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## Atomic Energy Levels and Multiplet Tables

## Si I

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NATIONAL BUREAU OF STANDARDS • A. V. Astin, *Director*

# Selected Tables of Atomic Spectra

## A Atomic Energy Levels - Second Edition
## B Multiplet Tables

## Si I

**Data Derived From the Analyses of Optical Spectra**

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**National Bureau of Standards**
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## Abstract

The present publication is the second Section of a series being prepared in response to the increasing demand for a current revision of two sets of tables containing data on atomic spectra as derived from analyses of optical spectra.

Both the atomic energy levels and the multiplet table are included in the same publication, as parts A and B, respectively. The Sections are being prepared at irregular intervals for these spectra whose analyses are essentially complete. A flexible paging system permits the arrangement of the various Sections by atomic number regardless of the order in which the spectra are published in this series. Section 1 included three spectra of silicon, Z=14: Si II, Si III, Si IV. The present Section contains similar data for Si I. The form of presentation is described in detail in the text to Section 1, and need not be repeated here.

Key words: Atomic energy levels; atomic spectra Si I; multiplet table; silicon, first spectrum; spectrum, Si I; wavelengths, Si I.

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# Foreword

The National Standard Reference Data System is a government-wide effort to give to the technical community of the United States optimum access to the quantitative data of physical science, critically evaluated and compiled for convenience. This program was established in 1963 by the President's Office of Science and Technology, acting upon the recommendation of the Federal Council for Science and Technology. The National Bureau of Standards has been assigned responsibility for administering the effort. The general objective of the System is to coordinate and integrate existing data evaluation and compilation activities into a systematic, comprehensive program, supplementing and expanding technical coverage when necessary, establishing and maintaining standards for the output of the participating groups, and providing mechanisms for the dissemination of the output as required.

The NSRDS is conducted as a decentralized operation of nation-wide scope with central coordination by NBS. It comprises a complex of data centers and other activities, carried on in government agencies, academic institutions, and nongovernmental laboratories. The independent operational status of existing critical data projects is maintained and encouraged. Data centers that are components of the NSRDS produce compilations of critically evaluated data, critical reviews of the state of quantitative knowledge in specialized areas, and computations of useful functions derived from standard reference data.

For operational purposes, NSRDS compilation activities are organized into seven categories as listed below. The data publications of the NSRDS, which may consist of monographs, loose-leaf sheets, computer tapes, or any other useful product, will be classified as belonging to one or another of these categories. An additional "General" category of NSRDS publications will include reports on detailed classification schemes, lists of compilations considered to be Standard Reference Data, status reports, and similar material. Thus, NSRDS publications will appear in the following eight categories:

| *Category* | *Title* |
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| 7 | Colloid and Surface Properties |
| 8 | Mechanical Properties of Materials |

The present compilation is in category 3 of the above list. It constitutes the fourteenth publication in a new NBS series known as the National Standard Reference Data Series.

# Preface

The present publication is the second Section of a series that is being prepared in response to the increasing demand for a current revision of two sets of tables containing data on atomic spectra as derived from analyses of optical spectra.

The first set, ATOMIC ENERGY LEVELS, NBS Circular 467, consists of three Volumes published, respectively, in 1949, 1952, and 1958, and a fourth on rare-earth spectra, still in course of preparation.

The second set consists of two Multiplet Tables; one published in 1945 by the Princeton University Observatory, containing spectral lines in the region of wavelengths longer than 3000 Å; the other AN ULTRAVIOLET MULTIPLET TABLE, NBS Circular 488, appearing in five Sections, the first in 1950, the second in 1952, and the others in 1962.

Both the atomic energy levels and the multiplet table are being included in the same publication, as parts A and B, respectively. The Sections are being prepared at irregular intervals for those spectra whose analyses are essentially complete. A flexible paging system permits the arrangement of the various Sections by atomic number regardless of the order in which the spectra are published in this series. Section I included three spectra of silicon, $Z = 14$: Si II, Si III, Si IV. The present Section contains similar data for Si I. The form of presentation is described in detail in the text to Section 1, and need not be repeated here.

The manuscript has been prepared by Charlotte E. Moore of the Atomic Physics Division, who also prepared the earlier tables. She acknowledges with gratitude the cordial cooperation of of the National Research Council Committee on Line Spectra of the Elements, as well as that of the many atomic spectroscopists who make such a publication possible. It is hoped that as succeeding Sections appear they will provide a stimulus to carry on the analyses of many more atomic spectra.

Washington, D.C., April 14, 1967.

A. V. Astin, *Director.*

## Contents


Page

Preface ..... IV

**Part A—Atomic Energy Levels**

Element: Z Spectrum
Silicon: 14
Si I ..... A14 1–1

**Part B—Multiplet Table**

Element: Z Spectrum
Silicon: 14
Si I ..... B14 1–1

NSRDS–NBS 3, SECTION 2

# SILICON, $Z = 14$

A Si I Atomic Energy Levels

B Si I Multiplet Table

Part A

# SILICON

## Si I

14 electrons $Z = 14$

Ground state $1s^2\,2s^2\,2p^6\,3s^2\,3p^2\,{}^3P_0$

$3p^2\,{}^3P_0$ **65747.5 ± 0.6** $cm^{-1}$, 1520.97 Å (Vac) I P 8.151 eV

The analysis is chiefly from the 1965 paper by Radziemski and Andrew, supplemented by observations in the lead sulphide region by Litzén and in the vacuum ultraviolet by these authors and by Kaufman and Wilson. The range of observations is from 1255 Å to 25854 Å. There are approximately 650 classified lines.

The writer has rearranged the $6f$ pairs and made other adjustments consistent with the observed combinations. Improved level values from the 1967 paper are quoted.

The limit has been derived by a modified Ritz formula from $nf$ series, with $n = 4$ to 7, $nd\,{}^3F^\circ_4$ series with $n = 3$ to 8, and $nd\,{}^3D^\circ_3$ series with $n = 3$ to 10.

Lambert and Warner have extended the present analysis by predicting additional series members and deriving level values from lines in the solar spectrum: $nf$ to $n = 10$; $nd$ to $n = 11$. Their values have been added in proof for the levels:

$$6f'\,[1\tfrac{1}{2}]_{1,2}$$

$$7f'\,[2\tfrac{1}{2}]_2 \quad \text{corrected}$$

$$7f'\,[4\tfrac{1}{2}]_4.$$

Further confirmation of their data from laboratory observations is desirable.

The present multiplet table might well be extended to include additional predicted lines as the analysis and solar data are carried further.

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## Si I

| Config. | Desig. | J | Level | Interval |
|---|---|---|---|---|
| $3s^2\,3p^2$ | $3p^2\ ^3P$ | 0 | 0.000 | |
| | | 1 | 77.115 | 77.115 |
| | | 2 | 223.157 | 146.042 |
| $3s^2\,3p^2$ | $3p^2\ ^1D$ | 2 | 6298.850 | |
| $3s^2\,3p^2$ | $3p^2\ ^1S$ | 0 | 15394.370 | |
| $3s\,3p^3$ | $3p^3\ ^5S^\circ$ | 2 | *33326.053* | |
| $3s^2\,3p(^2P^\circ)4s$ | $4s\ ^3P^\circ$ | 0 | *39683.163* | |
| | | 1 | *39760.285* | 77.122 |
| | | 2 | *39955.053* | 194.768 |
| $3s^2\,3p(^2P^\circ)4s$ | $4s\ ^1P^\circ$ | 1 | *40991.884* | |
| $3s\,3p^3$ | $3p^3\ ^3D^\circ$ | 1 | *45276.188* | |
| | | 2 | *45293.629* | 17.441 |
| | | 3 | *45321.848* | 28.219 |
| $3s^2\,3p(^2P^\circ)4p$ | $4p\ ^1P$ | 1 | 47284.061 | |
| $3s^2\,3p(^2P^\circ)3d$ | $3d\ ^1D^\circ$ | 2 | *47351.554* | |
| $3s^2\,3p(^2P^\circ)4p$ | $4p\ ^3D$ | 1 | 48020.074 | |
| | | 2 | 48102.323 | 82.249 |
| | | 3 | 48264.292 | 161.969 |
| $3s^2\,3p(^2P^\circ)4p$ | $4p\ ^3P$ | 0 | 49028.294 | |
| | | 1 | 49060.601 | 32.307 |
| | | 2 | 49188.617 | 128.016 |
| $3s^2\,3p(^2P^\circ)4p$ | $4p\ ^3S$ | 1 | 49399.670 | |
| $3s^2\,3p(^2P^\circ)3d$ | $3d\ ^3F^\circ$ | 2 | *49850.830* | |
| | | 3 | *49933.775* | 82.945 |
| | | 4 | *50054.80* | 121.02 |
| $3s^2\,3p(^2P^\circ)4p$ | $4p\ ^1D$ | 2 | 50189.389 | |
| $3s^2\,3p(^2P^\circ)3d$ | $3d\ ^3P^\circ$ | 2 | *50499.838* | |
| | | 1 | *50566.397* | −66.559 |
| | | 0 | *50602.44* | −36.04 |
| $3s^2\,3p(^2P^\circ)4p$ | $4p\ ^1S$ | 0 | 51612.012 | |
| $3s^2\,3p(^2P^\circ)3d$ | $3d\ ^1F^\circ$ | 3 | *53362.24* | |
| $3s^2\,3p(^2P^\circ)3d$ | $3d\ ^1P^\circ$ | 1 | *53387.334* | |
| $3s^2\,3p(^2P^\circ)3d$ | $3d\ ^3D^\circ$ | 1 | *54185.264* | |
| | | 2 | *54205.090* | 19.826 |
| | | 3 | *54257.582* | 52.492 |
| $3s^2\,3p(^2P^\circ)5s$ | $5s\ ^3P^\circ$ | 0 | *54245.020* | |
| | | 1 | *54313.818* | 68.798 |
| | | 2 | *54528.220* | 214.402 |
| $3s^2\,3p(^2P^\circ)5s$ | $5s\ ^1P^\circ$ | 1 | *54871.031* | |
| $3s^2\,3p(^2P^\circ)4d$ | $4d\ ^1D^\circ$ | 2 | *56503.346* | |
| $3s\,3p^3$ | $3p^3\ ^3P^\circ$ | 2 | *56690.903* | |
| | | 1 | *56700.25* | −9.35 |
| | | 0 | *56733.38* | −33.13 |
| $3s^2\,3p(^2P^\circ)5p$ | $5p\ ^1P$ | 1 | 56780.427 | |
| $3s^2\,3p(^2P^\circ)5p$ | $5p\ ^3D$ | 1 | 56978.256 | |
| | | 2 | 57017.496 | 39.240 |
| | | 3 | 57198.027 | 180.531 |

## Si I

| Config. | Desig. | J | Level | Interval |
|---|---|---|---|---|
| $3s^2\,3p(^2P^\circ)5p$ | $5p\ ^3P$ | 0 | 57295.881 | |
| | | 1 | 57328.789 | 32.908 |
| | | 2 | 57468.239 | 139.450 |
| $3s^2\,3p(^2P^\circ)4d$ | $4d\ ^3F^\circ$ | 2 | *57372.297* | |
| | | 3 | *57450.580* | 78.283 |
| | | 4 | *57583.657* | 133.077 |
| $3s^2\,3p(^2P^\circ)5p$ | $5p\ ^3S$ | 1 | 57541.918 | |
| $3s^2\,3p(^2P^\circ)5p$ | $5p\ ^1D$ | 2 | 57798.072 | |
| $3s^2\,3p(^2P^\circ)5p$ | $5p\ ^1S$ | 0 | 58311.659 | |
| $3s^2\,3p(^2P^\circ_{0,1})4f$ | $4f\,[2\frac{1}{2}]$ | 3 | 58774.368 | |
| | | 2 | 58775.451 | |
| $3s^2\,3p(^2P^\circ_{0,1})4f$ | $4f\,[3\frac{1}{2}]$ | 3 | 58786.860 | |
| | | 4 | 58788.880 | |
| $3s^2\,3p(^2P^\circ)4d$ | $4d\ ^1P^\circ$ | 1 | *58801.529* | |
| $3s^2\,3p(^2P^\circ)4d$ | $4d\ ^1F^\circ$ | 3 | *58893.40* | |
| $3s^2\,3p(^2P^\circ)4d$ | $4d\ ^3D^\circ$ | 1 | *59056.508* | |
| | | 2 | *59032.19* | −24.32 |
| | | 3 | *59118.03* | 85.84 |
| $3s^2\,3p(^2P^\circ_{1,1})4f$ | $4f'\,[3\frac{1}{2}]$ | 3 | 59034.988 | |
| | | 4 | 59037.043 | |
| " | $4f'\,[2\frac{1}{2}]$ | 3 | 59109.959 | |
| | | 2 | 59110.892 | |
| " | $4f'\,[4\frac{1}{2}]$ | 5 | 59128.40 | |
| | | 4 | 59131.912 | |
| " | $4f'\,[1\frac{1}{2}]$ | 1 | 59190.46 | |
| | | 2 | 59191.072 | |
| $3s^2\,3p(^2P^\circ)6s$ | $6s\ ^3P^\circ$ | 0 | *59221.11* | |
| | | 1 | *59273.575* | 52.46 |
| | | 2 | *59506.359* | 232.784 |
| $3s^2\,3p(^2P^\circ)6s$ | $6s\ ^1P^\circ$ | 1 | *59636.667* | |
| $3s^2\,3p(^2P^\circ)4d$ | $4d\ ^3P^\circ$ | 2 | *59917.336* | |
| | | 1 | *60010.458* | −93.122 |
| | | 0 | *60042.50* | −32.04 |
| $3s^2\,3p(^2P^\circ)5d$ | $5d\ ^1D^\circ$ | 2 | *60300.860* | |
| $3s^2\,3p(^2P^\circ)6p$ | $6p\ ^1P$ | 1 | 60381.278? | |
| $3s^2\,3p(^2P^\circ)6p$ | $6p\ ^3D$ | 1 | 60487.103 | |
| | | 2 | 60496.358 | 9.255 |
| | | 3 | 60704.53 | 208.17 |
| $3s^2\,3p(^2P^\circ)6p$ | $6p\ ^3P$ | 0 | 60621.64 | |
| | | 1 | 60706.558 | 84.92 |
| | | 2 | 60815.925 | 109.367 |
| $3s^2\,3p(^2P^\circ)5d$ | $5d\ ^3F^\circ$ | 2 | *60645.441* | |
| | | 3 | *60705.464* | 60.024 |
| | | 4 | *60848.946* | 143.482 |
| $3s^2\,3p(^2P^\circ)6p$ | $6p\ ^3S$ | 1 | 60856.630 | |
| $3s^2\,3p(^2P^\circ)6p$ | $6p\ ^1D$ | 2 | 60962.105 | |

