ISSN 0915-6364

NATIONAL INSTITUTE FOR FUSION SCIENCE

Dielectronic Recombination Rate Coefficients to Excited States of Be-like Oxygen

I. Murakami, U. I. Safronova and T. Kato

(Received - Mar. 23, 2001)

NIFS-DATA-66

May 2001

RESEARCH REPORT
NIFS-DATA Series

TOKI, JAPAN

Dielectronic Recombination Rate Coefficients to Excited States of Be-like Oxygen

Izumi Murakami[1], Ulyana I. Safronova[1,2], and Takako Kato[1]
[1]National Institute for Fusion Science, Toki, Gifu 509-5292, Japan
[2]Notre Dame University, Notre Dame, IN 46556, USA

Abstract

We have calculated energy levels, radiative transition probabilities, and autoionization rates for Be-like oxygen (O^{4+}) including $1s^2 2lnl'$ ($n = 2-8$, $l \leq n-1$) and $1s^2 3l'nl$ ($n = 3-6$, $l \leq n-1$) states by multi-configurational Hartree-Fock method (Cowan code) and perturbation theory Z-expansion method (MZ code).

The state selective dielectronic recombination rate coefficients to excited states of Be-like O ions are obtained. Configuration mixing plays an important role for the principal quantum number n distribution of the dielectronic recombination rate coefficients for $2snl$ ($n \leq 5$) levels at low electron temperature. The orbital angular momentum quantum number l distribution of the rate coefficients shows a peak at $l = 4$. The total dielectronic recombination rate coefficient is derived as a function of electron temperature.

Keywords: Be-like oxygen, dielectronic recombination rate coefficients, state selective rate coefficients, satellite lines

I. INTRODUCTION

Spectral lines of Be-like oxygen ion are observed in laboratory plasmas and are often used for diagnostics of plasmas. Observation and modeling of line intensity ratios of OV multiplet lines for 2s3s $^3S_1$-2s3p ^3P_J transitions was presented by Kato *et al.* (1996) [1]. For the analysis of the spectra and various other applications, many atomic quantities are required. Kato, Lang, and Berrington [2] evaluated electron impact excitation rate coefficients of Be-like oxygen and constructed a model for OV line intensities. *Ab initio* close-coupling calculations using R-matrix method were performed by Nahar [3] to obtain the photoionization cross section, oscillator strengths and energy levels for oxygen ions. The measurements of polarization of the emission line corresponding to the $1s^2 2s6h - 1s^2 2s7i$ transition of OV produced by the double electron transfer were reported recently by Kano *et al.* [4]. Using high resolution electron spectroscopy, energy levels and lifetime of many Be-like singlet states of the $1s^2 3lnl'$ Rydberg series (n=3 to 5) of oxygen have been measured by Bordenave-Montesquieu *et al.* [5]. Spectra of multiply charged oxygen ions were studied in the region between 1800 and 6000 Å by beam foil method in recent published paper [6].

High temperature plasma experiments have been performed in the LHD (Large Helical Device) of National Institute for Fusion Science and OV resonance line (630 Å) is measured routinely with a monochromator. Other OV lines are also observed by UV spectroscopy. Although oxygen is not main impurity element in the LHD after mounting the Carbon tiles and the Ti-gettering [7], spectral lines of oxygen ions are strong. Plasmas in the LHD are likely to show recombining plasma phase when disappearing.

In order to construct a more reliable model for spectral line intensities both in ionizing and recombining plasmas, we need state-selective recombination rate coefficients for transitions between excited states. The model in Refs. [2] and [1] did not take into account recombining processes. Dielectronic recombination (DR) rate coefficient from Li-like O ions to Be-like O ions has been studied in Refs. [8–11] but the state selective rate coefficients were not published.

Here in this paper we calculate energy levels, transition probabilities, and autoionization rates for excited states of Be-like O, using Cowan's code in section II, and obtain the state selective recombination rate coefficients (§IV). Dielectronic satellite lines are also calculated (§III).

II. ENERGY LEVELS, TRANSITION PROBABILITIES, AND AUTOIONIZATION RATE

Recently, the status and perspectives of calculations and measurements of transition data in the Be isoelectronic sequence were presented in Ref. [12]. Transition energies and rates between the $2s^2\ ^1S_0$, $2s2p\ ^3P_{0,1,2}$, and $2s2p\ ^1P_1$ levels in Be-like ions with Z=7-28, 30, 36, 42 were calculated in the valence and core-valence limit using the multi-configuration Dirac-Fock method in [12]. Relativistic many-body perturbation theory method (MBPT) was used to calculate transition energies, oscillator strengths and radiative rates between the $2s^2\ ^1S_0$, $2s2p\ ^{1,3}P_J$, $2p^2\ ^{2S+1}L_J$, $2l3l'\ ^{2S+1}L_J$ levels in Be-like ions with Z=6-100 in Refs. [13–16].

We have carried out detailed calculations of the radiative and autoionization rates for $2snl$, $2pnl$ levels with $n = 2 - 8$, $l \leq (n-1)$ and $3snl$, $3pnl$, $3dnl$ levels with $n = 3 - 6$, $l \leq (n-1)$. The atomic energy levels and bound-state wave functions were obtained by

using the atomic structure code of Cowan [17]. The perturbation theory method (MZ code) was also used for calculating energy and radiative transition probabilities. This method was described in detail in Refs. [18], [19]. The results of our calculations are given in Tables I-VIII.

In Table I, we give energies and sum of weighted radiative transition probabilities for the 2snl ($n \leq 8$) and 2pnl ($n \leq 5$) levels of Be-like O below the first threshold (I=918,702 cm^{-1}). Theoretical results for energies obtained from the two codes, Cowan (column 3) and MZ (column 4) are compared with the data from the compilation in recommended NIST data (column 5) [20]. We can see that the perturbation theory method (MZ code) agrees better with [20] than the scaled multi-configuration Hartree-Fock method (Cowan code). The sixth column in Table I lists the Hartree-Fock transition probabilities summed over all the lower levels and multiplied by the statistical weight (g) of the upper level ($g(i)\sum_{j<i} A_r(i,j)$).

Table II lists the level energy E, sum of weighted radiative transition probabilities $g(i)\sum_{j<i} A_r(i,j)(\sec^{-1})$, autoionization rate A_a to $1s^2 2s\ ^2S$, and sum of all possible autoionization rates $\sum A_a$ for $1s^2 2pnl$(LSJ) states ($n = 6-8$) and $1s^2 3lnl'$(LSJ) states ($n = 3-6$) which are autoionizing states above the $1s^2 2s\ ^2S_{1/2}$ threshold. The autoionization rates are calculated with the Cowan code. $1s^2 3lnl'$(LSJ) states have several possible channels for autoionization, i.e. to $1s^2 2s$, $1s^2 2p$, $1s^2 3s$ (for 3pnl and 3dnl), and $1s^2 3p$ (for 3dnl). It should be noted that some levels with large total radiative transition probability ($\sum gA_r > 10^9 s^{-1}$ for $1s^2 2pnl$ and $\sum gA_r > 10^{10} s^{-1}$ for $1s^2 3lnl'$) were chosen for illustration among almost 1000 levels considered in this paper .

Table III lists wavelengths and weighted radiative transition probabilities for $2l_1nl_2 - 2ln'l'$ transitions under the threshold in Be-like oxygen for selected transitions with $gA_r \geq 10^8 s^{-1}$. In Table IV we compare wavelengths and weighted radiative transition probabilities obtained from Cowan's code with recommended NIST data [20] for some transitions. We find good agreements for radiative transition probabilities of dipole transitions. In the table, there are some non allowed transitions which have large transition probabilities. For example, $2p^2\ ^1D$ - 2s4f ^1F and $2p^2\ ^1D$ - 2s6f ^1F have gA_r larger than $10^{10} s^{-1}$. This is caused by configuration mixing of 2s4f and 2p3d states, and 2s6f and 2p4d states. Table V shows the mixing coefficients for these states. The large interaction of these configurations can be explained by the energy level distribution. The energy levels of 2snl and 2pnl configurations are very close to each other, as seen in Table I. It should be noted that the effect of configuration mixing on computed dielectronic-recombination rates was discussed by Cowan and Griffin in Ref. [21].

Tables VI and VII list wavelengths and weighted radiative transition probabilities for DR satellite lines, which will be discussed in the next section.

III. DIELECTRONIC SATELLITE SPECTRA

The DR process to bound states of Be-like oxygen is a series of following actions: an electron is captured by Li-like oxygen into a doubly excited state of Be-like oxygen and stabilized by radiative decay to a bound state of Be-like oxygen. That is,

$$O^{5+}(1s^2 2s) + e^- \rightarrow O^{4+**}(1s^2 2pnl, 1s^2 3l_1 nl_2) \rightarrow O^{4+*}(1s^2 2ln'l') + h\nu. \qquad (3.1)$$

As an initial state we consider the ground state of O^{5+}, $1s^2 2s$. The $1s^2\ 2pnl$ and $1s^2\ 3l_1nl_2$ levels are taken into account as doubly excited states.

During the DR process, DR satellite lines are emitted from doubly excited autoionization states to bound states. Radiative transitions from $1s^2 2pnl$ states to $1s^2 2snl$ states produce

satellite lines of the resonance line $1s^22s - 1s^22p$ of the Li-like oxygen. Similarly, radiative transitions from the autoionization states $1s^23l_1nl_2$ to the bound states $1s^22l'nl_2$ produce satellite lines of $1s^23l_1 - 1s^22l'$. There also exist DR satellite transitions from autoionizing states $1s^22pnl$ to $1s^22pn'l'$ with changing principal quantum number n. They appear at a longer wavelength region.

In Tables VI and VII, we list wavelengths (λ [Å]) and weighted radiative transition probabilities ($gA_r[s^{-1}]$) for transitions with large values of gA_r. Only the strongest lines are listed here ($gA_r > 10^9 s^{-1}$ for $2l_1nl_2 - 3ln'l'$ transitions in Table VI and $gA_r > 10^8 s^{-1}$ for $2l_1nl_2 - 2pn'l'$ transitions in Table VII).

The emission rate coefficient of the dielectronic satellite line is

$$C_S^{eff}(i,j) = 3.3 \times 10^{-24} \left(\frac{I_H}{kT_e}\right)^{3/2} \frac{Q_d(i,j)}{g_0} \exp\left(-\frac{E_s(i)}{kT_e}\right) \text{photons cm}^3\text{s}^{-1}, \tag{3.2}$$

$$Q_d(i,j) = \frac{g(i)A_a(i,i_0)A_r(i,j)}{\sum_{i'_0} A_a(i,i'_0) + \sum_k A_r(i,k)}, \tag{3.3}$$

where I_H is the ionization potential of hydrogen; j denotes a final bound state; i a doubly excited state; i_0 the initial state (which is $1s^2$ 2s ground state); and i'_0 a possible final state for autoionization such as $1s^2$ 2s and $1s^2$ 2p states from $3l_1nl_2$ states. The statistical weight of the initial state i_0 is g_0; $g(i)$ the statistical weight for a doubly excited state; $A_a(i,i_0)$ the autoionization rate from i to i_0 state; $A_r(i,j)$ the radiative transition probability from i to j state; and $E_s(i)$ is the energy level of the autoionizing state i measured from $1s^22s$ level. T_e is an electron temperature and a Maxwellian distribution is assumed for electron velocities. This is an emission line intensity per electron per O^{5+} ion. For the most case, $A_a \gg A_r$ and then Q_d is roughly estimated as $Q_d(i,j) \approx g(i)A_r(i,j)$.

Figures 1 and 2 show examples of DR satellite line spectra. Fig. 1a-g show DR satellite lines for T_e = 10eV and Fig. 2a-g show DR satellite lines for T_e = 100eV. As spectral resolution, $R = \lambda/\Delta\lambda = 500$ is assumed to synthesize these spectra. When T_e is low, DR capture to $2pnl$ states is dominant and DR satellite lines from $2pnl$ to $2pn'l'$ are significant. But when T_e is high, DR capture to $3lnl'$ is dominant and DR satellite lines from $3lnl'$ to $2l"nl'$ are stronger. For example, at T_e = 10eV Fig. 1b shows strong DR satellite lines of 2s2p - $2pnl$ transitions at 110 – 130Å (2s – nl transitions), and of $2p^2$ - $2pnl$ transitions at 130 – 145 Å (2p – nl transitions). These strong lines are not found in Fig. 2b at T_e = 100eV. Instead, DR satellite lines of $2snl$ - $3pnl$ transitions are very strong at $\sim$ 151 Å.

For other main satellite lines are 2s – 2p transitions ($2snl - 2pnl$) at $\sim$ 1030 Å (Figs.1g and 2g), 2p – 3d transitions ($2pnl - 3dnl$) at $\sim$ 180Å (Figs.1b and 2b), $3l - nl$ transitions ($2p3l - 2pnl$) at around 250 – 450 Å (Figs.1c, 1d, 2c, and 2d), $4l - nl$ transitions ($2p4l - 2pnl$) at around 700 – 1000 Å (Figs.1e, 1f, 2e, and 2f), and $5l - nl$ transitions ($2p5l - 2pnl$) at around $\sim$ 3000 Å (Figs.1h and 1h).

Satellite lines from $2pnl$ and $3lnl'$ autoionizing states with higher n to low bound states appear at a shorter wavelength region (Figs.1a and 2a).

IV. DIELECTRONIC RECOMBINATION RATE COEFFICIENTS

A. State-selective rate coefficients

The DR rate coefficients to excited states are obtained by summing the rate coefficients of DR processes through all possible doubly excited states:

$$\alpha_d(i_0,j) = \frac{1}{2}\left(\frac{h^2}{2\pi mkT_e}\right)^{3/2}\frac{1}{g_0}\sum_i Q_d(i,j)\exp\left(-\frac{E_s(i)}{kT_e}\right), \tag{4.1}$$

where $Q_d(i,j)$ is given by eq.(3.3).

As described in Section II, our calculated data are for a limited set of intermediate states and we need to include contributions from autoionizing levels with higher n. For modeling a recombining plasma with a collisional-radiative model, we need the DR rate coefficients to highly excited states $2snl$ with $n > 7$ as well.

In order to estimate contributions from autoionizing states with higher n levels to the rate coefficients and also the rate coefficients of final $2snl$ levels with higher n, we use empirical scaling laws. For transitions through $2pnl$ autoionizing levels, different scaling laws are used for different final states, $2snl$ and $2pn'l''$. For the former, $2pnl$ -$2snl$ transition has nearly constant A_r with increasing n. For the latter, A_r of $2pnl$ -$2pn'l'$ transition is estimated by using the hydrogenic approximation, $A_r(p,q) \propto 1/\{(p^2-q^2)pq\}$, where p and q are principal quantum numbers of upper and lower levels respectively (Ref. [22]). These two different scaling laws are also used to calculate the sum of all A_r from the upper level $2pnl$.

$$A_r(2pnl, 2snl) \simeq A_r(2p8l, 2s8l) \quad \text{for } n > 8, \tag{4.2}$$

$$A_r(2pnl, 2pn'l') \simeq A_r(2p8l, 2pn'l')\frac{(8^2-n'^2)8}{(n^2-n'^2)n} \quad \text{for } n > 8, \tag{4.3}$$

$$\sum A_r(2pnl) \simeq \sum_{n'l'} A_r(2p8l, 2sn'l') + (8/n)^{2.5}\sum_{n'l'} A_r(2p8l, 2pn'l') \quad \text{for } n > 8. \tag{4.4}$$

The second term of the right hand side in eq.(4.4) has $n^{-2.5}$ dependence. This is an approximation form after performing the sum over n' (Ref. [22]). For A_a, the usual n^{-3} scaling law is adopted:

$$A_a(2pnl) \simeq A_a(2p8l)(8/n)^3. \tag{4.5}$$

We adopt the A_r and A_a values of $2p8l$ levels to extrapolate for higher n levels. The weighted radiative transition probabilities (gA_r), sum of weighted radiative transition probabilities ($\sum(gA_r)$) and autoionization rates ($\sum A_a$) for $2s8l$ - $2p8l$ transitions are included in Table VII. When $n' \ll n$, the scaling factor in eq.(4.3) becomes $(8/n)^3$.

For the $3ln'l'$ levels with $n' > 6$, we only take into account transitions through $3pnl$ to $2snl$. A_r and A_a for $3pnl$ levels with higher n are estimated as below.

$$A_r(3pnl, 2snl) \simeq A_r(3p6l, 2s6l), \tag{4.6}$$

$$\sum A_r(3pnl) \simeq \sum_{n'l'} A_r(3p6l)(6/n)^3, \tag{4.7}$$

$$A_a(3\mathrm{p}nl) \simeq A_a(3\mathrm{p}6\mathrm{l})(6/\mathrm{n})^3, \tag{4.8}$$

$$\sum_{i'_0} A_a(3\mathrm{p}nl) \simeq \sum_{i'_0} A_a(3\mathrm{p}6\mathrm{l})(6/\mathrm{n})^3. \tag{4.9}$$

We adopt the values of 3p6l levels to extrapolate values of higher n levels. Table VI also has the atomic data for those transitions.

The energy levels for high n states are estimated with asymptotic formula given by Safronova et al. [23].

$$E(1\mathrm{s}^2 2\mathrm{s}nl) \simeq E(1\mathrm{s}^2 2\mathrm{s}) - \frac{1}{2n^2}\left(Z - 3 + \frac{b_1(l)}{n}\right)^2, \tag{4.10}$$

$$E(1\mathrm{s}^2 2\mathrm{p}nl) \simeq E(1\mathrm{s}^2 2\mathrm{p}) - \frac{1}{2n^2}\left(Z - 3 + \frac{b_2(l)}{n}\right)^2, \tag{4.11}$$

$$E(1\mathrm{s}^2 3\mathrm{p}nl) \simeq E(1\mathrm{s}^2 3\mathrm{p}) - \frac{1}{2n^2}\left(Z - 3 + \frac{b_3(l)}{n}\right)^2, \tag{4.12}$$

$$b_1(l) = 2a_0(1\mathrm{s}, l) + a_0(2\mathrm{s}, l), \tag{4.13}$$
$$b_2(l) = 2a_0(1\mathrm{s}, l) + a_0(2\mathrm{p}, l), \tag{4.14}$$
$$b_3(l) = 2a_0(1\mathrm{s}, l) + a_0(3\mathrm{p}, l), \tag{4.15}$$

where $a_0(n'l', l)$ are taken from the Table III in Ref. [23].

Figure 3 shows the electron temperature (T_e) dependence of the DR rate coefficient for each final bound state of Ne^{6+} with n up to 6. The transitions through the intermediate states 2pnl ($n \geq 7$) have a maximum at $T_e \sim 2$eV for the DR rate coefficients and those through 3lnl' states have a maximum at $T_e \sim 30 - 50$eV.

The DR rate coefficients for $2s^2$, 2s2p, and $2p^2$ states have only one peak at $T_e \sim 1.5$eV (Figs.3a and 3b), because there is no DR transitions through 3lnl' states to these states. The 2s3l and 2p3l states can be reached by DR process through both 2pnl and 3$ln'l'$, and these DR rate coefficients have two peaks (Figs.3b, 3c, 3d, 3g, 3h). The 2snl states with $n = 3 - 6$ are, however, not reachable through 2pnl states with $n > 6$ by dipole transitions.

Figure 4 shows the n dependence of the DR rate coefficient of the final 2snl and 2pnl states at $T_e = 10$eV and 100eV. The rates of the same nl levels are added. At higher n the rates of 2snl states decrease according to n^{-3} law. The n dependences of the rate coefficients at higher n at high temperature are caused by DR transitions through two kinds of autoionizing states, 2pnl and 3pnl states. The transitions through 3pnl states cause faster decrease at relatively lower n (Fig.4b). Figure 5 shows the n dependences of α_d for different temperature and fast decline of α_d at higher temperature is clearly seen at high n.

