V. R., and Lakshman, S. V. J. The true potential energy curves and Franck-Condon factors of SiH and SiH^+ molecules, Physica, **56,** 322 (1971).

[3565] McDiarmid, R. Higher electronic states of ReF_6, J. Mol. Spectry. **39,** 332 (1971).

[3566] Radziemski, L. J., Jr., Steinhaus, D. W., and Cowan, R. D. Present status of the analysis of U_I and U_{II} as derived from measurements of optical spectra, J. Opt. Soc. Am. **60,** 1556 (1970).

[3567] Donovan, R. J., and Strachan, P. Vacuum U.-V. spectra of transient molecules and radicals, Trans. Faraday Soc. **67,** 3407 (1971).

[3568] Redhead, P. A., and Gopalaraman, C. P. Multiple ionization of cesium and barium by successive electron impacts, Can. J. Phys. **49,** 585 (1971).

[3569] Gleiter, R., Hornung, V., Lindberg, B., Högberg, S., and Lozac'h, N. The He-584 Å and X-ray photoelectron spectra of thiathiophthenes, Chem. Phys. Letters **11,** 401 (1971).

[3570] Adams, G. P., Margrave, J. L., Steiger, R. P., and Wilson, P. W. The enthalpy of sublimation of germanium difluoride and the thermodynamics of sublimation of the Group IVa difluorides, J. Chem. Thermodyn. **3,** 297 (1971).

[3571] Zaretskii, V. I., Sadovskaya, V. L., Wulfson, N. S., Sizoy, V. F., and Merimson, V. G. Mass spectrometry of steroid systems-XXI. Appearance and ionization potentials for the stereoisomers of the D-homoestrane series, Org. Mass Spectrom. **5,** 1179 (1971).

[3572] Bidinasti, D. R., and McIntyre, N. S. Private communication reported in: Winters, R. E., and Kiser, R. W. Doubly charged transition metal carbonyl ions, J. Phys. Chem. **70,** 1680 (1966).

[3573] Weissler, G. L., Ogawa, M., and Judge, D. L. Absorption of O_2, CO_2 and CS_2; fluorescence from CS_2; and photoionization of atomic carbon, J. Physique Supp. **32,** C4-154 (1971).

[3574] Cabaud, B., Uzan, R., and Nounou, P. Étude des processus d'ionisation à haute température des vapeurs métalliques par couplage d'une cellule de Knudsen et d'une source Fox. I. Interprétation des processus d'ionisation de Ag et influence de la température sur les courbes d'efficacit-d'ionisation, Intern. J. Mass Spectrom. Ion Phys. **6,** 89 (1971).

[3575] Lageot, C. Potentiel d'ionisation, courbes d'efficacite d'ionisation differentielle, localisation de la charge de 9 cyclopropanes, Org. Mass Spectrom. **5,** 845 (1971).

[3576] Gleiter, R., Heilbronner, E., and de Meijere, A. Die konjugative Wechselwirkung zwischen π-und Walsh-Orbitalen: das Photoelektron-Spektrum des Homofulvens, Helv. Chim. Acta **54,** 1029 (1971).

[3577] Briegleb, G., Czekalla, J., and Reuss, G. Mesomeriemomente und Elektronenüberführungsbanden von Elektronen-Donator-Akzeptor-Komplexen des Chloranils und Tetracyanäthylens mit aromatischen Kohlenwasserstoffen, Z. Physik. Chem. **30,** 333 (1961).

[3578] Müller, J., and Fenderl, K. Reaktionen des π-Cyclopentadienyl-mangantricarbonyl-Kations mit einfachen Fluorverbindungen in der Gasphase, Chem. Ber. **104,** 2207 (1971).

[3579] Müller, J., and Fenderl, K. Sekundär-Ionen in den Massenspektren von Organochrom-Komplexen, Chem. Ber. **104,** 2199 (1971).

[3580] Sucrow, W., Bethke, H., and Chondromatidis, G. Thermolyse von 1.2.4.5-Tetramethyl-hexahydro1.2.4.5-tetrazinen im Massenspektrometer, Tetrahedron Letters **19,** 1481 (1971).

[3581] Lageot, C. Potentiel d'ionisation, potentiel d'apparition et courbes d'ionisation differentielle pour les 1-2 dimethylcyclohexanes *cis* et *trans*, Org. Mass Spectrom. **5,** 839 (1971).

[3582] Fischer, E. O., Kreiter, C. G., Kollmeier, H. J., Müller, J., and Fischer, R. D. ÜbergangsmetallCarben-Komplexe. XXVII. Ringsubstituierte (Methoxyphenylcarben)-pentacarbonylchrom(0)Komplexe, J. Organometal. Chem. **28,** 237 (1971).

[3583] Grützmacher, H. -F., and Hübner, J. Massenspektrometrie instabiler Moleküle. III: Nachweis und Untersuchungen zur Stabilität chlorsubstituierter Dehydrobenzole in der Gasphase, Org. Mass Spectrom. **2,** 649 (1969).

[3584] Bock, H., and Fuss, W. Ionisierungsenergien und Geometrie von Aminoboranen, Chem. Ber. **104,** 1687 (1971).

[3585] Praet, M. -Th. Ionisation et dissociation du 1-methyl-cyclopentene, du methylenecyclopentane et de quelques isomeres par impact d'electrons et de photons, Org. Mass Spectrom. **4,** 65 (1970).

[3586] Terenin, A. Charge transfer in organic solids, induced by light, Proc. Chem. Soc., 321 (1961).

[3587] Salmona, G., Ferré, Y., and Vincent, E. J. Études expérimentales et théoriques de potentiels d'ionisation de dérivés de la série de l'isothiazole, C. R. Acad. Sci., Ser. C. **273,** 863 (1971).

[3588] Bonnier, J. -M., Gelus, M., and Nounou, P. Contribution a l'étude de l'effet inductif et de l'effet d'hyperconjugaison dans quelques méthylaromatiques, J. Chim. Phys. **10,** 1191 (1965).

[3589] Cullen, W. R., Frost, D. C., and Leeder, W. R. The ultraviolet and photoelectron spectra of some unsaturated fluorocarbon derivatives, J. Fluorine Chem. **1,** 227 (1971/72).

[3590] Audier, H. E., Bouchoux, G., and Fetizon, M. Ionisation et fragmentation en spectrométrie de masse. II. Influence du substituant sur des fragmentations compétitives en série aromatique, Bull. Soc. Chim. Fr. **3,** 858 (1971).

[3591] Chaghtai, M. S. Z., and Ali, Z. Ionization potentials and Rydberg series in KrI sequence, Indian J. Phys. **44,** 330 (1970).

[3592] Budhiraja, C. J., and Joshi, Y. N. Spectrum of Br V, Can. J. Phys. **49,** 391 (1971).

[3593] Joshi, Y. N., and Budhiraja, C. J. Spectrum of trebly ionized bromine, Can. J. Phys. **49,** 670 (1971).

[3594] Balducci, G., De Maria, G., Guido, M., and Piacente, V. Dissociation energy of TiO and TiO_2 gaseous molecules, J. Chem. Phys. **56,** 3422 (1972).

[3595] Blackburn, P. E., and Danielson, P. M. Electron impact relative ionization cross sections and fragmentation of U, UO, UO_2, and UO_3, J. Chem. Phys. **56,** 6156 (1972).

[3596] Kordis, J., and Gingerich, K. A. Gaseous phosphorus compounds. VIII. Thermodynamic study of antimony monophosphide with a mass spectrometer, J. Phys. Chem. **76,** 2336 (1972).

[3597] Cocke, D. L., and Gingerich, K. A. Mass spectrometric determination of the bond dissociation energies of the molecules CePd and CeC_2, J. Phys. Chem. **76,** 2332 (1972).

[3598] Conde-Caprace, G., and Collin, J. E. Ionization and dissociation of cyclic ethers and thioethers by electron-impact. A comparison between 1,3-dioxolane, 1,3-dithiolane and 1,3-oxathiolane, Org. Mass Spectrom. **6,** 415 (1972).

[3599] Sullivan, C. L., Prusaczyk, J. E., and Carlson, K. D. Heats of reaction for the $Sb_4=2Sb_2$ equilibrium and sublimation of Sb_3 and Bi_3 in the vaporization of antimony and bismuth, High Temp. Sci. **4,** 212 (1972).

[3600] Ni, R. Y., and Wahlbeck, P. G. Dissociation energies of gaseous ScSe, YSe, and LaSe, High Temp. Sci. **4,** 326 (1972).

[3601] Wyatt, J. R., and Stafford, F. E. Mass spectrometric determination of the heat of formation of ethynyl radical, C_2H, and of some related species, J. Phys. Chem. **76,** 1913 (1972).

[3602] Carmichael, P. J., Gowenlock, B. G., and Johnson, C. A. F. Carbon-nitrogen bond dissociation energy values in C-nitrosocompounds, Intern. J. Chem. Kinet. **4,** 339 (1972).

[3603] Joyce, T. E., and Rolinski, E. J. A mass spectrometric study of the vaporization of cuprous iodide, J. Phys. Chem. **76,** 2310 (1972).

[3604] Singleton, D. L., and Stafford, F. E. A mass spectrometric study of transition metal oxo- and thiohalides, Inorg. Chem. **11,** 1208 (1972).

[3605] Wagner, L. C., and Grimley, R. T. A study of ionization processes by the angular distribution technique. The AgCl system, J. Phys. Chem. **76,** 2819 (1972).

[3606] Uy, O. M., Srivastava, R. D., and Farber, M. Mass spectrometric determination of the heats of formation of the gaseous molecules $AlOF_2$ and AlF_2, High Temp. Sci. **4,** 227 (1972).

[3607] Roberts, J. A., Jr., and Searcy, A. W. The stabilities of $Ce_2F_6(g)$ and $La_2F_6(g)$, High Temp. Sci. **4,** 411 (1972).

[3608] Piacente, V., and Desideri, A. Mass spectrometric determination of the dissociation energy of GaBi molecule, J. Chem. Phys. **57,** 2213 (1972).

[3609] Piacente, V., and Gingerich, K. A. Thermodynamic study of the molecule NaAg with a mass spectrometer, High Temp. Sci. **4,** 312 (1972).

[3610] Hildenbrand, D. L. The gaseous equilibrium Ge + SiO = GeO + Si and the dissociation energy of SiO, High Temp. Sci. **4,** 244 (1972).

[3611] Balducci, G., De Maria, G., and Guido, M. Mass spectrometric determination of the dissociation energy of $EuC_2(g)$, J. Chem. Phys. **56,** 1431 (1972).

[3612] Hariharan, A. V., and Eick, H. A. Vaporization thermodynamics of EuI_2, High Temp. Sci. **4,** 379 (1972).

[3613] Feather, D. H., Büchler, A., and Searcy, A. W. The vapor pressures of gallium trifluoride monomer and dimer, High Temp. Sci. **4,** 290 (1972).

[3614] Hariharan, A. V., Fishel, N. A., and Eick, H. A. Vaporization thermodynamics of $YbCl_2$, High Temp. Sci. **4,** 405 (1972).

[3615] Muenow, D. W., and Margrave, J. L. Mass spectrometric observations of gaseous phosphorus sulfides and oxysulfides, J. Inorg. Nucl. Chem. **34,** 89 (1972).

[3616] Hildenbrand, D. L. Thermochemistry of the molecules CS and CS^+, Chem. Phys. Letters **15,** 379 (1972).

[3617] Farber, M., Srivastava, R. D., and Uy, O. M. Mass spectrometric determination of the thermodynamic properties of the vapour species from alumina, J. Chem. Soc. Faraday Trans. I. **68,** 249 (1972).

[3618] Guido, M., Balducci, G., and De Maria, G. Thermodynamics of rare-earth-carbon systems. IV. The lutetium-carbon system, J. Chem. Phys. **57,** 1475 (1972).

[3619] Gingerich, K. A. Gaseous phosphorus compounds. VII. The dissociation energy and heat of formation of boron monophosphide, J. Chem. Phys. **56,** 4239 (1972).

[3620] Farber, M., Uy, O. M., and Srivastava, R. D. Effusion-mass spectrometric determination of the heats of formation of the gaseous molecules V_4O_{10}, V_4O_8, VO_2, and VO, J. Chem. Phys. **56,** 5312 (1972).

[3621] Gingerich, K. A., Pupp, C., and Campbell, B. E. Mass spectrometric determination of the heats of atomization of the molecules Ce_2S, CeS_2, Ce_2S_2, and Ce_2S_3, High Temp. Sci. **4,** 236 (1972).

[3622] Gräber, P., and Weil, K. G. Mass spectrometric investigations of silver halides I: mass spectrum, appearance potentials, and fragmentation scheme of silver chloride, Ber. Bunsenges. Phys. Chem. **76,** 410 (1972).

[3623] Ehlert, T. C., and Hsia, M. Mass spectrometric and thermochemical studies of the manganese fluorides, J. Fluorine Chem. **2,** 33 (1972-73).

[3624] Tajima, S., Shimizu, Y., and Tsuchiya, T. The effect of the shield voltage on appearance potential measurements using a mass spectrometer, Bull. Chem. Soc. Japan **45,** 931 (1972).

[3625] Crowe, A., Preston, J. A., and McConkey, J. W. Ionization of argon by electron impact, J. Chem. Phys. **57,** 1620 (1972).

[3626] Johnstone, R. A. W., and Mellon, F. A. Electron-impact ionization and appearance potentials, J. Chem. Soc. Faraday Trans. II. **68,** 1209 (1972).

[3627] Hvistendahl, G., and Undheim, K. Mass spectrometry of 'onium compounds. Part XIV. Methiodides of methyl pyridylacetates, J. Chem. Soc., Perkin Trans. II. **14,** 2030 (1972).

[3628] Flesch, G. D., Junk, G. A., and Svec, H. J. Ionization efficiency data and fragmentation mechanisms for ferrocene, nickelocene, and ruthenocene, J. Chem. Soc. Dalton Trans., 1102 (1972).

[3629] Lightner, D. A., Majeti, S., Nicoletti, R., and Thommen, E. Benzyl vs. tropylium ions in the electron impact induced decomposition of *n*butylbenzenes, Intra-Sci. Chem. Rep. **6,** 113 (1972).

[3630] Hvistendahl, G., and Undheim, K. Mass spectrometry of onium compounds. IX: on the evaporation of anilinium oxides. Ionization potential measurements, Org. Mass Spectrom. **6,** 217 (1972).

[3631] Benezra, S. A., and Bursey, M. M. Hydrogen bonding in mass spectral activated complexes. A correction, J. Chem. Soc., Perkin Trans. II 1537 (1972).

[3632] Foster, M. S., and Beauchamp, J. L. Gas-phase ion chemistry of azomethane by ion cyclotron resonance spectroscopy, J. Am. Chem. Soc. **94,** 2425 (1972).

[3633] Dixon, D. A., Holtz, D., and Beauchamp, J. L. Acidity, basicity, and gas-phase ion chemistry of hydrogen selenide by ion cyclotron resonance spectroscopy, Inorg. Chem. **11,** 960 (1972).

[3634] Hertzberg, M., White, G., Olfky, R. S., and Saalfeld, F. E. Bisdifluoraminoalkanes: the mass spectral decomposition of isomeric propanes, J. Phys. Chem. **76,** 60 (1972).

[3635] Gronneberg, T., and Undheim, K. Mass spectrometry of onium compounds. X: on the evaporation of pyridinium-3-oxides—ionization potential measurements, Org. Mass Spectrom. **6,** 225 (1972).

[3636] Gronneberg, T., and Undheim, K. Mass spectrometry of onium compounds. XI: ionization potentials of hydroxy and mercapto pyridines, Org. Mass Spectrom. **6,** 823 (1972).

[3637] Brundle, C. R., Robin, M. B., and Kuebler, N. A. Perfluoro effect in photoelectron spectroscopy. II. Aromatic molecules, J. Am. Chem. Soc. **94,** 1466 (1972).

[3638] Brogli, F., Heilbronner, E., and Kobayashi, T. Photoelectron spectra of azabenzenes and azanaphthalenes: II. A reinvestigation of azanaphthalenes by high-resolution photoelectron spectroscopy, Helv. Chim. Acta **55,** 274 (1972).

[3639] Åsbrink, L., Fridh, C., Jonsson, B. Ö., and Lindholm, E. Rydberg series in small molecules. XVII. Photoelectron, UV, mass and electron impact spectra of pyridazine, Intern. J. Mass Spectrom. Ion Phys. **8,** 229 (1972).

[3640] Berkowitz, J., and Dehmer, J. L. Photoelectron spectroscopy of high-temperature vapors. II. Chemical bonding in the Group III monohalides, J. Chem. Phys. **57,** 3194 (1972).

[3641] Basset, P. J., and Lloyd, D. R. Photoelectron spectra of halides. Part III. Trifluorides and oxide trifluorides of nitrogen and phosphorus, and phosphorus oxide trichloride, J. Chem. Soc. Dalton Trans. 248 (1972).

[3642] Brundle, C. R., and Jones, G. R. Electronic structure of KrF_2, studied by photoelectron spectroscopy, J. Chem. Soc. Faraday Trans. II **68,** 959 (1972).

[3643] Brundle, C. R., Kuebler, N. A., Robin, M. B., and Basch, H. Ionization potentials of the tetraphosphorus molecule, Inorg. Chem. **11,** 20 (1972).