## Si I — Continued

| Config. | Desig. | J | Level | Interval |
|---|---|---|---|---|
| $3s^2\,3p(^2P^\circ)6p$ | $6p\ ^1S$ | 0 | 61198.036 | |
| $3s^2\,3p(^2P^\circ_{0\frac{1}{2}})5f$ | $5f\,[2\frac{1}{2}]$ | 3 | 61303.381 | |
| | | 2 | 61304.283 | |
| $3s^2\,3p(^2P^\circ_{0\frac{1}{2}})5f$ | $5f\,[3\frac{1}{2}]$ | 3 | 61305.050 | |
| | | 4 | 61306.713 | |
| $3s^2\,3p(^2P^\circ)5d$ | $5d\ ^1P^\circ$ | 1 | *61305.67* | |
| $3s^2\,3p(^2P^\circ)5d$ | $5d\ ^1F^\circ$ | 3 | *61423.23* | |
| $3s^2\,3p(^2P^\circ)5d$ | $5d\ ^3D^\circ$ | 1 | *61511.77* | |
| | | 2 | *61447.86* | −63.91 |
| | | 3 | *61574.814* | 126.95 |
| $3s^2\,3p(^2P^\circ)7s$ | $7s\ ^3P^\circ$ | 0 | *61538.05* | |
| | | 1 | *61595.43* | 57.38 |
| | | 2 | *61823.550* | 228.12 |
| $3s^2\,3p(^2P^\circ_{1\frac{1}{2}})5f$ | $5f'\,[3\frac{1}{2}]$ | 3 | 61562.477 | |
| | | 4 | 61563.952 | |
| " | $5f'\,[2\frac{1}{2}]$ | 3 | 61597.404 | |
| | | 2 | 61598.145 | |
| " | $5f'\,[4\frac{1}{2}]$ | 5 | 61614.37 | |
| | | 4 | 61617.17 | |
| " | $5f'\,[1\frac{1}{2}]$ | 1 | 61647.36 | |
| | | 2 | 61647.875 | |
| $3s^2\,3p(^2P^\circ)5d$ | $5d\ ^3P^\circ$ | 2 | *61841.94* | |
| | | 1 | *61936.13* | −94.19 |
| | | 0 | *61960.26* | −24.13 |
| $3s^2\,3p(^2P^\circ)7s$ | $7s\ ^1P^\circ$ | 1 | *61881.60* | |
| $3s^2\,3p(^2P^\circ)7p$ | $7p\ ^1P$ | 1 | 62141.8? | |
| $3s^2\,3p(^2P^\circ)6d$ | $6d\ ^1D^\circ$ | 2 | *62156.816* | |
| $3s^2\,3p(^2P^\circ)7p$ | $7p\ ^3D$ | 1 | 62226.39 | |
| | | 2 | 62231.99? | 5.60 |
| | | 3 | 62421.03 | 189.04 |
| $3s^2\,3p(^2P^\circ)7p$ | $7p\ ^3P$ | 0 | 62318.7? | |
| | | 1 | 62450.40 | 131.7 |
| | | 2 | 62519.66 | 69.26 |
| $3s^2\,3p(^2P^\circ)6d$ | $6d\ ^3F^\circ$ | 2 | *62349.93* | |
| | | 3 | *62376.820* | 26.89 |
| | | 4 | *62534.08* | 157.26 |
| $3s^2\,3p(^2P^\circ)7p$ | $7p\ ^3S$ | 1 | 62545.10 | |
| $3s^2\,3p(^2P^\circ)7p$ | $7p\ ^1D$ | 2 | 62596.32 | |
| $3s^2\,3p(^2P^\circ)6d$ | $6d\ ^1P^\circ$ | 1 | *62666.25* | |
| $3s^2\,3p(^2P^\circ_{0\frac{1}{2}})6f$ | $6f\,[2\frac{1}{2}]$ | 3 | 62667.823 | |
| | | 2 | 62669.727 | |
| | $6f\,[3\frac{1}{2}]$ | 3 | 62669.164 | |
| | | 4 | 62669.179 | |
| $3s^2\,3p(^2P^\circ)7p$ | $7p\ ^1S$ | 0 | 62718.99 | |
| $3s^2\,3p(^2P^\circ)6d$ | $6d\ ^1F^\circ$ | 3 | *62802.86* | |
| $3s^2\,3p(^2P^\circ)8s$ | $8s\ ^3P^\circ$ | 0 | *62806.65?* | |
| | | 1 | *62813.26* | 6.61 |
| | | 2 | *63093.41* | 280.14 |

## Si I — Continued

| Config. | Desig. | J | Level | Interval |
|---|---|---|---|---|
| $3s^2\,3p(^2P^\circ)6d$ | $6d\ ^3D^\circ$ | 1 | *62925.80* | |
| | | 2 | *62874.48* | −51.32 |
| | | 3 | *62936.14* | 61.66 |
| $3s^2\,3p(^2P^\circ)6d$ | $6d\ ^3P^\circ$ | 2 | *62921.08?* | |
| | | 1 | *63097.36* | −176.28 |
| | | 0 | *63123.36?* | −26.00 |
| $3s^2\,3p(^2P^\circ_{1\frac{1}{2}})6f$ | $6f'\,[3\frac{1}{2}]$ | 3 | 62935.76 | |
| | | 4 | 62936.81 | |
| " | $6f'\,[2\frac{1}{2}]$ | 3 | 62954.46 | |
| | | 2 | 62955.00 | |
| " | $6f'\,[4\frac{1}{2}]$ | 5 | 62966.61 | |
| | | 4 | 62968.49? | |
| " | $6f'\,[1\frac{1}{2}]$ | 1 | 62985.96? | |
| | | 2 | 62986.32? | |
| $3s^2\,3p(^2P^\circ)8s$ | $8s\ ^1P^\circ$ | 1 | *63130.49* | |
| $3s^2\,3p(^2P^\circ)7d$ | $7d\ ^1D^\circ$ | 2 | *63204.89* | |
| $3s^2\,3p(^2P^\circ)8p$ | $8p\ ^3D?$ | 3 | | |
| | | 2 | 63225.5? | |
| | | 1 | | |
| $3s^2\,3p(^2P^\circ)7d$ | $7d\ ^3F^\circ$ | 2 | *63356.24* | |
| | | 3 | *63340.70* | −15.54 |
| | | 4 | *63514.533* | 173.83 |
| $3s^2\,3p(^2P^\circ)7d$ | $7d\ ^1P^\circ$ | 1 | *63486.93* | |
| $3s^2\,3p(^2P^\circ)9s$ | $9s\ ^3P^\circ$ | 0 | *63579.44?* | |
| | | 1 | *63584.22* | 4.78 |
| | | 2 | *63863.78* | 279.56 |
| $3s^2\,3p(^2P^\circ)8p$ | $8p\ ^1S$ | 0 | 63618.6? | |
| $3s^2\,3p(^2P^\circ)7d$ | $7d\ ^1F^\circ$ | 3 | *63641.77* | |
| $3s^2\,3p(^2P^\circ)7d$ | $7d\ ^3D^\circ$ | 1 | *63750.39* | |
| | | 2 | *63714.40* | −35.99 |
| | | 3 | *63760.24* | 45.84 |
| $3s^2\,3p(^2P^\circ)7d$ | $7d\ ^3P^\circ$ | 2 | *63721.53?* | |
| | | 1 | *63770.28* | −48.75 |
| | | 0 | *63844.64* | −74.36 |
| $3s^2\,3p(^2P^\circ_{1\frac{1}{2}})7f$ | $7f'\,[3\frac{1}{2}]$ | 3 | 63762.20? | |
| | | 4 | 63762.93? | |
| " | $7f'\,[2\frac{1}{2}]$ | 2 | 63773.58? | |
| | | 3 | 63773.29? | |
| " | $7f'\,[4\frac{1}{2}]$ | 5 | 63781.97? | |
| | | 4 | 63783.31? | |
| $3s^2\,3p(^2P^\circ)9s$ | $9s\ ^1P^\circ$ | 1 | *63884.61* | |
| $3s^2\,3p(^2P^\circ)8d$ | $8d\ ^3F^\circ$ | 2 | *63990.67* | |
| | | 3 | *63945.09* | −45.58 |
| | | 4 | *64133.93?* | 188.84 |
| $3s^2\,3p(^2P^\circ)8d$ | $8d\ ^1P^\circ$ | 1 | *64018.31?* | |
| $3s^2\,3p(^2P^\circ)10s$ | $10s\ ^3P^\circ$ | 0 | | |
| | | 1 | *64086.37?* | 278.11 |
| | | 2 | *64364.48?* | |

264-623 O - 67 - 2

## Si I – Continued

| Config. | Desig. | J | Level | Interval |
|---|---|---|---|---|
| $3s^2\,3p(^2P^\circ)8d$ | $8d\ ^1F^\circ$ | 3 | *64187.80* | |
| $3s^2\,3p(^2P^\circ)8d$ | $8d\ ^3P^\circ$ | 2 | *64243.38?* | |
| | | 1 | | |
| | | 0 | *64322.69?* | |
| $3s^2\,3p(^2P^\circ)8d$ | $8d\ ^3D^\circ$ | 1 | | |
| | | 2 | *64252.08?* | |
| | | 3 | *64295.26* | 43.18 |
| $3s^2\,3p(^2P^\circ)10s$ | $10s\ ^1P^\circ$ | 1 | *64351.86* | |
| $3s^2\,3p(^2P^\circ)9d$ | $9d\ ^3P^\circ$ | 2 | *64616.74?* | |
| | | 1 | | |
| | | 0 | | |
| $3s^2\,3p(^2P^\circ)9d$ | $9d\ ^3D^\circ$ | 1 | | |
| | | 2 | *64646.78* | |
| | | 3 | *64661.98* | 15.20 |

## Si I – Continued

| Config. | Desig. | J | Level | Interval |
|---|---|---|---|---|
| $3s^2\,3p(^2P^\circ)10d$ | $10d\ ^3P^\circ$ | 2 | *64882.8?* | |
| | | 1 | | |
| | | 0 | | |
| $3s^2\,3p(^2P^\circ)10d$ | $10d\ ^3D^\circ$ | 1 | | |
| | | 2 | | |
| | | 3 | *64924.4?* | |
| Si II ($^2P^\circ_{\frac{1}{2}}$) | ***Limit*** | ..... | 65747.5 ±0.6 | |
| $3s\,3p^3$ | $3p^3\ ^3S^\circ$ | 1 | *79664.0* | |
| $3s\,3p^2(^4P)4s$ | $4s'\ ^5P$ | 1 | 81724.64 | |
| | | 2 | 81826.16 | 101.52 |
| | | 3 | 81976.16 | 150.00 |
| $3s\,3p^2(^4P)3d$ | $3d'\ ^5P$ | 3 | 94291.73 | |
| | | 2 | 94365.59 | −73.86 |
| | | 1 | 94413.01 | −47.42 |

March 1967.

## Si I Observed Terms

| Config. $1s^2\,2s^2\,2p^6$ + | Observed Terms | |
|---|---|---|
| $3s^2\,3p^2$ | $3p^2\ ^3P$ | |
| | $3p^2\ ^1S$ $\quad$ $3p^2\ ^1D$ | |
| $3s\ 3p^3$ | $3p^3\ ^5S^\circ$ | |
| | $3p^3\ ^3S^\circ$ $\quad$ $3p^3\ ^3P^\circ$ $\quad$ $3p^3\ ^3D^\circ$ | |
| | $ns(n \geq 4)$ | $np(n \geq 3)$ |
| $3s^2\,3p(^2P^\circ)nl$ | $4-10s\ ^3P^\circ$ | $4-7p\ ^3S$ $\quad$ $4-7p\ ^3P$ $\quad$ $4-8p\ ^3D$ |
| | $4-10s\ ^1P^\circ$ | $4-8p\ ^1S$ $\quad$ $5-7p\ ^1P$ $\quad$ $4-7p\ ^1D$ |
| $3s\ 3p^2(^4P)nl'$ | $4s'\ ^5P$ | |
| | $nd(n \geq 3)$ | |
| $3s^2\,3p(^2P^\circ)nl$ | $3-10d\ ^3P^\circ$ $\quad$ $3-10d\ ^3D^\circ$ $\quad$ $3-8d\ ^3F^\circ$ | |
| | $3-8d\ ^1P^\circ$ $\quad$ $3-7d\ ^1D^\circ$ $\quad$ $3-8d\ ^1F^\circ$ | |
| $3s\ 3p^2(^4P)nl'$ | $3d'\ ^5P$ | |

### $jl$ – Coupling Notation

| | Observed Pairs |
|---|---|
| | $nf(n \geq 4)$ |
| $3s^2\,3p(^2P^\circ_{\frac{1}{2}})nl$ | $4-6f\ [2\frac{1}{2}]$ |
| | $4-6f\ [3\frac{1}{2}]$ |
| $3s^2\,3p(^2P^\circ_{\frac{1}{2}})nl'$ | $4-7f'\ [3\frac{1}{2}]$ |
| | $4-7f'\ [2\frac{1}{2}]$ |
| | $4-7f'\ [4\frac{1}{2}]$ |
| | $4-6f'\ [1\frac{1}{2}]$ |

Part B

# Multiplet Table
# SILICON
## Si I ($Z = 14$)

I P 8.151 eV Limit 65747.5 ± 0.6 $cm^{-1}$ 1520.97 Å (Vac)

Anal A List A March 1967

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A L. J. Radziemski, Jr., K. L. Andrew, J. Opt. Soc. Am. **55,** 474 to 491 (1965). I P, T, C L, I; W L 1255 Å to 12270 Å

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C A. G. Shenstone, see Ref. A. C L, (I)

D M. Wilson, Thesis, unpublished (Nov. 1964). T, C L; W L 1255 Å to 1787 Å

E U. Litzén, Ark, Fys. **28,** No. 20, 239 to 248 (1964). T, C L, (I); W L 10288 Å to 24854 Å

F U. Litzén, Ark. Fys. **31,** No. 30, 453 to 459 (1966). T, C L; W L 11984 Å to 15888 Å

P Predicted wavelength.


New Multiplet Numbers, not inserted between older ones, start with 93 and UV 97.