The DR rate coefficients of 2snl levels with $n \leq 6$ are significantly different from those with $n \geq 7$, as seen in Figs.4 and 5, especially at low temperature. As mentioned above, we do not expect any strong dipole transitions from 2pnl with $n \geq 7$ to 2snl with $n = 4, 5$ simply and actually α_d(2s5l) is small at $T_e = 3$ and 10eV. However, the configuration mixing plays an important role and enhance the DR rate coefficients of these states. Table V shows

the mixing coefficients for $2pnd\ ^1F + 2snf\ ^1F$. As seen in Table V, 2s6f ^{1}F configuration has large mixing coefficients of 2p6d ^1F and this makes transition probabilities from 2pnp states to the 2s6f ^{1}F state large as a result of mixing of 2p4d - 2pnp transitions. Because of the mixing, DR rate coefficient to the 2s6f ^{1}F state becomes large even at low temperature (Fig.3e). Similarly, 2p4f ^{1}F configuration is largely mixed with 2p3d ^1F and α_d(2p4f ^{1}F) at low temperature is large (Fig.3e). Configuration 2s5f ^{1}F, on the other hand, has small configuration mixing coefficients and the DR rate coefficient is small. The similar effect to the DR rate coefficients is seen for Be-like Ne [24].

Table VIII shows other examples of mixing coefficients. The mixing of 2s6g, 2s6d, and 2p4f configurations is large, but the mixing of 2s5g, 2s5d, and 2p4f is small for $J = 3$ (Table VIIIa). On the other hand, the mixing of 2s5g and 2p4f with $J = 4$ is large (Table VIIIb). It should be noted that the even parity complex state with J=4, for example, demonstrated in Table VIIIb includes 34 configurations. We present only some blocks of this matrix in order to show the mixing of selected states. For $J = 2$ configuration mixing of 2s6d, 2p4p, and 2p4f is large, but one of 2s4d and 2p4p is small (Table VIIIc).

Figure 6 shows the l distribution for the DR rate coefficients, where the rate coefficients of 2snl levels with n up to 500 are added for fixed l. The rate coefficients to 2pnl levels are not included. The l distribution is peaked at $l = 4$ and decreasing with increasing l. We obtained the similar l distribution for the DR rate coefficients of Be-like Ne, which shows peak at $l = 5$. When the electron temperature is low, especially at $T_e = 1$eV, the l distribution is not smooth. At low temperature transitions from 2pnl to 2p$n'l'$ are dominant for the DR process and only 2pnl to 2s2p transitions make $\sum_n \alpha_d$(2snp) large. For other l, the configuration mixing of low n levels contributes the l distribution. When electron temperature becomes higher, however, the transitions from 2pnl to 2snl and transitions from 3pnl to 2snl become dominant and the effect of the configuration mixing Φ is hidden in the sum $\sum_n \alpha_d$(2snl).

Chen [10] mentioned that states with $l = 9 - 11$ contribute about 20 % to the total DR rate coefficient for $\Delta n = 0$ transitions, based on his results of Be-like Fe. But for relatively low Z ions, A_a for 2pnl autoionization levels decreases faster with higher l. Our result indicates that $l \geq 8$ levels do not contribute as much as he estimated.

B. Total dielectronic recombination rate coefficients

Here we derive the total DR rate coefficients by summing the rate coefficients of all the levels to compare with results previously obtained by other authors. We take into account the levels with n up to 500 for the summation. The contribution of levels with $n > 500$ is negligible, since the DR rate coefficients decrease with n^{-3} at larger n.

Figure 7 shows the total rate coefficients as a function of electron temperature. In the figure the contributions from different transitions classified with intermediate doubly excited states are shown. At low temperature the recombination process through 2pnl states dominates. Especially at $T_e \lesssim 2$eV the transitions through 2pnl to 2p$n'l'$ states dominate the recombination rate coefficients. At such low electron temperature only autoionization 2pnl levels near the ionization threshold can contribute the DR process. At $T_e \gtrsim 50$eV, the recombination through 3lnl' states dominate the rate coefficients (Moribayashi and Kato [11]). At much higher temperature, $T_e \gtrsim 1$keV, however, the inner shell excitation such as $O^{5+}(1s^22s) + e^- \rightarrow O^{4+**}(1s2s2pnl) \rightarrow O^{4+*}(1s^22snl) + h\nu$ can contribute to the rate

coefficients [25]. We neglect this process in this paper.

In Fig.7 we compare our total recombination rate coefficients with those from previous work by other authors. Our rate coefficients agree well with those of Chen [10]. The rate coefficient obtained by Romanik [9] is larger than our result at around 10eV. The differences are probably caused by the different method: Coulomb-Born calculation with empirical wave function was used by Romanik who also mentioned that his values of A_a had large uncertainties arising from use of threshold collision strength. At $T_e \lesssim 3$eV our result shows the importance of 2pnl-2p$n'l'$ transitions, which was suggested in Ref. [8].

V. SUMMARY

Energy levels, wavelengths, weighted radiative transition probabilities, and autoionization rates were calculated for Be-like oxygen ion with two theoretical methods, perturbation theory (MZ-code) and multi-configurational Hartree-Fock method (Cowan's code). Calculated atomic data are used to estimate the dielectronic satellite lines and to obtain dielectronic recombination rate coefficients into the bound states of Be-like oxygen ion.

We take into account doubly excited states 2pnl ($n \geq 6$, $l \leq 7$) and 3lnl' ($l \leq 5$) as intermediate resonance states with n up to 500 to calculate the DR rate coefficients. The DR rate coefficient for bound states of Be-like O ion (final state) is obtained. These state selective rate coefficients can be used in a collisional-radiative model for investigating population kinetics and plasma diagnostics for recombining plasma. The transitions through intermediate states 2pnl make a peak in the rate coefficients at $T \sim 2 - 10$eV and those through 3lnl' states make a peak at $T \sim 30 - 50$eV.

Configuration mixing plays an important role for the DR rate coefficients of 2snl levels with $n \leq 6$ at low temperature. The l distribution of the DR rate coefficients indicates that $l \geq 8$ levels are not important and the contribution is small for the case of Be-like O ion. The similar result was obtained for Be-like Ne ion [24]. This result is different from large Z ion such as Be-like Fe ion [10].

The total rate coefficients is in good agreement with previous work except by Romanik [9]. At $T_e \lesssim 2$eV, DR capture near the ionization threshold and 2pnl-2p$n'l'$ transitions are important, as Nussbaumer and Storey [8] pointed out.

REFERENCES

[1] T. Kato, E. Rachlew-Källne, P. Hörling and K.-D. Zastrow, J. Phys. B **29**, 4241 (1996).
[2] T. Kato, J. Lang, K. E. Berrington, At. Data Nucl. Data Tables, **44** (1990) 133
[3] S. N. Nahar, Phys. Rev. A **58**, 3766 (1998).
[4] H. Kano, H. Watanabe, H. Tanuma and N. Kobayashi, Phys. Scr. T **80**, 370 (1999).
[5] A. Bordenave-Montesquieu, P. Moretto-Capelle and A. Bordenave-Montesquieu, Phys. Scr. T **80**, 372 (1999).
[6] K. Ishii, I. Kink and I. Martinson, Phys. Scr. T **80**, 455 (1999).
[7] S. Morita *et al.*, in *Proceedings of 9th International Workshop on Carbon Materials*, in press (2001)
[8] H. Nussbaumer and P. J. Storey, Astron. Astrophys. Suppl., **69**, 123 (1987)
[9] C. J. Romanik, Astrophys. J. **330**, 1022 (1988)
[10] M. H. Chen, Phys. Rev. A. **44**, 4215 (1991)
[11] K. Moribayashi and T. Kato, Phys. Scr. **59**, 222 (1999)
[12] P. Jönnson, C. Froese Fisher, and E. Träbert, J. Phys. B, **31**, 3497 (1998).
[13] M. S. Safronova, W. R. Johnson, and U. I. Safronova, Phys. Rev. A **53**, 4036 (1996).
[14] M. S. Safronova, W. R. Johnson, and U. I. Safronova, J. Phys. B **30**, 2375 (1997).
[15] U. I. Safronova, W. R. Johnson, M. S. Safronova, and A. Derevianko, Phys. Scr. **59**, 286 (1999).
[16] U. I. Safronova, A. Derevianko, M. S. Safronova, and W. R. Johnson, J. Phys. B **32**, 3527 (1999).
[17] R. D. Cowan, *The theory of atomic structure and spectra*, University of California Press (1981)
[18] E. P. Ivanova and U. I. Safronova, J. Phys B: At. Mol. Opt. Phys. **8**, 1591 (1975)
[19] U. I. Safronova and V. S. Senashenko, *The theory of spectra of multi-charged ions*, Moscow (in Russian) (1984)
[20] W. L. Wiese, J. R. Fuhr, and T. M. Deters 1996 J. Phys. Chem. Ref. Data, Monograph No. 7
[21] R. D. Cowan and D. C. Griffin, Phys. Rev. A **36**, 26 (1987).
[22] T. Fujimoto, J. Phys. Soc. Japan, **47** 265 (1979).
[23] U. I. Safronova et al., Physica Scripta, **47** 364 (1993)
[24] I. Murakami, U. I. Safronova, and T. Kato, J.Phys.B, **32** 5331 (1999).
[25] Y. Hahn, Advances in Atomic and Molecular Physics, **21**, 123 (1985).

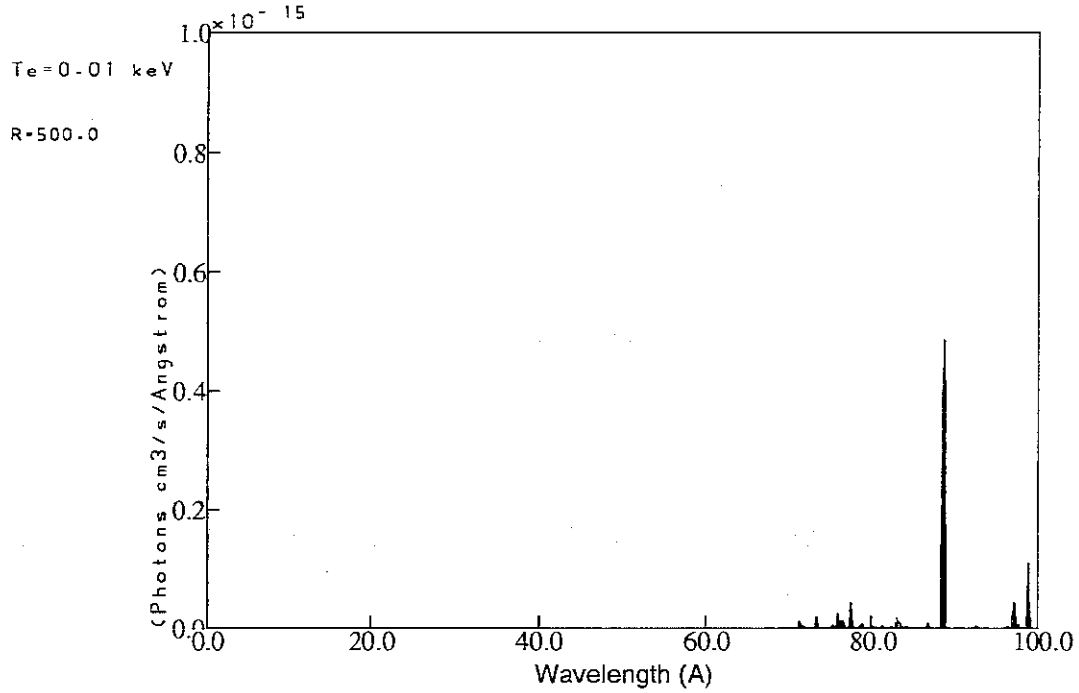

Figure 1: a. Calculated spectrum of dielectronic satellite lines from O^{4+} ion at $T_e = 10$eV for $\lambda = 0 - 100$ Å. Resolving power, $R = \lambda/\Delta\lambda = 500$ is assumed to produce Gaussian profile.

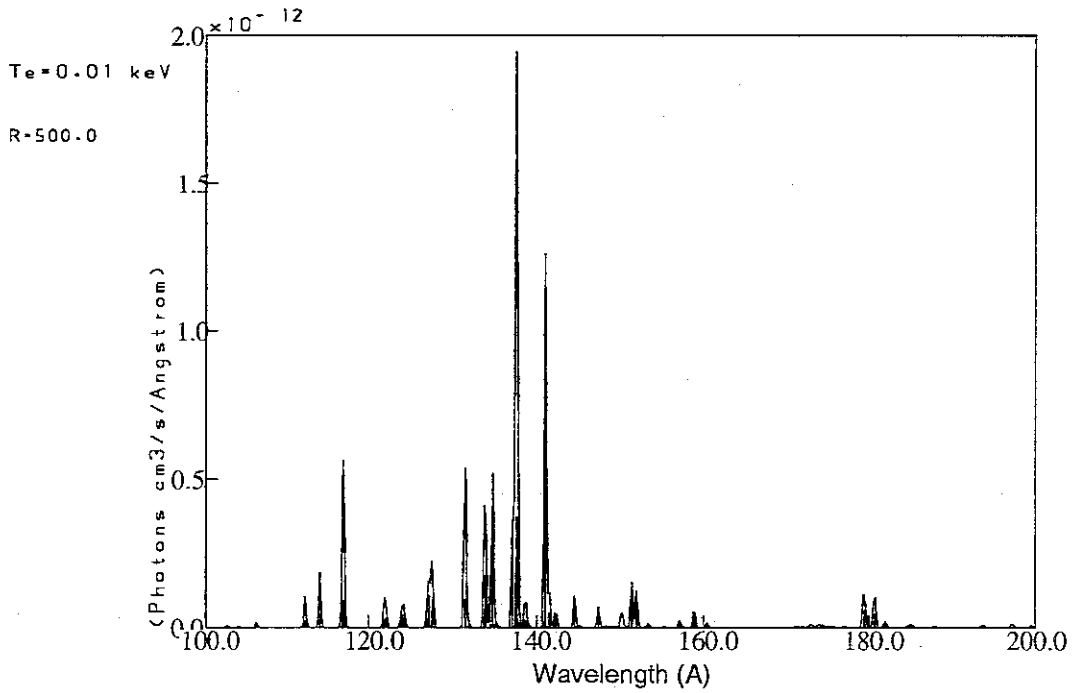

Figure 1: b. Same as (a) but for $\lambda = 100 - 200$ Å.

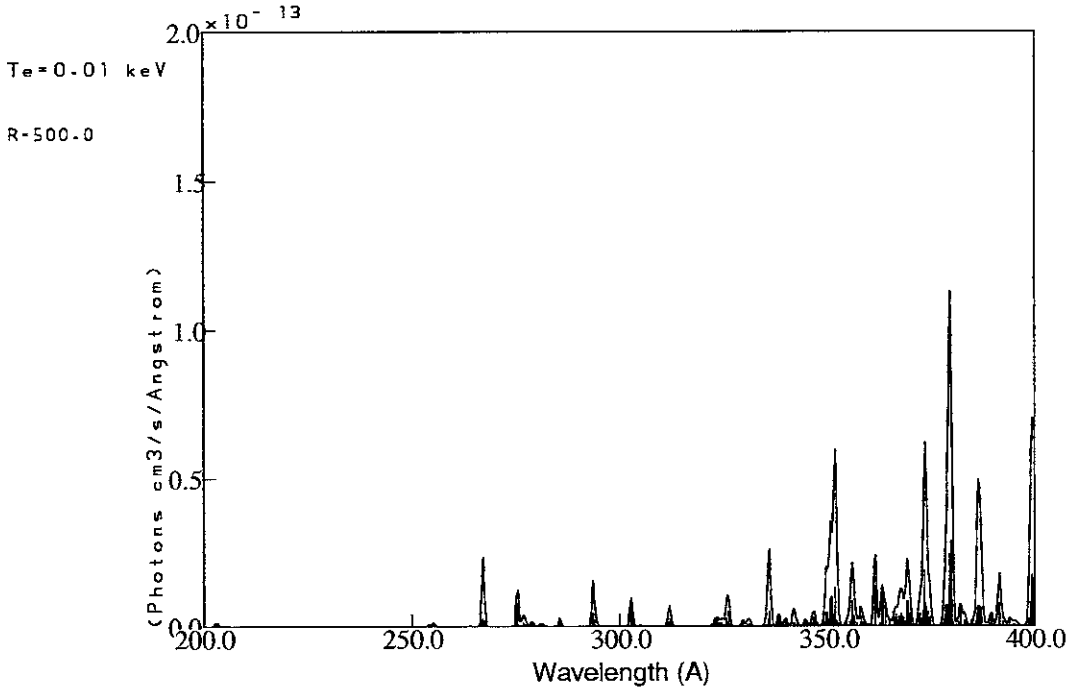

Figure 1: c. Same as (a) but for $\lambda = 200 - 400$ Å.

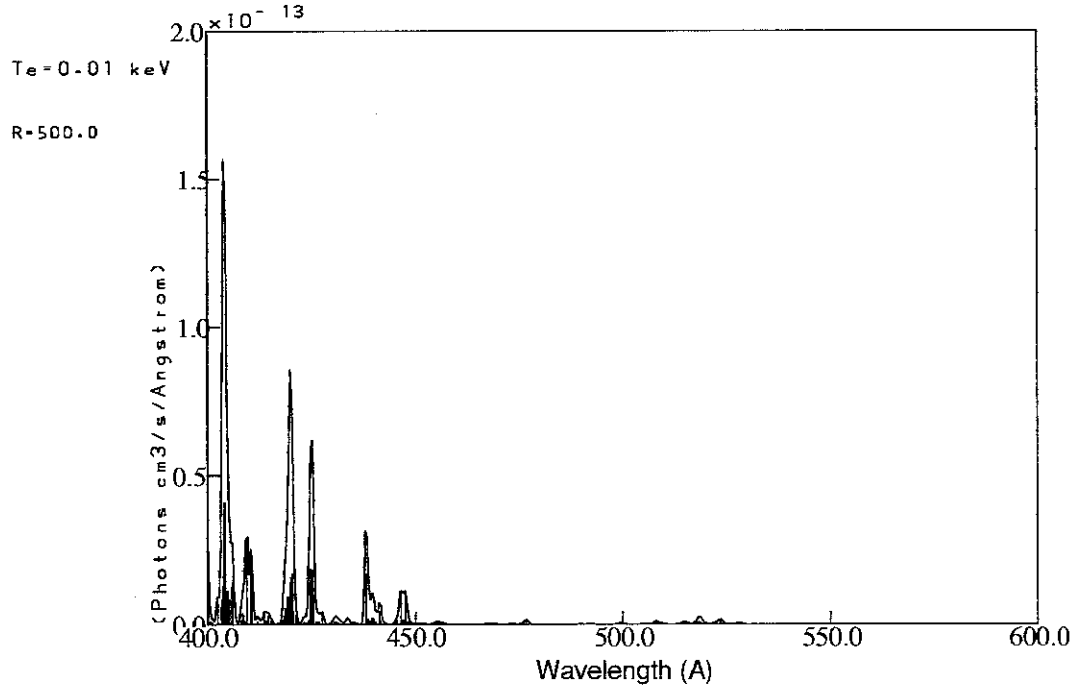

Figure 1: d. Same as (a) but for $\lambda = 400 - 600$ Å.