[3644] Boschi, R., Murrell, J. N., and Schmidt, W. Photoelectron spectra of polycyclic aromatic hydrocarbons, Faraday Discuss. Chem. **54,** 116 (1972).

[3645] Bergmark, T., Rabalais, J. W., Werme, L. O., Karlsson, L., and Siegbahn, K. High-resolution electron spectra of methane, thiophene, 2-bromothiophene, and 3-bromothiophene, Electron Spectroscopy, ed. D. A. Shirley (North-Holland Pub. Co., Amsterdam, 1972)

[3646] Bock, H., and Solouki, B. The "sulfoxide bond", Angew. Chem. Intern. Ed. **11,** 436 (1972).

[3647] Boekelheide, V., and Schmidt, W. A photoelectron spectroscopic study of a classically conjugated but orbitally unconjugated tris-bridged cyclophane: [2.2.2](1,3,5)cyclophane-1,9,17-triene, Chem. Phys. Lett. **17,** 410 (1972).

[3648] Bock, H., and Wittel, K. Photoelectron spectra and molecular properties of *trans*-dihalogenoethylenes: substituent effects spin-orbit coupling, J. Chem. Soc. Chem. Commun. 602 (1972).

[3649] Brundle, C. R., Robin, M. B., Kuebler, N. A., and Basch, H. Perfluoro effect in photoelectron spectroscopy. I. Nonaromatic molecules, J. Am. Chem. Soc. **94,** 1451 (1972).

[3650] Berkowitz, J. Photoelectron spectroscopic studies with a cylindrical-mirror analyzer, in: Electron Spectroscopy, ed. D. A. Shirley (North-Holland Pub. Co., Amsterdam, 1972).

[3651] Åsbrink, L., Fridh, C., Jonsson, B. Ö., and Lindholm, E. Rydberg series in small molecules. XVI. Photoelectron, UV, mass and electron impact spectra of pyrimidine, Intern. J. Mass Spectrom. Ion Phys. **8,** 215 (1972).

[3652] Paine, R. T., Sodeck, G., and Stafford, F. E. Molecular beam mass spectra and pyrolyses of fluorophosphine-triborane(7) complexes. Formation and mass spectrum of triborane(7), Inorg. Chem. **11,** 2593 (1972).

[3653] Saalfeld, F. E., McDowell, M. V., MacDiarmid, A. G., and Highsmith, R. E. Nature of the bonding between silicon and the cobalt tetracarbonyl group in silylcobalt tetracarbonyl. III. Mass spectral studies of trichlorosilyltrifluorophosphine cobalt carbonyl derivatives, Intern. J. Mass Spectrom. Ion Phys. **9,** 197 (1972).

[3654] Carmichael, P. J., Gowenlock, B. G., and Johnson, C. A. F. Carbon-nitrogen bond dissociation energy values in C-nitrosocompounds, Intern. J. Chem. Kinet. **4,** 339 (1972).

[3655] DeKock, R. L., Higginson, B. R., and Lloyd, D. R. Photoelectron spectra of halides. Part 6.—The spectra of SF_5Cl, $BrF_5$and IF_5, Faraday Discuss. Chem. Soc. **54,** 84 (1972).

[3656] Cradock, S., and Whiteford, R. A. Photoelectron spectra of the methyl, silyl and germyl derivatives of the group VI elements, J. Chem. Soc. Faraday Trans. II **68,** 281 (1972). (RN-CAS Registry Number XXXXX-XX-X)

[3657] Dewar, M. J. S., and Goodman, D. W. Photoelectron spectra of molecules. Part 5.—Polycyclic aromatic hydrocarbons, J. Chem. Soc. Faraday Trans. II **68,** 1784 (1972).

[3658] Chizhov, Yu. V., Kleimenov, V. I., Medynskii, G. S., and Vilesov, F. I. Photoelectron spectroscopy study of benzene, Opt. Spektrosk. **33,** 661 (1972) [Engl. transl.: Opt. Spectry. (USSR) **33,** 365 (1972)].

[3659] Chadwick, D., Frost, D. C., Katrib, A., McDowell, C. A., and McLean, R. A. N. Photoelectron spectra of some bromoethylenes and 2-bromopropene, Can. J. Chem. **50,** 2642 (1972).

[3660] Cowan, D. O., Gleiter, R., Glemser, O., and Heilbronner, E. The photoelectron spectra of NSCl, NSF and NSF_3, Helv. Chim. Acta **55,**2418 (1972).

[3661] Cradock, S., Ebsworth, E. A. V., Savage, W. J., and Whiteford, R. A. Photoelectron spectra of some methyl, silyl and germyl amines, phosphines and arsines, J. Chem. Soc. Faraday Trans. II **68,** (1972).

[3662] Cradock, S., and Rankin, D. W. H. Photoelectron spectra of PF_2H and some substituted difluorophosphines, J. Chem. Soc. Faraday Trans. II **68,** 940 (1972).

[3663] Cradock, S., and Savage, W. The photoelectron spectrum and electronic structure of hexamethyl tungsten, Inorg. Nucl. Chem. Lett. **8,** 753 (1972).

[3664] Collin, J. E., Delwiche, J., and Natalis, P. Autoionization observed by photoelectron spectrometry at different wavelengths, Electron Spectroscopy, ed. D. A. Shirley (North-Holland Publishing Co., Amsterdam, 1922) p. 401.

[3665] Dixon, R. N., Duxbury, G, Fleming, G. R., and Hugo, J. M. V. The photoelectron spectrum of thiazyl fluoride, Chem. Phys. Lett. **14,** 60 (1972).

[3666] DeKock, R. L., Lloyd, D. R., Breeze, A., Collins, G. A. D., Cruickshank, D. W. J., and Lempka, H. J. Photoelectron spectroscopy and ab initio LCAO MO SCF calculations on thiazyl fluoride, Chem. Phys. Lett. **14,** 52 (1972).

[3667] Chadwick, D. Photoelectron spectra of phosgene and thiophosgene, Can. J. Chem. **50,** 737 (1972).

[3668] Clark, P. A., and Brogli, F., and Heilbronner, E. The π-orbital energies of the acenes, Helv. Chim. Acta **55,** 1415 (1972).

[3669] Cox, P. A., Evans, S., Orchard, A. F., Richardson, N. V., and Roberts, P. J. Simple quantitative molecular orbital methods used in connection with photoelectron spectroscopy, Faraday Discuss. Chem. Soc. **54,** 26 (1972).

[3670] Cradock, S., Ebsworth, E. A. V., and Murdoch, J. D. Photoelectron spectra of some Group 4 pseudohalides and related compounds, J. Chem. Soc. Faraday Trans. II **68,** 86 (1972).

[3671] Cornford, A. B., Frost, D. C., Herring, F. G., and McDowell, C. A. Photoelectron spectra of some free radicals, Faraday Discuss. Chem. Soc. **54,** 56 (1972).

[3672] Blake, A. J. Photoionization study of mercury by photoelectron spectroscopy, Proc. Roy. Soc. (London) **325,** 555 (1971).

[3673] Bock, H., and Fuss, W. Arguments concerning the orbital sequence in borazin, Angew. Chem. Intern. Ed. **10,** 182 (1971).

[3674] Plotnikov, V. F., Bogolyubov, G. M., Maretina, I. A., and Petrov, A. A. Organic derivatives of elements of Groups V and VI. V. Mass spectra of 1-buten-3-ynylamines, Zh. Org. Khim. **5,** 1157 (1969) [Engl. transl.: J. Org. Chem. USSR **5,** 1137 (1969)].

[3675] DeKock, R. L., Lloyd, D. R., Hillier, I. H., and Saunders, V. R. Experimental and theoretical study of the electronic structures of sulphuryl fluoride and perchloryl fluoride, Proc. Roy. Soc. (London) **328,** 401 (1972).

[3676] Evans, S. General discussion, Faraday Discuss. Chem. Soc. **54,** 143 (1972).

[3677] Evans, S., Green, J. C., Joachim, P. J., Orchard, A. F., Turner, D. W., and Maier, J. P. Electronic structures of the Group IV_B tetramethyls by helium-(I) photoelectron spectroscopy, J. Chem. Soc. Faraday Trans. II **68,** 905 (1972).

[3678] Frost, D. C., Herring, F. G., Katrib, A., McDowell, C. A., and McLean, R. A. N. Photoelectron spectra of CH_3SH, $(CH_3)_2S$, C_6H_5SH, and $C_6H_5CH_2SH$; the bonding between sulfur and carbon, J. Phys. Chem. **76,** 1030 (1972).

[3679] Gleiter, R., Heilbronner, E., and Hornung, V. Photoelectron spectra of azabenzenes and azanaphthalenes: I. Pyridine, diazines *s*-triazine and *s*-tetrazine, Helv. Chim. Acta **55,** 255 (1972).

[3680] DeKock, R. L., Higginson, B. R., Lloyd, D. R., Breeze, A., Cruickshank, D. W. J., and Armstrong, D. R. Photoelectron spectra of halides. V. Experimental and theoretical study of the electronic structures of ClF, ClF_3, BrF and BrF_3, Mol. Phys. **24,** 1059 (1972).

[3681] Evans, S., Hamnett, A., and Orchard, A. F. The relative orbital energies of metal and ligand electrons in some tris(hexafluoroacetylacetonato) transition-metal complexes, J. Coord. Chem. **2,** 57 (1972).

[3682] Evans, S., Hamnett, A., Orchard, A. F., and Lloyd, D. R. Study of the metal-oxygen bond in simple tris-chelate complexes by He(I) photoelectron spectroscopy, Faraday Discuss. Chem. Soc. **54,** 227 (1972).

[3683] Evans, S., Joachim, P. J., Orchard, A. F., and Turner, D. W. A study of the orbital electronic structure of the P_4 molecule by photoelectron spectroscopy, Intern. J. Mass Spectrom. Ion Phys. **9,** 41 (1972).

[3684] Eland, J. H. D. Photoelectron spectra and ionization potentials of aromatic hydrocarbons, Intern. J. Mass Spectrom. Ion Phys. **9,** 214 (1972).

[3685] Heilbronner, E., Hornung, V., Pinkerton, F. H., and Thames, S. F. 31. Photoelectron spectra of azabenzenes and azanaphthalenes: III. The orbital sequence in methyl-and trimethylsilyl- substituted pyridines, Helv. Chim. Acta **55,** 289 (1972).

[3686] Evans, S., Green, J. C., and Jackson, S. E. He(I) photoelectron spectra of some π-arene complexes, J. Chem. Soc. Faraday Trans. II **68,** 249 (1972).

[3687] Heilbronner, E., and Martin, H. D. The π-orbital sequence in norbornadiene and related hydrocarbons, Helv. Chim. Acta **55,** 1490 (1972).

[3688] Evans, S., Green, M. L. H., Jewitt, B., Orchard, A. F., and Pygall, C. F. Electronic structure of metal complexes containing π-cyclopentadienyl and related ligands, J. Chem. Soc. Faraday Trans. II **68,** 1847 (1972).

[3689] McDowell, C. A. General Discussion, Faraday Discuss. Chem. Soc. **54,** 67 (1972).

[3690] Frost, D. C., Lee, S. T., and McDowell, C. A. The high resolution photoelectron spectrum of CS, Chem. Phys. Letters **17,** 153 (1972).

[3691] Jonathan, N., Morris, A., Okuda, M., Ross, K. J., and Smith, D. J. Photoelectron spectroscopy of transient species. The CS molecule, Faraday Discuss. Chem. Soc. **54,** 48 (1972).

[3692] McDowell, C. A. General Disscussion, Faraday Discuss. Chem. Soc. **54,** 68 (1972).

[3693] Herring, F. G. General Discussion, Faraday Discuss. Chem. Soc. **54,** 68 (1972).

[3694] Chadwick, D., Cornford, A. B., Frost, D. C., Herring, F. G., Katrib, A., McDowell, C. A., and McLean, R. A. N. Photoelectron spectra of some dihalocompounds, in Electron Spectroscopy, ed. D. A. Shirley (North-Holland Publishing Co., Amsterdam, 1972) p. 453.

[3695] Potts, A. W., Glenn, K. G., and Price, W. C. General Discussion, Faraday Discuss. Chem. Soc. **54,** 65 (1972).

[3696] King, G. H., Kroto, H. W., and Suffolk, R. J. The photoelectron spectrum of a short-lived species in the decomposition products of CS_2, Chem. Phys. Letters **13,** 457 (1972).

[3697] Kroto, H. W., and Suffolk, R. J. The photoelectron spectrum of an unstable species in the pyrolysis products of dimethyldisulphide, Chem. Phys. Letters **15,** 545 (1972).

[3698] Morris, A. General Discussion, Faraday Discuss. Chem. Soc. **54,** 64 (1972).

[3699] Lloyd, D. R., and Lynaugh, N. Photoelectron studies of boron compounds. Part 3. Complexes of borane with Lewis bases, J. Chem. Soc. Faraday Trans. II **68,** 947 (1972).

[3700] Potts, A. W., Glenn, K. G., and Price, W. C. General Discussion, Faraday Discuss. Chem. Soc. **54,** 64 (1972).

[3701] Jonathan, N., Morris, A., Okuda, M., and Smith, D. J. Electron spectroscopy of transient species, Electron Spectroscopy, ed. D. A. Shirley (North-Holland Pub. Co., Amsterdam, 1972) p. 345.

[3702] Maier, J. P., and Turner, D. W. Steric inhibition of resonance studied by molecular photoelectron spectroscopy. Part I. Biphenyls, Faraday Discuss. Chem. Soc. **54,** 149 (1972).

[3703] Maier, J. P., and Turner, D. W. Photoelectron spectroscopy and the geometry of the phosphine and phosphorous trifluoride molecular ions, J. Chem. Soc. Faraday Trans. II **68,** 711 (1972).

[3704] King, G. H., Krishnamurthy, S. S., Lappert, M. F., and Pedley, J. B. Bonding studies of compounds of boron and the Group 4 elements. Part 9. Photoelectron spectra and bonding studies of halogeno-, dimethylamino-, and methyl-boranes, BX_3 and BX_2Y, Faraday Discuss. Chem. Soc. **54,** 70 (1972).

[3705] Mines, G. W., Thomas, R. K., and Thompson, H. Photoelectron spectra of compounds containing thionyl and sulphuryl groups, Proc. Roy. Soc. (London) **A329,** 275 (1972)

[3707] King, G. H., Murrell, J. N., and Suffolk, R. J. The vacuum-ultraviolet photoelectron spectra of fluoropyridines, J. Chem. Soc. Dalton Trans., 564 (1972).

[3708] Kroto, H. W., and Suffolk, R. J. The photoelectron spectrum of F_2CS and fluorine substitution shifts, Chem. Phys. Letters **17,** 213 (1972).

[3709] Lynaugh, N., Lloyd, D. R., Guest, M. F., Hall, M. B., and Hillier, I. H. Photoelectron studies of boron compounds. Part 4. Experimental and theoretical studies of diboron tetrachloride and diboron tetrafluoride, J. Chem. Soc. Faraday Trans. II **68,** (1972).

[3710] Murrell, J. N., and Schmidt, W. Photoelectron spectroscopic correlation of the molecular orbitals of methane, ethane, propane, isobutane and neopentane, J. Chem. Soc. Faraday Trans. II **68,** 1709 (1972).

[3711] Lloyd, D. R., and Lynaugh, N. Photoelectron spectra of the bis-(π-allyl) complexes of nickel and palladium, Electron Spectroscopy, ed. D. A. Shirley (North-Holland Pub. Co., Amsterdam, 1972) p. 445.

[3712] Morishima, I., Yoshikawa, K., Yonezawa, T., and Matsumoto, H. Photoelectron spectral studies of organic free radicals. The nitroxide radical, Chem. Phys. Letters **16,** 336 (1972).

[3713] Klessinger, M. Ionization potentials of substituted benzenes, Angew. Chem. Intern. Ed. **11,** 525 (1972).

[3714] Okuda, M. General Discussion, Faraday Discuss. Chem. Soc. **54,** 140 (1972).

[3715] Potts, A. W., Williams, T. A., and Price, W. C. General Discussion, Faraday Discuss. Chem. Soc. **54,** 140 (1972).

[3716] Potts, A. W., and Price, W. C. The photoelectron spectra of methane, silane germane and stannane, Proc. Roy. Soc. (London) **A165,** (1972).

[3717] Jonathan, N. General Discussion, Faraday Discuss. Chem. Soc. **54,** 64 (1972).

[3718] Sweigart, D. A., and Turner, D. W. Lone pair orbitals and their interactions studied by photoelectron spectroscopy. I. Carboxylic acids and their derivatives, J. Am. Chem. Soc. **94,** 5592 (1972).

[3719] Potts, A. W., and Price, W. C. Photoelectron spectra and valence shell orbital structures of groups V and VI hydrides, Proc. Roy. Soc. (London) **A326,** 181 (1972).

[3720] Fridh, C., Åsbrink, L., Jonsson, B. Ö., and Lindholm, E. Rydberg series in small molecules. XIV. Photoelectron, UV, mass and electron impact spectra of *s*-triazine, Intern. J. Mass Spectrom. Ion Phys. **8,** 85 (1972).

[3721] Rabalais, J. W. Photoelectron spectroscopic investigation of the electronic structure of nitromethane and nitrobenzene, J. Chem. Phys. **57,** 960 (1972).

[3722] Van Den Ham, D. M. W., and Van Der Meer, D. The photoelectron spectra of the diazanaphthalenes, Chem. Phys. Letters **12,** 447 (1972).