‡ *raie ultime*

* Blend

**Si I** **Si I**

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. | I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Air | | | | | | | Vac | | | | | | |
| 16454.53 | P | | 0.03 | 0.78 | 2–2 | $3p^2\ ^3P - 3p^2\ ^1D$ | 1988.994 | B | 1000 | 0.03 | 6.26 | 2–2 | $3p^2\ ^3P - 3d\ ^3P°$ |
| 16068.30 | P | | 0.01 | 0.78 | 1–2 | 0.01 F | 1980.618 | B | 300 | 0.01 | 6.27 | 1–1 | UV 7 |
| 15871.58 | P | | 0.00 | 0.78 | 0–2 | | 1986.364 | A | 500 | 0.03 | 6.27 | 2–1 | |
| | | | | | | | 1979.206 | B | 400 | 0.01 | 6.27 | 1–0 | |
| 6589.611 | P | | 0.03 | 1.91 | 2–0 | $3p^2\ ^3P - 3p^2\ ^1S$ | 1983.232 | B | 300 | 0.01 | 6.26 | 1–2 | |
| 6526.782 | P | | 0.01 | 1.91 | 1–0 | 1 F | 1977.597 | B | 400 | 0.00 | 6.27 | 0–1 | |
| 3020.004 | A | 75 | 0.03 | 4.13 | 2–2 | $3p^2\ ^3P - 3p^3\ ^5S°$ | | | | | | | |
| 3006.739 | A | 50 | 0.01 | 4.13 | 1–2 | 0.01 | 1881.854 | B | 30 | 0.03 | 6.62 | 2–3 | $3p^2\ ^3P - 3d\ ^1F°$ UV 8 |
| 2516.112‡ | A | 500 | 0.03 | 4.95 | 2–2 | $3p^2\ ^3P - 4s\ ^3P°$ | | | | | | | |
| 2519.202 | A | 350 | 0.01 | 4.93 | 1–1 | UV 1 | 1880.966 | B | 5 | 0.03 | 6.62 | 2–1 | $3p^2\ ^3P - 3d\ ^1P°$ |
| 2528.509 | A | 450 | 0.03 | 4.93 | 2–1 | | 1875.813 | B | 30 | 0.01 | 6.62 | 1–1 | UV 9 |
| 2524.108 | A | 425 | 0.01 | 4.92 | 1–0 | | 1873.104 | B | 25 | 0.00 | 6.62 | 0–1 | |
| 2506.897 | A | 425 | 0.01 | 4.95 | 1–2 | | | | | | | | |
| 2514.316 | A | 375 | 0.00 | 4.93 | 0–1 | | 1850.672 | B | 400 | 0.03 | 6.73 | 2–3 | $3p^2\ ^3P - 3d\ ^3D°$ |
| | | | | | | | 1847.473 | B | 300 | 0.01 | 6.72 | 1–2 | UV 10 |
| 2452.118 | A | 70 | 0.03 | 5.08 | 2–1 | $3p^2\ ^3P - 4s\ ^1P°$ | 1845.520 | B | 200 | 0.00 | 6.72 | 0–1 | |
| 2443.364 | A | 65 | 0.01 | 5.08 | 1–1 | UV 2 | 1852.472 | B | 250 | 0.03 | 6.72 | 2–2 | |
| 2438.767 | A | 65 | 0.00 | 5.08 | 0–1 | | 1848.150 | B | 200 | 0.01 | 6.72 | 1–1 | |
| | | | | | | | 1853.152 | B | 35 | 0.03 | 6.72 | 2–1 | |
| 2216.669 | A | 120 | 0.03 | 5.62 | 2–3 | $3p^2\ ^3P - 3p^3\ ^3D°$ | | | | | | | |
| 2210.894 | A | 115 | 0.01 | 5.62 | 1–2 | UV 3 | | | | | | | |
| 2207.978 | A | 110 | 0.00 | 5.61 | 0–1 | | 1841.449 | B | 400 | 0.03 | 6.76 | 2–2 | $3p^2\ ^3P - 5s\ ^3P°$ |
| 2218.057 | A | 120 | 0.03 | 5.62 | 2–2 | | 1843.770 | B | 200 | 0.01 | 6.73 | 1–1 | UV 11 |
| 2211.744 | A | 110 | 0.01 | 5.61 | 1–1 | | 1848.748 | B | 250 | 0.03 | 6.73 | 2–1 | |
| 2218.915 | A | 50 | 0.03 | 5.61 | 2–1 | | 1846.112 | B | 200 | 0.01 | 6.73 | 1–0 | |
| | | | | | | | 1836.509 | B | 200 | 0.01 | 6.76 | 1–2 | |
| 2121.194 | A | 10 | 0.03 | 5.87 | 2–2 | $3p^2\ ^3P - 3d\ ^1D°$ | 1841.152 | B | 125 | 0.00 | 6.73 | 0–1 | |
| 2114.631 | C | (30) | 0.01 | 5.87 | 1–2 | UV 4 | | | | | | | |
| 2010.993 | B | 45 | 0.03 | 6.19 | 2–3 | $3p^2\ ^3P - 3d\ ^3F°$ | 1829.897 | B | 10 | 0.03 | 6.80 | 2–1 | $3p^2\ ^3P - 5s\ ^1P°$ |
| 2008.443 | B | 45 | 0.01 | 6.18 | 1–2 | UV 6 | 1825.021 | B | 1 | 0.01 | 6.80 | 1–1 | UV 12 |
| 2014.356 | B | 3 | 0.03 | 6.18 | 2–2 | | 1822.455 | B | 30 | 0.00 | 6.80 | 0–1 | |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Vac | | | | | | |
| 1776.824 | B | 150 | 0.03 | 7.01 | 2–2 | $3p^2\ ^3P - 4d\ ^1D^\circ$ |
| 1772.226 | B | 12 | 0.01 | 7.01 | 1–2 | UV 13 |
| 1770.922 | B | 300 | 0.03 | 7.03 | 2–2 | $3p^2\ ^3P - 3p^3\ ^3P^\circ$ |
| 1766.063 | B | 100 | 0.01 | 7.03 | 1–1 | UV 14 |
| 1770.630 | B | 125 | 0.03 | 7.03 | 2–1 | |
| 1765.030 | B | 90 | 0.01 | 7.03 | 1–0 | |
| 1766.354 | B | 50 | 0.01 | 7.03 | 1–2 | |
| 1763.661 | B | 80 | 0.00 | 7.03 | 0–1 | |
| 1747.414 | B | 40 | 0.03 | 7.12 | 2–3 | $3p^2\ ^3P - 4d\ ^3F^\circ$ |
| 1745.348 | B | 25 | 0.01 | 7.11 | 1–2 | UV 15 |
| 1749.808 | B | 3 | 0.03 | 7.11 | 2–2 | |
| 1707.115 | B | 8 | 0.03 | 7.29 | 2–1 | $3p^2\ ^3P - 4d\ ^1P^\circ$ |
| 1702.868 | B | 70 | 0.01 | 7.29 | 1–1 | UV 16 |
| 1700.635 | B | 80 | 0.00 | 7.29 | 0–1 | |
| 1704.442 | B | 100 | 0.03 | 7.30 | 2–3 | $3p^2\ ^3P - 4d\ ^1F^\circ$ UV 17 |
| 1697.941 | B | 250 | 0.03 | 7.33 | 2–3 | $3p^2\ ^3P - 4d\ ^3D^\circ$ |
| 1696.206 | B | 200 | 0.01 | 7.32 | 1–2 | UV 18 |
| 1693.293 | B | 125 | 0.00 | 7.32 | 0–1 | |
| 1700.419 | B | 90 | 0.03 | 7.32 | 2–2 | |
| 1695.507 | B | 90 | 0.01 | 7.32 | 1–1 | |
| 1699.717 | B | 10 | 0.03 | 7.32 | 2–1 | |
| 1686.818 | B | 100 | 0.03 | 7.38 | 2–2 | $3p^2\ ^3P - 6s\ ^3P^\circ$ |
| 1689.290 | B | 60 | 0.01 | 7.35 | 1–1 | UV 21 |
| 1693.468 | B | 60 | 0.03 | 7.35 | 2–1 | |
| 1690.788 | B | 60 | 0.01 | 7.34 | 1–0 | |
| 1682.672 | B | 70 | 0.01 | 7.38 | 1–2 | |
| 1687.092 | B | 20 | 0.00 | 7.35 | 0–1 | |
| 1683.119 | B | 3 | 0.03 | 7.39 | 2–1 | $3p^2\ ^3P - 6s\ ^1P^\circ$ |
| 1678.992 | P | | 0.01 | 7.39 | 1–1 | UV 22 |
| 1676.821 | B | 15 | 0.00 | 7.39 | 0–1 | |
| 1675.205 | B | 200 | 0.03 | 7.43 | 2–2 | $3p^2\ ^3P - 4d\ ^3P^\circ$ |
| 1668.520 | B | 70 | 0.01 | 7.44 | 1–1 | UV 23 |
| 1672.596 | B | 80 | 0.03 | 7.44 | 2–1 | |
| 1667.629 | B | 70 | 0.01 | 7.44 | 1–0 | |
| 1671.117 | B | 40 | 0.01 | 7.43 | 1–2 | |
| 1666.376 | B | 60 | 0.00 | 7.44 | 0–1 | |
| 1664.511 | B | 35 | 0.03 | 7.48 | 2–2 | $3p^2\ ^3P - 5d\ ^1D^\circ$ |
| 1660.476 | B | 15 | 0.01 | 7.48 | 1–2 | UV 24 |
| 1653.376 | B | 40 | 0.03 | 7.53 | 2–3 | $3p^2\ ^3P - 5d\ ^3F^\circ$ |
| 1651.028 | B | 25 | 0.01 | 7.52 | 1–2 | UV 25 |
| 1655.012 | C | (1*h*) | 0.03 | 7.52 | 2–2 | |
| 1633.223 | B | 45 | 0.01 | 7.60 | 1–1 | $3p^2\ ^3P - 5d\ ^1P^\circ$ |
| 1631.168 | B | 70 | 0.00 | 7.60 | 0–1 | UV 26 |
| 1629.946 | B | 100 | 0.03 | 7.63 | 2–3 | $3p^2\ ^3P - 5d\ ^3D^\circ$ |
| 1629.438 | B | 100 | 0.01 | 7.62 | 1–2 | UV 27 |
| 1625.704 | B | 70 | 0.00 | 7.63 | 0–1 | |
| 1633.326 | B | 40 | 0.03 | 7.62 | 2–2 | |
| 1627.745 | B | 30 | 0.01 | 7.63 | 1–1 | |
| 1631.62 | P | | 0.03 | 7.63 | 2–1 | |
| 1633.983 | B | 90 | 0.03 | 7.62 | 2–3 | $3p^2\ ^3P - 5d\ ^1F^\circ$ UV 28 |
| 1623.368 | B | 8 | 0.03 | 7.66 | 2–2 | $3p^2\ ^3P - 7s\ ^3P^\circ$ |
| 1625.531 | B | 35 | 0.01 | 7.64 | 1–1 | UV 29 |
| 1629.403 | B | 20 | 0.03 | 7.64 | 2–1 | |
| 1627.050 | B | 20 | 0.01 | 7.63 | 1–0 | |
| 1619.526 | B | 15 | 0.01 | 7.66 | 1–2 | |
| 1623.498 | B | 10 | 0.00 | 7.64 | 0–1 | |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Vac | | | | | | |
| 1622.881 | B | 90 | 0.03 | 7.67 | 2–2 | $3p^2\ ^3P - 5d\ ^3P^\circ$ |
| 1616.579 | B | 70 | 0.01 | 7.68 | 1–1 | UV 30 |
| 1620.404 | B | 60 | 0.03 | 7.68 | 2–1 | |
| 1615.949 | B | 50 | 0.01 | 7.68 | 1–0 | |
| 1619.046 | B | 8 | 0.01 | 7.67 | 1–2 | |
| 1614.567 | B | 30 | 0.00 | 7.68 | 0–1 | |
| 1621.838 | B | 2 | 0.03 | 7.67 | 2–1 | $3p^2\ ^3P - 7s\ ^1P^\circ$ |
| 1618.006 | B | 8 | 0.01 | 7.67 | 1–1 | UV 31 |
| 1615.99 | D | (—) | 0.00 | 7.67 | 0–1 | |
| 1614.630 | B | 25 | 0.03 | 7.71 | 2–2 | $3p^2\ ^3P - 6d\ ^1D^\circ$ |
| 1610.82 | D | (—) | 0.01 | 7.71 | 1–2 | UV 32 |
| 1608.916 | B | 25 | 0.03 | 7.73 | 2–3 | $3p^2\ ^3P - 6d\ ^3F^\circ$ |
| 1605.837 | B | 20 | 0.01 | 7.73 | 1–2 | UV 33 |
| 1601.46 | P | | 0.03 | 7.77 | 2–1 | $3p^2\ ^3P - 6d\ ^1P^\circ$ |
| *1597.721 | B | 25 | 0.01 | 7.77 | 1–1 | UV 33.01 |
| 1595.755 | B | 30 | 0.00 | 7.77 | 0–1 | |
| 1597.963 | B | 60 | 0.03 | 7.79 | 2–3 | $3p^2\ ^3P - 6d\ ^1F^\circ$ UV 35 |
| 1590.576 | B | 15 | 0.03 | 7.82 | 2–2 | $3p^2\ ^3P - 8s\ ^3P^\circ$ |
| *1597.721 | B | 25 | 0.03 | 7.79 | 2–1 | UV 35.01 |
| 1594.146 | B | 3 | 0.01 | 7.79 | 1–0? | |
| 1586.892 | B | 3 | 0.01 | 7.82 | 1–2 | |
| 1592.020 | B | 20 | 0.00 | 7.79 | 0–1 | |
| 1594.566 | B | 70 | 0.03 | 7.80 | 2–3 | $3p^2\ ^3P - 6d\ ^3D^\circ$ |
| 1592.423 | B | 60 | 0.01 | 7.80 | 1–2 | UV 35.02 |
| 1589.173 | B | 15 | 0.00 | 7.80 | 0–1 | |
| 1591.123 | B | 20 | 0.01 | 7.80 | 1–1 | |
| 1594.79 | D | — | 0.03 | 7.80 | 2–1 | |
| 1594.949 | B | 70 | 0.03 | 7.80 | 2–2? | $3p^2\ ^3P - 6d\ ^3P^\circ$ |
| 1586.791 | B | 20 | 0.01 | 7.82 | 1–1 | UV 35.03 |
| 1590.477 | B | 20 | 0.03 | 7.82 | 2–1 | |
| 1586.137 | B | 15 | 0.01 | 7.83 | 1–0? | |
| 1591.24 | P | | 0.01 | 7.80 | 1–2? | |
| 1584.854 | B | 2 | 0.00 | 7.82 | 0–1 | |
| 1589.639 | B | 7 | 0.03 | 7.83 | 2–1 | $3p^2\ ^3P - 8s\ ^1P^\circ$ |
| 1585.958 | B | 3 | 0.01 | 7.83 | 1–1 | UV 37 |
| 1584.022 | B | 8 | 0.00 | 7.83 | 0–1 | |
| 1587.761 | B | 15 | 0.03 | 7.84 | 2–2 | $3p^2\ ^3P - 7d\ ^1D^c$ UV 37.01 |
| 1584.346 | B | 12 | 0.03 | 7.85 | 2–3 | $3p^2\ ^3P - 7d\ ^3F^\circ$ |
| 1580.300 | B | 12 | 0.01 | 7.85 | 1–2 | UV 37.02 |
| 1583.95 | D | (—) | 0.03 | 7.85 | 2–2 | |
| 1580.68 | D | (—) | 0.03 | 7.87 | 2–1 | $3p^2\ ^3P - 7d\ ^1P^c$ |
| 1577.044 | B | 2 | 0.01 | 7.87 | 1–1 | UV 37.03 |
| 1575.127 | B | 10 | 0.00 | 7.87 | 0–1 | |
| 1571.323 | B | 1 | 0.03 | 7.92 | 2–2 | $3p^2\ ^3P - 9s\ ^3P^\circ$ |
| 1574.63 | P | | 0.01 | 7.88 | 1–1 | UV 37.04 |
| 1578.25 | D | (—) | 0.03 | 7.88 | 2–1 | |
| 1574.746 | B | 1 | 0.01 | 7.88 | 1–0? | |
| 1567.726 | B | 8 | 0.01 | 7.92 | 1–2 | |
| 1572.717 | B | 2 | 0.00 | 7.88 | 0–1 | |
| 1576.829 | B | 12 | 0.03 | 7.89 | 2–3 | $3p^2\ ^3P - 7d\ ^1F^\circ$ UV 39 |
| 1573.884 | B | 25 | 0.03 | 7.91 | 2–3 | $3p^2\ ^3P - 7d\ ^3D^\circ$ |
| 1571.406 | B | 10 | 0.01 | 7.90 | 1–2 | UV 40 |
| 1568.618 | B | 3 | 0.00 | 7.90 | 0–1 | |
| 1570.518 | B | 3 | 0.01 | 7.90 | 1–1 | |
| 1574.128 | B | 1 | 0.03 | 7.90 | 2–1 | |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Vac | | | | | | |
| 1574.844 | B | 30 | 0.03 | 7.90 | 2–2 | $3p^2\ ^3P - 7d\ ^3P^\circ$ |
| 1570.028 | B | 2 | 0.01 | 7.91 | 1–1 | UV 40.01 |