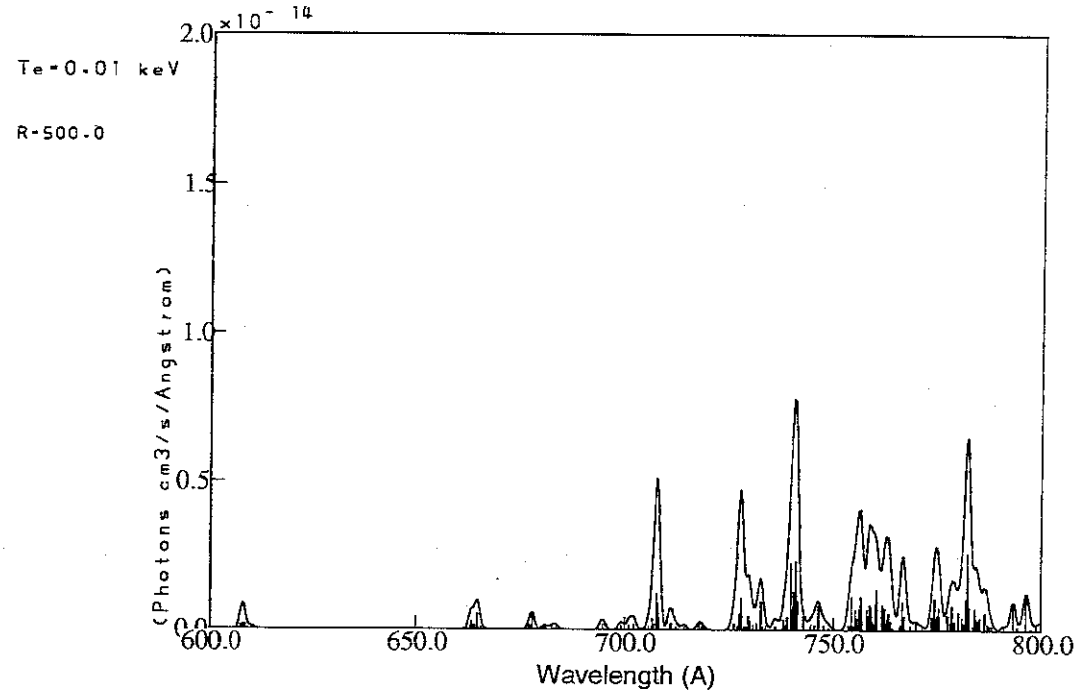

Figure 1: e. Same as (a) but for $\lambda = 600 - 800$ Å.

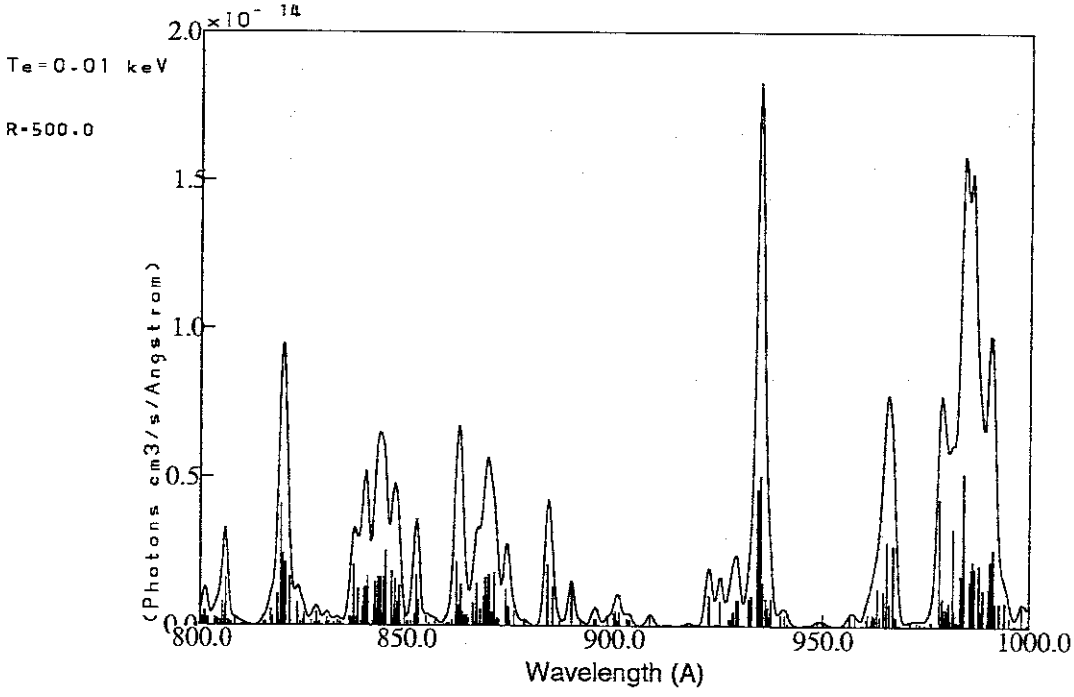

Figure 1: f. Same as (a) but for $\lambda = 800 - 1000$ Å.

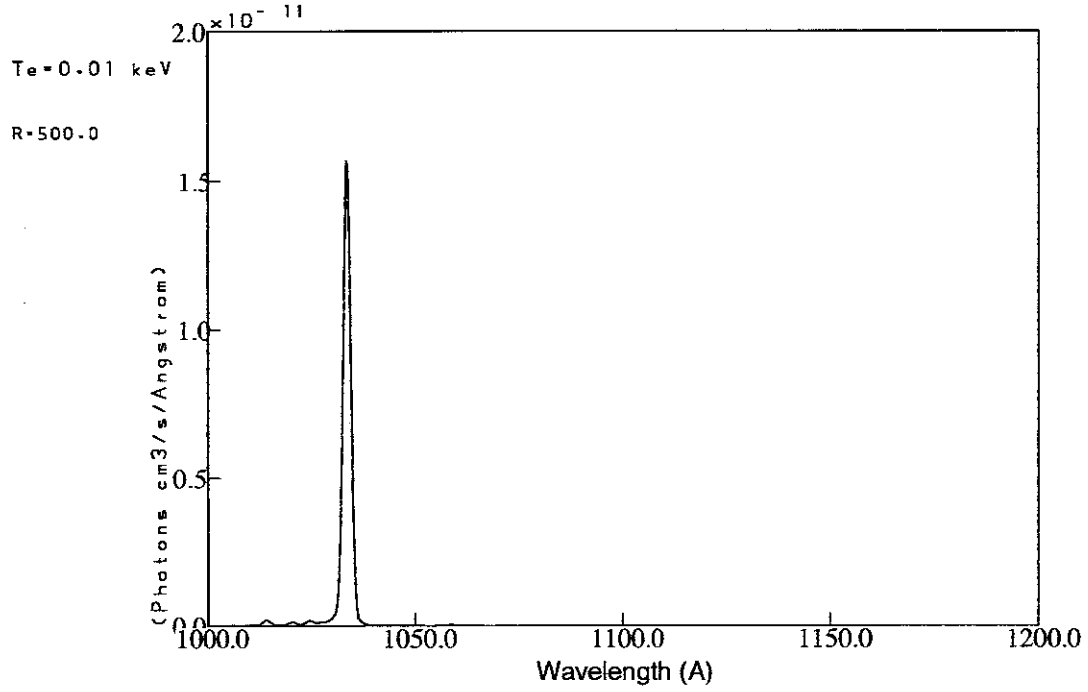

Figure 1: g. Same as (a) but for $\lambda = 1000 - 1200$ Å.

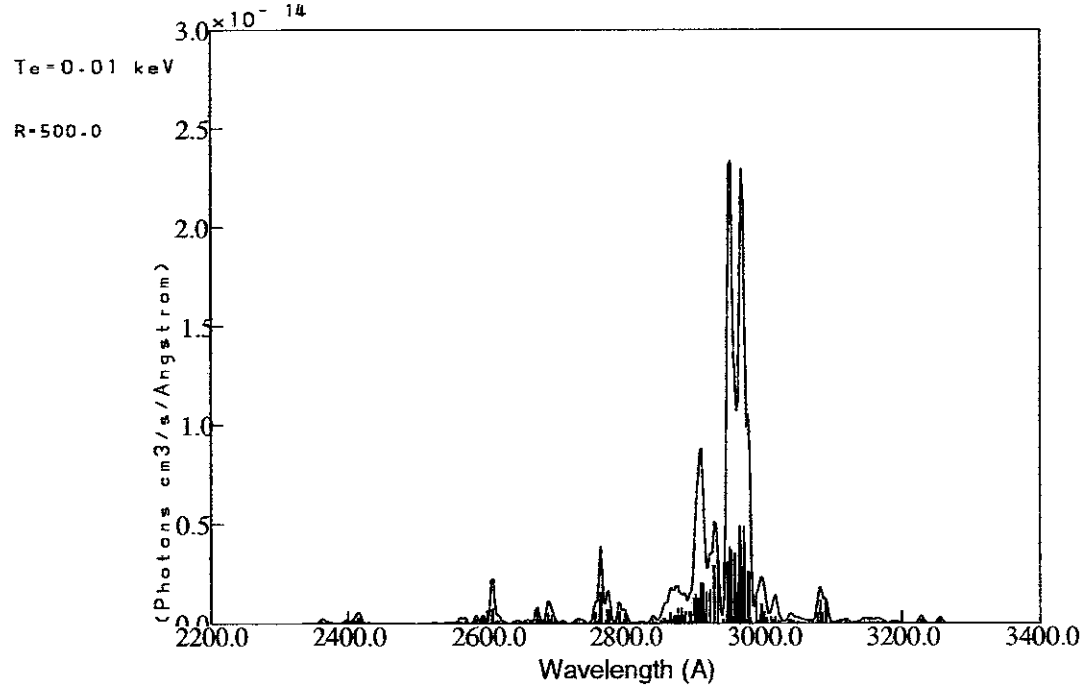

Figure 1: h. Same as (a) but for $\lambda = 2200 - 3400$ Å.

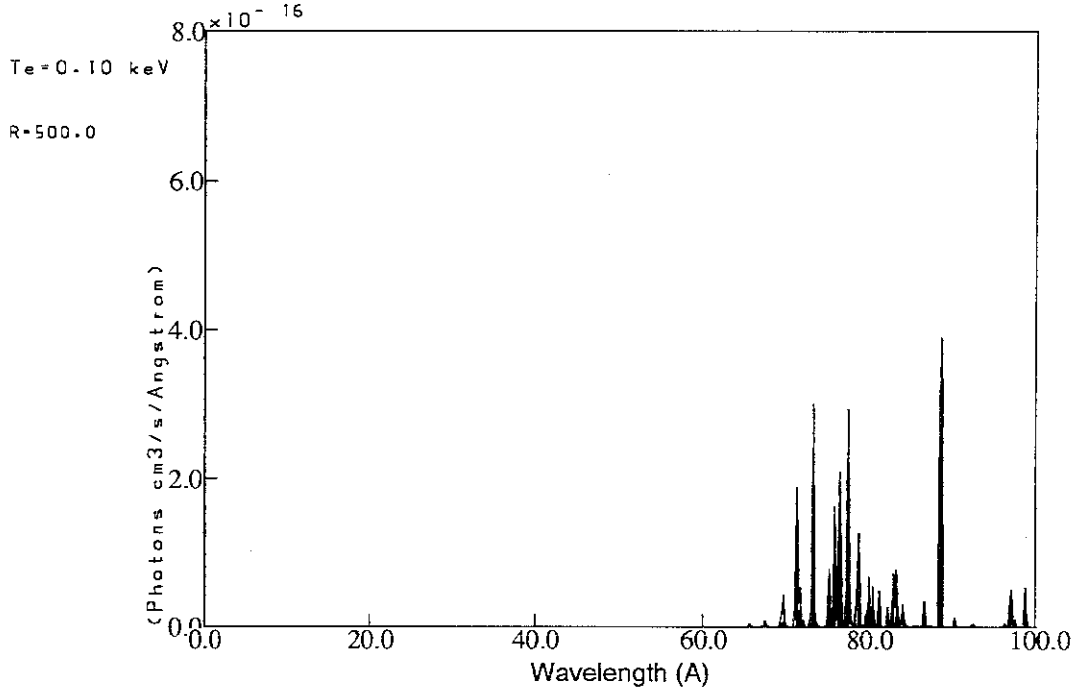

Figure 2: a. Calculated spectrum of dielectronic satellite lines from O^{4+} ion at $T_e = 100$eV for $\lambda = 0 - 100$ Å. Resolving power, $R = \lambda/\Delta\lambda = 500$ is assumed to produce Gaussian profile.

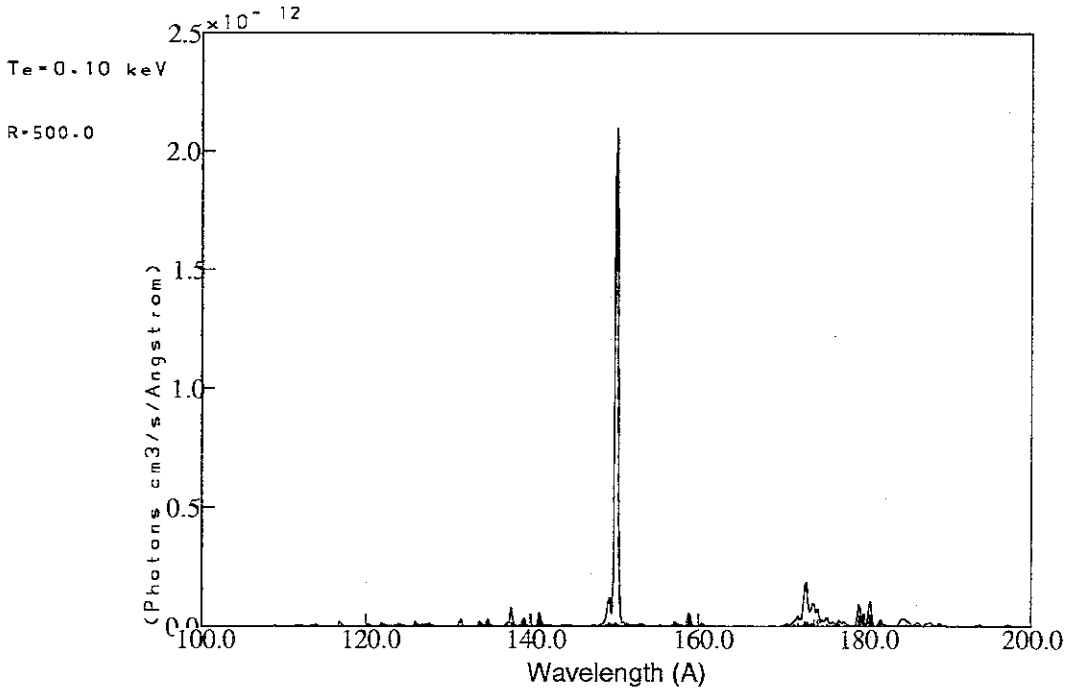

Figure 2: b. Same as (a) but for $\lambda = 100 - 200$ Å.

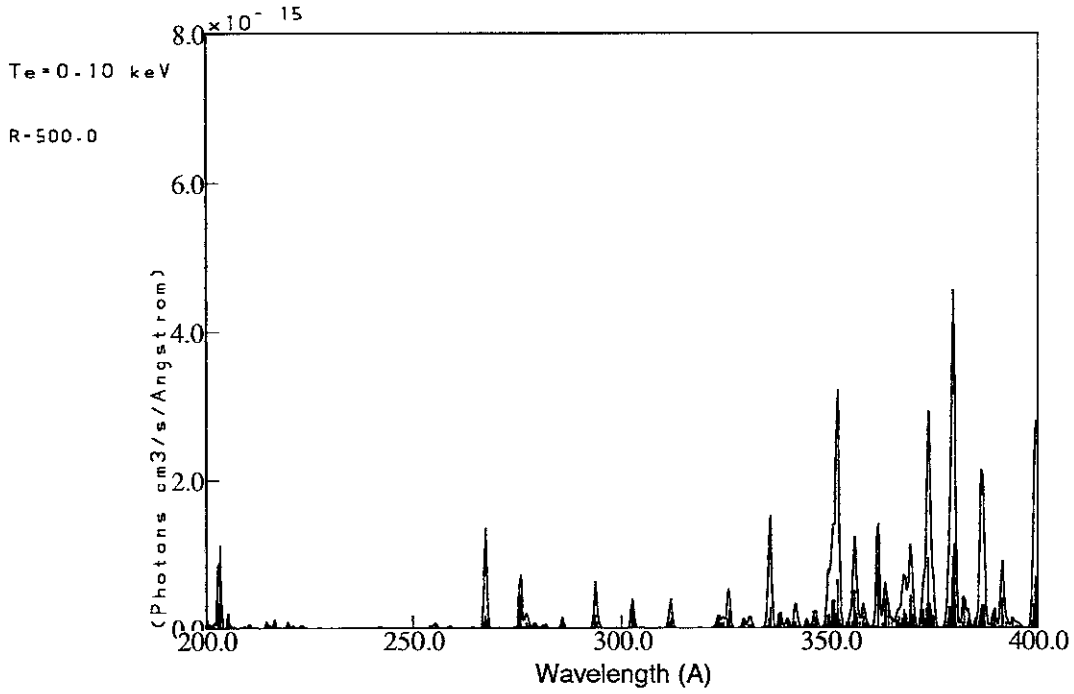

Figure 2: c. Same as (a) but for $\lambda = 200 - 400$ Å.

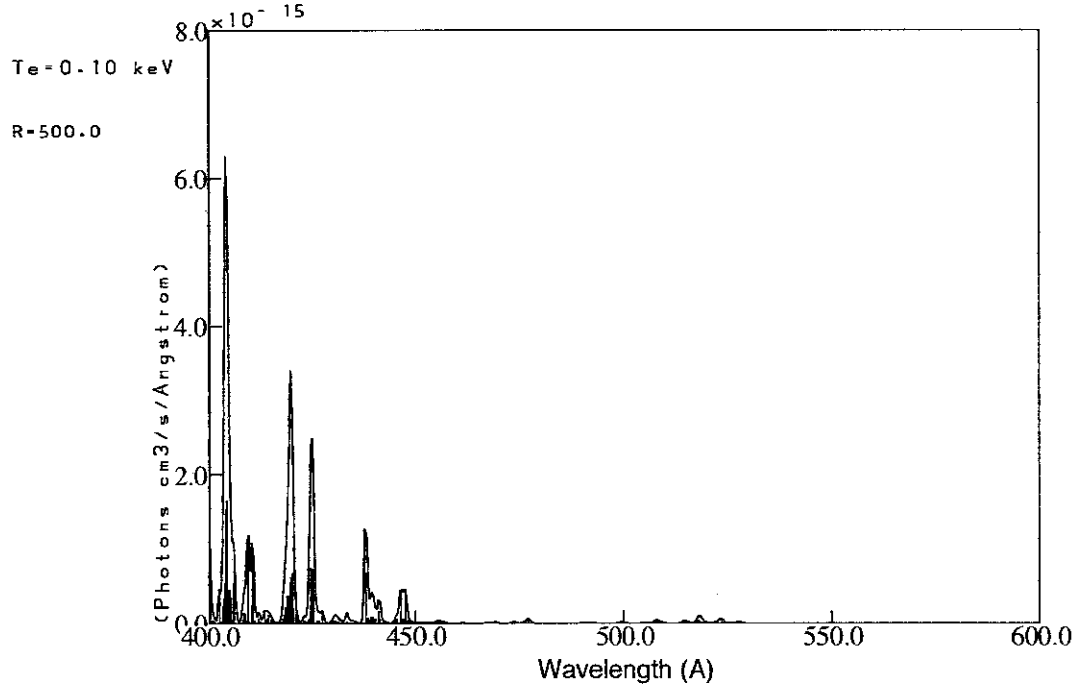

Figure 2: d. Same as (a) but for $\lambda = 400 - 600$ Å.