[3723] Van Den Ham, D. M. W., and Van Der Meer, D. Perfluoro effect in the photoelectron spectra of quinoline and isoquinoline, Chem. Phys. Letters **15,** 549 (1972).

[3724] Palmer, M. H., and Findlay, R. H. Ab initio molecular orbital calculations, the electronic structure and electron spectrum of norbornadiene, Chem. Phys. Letters **15,** 416 (1972).

[3725] Rabalais, J. W., Werme, L. O., Bergmark, T., Karlsson, L., Hussain, M., and Siegbahn, K. Electron spectroscopy of open-shell systems: spectra of $Ni(C_5H_5)_2$, $Fe(C_5H_5)_2$, $Mn(C_5H_5)_2$, and $Cr(C_5H_5)_2$, J. Chem. Phys. **57,** 1185 (1972).

[3726] Thomas, R. K., Thompson, H. Photoelectron spectra of carbonyl halides and related compounds, Proc. Roy. Soc. (London) **A327,** 13 (1972).

[3727] Robin, M. B., Brundle, C. R., Kuebler, N. A., Ellison, G. B., and Wiberg, K. B. Photoelectron spectra of small rings. IV. The unsaturated three-membered rings, J. Chem. Phys. **57,** 1758 (1972).

[3728] Rabalais, J. W., Bergmark, T., Werme, L. O., Karlsson, L., Hussain, M., and Siegbahn, K. The high-resolution electron spectrum of carbon suboxide, Electron Spectroscopy, ed. D. A. Shirley (North-Holland Pub. Co., Amsterdam, 1972), p. 425.

[3729] Adamchuk, V. K., Dmitriev, A. B., Prudnikova, G. V., and Sorokin, L. S. Photoionization of low-volatility molecules in a geiger counter, Opt. Spektrosk., **33,** 358 (1972) [Eng. transl. Opt. Spectrosc. USSR **33,** 191 (1972)].

[3730] Daisey, J. M., and Sonnessa, A. J. A study of the thermodynamic and spectral properties of molecular complexes of iodine with several aminopyridines, J. Phys. Chem. **76,** 1895 (1972).

[3731] DiLonardo, G., Galloni, G., Trombetti, A., and Zauli, C. Electronic spectrum of thiophen and some deuterated thiophens, J. Chem. Soc. Faraday Trans. II **68,** 2009 (1972).

[3732] Lossing, F. P. Free radicals by mass spectrometry. XLIV. Ionization potentials and bond dissociation energies for chloro-and fluoromethyl radicals, Bull. Soc. Chim. Belges **81,** 125 (1972).

[3733] Sweigart, D. A., and Turner, D. W. Lone pair orbitals and their interactions studied by photoelectron spectroscopy. II. Equivalent orbitals in saturated oxygen and sulfur heterocycles, J. Am. Chem. Soc. **94,** 5599 (1972).

[3734] Thomas, R. K. Photoelectron spectroscopy of hydrogen-bonded systems: spectra of monomers, dimers and mixed complexes of carboxylic acides, Proc. Roy. Soc. (London) **A331,** 249 (1972).

[3735] Gross, M. L. Ion cyclotron resonance spectrometry. A means of evaluating 'kinetic shifts', Org. Mass Spectrom. **6,** 827 (1972).

[3736] Salmona, Y. F., and Vincent, E.-J. Études expérimentales et théoriques de potentiels d'ionisation de derivés de la série de l'isothiazole, C. R. Acad. Sci., Ser. C. **273,** 863 (1971).

[3737] Lageot, C. Étude des états excités de l'ion HCN^+, J. Chim. Phys. Phys.-Chim.. Biol. **68,** 214 (1972).

[3738] Wanczek, K.-P., Lebert, K.-H., and Hartmann, H. Untersuchung der Ion-Molekül-Reaktionen des Thiothionylfluorids mit Hilfe der Ionen-Cyclotronresonanz-Spektrometrie, Z. Naturforsch. **27a,** 155 (1972).

[3739] Mason, D. C., Kuppermann, A., and Mintz, D. M. Angular distribution of electrons from the photoionization of ethylene, in Electron Spectroscopy, ed. D. A. Shirley (North Holland, Amsterdam, 1972) p. 269.

[3740] Fridh, C., Åsbrink, L., Jonsson, B. Ö., and Lindholm, E. Rydberg series in small molecules XVIII. Photoelectron, UV, mass, and electron impact spectra of *s*-tetrazine, Intern. J. Mass Spectrom. Ion Phys. **9,** 485 (1972).

[3741] Haselbach, E., Heilbronner, E., Musso, H., and Schmelzer, A. Notiz über die Photoelektronen-Spektren des Nortricyclens und des Triasterans, Helv. Chim. Acta **55,** 302 (1972).

[3742] Donovan, R. J., Little, D. J., and Konstantatos, J. Vacuum ultraviolet spectra of transient molecules and radicals, J. Chem. Soc. Faraday Trans. II **68,** 1812 (1972).

[3743] Gole, J. L., and Margrave, J. L. The vacuum ultraviolet spectrum of molecular fluorine, J. Mol. Spectry. **43,** 65 (1972).

[3744] Sugar, J., and Reader, J. Ionization energies of doubly and triply ionized rare earths, J. Opt. Soc. Am. **62,** 1371 (1972).

[3745] Cabaud, B., Hoareau, A., Nounou, P., and Uzan, R. Étude des processus d'ionisation á haute température des vapeurs métalliques par couplage d'une cellule de knudsen et d'une source fox. II. Interprétation des processus d'autoionisation des vapeurs métalliques monoatomiques et influence de la temperature sur les courbes d'efficacité d'ionisation, Int. J. Mass

Spectrom. Ion Phys. **8,** 181 (1972).

[3746] Wittel, K., Hass, A., and Bock, H. Photoelektronenspektren und Moleküleigenschaften, XVI. Thiocarbonylhalogenide-Orbitale und Ladungen, Chem. Ber. **105,** 3865 (1972).

[3747] Barz, P., and Fritz, H. P. Untersuchungen an biochemish Ligandensystemen, V. Komplexchemische und physikalisch-chemische Untersuchungen am 1,2-Dimethylhydrazin, Z. Naturforsch. **27b,** 1131 (1972).

[3748] Boschi, R. A., and Salahub, D. R. The far ultra-violet spectra of some 1-iodoalkanes, Mol. Phys. **24,** 289 (1972).

[3749] Doucet, J., Sauvageau, P., and Sandorfy, C. The vacuum ultraviolet spectrum of tetrahydrofuran, Chem. Phys. Letters **17,** 316 (1972).

[3750] Fridh, C., Åsbrink, L., Jonsson, B. Ö., and Lindholm, E. Rydberg series in small molecules. XV. Photoelectron, UV, mass and electron impact spectra of pyrazine, Intern. J. Mass Spectrom. Ion Phys. **8,** 101 (1972).

[3751] Salahub, D. R., and Boschi, R. A. The far ultraviolet spectrum of iodoacetylene, Chem. Phys. Letters **16,** 320 (1972).

[3752] Sergeev, Yu. L., Akopyan, M. E., and Vilesov, F. I. Photoionization of the phenyl radical, Opt. Spektrosk **32,** 230 (1972) [Engl. transl.: Opt. Spectry. (USSR) **32,** 121 (1972)].

[3753] Stebbings, W. L., and Taylor, J. W. Photoionization mass spectrometry. II. Contrasting fragmentation of toluene by photons and by electrons, Intern. J. Mass Spectrom. Ion Phys. **9,** 471 (1972).

[3754] Kaufman, V., and Minnhagen, L. Accurate ground-term combinations in NeI, J. Opt. Soc. Am. **62,** 92 (1972).

[3755] Narayan, B. Spectra and ionization potential of cyanoacetylene, Proc. Indian Acad. Sci. A **75,** 92 (1972).

[3756] Radziemski, L. J., and Kaufman, V. New wavelengths and energy levels in the spectrum of singly ionized chlorine (Cl II), J. Opt. Soc. Am. **62,** 1371 (1972).

[3757] Raymonda, J. W. Rydberg states in cyclic alkanes, J. Chem. Phys. **56,** 3912 (1972).

[3758] Pitt, C. G., Carey, R. N., and Toren, E. C. Nature of the electronic interactions in aryl-substituted polysilanes, J. Am. Chem. Soc. **94,** 3806 (1972).

[3759] Nishida, S., Moritani, I., and Teraji, T. Ionization potentials of cyclopropylethylenes, J. Chem. Soc. Chem. Commun., 1114 (1972).

[3760] Ogawa, M., and Ogawa, S. Absorption spectrum of CO in the Hopfield helium continuum region, 600–1020 Å, J. Mol. Spectry. **41,** 393 (1972).

[3761] Narayana, B., and Price, W. C. Ionization of the σ^*2s orbital of NO and configuration interaction effects on the spin-split states arising from inner orbital ionization in paramagnetic molecules, J. Phys. B **5,** 1784 (1972).

[3762] Ackermann, F., Lefebvre-Brion, H., and Roche, A. L. Calculated Rydberg states of the PO molecule, Can. J. Phys. **50,** 692 (1972).

[3763] Takezawa, S., and Tanaka, Y. Absorption spectrum of HD in the vacuum-uv region. Rydberg states and ionization energy, J. Chem. Phys. **56,** 6125 (1972).

[3764] Gilbert, R., Sauvageau, P., and Sandorfy, C. Far-UV and photoelectron spectra of 1,3,5-trifluorobenzene, Chem. Phys. Letters **17,** 465 (1972).

[3765] Vilesov, F. I. The photoionization of vapors of compounds whose molecules contain carbonyl groups, Dokl. Akad. Nauk SSSR **132,** 1332 (1960) [Engl. transl.: Dokl. Phys. Chem. **132,** 521 (1960)].

[3766] Akopyan, M. E., and Loginov, Yu. V. Mass-spectrometric study of the photoionization of free α-aminoacids, Khim. Vys. Energ. **1,** 97 (1967) [Engl. transl.: High Energy Chem. **1,** 83 (1967)].

[3767] Polyakova, A. A., Zimina, K. I., Petrov, A. A., and Khmel'nitskii, R. A. Mass spectra and the structure of vinylacetylenes, Dokl. Akad. Nauk SSSR **127,** 386 (1959) [Engl. transl.: Dokl. Phys. Chem. **127,** 597 (1959)].

[3768] Velasco, R. Espectro ultravioleta de la molecula Li_2, An. R. Soc. Esp. Fis. Quim. **175,** (1960).

[3769] Gil'burd, M. M., Syrvatka, B. G., Shevchuk, V. U., Bel'ferman, A. L., and Moin, F. B. Mass spectrometric study of fluorine-containing compounds. I. Comparative study of methylacetylene and difluoromethylacetylene, Khim. Vys. Energ. **1,** 411 (1967) [Engl. transl.: High Energy Chem. **1,** 359 (1967)].

[3770] Herzberg, G., and Jungen, Ch. Rydberg series and ionization potential of the H_2 molecule, J. Mol. Spectry. **41,** 425 (1972).

[3772] Marr, G. V., and Wherrett, S. R. The ionization of caesium vapour by the method of space charge amplification, J. Phys. B **5,** 1735 (1972).

[3773] Scheps, R., Florida, D., and Rice, S. A. Comments on the Rydberg spectrum of pyrazine, J. Mol. Spectry. **44,** 1 (1972).

[3774] Iverson, A. A., and Russell, B. R. A medium resolution study of allene in the vacuum ultraviolet. I. Spectra and a preliminary ionization potential, Spectrochim. Acta **28A,** 447 (1972).

[3775] Neckel, A., and Sodeck, G. Bestimmung der Dissoziationsenergien der gasförmigen Moleküle CuGe, AgGe and AuGe, Monatsh. Chem. **103,** 367 (1972).

[3776] Scott, J. D., and Russell, B. R. Vacuum-ultraviolet spectral studies of several chlorofluoroethylenes, J. Am. Chem. Soc. **94,** 2634 (1972).

[3777] Tajima, S.,; and Tsuchiya, T. The effects of the repeller voltage and the shield voltage on appearance potential measurements by electron impact, Shitsurgo Bunseki **20,** 117 (1972).

[3778] Bock, H., and Stafast, H. Photoelektronenspektren und Moleküleigenschaften, IX. Die π-Systeme der *cis*- und *trans*-Dicyan-äthylene, Chem. Ber. **105,** 1158 (1972).

[3779] Ferreira, M. A. A., and Costa, M. L. Impacto electrónico no oxi-sulfureto de carbono: potenciais de aparecimento de iões positivos, calores de formacão e energias de dissociacão, Rev. Port. Quim., **14,** 21 (1972).

[3780] Brogli, F., Heilbronner, E., and Ipaktschi, J. Die Wechselwirkung zwischen *Walsh*- und π-Orbitalen im 7-Cyclopropyliden-norbornadien, Helv. Chem. Acta **55,** 2447 (1972).

[3781] Bock, H., Wagner, G., and Kroner, J. Photoelektronenspektren und Moleküleigenschaften, XIV. Die Delokalisation des Schwefel-Elektronenpaares in CH_3S-substituierten Aromaten, Chem. Ber. **105,** 3850 (1972).

[3782] Schmidbaur, H., and Vornberger, W. Die Organosiliciumchemie der Phosphor–Ylide, XVI. Si–Si–Struktureinheiten als Carbanion–Substituenten in Yliden, Chem. Ber. **105,** 3173 (1972).

[3783] Preiss, H. Massenspektrometrische Untersuchungen an einigen Halogeniden der 5. Haupt- und Nebengruppe, Z. Anorg. Allg. Chem. **389,** 280 (1972).

[3784] Bentley, T. W., Johnstone, R. A. W., and McMaster, B. N. Appearance potentials of metastable and normal ions and the kinetic shift, J. Chem. Soc. Chem. Commun., 510 (1973).

[3785] Foner, S. N., and Hudson, R. L. Mass spectrometric studies of tetrafluorohydrazine and the difluoroamino radical, J. Chem. Phys. **58,** 581 (1973).

[3786] Gaivoronskii, P. E., Larin, N. V., Sirotkin, N. I., Artemov, A. N., and Shushunov, N. V. Study of arenechromium tricarbonyl complexes by mass spectrometry, Izv. Akad. Nauk SSSR, Ser. Khim. **11,** 2618 (1973) [Engl. transl.: Bull. Acad. Sci. USSR, Div. Chem. Sci. **22,** 2557 (1973)].

[3787] Aloisi, G. G., and Pignataro, S. Molecular complexes of substituted thiophens with σ and π acceptors, J. Chem. Soc. Faraday Trans. I **69,** 534 (1973).

[3788] Gilbert, J. R., Leach, W. P., and Miller, J. R. Ionisation and appearance potential measurements in arene chromium tricarbonyls, J. Organometal. Chem. **49,** 219 (1973).

[3789] Hvistendahl, G., Undheim, K., and Györösi, P. Mass spectrometry of tropylium halides, Org. Mass Spectrom. **7,** 903 (1973).

[3790] Gross, M. L., and Aerni, R. J. The unusual loss of hydrogen from ionized 1,5-hexadiyne, J. Am. Chem. Soc. **95,** 7875 (1973).

[3791] Flesch, G. D., and Svec, H. J. Fragmentation reactions in the mass spectrometer for C_2–C_5 alkanes, J. Chem. Soc. Faraday Trans. II **69,** 1187 (1973).

[3792] Benoit, F. The benzoyl cation: The participation of isolated electronic excited states in the dissociation of molecular ions of the form $[C_6H_5COX]^+$, Org. Mass Spectrom. **7,** 1407 (1973).

[3793] Begun, G. M., and Compton, R. N. Electron impact ionization studies of ferrocene, cobaltocene, nickelocene, and magnesocene, J. Chem. Phys. **58,** 2271 (1973).

[3794] Branton, G. R., and Pua, C. K. N. Low energy electron impact ionization and fragmentation—cyclobutanone, Can. J. Chem. **51,** 624 (1973).

[3795] Ackermann, R. J., and Rauh, E. G. The preparation and characterization of the metastable monoxides of thorium and uranium, J. Inorg. Nucl. Chem. **35,** 3787 (1973).

[3796] Cuthill, A. M., Fabian, D. J., and Shu-Shou-Shen, S. Bond dissociation energies of the metallic vapor species aluminum–silver and aluminum–gold measured by Knudsen-cell mass spectrometry, J. Phys. Chem. **77,** 2008 (1973).

[3797] Crowe, A., and McConkey, J. W. Dissociative ionization by electron impact II. N^+ and N^{++} from N_2, J. Phys. B (Proc. Phys. Soc.) **6,** 2108 (1973).

[3798] Cocke, D. L., Gingerich, K. A., and Kordis, J. Mass spectrometric observation of gaseous EuCN and the determination of its atomization energy, J. Chem. Soc. Chem. Commun. 561 (1973).

[3799] Crowe, A., and McConkey, J. W. Dissociative ionization by electron impact. I. Protons from H_2, J. Phys. B (Proc. Phys. Soc.) **6,** 2088 (1973).

[3800] Ciach, S., Knowles, D. J., Nicholson, A. J. C., and Swingler, D. L. Vaporization of tin(II) halides. I. Stannous chloride and stannous bromide, Inorg. Chem. **12,** 1443 (1973).

[3801] Farber, M., and Srivastava, R. D. Effusion-mass spectrometric study of thermodynamic properties of vanadium and vanadium nitride, J. Chem. Soc. Faraday Trans. 1 **69,** 390 (1973).