| 1573.635 | B | 10 | 0.03 | 7.91 | 2–1 | |
| 1568.196 | B | 10 | 0.01 | 7.92 | 1–0 | |
| 1570.810 | B | 1 | 0.03 | 7.92 | 2–1 | $3p^2\ ^3P - 9s\ ^1P^\circ$ |
| 1567.21 | D | (—) | 0.01 | 7.92 | 1–1 | UV 41 |
| 1565.32 | D | (—) | 0.00 | 7.92 | 0–1 | |
| 1569.318 | B | 8 | 0.03 | 7.93 | 2–3 | $3p^2\ ^3P - 8d\ ^3F^\circ$ |
| 1564.614 | B | 8 | 0.01 | 7.93 | 1–2 | UV 41.01 |
| 1562.053 | B | 1 | 0.00 | 7.94 | 0–1 | $3p^2\ ^3P - 8d\ ^1P^\circ$? UV 41.02 |
| 1559.00 | D | (—) | 0.03 | 7.98 | 2–2 | $3p^2\ ^3P - 10s\ ^3P^\circ$? |
| 1562.28 | D | (—) | 0.01 | 7.95 | 1–1 | UV 41.03 |
| 1565.84 | D | (—)Al? | 0.03 | 7.95 | 2–1 | |
| 1555.516 | B | 1 | 0.01 | 7.98 | 1–2 | |
| 1560.39 | D | (—) | 0.00 | 7.95 | 0–1 | |
| 1563.364 | B | 1 | 0.03 | 7.96 | 2–3 | $3p^2\ ^3P - 8d\ ^1F^\circ$ UV 41.04 |
| 1562.006 | B | 4 | 0.03 | 7.96 | 2–2 | $3p^2\ ^3P - 8d\ ^3P^\circ$? |
| 1556.527 | B | 1 | 0.01 | 7.97 | 1–0 | UV 41.05 |
| 1560.742 | B | 8 | 0.03 | 7.97 | 2–3 | $3p^2\ ^3P - 8d\ ^3D^\circ$ |
| 1558.240 | B | 2 | 0.01 | 7.97 | 1–2? | UV 41.06 |
| 1561.81 | D | (10*r*) | 0.03 | 7.97 | 2–2? | |
| 1559.364 | B | 2 | 0.03 | 7.98 | 2–1 | $3p^2\ ^3P - 10s\ ^1P^\circ$ UV 41.07 |
| 1552.950 | B | 2 | 0.03 | 8.01 | 2–2 | $3p^2\ ^3P - 9d\ ^3P^\circ$? UV 41.08 |
| 1551.860 | B | 2 | 0.03 | 8.02 | 2–3 | $3p^2\ ^3P - 9d\ ^3D^\circ$? |
| 1548.715 | B | 2 | 0.01 | 8.01 | 1–2 | UV 41.09 |
| 1552.209 | B | 1 | 0.03 | 8.01 | 2–2 | |
| 1546.56 | C | (1*r*) | 0.03 | 8.04 | 2–2 | $3p^2\ ^3P - 10d\ ^3P^\circ$? UV 41.10 |
| 1545.56 | C | (1*r*) | 0.03 | 8.05 | 2–3 | $3p^2\ ^3P - 10d\ ^3D^\circ$? UV 41.11 |
| 1258.80 | C | (50) | 0.03 | 9.88 | 2–1 | $3p^2\ ^3P - 3p^3\ ^3S^\circ$ |
| 1256.49 | C | (40) | 0.01 | 9.88 | 1–1 | UV 41.12 |
| 1255.28 | C | (10) | 0.00 | 9.88 | 0–1 | |
| Air | | | | | | |
| 10991.414 | P | | 0.78 | 1.91 | 2–0 | $3p^2\ ^1D - 3p^2\ ^1S$ 2F |
| 2970.355 | A | 55 | 0.78 | 4.95 | 2–2 | $3p^2\ ^1D - 4s\ ^3P^\circ$ |
| 2987.645 | A | 150 | 0.78 | 4.93 | 2–1 | 1 |
| 2881.579 | A | 1000 | 0.78 | 5.08 | 2–1 | $3p^2\ ^1D - 4s\ ^1P^\circ$ UV 43 |
| 2561.823 | P | | 0.78 | 5.62 | 2–3 | $3p^2\ ^1D - 3p^3\ ^3D^\circ$ |
| 2563.679 | A | 30 | 0.78 | 5.62 | 2–2 | UV 44 |
| 2564.824 | A | 20 | 0.78 | 5.61 | 2–1 | |
| 2435.154 | A | 300 | 0.78 | 5.87 | 2–2 | $3p^2\ ^1D - 3d\ ^1D^\circ$ UV 45 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 2291.034 | A | 35 | 0.78 | 6.19 | 2–3 | $3p^2\ ^1D - 3d\ ^3F^\circ$ |
| 2295.401 | A | 10 | 0.78 | 6.18 | 2–2 | UV 46 |
| 2261.693 | A | 5 | 0.78 | 6.26 | 2–2 | $3p^2\ ^1D - 3d\ ^3P^\circ$ |
| 2258.292 | P | | 0.78 | 6.27 | 2–1 | UV 47 |
| 2124.122 | A | 100 | 0.78 | 6.62 | 2–3 | $3p^2\ ^1D - 3d\ ^1F^\circ$ UV 48 |
| 2122.994 | A | 15 | 0.78 | 6.62 | 2–1 | $3p^2\ ^1D - 3d\ ^1P^\circ$ UV 49 |
| 2084.463 | B | 50 | 0.78 | 6.73 | 2–3 | $3p^2\ ^1D - 3d\ ^3D^\circ$ |
| 2086.745 | C | (1) | 0.78 | 6.72 | 2–2 | UV 50 |
| 2087.612 | B | 1 | 0.78 | 6.72 | 2–1 | |
| 2072.764 | P | | 0.78 | 6.76 | 2–2 | $3p^2\ ^1D - 5s\ ^3P^\circ$ |
| 2082.021 | B | 60 | 0.78 | 6.73 | 2–1 | UV 51 |
| 2058.132 | B | 600 | 0.78 | 6.80 | 2–1 | $3p^2\ ^1D - 5s\ ^1P^\circ$ UV 52 |
| Vac | | | | | | |
| 1991.852 | B | 50 | 0.78 | 7.01 | 2–2 | $3p^2\ ^1D - 4d\ ^1D^\circ$ UV 53 |
| 1984.439 | B | 20 | 0.78 | 7.03 | 2–2 | $3p^2\ ^1D - 3p^3\ ^3P^\circ$ |
| 1984.069 | B | 3 | 0.78 | 7.03 | 2–1 | UV 53.01 |
| 1954.968 | B | 50 | 0.78 | 7.12 | 2–3 | $3p^2\ ^1D - 4d\ ^3F^\circ$ |
| 1957.965 | B | 1 | 0.78 | 7.11 | 2–2 | UV 55 |
| 1904.666 | B | 40 | 0.78 | 7.29 | 2–1 | $3p^2\ ^1D - 4d\ ^1P^\circ$ UV 56 |
| 1901.337 | B | 400 | 0.78 | 7.30 | 2–3 | $3p^2\ ^1D - 4d\ ^1F^\circ$ UV 57 |
| 1893.252 | B | 175 | 0.78 | 7.33 | 2–3 | $3p^2\ ^1D - 4d\ ^3D^\circ$ |
| 1896.339 | B | 1 | 0.78 | 7.32 | 2–2 | UV 58 |
| 1895.461 | B | 1 | 0.78 | 7.32 | 2–1 | |
| 1879.434 | P | | 0.78 | 7.38 | 2–2 | $3p^2\ ^1D - 6s\ ^3P^\circ$ |
| 1887.693 | B | 45 | 0.78 | 7.35 | 2–1 | UV 61 |
| 1874.842 | B | 175 | 0.78 | 7.39 | 2–1 | $3p^2\ ^1D - 6s\ ^1P^\circ$ UV 62 |
| 1865.028 | B | 2 | 0.78 | 7.43 | 2–2 | $3p^2\ ^1D - 4d\ ^3P^\circ$ |
| 1861.795 | B | 2 | 0.78 | 7.44 | 2–1 | UV 63 |
| 1851.782 | B | 70 | 0.78 | 7.48 | 2–2 | $3p^2\ ^1D - 5d\ ^1D^\circ$ UV 64 |
| 1838.011 | B | 40 | 0.78 | 7.53 | 2–3 | $3p^2\ ^1D - 5d\ ^3F^\circ$ |
| 1840.042 | B | 8 | 0.78 | 7.52 | 2–2 | UV 65 |
| 1817.956 | B | 10 | 0.78 | 7.60 | 2–1 | $3p^2\ ^1D - 5d\ ^1P^\circ$ UV 66 |
| 1814.079 | B | 250 | 0.78 | 7.62 | 2–3 | $3p^2\ ^1D - 5d\ ^1F^\circ$ UV 68 |
| 1809.104 | B | 100 | 0.78 | 7.63 | 2–3 | $3p^2\ ^1D - 5d\ ^3D^\circ$ |
| 1813.27 | P | (1*h*) | 0.78 | 7.62 | 2–2 | UV 68.01 |
| 1801.000 | P | | 0.78 | 7.66 | 2–2 | $3p^2\ ^1D - 7s\ ^3P^\circ$ |
| 1808.429 | B | 20 | 0.78 | 7.64 | 2–1 | UV 69 |
| 1800.404 | B | 1 | 0.78 | 7.67 | 2–2 | $3p^2\ ^1D - 5d\ ^3P^\circ$ |
| 1797.356 | B | 6 | 0.78 | 7.68 | 2–1 | UV 70 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Vac 1799.118 | B | 30 | 0.78 | 7.67 | 2–1 | $3p^2\ ^1D - 7s\ ^1P^\circ$ UV 71 |
| 1790.254 | B | 25 | 0.78 | 7.71 | 2–2 | $3p^2\ ^1D - 6d\ ^1D^\circ$ UV 72 |
| 1783.232 | B | 25 | 0.78 | 7.73 | 2–3 | $3p^2\ ^1D - 6d\ ^3F^\circ$ |
| 1784.088 | B | 8 | 0.78 | 7.73 | 2–2 | UV 73 |
| 1774.08 | P | | 0.78 | 7.77 | 2–1 | $3p^2\ ^1D - 6d\ ^1P^\circ$ UV 73.01 |
| 1769.785 | B | 70 | 0.78 | 7.79 | 2–3 | $3p^2\ ^1D - 6d\ ^1F^\circ$ UV 75 |
| 1769.461 | B | 2 | 0.78 | 7.79 | 2–1 | $3p^2\ ^1D - 8s\ ^3P^\circ$ UV 75.01 |
| 1765.622 | B | 50 | 0.78 | 7.80 | 2–3 | $3p^2\ ^1D - 6d\ ^3D^\circ$ |
| 1767.54 | P | | 0.78 | 7.80 | 2–2 | UV 76 |
| 1765.945 | B | 8 | 0.78 | 7.80 | 2–1 | |
| 1759.583 | B | 10 | 0.78 | 7.83 | 2–1 | $3p^2\ ^1D - 8s\ ^1P^\circ$ UV 77 |
| 1757.283 | B | 3 | 0.78 | 7.84 | 2–2 | $3p^2\ ^1D - 7d\ ^1D^\circ$ UV 77.01 |
| 1753.101 | B | 15 | 0.78 | 7.85 | 2–3 | $3p^2\ ^1D - 7d\ ^3F^\circ$ |
| 1752.634 | B | 3 | 0.78 | 7.85 | 2–2 | UV 77.02 |
| 1745.647 | B | 1 | 0.78 | 7.88 | 2–1 | $3p^2\ ^1D - 9s\ ^3P^\circ$ UV 77.03 |
| 1743.894 | B | 20 | 0.78 | 7.89 | 2–3 | $3p^2\ ^1D - 7d\ ^1F^\circ$ UV 79 |
| 1740.299 | B | 20 | 0.78 | 7.91 | 2–3 | $3p^2\ ^1D - 7d\ ^3D^\circ$ UV 80 |
| 1736.538 | B | 3 | 0.78 | 7.92 | 2–1 | $3p^2\ ^1D - 9s\ ^1P^\circ$ UV 81 |
| 1734.718 | B | 8 | 0.78 | 7.93 | 2–3 | $3p^2\ ^1D - 8d\ ^3F^\circ$ |
| 1733.346 | B | 1 | 0.78 | 7.93 | 2–2 | UV 81.01 |
| 1727.444 | B | 2 | 0.78 | 7.96 | 2–3 | $3p^2\ ^1D - 8d\ ^1F^\circ$ UV 81.02 |
| 1724.242 | B | 6 | 0.78 | 7.97 | 2–3 | $3p^2\ ^1D - 8d\ ^3D^\circ$ UV 81.03 |
| 1722.562 | B | 4 | 0.78 | 7.98 | 2–1 | $3p^2\ ^1D - 10s\ ^1P^\circ$ UV 81.04 |
| 1713.412 | D | (—) | 0.78 | 8.02 | 2–3 | $3p^2\ ^1D - 9d\ ^3D^\circ$ |
| 1713.85 | D | (—) | 0.78 | 8.01 | 2–2 | UV 81.05 |
| Air 4102.936 | A | 70 | 1.91 | 4.93 | 0–1 | $3p^2\ ^1S - 4s\ ^3P^\circ$ 2 |
| 3905.523 | A | 300 | 1.91 | 5.08 | 0–1 | $3p^2\ ^1S - 4s\ ^1P^\circ$ 3 |
| 3345.555 | P | | 1.91 | 5.61 | 0–1 | $3p^2\ ^1S - 3p^3\ ^3D^\circ$ 3.01 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air 2842.334 | A | 15 | 1.91 | 6.27 | 0–1 | $3p^2\ ^1S - 3d\ ^3P^\circ$ UV 82 |
| 2631.282 | A | 190 | 1.91 | 6.62 | 0–1 | $3p^2\ ^1S - 3d\ ^1P^\circ$ UV 83 |
| 2577.151 | A | 45 | 1.91 | 6.72 | 0–1 | $3p^2\ ^1S - 3d\ ^3D^\circ$ UV 84 |
| 2568.641 | A | 85 | 1.91 | 6.73 | 0–1 | $3p^2\ ^1S - 5s\ ^3P^\circ$ UV 85 |
| 2532.381 | A | 110 | 1.91 | 6.80 | 0–1 | $3p^2\ ^1S - 5s\ ^1P^\circ$ UV 86 |
| 2420.24 | A | 5 | 1.91 | 7.03 | 0–1 | $3p^2\ ^1S - 3p^3\ ^3P^\circ$ UV 86.01 |
| 2303.058 | A | 55 | 1.91 | 7.29 | 0–1 | $3p^2\ ^1S - 4d\ ^1P^\circ$ UV 87 |
| 2289.607 | A | 20 | 1.91 | 7.32 | 0–1 | $3p^2\ ^1S - 4d\ ^3D^\circ$ UV 88 |
| 2278.281 | A | 10 | 1.91 | 7.35 | 0–1 | $3p^2\ ^1S - 6s\ ^3P^\circ$ UV 89 |
| 2259.587 | A | 10 | 1.91 | 7.39 | 0–1 | $3p^2\ ^1S - 6s\ ^1P^\circ$ UV 90 |
| 2240.649 | P | | 1.91 | 7.44 | 0–1 | $3p^2\ ^1S - 4d\ ^3P^\circ$ UV 90.01 |
| 2177.432 | A | 10 | 1.91 | 7.60 | 0–1 | $3p^2\ ^1S - 5d\ ^1P^\circ$ UV 91 |
| 2167.700 | A | 5 | 1.91 | 7.63 | 0–1 | $3p^2\ ^1S - 5d\ ^2D^\circ$ UV 92 |
| 2163.773 | A | 7 | 1.91 | 7.64 | 0–1 | $3p^2\ ^1S - 7s\ ^3P^\circ$ UV 93 |
| 2147.911 | C | (50*h*) | 1.91 | 7.68 | 0–1 | $3p^2\ ^1S - 5d\ ^3P^\circ$ UV 94 |
| 2150.46 | A | 2 | 1.91 | 7.67 | 0–1 | $3p^2\ ^1S - 7s\ ^1P^\circ$ UV 95 |
| 2114.75 | P | | 1.91 | 7.77 | 0–1 | $3p^2\ ^1S - 6d\ ^1P^\circ$ UV 95.01 |
| 2108.20 | P | | 1.91 | 7.79 | 0–1 | $3p^2\ ^1S - 8s\ ^3P^\circ$ UV 95.02 |
| 2103.205 | A | 1 | 1.91 | 7.80 | 0–1 | $3p^2\ ^1S - 6d\ ^3D^\circ$ UV 95.03 |
| 2095.64 | P | | 1.91 | 7.82 | 0–1 | $3p^2\ ^1S - 6d\ ^3P^\circ$ UV 95.04 |
| 2094.21 | C | (10*h*) | 1.91 | 7.83 | 0–1 | $3p^2\ ^1S - 8s\ ^1P^\circ$ UV 96 |
| 2078.66 | P | | 1.91 | 7.87 | 0–1 | $3p^2\ ^1S - 7d\ ^1P^\circ$ UV 97 |
| 2074.46 | P | | 1.91 | 7.88 | 0–1 | $3p^2\ ^1S - 9s\ ^3P^\circ$ UV 98 |
| 2067.39 | C | (3*H*) | 1.91 | 7.90 | 0–1 | $3p^2\ ^1S - 7d\ ^3D^\circ$? UV 99 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 2066.41 | C | (0*h*) | 1.91 | 7.91 | 0–1 | $3p^2\ ^1S - 7d\ ^3P^\circ$ UV 100 |
| 2061.64 | C | (1*H*) | 1.91 | 7.92 | 0–1 | $3p^2\ ^1S - 9s\ ^1P^\circ$ UV 101 |
| 2041.93 | P | | 1.91 | 7.98 | 0–1 | $3p^2\ ^1S - 10s\ ^1P^\circ$ UV 102 |
| 2054.836 | B | (50) | 4.13 | 10.16 | 2–3 | $3p^3\ ^5S^\circ - 4s'\ ^5P$ UV 103 |
| 2061.19 | C | (40) | 4.13 | 10.14 | 2–2 | |
| 2065.52 | C | (30) | 4.13 | 10.13 | 2–1 | |
| Vac | | | | | | |