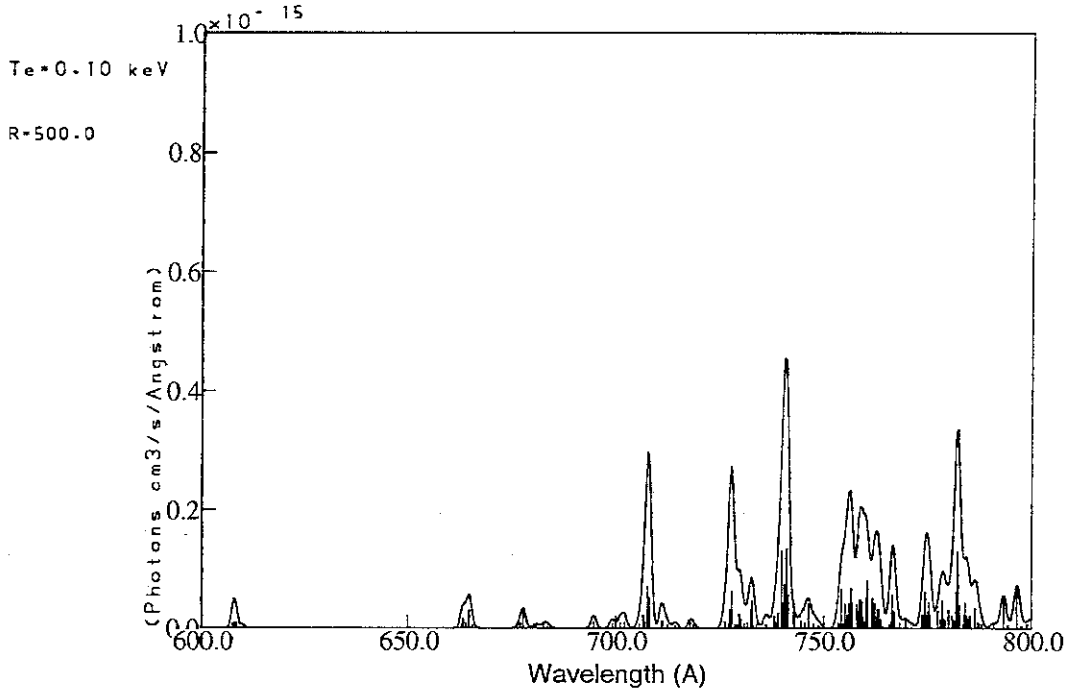

Figure 2: e. Same as (a) but for $\lambda = 600 - 800$ Å.

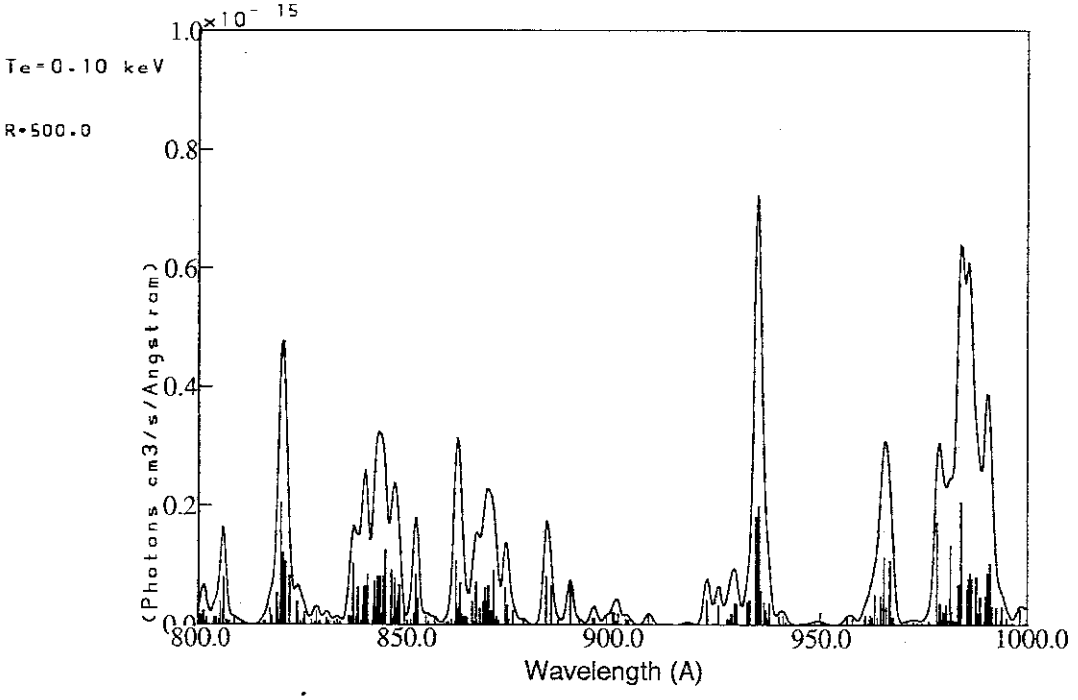

Figure 2: f. Same as (a) but for $\lambda = 800 - 1000$ Å.

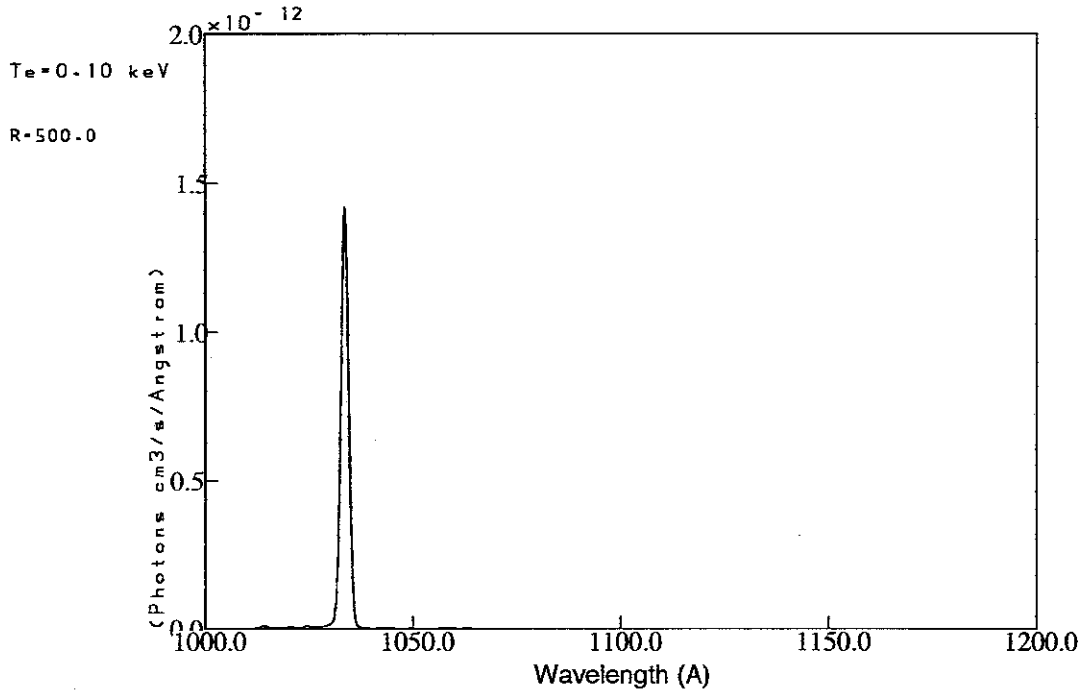

Figure 2: g. Same as (a) but for $\lambda = 1000 - 1200$ Å.

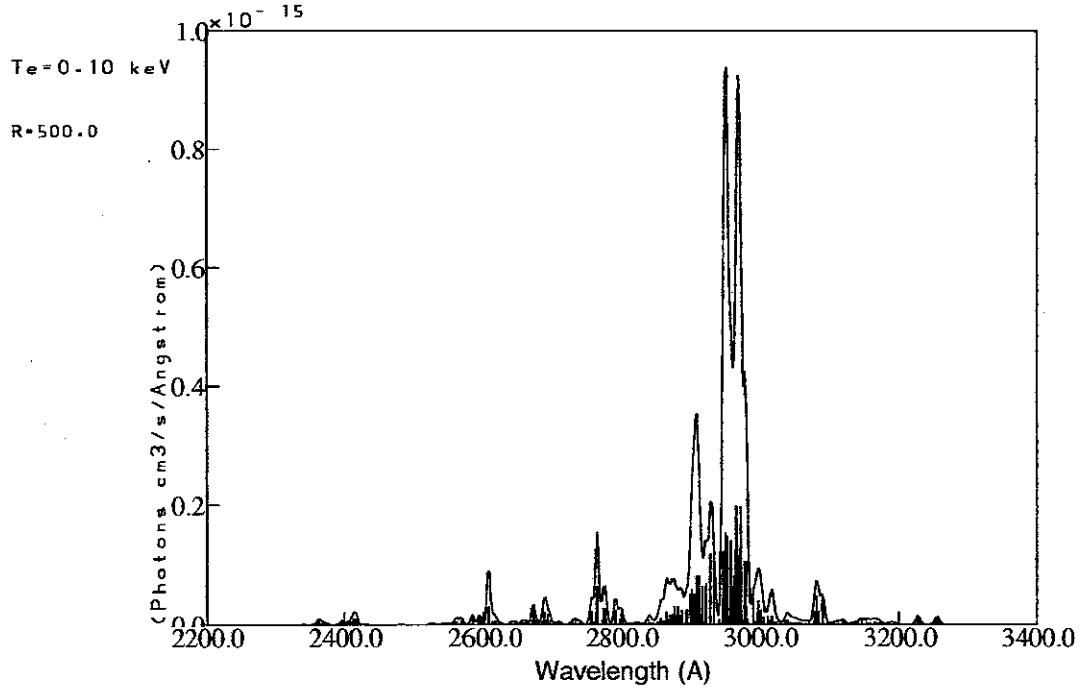

Figure 2: h. Same as (a) but for $\lambda = 2200 - 3400$ Å.

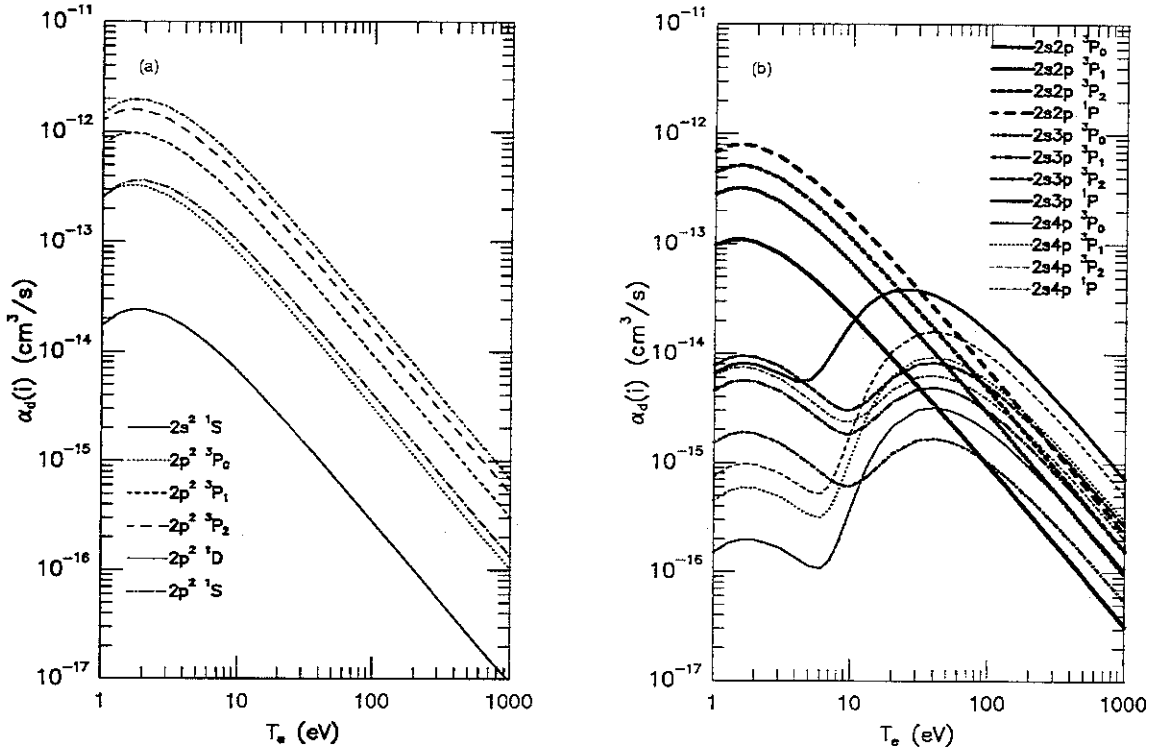

Figure 3: Dielectronic recombination rate coefficients for final bound states 2snl and 2pnl as a function of electron temperature.

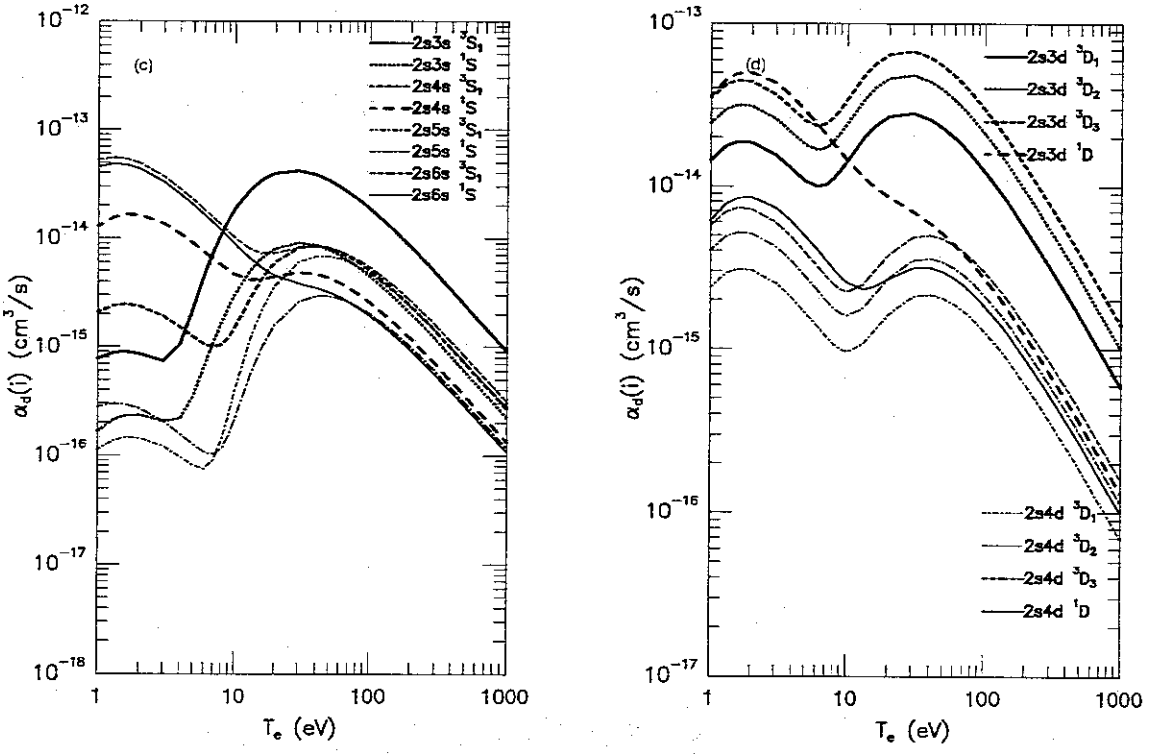

Figure 3: continued.

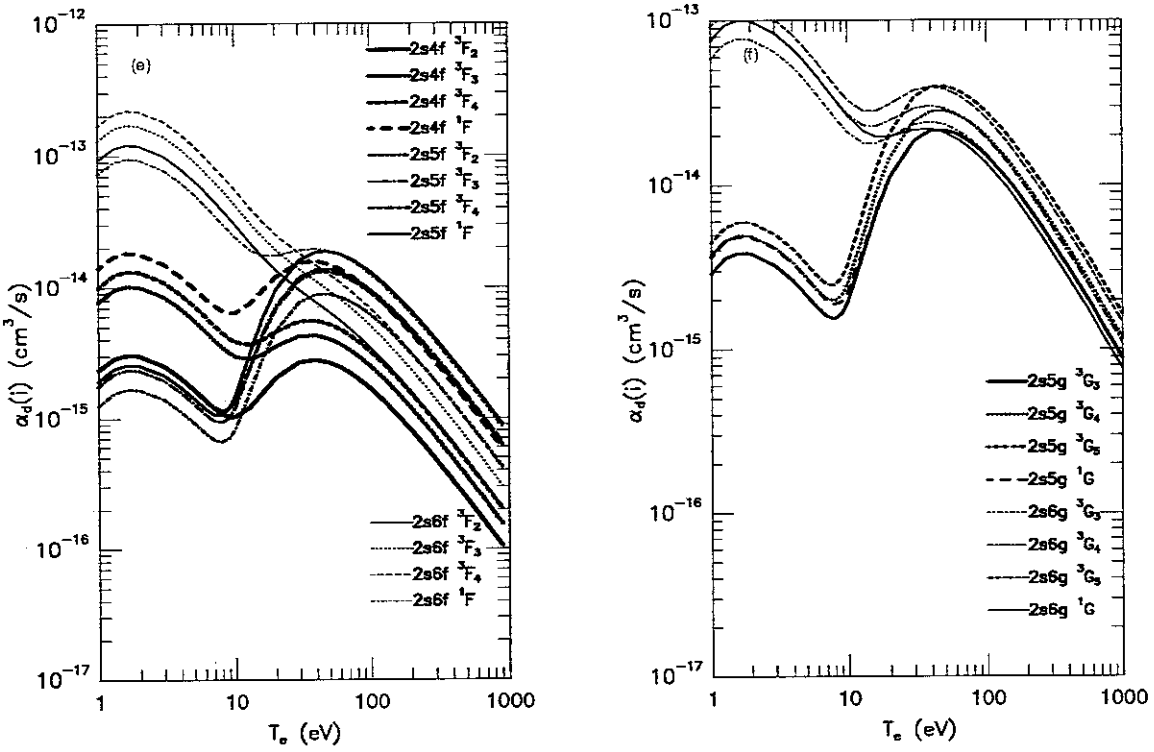

Figure 3: continued.

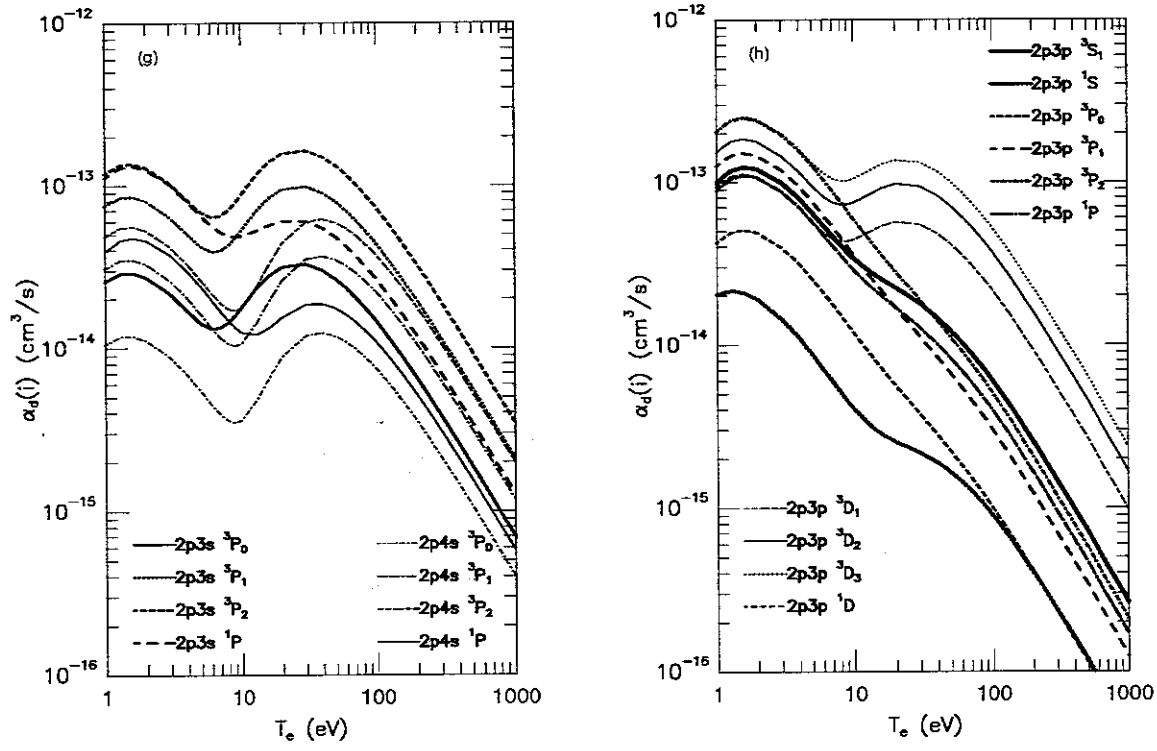

Figure 3: continued.