[3802] Ciach, S., Nicholson, A. J. C., Swingler, D. L., and Thistlethwaite, P. J. Mass spectrometric study of the vapor phase over neodymium chloride and gadolinium chloride, Inorg. Chem. **12,** 2072 (1973).

[3803] Jalonen, J., Pasanen, P., and Pihlaja, K. Ionisation and appearance potentials in the evaluation of nonbonded interactions. IV: Conformational effects in methyl-substituted 1,3-oxathianes, Org. Mass Spectrom. **7,** 949 (1973).

[3804] Distefano, G., Pignataro, S., Innorta, G., Fringuelli, F., Marino, G., and Taticchi, A. Ionization energies of selenophen, tellurophen and some of their derivatives, Chem. Phys. Letters **22,** 132 (1973).

[3805] Rakita, P. E., Hoffman, M. K., Andrews, M. N., and Bursey, M. M. σ–π Conjugation in group IVA compounds of indene and indane, J. Organometal. Chem. **49,** 213 (1973).

[3806] Pignataro, S., Mancini, V., Innorta, G., and Distefano, G. Ionization energies and ring orbital interaction in diarylmethanes and diarylethanes, Z. Naturforsch. **27,** 534 (1972).

[3807] Innorta, G., Torroni, S., Pignataro, S., and Mancini, V. The activation energy as guiding factor in the fragmentation of substituted diphenylmethanes, Org. Mass Spectrom. **7,** 1399 (1973).

[3808] Sen Sharma, D. K., and Franklin, J. L. Heats of formation of free radicals by mass spectrometry, J. Am. Chem. Soc. **95,** 6562 (1973).

[3809] Smolinsky, G., and Vasile, M. J. Mass spectra of vinyltrimethylsilane and vinyltri(methyl-d_3)silane, Org. Mass Spectrom. **7,** 1069 (1973).

[3810] Muenow, D. W. Mass spectrometric evidence for the gaseous silicon oxide nitride molecule and its heat of atomizaton, J. Phys. Chem. **77,** 970 (1973).

[3811] Morrison, J. D., and Traeger, J. C. Ionization and dissociation by electron impact. II. NH_3 and PH_3, Intern. J. Mass Spectrom. Ion Phys. **11,** 277 (1973).

[3812] Momigny, J., Mathieu, G., Wankenne, H., and Ferreira, M. A. A. Collison-and non-collision-induced predissociation in the appearance of S^+ and CS^+ ions from CS_2 under electron impact, Chem. Phys. Letters **21,** 606 (1973).

[3813] Morrison, J. D., and Traeger, J. C. Ionization and dissociation by electron impact. III. CH_4 and SiH_4, Intern. J. Mass Spectrom. Ion Phys. **11,** 289 (1973).

[3814] Saalfeld, F. E., McDowell, M. V., DeCorpo, J. J., Berry, A. D., and MacDiarmid, A. G. Mass spectral studies of some manganese carbonyls, Inorg. Chem. **12,** 48 (1973).

[3815] Glockling, F., Morrison, R. J., and Wilson, J. W. Diphenylberyllium: electron impact and calorimetric studies, J. Chem. Soc. Dalton Trans. 94 (1973).

[3816] Hildenbrand, D. L. Dissociation energies of the molecules AlO and Al_2O, Chem. Phys. Letters **20,** 127 (1973).

[3817] Henion, J. D., and Kingston, D. G. I. Mass spectrometry of organic compounds. VII. Energetics of substituent isomerization in diphenyl sulfide and diphenyl ether, J. Am. Chem. Soc. **95,** 8358 (1973).

[3818] Hildenbrand, D. L. Mass spectrometric studies of some gaseous sulfur fluorides, J. Phys. Chem. **77,** 897 (1973).

[3819] Drowart, J., Myers, C. E., Szwarc, R., Vander Auwera-Mahieu, A., and Uy, O. M. Determination by the mass spectrometric Knudsen cell method of the atomization energies of the molecules PO and PO_2, J. Chem. Soc. Faraday Trans. II **68,** 1749 (1972).

[3820] Hirayama, C., and Castle, P. M. Mass spectra of rare earth triiodides, J. Phys. Chem. **77,** 3110 (1973).

[3821] Panchenkov, I. G., Gusarov, A. V., and Gorokhov, L. N. Dissociation energy of the barium oxide molecule, Zh. Fiz. Khim. **47,** 101 (1973) [Engl. transl. Russ. J. Phys. Chem. **47,** 55 (1973)].

[3822] Condorelli, G., Fragalà, I., Centineo, G., and Tondello, E. The electronic structure and photoelectron spectra of Ni^{II}, Cu^{II} and Pd^{II} complexes with N,N′-ethylene-bis(acetylacetoneiminato) dianion, Inorg. Chim. Acta **7,** 725 (1973).

[3823] Scheppele, S. E., Mitchum, R. K., Kinneberg, K. F., Meisels, G. G., and Emmel, R. H. Internal energy distributions and the fragmentation of gaseous organic ions. Dissociation of ions produced by electron impact on 4-methylbenzil, J. Am. Chem. Soc. **95,** 5105 (1973).

[3824] Cowling, S. A., Johnstone, R. A. W., Gorman, A. A., and Smith, P. G. Photoelectron spectrum of 5-methylenenorborn-2-ene and through-space interactions (homobutadiene conjugation), J. Chem. Soc. Chem. Commun. 627 (1973).

[3825] Cowley, A. H., Dewar, M. J. S., Goodman, D. W., Schweiger, J. R. Stereochemical dependence of lone pair interactions in the photoelectron spectra of nitrogen-phosphorus compounds, J. Am. Chem. Soc. **95,** 6506 (1973).

[3826] Bain, A. D., and Frost, D. C. Studies of the carbonyl group in some five-membered ring compounds by photoelectron spectroscopy, Can. J. Chem. **51,** 1245 (1973).

[3827] Cradock, S., Ebsworth, E. A. V., and Robertson, A. Photoelectron spectra of some silyl and germyl transition-metal carbonyls and related species, J. Chem. Soc. Dalton Trans. 22 (1973).

[3828] Boyd, R. J., Bünzli, J. C., Snyder, J. P., and Heyman, M. L. Photoelectron spectra of 2,3-diazabicyclo[2.2*n*]alk-2-enes (n = 1,2,3,4), J. Am. Chem. Soc. **95,** 6478 (1973).

[3829] Eley, D. D., Hazeldine, D. J., and Palmer, T. F. Mass spectra, ionisation potentials and related properties of metal-free and transition metal phthalocyanines, J. Chem. Soc. Faraday Trans. II **69,** 1808 (1973).

[3830] Evans, S., Green, J. C., and Jackson, S. E. He-(I) photoelectron spectra of some metal complexes containing the ligands trimethylsilylmethyl and neopentyl, J. Chem. Soc. Faraday Trans. II **69,** 191 (1973).

[3831] Berkowitz, J., Dehmer, J. L., and Appelman, E. H. Photoelectron spectrum of hypofluorous acid, HOF, Chem. Phys. Letters **19,** 334 (1973).

[3832] Batich, C., Heilbronner, E., Hornung, V., Ashe, A. J., Clark, D. T., Cobley, U. T., Kilcast, D., and Scanlan, I. Photoelectron spectra of phosphabenzene, arsabenzene, and stibabenzene, J. Am. Chem. Soc. **95,** 928 (1973).

[3833] Cocksey, B. G., Eland, J. H. D., and Danby, C. J. Photoelectron spectra of the zinc and cadmium halides, J. Chem. Soc. Faraday Trans. II **69,** 1558 (1973).

[3834] Dromey, R. G., Morrison, J. D., and Peel, J. B. Time-averaged and deconvoluted photoelectron spectrum of the first band of O_2, Chem. Phys. Letters, **23,** 30 (1973).

[3835] Bünzli, J. C., Frost, D. C., and McDowell, C. A. Photoelectron spectra of phosphoryl and thiophosphoryl chlorides and bromides, J. Electron Spectrosc. Relat. Phenom **1,** 481 (1972/73).

[3836] Foster, S., Felps, S., Cusachs, L. C., and McGlynn, S. P. Photoelectron spectra of osmium and ruthenium tetroxides, J. Am. Chem. Soc. **95,** 5521 (1973).

[3837] Frost, D. C., Herring, F. G., Katrib, A., and McDowell, C. A. The photoelectron spectrum of ethylene sulphide, Chem. Phys. Letters **20,** 401 (1973).

[3838] Diemann, E., and Müller, A. The He(I) photoelectron spectra of OsO_4 and RuO_4, Chem. Phys. Letters **19,** 538 (1973).

[3839] Delwiche, J., Natalis, P., Momigny, J., and Collin, J. E. On the photoelectron spectra of HBr and DBr, J. Electron Spectrosc. Relat. Phenom. **1,** 219 (1972/73).

[3840] Frost, D. C., Lee, S. T., and McDowell, C. A. The photoelectron spectrum of HCP and comments on the first photoelectron band of HCN, Chem. Phys. Letters **23,** 472 (1973).

[3841] Frost, D. C., Lee, S. T., and McDowell, C. A. The HeI photoelectron spectrum of S_2O, Chem. Phys. Letters **22,** 243 (1973).

[3842] Bünzli, J. C., Frost, D. C., and Weiler, L. Photoelectron spectrum of 7-thiabicyclo[2.2.1]heptane, J. Am. Chem. Soc. **95,** 7880 (1973).

[3843] Bain, A. D., Bünzli, J. C., Frost, D. C., and Weiler, L. Photoelectron spectra of cyclic ethers, J. Am. Chem. Soc. **95,** 291 (1973).

[3844] Bock, H., Mollère, P., Becker, G., and Fritz, G. Photoelectron spectra and molecular properties. XX. Dimethyl ether, methoxysilane, and disiloxane, J. Organometal. Chem. **61,** 113 (1973).

[3845] Cooks, R. G., Bertrand, M., Beynon, J. H., Rennekamp, M. E., and Setser, D. W. Energy partitioning data as an ion structure probe. Substituted anisoles, J. Am. Chem. Soc. **95,** 1732 (1973).

[3846] Boschi, R., and Schmidt, W. The photoelectron spectrum and structure of sulfur in the gas phase at 140°C, Inorg. Nucl. Chem. Lett. **9,** 643 (1973).

[3847] Beez, M., Bieri, G., Bock, H., and Heilbronner, E. The ionization potentials of butadiene, hexatriene, and their methyl derivatives: evidence for through space interaction between double bond π-orbitals and non-bonded pseudo-π orbitals of methyl groups?, Helv. Chim. Acta **56,** 1028 (1973).

[3848] Houk, K. N., Davis, L. P., Newkome, G. R., Duke, Jr., R. E., and Nauman, R. V. Photoelectron spectroscopy of cyclic β-diketones and their enolone tautomers, J. Am. Chem. Soc. **95,** 8364 (1973).

[3849] Heilbronner, E., Gleiter, R., Hoshi, T., and Meijere, A. The interaction of Walsh–orbitals in diademane and related hydrocarbons, Helv. Chim. Acta **56,** 1594 (1973).

[3850] Schweig, A., Weidner, U., and Manuel, G. Theory and application of photoelectron spectroscopy. XVI. Photoelectron spectroscopy and molecular conformations: Ge–C and Sn–C hyperconjugation and the conformation of allylgermanes and –stannanes, J. Organometal. Chem. **54,** 145 (1973).

[3851] Miller, L. L., Koch. V. R., Koenig, T., Tuttle, M. Photoelectron spectroscopy and the anodic fragmentation of adamantane derivatives, J. Am. Chem. Soc. **95,** 5075 (1973).

[3852] Johnstone, R. A. W., and Mellon, F. A. Photoelectron spectroscopy of sulphur–containing heteroaromatics and molecular orbital calculations, J. Chem. Soc. Faraday Trans. II **69,** 1155 (1973).

[3853] Haselbach, E., and Eberbach, W. The photolysis of tricyclo[4.2.1.$0^{2,5}$] nonadiene: support of a Dougherty 'Type N' mechanism from photoelectron spectroscopical studies, Helv. Chim. Acta **56,** 1944 (1973).

[3854] Maier, J. P., and Turner, D. W. Steric inhibition of resonance studied by molecular photoelectron spectroscopy. Part 2. Phenylethylenes, J. Chem. Soc. Fardady Trans. II **69,** 196 (1973).

[3855] Schmidt, W., Wilkins, B. T., Fritz, G., and Huber, R. Energy level trends in 1,3,5,7–tetrasilaadamantanes ("carborundanes") and related molecules from photoelectron spectroscopy, J. Organometal. Chem. **59,** 109 (1973).

[3856] Khalil, O. S., Meeks, J. L., and McGlynn, S. P. Electronic spectroscopy of highly polar aromatics. VII. Photoelectron spectra of nitroanilines, J. Am. Chem. Soc. **95,** 5876 (1973).

[3857] Koch, E. E., Otto, A., and Radler, K. The absorption spectrum of the anthracene molecule in the vacuum ultraviolet, Chem. Phys. Letters **21,** 501 (1973).

[3858] Schäfer, W., Schweig, A., and Gronowitz, S. Reversal in the sequence of two highest occupied molecular orbitals in the series thiophen, selenophen, and tellurophen, J. Chem. Soc. Chem. Commun., 541 (1973).

[3859] Schmidt, H., Schweig, A., and Manuel, G. Preliminary communication. Theory and application of photoelectron spectroscopy. XXX. Hg–C hyperconjugation, J. Organometal. Chem. **55,** C1 (1973).

[3860] Haselbach, E., Lanyiova, Z., and Rossi, M. On the correlation between ionization potentials and excitation energies, part III: pyrazine, Helv. Chim. Acta **56,** 2889 (1973).

[3861] Schweig, A., and Thiel, W. Photoionization cross sections: He I and He II photoelectron spectra of saturated three–membered rings, Chem. Phys. Letters **21,** 541 (1973).

[3862] Osafune, K., Katsumata, S., and Kimura, K. Photoelectron spectroscopic study of hydrazine, Chem. Phys. Letters **19,** 369 (1973).

[3863] Mines, G. W., and Thompson, H. W. Photoelectron spectra of vinyl and allyl halides, Spectrochim. Acta **29A,** 1377 (1973).

[3864] Katrib, A., and Rabalais, J. W. Electronic interaction between the vinyl group and its substituents, J. Phys. Chem. **77,** 2358 (1973).

[3865] Lloyd, D. R., Roberts, P. J. The assignment of the photoelectron spectrum of sulphur dioxide, Mol. Phys. **26,** 225 (1973).

[3866] Lichtenberger, D. L., Sarapu, A. C., and Fenske, R. F. Photoelectron spectra and electronic structure of pentacarbonylmanganese halides, Inorg. Chem. **12,** 702 (1973).

[3867] Mollère, P., Bock, H., Becker, G., Fritz, G. Photoelectron spectra and molecular properties. XXI. Dimethyl sulfide, methyl silyl sulfide, and disilyl sulfide, J. Organometal. Chem. **61,** 127 (1973).

[3868] McLean, R. A. N. The bonding of a silicon atom with a phenyl ring: the photoelectron spectrum of phenylsilane, Can. J. Chem. **51,** 2089 (1973).

[3869] Jones, R. W., Koski, W. S. Photoelectron spectrum of pentaborane, J. Chem. Phys. **59,** 1228 (1973).

[3870] Higginson, B. R., Lloyd, D. R., and Roberts, P. J. Variable temperature photoelectron spectroscopy. The adiabatic ionization potential of the iodine molecule, Chem. Phys. Letters **19,** 480 (1973).

[3871] Fehlner, T. P., and Turner, D. W. Photoelectron spectrum of HBS, J. Am. Chem. Soc. **95,** 7175 (1973).

[3872] Goodman, D. W., Dewar, M. J. R., Schweiger, J. R., and Cowley, A. H. The photoelectron spectrum of phosphorus pentafluoride, Chem. Phys. Letters **21,** 474 (1973).

[3873] Streets, D. G., and Ceasar, G. P. Inductive and mesomeric effects on the π orbitals of halobenzenes, Mol. Phys. **26,** 1037 (1973).

[3874] Watanabe, I., Yokoyama, Y., and Ikeda, S. Lone pair ionization potentials of carboxylic acids determined by He(I) photoelectron spectroscopy, Bull. Chem. Soc. Japan **46,** 1959 (1973).

[3875] Sugar, J. Ionization energies of the neutral actinides, J. Chem. Phys. **59,** 788 (1973).

[3876] Evans, K., Scheps, R., Rice, S. A., and Heller, D. Primary photochemical and photophysical processes in chloro–and bromo–acetylene, J. Chem. Soc. Faraday Trans. II **69,** 856 (1973).

[3877] Aihara, J., and Inokuchi, H. Ionization potentials of anthracene, Chem. Letters, 421 (1973).

[3878] Collins, R. J., Husain, D., and Donovan, R. J. Kinetic and spectroscopic studies of $O_2(a^1\Delta_g)$ by time–resolved absorption spectroscopy in the vacuum ultra–violet, J. Chem. Soc. Faraday Trans. II **69,** 145 (1973).

[3879] Chadwick, D., Frost, D. C., Herring, F. G., Katrib, A., McDowell, C. A., and McLean, R. A. N. Photoelectron spectra of sulfuryl and thionyl halides, Can. J. Chem. **51,** 1893 (1973).