| 1640.267 | B | (20) | 4.13 | 11.69 | 2–3 | $3p^3\ ^5S^\circ - 3d'\ ^5P$ UV 104 |
| 1638.282 | B | (10) | 4.13 | 11.70 | 2–2 | |
| 1637.011 | B | (5) | 4.13 | 11.71 | 2–1 | |
| Air | | | | | | |
| 13640.68 | P | | 4.95 | 5.86 | 2–1 | $4s\ ^3P^\circ - 4p\ ^1P$ 3.02 |
| 13287.58 | E | 9 | 4.93 | 5.86 | 1–1 | |
| 13152.74 | P | | 4.92 | 5.86 | 0–1 | |
| 12031.507 | F | (440) | 4.95 | 5.98 | 2–3 | $4s\ ^3P^\circ - 4p\ ^3D$ 4 |
| 11984.187 | F | (370) | 4.93 | 5.96 | 1–2 | |
| 11991.565 | F | (220) | 4.92 | 5.95 | 0–1 | |
| 12270.699 | F | (120) | 4.95 | 5.96 | 2–2 | |
| 12103.544 | F | (150) | 4.93 | 5.95 | 1–1 | |
| 12395.82 | E | (6) | 4.95 | 5.95 | 2–1 | |
| 10827.091 | A | 140 | 4.95 | 6.10 | 2–2 | $4s\ ^3P^\circ - 4p\ ^3P$ 5 |
| 10749.384 | A | 60 | 4.93 | 6.08 | 1–1 | |
| 10979.308 | A | 80 | 4.95 | 6.08 | 2–1 | |
| 10786.856 | A | 80 | 4.93 | 6.08 | 1–0 | |
| 10603.431 | A | 120 | 4.93 | 6.10 | 1–2 | |
| 10660.975 | A | 120 | 4.92 | 6.08 | 0–1 | |
| 10585.141 | A | 120 | 4.95 | 6.12 | 2–1 | $4s\ ^3P^\circ - 4p\ ^3S$ 6 |
| 10371.269 | A | 30 | 4.93 | 6.12 | 1–1 | |
| 10288.942 | A | 10 | 4.92 | 6.12 | 0–1 | |
| 9768.35 | A | 6 | 4.95 | 6.22 | 2–2 | $4s\ ^3P^\circ - 4p\ ^1D$ 7 |
| 9585.92 | A | 10 | 4.93 | 6.22 | 1–2 | |
| 8435.24 | A | 8 | 4.93 | 6.40 | 1–0 | $4s\ ^3P^\circ - 4p\ ^1S$ 8 |
| 5941.758 | P | | 4.95 | 7.04 | 2–1 | $4s\ ^3P^\circ - 5p\ ^1P$ 8.01 |
| 5873.764 | A | 40 | 4.93 | 7.04 | 1–1 | |
| 5847.268 | P | | 4.92 | 7.04 | 0–1 | |
| 5797.859 | A | 100 | 4.95 | 7.09 | 2–3 | $4s\ ^3P^\circ - 5p\ ^3D$ 9 |
| 5793.071 | A | 90 | 4.93 | 7.07 | 1–2 | |
| 5780.384 | A | 70 | 4.92 | 7.06 | 0–1 | |
| 5859.201 | P | | 4.95 | 7.07 | 2–2 | |
| 5806.276 | P | | 4.93 | 7.06 | 1–1 | |
| 5872.708 | P | | 4.95 | 7.06 | 2–1 | |
| 5708.397 | A | 160 | 4.95 | 7.12 | 2–2 | $4s\ ^3P^\circ - 5p\ ^3P$ 10 |
| 5690.425 | A | 100 | 4.93 | 7.11 | 1–1 | |
| 5754.220 | A | 45 | 4.95 | 7.11 | 2–1 | |
| 5701.105 | A | 90 | 4.93 | 7.10 | 1–0 | |
| 5645.611 | A | 90 | 4.93 | 7.12 | 1–2 | |
| 5665.554 | A | 80 | 4.92 | 7.11 | 0–1 | |
| 5684.484 | A | 120 | 4.95 | 7.13 | 2–1 | $4s\ ^3P^\circ - 5p\ ^3S$ 11 |
| 5622.221 | A | 30 | 4.93 | 7.13 | 1–1 | |
| 5597.941 | P | | 4.92 | 7.13 | 0–1 | |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 5602.875 | A | 20 | 4.95 | 7.17 | 2–2 | $4s\ ^3P^\circ - 5p\ ^1D$ 11.01 |
| 5542.378 | P | | 4.93 | 7.17 | 1–2 | |
| 5388.938 | P | | 4.93 | 7.23 | 1–0 | $4s\ ^3P^\circ - 5p\ ^1S$ 11.02 |
| 5145.02 | A | 2 | 4.93 | 7.34 | 1–2 | $4s\ ^3P^\circ - 4f'\ [1\frac{1}{2}]$ 11.03 |
| 5124.86 | P | | 4.92 | 7.34 | 0–1 | |
| 4818.06 | A | 7 | 4.95 | 7.53 | 2–3 | $4s\ ^3P^\circ - 6p\ ^3D$ 11.04 |
| 4821.167 | A | 15 | 4.93 | 7.50 | 1–2 | |
| 4805.440 | A | 20 | 4.92 | 7.50 | 0–1 | |
| 4866.881 | A | 7 | 4.95 | 7.50 | 2–2 | |
| 4823.31 | A | 10 | 4.93 | 7.50 | 1–1 | |
| 4869.074 | P | | 4.95 | 7.50 | 2–1 | |
| 4792.324 | A | 80 | 4.95 | 7.54 | 2–2 | $4s\ ^3P^\circ - 6p\ ^3P$ 11.05 |
| 4772.785 | A | 25 | 4.93 | 7.53 | 1–1 | |
| 4817.59 | A | 5 | 4.95 | 7.53 | 2–1 | |
| 4792.212 | A | 35 | 4.93 | 7.52 | 1–0 | |
| 4747.994 | A | 25 | 4.93 | 7.54 | 1–2 | |
| 4755.276 | A | 25 | 4.92 | 7.53 | 0–1 | |
| 4782.990 | A | 50 | 4.95 | 7.55 | 2–1 | $4s\ ^3P^\circ - 6p\ ^3S$ 11.06 |
| 4738.832 | P | | 4.93 | 7.55 | 1–1 | |
| 4721.571 | P | | 4.92 | 7.55 | 0–1 | |
| 4758.972 | A | 13 | 4.95 | 7.56 | 2–2 | $4s\ ^3P^\circ - 6p\ ^1D$ 11.07 |
| 4715.257 | P | | 4.93 | 7.56 | 1–2 | |
| 4449.93 | A | 5 | 4.95 | 7.74 | 2–3 | $4s\ ^3P^\circ - 7p\ ^3D$ 11.08 |
| 4448.79 | P | | 4.93 | 7.72 | 1–2? | |
| 4434.69 | A | 10 | 4.92 | 7.71 | 0–1 | |
| 4430.470 | A | 10 | 4.95 | 7.75 | 2–2 | $4s\ ^3P^\circ - 7p\ ^3P$ 11.09 |
| 4405.96 | A | 5*H* | 4.93 | 7.74 | 1–1 | |
| 4444.12 | P | | 4.95 | 7.74 | 2–1 | |
| 4431.68 | A | 5 | 4.93 | 7.73 | 1–0 | |
| 4392.59 | A | 10 | 4.93 | 7.75 | 1–2 | |
| 4391.05 | A | 5*H* | 4.92 | 7.74 | 0–1 | |
| 4425.49 | A | 10 | 4.95 | 7.75 | 2–1 | $4s\ ^3P^\circ - 7p\ ^3S$ 11.10 |
| 4387.65 | P | | 4.93 | 7.75 | 1–1 | |
| 4372.85 | P | | 4.92 | 7.75 | 0–1 | |
| 4415.50 | A | 5*H* | 4.95 | 7.76 | 2–2 | $4s\ ^3P^\circ - 7p\ ^1D$ 11.11 |
| 15888.39 | E | (190) | 5.08 | 5.86 | 1–1 | $4s\ ^1P^\circ - 4p\ ^1P$ 11.12 |
| 14059.99 | P | | 5.08 | 5.96 | 1–2 | $4s\ ^1P^\circ - 4p\ ^3D$ 11.13 |
| 14224.54 | E | (6) | 5.08 | 5.95 | 1–1 | |
| 12196.64 | P | | 5.08 | 6.10 | 1–2 | $4s\ ^1P^\circ - 4p\ ^3P$ 11.14 |
| 12390.16 | E | (4) | 5.08 | 6.08 | 1–1 | |
| 12439.96 | P | | 5.08 | 6.08 | 1–0 | |
| 11890.48 | P | | 5.08 | 6.12 | 1–1 | $4s\ ^1P^\circ - 4p\ ^3S$ 12 |
| 10869.541 | A | 130 | 5.08 | 6.22 | 1–2 | $4s\ ^1P^\circ - 4p\ ^1D$ 13 |
| 9413.506 | A | 100 | 5.08 | 6.40 | 1–0 | $4s\ ^1P^\circ - 4p\ ^1S$ 14 |
| 6331.954 | A | 45 | 5.08 | 7.04 | 1–1 | $4s\ ^1P^\circ - 5p\ ^1P$ 14.01 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 6238.287 | A | 40 | 5.08 | 7.07 | 1–2 | $4s\ ^1P^\circ - 5p\ ^3D$ |
| 6253.60 | A | 15 | 5.08 | 7.06 | 1–1 | 14.02 |
| 6067.624 | A | 20 | 5.08 | 7.12 | 1–2 | $4s\ ^1P^\circ - 5p\ ^3P$ |
| 6119.417 | P | | 5.08 | 7.11 | 1–1 | 15 |
| 6131.769 | P | | 5.08 | 7.10 | 1–0 | |
| 6040.611 | P | | 5.08 | 7.13 | 1–1 | $4s\ ^1P^\circ - 5p\ ^3S$ 15.01 |
| 5948.545 | A | 200 | 5.08 | 7.17 | 1–2 | $4s\ ^1P^\circ - 5p\ ^1D$ 16 |
| 5772.145 | A | 70 | 5.08 | 7.23 | 1–0 | $4s\ ^1P^\circ - 5p\ ^1S$ 17 |
| 5621.607 | A | 15 | 5.08 | 7.29 | 1–2 | $4s\ ^1P^\circ - 4f\,[2\frac{1}{2}]$ 17.01 |
| 5517.535 | A | 35 | 5.08 | 7.33 | 1–2 | $4s\ ^1P^\circ - 4f'\,[2\frac{1}{2}]$ 17.02 |
| 5493.23 | A | 40 | 5.08 | 7.34 | 1–2 | $4s\ ^1P^\circ - 4f'\,[1\frac{1}{2}]$ |
| 5493.41 | P | | 5.08 | 7.34 | 1–1 | 17.03 |
| 5156.023 | A | 8 | 5.08 | 7.49 | 1–1 | $4s\ ^1P^\circ - 6p\ ^1P?$ 17.04 |
| 5125.598 | A | 10 | 5.08 | 7.50 | 1–2 | $4s\ ^1P^\circ - 6p\ ^3D$ |
| 5128.031 | A | 10 | 5.08 | 7.50 | 1–1 | 17.05 |
| 5042.97 | A | 3 | 5.08 | 7.54 | 1–2 | $4s\ ^1P^\circ - 6p\ ^3P$ |
| 5070.951 | P | | 5.08 | 7.53 | 1–1 | 17.06 |
| 5092.89 | P | | 5.08 | 7.52 | 1–0 | |
| 5032.640 | P | | 5.08 | 7.55 | 1–1 | $4s\ ^1P^\circ - 6p\ ^3S$ 17.07 |
| 5006.061 | A | 40 | 5.08 | 7.56 | 1–2 | $4s\ ^1P^\circ - 6p\ ^1D$ 17.08 |
| 4947.607 | A | 30 | 5.08 | 7.59 | 1–0 | $4s\ ^1P^\circ - 6p\ ^1S$ 17.09 |
| 4921.72 | A | 1 | 5.08 | 7.60 | 1–2 | $4s\ ^1P^\circ - 5f\,[2\frac{1}{2}]$ 17.10 |
| 4851.540 | A | 13 | 5.08 | 7.64 | 1–2 | $4s\ ^1P^\circ - 5f'\,[2\frac{1}{2}]$ 17.11 |
| 4839.861 | A | 11 | 5.08 | 7.64 | 1–2 | $4s\ ^1P^\circ - 5f'\,[1\frac{1}{2}]$ |
| 4839.98 | P | | 5.08 | 7.64 | 1–1 | 17.12 |
| 4726.84 | A | 5 | 5.08 | 7.70 | 1–1 | $4s\ ^1P^\circ - 7p\ ^1P?$ 17.13 |
| 4706.76 | A | 8 | 5.08 | 7.72 | 1–2? | $4s\ ^1P^\circ - 7p\ ^3D$ |
| 4707.98 | A | 4 | 5.08 | 7.71 | 1–1 | 17.14 |
| 4658.82 | A | 5 | 5.08 | 7.74 | 1–1 | $4s\ ^1P^\circ - 7p\ ^3P$ |
| 4643.86 | P | | 5.08 | 7.75 | 1–2 | 17.15 |
| 4638.38 | P | | 5.08 | 7.75 | 1–1 | $4s\ ^1P^\circ - 7p\ ^3S$ 17.16 |
| 4627.383 | A | 18 | 5.08 | 7.76 | 1–2 | $4s\ ^1P^\circ - 7p\ ^1D$ 17.17 |
| 4601.26 | A | 5 | 5.08 | 7.78 | 1–0 | $4s\ ^1P^\circ - 7p\ ^1S$ 17.18 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 4551.80 | A | 7 | 5.08 | 7.81 | 1–2 | $4s\ ^1P^\circ - 6f'\,[2\frac{1}{2}]$ 17.19 |
| 4496.43 | A | 5*H* | 5.08 | 7.84 | 1–2 | $4s\ ^1P^\circ - 8p\ ^3D?$ 17.20 |
| 4418.31 | A | 5*H* | 5.08 | 7.89 | 1–0 | $4s\ ^1P^\circ - 8p\ ^1S?$ 17.21 |
| 25854.38 | E | (6) | 5.62 | 6.10 | 3–2 | $3p^3\ ^3D^\circ - 4p\ ^3P$ |
| 26539.28 | P | | 5.62 | 6.08 | 2–1 | 17.22 |
| 26644.44 | P | | 5.61 | 6.08 | 1–0 | |
| 8703.256 | P | | 5.62 | 7.04 | 2–1 | $3p^3\ ^3D^\circ - 5p\ ^1P$ |
| 8690.062 | P | | 5.61 | 7.04 | 1–1 | 17.23 |
| 8417.88 | A | 7 | 5.62 | 7.09 | 3–3 | $3p^3\ ^3D^\circ - 5p\ ^3D$ |
| 8527.26 | A | 1 | 5.62 | 7.07 | 2–2 | 18 |
| 8543.151 | P | | 5.61 | 7.06 | 1–1 | |
| 8547.84 | A | 3 | 5.62 | 7.07 | 3–2 | |
| 8555.90 | A | 1 | 5.62 | 7.06 | 2–1 | |
| 8397.949 | P | | 5.62 | 7.09 | 2–3 | |
| 8514.599 | P | | 5.61 | 7.07 | 1–2 | |
| 8230.642 | A | 35 | 5.62 | 7.12 | 3–2 | $3p^3\ ^3D^\circ - 5p\ ^3P$ |
| 8306.710 | A | 25 | 5.62 | 7.11 | 2–1 | 19 |
| 8317.39 | A | 15 | 5.61 | 7.10 | 1–0 | |
| 8211.63 | A | 7 | 5.62 | 7.12 | 2–2 | |
| 8294.675 | A | 13 | 5.61 | 7.11 | 1–1 | |
| 8199.811 | P | | 5.61 | 7.12 | 1–2 | |
| 8162.170 | A | 15 | 5.62 | 7.13 | 2–1 | $3p^3\ ^3D^\circ - 5p\ ^3S$ |
| 8150.54 | A | 7 | 5.61 | 7.13 | 1–1 | 20 |
| 8013.042 | P | | 5.62 | 7.17 | 3–2 | $3p^3\ ^3D^\circ - 5p\ ^1D$ |
| 7994.959 | P | | 5.62 | 7.17 | 2–2 | 21 |
| 7983.823 | P | | 5.61 | 7.17 | 1–2 | |
| 7669.265 | P | | 5.61 | 7.23 | 1–0 | $3p^3\ ^3D^\circ - 5p\ ^1S$ 21.01 |
| 7431.505 | P | | 5.62 | 7.29 | 3–3 | $3p^3\ ^3D^\circ - 4f\,[2\frac{1}{2}]$ |
| 7430.906 | P | | 5.62 | 7.29 | 3–2 | 21.02 |
| 7415.946 | A | 275 | 5.62 | 7.29 | 2–3 | |
| 7415.35 | A | 40 | 5.62 | 7.29 | 2–2 | |
| 7405.774 | A | 375 | 5.61 | 7.29 | 1–2 | |
| 7423.497 | A | 425 | 5.62 | 7.29 | 3–4 | $3p^3\ ^3D^\circ - 4f\,[3\frac{1}{2}]$ |
| 7424.60 | A | 85 | 5.62 | 7.29 | 3–3 | 21.03 |
| 7409.082 | A | 200 | 5.62 | 7.29 | 2–3 | |
| 7289.173 | A | 400 | 5.62 | 7.32 | 3–4 | $3p^3\ ^3D^\circ - 4f'\,[3\frac{1}{2}]$ |
| 7290.26 | A | 55 | 5.62 | 7.32 | 3–3 | 21.04 |
| 7275.294 | A | 160 | 5.62 | 7.32 | 2–3 | |
| 7250.625 | A | 180 | 5.62 | 7.33 | 3–3 | $3p^3\ ^3D^\circ - 4f'\,[2\frac{1}{2}]$ |