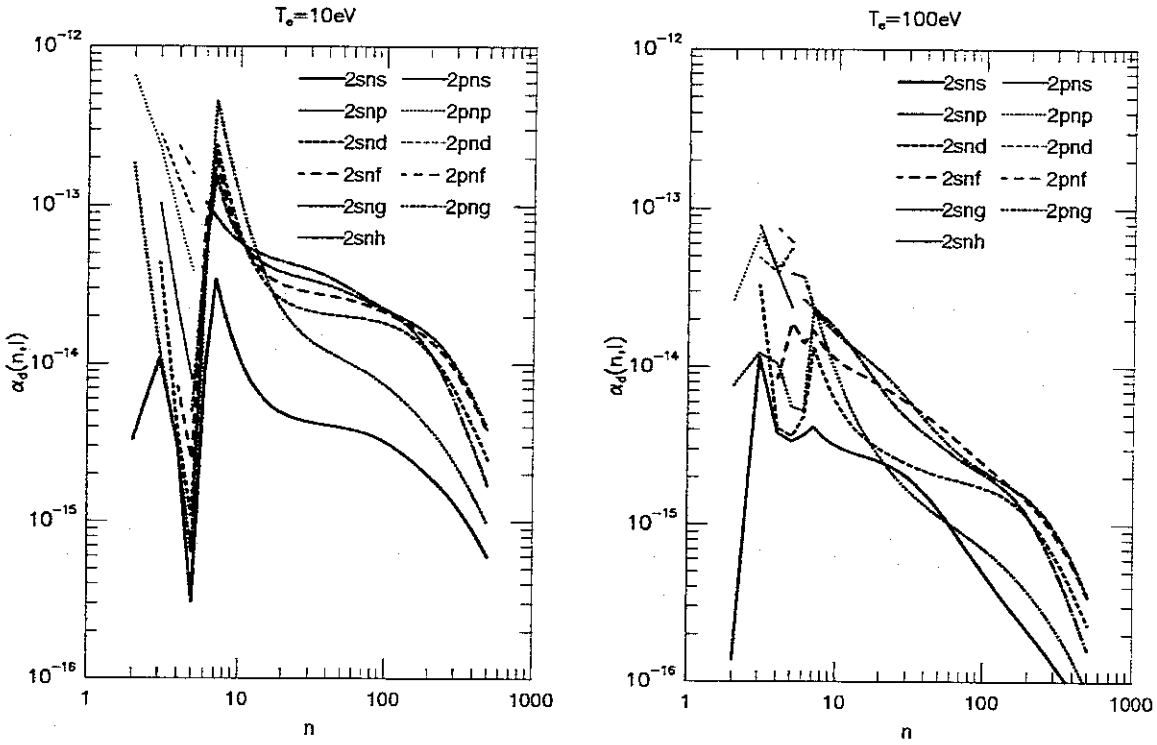

Figure 4: Dielectronic recombination rate coefficients for final bound states 2snl and 2pnl as a function of principal quantum number n. (a) for $T_e = 10$eV and (b) for $T_e = 100$eV.

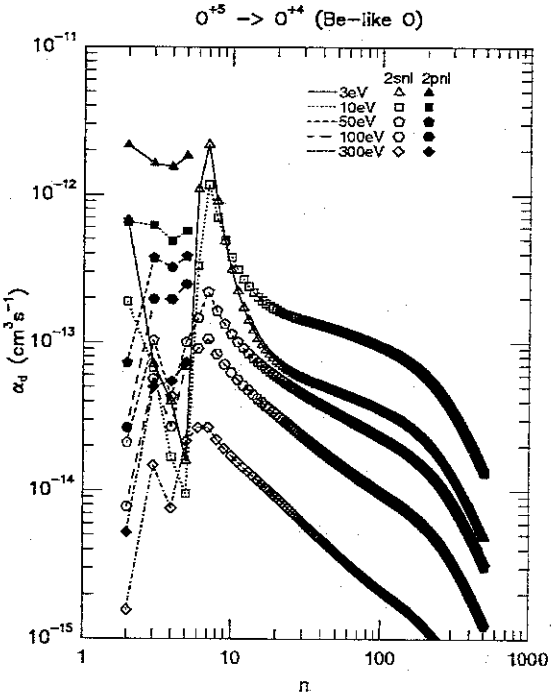

Figure 5: Dielectronic recombination rate coefficients for final bound states 2snl and 2pnl as a function of principal quantum number n. Rate coefficients are summed with l for the same n.

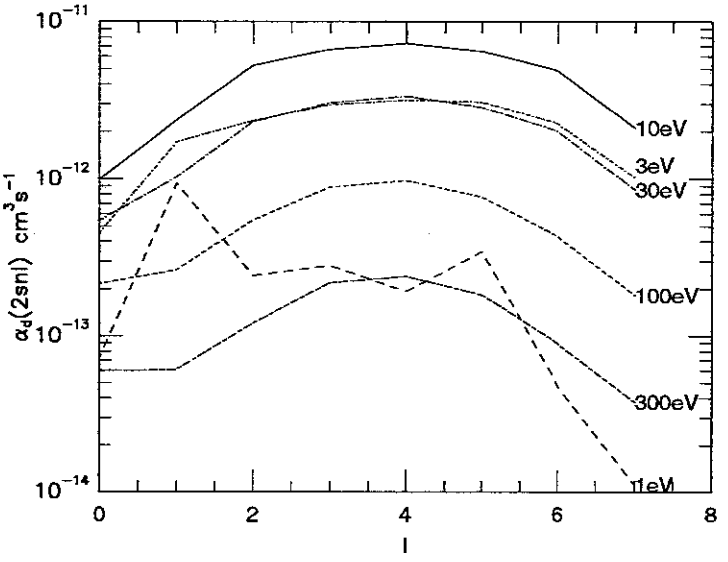

Figure 6: Orbital angular momentum quantum number l dependence of dielectronic recombination rate coefficients for final bound states 2snl. Rate coefficients are summed with n up to 500 for the same l. Each line represents different electron temperature.

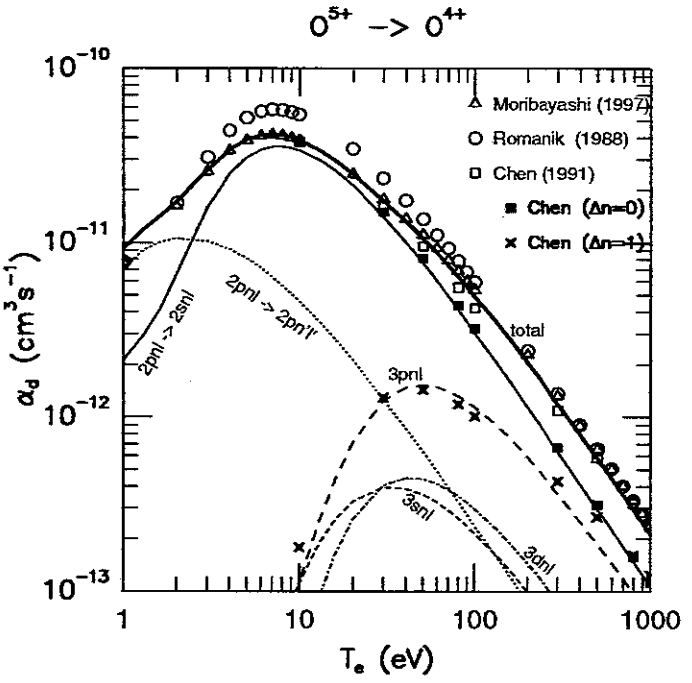

Figure 7: Total dielectronic recombination rate coefficients as a function of electron temperature, with other work done by Romanik (circle), Chen (square), and Moribayashi and Kato (triangle). Solid thick line is our total rate and other lines represent components of different processes: DR process via 2pnl to 2snl (solid line), via 2pnl to 2p$n'l'$ (dotted line), via 3snl (short dashed line), via 3pnl (long dashed line), and via 3dnl (dot-dashed line). Rate coefficients through $\Delta n = 0$ transition and $\Delta n = 1$ transitions obtained by Chen are also plotted.

TABLE I. continued.

1	2	3	4	5	6
$2p3d$	$^3F_3$	692.183	692.582	692.809	0.5649+09
$2p3d$	$^3F_4$	692.423	692.841	693.045	0.4566+09
$2p3d$	$^1D_2$	692.865	694.670	694.644	0.1483+12
$2p3d$	$^3D_1$	701.152	703.517	704.182	0.2548+12
$2p3d$	$^3D_2$	701.218	703.590	704.242	0.4241+12
$2p3d$	$^3D_3$	701.325	703.695	704.348	0.5942+12
$2p3d$	$^3P_0$	704.923	710.143	708.205	0.4487+11
$2p3d$	$^3P_1$	704.855	710.051	708.125	0.1346+12
$2p3d$	$^3P_2$	704.719	709.890	707.981	0.2240+12
$2p3d$	$^1F_3$	711.851	710.794	712.965	0.6308+12
$2p3d$	$^1P_1$	716.536	720.222	719.275	0.1634+12
$2s4s$	$^3S_1$	722.675	720.767	722.480	0.2092+11
$2s4s$	$^1S_0$	731.377	724.327	731.670	0.9946+10
$2s4p$	$^3P_0$	736.117	735.344	735.912	0.2411+10
$2s4p$	$^3P_1$	736.131	735.360	735.922	0.7227+10
$2s4p$	$^3P_2$	736.160	735.397	735.949	0.1200+11
$2s4p$	$^1P_1$	738.291	737.252	737.883	0.5434+11
$2s4d$	$^3D_1$	742.672	742.484	742.239	0.7980+11
$2s4d$	$^3D_2$	742.676	742.487	742.244	0.1329+12
$2s4d$	$^3D_3$	742.684	742.495	742.249	0.1858+12
$2s4d$	$^1D_2$	746.903	744.866	746.275	0.1101+12
$2s4f$	$^3F_2$	747.099	745.184		0.5178+11
$2s4f$	$^3F_3$	747.105	745.185		0.7249+11
$2s4f$	$^3F_4$	747.112	745.187		0.9320+11
$2s4f$	$^1F_3$	749.100	745.565	749.840	0.1060+12
$2p4s$	$^3P_0$	821.174	821.241		0.7439+10
$2p4s$	$^3P_1$	821.331	821.396		0.2241+11
$2p4s$	$^3P_2$	821.685	821.781		0.3754+11
$2p4s$	$^1P_1$	825.371	824.142	824.282	0.3062+11
$2p4p$	$^1P_1$	830.100	829.798	829.597	0.3678+11
$2p4p$	$^3D_1$	831.211	830.986	830.867	0.2303+11
$2p4p$	$^3D_2$	831.365	831.151	831.029	0.3791+11
$2p4p$	$^3D_3$	831.655	831.463	831.334	0.5325+11
$2p4p$	$^3S_1$	832.806	834.996	832.072	0.3262+11
$2p4p$	$^3P_0$	835.362	834.559	834.835	0.8137+10
$2p4p$	$^3P_1$	835.496	834.565	834.972	0.2574+11
$2p4p$	$^3P_2$	835.674	834.859	835.142	0.4300+11
$2p4p$	$^1D_2$	838.720	837.287	837.855	0.5738+11
$2p4p$	$^1S_0$	847.823	846.588		0.7117+10
$2p4d$	$^3F_2$	837.894	837.871		0.3118+11
$2p4d$	$^3F_3$	838.119	838.077		0.3285+11
$2p4d$	$^3F_4$	838.348	838.343		0.4105+11
$2p4d$	$^1D_2$	838.330	838.900	837.833	0.6581+11

TABLES

TABLE I. Energy ($10^3 cm^{-1}$) and sum of weighted radiative transition probabilities ($\sum(gA_r)$ in sec^{-1}) for excited states of Be-like O. Comparison of theoretical results (Cowan and MZ code) with recommended NIST data (W. L. Wiese, J. R. Fuhr, and T. M. Deters, J. Phys. Chem. Ref. Data, Monograph No. 7 (1996))

Conf.	*LSJ*	$E(10^3\ cm^{-1})$			$gA_r\ sec^{-1}$
		Cowan	MZ	NIST	Cowan
1	2	3	4	5	6
$2s^2$	$^1S_0$	0.000	0.000	0.000	0.0000+00
$2s2p$	$^3P_0$	80.920	81.950	81.942	0.0000+00
$2s2p$	$^3P_1$	81.072	82.096	82.079	0.0000+00
$2s2p$	$^3P_2$	81.376	82.425	82.386	0.0000+00
$2s2p$	$^1P_1$	152.848	158.712	158.798	0.8149+10
$2p^2$	$^3P_0$	212.239	213.497	213.642	0.2269+10
$2p^2$	$^3P_1$	212.389	213.663	213.797	0.6818+10
$2p^2$	$^3P_2$	212.684	213.938	214.066	0.1140+11
$2p^2$	$^1D_2$	231.623	231.788	231.722	0.2244+10
$2p^2$	$^1S_0$	280.404	287.918	287.909	0.3745+10
$2s3s$	$^3S_1$	545.611	546.960	546.973	0.6021+11
$2s3s$	$^1S_0$	558.871	561.266	561.276	0.7209+10
$2s3p$	$^3P_0$	581.605	582.832	582.806	0.2456+09
$2s3p$	$^3P_1$	581.646	582.872	582.843	0.8730+09
$2s3p$	$^3P_2$	581.721	582.957	582.920	0.1241+10
$2s3p$	$^1P_1$	580.216	580.668	580.825	0.1056+12
$2s3d$	$^3D_1$	598.924	600.186	600.749	0.2053+12
$2s3d$	$^3D_2$	598.937	600.198	600.759	0.3418+12
$2s3d$	$^3D_3$	598.957	600.221	600.779	0.4779+12
$2s3d$	$^1D_2$	610.719	613.151	612.616	0.2366+12
$2p3s$	$^3P_0$	650.988	652.956	652.918	0.1389+11
$2p3s$	$^3P_1$	651.151	653.127	653.080	0.4176+11
$2p3s$	$^3P_2$	651.490	653.488	653.423	0.6989+11
$2p3s$	$^1P_1$	663.176	664.093	664.486	0.5310+11
$2p3p$	$^1P_1$	670.748	672.714	672.694	0.5703+11
$2p3p$	$^3D_1$	674.664	677.198	677.151	0.2728+11
$2p3p$	$^3D_2$	674.858	677.405	677.348	0.4548+11
$2p3p$	$^3D_3$	675.168	677.738	677.665	0.6392+11
$2p3p$	$^3S_1$	680.651	691.447	683.943	0.5081+11
$2p3p$	$^3P_0$	688.577	689.375	689.403	0.1451+11
$2p3p$	$^3P_1$	688.689	689.478	689.518	0.4353+11
$2p3p$	$^3P_2$	688.892	689.695	689.708	0.7260+11
$2p3p$	$^1D_2$	696.711	697.167	697.170	0.1035+12
$2p3p$	$^1S_0$	706.920	716.305	707.636	0.4934+10
$2p3d$	$^3F_2$	691.975	692.383	692.626	0.5905+10

TABLE I. continued.

1	2	3	4	5	6
$2p5p$	$^3D_1$	899.905	900.279		0.1619+11
$2p5p$	$^3D_2$	900.006	900.393		0.2399+11
$2p5p$	$^3D_3$	900.299	900.708		0.3359+11
$2p5p$	$^3S_1$	901.191	902.079		0.2164+11
$2p5p$	$^3P_0$	901.748	902.154	900.858	0.4788+10
$2p5p$	$^3P_1$	901.911	902.464	901.023	0.1493+11
$2p5p$	$^3P_2$	902.032	902.453	901.165	0.2405+11
$2p5p$	$^1D_2$	903.522	903.638	902.442	0.3482+11
$2p5p$	$^1S_0$	907.307	908.071		0.2913+10
$2p5d$	$^3F_2$	903.236	903.753		0.2530+11
$2p5d$	$^3F_3$	903.508	903.960		0.2706+11
$2p5d$	$^3F_4$	903.772	904.239		0.3238+11
$2p5d$	$^1D_2$	903.570	904.480	902.691	0.3317+11
$2p5d$	$^3D_1$	904.698	906.190	904.027	0.5361+11
$2p5d$	$^3D_2$	904.757	906.174	904.183	0.8585+11
$2p5d$	$^3D_3$	904.908	906.343	904.318	0.1256+12
$2p5d$	$^3P_0$	905.518	906.648		0.1169+11
$2p5d$	$^3P_1$	905.463	906.628		0.3590+11
$2p5d$	$^3P_2$	905.352	906.580		0.6175+11
$2p5d$	$^1F_3$	907.745	906.624		0.1799+12
$2p5d$	$^1P_1$	908.072	909.874		0.5005+11
$2p5f$	$^1F_3$	905.171	905.306		0.3851+11
$2p5f$	$^3F_2$	905.221	905.144		0.2637+11
$2p5f$	$^3F_3$	905.244	905.612		0.3712+11
$2p5f$	$^3F_4$	905.282	905.614		0.4699+11
$2p5f$	$^3G_3$	905.832	904.590		0.3741+11
$2p5f$	$^3G_4$	905.905	904.744		0.4680+11
$2p5f$	$^3G_5$	906.123			0.5864+11
$2p5f$	$^1G_4$	906.353	905.875		0.3874+11
$2p5f$	$^3D_3$	906.474	906.065		0.3847+11
$2p5f$	$^3D_2$	906.575	906.159		0.2746+11
$2p5f$	$^3D_1$	906.706	906.244		0.1652+11
$2p5f$	$^1D_2$	906.970	906.822		0.2709+11
$2p5g$	$^3G_3$	905.926			0.2276+11
$2p5g$	$^3G_4$	905.926			0.2928+11
$2p5g$	$^1G_4$	905.958			0.2883+11
$2p5g$	$^1F_3$	906.692			0.2223+11
$2p5g$	$^3F_2$	906.895			0.1581+11
$2p5g$	$^3F_3$	906.897			0.2226+11
$2p5g$	$^3F_4$	906.691			0.2856+11
$2p5g$	$^3H_4$	906.471			0.2796+11
$2p5g$	$^3F_4$	906.691			0.2856+11
$2p5g$	$^1H_5$	906.713			0.3332+11

TABLE I. continued.