[3880] Jonas, A. E., Schweitzer, G. K., Grimm, F. A., and Carlson, T. A. The photoelectron spectra of the tetrafluoro and tetramethyl compounds of the group IV elements, J. Electron Spectrosc. Relat. Phenom. **1,** 29 (1972/73).

[3881] Chaghtai, M. S. Z., and Hassan, V. The ionization potential and the $4s4p^6nl$ levels of ^{86}Kr I, J. Phys. B **6,** 433 (1973).

[3882] Basco, N., and Morse, R. D. Analysis of the Rydberg transitions in ethylene sulphide, Chem. Phys. Letters **20,** 404 (1973).

[3883] Watanabe, I., Yokoyama, Y., and Ikeda, S. Vibrational structures in the photoelectron spectrum of formic acid, Chem. Phys. Letters **19,** 406 (1973).

[3884] Zverev, V. V., Vovna, V. I., Él'man, M. S., Kitaev, Yu. P., and Vilesov, F. I. Photoelectron spectra and structure of hydrazones, Dokl. Akad. Nauk SSSR **213,** 1319 (1973) [Engl. Transl.: Dokl. Phys. Chem. **213,** 945 (1973)].

[3885] Gompper, R., Holsboer, F., Schmidt, W., and Seybold, G. Rapid double bond shift in a donor acceptor substituted cyclobutadiene. Evidence from 584-Å and X-ray photoelectron spectroscopy, J. Am. Chem. Soc. **95,** 8479 (1973).

[3886] Worley, S. D., Mateescu, G. D., McFarland, C. W., Fort, R. C., Jr., and Sheley, C. F. Photoelectron spectra and MINDO-SCF-MO calculations for adamantane and some of its derivatives, J. Am. Chem. Soc. **95,** 7580 (1973).

[3887] Nelsen, S. F., Buschek, J. M., and Hintz, P. J. Photoelectron spectra of hydrazines. II. Conformations of hexahydropyridazines, J. Am. Chem. Soc. **95,** 2013 (1973).

[3888] Haselback, E., Mannschreck, A., and Seitz, W. 'Lone pair' electronic structure, conformation and oxidation behaviour of diaziridines, Helv. Chim. Acta **56,** 1614 (1973).

[3889] Nelsen, S. F., and Buschek, J. M. Photoelectron spectra of hydrazines. I. Dependence of the lone pair-lone pair splitting on dihedral angle for tetraalkylhydrazines, J. Am. Chem. Soc. **95,** 2011 (1973).

[3890] Maier, J. P., and Turner, D. W. Steric inhibition of resonance studied by molecular photoelectron spectroscopy, J. Chem. Soc. Faraday Trans. II **69,** 521 (1973).

[3891] Gronneberg, T., and Undheim, K. Mass spectrometry of onium compounds - XV. ionization potentials of amino pyridines, Tetrahedron Letters, 3193 (1973).

[3892] Sustmann, R., and Schubert, R. Photoelektronenspektroskopische Bestimmung von Substituenten-Effekten. I. Substituierte butadiene, Tetrahedron Letters **27,** 2739 (1972).

[3893] Ekberg, J. O., Hansen, J. E., and Reader, J. Analysis of the spectrum of seven-times-ionized molybdenum (Mo VIII) and isoelectronic comparison of the spectra Y V-Mo VIII, J. Opt. Soc. Am. **62,** 1143 (1972).

[3894] Ekberg, J. O., Hansen, J. E., and Reader, J. Analysis of the spectrum of six-times-ionized niobium (NB VII), J. Opt. Soc. Am. **62,** 1139 (1972).

[3895] Ekberg, J. O., Hansen, J. E., and Reader, J. Analysis of the Spectrum of five-times-ionized zirconium (Zr VI), J. Opt. Soc. Am. **62,** 1134 (1972).

[3896] Schäfer, W., Schweig, A., Bickelhaupt, F., and Vermeer, H. Photoelectron spectroscopy and conjugation-direct proof of the unusual sequence of the two highest occupied π-molecular orbitals in the phosphorin (phosphabenzene) and the arsenin (arsabenzene) system, Angew. Chem. Intern. Ed. **11,** 924 (1972).

[3897] Turk, J., and Shapiro, R. H. Formation of benzoyl ions: a complicated cleavage reaction, Org. Mass Spectrom **6,** 189 (1972).

[3898] Bock, H., and Wanger, G. "Electron lone pairs" in organic sulfides and disulfides, Angew. Chem. Intern. Ed. **11,** 150 (1972).

[3899] Sugar, J., Kaufman, V. Fourth spectrum of lutetium, J. Opt. Soc. Am. **62,** 562 (1972).

[3900] Tomer, K. B., Turk, J., and Shapiro, R. H. Anchimeric assistance in electron-impact reactions: homoallylic systems, Org. Mass. Spectrom. **6,** 235 (1972).

[3901] Guido, M., Gigli, G., and Balducci, G. Dissociation energy of CuCl and Cu_2Cl_2 gaseous molecules, J. Chem. Phys. **57,** 3731 (1972).

[3902] Cocke, D. L., Gingerich, K. A. Determination of the heats of atomization of the molecules RhC_2, RhC, and TiC_2 by high temperature mass spectrometry, J. Chem. Phys. **57,** 3654 (1972).

[3903] Conde-Caprace, G., and Collin, J. E. Electron-impact induced fragmentation of 1,3,6-dioxathiocane, Org. Mass Spectrom. **6,** 341 (1972).

[3904] Fuchs, R. Die kinetische Energie ionisierter Molekülfragmente. VII> H_3^+ als Fragment-Ion bei der Elektronenstossionisierung von Kohlenwasserstoffen, Intern. J. Mass Spectrom. Ion Phys. **8,** 193 (1972).

[3905] Holmstrom, J.-E. The spectrum of doubly ionized scandium, Sc III, Physica Scripta **5,** 249 (1972).

[3906] Appell, J., and Durup, J. The formation of protons by impact of low energy electrons on water molecules, Inten. J. Mass Spectrom. Ion Phys. **10,** 247 (1972/73).

[3907] Mateescu, G. D., and Worley, S. D. Electron spectroscipy. II. Photoelectron spectra of adamantane and 1-bromoadamantane, Tetrahedron Letters **52,** 5285 (1972).

[3908] Weidner, U., Schweig, A. Nature of the "silicon β-effect" in allyltrimethylsilane, Angew. Chem. Intern. Ed. **11,** 146 (1972).

[3909] Hildenbrand, D. L. Thermochemistry of the molecular species LiO, LiO^+, and Li_2O^+, J. CHem. Phys. **57,** 4556 (1972).

[3910] Klebe, K. J., Houte, J. J. v., and Thuijl, J. v. Loss of HCN and H from the molecular ion of imidazole, Org. Mass Spectrom **6,** 1363 (1972).

[3911] Rabalais, J. W., Werme, L. O., Bergmark, T., Karlsson, L., and Siegbahn, K., The high resolution electron spectra of thiophene, 2-bromothiophene and 3-bromothiophene, Intern. J. Mass Spectrom. Ion Phys. **9,** 185 (1972).

[3912] Ekberg, J. O., Hansen, J. E., and Reader, J. Analysis of the spectrum of five-times-ionized zirconium (Zr VI), J. Opt. Soc. Am. **62,** 1134 (1972).

[3913] Berkowitz, J. Photoelectron spectroscopy of high-temperature vapors. I. TlCl, TlBr, and TlI, J. Chem. Phys. **56,** 2766 (1972).

[3914] Doucet, J., Sauvageau, P., and Sandorfy, C. Vacuum ultraviolet and photoelectron spectra of fluoro-chloro derivatives of methane, J. Chem. Phys. **58,** 3708 (1973).

[3915] Van Der Helm, D., Christian, S. D., and Lin, L.-N. Charge transfer complexes of purines and pyrimidines. 9-Cyclohexyladenine-iodine in organic solvents and in the solid state, J. Am. Chem. Soc. **95,** 2410 (1973).

[3916] McLafferty, F. W., Bente, P. F., III., Kornfeld, R., Tsai, S.-C., and Howe, I. Collisional activation spectra of organic ions, J. Am. Chem. Soc. **95,** 2120 (1973).

[3917] Chaghtai, M. S. Z., Ali, Z., and Khatoon, S. The emission spectrum of yttrium VI, J. Phys. B **6,** 232 (1973).

[3918] Fedorova, M. S., Denisov, Yu. V., and Potapov, V. K. Mass-spectrometric study of the photoionisation processes of tricyclo[5.2.1.$0^{2,6}$] decane and its alkyl derivatives, Zh. Fiz. Khim. **47,** 2667 (1973) [Engl. transl.: Russ. J. Phys. Chem. **47,** 1498 (1973)].

[3919] Stockbauer, R. Threshold electron-photoion coincidence mass spectrometric study of CH_4, CD_4, C_2H_6, and C_2D_6, J. Chem. Phys. **58,** 3800 (1973).

[3920] Berkowitz, J., Dehmer, P. M., and Chupka, W. A. Photoionization mass spectrometry of F_2O, J. Chem. Phys. **59,** 925 (1973).

[3921] Dibeler, V. H., and Walker, J. A. Photoionization of acetylene near threshold, Intern. J. Mass Spectrom. Ion Phys. **11,** 49 (1973).

[3922] Pitt, C. G. Hyperconjugation and its role in group IV chemistry, J. Organometal. Chem. **61,** 49 (1973).

[3923] Minnhagen, L. Spectrum and the energy levels of neutral argon, Ar I, J. Opt. Soc. Am. **63,** 1185 (1973).

[3924] Reader, J., and Epstein, G. Zeeman effect and revised analysis of singly ionized rubidium (Rb II), J. Opt. Soc. Am. **63,** 1153 (1973).

[3925] McCulloh, K. E. Photoionization of carbon dioxide, J. Chem. Phys. **59,** 4250 (1973).

[3926] Persson, W., and Valind, S. The spectrum of doubly ionized strontium (Sr III), Physica Scripta **5,** 187 (1972).

[3927] Killgoar, P. C., Jr., Leroi, G. E., Chupka, W. A., and Berkowitz, J. Photoionization study of NO_2. I. The ionization potential, J. Chem. Phys. **59,** 1370 (1973).

[3928] Berkowitz, J., and Wahl, A. C. The dissociation energy of fluorine, Advan. Fluorine Chem. **7,** 147 (1973).

[3929] Okabe, H., and Dibeler, V. H. Photon impact studies of C_2HCN and CH_3CN in the vacuum ultraviolet; heats of formation of C_2H and CH_3CN, J. Chem. Phys. **59,** 2430 (1973).

[3930] Reinke, D., Kraessig, R., and Baumgärtel, H. Photoreactions of small organic molecules, Z. Naturforsch. **28a,** 1021 (1973).

[3931] Dibeler, V. H., Walker, J. A., and McCulloh, K. E. Observations on hot bands in the molecular and dissociative photoionization of acetylene and the heat of formation of the ethynyl ion, J. Chem. Phys. **59,** 2264 (1973).

[3932] Berkowitz, J., Appelman, E. H., and Chupka, W. A. Photoionization of HOF with mass analysis, J. Chem. Phys. **58,,** 1950 (1973).

[3933] Hoffmann, R. W., Schüttler, R., Schäfer, W., and Schweig, A. Methylen-norbornadien, ein Bicycloheptafulven, Angew. Chem. **84,** 533 (1972).

[3934] Oehling, H., Schäfer, W., and Schweig, A. Sequence of highest occupied molecular orbitals in the phosphorin system, Angew. Chem. Intern. Ed. **10,** 656 (1971).

[3935] Lloyd, D. R. Calibration of a He(I) photoelectron spectrometer, J. Phys. E **3,** 629 (1972).

[3936] Cowan, D. O., Gleiter, R., Hashmall, J. A., Heilbronner, E., and Hornung, V. Interaction between the orbitals of lone pair electrons in dicarbonyl compounds, Angew. Chem. Intern. Ed. **10,** 401 (1971).

[3937] Sustmann, R., and Trill, H. Photoelektronenspektroskopische Bestimmung von Substituenten-Effekten. II. α,β-ungesättigte Carbonester, Tetrahedron Letters **42,** 4271 (1972).

[3938] Rabalais, J. W., and Colton, R. J. Electronic interaction between the phenyl group and its unsaturated substituents, J. Electron Spectrosc. Relat. Phenom. **1,** 83 (1972/73).

[3939] Tamás, J., Czira, G., Maltsev, A. K., and Nefedov, O. M. Electron impact studies on some organochlorogermanes: mass spectra and bond dissociation energies, J. Organometal. Chem. **40,,** 311 (1972).

[3940] Weidner, U., and Schweig, A. Theory and application of photoelectron spectroscopy. V. The nature of bonding in vinyl-and allylsilanes: the effects of σ-π (hyperconjugation) and p_π-d_π conjugation in these compounds, J. Organometal. Chem. **39,** 261 (1972).

[3941] Robin, M. B., and Kuebler, N. A. Excited electronic states of the simple alcohols, J. Electron Spectrosc. Relat. Phenom. **1,** 13 (1972/73).

[3942] Golob, L., Jonathan, N., Morris, A., Okuda, M., and Ross, K. J. The first ionization potential of the methyl radical as determined by photoelectron spectroscopy, J. Electron Spectrosc. Relat. Phenom, **1,** 506 (1972/73).

[3943] Brundle, C. R., and Jones, G. R. The high resolution photoelectron spectra and the electronic structure of $XeOF_4$, J. Electron Spectrosc. Relat. Phenom. **1,** 403 (1972/73).

[3944] Kroner, J., Proch, D., Fuss, W., and Bock, H. Ionisierungs-und Anregungsenergien methyl- und fluor-substituierter Borazine, Tetrahedron **28,** 1585 (1972).

[3945] Dôong, P., and Bizot, M. Dissociation uni- et bi-moléculaire des ions NO^+, Intern. J. Mass Spectrom. Ion Phys. **10,** 227 (1972/73).

[3946] Pitt, C. G., and Bock, H. σ-π Mixing in phenylpentamethyldisilane, J. Chem. Soc. Chem. Commun., 28 (1972).

[3947] Piacente, V., and Malaspina, L. Dissociation energy of the TlAs molecule, J. Chem. Phys. **56,** 1780 (1972).

[3948] Boekelheide, V., Murrell, J. N., and Schmidt, W. The photoelectron spectrum of *trans*-15,16-dimethyl-dihydropyrene, Tetrahedron Letters **7,** 575 (1972).

[3949] De Maria, G., Malaspina, L., and Piacente, V. Dissociation energy of the gaseous TlBi molecule, J. Chem. Phys. **56,** 1978 (1972).

[3950] Mollère, P., Bock, H., Becker, G., and Fritz, G. Photoelectron spectra and molecular properties. XV. The effects of α-and β-silyl substituents on π-systems, J. Organometal. Chem. **46,** 89 (1972).

[3951] Boschi, R., and Schmidt, W. Photoelectron spectra of polycyclic aromatic hydrocarbons. Pyrene and coronene, Tetrahedron Letters **25,** 2577 (1972).

[3952] Saalfeld, F. E., DeCorpo, J. J., and McDowell, M. V. The mass spectra of some metal carbonyl complexes of tris(dimethylamino)phosphine, J. Organometal. Chem. **44,** 333 (1972).

[3953] Boschi, R., Schmidt, W., and Gfeller, J.-C. The electronic structure of 1,6-methano-cyclodecapentaene, Tetrahedron Letters, 4107 (1972).

[3954] Schaaf, D. W., and Gregory, N. W. Mass spectrometric study of the vaporization of cuprous bromide, J. Phys. Chem. **76,** 3271 (1972).

[3955] Debies, T. P., and Rabalais, J. W. Photoelectron spectra of substituted benzenes. II. Seven valence electron substituents, J. Electron Spectrosc. Relat. Phenom. **1,** 355 (1972/73).

[3956] Cabaud, B., Hoareau, A., Nounou, P., and Uzan, R. High temperature mass spectrometric study of polyatomic antimony species by electron impact. Direct evidence for the existence of Sb_3 molecules, Intern. J. Mass Spectrom. Ion Phys. **11,** 157 (1973).

[3957] Masclet, P., Grosjean, D., and Mouvier, G. Alkene ionization potentials. Part I. Quantitative determination of alkyl group structural effects, J. Electron Spectrosc. Relat. Phenom. **2,** 225 (1973).

[3958] Berkowitz, J., Dehmer, J. L., and Walker, T. E. H. PES of high-temperature vapors. IV. The cesium halides. Effect of spin-orbit interaction on the photoelectron and mass spectra of the alkali halides, J. Chem. Phys. **59,** 3645 (1973).

[3959] Van Den Ham, D. M. W., and Van Der Meer, D. Photoelectron spectra of some fluorine substituted diazanaphthalenes, J. ELectron Spectrosc. Relat. Phenom. **2,** 247 (1973).

[3960] Berkowitz, J., Dehmer, J. L., Shimada, K., and Szwarc, M. Photoelectron spectroscopic studies of (α-naphthyl)-$(CH_2)_4$-(α-naphthyl) vapor: open chain or cyclic conformation?, J. Elec. Spectrosc. Relat. Phenom. **2,** 211 (1973).

[3961] Kordis, J., and Gingerich, K. A. Mass spectroscopic investigation of the equilibrium dissociation of gaseous Sb_2, Sb_3, Sb_4, SbP, SbP_3, and P_2, J. Chem. Phys. **58,** 5141 (1973).