| 7250.14 | A | 25 | 5.62 | 7.33 | 3–2 | 21.05 |
| 7235.82 | A | 60 | 5.62 | 7.33 | 2–3 | |
| 7235.326 | A | 100 | 5.62 | 7.33 | 2–2 | |
| 7226.206 | A | 100 | 5.61 | 7.33 | 1–2 | |
| 7208.21 | A | 25 | 5.62 | 7.34 | 3–2 | $3p^3\ ^3D^\circ - 4f'\,[1\frac{1}{2}]$ |
| 7193.58 | A | 65 | 5.62 | 7.34 | 2–2 | 21.06 |
| 7193.90 | A | 30 | 5.62 | 7.34 | 2–1 | |
| 7184.57 | A | 20 | 5.61 | 7.34 | 1–2 | |
| 7184.89 | A | 70 | 5.61 | 7.34 | 1–1 | |
| 6499.02 | P | | 5.62 | 7.53 | 3–3 | $3p^3\ ^3D^\circ - 6p\ ^3D$ |
| 6575.950 | P | | 5.62 | 7.50 | 2–2 | 21.07 |
| 6572.411 | P | | 5.61 | 7.50 | 1–1 | |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 6452.29 | A | 20 | 5.62 | 7.54 | 3–2 | $3p^3\ ^3D^\circ - 6p\ ^3P$ 21.08 |
| 6486.34 | A | 2 | 5.62 | 7.53 | 2–1 | |
| 6514.85 | A | 2 | 5.61 | 7.52 | 1–0 | |
| 6478.87 | A | 1*H* | 5.61 | 7.53 | 1–1 | |
| 6423.80 | A | 2 | 5.62 | 7.55 | 2–1 | $3p^3\ ^3D^\circ - 6p\ ^3S$ 21.09 |
| 6255.47 | A | 13 | 5.62 | 7.60 | 3–3 | $3p^3\ ^3D^\circ - 5f\ [2\frac{1}{2}]$ |
| 6255.139 | P | | 5.62 | 7.60 | 3–2 | 21.10 |
| 6244.468 | A | 125 | 5.62 | 7.60 | 2–3 | |
| 6244.114 | P | | 5.62 | 7.60 | 2–2 | |
| 6237.320 | A | 160 | 5.61 | 7.60 | 1–2 | |
| 6254.188 | A | 180 | 5.62 | 7.60 | 3–4 | $3p^3\ ^3D^\circ - 5f\ [3\frac{1}{2}]$ |
| 6254.85 | A | 20 | 5.62 | 7.60 | 3–3 | 21.11 |
| 6243.813 | A | 125 | 5.62 | 7.60 | 2–3 | |
| 6155.134 | A | 160 | 5.62 | 7.63 | 3–4 | $3p^3\ ^3D^\circ - 5f'\ [3\frac{1}{2}]$ |
| 6155.70 | A | 20 | 5.62 | 7.63 | 3–3 | 21.12 |
| 6145.015 | A | 100 | 5.62 | 7.63 | 2–3 | |
| 6142.487 | A | 100 | 5.62 | 7.64 | 3–3 | $3p^3\ ^3D^\circ - 5f'\ [2\frac{1}{2}]$ |
| 6142.204 | P | | 5.62 | 7.64 | 3–2 | 21.13 |
| 6131.850 | A | 90 | 5.62 | 7.64 | 2–3 | |
| 6131.574 | A | 85 | 5.62 | 7.64 | 2–2 | |
| 6125.021 | A | 90 | 5.61 | 7.64 | 1–2 | |
| 6123.494 | P | | 5.62 | 7.64 | 3–2 | $3p^3\ ^3D^\circ - 5f'\ [1\frac{1}{2}]$ |
| 6112.926 | A | 10 | 5.62 | 7.64 | 2–2 | 21.14 |
| 6113.15 | A | 4 | 5.62 | 7.64 | 2–1 | |
| 6106.605 | A | 15 | 5.61 | 7.64 | 1–1 | |
| 5813.20 | A | 3 | 5.62 | 7.75 | 3–2 | $3p^3\ ^3D^\circ - 7p\ ^3P$ 21.15 |
| 5747.667 | A | 45 | 5.61 | 7.77 | 1–2 | $3p^3\ ^3D^\circ - 6f\ [2\frac{1}{2}]$ 21.16 |
| 5762.977 | A | 45 | 5.62 | 7.77 | 3–4 | $3p^3\ ^3D^\circ - 6f\ [3\frac{1}{2}]$ |
| 5753.625 | A | 45 | 5.62 | 7.77 | 2–3 | 21.17 |
| 5675.418 | A | 20 | 5.62 | 7.80 | 3–4 | $3p^3\ ^3D^\circ - 6f'\ [3\frac{1}{2}]$ |
| 5675.73 | A | 5 | 5.62 | 7.80 | 3–3 | 21.18 |
| 5666.677 | A | 10 | 5.62 | 7.80 | 2–3 | |
| 5669.743 | A | 10 | 5.62 | 7.81 | 3–3 | $3p^3\ ^3D^\circ - 6f'\ [2\frac{1}{2}]$ |
| 5660.683 | A | 13 | 5.62 | 7.81 | 2–3 | 21.19 |
| 5660.502 | A | 10 | 5.62 | 7.81 | 2–2 | |
| 5654.924 | A | 15 | 5.61 | 7.81 | 1–2 | |
| 5421.168 | A | 10 | 5.62 | 7.91 | 3–4 | $3p^3\ ^3D^\circ - 7f'\ [3\frac{1}{2}]?$ 21.20 |
| 5409.766 | P | | 5.62 | 7.91 | 2–2 | $3p^3\ ^3D^\circ - 7f'\ [2\frac{1}{2}]?$ |
| 5404.665 | P | | 5.61 | 7.91 | 1–2 | 21.21 |
| 16380.12 | E | (8) | 5.86 | 6.62 | 1–1 | $4p\ ^1P - 3d\ ^1P^\circ$ 21.22 |
| 14444.77 | P | | 5.86 | 6.72 | 1–2 | $4p\ ^1P - 3d\ ^3D^\circ$ |
| 14486.27 | P | | 5.86 | 6.72 | 1–1 | 21.23 |
| 14221.36 | E | (2) | 5.86 | 6.73 | 1–1 | $4p\ ^1P - 5s\ ^3P^\circ$ |
| 14361.91 | P | | 5.86 | 6.73 | 1–0 | 21.24 |
| 13176.90 | E | (11) | 5.86 | 6.80 | 1–1 | $4p\ ^1P - 5s\ ^1P^\circ$ 21.25 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 10843.854 | A | 60 | 5.86 | 7.01 | 1–2 | $4p\ ^1P - 4d\ ^1D^\circ$ 31 |
| 10627.647 | A | 20 | 5.86 | 7.03 | 1–2 | $4p\ ^1P - 3p^3\ ^3P^\circ$ |
| 10617.10 | P | | 5.86 | 7.03 | 1–1 | 32 |
| 10579.87 | P | | 5.86 | 7.03 | 1–0 | |
| 9909.819 | P | | 5.86 | 7.11 | 1–2 | $4p\ ^1P - 4d\ ^3F^\circ$ 32.01 |
| 8680.079 | A | 11 | 5.86 | 7.29 | 1–1 | $4p\ ^1P - 4d\ ^1P^\circ$ 32.02 |
| 8509.65 | P | | 5.86 | 7.32 | 1–2 | $4p\ ^1P - 4d\ ^3D^\circ$ |
| 8492.078 | A | 15 | 5.86 | 7.32 | 1–1 | 32.03 |
| 8179.518 | P | | 5.86 | 7.38 | 1–2 | $4p\ ^1P - 6s\ ^3P^\circ$ |
| 8338.328 | A | 20 | 5.86 | 7.35 | 1–1 | 33 |
| 8374.98 | P | | 5.86 | 7.34 | 1–0 | |
| 8093.241 | A | 70 | 5.86 | 7.39 | 1–1 | $4p\ ^1P - 6s\ ^1P^\circ$ 34 |
| 7913.432 | A | 25 | 5.86 | 7.43 | 1–2 | $4p\ ^1P - 4d\ ^3P^\circ$ |
| 7855.523 | P | | 5.86 | 7.44 | 1–1 | 35 |
| 7835.79 | P | | 5.86 | 7.44 | 1–0 | |
| 7680.267 | A | 100 | 5.86 | 7.48 | 1–2 | $4p\ ^1P - 5d\ ^1D^\circ$ 36 |
| 7482.19 | A | 25 | 5.86 | 7.52 | 1–2 | $4p\ ^1P - 5d\ ^3F^\circ$ 36.01 |
| 7129.88 | P | | 5.86 | 7.60 | 1–1 | $4p\ ^1P - 5d\ ^1P^\circ$ 36.02 |
| 7058.31 | P | | 5.86 | 7.62 | 1–2 | $4p\ ^1P - 5d\ ^3D^\circ$ |
| 7026.62 | A | 25 | 5.86 | 7.63 | 1–1 | 36.03 |
| 6875.924 | P | | 5.86 | 7.66 | 1–2 | $4p\ ^1P - 7s\ ^3P^\circ$ |
| 6985.52 | P | | 5.86 | 7.64 | 1–1 | 36.04 |
| 7013.65 | P | | 5.86 | 7.63 | 1–0 | |
| 6867.22 | A | 20 | 5.86 | 7.67 | 1–2 | $4p\ ^1P - 5d\ ^3P^\circ$ 36.05 |
| 6848.568 | A | 30 | 5.86 | 7.67 | 1–1 | $4p\ ^1P - 7s\ ^1P^\circ$ 37 |
| 6721.853 | A | 100 | 5.86 | 7.71 | 1–2 | $4p\ ^1P - 6d\ ^1D^\circ$ 38 |
| 6635.65 | A | 25 | 5.86 | 7.73 | 1–2 | $4p\ ^1P - 6d\ ^3F^\circ$ 38.01 |
| 6437.79 | A | 8 | 5.86 | 7.79 | 1–1 | $4p\ ^1P - 8s\ ^3P^\circ$ 38.02 |
| 6279.35 | A | 15 | 5.86 | 7.84 | 1–2 | $4p\ ^1P - 7d\ ^1D^\circ$ 38.03 |
| 6220.21 | P | | 5.86 | 7.85 | 1–2 | $4p\ ^1P - 7d\ ^3F^\circ$ 38.04 |
| 10602.817 | P | | 5.87 | 7.04 | 2–1 | $3d\ ^1D^\circ - 5p\ ^1P$ 38.05 |
| 9569.93 | A | 6 | 5.87 | 7.17 | 2–2 | $3d\ ^1D^\circ - 5p\ ^1D$ 42 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 8752.009 | A | 100 | 5.87 | 7.29 | 2–3 | $3d\ ^1D^\circ - 4f\ [2\frac{1}{2}]$ |
| 8751.174 | A | 10 | 5.87 | 7.29 | 2–2 | 42.01 |
| 8742.451 | A | 75 | 5.87 | 7.29 | 2–3 | $3d\ ^1D^\circ - 4f\ [3\frac{1}{2}]$ 42.02 |
| 8556.780 | A | 120 | 5.87 | 7.32 | 2–3 | $3d\ ^1D^\circ - 4f'\ [3\frac{1}{2}]$ 42.03 |
| 8502.221 | A | 60 | 5.87 | 7.33 | 2–3 | $3d\ ^1D^\circ - 4f'\ [2\frac{1}{2}]$ |
| 8501.547 | A | 40 | 5.87 | 7.33 | 2–2 | 42.04 |
| 8443.982 | A | 40 | 5.87 | 7.34 | 2–2 | $3d\ ^1D^\circ - 4f'\ [1\frac{1}{2}]$ |
| 8444.40 | P | | 5.87 | 7.34 | 2–1 | 42.05 |
| 7672.648 | P | | 5.87 | 7.49 | 2–1 | $3d\ ^1D^\circ - 6p\ ^1P?$ 42.06 |
| 7345.218 | P | | 5.87 | 7.56 | 2–2 | $3d\ ^1D^\circ - 6p\ ^1D$ 42.07 |
| 7165.545 | A | 200 | 5.87 | 7.60 | 2–3 | $3d\ ^1D^\circ - 5f\ [2\frac{1}{2}]$ |
| 7165.082 | P | | 5.87 | 7.60 | 2–2 | 42.08 |
| 7164.69 | A | 70 | 5.87 | 7.60 | 2–3 | $3d\ ^1D^\circ - 5f\ [3\frac{1}{2}]$ 42.09 |
| 7034.903 | A | 250 | 5.87 | 7.63 | 2–3 | $3d\ ^1D^\circ - 5f'\ [3\frac{1}{2}]$ 42.10 |
| 7017.646 | A | 90 | 5.87 | 7.64 | 2–3 | $3d\ ^1D^\circ - 5f'\ [2\frac{1}{2}]$ |
| 7017.28 | A | 30 | 5.87 | 7.64 | 2–2 | 42.11 |
| 6992.88 | A | 15 | 5.87 | 7.64 | 2–2 | $3d\ ^1D^\circ - 5f'\ [1\frac{1}{2}]$ 42.12 |
| 6527.199 | A | 45 | 5.87 | 7.77 | 2–3 | $3d\ ^1D^\circ - 6f\ [2\frac{1}{2}]$ |
| 6526.391 | P | | 5.87 | 7.77 | 2–2 | 42.13 |
| 6526.609 | A | 45 | 5.87 | 7.77 | 2–3 | $3d\ ^1D^\circ - 6f\ [3\frac{1}{2}]$ 42.14 |
| 6414.97 | A | 25 | 5.87 | 7.80 | 2–3 | $3d\ ^1D^\circ - 6f'\ [3\frac{1}{2}]$ 42.15 |
| 6407.27 | A | 15 | 5.87 | 7.81 | 2–3 | $3d\ ^1D^\circ - 6f'\ [2\frac{1}{2}]$ |
| 6407.07 | P | | 5.87 | 7.81 | 2–2 | 42.16 |
| 6394.233 | P | 15 | 5.87 | 7.81 | 2–2? | $3d\ ^1D^\circ - 6f'\ [1\frac{1}{2}]$ |
| 6394.380 | P | | 5.87 | 7.81 | 2–1? | 42.17 |
| 6091.92 | A | 15 | 5.87 | 7.91 | 2–3 | $3d\ ^1D^\circ - 7f'\ [3\frac{1}{2}]?$ 42.18 |
| 6087.80 | A | 10 | 5.87 | 7.91 | 2–3 | $3d\ ^1D^\circ - 7f'\ [2\frac{1}{2}]?$ 42.19 |
| 16680.77 | E | (29) | 5.98 | 6.73 | 3–3 | $4p\ ^3D - 3d\ ^3D^\circ$ |
| 16381.55 | E | (16) | 5.96 | 6.72 | 2–2 | 42.20 |
| 16215.68 | E | (11) | 5.95 | 6.72 | 1–1 | |
| 16828.18 | E | (3) | 5.98 | 6.72 | 3–2 | |
| 16434.98 | E | (1) | 5.96 | 6.72 | 2–1 | |
| 16241.84 | E | (7) | 5.96 | 6.73 | 2–3 | |
| 16163.71 | E | (6) | 5.95 | 6.72 | 1–2 | |
| 15960.04 | E | (40) | 5.98 | 6.76 | 3–2 | $4p\ ^3D - 5s\ ^3P^\circ$ |
| 16094.80 | E | (20) | 5.96 | 6.73 | 2–1 | 42.21 |
| 16060.03 | E | (10) | 5.95 | 6.73 | 1–0 | |
| 15557.81 | E | (7) | 5.96 | 6.76 | 2–2 | |
| 15884.41 | E | (5) | 5.95 | 6.73 | 1–1 | |
| 15361.16 | P | | 5.96 | 6.73 | 1–2 | |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 10727.408 | A | 30 | 5.98 | 7.14 | 3–4 | $4p\ ^3D - 4d\ ^3F^\circ$ |
| 10694.251 | A | 30 | 5.96 | 7.12 | 2–3 | 53 |
| 10689.719 | A | 25 | 5.95 | 7.11 | 1–2 | |
| 10882.802 | A | 30 | 5.98 | 7.12 | 3–3 | |
| 10784.560 | A | 30 | 5.96 | 7.11 | 2–2 | |
| 10976.346 | P | | 5.98 | 7.11 | 3–2 | |
| 8892.728 | A | 20 | 5.98 | 7.38 | 3–2 | $4p\ ^3D - 6s\ ^3P^\circ$ |
| 8949.10 | A | 10 | 5.96 | 7.35 | 2–1 | 54 |
| 8925.30 | A | 10 | 5.95 | 7.34 | 1–0 | |
| 8766.422 | A | 14 | 5.96 | 7.38 | 2–2 | |
| 8883.68 | A | 4 | 5.95 | 7.35 | 1–1 | |
| 8703.644 | P | | 5.95 | 7.38 | 1–2 | |
| 8667.373 | A | 7 | 5.96 | 7.39 | 2–1 | $4p\ ^3D - 6s\ ^1P^\circ$ |
| 8606.014 | A | 8 | 5.95 | 7.39 | 1–1 | 55 |
| 8579.09 | A | 6 | 5.98 | 7.43 | 3–2 | $4p\ ^3D - 4d\ ^3P^\circ$ |
| 8395.24 | A | 5 | 5.96 | 7.44 | 2–1 | 56 |
| 8461.48 | A | 6 | 5.96 | 7.43 | 2–2 | |
| 8195.44 | A | 2 | 5.96 | 7.48 | 2–2 | $4p\ ^3D - 5d\ ^1D^\circ$ |
| 8140.55 | A | 15 | 5.95 | 7.48 | 1–2 | 56.01 |
| 7944.001 | A | 140 | 5.98 | 7.54 | 3–4 | $4p\ ^3D - 5d\ ^3F^\circ$ |
| 7932.349 | A | 120 | 5.96 | 7.53 | 2–3 | 57 |
| 7918.386 | A | 90 | 5.95 | 7.52 | 1–2 | |
| 8035.619 | A | 35 | 5.98 | 7.53 | 3–3 | |