1	2	3	4	5	6
$2p4d$	$^3D_1$	841.119	842.488	841.102	0.1037+12
$2p4d$	$^3D_2$	841.182	842.505	841.195	0.1741+12
$2p4d$	$^3D_3$	841.277	842.624	841.318	0.2432+12
$2p4d$	$^3P_0$	843.306	843.158	843.270	0.1780+11
$2p4d$	$^3P_1$	843.246	843.109	843.218	0.5321+11
$2p4d$	$^3P_2$	843.129	843.006	843.111	0.8758+11
$2p4d$	$^1P_1$	847.869	849.503	847.460	0.8108+11
$2p4d$	$^1F_3$	848.504	842.959	847.136	0.2791+12
$2p4f$	$^1F_3$	841.825	840.718		0.7209+11
$2p4f$	$^3F_2$	841.888	840.999		0.4877+11
$2p4f$	$^3F_3$	841.993	841.093		0.6989+11
$2p4f$	$^3F_4$	842.039	841.124		0.8896+11
$2p4f$	$^3D_3$	844.474	842.014		0.6856+11
$2p4f$	$^3D_2$	844.597	842.145		0.4909+11
$2p4f$	$^3D_1$	844.730	842.250		0.2942+11
$2p4f$	$^1D_2$	845.158	843.438		0.4954+11
$2p4f$	$^3G_3$	845.667	839.456	845.482	0.4614+11
$2p4f$	$^3G_4$	845.729	839.632	845.547	0.5944+11
$2p4f$	$^3G_5$	845.874		845.707	0.7608+11
$2p4f$	$^1G_4$	846.128	841.516	845.943	0.5474+11
$2s5s$	$^3S_1$	796.958	796.264	796.071	0.1726+11
$2s5s$	$^1S_0$	798.894	798.189		0.4136+10
$2s5p$	$^3P_0$	803.660	803.549	802.859	0.1535+10
$2s5p$	$^3P_1$	803.669	803.557	802.859	0.4691+10
$2s5p$	$^3P_2$	803.684	803.576	802.875	0.7679+10
$2s5p$	$^1P_1$	803.493	804.786	802.466	0.3478+11
$2s5d$	$^3D_1$	807.215	807.178	806.446	0.4191+11
$2s5d$	$^3D_2$	807.218	807.180	806.448	0.6979+11
$2s5d$	$^3D_3$	807.222	807.183	806.451	0.9757+11
$2s5d$	$^1D_2$	809.280	808.314	808.352	0.6238+11
$2s5f$	$^3F_2$	809.113	808.493	808.613	0.2627+11
$2s5f$	$^3F_3$	809.114	808.493	808.614	0.3678+11
$2s5f$	$^3F_4$	809.117	808.494	808.616	0.4729+11
$2s5f$	$^1F_3$	809.408	808.655	808.917	0.3415+11
$2s5g$	$^3G_3$	809.266			0.1930+11
$2s5g$	$^3G_4$	809.268			0.2480+11
$2s5g$	$^3G_5$	809.271			0.3032+11
$2s5g$	$^1G_4$	809.270		808.389	0.2477+11
$2p5s$	$^3P_0$	894.747	895.324		0.4410+10
$2p5s$	$^3P_1$	894.886	895.449		0.1340+11
$2p5s$	$^3P_2$	895.262	895.868		0.2235+11
$2p5s$	$^1P_1$	896.738	896.691	898.580	0.1978+11
$2p5p$	$^1P_1$	899.453	899.740		0.2557+11

TABLE I. continued.

1	2	3	4	5	6
$2s7h$	$^3H_5$	863.580			0.7203+10
$2s7h$	$^3H_6$	863.580			0.8513+10
$2s7h$	$^1H_5$	863.580			0.7203+10
$2s8s$	$^3S_1$	873.819			0.3911+10
$2s8s$	$^1S_0$	874.388			0.1856+10
$2s8p$	$^3P_0$	875.340			0.4321+09
$2s8p$	$^3P_1$	875.342			0.1302+10
$2s8p$	$^3P_2$	875.345			0.2158+10
$2s8p$	$^1P_1$	875.483			0.2309+11
$2s8d$	$^3D_1$	876.152			0.1018+11
$2s8d$	$^3D_2$	876.152			0.1695+11
$2s8d$	$^3D_3$	876.153			0.2370+11
$2s8d$	$^1D_2$	876.648			0.2128+11
$2s8f$	$^3F_2$	876.601			0.6506+10
$2s8f$	$^3F_3$	876.602			0.9109+10
$2s8f$	$^3F_4$	876.602			0.1171+11
$2s8f$	$^1F_3$	876.768			0.1786+11
$2s8g$	$^3G_3$	876.699			0.5136+10
$2s8g$	$^3G_4$	876.700			0.6607+10
$2s8g$	$^3G_5$	876.701			0.8085+10
$2s8g$	$^1G_4$	876.706			0.6549+10
$2s8h$	$^3H_4$	876.712			0.3924+10
$2s8h$	$^3H_5$	876.712			0.4795+10
$2s8h$	$^3H_6$	876.713			0.5668+10
$2s8h$	$^1H_5$	876.713			0.4795+10

TABLE I. continued.

1	2	3	4	5	6
$2p5g$	$^3H_6$	906.710			0.3954+11
$2s6s$	$^1S_0$	835.764	836.860		0.2254+10
$2s6s$	$^3S_1$	837.519	835.717		0.4198+10
$2s6p$	$^3P_0$	839.292	839.871		0.4189+10
$2s6p$	$^3P_1$	839.280	839.876		0.1309+11
$2s6p$	$^3P_2$	839.263	839.887		0.2319+11
$2s6p$	$^1P_1$	840.782	840.645	839.616	0.3046+11
$2s6d$	$^3D_1$	841.925	841.959	841.036	0.2221+11
$2s6d$	$^3D_2$	841.931	841.960	841.036	0.3854+11
$2s6d$	$^3D_3$	841.931	841.962	841.036	0.5281+11
$2s6d$	$^1D_2$	843.046	842.595	842.087	0.3854+11
$2s6f$	$^3F_2$	843.397	842.702	842.707	0.1819+11
$2s6f$	$^3F_3$	843.411	842.703	842.723	0.2563+11
$2s6f$	$^3F_4$	843.430	842.703	842.742	0.3310+11
$2s6f$	$^1F_3$	841.829	842.788	840.832	0.6050+11
$2s6g$	$^3G_3$	840.964		840.127	0.3634+11
$2s6g$	$^3G_4$	841.018		840.169	0.4456+11
$2s6g$	$^3G_5$	841.167		840.291	0.5143+11
$2s6g$	$^1G_4$	841.287		841.358	0.3455+11
$2s6h$	$^3H_4$	843.358			0.9304+10
$2s6h$	$^3H_5$	843.358			0.1137+11
$2s6h$	$^3H_6$	843.359			0.1344+11
$2s6h$	$^1H_5$	843.359			0.1137+11
$2s7s$	$^3S_1$	859.254			0.5230+10
$2s7s$	$^1S_0$	860.471			0.2884+10
$2s7p$	$^3P_0$	861.538			0.7628+09
$2s7p$	$^3P_1$	861.540			0.2288+10
$2s7p$	$^3P_2$	861.545			0.3802+10
$2s7p$	$^1P_1$	861.901			0.1743+11
$2s7d$	$^3D_1$	862.720			0.1472+11
$2s7d$	$^3D_2$	862.721			0.2406+11
$2s7d$	$^3D_3$	862.722			0.3430+11
$2s7d$	$^1D_2$	863.450		862.419	0.2557+11
$2s7d$	$^3D_2$	862.721			0.4687+09
$2s7f$	$^3F_2$	863.424			0.1006+11
$2s7f$	$^3F_3$	863.425			0.1409+11
$2s7f$	$^3F_4$	863.426			0.1812+11
$2s7f$	$^1F_3$	863.801			0.2305+11
$2s7g$	$^3G_3$	863.635			0.8098+10
$2s7g$	$^3G_4$	863.637			0.1043+11
$2s7g$	$^3G_5$	863.639			0.1277+11
$2s7g$	$^1G_4$	863.655		862.801	0.1021+11
$2s7h$	$^3H_4$	863.580			0.5894+10

TABLE II. continued.

1	2	3	4	5	6
$2p6g$	$^3G_3$	939.639	0.1461+11	0.8200+11	0.8200+11
$2p6g$	$^1F_3$	940.232	0.1487+11	0.1490+12	0.1490+12
$2p6g$	$^3F_3$	940.386	0.1512+11	0.9200+11	0.9200+11
$2p6g$	$^3H_4$	939.635	0.1765+11	0.7300+12	0.7300+12
$2p6g$	$^3G_5$	939.638	0.2152+11	0.1312+14	0.1312+14
$2p6g$	$^3G_4$	939.639	0.1880+11	0.1249+14	0.1249+14
$2p6g$	$^3H_4$	940.098	0.1770+11	0.1390+14	0.1390+14
$2p6g$	$^3G_5$	940.100	0.2158+11	0.1411+14	0.1411+14
$2p6g$	$^3F_4$	940.231	0.1916+11	0.8000+11	0.8000+11
$2p6g$	$^1H_5$	940.253	0.2029+11	0.2726+14	0.2726+14
$2p6g$	$^3H_6$	940.250	0.2409+11	0.2711+14	0.2711+14
$2p6h$	$^3H_4$	939.830	0.1359+11	0.1110+12	0.1110+12
$2p6h$	$^3H_4$	940.351	0.1373+11	0.6400+11	0.6400+11
$2p6h$	$^3G_4$	940.449	0.1393+11	0.8100+11	0.8100+11
$2p6h$	$^3G_3$	940.449	0.1084+11	0.5400+11	0.5400+11
$2p6h$	$^3G_5$	939.831	0.1660+11	0.4600+11	0.4600+11
$2p6h$	$^3G_5$	940.351	0.1677+11	0.2700+11	0.2700+11
$2p6h$	$^3I_5$	940.302	0.1565+11	0.3745+13	0.3745+13
$2p6h$	$^3I_5$	939.824	0.1519+11	0.2538+13	0.2538+13
$2p6h$	$^3H_6$	939.824	0.1796+11	0.1729+13	0.1729+13
$2p6h$	$^3H_6$	940.303	0.1849+11	0.1167+13	0.1167+13
$2p6h$	$^1I_6$	940.394	0.1711+11	0.3391+13	0.3391+13
$2p6h$	$^3I_7$	940.395	0.1975+11	0.6284+13	0.6284+13
$2p7s$	$^3P_0$	956.018	0.1994+10	0.1370+13	0.1370+13
$2p7s$	$^3P_1$	956.113	0.6405+10	0.8774+13	0.8774+13
$2p7s$	$^3P_2$	956.536	0.1027+11	0.1208+13	0.1208+13
$2p7s$	$^1P_1$	956.961	0.9858+10	7.4376+13	7.4376+13
$2p7p$	$^3D_1$	957.741	0.1135+11	0.0970+13	0.0970+13
$2p7p$	$^1P_1$	957.991	0.1154+11	0.3850+13	0.3850+13
$2p7p$	$^3D_2$	957.993	0.1110+11	0.0545+13	0.0545+13
$2p7p$	$^3D_3$	958.321	0.1545+11	0.0591+13	0.0591+13
$2p7p$	$^3S_1$	958.456	0.1215+11	2.3072+13	2.3072+13
$2p7p$	$^3P_0$	958.563	0.1904+10	0.2413+13	0.2413+13
$2p7p$	$^3P_1$	958.814	0.7536+10	0.8193+13	0.8193+13
$2p7p$	$^3P_2$	958.867	0.9827+10	0.0030+13	0.0030+13
$2p7p$	$^1D_2$	959.394	0.1595+11	0.0161+13	0.0161+13
$2p7p$	$^1S_0$	960.871	0.1351+10	25.058+13	25.058+13
$2p7d$	$^3F_2$	959.027	0.1057+11	0.7347+13	0.7347+13
$2p7d$	$^1D_2$	959.307	0.1903+11	0.3926+13	0.3926+13
$2p7d$	$^3F_3$	959.233	0.1632+11	1.0069+13	1.0069+13
$2p7d$	$^3F_4$	959.544	0.1522+11	0.9834+13	0.9834+13
$2p7d$	$^3D_1$	959.596	0.2059+11	0.2705+13	0.2705+13
$2p7d$	$^3D_2$	959.722	0.2684+11	0.4679+13	0.4679+13

TABLE II. Energy (10^3cm^{-1}), sum of weighted radiative transition probabilities ($\sum(gA_r)$ in sec^{-1}) and autoionizing rates (A_a in sec^{-1}) for $2pnl'$ and $3nl'$ states in Be-like O. I(2s)= 918657 cm^{-1}, I(2p)= 1015387 cm^{-1}.

Conf.	*LSJ*	$E(10^3\text{cm}^{-1})$	$\sum(gA_r)(\text{sec}^{-1})$	$A_a(\text{sec}^{-1})$	
				$2s\ ^2S$	$\sum(A_a)$
1	2	3	4	5	6
$2p6s$	$^3P_0$	933.294	0.2822+10	0.1078+13	0.1078+13
$2p6s$	$^3P_1$	933.407	0.8893+10	0.6757+13	0.6757+13
$2p6s$	$^1P_1$	934.488	0.1528+11	0.1174+15	0.1174+15
$2p6s$	$^3P_2$	933.811	0.1440+11	0.9670+12	0.9670+12
$2p6p$	$^1P_1$	936.061	0.2093+11	0.1770+12	0.1770+12
$2p6p$	$^3D_1$	936.353	0.1665+11	0.1394+13	0.1394+13
$2p6p$	$^3D_2$	936.386	0.2214+11	0.2960+12	0.2960+12
$2p6p$	$^3D_3$	936.695	0.2140+11	0.3020+12	0.3020+12
$2p6p$	$^3S_1$	937.031	0.1905+11	0.4075+14	0.4075+14
$2p6p$	$^3P_0$	937.299	0.2426+10	0.1465+13	0.1465+13
$2p6p$	$^3P_1$	937.506	0.9406+10	0.7002+13	0.7002+13
$2p6p$	$^3P_2$	937.590	0.1241+11	0.1800+11	0.1800+11
$2p6p$	$^1D_2$	938.458	0.2640+11	0.1045+13	0.1045+13
$2p6p$	$^1S_0$	940.953	0.2320+10	0.2594+15	0.2594+15
$2p6d$	$^3P_0$	939.593	0.7785+10	0.2459+14	0.2459+14
$2p6d$	$^3D_1$	938.997	0.3226+11	0.2507+13	0.2507+13
$2p6d$	$^3P_1$	939.553	0.2426+11	0.2233+14	0.2233+14
$2p6d$	$^1P_1$	941.164	0.4333+11	0.2148+14	0.2148+14
$2p6d$	$^3F_2$	938.146	0.1443+11	0.1454+14	0.1454+14
$2p6d$	$^1D_2$	938.469	0.2266+11	0.5944+13	0.5944+13
$2p6d$	$^3D_2$	939.071	0.4777+11	0.5822+13	0.5822+13
$2p6d$	$^3P_2$	939.474	0.4255+11	0.1851+14	0.1851+14
$2p6d$	$^3F_3$	938.382	0.1887+11	0.2001+14	0.2001+14
$2p6d$	$^3D_3$	939.244	0.7452+11	0.1297+13	0.1297+13
$2p6d$	$^1F_3$	940.940	0.1319+12	0.1058+15	0.1058+15
$2p6d$	$^3F_4$	938.666	0.1978+11	0.2016+14	0.2016+14
$2p6f$	$^1F_3$	939.281	0.2278+11	0.9748+13	0.9748+13
$2p6f$	$^3F_4$	939.339	0.2804+11	0.1785+14	0.1785+14
$2p6f$	$^3F_3$	939.311	0.2246+11	0.1055+14	0.1055+14
$2p6f$	$^3F_2$	939.329	0.1658+11	0.9100+11	0.9100+11
$2p6f$	$^3G_3$	939.754	0.2208+11	0.2869+14	0.2869+14
$2p6f$	$^3G_4$	939.796	0.2787+11	0.3292+14	0.3292+14
$2p6f$	$^3G_5$	939.957	0.3399+11	0.4889+14	0.4889+14
$2p6f$	$^1G_4$	940.093	0.2523+11	0.5566+14	0.5566+14
$2p6f$	$^3D_1$	940.309	0.1132+11	0.7320+12	0.7320+12
$2p6f$	$^3D_2$	940.191	0.1921+11	0.7870+12	0.7870+12
$2p6f$	$^3D_3$	940.114	0.2592+11	0.6440+12	0.6440+12
$2p6f$	$^1D_2$	940.483	0.2260+11	0.1929+13	0.1929+13
$2p6g$	$^3F_2$	940.383	0.1074+11	0.1410+12	0.1410+12

TABLE II. continued.

1	2	3	4	5	6
$2p7i$	$^3K_7$	960.081	0.6961+10	0.0842+13	0.0842+13
$2p7i$	$^3I_5$	960.083	0.5107+10	0.0005+13	0.0005+13
$2p7i$	$^3H_6$	960.083	0.6035+10	0.0005+13	0.0005+13
$2p7i$	$^1I_6$	960.584	0.6046+10	0.0416+13	0.0416+13
$2p7i$	$^3I_7$	960.584	0.6975+10	0.0416+13	0.0416+13
$2p7i$	$^3I_5$	960.596	0.5110+10	0.0007+13	0.0007+13
$2p7i$	$^3H_6$	960.596	0.6039+10	0.0006+13	0.0006+13
$2p7i$	$^1K_7$	960.621	0.6947+10	0.1257+13	0.1257+13
$2p7i$	$^3K_8$	960.621	0.7873+10	0.1257+13	0.1257+13
$2p7i$	$^3H_4$	960.637	0.4166+10	0.0010+13	0.0010+13
$2p7i$	$^3H_5$	960.637	0.5091+10	0.0010+13	0.0010+13
$2p8s$	$^3P_0$	970.510	0.1499+10	0.1415+13	0.1415+13
$2p8s$	$^3P_1$	970.583	0.5273+10	0.9498+13	0.9498+13
$2p8s$	$^3P_2$	971.028	0.7838+10	0.1211+13	0.1211+13
$2p8s$	$^1P_1$	971.287	0.9108+10	5.0675+13	5.0675+13
$2p8p$	$^3D_1$	971.665	0.1135+11	0.0979+13	0.0979+13
$2p8p$	$^3D_2$	971.864	0.8133+10	0.0591+13	0.0591+13
$2p8p$	$^1P_1$	971.867	0.1291+11	0.5281+13	0.5281+13
$2p8p$	$^3D_3$	972.217	0.1101+11	0.0684+13	0.0684+13
$2p8p$	$^3P_0$	972.239	0.1091+10	0.3500+13	0.3500+13
$2p8p$	$^3S_1$	972.261	0.1489+11	1.2066+13	1.2066+13
$2p8p$	$^3P_1$	972.525	0.6682+10	0.8180+13	0.8180+13
$2p8p$	$^3P_2$	972.557	0.5920+10	0.0061+13	0.0061+13
$2p8p$	$^1D_2$	972.908	0.1343+11	0.0057+13	0.0057+13
$2p8p$	$^1S_0$	974.148	0.3080+10	19.295+13	19.295+13
$2p8d$	$^3F_2$	972.513	0.7132+10	0.3924+13	0.3924+13
$2p8d$	$^3F_3$	972.691	0.1385+11	0.5995+13	0.5995+13
$2p8d$	$^1D_2$	972.730	0.1709+11	0.3734+13	0.3734+13
$2p8d$	$^3D_1$	972.914	0.1595+11	0.2543+13	0.2543+13
$2p8d$	$^3F_4$	973.026	0.9748+10	0.5139+13	0.5139+13
$2p8d$	$^1D_2$	973.112	0.1701+11	0.2893+13	0.2893+13
$2p8d$	$^3D_3$	973.236	0.3267+11	0.1044+13	0.1044+13
$2p8d$	$^3P_2$	973.340	0.2313+11	0.7361+13	0.7361+13
$2p8d$	$^3P_1$	973.378	0.1352+11	1.0446+13	1.0446+13
$2p8d$	$^3P_0$	973.400	0.4347+10	1.2633+13	1.2633+13
$2p8d$	$^1F_3$	973.938	0.7006+11	4.4044+13	4.4044+13
$2p8d$	$^1P_1$	974.048	0.2869+11	1.0306+13	1.0306+13
$2p8f$	$^3G_3$	972.987	0.1045+11	1.1130+13	1.1130+13
$2p8f$	$^3F_3$	973.020	0.1246+11	0.0622+13	0.0622+13
$2p8f$	$^3G_4$	973.028	0.1420+11	1.1948+13	1.1948+13
$2p8f$	$^3F_2$	973.075	0.1217+11	0.0181+13	0.0181+13
$2p8f$	$^1F_3$	973.459	0.1079+11	0.6582+13	0.6582+13
$2p8f$	$^3F_4$	973.480	0.1412+11	0.7901+13	0.7901+13

TABLE II. continued.