[3962] Ackermann, R. J., and Rauh, E. G. High temperature properties of the thorium-oxygen system: a revision of the thermodynamic properties of ThO(g) and ThO_2(g), High Temp. Sci. **5,** 463 (1973).

[3963] Boggess, G. W., Allen, J. D., Jr., and Schweitzer, G. K. The photoelectron spectra of gaseous zinc(II) and cadmium(II) chlorides, bromides, and iodides, J. Electron Spectrosc. Relat. Phenom. **2,** 467 (1973).

[3964] Kobayashi, T., Yokota, K., and Nagakura, S. Photoelectron spectra of styrenes, J. Electron Spectrosc. Relat. Phenom. **3,** 449 (1973).

[3965] Frost, D. C., Lee, S. T., and McDowell, C. A. Photoelectron spectra of OCSe, SCSe, and CSe_2, J. Chem. Phys. **59,** 5484 (1973).

[3966] Gingerich, K. A., Cocke, D. L., Finkbeiner, H. C., and Chang, C.-A. High temperature Knudsen cell mass spectrometric determination of the heats of atomization of $AlAu_2$ and Al_2Au, Chem. Phys. Letters **18,** 102 (1973).

[3967] Morrison, J. D., and Traeger, J. C. Ionization and dissociation by electron impact. I. H_2O and H_2S, Intern. J. Mass Spectrom. Ion Phys. **11,** 77 (1973).

[3968] Gingerich, K. A. Mass spectrometric evidence for the very high stability of gaseous ThIr and ThPt and method of calculating dissociation energies of diatomic intermetallic compounds with multiple bonds, Chem. Phys. Letters **23,** 270 (1973).

[3969] Guido, M., Gigli, G. Mass spectrometric study of the CeSiC molecules, J. Chem. Phys. **59,** 3437 (1973).

[3970] Scott, J. D., Causley, G. C., and Russell, B. R. Vacuum ultraviolet absorption spectra of dimethylsulfide, dimethylselenide, and dimethyltelluride, J. Chem. Phys. **59,** 6577 (1973).

[3971] Dehmer, J. L., Berkowitz, J., and Cusachs, L. C. Photoelectron spectroscopy of high-temperature vapors. III. Monomer and dimer spectra of thallous fluoride, J. Chem. Phys. **58,** 5681 (1973).

[3972] Gunkel, E., Unpublished results reported in: Sustmann, R., and Trill, H., Photoelektronenspektroskopische Bestimmung von Substituenten-Effekten. II. α,β-Ungesättigte Carbonester, Tetrahedron Letters **42,** 4271 (1972).

[3973] Benoit, F. Substituent effects in mass spectrometry. III. Substituent effects in the dissociation of the molecular ions of *para* and *meta* substituted benzoic acids, Org. Mass Spectrom. **7,** 295 (1973).

[3974] Kaufman, V., and Sugar, J. One-electron spectrum of singly ionized ytterbium (Yb II), J. Opt. Soc. Am. **63,** 1168 (1973).

[3975] Gardner, J. L., and Samson, J. A. R. 304. Å photoelectron spectra of CO, N_2, O_2 and CO_2, J. Electron Spectrosc. Relat. Phenom. **2,** 259 (1973).

[3976] Work, D. E., and Eick, H. A. An investigation of the incongruent sublimation of some lanthanide (III) oxobromides, High Temp. Sci. **5,** 313 (1973).

[3977] Fjeldstad, P. E., and Undheim, K. Mass spectrometry of onium compounds. XXX. Ionisation potential in structural assignment of some gaseous molecules, Org. Mass Spectrom. **7,** 639 (1973).

[3978] Cocke, D. L., Gingerich, K. A., and Kordis, J. Determination of the high bond dissociation energy of the molecule LaRh, High Temp. Sci. **5,** 474 (1973).

[3979] Higginson, B. R., Lloyd, D. R., Burroughs, P., Gibson, D. M., and Orchard, A. F. Photoelectron studies of metal carbonyls. Part 2. The valence region photoelectron spectra of the Group VIA hexacarbonyls, J. Chem. Soc. Faraday Trans. II 1659 (1973).

[3980] Mollere, P. D. The photoelectron spectrum of oxetane: non-degenerate Walsh orbitals in a four-membered heterocycle, Tetrahedron Letters, 2791 (1973).

[3981] Gleiter, R., Schmidt, E., Cowan, D. O., and Ferraris, J. P. The electronic structure of tetrathiofulvalene, J. Electron Spectrosc. Relat. Phenom. **2,** 207 (1973).

[3982] Kroto, H. W., Suffolk, R. J., and Westwood, N. P. C. The photoelectron spectrum of thioborine, HBS, Chem. Phys. Letters **22,** 495 (1973).

[3983] Katayama, D. H., Huffman, R. E., and O'Bryan, C. L. Absorption and photoionization cross sections for H_2O and D_2O in the vacuum ultraviolet, J. Chem. Phys. **59,** 4309 (1973).

[3984] Yamazaki, T., Katsumata, S., and Kimura, K. Photoelectron spectra and orbital assignments by sum rule consideration: ethyl and *n*-propyl fluorides, J. Electron Spectrosc. Relat. Phenom. **2,** 335 (1973).

[3985] Thompson, K. R. Mass spectrometric determination of the atomization energies of AlSiO(g) and Al_2O(g), High Temp. Sci. **5,** 62 (1973).

[3986] Piacente, V., Bardi, G., Malaspina, L., and Desideri, A. Dissociation energy of CeO_2 and Ce_2O_2 molecules, J. Chem. Phys. **59,** 31 (1973).

[3987] Leavell, S., Steichen, J., and Franklin, J. L. Photoelectron spectra of intramolecularly hydrogen bonded compounds, J. Chem. Phys. **59,** 4343 (1973).

[3988] Cowling, S. A., and Johnstone, R. A. W. Photoelectron spectroscopy: the effects of steric inhibition to resonance in anilines, J. Electron Spectrosc. Relat. Phenom. **2,** 161 (1973).

[3989] Santoro, E. The fragmentation of some alkyl thiophosphate esters by electron-impact, Org. Mass Spectrom. **7,** 589 (1973).

[3990] Boschi, R., Schmidt, W., Suffolk, R. J., Wilkins, B. T., Lempka, H. J., and Ridyard, J. N. A. Complete valence shell electronic structure of adamantane from He I and He II photoelectron spectroscopy, J. Electron Spectrosc. Relat. Phenom. **2,** 377 (1973).

[3991] Goldstein, M. J., Natowsky, S., Heilbronner, E., and Hornung, V. Near cancellation of through space and through bond interaction in bicyclo[3.2.2]nona-6,8-diene, Helv. Chim. Acta **56,** 294 (1973).

[3992] Schmidt, H., and Schweig, A. C–Hal Hyperkonjugation, Tetrahedron Letters, 981 (1973).

[3993] Müller, C., and Schweig, A. Konjugation in Sulfonen, Tetrahedron **29,** 3973 (1973).

[3994] Schweig, A., Weidner, U., Berger, J. G., and Grahn, W. Spirokonjugation, Tetrahedron Letters, 557 (1973).

[3995] Schmidt, H., and Schweig, A. Ausschluss transanularer Wechselwirkung in 2.5-Dihydrothiophen, Tetrahedron Letters, 1437 (1973).

[3996] Mathar, W., Bohlmann, F., and Schwarz, H. Massenspektrometrische Untersuchung von Amiden. V. Über den Einfluss der N-Donatorstärke auf die Aktivierungs-Energie der Methyl-Abspaltung aus Crotonsäureamiden, Tetrahedron Letters, 4583 (1973).

[3997] Bruckmann, P., and Klessinger, M. Photoelektronenspektren organischer Verbindungen. III. Photoelektronenspektren acetylensubstituierter kleiner Ringe, J. Electron Spectrosc. Relat. Phenom. **2,** 341 (1973).

[3998] Eland, J. H. D. Predissociation of N_2O^+ and COS^+ ions studied by photoelectron–photoion coincidence spectroscopy, Intern. J. Mass Spectrom. Ion Phys. **12,** 389 (1973).

[3999] Batich, C., Bischof, P., and Heilbronner, E. The photoelectron spectra of cyclooctatetraene and its hydrogenated derivatives, J. Electron Spectrosc. Relat. Phenom. **1,** 333 (1972/73).

[4000] Schmidt, W. Photoelectron spectra of diamondoid molecules, adamantane, silamantane and urotropine, Tetrahedron **29,** 2129 (1973).

[4001] Drowart, J., Myers, C. E., Szwarc, R., Vander Auwera-Mahieu, A., and Uy, O. M. The dissociation energies of the molecules PS, PSe, and PTe, High Temp. Sci. **5,** 482 (1973).

[4002] Bieri, G., Brogli, F., Heilbronner, E., and Kloster-Jensen, E. A photoelectron spectroscopic investigation of the electronic structure of trimethylsilylhaloacetylenes, J. Electron Spectrosc. Relat. Phenom. **1,** 67 (1972/73).

[4003] Botter, R., Menes, F., Gounelle, Y., Pechine, J. M., and Solgadi, D. The ionization potentials of geometrical isomers: the *cis* and *trans* 2-substituted cyclopentyl and cyclohexyl bromides, Intern. J. Mass Spectrom. Ion Phys. **12,** 188 (1973).

[4004] Bünzli, J. C., Frost, D. C., Weiler, L. The photoelectron spectrum of triquinacene, Tetrahedron Letters, 1159 (1973).

[4005] Stearns, C. A., and Kohl, F. J. Mass spectrometric determination of the dissociation energies of gaseous Al_2, AlSi, and AlSiO, High Temp. Sci. **5,** 113 (1973).

[4006] Gleiter, R., Heilbronner, E., Paquette, L. A., Thompson, G. L., and Wingard, R. E., Jr. Photoelectron spectra of polyunsaturated [4,4,2]propellanes, Tetrahedron **29,** 565 (1973).

[4007] Van Deurzen, C. H. H., Conway, J. G., and Davis, S. P. Spectrum and energy levels of doubly ionized scandium (Sc III), J. Opt. Soc. Am. **63,** 158 (1973).

[4008] Ceasar, G. P., Green, J., Paquette, L. A., and Wingard, R. E., Jr. Orbital interaction in 2a,8b-dihydrocyclopent[*cd*]azulene, Tetrahedron Letters, 1721 (1973).

[4009] Cradock, S., Findlay, R. H., and Palmer, M. H. The molecular energy levels of the azoles: a study by photoelectron spectroscopy and ab initio molecular orbital calculations, Tetrahedron **29,** 2173 (1973).

[4010] Bünzli, J. C., Burak, A. J., and Frost, D. C. Through-space interaction in non-conjugated acyclic dienes studied by photoelectron spectroscopy, Tetrahedron **29,** 3735 (1973).

[4011] Tondello, G. Absorption spectrum of Cu I in the vacuum ultraviolet, J. Opt. Soc. Am. **63,** 346 (1973).

[4012] Kordis, J., and Gingerich, K. A. Dissociation energies and heats of formation of the gaseous Eu_2 and EuAg molecules, J. Phys. Chem. **77,** 700 (1973).

[4013] Rabeneck, H., Rinke, K., and Schäfer, H. ReO_3J,g Bildung, Massenspektrum, Ionisierungsenergie und Bildungsenthalpie, Z. Anorg. Allg. Chem. **397,** 112 (1973).

[4014] Stearns, C. A., and Kohl, F. J. Mass spectrometric determination of the dissociation energies of AlC_2, Al_2C_2, and $AlAuC_2$, J. Phys. Chem. **77,** 136 (1973).

[4015] Müller, J., and Goll, W. Ion-Molekül-Reaktionen von (Cyclopentadienyl)nitrosylnickel mit σ- und π-Donatoren in der Gasphase, Chem. Ber. **106,** 1129 (1973).

[4016] Skinner, H. B., and Searcy, A. W. Mass spectrometric studies of gaseous oxides of rhenium, J. Phys. Chem. **77,** 1573 (1973).

[4017] Clark, P. A., Gleiter, R., and Heilbronner, E. Photoelectron spectra of planar sulfur heterocycles, Tetrahedron **29,** 3085 (1973).

[4018] Fortin, C. J., and Rousseau, Y. Spectrométrie de masse des cyclohexanones *gem*-diphénylées. II. Chaleurs de formation et structures possibles des principaux ions fragmentaires, Can. J. Chem. **51,** 3457 (1973).

[4019] Brogli, F., Crandall, J. K., Heilbronner, E., Kloster-Jensen, E., and Sojka, S. A. The photoelectron spectra of methyl-substituted allenes and of tetramethyl-bisallenyl, J. Electron Spectrosc. Relat. Phenom. **2,** 455 (1973).

[4020] Tanaka, K., and Tanaka, I. Photoelectron spectra from some autoionizing states of O_2 near the ionization threshold, J. Chem. Phys. **59,** 5042 (1973).

[4021] Nixon, J. F. Photoelectron spectra and bonding in metal-trifluorophosphine complexes, J. Chem. Soc. Dalton Trans. **21,** 2226 (1973).

[4022] Katrib, A., Debies, T. P., Colton, R. J., Lee, T. H., and Rabalais, J. W. The use of differential photoionization cross sections as a function of excitation energy in assigning photoelectron spectra, Chem. Phys. Letters **22,** 196 (1973).

[4023] Berkosky, J. L., Ellison, F. O., Lee, T. H., and Rabalais, J. W. Model for calculating spin–orbit interactions with applications to photoelectron spectroscopy, J. Chem. Phys. **59,** 5342 (1973).

[4024] Kroner, J., Strack, W., Holsboer, F., and Kosbahn, W. Zur Elektronenstruktur der Thiokumulene, Z. Naturforsch. **28b,** 188 (1973).

[4025] Akopyan, M. E., Sergeev, Yu. L., and Vilesov, F. I. Photoionization in vapors of aliphatic sulfides. I. Methylmercaptan, dimethyl and diethyl sulfides, Khim. Vys. Energ. **4,** 305 (1970) [Engl. transl.: High Energy Chem. **4,** 265 (1970)].

[4026] Cradock, S., Ebsworth, E. A. V., and Whiteford, R. A. Photoelectron spectra of some simple fluorosilanes, J. Chem. Soc. Dalton Trans. **22,** 2401 (1973).

[4027] Venkateswarlu, P. The vacuum ultraviolet spectrum of ICl, Can. J. Phys. **53,** 812 (1975).

[4028] Potapov, V. K., and Iskakov, L. I. Electronic structure and photoionization of aromatic amines, Khim. Vys. Energ. **5,** 264 (1971) [Engl. transl.: High Energy Chem. **5,** 237 (1971)].

[4029] Kobayashi, H., Kobayashi, M., and Kaizu, Y. Molecular complexes of arenetricarbonylchromium, Bull. Chem. Soc. Japan **46,** 3109 (1973).

[4030] Antonova, N. L., Kutsev, V. S. Mass-spectrometric investigation of the thermal dissociation of neodymium dicarbide, Zh. Fiz. Khim. **47,** 2446 (1973) [Engl. transl.: Russ. J. Phys. Chem. **47,** 1385 (1973)].

[4031] Iskakov, L. I., Potapov, V. K. Photoionization and decomposition of benzaldehyde, acetophenone, and benzophenone, Khim. Vys. Energ. **5,** 265 (1971) [Engl. transl.: High Energy Chem. **5,** 238 (1971)].

[4032] Ogata, H., Onizuka, H., Nihei, Y., Kamada, H. The photoelectron spectra of alcohols, mercaptans and amines, Bull. Chem. Soc. Japan **46,** 3036 (1973).

[4033] Hoshino, H., Tajima, S., and Tsuchiya, T. The effect of the temperature on the mass spectra of aliphatic primary alcohols and 1-alkenes. I. Bull. Chem. Soc. Japan **46,** 3043 (1973).

[4034] Askani, R., Gleiter, R., Heilbronner, E., Hornung, V., and Musso, H. The orbital sequence in semibullvalene, barbaralene and dihydrobullvalene, Tetrahedron Letters, 4461 (1971).

[4035] Pozharskii, A. F., Kashparov, I. S., Holls, P. J., and Zaletov, V. G. Heterocyclic pleiadiene analogs. VI. Electronic properties of perimidine, Khim. Geterotsikl. Soedin. **4,** 543 (1971) [Engl. transl.: Chem. Heterocycl. Compd. **4,** 507 (1971)].

[4036] Shen, K.-W., and Kuebler, N. A. Synthesis, reactions, and photoelectron spectrum of 8,11-dimethylenepentacyclo [5.4.0.0^{2,6}.0^{3,10}.0^{5,9}] tridecane, Tetrahedron Letters, 2145 (1973).

[4037] Bischof, P., Haselbach, E., and Heilbronner, E. Photoelectron spectrum of cyclobutane, Angew. Chem. Intern. Ed. **9,** 953 (1970).

[4038] Heilbronner, E., and Muszkat, K. A. On the relative importance of through-space vs. through-bond interaction between the lone pairs in 1,4-diazabicyclo[2.2.2]octane, J. Am. Chem. Soc. **92,** 3818 (1970).

[4039] Brogli, F., and Heilbronner, E. The photoelectron spectra of benzenoid hydrocarbons $C_{18}H_{12}$, Angew. Chem. Intern. Ed. **11,** 538 (1972).

[4040] Brogli, F., Eberbach, W., Haselbach, E., Heilbronner, E., Hornung, V., and Lemal, D. M. 199. Die Photoelecktronen-Spektren des Tricyclo[4.2.1.0^{2,5}]nonadiens und seines 3,4-Diaza-Analogons. Ein Beitrag zur Kenntnis der Wechselwirkung zwischen den einsamen Elektronenpaaren der *cis*-konfigurierten Azogruppe, Helv. Chim. Acta **56,** 1933 (1973).