| 7970.306 | A | 35 | 5.96 | 7.52 | 2–2 | |
| 8074.574 | P | | 5.98 | 7.52 | 3–2 | |
| 7597.30 | A | 5 | 5.98 | 7.62 | 3–3 | $4p\ ^3D - 5d\ ^1F^\circ$ |
| 7504.93 | P | | 5.96 | 7.62 | 2–3 | 57.01 |
| 7510.785 | P | | 5.98 | 7.63 | 3–3 | $4p\ ^3D - 5d\ ^3D^\circ$ |
| 7491.08 | P | | 5.96 | 7.62 | 2–2 | 57.02 |
| 7409.92 | P | | 5.95 | 7.63 | 1–1 | |
| 7583.11 | P | | 5.98 | 7.62 | 3–2 | |
| 7455.36 | A | 25 | 5.96 | 7.63 | 2–1 | |
| 7420.489 | P | | 5.96 | 7.63 | 2–3 | |
| 7445.19 | P | | 5.95 | 7.62 | 1–2 | |
| 7373.00 | A | 35 | 5.98 | 7.66 | 3–2 | $4p\ ^3D - 7s\ ^3P^\circ$ |
| 7409.15 | P | | 5.96 | 7.64 | 2–1 | 58 |
| 7395.52 | A | 15 | 5.95 | 7.63 | 1–0 | |
| 7362.88 | A | 1 | 5.98 | 7.67 | 3–2 | $4p\ ^3D - 5d\ ^3P^\circ$ 58.01 |
| 7255.27 | P | | 5.96 | 7.67 | 2–1 | $4p\ ^3D - 7s\ ^1P^\circ$ 59 |
| 7005.883 | A | 180 | 5.98 | 7.75 | 3–4 | $4p\ ^3D - 6d\ ^3F^\circ$ |
| 7003.566 | A | 180 | 5.96 | 7.73 | 2–3 | 60 |
| 6976.523 | A | 80 | 5.95 | 7.73 | 1–2 | |
| 7083.95 | A | 5 | 5.98 | 7.73 | 3–3 | |
| 7016.74 | A | 10 | 5.96 | 7.73 | 2–2 | |
| 7097.47 | P | | 5.98 | 7.73 | 3–2 | |
| 6876.40 | A | 5*H* | 5.98 | 7.79 | 3–3 | $4p\ ^3D - 6d\ ^1F^\circ$ |
| 6800.63 | A | 1 | 5.96 | 7.79 | 2–3 | 60.01 |
| 6741.64 | A | 30 | 5.98 | 7.82 | 3–2 | $4p\ ^3D - 8s\ ^3P^\circ$ |
| 6668.79 | P | | 5.96 | 7.82 | 2–2 | 60.02 |
| 6813.89 | P | | 5.98 | 7.80 | 3–3 | $4p\ ^3D - 6d\ ^3D^\circ$ |
| 6767.62 | P | | 5.96 | 7.80 | 2–2 | 60.03 |
| 6706.98 | P | | 5.95 | 7.80 | 1–1 | |
| 6842.65 | P | | 5.98 | 7.80 | 3–2 | |
| 6739.49 | P | | 5.96 | 7.80 | 2–3 | |
| 6652.33 | P | | 5.96 | 7.83 | 2–1 | $4p\ ^3D - 8s\ ^1P^\circ$ |
| 6616.12 | P | | 5.95 | 7.83 | 1–1 | 60.04 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 6691.32 | P | | 5.98 | 7.84 | 3–2 | $4p\ ^3D - 7d\ ^1D°$ |
| 6619.56 | P | | 5.96 | 7.84 | 2–2 | 60.05 |
| 6583.71 | A | 15 | 5.95 | 7.84 | 1–2 | |
| 6555.462 | A | 45 | 5.98 | 7.87 | 3–4 | $4p\ ^3D - 7d\ ^3F°$ |
| 6560.556 | A | 25 | 5.96 | 7.85 | 2–3 | 60.06 |
| 6518.73 | A | 20 | 5.95 | 7.85 | 1–2 | |
| 6631.05 | P | | 5.98 | 7.85 | 3–3 | |
| 6299.60 | A | 5 | 5.98 | 7.95 | 3–4 | $4p\ ^3D - 8d\ ^3F°$? 60.07 |
| 19722.50 | E | (110) | 6.10 | 6.73 | 2–3 | $4p\ ^3P - 3d\ ^3D°$ |
| 19432.97 | E | (48) | 6.08 | 6.72 | 1–2 | 60.08 |
| 19385.94 | E | (15) | 6.08 | 6.72 | 0–1 | |
| 19928.88 | E | (31) | 6.10 | 6.72 | 2–2 | |
| 19508.13 | E | (14) | 6.08 | 6.72 | 1–1 | |
| 20007.97 | E | (3) | 6.10 | 6.72 | 2–1 | |
| 18722.90 | E | (26) | 6.10 | 6.76 | 2–2 | $4p\ ^3P - 5s\ ^3P°$ |
| 19030.79 | E | (5) | 6.08 | 6.73 | 1–1 | 60.09 |
| 19506.12 | E | (5) | 6.10 | 6.73 | 2–1 | |
| 19283.29 | E | (8) | 6.08 | 6.73 | 1–0 | |
| 18284.51 | E | (3) | 6.08 | 6.76 | 1–2 | |
| 18914.48 | E | (8) | 6.08 | 6.73 | 0–1 | |
| 13667.35 | E | (3) | 6.10 | 7.01 | 2–2 | $4p\ ^3P - 4d\ ^1D°$ |
| 13432.23 | P | | 6.08 | 7.01 | 1–2 | 60.10 |
| 13325.67 | E | (3) | 6.10 | 7.03 | 2–2 | $4p\ ^3P - 3p^3\ ^3P°$ |
| 13086.03 | P | | 6.08 | 7.03 | 1–1 | 60.11 |
| 13309.04 | E | (5) | 6.10 | 7.03 | 2–1 | |
| 13029.52 | P | | 6.08 | 7.03 | 1–0 | |
| 13102.05 | E | (3) | 6.08 | 7.03 | 1–2 | |
| 13030.92 | P | | 6.08 | 7.03 | 0–1 | |
| 10068.22 | A | 2 | 6.10 | 7.33 | 2–3 | $4p\ ^3P - 4d\ ^3D°$ |
| 10025.81 | A | 2 | 6.08 | 7.32 | 1–2 | 60.12 |
| 9969.05 | A | 2 | 6.08 | 7.32 | 0–1 | |
| 10155.83 | A | 5 | 6.10 | 7.32 | 2–2 | |
| 9689.39 | A | 10 | 6.10 | 7.38 | 2–2 | $4p\ ^3P - 6s\ ^3P°$ |
| 9788.80 | A | 6 | 6.08 | 7.35 | 1–1 | 65 |
| 9912.96 | A | 2 | 6.10 | 7.35 | 2–1 | |
| 9839.36 | A | 6 | 6.08 | 7.34 | 1–0 | |
| 9570.65 | A | 8 | 6.08 | 7.38 | 1–2 | |
| 9757.95 | A | 2 | 6.08 | 7.35 | 0–1 | |
| 9318.22 | A | 10 | 6.10 | 7.43 | 2–2 | $4p\ ^3P - 4d\ ^3P°$ |
| 9130.03 | P | | 6.08 | 7.44 | 1–1 | 66 |
| 9238.04 | A | 6 | 6.10 | 7.44 | 2–1 | |
| 9208.35 | A | 15 | 6.08 | 7.43 | 1–2 | |
| 9103.18 | A | 7 | 6.08 | 7.44 | 0–1 | |
| 8171.288 | A | 25 | 6.10 | 7.62 | 2–3 | $4p\ ^3P - 5d\ ^1F°$ 66.01 |
| 8071.285 | A | 25 | 6.10 | 7.63 | 2–3 | $4p\ ^3P - 5d\ ^3D°$ |
| 8070.598 | A | 25 | 6.08 | 7.62 | 1–2 | 66.02 |
| 8008.37 | A | 2 | 6.08 | 7.63 | 0–1 | |
| 8154.872 | A | 15 | 6.10 | 7.62 | 2–2 | |
| 8029.17 | P | | 6.08 | 7.63 | 1–1 | |
| 8112.58 | P | | 6.10 | 7.63 | 2–1 | |
| 7912.383 | A | 20 | 6.10 | 7.66 | 2–2 | $4p\ ^3P - 7s\ ^3P°$ |
| 7975.579 | A | 13 | 6.08 | 7.64 | 1–1 | 68 |
| 8057.87 | P | | 6.10 | 7.64 | 2–1 | |
| 8012.25 | P | | 6.08 | 7.63 | 1–0 | |
| 7833.025 | P | | 6.08 | 7.66 | 1–2 | |
| 7955.07 | P | | 6.08 | 7.64 | 0–1 | |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 7821.82 | A | 4 | 6.08 | 7.67 | 1–2 | $4p\ ^3P - 5d\ ^3P°$ 68.01 |
| 7777.96 | P | | 6.08 | 7.67 | 0–1 | $4p\ ^3P - 7s\ ^1P°$ 68.02 |
| 7343.27 | A | 1 | 6.10 | 7.79 | 2–3 | $4p\ ^3P - 6d\ ^1F°$? 68.03 |
| 6917.13 | A | 1 | 6.10 | 7.89 | 2–3 | $4p\ ^3P - 7d\ ^1F°$ 68.04 |
| 20804.13 | E | (4) | 6.12 | 6.72 | 1–2 | $4p\ ^3S - 3d\ ^3D°$ 68.05 |
| 19493.38 | E | (13) | 6.12 | 6.76 | 1–2 | $4p\ ^3S - 5s\ ^3P°$ |
| 20343.87 | E | (4) | 6.12 | 6.73 | 1–1 | 68.06 |
| 14073.39 | E | (3) | 6.12 | 7.01 | 1–2 | $4p\ ^3S - 4d\ ^1D°$ 68.07 |
| 13711.36 | E | (5) | 6.12 | 7.03 | 1–2 | $4p\ ^3S - 3p^3\ ^3P°$ |
| 13693.85 | | (8) | 6.12 | 7.03 | 1–1 | 68.08 |
| 13631.94 | E | (4) | 6.12 | 7.03 | 1–0 | |
| 9891.72 | A | 10 | 6.12 | 7.38 | 1–2 | $4p\ ^3S - 6s\ ^3P°$ |
| 10124.930 | P | | 6.12 | 7.35 | 1–1 | 71 |
| 9505.19 | A | 20 | 6.12 | 7.43 | 1–2 | $4p\ ^3S - 4d\ ^3P°$ |
| 9421.78 | A | 15 | 6.12 | 7.44 | 1–1 | 72 |
| 8297.71 | A | 2 | 6.12 | 7.62 | 1–2 | $4p\ ^3S - 5d\ ^3D°$ 72.01 |
| 8046.803 | P | | 6.12 | 7.66 | 1–2 | $4p\ ^3S - 7s\ ^3P°$ 73 |
| 8009.38 | P | | 6.12 | 7.67 | 1–1 | $4p\ ^3S - 7s\ ^1P°$ 74 |
| 11308.5 | A | 2 | 6.19 | 7.29 | 3–3 | $3d\ ^3F° - 4f\ [2\frac{1}{2}]$ |
| 11306.98 | P | | 6.19 | 7.29 | 3–2 | 74.01 |
| 11201.88 | A | 4 | 6.18 | 7.29 | 2–2 | |
| 11446.27 | P | | 6.21 | 7.29 | 4–4 | $3d\ ^3F° - 4f\ [3\frac{1}{2}]$ |
| 11448.92 | P | | 6.21 | 7.29 | 4–3 | 74.02 |
| 11289.83 | A | 15 | 6.19 | 7.29 | 3–4 | |
| 11292.40 | P | | 6.19 | 7.29 | 3–3 | |
| 11187.588 | A | 16 | 6.18 | 7.29 | 2–3 | |
| 11130.03 | A | 12 | 6.21 | 7.32 | 4–4 | $3d\ ^3F° - 4f'\ [3\frac{1}{2}]$ |
| 11132.57 | P | | 6.21 | 7.32 | 4–3 | 74.03 |
| 10982.061 | A | 30 | 6.19 | 7.32 | 3–4 | |
| 10984.527 | A | 20 | 6.19 | 7.32 | 3–3 | |
| 10885.336 | A | 30 | 6.18 | 7.32 | 2–3 | |
| 10976.06 | A | 7 | 6.18 | 7.33 | 2–2 | $3d\ ^3F° - 4f'\ [2\frac{1}{2}]$ 74.04 |
| 11017.965 | A | 80 | 6.21 | 7.33 | 4–5 | $3d\ ^3F° - 4f'\ [4\frac{1}{2}]$ |
| 11013.69 | A | 5 | 6.21 | 7.33 | 4–4 | 74.05 |
| 10868.79 | A | 30 | 6.19 | 7.33 | 3–4 | |
| 9387.33 | A | 10 | 6.21 | 7.53 | 4–3 | $3d\ ^3F° - 6p\ ^3D$ |
| 9464.78 | A | 4 | 6.19 | 7.50 | 3–2 | 74.06 |
| 9399.211 | P | | 6.18 | 7.50 | 2–1 | |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 8887.57 | P | | 6.21 | 7.60 | 4–3 | $3d\,^3F^\circ - 5f\,[2\frac{1}{2}]$ |
| 8792.957 | A | 5 | 6.19 | 7.60 | 3–3 | 74.07 |
| 8729.282 | P | | 6.18 | 7.60 | 2–3 | |
| 8728.595 | P | | 6.18 | 7.60 | 2–2 | |
| 8884.94 | P | | 6.21 | 7.60 | 4–4 | $3d\,^3F^\circ - 5f\,[3\frac{1}{2}]$ |
| 8790.389 | A | 35 | 6.19 | 7.60 | 3–4 | 74.08 |
| 8791.675 | P | | 6.19 | 7.60 | 3–3 | |
| 8728.011 | A | 40 | 6.18 | 7.60 | 2–3 | |
| 8686.35 | P | | 6.21 | 7.63 | 4–4 | $3d\,^3F^\circ - 5f'\,[3\frac{1}{2}]$ |
| 8687.46 | P | | 6.21 | 7.63 | 4–3 | 74.09 |
| 8595.962 | A | 25 | 6.19 | 7.63 | 3–4 | |
| 8597.047 | A | 20 | 6.19 | 7.63 | 3–3 | |
| 8536.164 | A | 40 | 6.18 | 7.63 | 2–3 | |
| 8571.307 | P | | 6.19 | 7.64 | 3–3 | $3d\,^3F^\circ - 5f'\,[2\frac{1}{2}]$ |
| 8510.24 | A | 8 | 6.18 | 7.64 | 2–2 | 74.10 |
| 8648.462 | A | 50 | 6.21 | 7.64 | 4–5 | $3d\,^3F^\circ - 5f'\,[4\frac{1}{2}]$ |
| 8646.36 | A | 6 | 6.21 | 7.64 | 4–4? | 74.11 |
| 7850.802 | P | | 6.19 | 7.77 | 3–3 | $3d\,^3F^\circ - 6f\,[2\frac{1}{2}]$ |
| 7800.008 | A | 30 | 6.18 | 7.77 | 2–3 | 74.12 |
| 7925.28 | P | | 6.21 | 7.77 | 4–4 | $3d\,^3F^\circ - 6f\,[3\frac{1}{2}]$ |
| 7849.967 | A | 30 | 6.19 | 7.77 | 3–4 | 74.13 |
| 7760.63 | P | | 6.21 | 7.80 | 4–4 | $3d\,^3F^\circ - 6f'\,[3\frac{1}{2}]$ |
| 7688.40 | P | | 6.19 | 7.80 | 3–4 | 74.14 |
| 7689.02 | P | | 6.19 | 7.80 | 3–3 | |
| 7640.31 | A | 20 | 6.18 | 7.80 | 2–3 | |
| 7742.71 | A | 40 | 6.21 | 7.81 | 4–5 | $3d\,^3F^\circ - 6f'\,[4\frac{1}{2}]$ |
| 7669.71 | A | 5 | 6.19 | 7.81 | 3–4? | 74.15 |
| 7282.81 | A | 40 | 6.21 | 7.91 | 4–5 | $3d\,^3F^\circ - 7f'\,[4\frac{1}{2}]$ 74.16 |
| 21354.24 | E | (21) | 6.22 | 6.80 | 2–1 | $4p\,^1D - 5s\,^1P^\circ$ 74.17 |
| 15833.58 | E | (7) | 6.22 | 7.01 | 2–2 | $4p\,^1D - 4d\,^1D^\circ$ 74.18 |
| 15376.88 | E | (4) | 6.22 | 7.03 | 2–2 | $4p\,^1D - 3p^3\,^3P^\circ$ 74.19 |
| 11485.83 | E | (5) | 6.22 | 7.30 | 2–3 | $4p\,^1D - 4d\,^1F^\circ$ 83 |
| 11196.80 | A | 2 | 6.22 | 7.33 | 2–3 | $4p\,^1D - 4d\,^3D^\circ$ 83.01 |
| 10582.14 | A | 2 | 6.22 | 7.39 | 2–1 | $4p\,^1D - 6s\,^1P^\circ$ 84 |
| 9887.06 | A | 10 | 6.22 | 7.48 | 2–2 | $4p\,^1D - 5d\,^1D^\circ$ 85 |
| 8899.23 | A | 2 | 6.22 | 7.62 | 2–3 | $4p\,^1D - 5d\,^1F^\circ$ 86 |
| 8780.747 | A | 11 | 6.22 | 7.63 | 2–3 | $4p\,^1D - 5d\,^3D^\circ$ 86.01 |
| 8593.02 | P | | 6.22 | 7.66 | 2–2 | $4p\,^1D - 7s\,^3P^\circ$ 86.02 |
| 8764.88 | P | | 6.22 | 7.64 | 2–1 | |
| 8550.35 | P | | 6.22 | 7.67 | 2–1 | $4p\,^1D - 7s\,^1P^\circ$ 88 |