1	2	3	4	5	6
$2p7d$	$^3D_3$	959.882	0.4636+11	0.1319+13	0.1319+13
$2p7d$	$^3P_2$	960.031	0.2855+11	1.1035+13	1.1035+13
$2p7d$	$^3P_1$	960.086	0.1611+11	1.4686+13	1.4686+13
$2p7d$	$^3P_0$	960.116	0.5087+10	1.7065+13	1.7065+13
$2p7d$	$^1P_1$	961.015	0.2475+11	1.4090+13	1.4090+13
$2p7d$	$^1F_3$	960.880	0.7683+11	6.1728+13	6.1728+13
$2p7f$	$^3G_3$	959.744	0.1558+11	1.2584+13	1.2584+13
$2p7f$	$^3F_3$	959.778	0.1592+11	0.2353+13	0.2353+13
$2p7f$	$^3F_4$	959.800	0.1948+11	1.5935+13	1.5935+13
$2p7f$	$^3F_2$	959.816	0.1181+11	0.0140+13	0.0140+13
$2p7f$	$^3G_3$	960.205	0.1555+11	1.4169+13	1.4169+13
$2p7f$	$^3F_4$	960.237	0.1976+11	1.4900+13	1.4900+13
$2p7f$	$^3G_5$	960.341	0.2399+11	2.9007+13	2.9007+13
$2p7f$	$^3D_3$	960.404	0.1706+11	0.0355+13	0.0355+13
$2p7f$	$^3D_2$	960.461	0.1254+11	0.0510+13	0.0510+13
$2p7f$	$^1G_4$	960.483	0.1800+11	3.3805+13	3.3805+13
$2p7f$	$^3D_1$	960.556	0.7492+10	0.0455+13	0.0455+13
$2p7f$	$^1D_2$	960.687	0.1407+11	0.1578+13	0.1578+13
$2p7g$	$^3H_4$	959.944	0.1263+11	1.1626+13	1.1626+13
$2p7g$	$^3G_5$	959.948	0.1537+11	1.1634+13	1.1634+13
$2p7g$	$^3G_4$	959.952	0.1326+11	0.0037+13	0.0037+13
$2p7g$	$^3G_3$	959.953	0.1040+11	0.0105+13	0.0105+13
$2p7g$	$^3H_4$	960.415	0.1287+11	0.8002+13	0.8002+13
$2p7g$	$^3G_5$	960.418	0.1568+11	0.8128+13	0.8128+13
$2p7g$	$^3F_4$	960.488	0.1334+11	0.0079+13	0.0079+13
$2p7g$	$^3G_3$	960.490	0.1034+11	0.0155+13	0.0155+13
$2p7g$	$^3H_6$	960.520	0.1773+11	1.9656+13	1.9656+13
$2p7g$	$^1H_5$	960.526	0.1488+11	1.9777+13	1.9777+13
$2p7g$	$^3F_2$	960.598	0.7437+10	0.0161+13	0.0161+13
$2p7g$	$^3F_3$	960.601	0.1053+11	0.0105+13	0.0105+13
$2p7h$	$^3I_5$	960.051	0.1116+11	0.4750+13	0.4750+13
$2p7h$	$^3H_6$	960.051	0.1318+11	0.2192+13	0.2192+13
$2p7h$	$^3G_5$	960.057	0.1202+11	0.0034+13	0.0034+13
$2p7h$	$^3H_4$	960.057	0.9831+10	0.0076+13	0.0076+13
$2p7h$	$^3I_5$	960.542	0.1161+11	0.0057+13	0.0057+13
$2p7h$	$^3H_6$	960.542	0.1372+11	0.1193+13	0.1193+13
$2p7h$	$^3G_5$	960.570	0.1209+11	0.2593+13	0.2593+13
$2p7h$	$^3H_4$	960.570	0.9893+10	0.0046+13	0.0046+13
$2p7h$	$^3I_7$	960.603	0.1468+11	0.7343+13	0.7343+13
$2p7h$	$^1I_6$	960.603	0.1272+11	0.3961+13	0.3961+13
$2p7h$	$^3G_3$	960.636	0.7711+10	0.0082+13	0.0082+13
$2p7h$	$^3G_4$	960.636	0.9912+10	0.0118+13	0.0118+13
$2p7i$	$^3K_6$	960.081	0.6033+10	0.0842+13	0.0842+13

TABLE II. continued.

1	2	3	4	5	6
$3s^2$	$^1S_0$	1164.268	0.3331+11	0.7003+14	0.7044+14
$3s3p$	$^3P_0$	1181.658	0.3691+11	0.3840+14	0.8970+14
$3s3p$	$^3P_1$	1181.702	0.1108+12	0.3840+14	0.8971+14
$3s3p$	$^1P_1$	1202.677	0.1390+12	0.1044+15	0.3666+15
$3s3p$	$^3P_2$	1181.790	0.1846+12	0.3839+14	0.8972+14
$3s3d$	$^1D_2$	1203.573	0.3678+12	0.9437+14	0.2146+15
$3s3d$	$^3D_1$	1208.502	0.2713+12	0.1108+14	0.1896+14
$3s3d$	$^3D_2$	1208.518	0.4568+12	0.1108+14	0.1896+14
$3s3d$	$^3D_3$	1208.542	0.6389+12	0.1108+14	0.1895+14
$3p^2$	$^3P_0$	1217.478	0.5083+11	0.5000+10	0.1727+15
$3p^2$	$^3P_1$	1217.521	0.1525+12	0.1000+09	0.1727+15
$3p^2$	$^3P_2$	1217.606	0.2544+12	0.2000+10	0.1727+15
$3p^2$	$^1S_0$	1233.261	0.6703+11	0.8549+14	0.6366+15
$3p^2$	$^1D_2$	1234.402	0.4307+12	0.5991+14	0.2899+15
$3p3d$	$^3P_0$	1242.184	0.9619+11	0.2873+13	0.4335+14
$3p3d$	$^3D_1$	1239.401	0.2987+12	0.1000+10	0.1036+15
$3p3d$	$^3P_1$	1242.176	0.2884+12	0.2876+13	0.4335+14
$3p3d$	$^1P_1$	1269.341	0.2677+12	0.3554+13	0.1647+15
$3p3d$	$^3F_2$	1228.197	0.4645+12	0.7210+12	0.1092+13
$3p3d$	$^1D_2$	1229.033	0.4854+12	0.3000+10	0.9692+13
$3p3d$	$^3D_2$	1239.429	0.4975+12	0.1000+10	0.1036+15
$3p3d$	$^3P_2$	1242.159	0.4802+12	0.2883+13	0.4334+14
$3p3d$	$^3F_3$	1228.261	0.6498+12	0.7230+12	0.1060+13
$3p3d$	$^3D_3$	1239.472	0.6959+12	0.1000+09	0.1036+15
$3p3d$	$^1F_3$	1255.852	0.6761+12	0.8415+13	0.3164+15
$3p3d$	$^3F_4$	1228.343	0.8348+12	0.7240+12	0.1059+13
$3p3d$	$^3P_0$	1242.184	0.9619+11	0.2873+13	0.4335+14
$3p3d$	$^3D_1$	1239.401	0.2987+12	0.1000+10	0.1036+15
$3p3d$	$^3P_1$	1242.176	0.2884+12	0.2876+13	0.4335+14
$3p3d$	$^1P_1$	1269.341	0.2677+12	0.3554+13	0.1647+15
$3p3d$	$^3F_2$	1228.197	0.4645+12	0.7210+12	0.1092+13
$3p3d$	$^1D_2$	1229.033	0.4854+12	0.3000+10	0.9692+13
$3p3d$	$^3D_2$	1239.429	0.4975+12	0.1000+10	0.1036+15
$3p3d$	$^3P_2$	1242.159	0.4802+12	0.2883+13	0.4334+14
$3p3d$	$^3F_3$	1228.261	0.6498+12	0.7230+12	0.1060+13
$3p3d$	$^3D_3$	1239.472	0.6959+12	0.1000+09	0.1036+15
$3p3d$	$^1F_3$	1255.852	0.6761+12	0.8415+13	0.3164+15
$3p3d$	$^3F_4$	1228.343	0.8348+12	0.7240+12	0.1059+13
$3d^2$	$^3F_2$	1251.526	0.7704+12	0.1000+09	0.8692+14
$3d^2$	$^3F_3$	1251.550	0.1052+13	0.1000+09	0.8692+14
$3d^2$	$^3F_4$	1251.581	0.1355+13	0.1000+09	0.8693+14
$3d^2$	$^1G_4$	1261.420	0.1303+13	0.9761+14	0.5917+15
$3d^2$	$^3P_0$	1265.064	0.1461+12	0.1000+09	0.3341+13

TABLE II. continued.

1	2	3	4	5	6
$2p8f$	$^3G_5$	973.551	0.1580+11	1.8259+13	1.8259+13
$2p8f$	$^3D_3$	973.581	0.1425+10	0.0207+13	0.0207+13
$2p8f$	$^3D_2$	973.622	0.1153+11	0.0347+13	0.0347+13
$2p8f$	$^1G_4$	973.647	0.1515+11	2.1382+13	2.1382+13
$2p8f$	$^3D_1$	973.697	0.6701+10	0.0297+13	0.0297+13
$2p8f$	$^1D_2$	973.792	0.1802+11	0.1223+13	0.1223+13
$2p8g$	$^3H_4$	973.113	0.9483+10	0.8984+13	0.8984+13
$2p8g$	$^3G_5$	973.115	0.1159+11	0.9004+13	0.9004+13
$2p8g$	$^3G_3$	973.124	0.8357+10	0.0204+13	0.0204+13
$2p8g$	$^3F_4$	973.126	0.1060+11	0.0038+13	0.0038+13
$2p8g$	$^1G_4$	973.596	0.9781+10	0.4919+13	0.4919+13
$2p8g$	$^3G_5$	973.598	0.1195+11	0.4995+13	0.4995+13
$2p8g$	$^3F_4$	973.643	0.1083+11	0.0068+13	0.0068+13
$2p8g$	$^3G_3$	973.644	0.8445+10	0.0142+13	0.0142+13
$2p8g$	$^3H_6$	973.668	0.1336+11	1.3906+13	1.3906+13
$2p8g$	$^1H_5$	973.672	0.1130+11	1.4011+13	1.4011+13
$2p8g$	$^3F_2$	973.722	0.6331+10	0.0155+13	0.0155+13
$2p8g$	$^3F_3$	973.724	0.8978+10	0.0106+13	0.0106+13
$2p8h$	$^3I_5$	973.181	0.8959+10	0.4343+13	0.4343+13
$2p8h$	$^3I_6$	973.181	0.1059+11	0.4343+13	0.4343+13
$2p8h$	$^3G_5$	973.186	0.9937+10	0.0058+13	0.0058+13
$2p8h$	$^3H_4$	973.186	0.8129+10	0.0053+13	0.0053+13
$2p8h$	$^1H_5$	973.681	0.9365+10	0.2106+13	0.2106+13
$2p8h$	$^3H_6$	973.681	0.1107+11	0.2107+13	0.2107+13
$2p8h$	$^3G_5$	973.699	0.9985+10	0.0034+13	0.0034+13
$2p8h$	$^3H_4$	973.699	0.8172+10	0.0073+13	0.0073+13
$2p8h$	$^3I_7$	973.723	0.1188+11	0.6448+13	0.6448+13
$2p8h$	$^1I_6$	973.723	0.1029+11	0.6450+13	0.6450+13
$2p8h$	$^3G_3$	973.745	0.6568+10	0.0090+13	0.0090+13
$2p8h$	$^3G_4$	973.745	0.8446+10	0.0124+13	0.0124+13
$2p8i$	$^3K_6$	973.203	0.4062+10	0.1248+13	0.1248+13
$2p8i$	$^3K_7$	973.203	0.4687+10	0.1248+13	0.1248+13
$2p8i$	$^3H_6$	973.205	0.4066+10	0.0009+13	0.0009+13
$2p8i$	$^3I_5$	973.205	0.3440+10	0.0009+13	0.0009+13
$2p8i$	$^1I_6$	973.713	0.4066+10	0.0574+13	0.0574+13
$2p8i$	$^3I_7$	973.713	0.4692+10	0.0574+13	0.0574+13
$2p8i$	$^3I_5$	973.721	0.3441+10	0.0010+13	0.0010+13
$2p8i$	$^3H_6$	973.721	0.4067+10	0.0009+13	0.0009+13
$2p8i$	$^1K_7$	973.738	0.4683+10	0.1822+13	0.1822+13
$2p8i$	$^3K_8$	973.738	0.5307+10	0.1822+13	0.1822+13
$2p8i$	$^3H_4$	973.748	0.2813+10	0.0017+13	0.0017+13
$2p8i$	$^3H_5$	973.748	0.3438+10	0.0017+13	0.0017+13

TABLE II. continued.

1	2	3	4	5	6
$3p4d$	$^3F_4$	1400.225	0.5367+12	0.5400+11	0.1535+13
$3p4f$	$^1F_3$	1401.165	0.3982+12	0.1000+11	0.2290+12
$3p4f$	$^3G_3$	1401.381	0.4560+12	0.2350+12	0.2328+13
$3p4f$	$^3G_4$	1401.416	0.5895+12	0.2450+12	0.2329+13
$3p4f$	$^3G_5$	1401.472	0.7217+12	0.2430+12	0.2309+13
$3p4f$	$^3F_2$	1403.761	0.2168+12	0.1000+09	0.1502+13
$3p4f$	$^3F_3$	1403.777	0.3035+12	0.1000+09	0.1498+13
$3p4f$	$^3F_4$	1403.797	0.3901+12	0.1000+10	0.1500+13
$3p4f$	$^1G_4$	1411.306	0.4874+12	0.4970+14	0.2099+15
$3p4f$	$^3D_3$	1413.444	0.4070+12	0.2450+12	0.5075+13
$3p4f$	$^3D_2$	1413.451	0.2895+12	0.2450+12	0.5093+13
$3p4f$	$^3D_1$	1413.456	0.1732+12	0.2440+12	0.5101+13
$3p4f$	$^1D_2$	1417.764	0.2430+12	0.6504+13	0.2478+14
$3d4s$	$^1D_2$	1389.009	0.3700+12	0.2170+14	0.1249+15
$3d4s$	$^3D_1$	1396.318	0.2539+12	0.1204+13	0.1956+13
$3d4s$	$^3D_2$	1396.344	0.4925+12	0.1196+13	0.1941+13
$3d4s$	$^3D_3$	1396.383	0.5904+12	0.1183+13	0.1904+13
$3d4p$	$^3P_0$	1410.553	0.9199+11	0.2105+13	0.3083+14
$3d4p$	$^3D_1$	1408.884	0.2606+12	0.1000+09	0.6613+14
$3d4p$	$^3P_1$	1410.557	0.2758+12	0.2108+13	0.3076+14
$3d4p$	$^1P_1$	1422.981	0.2239+12	0.1649+13	0.1027+15
$3d4p$	$^1D_2$	1402.790	0.4806+12	0.1000+09	0.5622+13
$3d4p$	$^3F_2$	1404.786	0.4595+12	0.1063+13	0.2445+13
$3d4p$	$^3D_2$	1408.905	0.4342+12	0.1000+09	0.6613+14
$3d4p$	$^3P_2$	1410.565	0.4594+12	0.2115+13	0.3062+14
$3d4p$	$^3F_3$	1404.818	0.6430+12	0.1063+13	0.2449+13
$3d4p$	$^3D_3$	1408.936	0.6074+12	0.1000+09	0.6614+14
$3d4p$	$^1F_3$	1418.647	0.5778+12	0.2422+14	0.1889+15
$3d4p$	$^3F_4$	1404.861	0.8260+12	0.1062+13	0.2456+13
$3d4d$	$^1F_3$	1405.900	0.6585+12	0.1000+09	0.2778+13
$3d4d$	$^3D_3$	1407.138	0.5632+12	0.1700+11	0.6040+12
$3d4d$	$^3D_2$	1407.142	0.4043+12	0.1900+11	0.5930+12
$3d4d$	$^3D_1$	1407.144	0.2433+12	0.1800+11	0.5810+12
$3d4d$	$^3G_3$	1409.549	0.5807+12	0.4080+12	0.9393+13
$3d4d$	$^3G_4$	1409.579	0.7451+12	0.4120+12	0.9341+13
$3d4d$	$^3G_5$	1409.617	0.9084+12	0.4100+12	0.9420+13
$3d4d$	$^1P_1$	1409.942	0.3167+12	0.1000+09	0.3130+12
$3d4d$	$^3F_2$	1415.841	0.5648+12	0.1000+09	0.6735+14
$3d4d$	$^3F_3$	1415.859	0.7928+12	0.1000+09	0.6735+14
$3d4d$	$^3F_4$	1415.882	0.1019+13	0.1000+09	0.6736+14
$3d4d$	$^3S_1$	1417.436	0.2723+12	0.1460+12	0.9260+12
$3d4d$	$^3P_0$	1421.899	0.1195+12	0.1000+09	0.5909+13
$3d4d$	$^3P_1$	1421.907	0.3584+12	0.1000+09	0.5892+13

TABLE II. continued.

1	2	3	4	5	6
$3d^2$	$^3P_1$	1265.074	0.4383+12	0.1000+09	0.3341+13
$3d^2$	$^3P_2$	1265.096	0.7301+12	0.1000+09	0.3315+13
$3d^2$	$^1D_2$	1269.546	0.6357+12	0.9320+12	0.1361+15
$3d^2$	$^1S_0$	1304.067	0.1223+12	0.3095+13	0.1158+14
$3s4s$	$^3S_1$	1350.581	0.8467+11	0.8820+12	0.8840+12
$3s4s$	$^1S_0$	1356.354	0.2864+11	0.5562+14	0.5574+14
$3s4p$	$^3P_0$	1364.731	0.2937+11	0.2457+14	0.4370+14
$3s4p$	$^1P_1$	1361.739	0.9831+11	0.1248+14	0.2073+14
$3s4p$	$^3P_1$	1364.747	0.8810+11	0.2456+14	0.4368+14
$3s4p$	$^3P_2$	1364.779	0.1469+12	0.2453+14	0.4364+14
$3s4d$	$^3D_1$	1370.048	0.1556+12	0.6067+13	0.6911+13
$3s4d$	$^3D_2$	1370.063	0.2592+12	0.6078+13	0.6922+13
$3s4d$	$^3D_3$	1370.084	0.3627+12	0.6087+13	0.6936+13
$3s4d$	$^1D_2$	1371.422	0.2373+12	0.3754+14	0.5687+14
$3s4f$	$^3F_2$	1378.187	0.1607+12	0.3358+13	0.3399+13
$3s4f$	$^3F_3$	1378.191	0.2250+12	0.3359+13	0.3400+13
$3s4f$	$^1F_3$	1381.014	0.3156+12	0.1649+13	0.3465+14
$3s4f$	$^3F_4$	1378.197	0.2892+12	0.3360+13	0.3402+13
$3p4s$	$^3P_0$	1379.816	0.4225+11	0.6355+13	0.2613+14
$3p4s$	$^3P_1$	1379.858	0.1268+12	0.6368+13	0.2616+14
$3p4s$	$^1P_1$	1386.569	0.1273+12	0.7336+14	0.2362+15
$3p4s$	$^3P_2$	1379.943	0.2116+12	0.6380+13	0.2619+14
$3p4p$	$^1P_1$	1386.376	0.1336+12	0.2000+10	0.2147+13
$3p4p$	$^3D_1$	1388.685	0.1670+12	0.4796+13	0.1242+14
$3p4p$	$^3D_2$	1388.722	0.2796+12	0.5128+13	0.1470+14
$3p4p$	$^3D_3$	1388.785	0.3913+12	0.4798+13	0.1245+14
$3p4p$	$^3S_1$	1391.437	0.1680+12	0.3340+12	0.3864+13
$3p4p$	$^3P_0$	1394.413	0.4424+11	0.3000+10	0.1329+15
$3p4p$	$^3P_1$	1394.446	0.1328+12	0.1000+09	0.1329+15
$3p4p$	$^3P_2$	1394.509	0.2214+12	0.2000+10	0.1330+15
$3p4p$	$^1S_0$	1404.504	0.5548+11	0.4012+14	0.4551+15
$3p4p$	$^1D_2$	1405.790	0.3780+12	0.5038+14	0.1369+15
$3p4d$	$^3P_0$	1403.551	0.6182+11	0.1000+09	0.1491+14
$3p4d$	$^3D_1$	1392.788	0.2152+12	0.1000+09	0.5230+13
$3p4d$	$^1P_1$	1397.707	0.2160+12	0.3010+12	0.8439+13
$3p4d$	$^3P_1$	1403.541	0.1853+12	0.1000+09	0.1498+14
$3p4d$	$^3D_2$	1392.809	0.3586+12	0.1000+09	0.5230+13
$3p4d$	$^1D_2$	1396.683	0.2995+12	0.1000+09	0.6601+13
$3p4d$	$^3F_2$	1400.112	0.2980+12	0.5500+11	0.1536+13
$3p4d$	$^3P_2$	1403.522	0.3084+12	0.1000+09	0.1511+14
$3p4d$	$^3D_3$	1392.839	0.5017+12	0.1000+09	0.5229+13
$3p4d$	$^1F_3$	1394.993	0.4543+12	0.6000+11	0.7880+12
$3p4d$	$^3F_3$	1400.160	0.4173+12	0.5500+11	0.1536+13

TABLE II. continued.