[4041] Schwarz, H., Bohlmann, F., and Russ, B. Elektronenstossinduzierte Fragmentierung von Polymethylbenzaldehyden. II. Mechanismus der Methyl-Abspaltung aus dem Molekül-Ion von tri- und Pentamethylbenzaldehyden, Org. Mass Spectrom. **7,** 1001 (1973).

[4042] Smith, D. H., Cameron, A. E., and Dean, J. A. Mass spectrometic investigation of surface ionization. IV. Desorption of Th^+, Np^+, and Pu^+ from tungsten surfaces, J. Chem. Phys. **54,** 170 (1971).

[4043] Zverev, V. V., Vovna, V. I., Él'man, M. S., Kitaev, Yu. P., and Vilesov, F. I. Photoelectronic spectra and electronic and three-dimensional structures of acyclic azines, Dokl. Akad. Nauk. SSSR **213,** 1117 (1973) [Engl. transl.: Dokl. Phys. Chem. **213,** 1100 (1973)].

[4044] Schwarz, H., and Bohlmann, F. Elektronenstossinduzierte Fragmentierung von Acetylenverbindungen. VI. Struktur und Bildungsenthalpie der Ionen $[C_{11}H_9]^+$ und $[C_9H_7]^+$, Org. Mass Spectrom. **7,** 395 (1973).

[4045] Gleiter, R., Heilbronner, E., Hekman, M., and Martin, H.-D. π-Orbital-Wechselwirkungen "through space" and "through bond" in tricyclo[4.2.0.0^{2,5}]octadienen, Chem. Ber. **106,** 28 (1973).

[4046] Schwarz, H., and Bohlmann, F. Massenspektrometrische Untersuchung von Amiden. I. Energetische Betrachtungen zur elektronenstrossin-duzierten Fragmentierung von Piperidin- und Piperidein-Amiden, Org. Mass Spectrom. **7,** 1197 (1973).

[4047] Heilbronner, E., and Martin, H.-D. Über die Orbitalsequenz in aliphatischen Diazoverbindungen, Chem. Ber. **106,** 3376 (1973).

[4048] Brogli, F., Heilbronner, E., Hornung, V., and Kloster-Jensen, E. 230. Die Photoelektronen-Spektren methyl-substituierter Acetylene, Helv. Chim. Acta **56,** 2171 (1973).

[4049] Batich, C., Heilbronner, E., and Semmelhack, M. F. 225. Bemerkung zur Gleichheit der Aufspaltungen ΔI (zwischen den ersten beiden π-Ionisationspotentialen) und ΔE (zwischen den entsprechenden $\pi^* \leftarrow$ II Übergangsenergien) des Spiro[4,4] nonatetraens, Helv. Chim. Acta. **56,** 2110 (1973).

[4050] Schmidt, W., and Wilkins, B. T. Das "Equivalent Orbital" (EO)-Verfahren zur Interpretation von Photoelektronen(PE)-Spektren: Neopentan, Angew. Chem. **84,** 168 (1972).

[4051] Schwarz, H., Bohlmann, F., and Vorlaender, W. Elektronenstossinduzierte Fragmentierung von Polymethylbenzaldehyden. III. Bildung und Zerfall des Formyltropylium-Ions aus Dimethylbenzaldehyd, Org. Mass Spectrom. **7,** 1005 (1973).

[4052] Paulus, J.-M., and Abbé, J.-C. Potentiel d'apparition de I_2^{2+} a partir de I_2, J. Chim. Phys. **70,** 690 (1973).

[4053] Schweig, A., Schäfer, W., and Dimroth, K. Unusual sequence of the two highest occupied π-molecular orbitals in the phosphorin system, Angew. Chem. Intern. Ed. **11,** 631 (1972).

[4054] Uy, O. M., Srivastava, R. D., and Farber, M. Mass spectrometric determination of the heats of formation of gaseous BO_2 and BOF_2, High Temp. Sci. **3,** 462 (171).

[4055] Rodionov, A. N., Potapov, V. K., and Rogozhin, K. L. Photoionization of certain aromatic heteroorganic compounds, Khim. Vys. Energ. **7,** 278 (1973) [Engl. transl.: High Energy Chem. **7,** 249 (1973)].

[4056] Ikuta, S., Yoshihara, K., Shiokawa, T., Jinno, M., Yokoyama, Y., and Ikeda, S. Photoelectron spectroscopy of cyclohexane, cyclopentane, and some related compounds, Chem. Letters, 1237 (1973).

[4057] Iskakov, L. I., and Potapov, V. K. Photoionization and decomposition of benzaldehyde, acetophenone, and benzophenone, Khim. Vys. Energ. **5,** 265 (1971) [Engl. transl.: High Energy Chem. **5,** 238 (1971)].

[4058] Potapov, V. K., and Bazhenov, B. A. The photoionization of pyrrole, furan, and thiophene, Khim. Vys. Energ. **4,** 553 (1970) [Engl. transl.: High Energy Chem. **4,** 505 (1970)].

[4059] Borgström, A. Extended analysis of Ca III, Phys. Scr. **3,** 157 (1971).

[4060] Camus, P., and Tomkins, F. S. Absorption-line series in Lu I, J. Phys. (Paris) **33,** 197 (1972).

[4061] Ackermann, R. J., and Rauh, E. G. A high-temperature study of the stoichiometry, phase behavior, vaporization characteristics, and thermodynamic properties of the cerium + oxygen system, J. Chem. Thermodyn. **3,** 609 (1971).

[4062] Schwarz, H., Praefcke, K., and Martens, J. Organische Schwefelverbindungen. III. Elektronenstossinduzierte Untersuchungen von Arylestern der Monothio-und Dithiophthalsäure und der isomeren 3,3-substituierten Phthalide, Tetrahedron **29,** 2877 (1973).

[4063] Brogli, F., Giovannini, E., Heilbronner, E., and Schurter, R. Die Photoelektronen-Spektren der Benzocycloalkene, Chem. Ber. **106,** 961 (1973).

[4064] Smitt, R. The spectrum of three times ionized scandium, Sc IV, Physica Scripta **8,** 292 (1973).

[4065] Kroner, J., Nölle, D., and Nöth, H. Photoelektronenspektroskopische Untersuchungen an Bor-Verbindungen. I. Orbitalreihenfolgen und Ladungsdichten in Methylthio-und Methoxyborane, Z. Naturforsch. Teil. B. **28,** 416 (1973).

[4066] Schäfer, W., Schweig, A., Märkl, G., and Heier, K.-H. Zur Elektronenstruktur der λ_3- und λ_5-Phosphanaphthaline—ungewohnlich grosse MO Destabilisierungen, Tetrahedron Letters 3743 (1973).

[4067] Stafast, H., Bock, H. Photoelectron spectra and molecular properties. XVII. Hyperconjugation in dicyano methane and 2,2-dicyano propane, Z. Naturforsch. **28b,** 746 (1973).

[4068] Katsumata, S., Iwai, T., and Kimura, K. Photoelectron spectra and sum rule consideration. Higher alkyl amines and alcohols, Bull. Chem. Soc. Japan **46,** 3391 (1973).

[4069] Parr, G. R., and Taylor, J. W. A photoionization mass spectrometer utilizing a high intensity molecular beam sampling system and synchrotron radiation, Rev. Sci. Instrum. **44,** 1578 (1973).

[4070] Syrvatka, B. G., Gil'burd, M. M., Bel'ferman, A. L. Mass spectrometric study of chlorofluoro-substituted ethylenes, Zh. Org. Khim. **8,** 1553 (1972) [Engl. transl.: J. Org. Chem. USSR **8,** 1587 (1972)].

[4071] Ivko, A. A. Use of mass spectroscopy and isotope labelling for determining the structure of ions and molecules, Org. Katal., 20 (1970).

[4072] Puttemans, J.-P., and Hanson, A. Etude énergétique du ferrocène et du cobaltocène par impact électronique. Enthalpie de formation du radical cyclopentadiényle, Ing. Chim. (Brussels) **53,** 17 (1971).

[4073] Natalis, P. Contribution à la spectroscopie photoélectronique. Effets de l'autoionisation dans les spectres photoélectroniques de molécules diatomiques et triatomiques, Acad. R. Belg. Mem. Cl. Sci. Collect. 8°-2° Ser. T *41(1)*, (1973).

[4074] Fortin, C. J., Forest, M., Vaziri, C., Gravel, D., and Rousseau, Y. Spectrométrie de masse des cyclohexanones *gem*-diphénylées. I. Localisation de la charge positive, Can. J. Chem. **51,** 3445 (1973).

[4075] Rosenstock, H. M., Larkins, J. T., and Walker, J. A. Interpretation of photoionization thresholds: quasiequilibrium theory and the fragmentation of benzene, Intern. J. Mass Spectrom. Ion Phys. **11,** 309 (1973).

[4076] Kimura, K., Katsumata, S., Achiba, Y., Matsumoto, H., and Nagakura, S. Photoelectron spectra and orbital structures of higher alkyl chlorides, bromides, and iodides, Bull. Chem. Soc. Japan **46,** 373 (1973).

[4077] Cundy, C. S., Lappert, M. F., Pedley, J. B., Schmidt, W., and Wilkins, B. T. Bonding studies of compounds of boron and the Group IV elements. XI. Photoelectron spectra of strained cyclic organosilicon compounds, J. Organometal. Chem. **51,** 99 (1973).

[4078] Sergeev, Yu. L., Akopyan, M. E., Vilesov, F. I., and Chizhov, Yu. V. Photoionization processes in gaseous cyclohexane, and chloro- and bromocyclohexane, Khim. Vys. Energ. **7,** 418 (1973) [Engl. transl.: High Energy Chem. **7,** 369 (1973)].

[4079] Poltorakov, A. P., Pirnazarova, F. N., But, P. G., Piruzyan, L. A., Chibrikin, V. M., Vikhlyaev, Yu. I., and Ul'yanova, O. V. Ionization potentials of phenothiazine derivatives and their correlation with the pharmacological effect, Izv. Akad. Nauk SSSR, Ser. Khim. 2106 (1973) [Engl. transl.: Bull. Acad. Sci. USSR, Div. Chem. Sci. **22,** 2050 (1973)].

[4080] Mines, G. W., Thomas, R. K., and Thompson, H. The photoelectron spectra of thiocarbonyl fluoride and thiocarbonyl chloride, Proc. Roy. Soc. Lond. A **333,** 171 (1973).

[4081] Schweig, A., Weidner, U., Hellwinkel, D., and Krapp, W. Spiroconjugation, Angew. Chem. Intern. Ed. **12,** 310 (1973).

[4082] Kobayashi, T., and Nagakura, S. Photoelectron spectra of tetrahydropyran, 1,3-dioxane, and 1,4-dioxane, Bull. Chem. Soc. Japan **46,** 1558 (1973).

[4083] Schweig, A., Weidner, U., Hill, R. K., and Cullison, D. A. A quantitative account of spiroconjugation, J. Am. Chem. Soc. **95,** 5426 (1973).

[4084] Robin, M. B., Taylor, G. N., Kuebler, N. A., and Bach, R. D. Planarity of the carbon skeleton in various alkylated olefins, J. Org. Chem. **38,** 1049 (1973).

[4085] Rademacher, P. Photoelectron spectra and conformation of hydrazine derivatives, Angew. Chem. Intern. Ed. **12,** 408 (1973).

[4086] Vovna, V. I., Lopatin, S. N., Pettsold, R., Vilesov, F. I., and Akopyan, M. E. Photoelectron spectra of thiophosphorylchloride and some of its aminosubstituted derivatives, Opt. i Spektrosk. **34,** 868 (1973) [Engl. transl.: Opt. Spectry. **34,** 501 (1973)].

[4087] Ogata, H., Onizuka, H., Nihei, Y., and Kamada, H. On the first bands of the photoelectron spectra of amines, alcohols, and mercaptans, Chem. Letters 895 (1972).

[4088] Boschi, R., and Schmidt, W. Transannular π–π interaction in cyclophanes, Angew. Chem. Intern. Ed. **12,** 402 (1973).

[4089] Johnstone, R. A. W., and Mellon, F. A. Effects of induction and resonance in the calculation of ionization potentials of substituted benzenes by perturbation molecular orbital theory, J. Chem. Soc. Faraday Trans. II **69,** 36 (1973).

[4090] Schäfer, W., Schweig, A., Märkl, G., Hauptmann, H., and Mathey, F. Direct proof of the non-aromaticity of phospholes and arsoles, Angew. Chem. Intern. Ed. **12,** 145 (1973).

[4091] Schmidt, H., and Schweig, A. Semiquantitative proof of hyperconjugation, Angew. Chem. Intern. Ed. **12,** 307 (1973).

[4092] Bock, H., Solouki, B., Rosmus, P., and Steudel, R. Photoelectron spectra and molecular properties: SSO and OSO, Angew. Chem. Intern. Ed. **12,** 933 (1973).

[4093] Gutmann, F., and Crooker, A. M. Extensions in the spark spectra of Tl III and Pb IV, Can. J. Phys. **51,** 1823 (1973).

[4094] Reetz, M. T., Hoffmann, R. W., Schäfer, W., and Schweig, A. Methylenebicyclo [4.2.1]nona-2,4,7-triene, Angew. Chem. Intern. Ed. **12,** 81 (1973).

[4095] Samson, J. A. R., and Gardner, J. L. Fluorescence excitation and photoelectron spectra of CO_2 induced by vacuum ultraviolet radiation between 185 and 716 angstroms, J. Geophys. Res. **78,** 3663 (1973).

[4096] Bagarat'yan, N. V., Il'in, M. K., and Nikitin, O. T. Mass-spectrometric study of thallium metaborate, Teplofiz. Vysokikh Temperatur **11,** 995 (1973) [Engl. transl.: High Temp. (USSR) **11,** 888 (1973)].

[4097] Benito, I., Seidl, H., and Bock, H. Efectos electronicos y estericos de sustituyentes alquilicos y silicicos sobre el sistema electronico π del estireno, Rev. Fac. Cienc. Univ. Oviedo **14,** 95 (1973).

[4098] Smoes, S., and Drowart, J. Atomization energies of phosphorus oxides, Faraday Symp. Chem. Soc. 139 (1973).

[4099] Tan, H.-S., and Lampe, F. W. The reaction of ethyl radicals with nitric oxide. Nitrosoethane and triethylhydroxylamine formation, J. Phys. Chem. **76,** 3303 (1972).

[4100] Ames, L. L., Wang, J. L.-F., and Margrave, J. L. The vaporization of cesium nitrate, Inorg. Nucl. Chem. Letters **9,** 1243 (1973).

[4101] Meijer, F. G., and Klinkenberg, P. F. A. The structure of the spectrum of Ta V, Physica **69,** 111 (1973).

[4102] Smoes, S., Depière, D., and Drowart, J. The atomization energies of the gaseous molecules, Rev. Int. Hautes Temp. Refract. **9,** 171 (1972).

[4103] Wu, H. Y., and Wahlbeck, P. G. Vapor pressures of TiO(g) in equilibrium with Ti_2O_3(s) and Ti_3O_5(s, β); dissociation energy of TiO(g), J. Chem. Phys. **56,** 4534 (1972).

[4104] Schäfer, W., and Schweig, A. Evidence against the significance of C–S hyperconjugation in determining the conformation of allyl methyl sulphide, J. Chem. Soc. Chem. Commun., 824 (1972).

[4105] Guido, M., and Balducci, G. Dissociation energy of Yb_2, J. Chem. Phys. **57,** 5611 (1972).

[4106] Kobayashi, T., and Nagakura, S. Photoelectron spectra of anilines, Chem. Letters, 1013 (1972).

[4107] Kobayashi, T., and Nagakura, S. Photoelectron spectra of nitro-compounds, Chem. Letters, 903 (1972).

[4108] Semenov, G. A., Nikolaev, E. N., and Opendak, I. G. Mass-spectrometric investigation of the vaporisation of barium and magnesium per-rhenates, Zh. Neorg. Khim. **17,** 1819 (1972) [Engl. transl.: Russ. J. Inorg. Chem. **17,** 943 (1972)].

5. Author Index

NBS-114A (REV. 9-78)

U.S. DEPT. OF COMM. BIBLIOGRAPHIC DATA SHEET	1. PUBLICATION OR REPORT NO. NSRDS-NBS 63, Part I	2. Gov't. Accession No.	3. Recipient's Accession No.

4. TITLE AND SUBTITLE

Ion Energetics Measurements
Part I. 1971-1973

5. Publication Date
Sept. 1980

6. Performing Organization Code

7. AUTHOR(S)
H. M. Rosenstock, D. Sims, S. S. Schroyer, W. J. Webb

8. Performing Organ. Report No.

9. PERFORMING ORGANIZATION NAME AND ADDRESS

NATIONAL BUREAU OF STANDARDS
DEPARTMENT OF COMMERCE
WASHINGTON, DC 20234

10. Project/Task/Work Unit No.

11. Contract/Grant No.

12. SPONSORING ORGANIZATION NAME AND COMPLETE ADDRESS *(Street, City, State, ZIP)*
National Institute of General Medical Sciences
National Institutes of Health
Bethesda, MD 20014

13. Type of Report & Period Covered
N/A

14. Sponsoring Agency Code

15. SUPPLEMENTARY NOTES

Library of Congress Catalog Card Number: 80-607942

☐ Document describes a computer program; SF-185, FIPS Software Summary, is attached.