## Si I—Continued

| I A | Ref | Int | E P Low | E P High | J | Multiplet No. |
|---|---|---|---|---|---|---|
| Air | | | | | | |
| 7925.850 | A | 15 | 6.22 | 7.79 | 2–3 | $4p\,^1D - 6d\,^1F^\circ$ 93 |
| 12082.01 | E | (4) | 6.26 | 7.29 | 2–3 | $3d\,^3P^\circ - 4f\,[2\frac{1}{2}]$ 94 |
| 11611.09 | E | (12) | 6.26 | 7.33 | 2–3 | $3d\,^3P^\circ - 4f'\,[2\frac{1}{2}]$ |
| 11609.72 | E | (1) | 6.26 | 7.33 | 2–2 | 95 |
| 11700.24 | E | (3) | 6.27 | 7.33 | 1–2 | |
| 11502.84 | A | 4 | 6.26 | 7.34 | 2–2 | $3d\,^3P^\circ - 4f'\,[1\frac{1}{2}]$ |
| 11591.52 | E | (5) | 6.27 | 7.34 | 1–2 | 96 |
| 11592.38 | E | (3) | 6.27 | 7.34 | 1–1 | |
| 11640.96 | E | (4) | 6.27 | 7.34 | 0–1 | |
| 9253.67 | A | 15 | 6.26 | 7.60 | 2–3 | $3d\,^3P^\circ - 5f\,[2\frac{1}{2}]$ |
| 9310.26 | A | 4 | 6.27 | 7.60 | 1–2 | 97 |
| 9008.51 | A | 15 | 6.26 | 7.64 | 2–3 | $3d\,^3P^\circ - 5f'\,[2\frac{1}{2}]$ 98 |
| 9021.58 | A | 10 | 6.27 | 7.64 | 1–2 | $3d\,^3P^\circ - 5f'\,[1\frac{1}{2}]$ |
| 9021.99 | A | 8 | 6.27 | 7.64 | 1–1 | 99 |
| 8215.15 | A | 10 | 6.26 | 7.77 | 2–3 | $3d\,^3P^\circ - 6f\,[3\frac{1}{2}]$ 100 |
| 8026.950 | A | 25 | 6.26 | 7.81 | 2–3 | $3d\,^3P^\circ - 6f'\,[2\frac{1}{2}]$ 101 |
| 10098.55 | A | 1 | 6.40 | 7.63 | 0–1 | $4p\,^1S - 5d\,^3D^\circ$ 102 |
| 18422.72 | E | (7) | 6.62 | 7.29 | 3–4 | $3d\,^1F^\circ - 4f\,[3\frac{1}{2}]$ 103 |
| 17617.00 | E | (3) | 6.62 | 7.32 | 3–4 | $3d\,^1F^\circ - 4f'\,[3\frac{1}{2}]$ 104 |
| 17327.29 | E | (28) | 6.62 | 7.33 | 3–4 | $3d\,^1F^\circ - 4f'\,[4\frac{1}{2}]$ 105 |
| 20301.83 | E | (1) | 6.62 | 7.23 | 1–0 | $3d\,^1P^\circ - 5p\,^1S$ 106 |
| 18554.45 | E | (2) | 6.62 | 7.29 | 1–2 | $3d\,^1P^\circ - 4f\,[2\frac{1}{2}]$ 107 |
| 17466.92 | E | (4) | 6.62 | 7.33 | 1–2 | $3d\,^1P^\circ - 4f'\,[2\frac{1}{2}]$ 108 |
| 17225.64 | E | (4) | 6.62 | 7.34 | 1–2 | $3d\,^1P^\circ - 4f'\,[1\frac{1}{2}]$ 109 |
| 21879.35 | E | (8) | 6.72 | 7.29 | 2–3 | $3d\,^3D^\circ - 4f\,[2\frac{1}{2}]$ |
| 21779.77 | E | (9) | 6.72 | 7.29 | 1–2 | 110 |
| 22062.71 | E | (12) | 6.73 | 7.29 | 3–4 | $3d\,^3D^\circ - 4f\,[3\frac{1}{2}]$ |
| 21819.69 | E | (5) | 6.72 | 7.29 | 2–3 | 111 |
| 20917.13 | E | (12) | 6.73 | 7.32 | 3–4 | $3d\,^3D^\circ - 4f'\,[3\frac{1}{2}]$ |
| 20698.56 | E | (4) | 6.72 | 7.32 | 2–3 | 112 |
| 20602.86 | E | (4) | 6.73 | 7.33 | 3–3 | $3d\,^3D^\circ - 4f'\,[2\frac{1}{2}]$ |
| 20382.43 | E | (1) | 6.72 | 7.33 | 2–3 | 113 |
| 20378.38 | E | (2) | 6.72 | 7.33 | 2–2 | |
| 20296.36 | E | (2) | 6.72 | 7.33 | 1–2 | |

**Si I—Continued**

| I A | Ref | Int |
|---|---|---|
| Air | | |
| 10414.70 | A | 10 |
| 9576.45 | A | 4 |
| 7490.87 | A | 5 |
| 6394.67 | A | 15 |
| 5421.61 | A | 10*H* |
| 4922.77 | A | 7 |
| 4806.03 | A | 5 |
| 4764.92 | A | 5 |
| 4671.22 | A | 4 |
| 4669.83 | A | 4 |
| 4658.82 | A | 5 |
| 4639.335 | A | 6 |
| 4638.17 | A | 15 |
| 4621.50 | A | 4 |
| 4603.31 | A | 3 |

**Si I—Continued**

| I A | Ref | Int |
|---|---|---|
| 4587.23 | A | 12 |
| 4585.73 | A | 5 |
| 4574.01 | A | 7 |
| 4573.66 | A | 7 |
| 4556.44 | A | 7 |
| 4528.07 | A | 5 |
| 4516.08 | A | 4 |
| 2166.599 | A | 3 |
| 2158.526 | A | 5*h* |
| Vac | | |
| 1752.634 | B | 3 |
| 1597.736 | B | 20 |
| 1571.796 | B | 6 |
| 1545.095 | C | (1*r*) |

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[2] Located at Boulder, Colorado, 80302.

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