16. ABSTRACT *(A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.)*

The present publication tabulates measurement information on energetics of gaseous positive ions published in 1972 and 1973 along with some information from 1971. It is intended to supplement the information previously compiled and evaluated in "Energetics of Gaseous Ions." Approximately five thousand measurements are tabulated, drawn from over six hundred published papers.

17. KEY WORDS *(six to twelve entries; alphabetical order; capitalize only the first letter of the first key word unless a proper name; separated by semicolons)*

Appearance potential; electron impact; electron spectroscopy; gaseous ion; ionization potential; photoionization; spectroscopy.

18. AVAILABILITY ☑ Unlimited

☐ For Official Distribution. Do Not Release to NTIS

☒ Order From Sup. of Doc., U.S. Government Printing Office, Washington, DC 20402

☐ Order From National Technical Information Service (NTIS), Springfield, VA. 22161

19. SECURITY CLASS (THIS REPORT)
UNCLASSIFIED

20. SECURITY CLASS (THIS PAGE)
UNCLASSIFIED

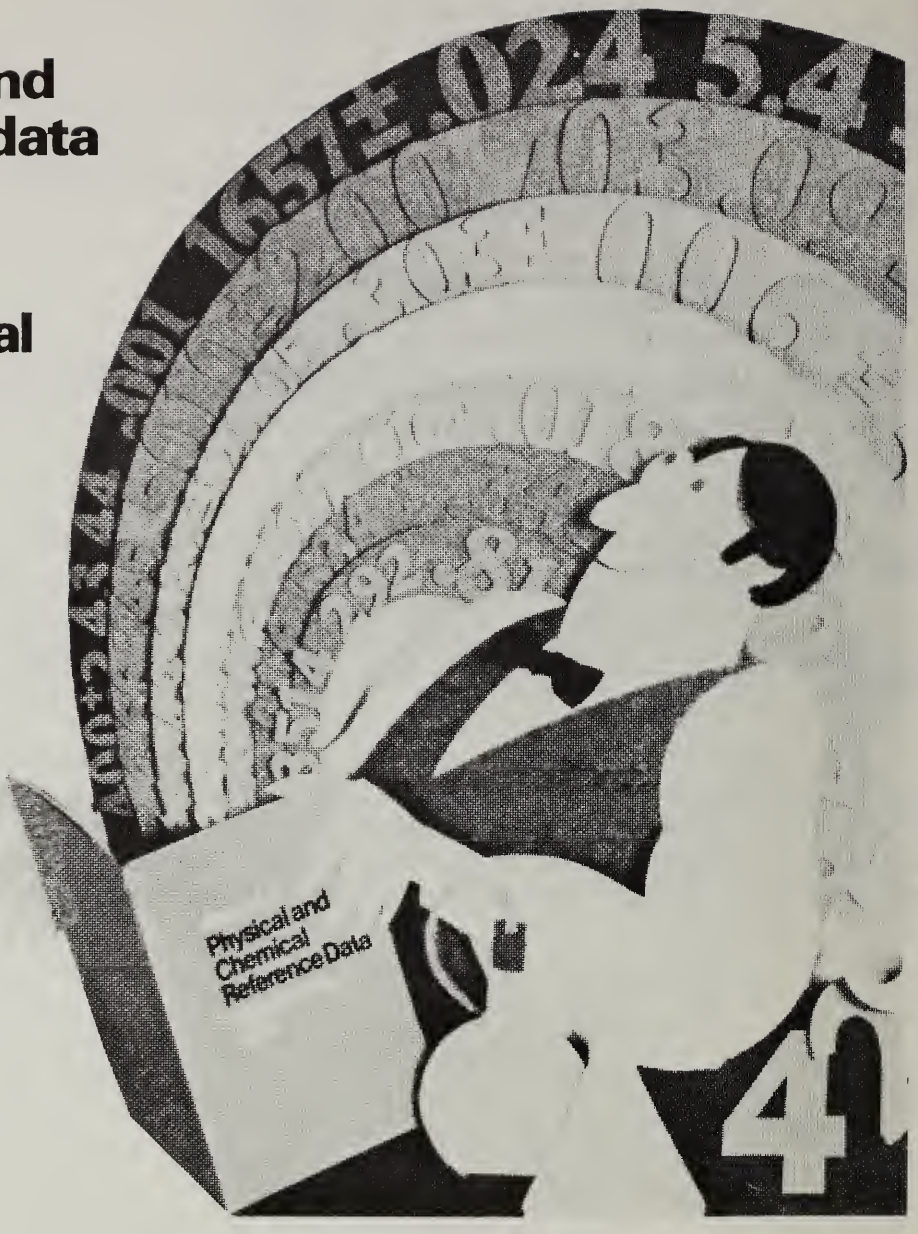
21. NO. OF PRINTED PAGES
379

22. Price
$8.50

USCOMM-DC

Where can you find all the reference data you need?

Right in the Journal of Physical and Chemical Reference Data!



Now in its sixth year, this valuable publication has proved that it fills the important gaps for you in the literature of the physical sciences.

Published by the American Institute of Physics and the American Chemical Society for the National Bureau of Standards, this quarterly gives you quantitative numerical data, with recommended values and uncertainty limits chosen by experts in the field.

Critical commentary on methods of measurement and sources of error, as well as full references to the original literature, is an integral part of each of your four issues a year.

Can you afford to be without this prime source of reliable data on physical and chemical properties? To start receiving your copies, just fill in the order form and drop into the mail. If you do use a purchase order, please attach the printed form as this will help us to expedite your order.

Send for complete list of reprints!

Journal of Physical and Chemical Reference Data
American Chemical Society
1155 Sixteenth Street,N.W., Washington, D.C. 20036

Yes, I would like to receive the JOURNAL OF PHYSICAL AND CHEMICAL REFERENCE DATA at the one-year rate checked below:

Name _____

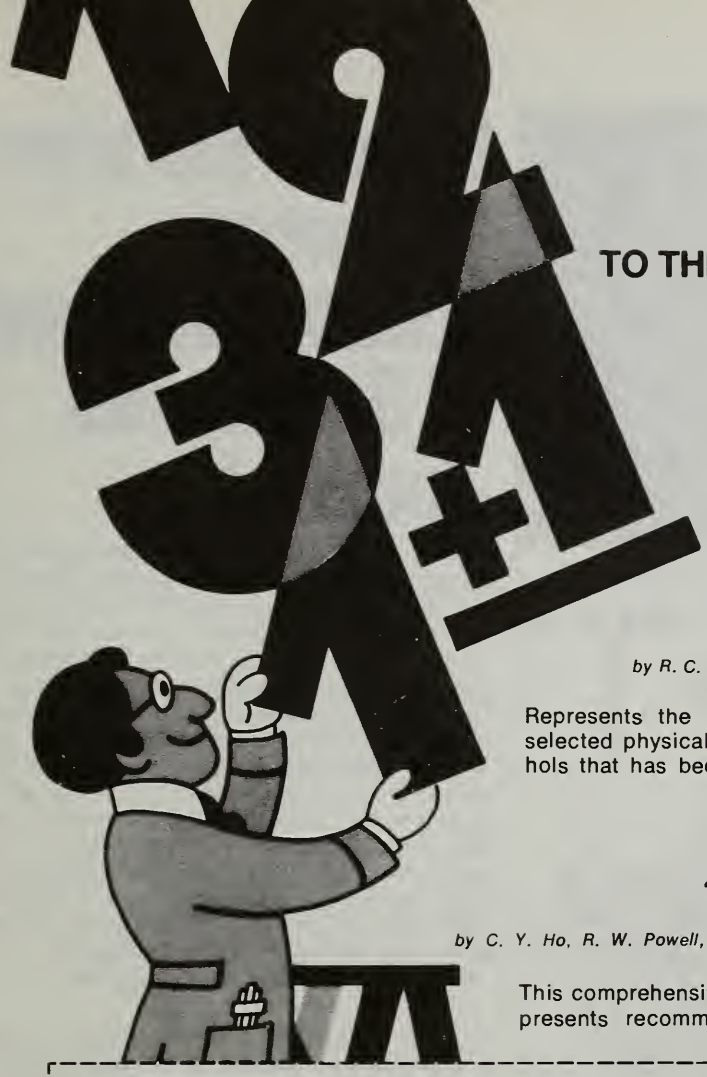
Street _____ ☐ Home ☐ Business

City _____ State _____ Zip _____

Bill me ☐ Bill company or school ☐ Payment enclosed ☐

	Members	Nonmembers
U.S., Canada, Mexico	☐ $25.00	☐ $100.00
Other Countries	☐ $29.00	☐ $104.00

Please Attach This Order Form To Purchase Order.



Important Additions

TO THE JOURNAL OF PHYSICAL AND CHEMICAL REFERENCE DATA

Three comprehensive reference volumes, each, as the Journal itself, published by the American Institute of Physics and the American Chemical Society for the National Bureau of Standards . . . your triple assurance of their accuracy, immediacy, and usefulness.

Supplement No. 1 to Vol. 2

"PHYSICAL AND THERMODYNAMIC PROPERTIES OF ALIPHATIC ALCOHOLS"

by R. C. Wilhoit and B. J. Zwolinski, Thermodynamics Research Center, Department of Chemistry, Texas A & M University

Represents the most exhaustive review and critical analysis of selected physical and thermodynamic properties of aliphatic alcohols that has been published in the world literature of chemistry.

Supplement No. 1 to Vol. 3

"THERMAL CONDUCTIVITY OF THE ELEMENTS: A COMPREHENSIVE REVIEW"

by C. Y. Ho, R. W. Powell, and P. E. Liley, Thermophysical Properties Research Center, Purdue University, West Lafayette, Indiana

This comprehensive review of the world's thermal conductivity data presents recommended or estimated values for all 105 elements.

Supplement No. 1 to Vol. 6

ENERGETICS OF GASEOUS IONS

by H. M. Rosenstock, K. Draxl, B. Steiner, and J. T. Herron, National Bureau of Standards

Provides a comprehensive body of critically evaluated information on ionization potentials, appearance potentials, electron affinities and heats of formation of gaseous positive and negative ions. It is a complete revision and extension of the earlier reference work, "Ionization Potentials, Appearance Potentials and Heats for Formation of Gaseous Positive Ions," NSRDS-NBS 26.

Business Operations—Books and Journals Dept.
American Chemical Society
1155 16th Street, N.W.
Washington, D.C. 20036

Please send _____ copies of _____ at $_____.

A. **"PHYSICAL AND THERMODYNAMIC PROPERTIES OF ALIPHATIC ALCOHOLS."** *(First supplement to Vol. 2 of the Journal of Physical and Chemical Reference Data.) Hard Cover: $33.00. Soft Cover: $30.00.*

B. **"THERMAL CONDUCTIVITY OF THE ELEMENTS. A COMPREHENSIVE REVIEW."** *(First supplement to Vol. 3 of the Journal of Physical and Chemical Reference Data.) Hard Cover: $60.00. Soft Cover: $55.00.*

C. **"ENERGETICS OF GASEOUS IONS."** *(First supplement to Vol. 6 of the Journal of Physical and Chemical Reference Data.) Hard Cover: $70.00. Soft Cover: $65.00.*

☐ *I am enclosing a check* ☐ *I am enclosing a money order*

Name _____

Address _____

City _____ **State** _____ **Zip Code** _____

Title _____ **Employer** _____

Please add $1.50 extra for foreign postage and handling.

Announcement of New Publications in
National Standard Reference Data Series

Superintendent of Documents,
Government Printing Office,
Washington, D.C. 20402

Dear Sir:

Please add my name to the announcement list of new publications to be issued in the series: National Standard Reference Data Series—National Bureau of Standards.

Name_____

Company_____

Address_____

City_____ State_____ Zip Code_____

(Notification Key N-519)

Announcement of New Publications in
National Standard Reference Data Series

Superintendent of Documents,
Government Printing Office,
Washington, D.C. 20402

Dear Sir:

Please add my name to the announcement list of new publications to be issued in the series: National Standard Reference Data Series—National Bureau of Standards.

Name_____

Company_____

Address_____

City_____ State_____ Zip Code_____

(Notification Key N-519)

NBS TECHNICAL PUBLICATIONS

PERIODICALS

JOURNAL OF RESEARCH—The Journal of Research of the National Bureau of Standards reports NBS research and development in those disciplines of the physical and engineering sciences in which the Bureau is active. These include physics, chemistry, engineering, mathematics, and computer sciences. Papers cover a broad range of subjects, with major emphasis on measurement methodology and the basic technology underlying standardization. Also included from time to time are survey articles on topics closely related to the Bureau's technical and scientific programs. As a special service to subscribers each issue contains complete citations to all recent Bureau publications in both NBS and non-NBS media. Issued six times a year. Annual subscription: domestic $13; foreign $16.25. Single copy, $3 domestic; $3.75 foreign.

NOTE: The Journal was formerly published in two sections: Section A "Physics and Chemistry" and Section B "Mathematical Sciences."

DIMENSIONS/NBS—This monthly magazine is published to inform scientists, engineers, business and industry leaders, teachers, students, and consumers of the latest advances in science and technology, with primary emphasis on work at NBS. The magazine highlights and reviews such issues as energy research, fire protection, building technology, metric conversion, pollution abatement, health and safety, and consumer product performance. In addition, it reports the results of Bureau programs in measurement standards and techniques, properties of matter and materials, engineering standards and services, instrumentation, and automatic data processing. Annual subscription: domestic $11; foreign $13.75.

NONPERIODICALS

Monographs—Major contributions to the technical literature on various subjects related to the Bureau's scientific and technical activities.

Handbooks—Recommended codes of engineering and industrial practice (including safety codes) developed in cooperation with interested industries, professional organizations, and regulatory bodies.

Special Publications—Include proceedings of conferences sponsored by NBS, NBS annual reports, and other special publications appropriate to this grouping such as wall charts, pocket cards, and bibliographies.

Applied Mathematics Series—Mathematical tables, manuals, and studies of special interest to physicists, engineers, chemists, biologists, mathematicians, computer programmers, and others engaged in scientific and technical work.

National Standard Reference Data Series—Provides quantitative data on the physical and chemical properties of materials, compiled from the world's literature and critically evaluated. Developed under a worldwide program coordinated by NBS under the authority of the National Standard Data Act (Public Law 90-396).

NOTE: The principal publication outlet for the foregoing data is the Journal of Physical and Chemical Reference Data (JPCRD) published quarterly for NBS by the American Chemical Society (ACS) and the American Institute of Physics (AIP). Subscriptions, reprints, and supplements available from ACS, 1155 Sixteenth St., NW, Washington, DC 20056.

Building Science Series—Disseminates technical information developed at the Bureau on building materials, components, systems, and whole structures. The series presents research results, test methods, and performance criteria related to the structural and environmental functions and the durability and safety characteristics of building elements and systems.

Technical Notes—Studies or reports which are complete in themselves but restrictive in their treatment of a subject. Analogous to monographs but not so comprehensive in scope or definitive in treatment of the subject area. Often serve as a vehicle for final reports of work performed at NBS under the sponsorship of other government agencies.

Voluntary Product Standards—Developed under procedures published by the Department of Commerce in Part 10, Title 15, of the Code of Federal Regulations. The standards establish nationally recognized requirements for products, and provide all concerned interests with a basis for common understanding of the characteristics of the products. NBS administers this program as a supplement to the activities of the private sector standardizing organizations.

Consumer Information Series—Practical information, based on NBS research and experience, covering areas of interest to the consumer. Easily understandable language and illustrations provide useful background knowledge for shopping in today's technological marketplace.

Order the **above** *NBS publications from: Superintendent of Documents, Government Printing Office, Washington, DC 20402.*

Order the **following** *NBS publications—FIPS and NBSIR's—from the National Technical Information Services, Springfield, VA 22161.*

Federal Information Processing Standards Publications (FIPS PUB)—Publications in this series collectively constitute the Federal Information Processing Standards Register. The Register serves as the official source of information in the Federal Government regarding standards issued by NBS pursuant to the Federal Property and Administrative Services Act of 1949 as amended, Public Law 89-306 (79 Stat. 1127), and as implemented by Executive Order 11717 (38 FR 12315, dated May 11, 1973) and Part 6 of Title 15 CFR (Code of Federal Regulations).

NBS Interagency Reports (NBSIR)—A special series of interim or final reports on work performed by NBS for outside sponsors (both government and non-government). In general, initial distribution is handled by the sponsor; public distribution is by the National Technical Information Services, Springfield, VA 22161, in paper copy or microfiche form.

BIBLIOGRAPHIC SUBSCRIPTION SERVICES

The following current-awareness and literature-survey bibliographies are issued periodically by the Bureau:

Cryogenic Data Center Current Awareness Service. A literature survey issued biweekly. Annual subscription: domestic $35; foreign $45.

Liquefied Natural Gas. A literature survey issued quarterly. Annual subscription: $30.

Superconducting Devices and Materials. A literature survey issued quarterly. Annual subscription: $45. Please send subscription orders and remittances for the preceding bibliographic services to the National Bureau of Standards, Cryogenic Data Center (736) Boulder, CO 80303.

U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
Washington, D.C. 20234

OFFICIAL BUSINESS

Penalty for Private Use, $300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-215

SPECIAL FOURTH-CLASS RATE
BOOK