1	2	3	4	5	6
$3p5s$	$^3P_1$	1461.738	0.1090+12	0.3253+13	0.1384+14
$3p5s$	$^1P_1$	1463.579	0.1124+12	0.2692+14	0.8497+14
$3p5s$	$^3P_2$	1461.830	0.1819+12	0.3228+13	0.1376+14
$3p5p$	$^1P_1$	1465.427	0.1094+12	0.6000+10	0.1744+13
$3p5p$	$^3D_1$	1465.973	0.1339+12	0.8320+12	0.4759+13
$3p5p$	$^3D_2$	1466.015	0.2239+12	0.8390+12	0.4950+13
$3p5p$	$^3D_3$	1466.089	0.3143+12	0.8400+12	0.4794+13
$3p5p$	$^1D_2$	1467.452	0.3062+12	0.2165+13	0.7161+14
$3p5p$	$^3S_1$	1468.010	0.1235+12	0.4000+11	0.1238+14
$3p5p$	$^3P_0$	1468.097	0.3822+11	0.2000+10	0.6649+14
$3p5p$	$^3P_1$	1468.142	0.1155+12	0.9000+10	0.5630+14
$3p5p$	$^3P_2$	1468.184	0.1836+12	0.6000+10	0.6651+14
$3p5p$	$^1S_0$	1472.443	0.3809+11	0.2367+13	0.1253+15
$3p5d$	$^3P_0$	1473.114	0.4379+11	0.2830+12	0.1744+14
$3p5d$	$^3D_1$	1469.423	0.1526+12	0.1000+09	0.1021+14
$3p5d$	$^1P_1$	1472.180	0.1640+12	0.1803+13	0.1927+14
$3p5d$	$^3P_1$	1473.099	0.1314+12	0.2840+12	0.1748+14
$3p5d$	$^3D_2$	1469.441	0.2543+12	0.1000+09	0.1021+14
$3p5d$	$^1D_2$	1470.288	0.2135+12	0.1000+09	0.6463+13
$3p5d$	$^3F_2$	1471.400	0.2294+12	0.7500+11	0.1514+13
$3p5d$	$^3P_2$	1473.065	0.2189+12	0.2780+12	0.1753+14
$3p5d$	$^3D_3$	1469.468	0.3560+12	0.1000+09	0.1020+14
$3p5d$	$^1F_3$	1470.140	0.3945+12	0.6900+11	0.5666+13
$3p5d$	$^3F_3$	1471.449	0.3216+12	0.7500+11	0.1507+13
$3p5d$	$^3F_4$	1471.512	0.4137+12	0.7500+11	0.1502+13
$3p5f$	$^1F_3$	1472.545	0.2567+12	0.1000+10	0.2498+13
$3p5f$	$^3F_3$	1473.191	0.3865+12	0.1740+12	0.5490+12
$3p5f$	$^3F_2$	1473.206	0.2188+12	0.4500+11	0.1390+12
$3p5f$	$^3F_4$	1473.222	0.3233+12	0.3100+11	0.2060+12
$3p5f$	$^3G_3$	1473.368	0.2872+12	0.3590+12	0.2448+13
$3p5f$	$^3G_4$	1473.413	0.3699+12	0.3650+12	0.2467+13
$3p5f$	$^3G_5$	1473.462	0.4564+12	0.3870+12	0.2621+13
$3p5f$	$^3D_3$	1476.065	0.2938+12	0.6050+12	0.3744+13
$3p5f$	$^3D_2$	1476.101	0.2093+12	0.6060+12	0.3732+13
$3p5f$	$^3D_1$	1476.125	0.1253+11	0.5980+12	0.3710+13
$3p5f$	$^1G_4$	1476.400	0.3293+12	0.2204+14	0.6939+14
$3p5f$	$^1D_2$	1479.770	0.2174+12	0.3008+14	0.3168+14
$3p5g$	$^3F_2$	1478.749	0.2225+12	0.5450+12	0.5910+12
$3p5g$	$^3G_3$	1475.175	0.2100+12	0.1000+09	0.1000+10
$3p5g$	$^3F_3$	1478.729	0.3228+12	0.5690+12	0.6360+12
$3p5g$	$^1F_3$	1479.529	0.2542+12	0.3940+12	0.7600+13
$3p5g$	$^1G_4$	1474.723	0.2804+12	0.4000+10	0.1400+11
$3p5g$	$^3G_4$	1475.180	0.2702+12	0.2000+11	0.5000+11

TABLE II. continued.

1	2	3	4	5	6
$3d4d$	$^3P_2$	1421.923	0.5969+12	0.1000+09	0.5862+13
$3d4d$	$^1D_2$	1424.577	0.4613+12	0.4090+13	0.9141+14
$3d4d$	$^1G_4$	1423.452	0.8376+12	0.1643+14	0.2459+15
$3d4d$	$^1S_0$	1433.413	0.6622+11	0.3657+14	0.6531+14
$3d4f$	$^3P_0$	1426.090	0.9204+11	0.2900+12	0.6120+12
$3d4f$	$^3D_1$	1422.654	0.2998+12	0.1000+09	0.3100+11
$3d4f$	$^3P_1$	1426.082	0.2763+12	0.2910+12	0.6140+12
$3d4f$	$^1P_1$	1434.337	0.2854+12	0.1600+11	0.2091+13
$3d4f$	$^3F_2$	1415.250	0.4358+12	0.1200+11	0.5983+13
$3d4f$	$^1D_2$	1417.432	0.4725+12	0.1000+09	0.1710+12
$3d4f$	$^3D_2$	1422.657	0.4996+12	0.1000+09	0.1000+10
$3d4f$	$^3P_2$	1426.068	0.4606+12	0.2910+12	0.6180+12
$3d4f$	$^3F_3$	1415.265	0.6097+12	0.1200+11	0.5980+13
$3d4f$	$^3G_3$	1419.554	0.7323+12	0.1000+09	0.1446+14
$3d4f$	$^3D_3$	1422.660	0.6995+12	0.1000+09	0.2000+10
$3d4f$	$^1F_3$	1425.370	0.6332+12	0.2082+13	0.2039+14
$3d4f$	$^1G_4$	1410.310	0.7937+12	0.5000+10	0.7531+13
$3d4f$	$^3H_4$	1410.692	0.7379+12	0.5011+13	0.2971+14
$3d4f$	$^3H_5$	1410.712	0.9011+12	0.5017+13	0.2973+14
$3d4f$	$^3F_4$	1415.286	0.7831+12	0.1200+11	0.5972+13
$3d4f$	$^3G_4$	1419.569	0.9411+12	0.1000+09	0.1445+14
$3d4f$	$^3G_5$	1419.588	0.1149+13	0.1000+09	0.1445+14
$3d4f$	$^1H_5$	1427.590	0.1131+13	0.1382+14	0.8655+14
$3d4f$	$^3H_6$	1410.737	0.1064+13	0.5017+13	0.2973+14
$3s6s$	$^3S_1$	1434.745	0.6962+11	0.7310+12	0.7340+12
$3s6s$	$^1S_0$	1440.228	0.5849+11	0.6471+13	0.1142+14
$3s6p$	$^3P_0$	1441.271	0.2437+11	0.1279+14	0.1900+14
$3s6p$	$^3P_1$	1441.279	0.7310+11	0.1278+14	0.1900+14
$3s6p$	$^1P_1$	1441.868	0.8114+11	0.1508+14	0.2225+14
$3s6p$	$^3P_2$	1441.295	0.1218+12	0.1278+14	0.1899+14
$3s6d$	$^3D_1$	1444.713	0.1026+12	0.5632+13	0.6215+13
$3s6d$	$^3D_2$	1444.717	0.1709+12	0.5634+13	0.6218+13
$3s6d$	$^3D_3$	1444.724	0.2392+12	0.5636+13	0.6212+13
$3s6d$	$^1D_2$	1445.603	0.1676+12	0.2670+14	0.3781+14
$3s6f$	$^3F_2$	1447.869	0.1217+12	0.2525+13	0.2647+13
$3s6f$	$^3F_3$	1447.871	0.1704+12	0.2525+13	0.2647+13
$3s6f$	$^1F_3$	1450.153	0.2026+12	0.1290+12	0.3221+14
$3s6f$	$^3F_4$	1447.874	0.2191+12	0.2526+13	0.2648+13
$3s6g$	$^3G_3$	1450.873	0.1480+12	0.2400+11	0.1076+13
$3s6g$	$^3G_4$	1450.874	0.1904+12	0.2400+11	0.1077+13
$3s6g$	$^3G_5$	1450.876	0.2327+12	0.2400+11	0.1077+13
$3s6g$	$^1G_4$	1452.856	0.2053+12	0.1910+12	0.1754+13
$3p5s$	$^3P_0$	1461.695	0.3630+11	0.3224+13	0.1376+14

TABLE II. continued.

1	2	3	4	5	6
$3d5f$	$^1P_1$	1491.930	0.2881+12	0.3940+12	0.8064+13
$3d5f$	$^3F_2$	1482.597	0.4027+12	0.3640+12	0.3728+13
$3d5f$	$^1D_2$	1483.903	0.4651+12	0.1000+10	0.2690+12
$3d5f$	$^3D_2$	1486.009	0.4824+12	0.1000+09	0.1490+12
$3d5f$	$^3P_2$	1487.305	0.4519+12	0.6000+10	0.1364+13
$3d5f$	$^3F_3$	1482.608	0.5623+12	0.4130+12	0.3825+13
$3d5f$	$^3G_3$	1484.600	0.6757+12	0.1500+11	0.1212+14
$3d5f$	$^3D_3$	1486.011	0.6753+12	0.1000+09	0.1520+12
$3d5f$	$^1F_3$	1489.093	0.5168+12	0.4786+13	0.4886+14
$3d5f$	$^1G_4$	1481.382	0.7995+12	0.1000+10	0.5076+13
$3d5f$	$^3H_4$	1481.912	0.7225+12	0.1793+13	0.1568+14
$3d5f$	$^3H_5$	1481.930	0.8818+12	0.1792+13	0.1568+14
$3d5f$	$^3F_4$	1482.621	0.7220+12	0.3660+12	0.3707+13
$3d5f$	$^3G_4$	1484.613	0.8714+12	0.1000+09	0.1172+14
$3d5f$	$^3G_5$	1484.630	0.1064+13	0.1000+09	0.1173+14
$3d5f$	$^1H_5$	1489.056	0.9738+12	0.1212+14	0.7991+14
$3d5f$	$^3H_6$	1481.953	0.1040+13	0.1790+13	0.1566+14
$3d5g$	$^1H_5$	1484.007	0.9925+12	0.1000+09	0.1181+13
$3d5g$	$^3G_3$	1484.418	0.5121+12	0.3900+11	0.4130+12
$3d5g$	$^3G_4$	1484.427	0.6624+12	0.4100+11	0.4880+12
$3d5g$	$^3G_5$	1484.436	0.8107+12	0.3600+11	0.4630+12
$3d5g$	$^3H_4$	1484.363	0.8050+12	0.9000+10	0.1404+13
$3d5g$	$^3H_5$	1484.375	0.9816+12	0.2000+10	0.1312+13
$3d5g$	$^3H_6$	1484.393	0.1168+13	0.1000+09	0.1360+13
$3d5g$	$^1F_3$	1485.560	0.6413+12	0.1000+09	0.3000+10
$3d5g$	$^3F_2$	1485.793	0.4603+12	0.1000+09	0.1600+12
$3d5g$	$^3F_3$	1485.792	0.6433+12	0.1000+09	0.1540+12
$3d5g$	$^3F_4$	1485.790	0.8271+12	0.1000+10	0.1660+12
$3d5g$	$^1G_4$	1484.969	0.8266+12	0.6366+13	0.6994+14
$3d5g$	$^3I_5$	1485.111	0.9728+12	0.7470+12	0.4843+13
$3d5g$	$^3I_6$	1485.130	0.1149+13	0.7470+12	0.4845+13
$3d5g$	$^3I_7$	1485.153	0.1324+13	0.7470+12	0.4845+13
$3d5g$	$^1I_6$	1486.228	0.1139+13	0.1095+13	0.7127+13
$3d5g$	$^3D_3$	1487.913	0.6436+12	0.1000+10	0.3300+11
$3d5g$	$^3D_2$	1487.931	0.4593+12	0.1000+10	0.3700+11
$3d5g$	$^3D_1$	1487.943	0.2754+12	0.1000+10	0.3300+11
$3d5g$	$^1D_2$	1489.581	0.4365+12	0.1000+10	0.9761+13
$3s6s$	$^3S_1$	1476.634	0.7948+11	0.7130+12	0.1035+13
$3s6s$	$^1S_0$	1478.955	0.3964+11	0.4091+14	0.1262+15
$3s6p$	$^3P_0$	1480.830	0.3009+11	0.4859+13	0.6903+13
$3s6p$	$^1P_1$	1479.401	0.1267+12	0.1410+14	0.4667+14
$3s6p$	$^3P_1$	1480.834	0.9058+11	0.4833+13	0.6894+13
$3s6p$	$^3P_2$	1480.842	0.1519+12	0.4780+13	0.6875+13

TABLE II. continued.

1	2	3	4	5	6
$3p5g$	$^3G_5$	1475.193	0.3303+12	0.2100+11	0.5200+11
$3p5g$	$^3H_4$	1475.494	0.2843+12	0.1129+13	0.2819+13
$3p5g$	$^3H_5$	1475.535	0.3476+12	0.1134+13	0.2833+13
$3p5g$	$^1H_5$	1477.564	0.3117+12	0.8730+12	0.1659+13
$3p5g$	$^3F_4$	1478.708	0.4357+12	0.6010+12	0.6610+12
$3p5g$	$^3H_6$	1475.582	0.4113+12	0.1156+13	0.2892+13
$3d5s$	$^3D_1$	1473.160	0.2433+12	0.3910+12	0.1037+13
$3d5s$	$^3D_2$	1473.173	0.3633+12	0.3410+12	0.9030+12
$3d5s$	$^3D_3$	1473.221	0.4280+12	0.2290+12	0.6450+12
$3d5s$	$^1D_2$	1475.258	0.3230+12	0.1033+14	0.3125+14
$3d5p$	$^3P_0$	1479.893	0.8898+11	0.2700+12	0.1375+14
$3d5p$	$^3D_1$	1478.320	0.2658+12	0.1000+10	0.2795+14
$3d5p$	$^3P_1$	1479.904	0.2663+12	0.2807+13	0.1373+14
$3d5p$	$^1P_1$	1486.783	0.1861+12	0.6720+12	0.3123+14
$3d5p$	$^1D_2$	1476.473	0.4810+12	0.1000+09	0.1066+13
$3d5p$	$^3F_2$	1477.851	0.3807+12	0.2760+12	0.5400+12
$3d5p$	$^3D_2$	1478.338	0.4427+12	0.1000+09	0.2794+14
$3d5p$	$^3P_2$	1479.924	0.4423+12	0.2859+13	0.1367+14
$3d5p$	$^3F_3$	1477.861	0.5212+12	0.2530+12	0.5140+12
$3d5p$	$^3D_3$	1478.365	0.6192+12	0.1000+09	0.2795+14
$3d5p$	$^1F_3$	1484.540	0.4221+12	0.1821+13	0.5676+14
$3d5p$	$^3F_4$	1477.872	0.6482+12	0.2220+12	0.4750+12
$3d5d$	$^1F_3$	1479.017	0.6763+12	0.1000+09	0.1052+13
$3d5d$	$^3D_1$	1480.390	0.2473+12	0.1594+13	0.3629+13
$3d5d$	$^3D_2$	1480.402	0.4116+12	0.1606+13	0.3640+13
$3d5d$	$^3D_3$	1480.420	0.5752+12	0.1607+13	0.3632+13
$3d5d$	$^3G_3$	1480.480	0.6284+12	0.3740+12	0.4275+13
$3d5d$	$^3G_4$	1480.503	0.8069+12	0.3760+12	0.4283+13
$3d5d$	$^3G_5$	1480.531	0.9843+12	0.3760+12	0.4281+13
$3d5d$	$^1P_1$	1480.947	0.2899+12	0.2000+10	0.4190+12
$3d5d$	$^3F_2$	1482.338	0.5159+12	0.1000+10	0.3772+14
$3d5d$	$^3F_3$	1482.353	0.7219+12	0.1000+10	0.3771+14
$3d5d$	$^3F_4$	1482.374	0.9276+12	0.1000+09	0.3772+14
$3d5d$	$^1G_4$	1483.951	0.5344+12	0.6884+13	0.8303+14
$3d5d$	$^3S_1$	1484.191	0.2530+12	0.5100+11	0.1163+13
$3d5d$	$^3P_0$	1485.261	0.1100+12	0.1000+09	0.6212+13
$3d5d$	$^3P_1$	1485.275	0.3298+12	0.1000+09	0.6193+13
$3d5d$	$^3P_2$	1485.289	0.5494+12	0.1000+09	0.6168+13
$3d5d$	$^1D_2$	1486.435	0.4330+12	0.4060+12	0.4824+14
$3d5d$	$^1S_0$	1493.319	0.9054+11	0.2342+13	0.3113+14
$3d5f$	$^3P_0$	1487.329	0.9028+11	0.7000+10	0.1346+13
$3d5f$	$^3D_1$	1486.007	0.2894+12	0.1000+09	0.1520+12
$3d5f$	$^3P_1$	1487.321	0.2710+12	0.7000+10	0.1353+13

TABLE II. continued.

1	2	3	4	5	6
$3p6f$	$^3F_2$	1509.639	0.1565+12	0.1000+09	0.1860+12
$3p6f$	$^3F_3$	1509.648	0.2192+12	0.5000+10	0.2230+12
$3p6f$	$^3F_4$	1509.665	0.2819+12	0.1200+11	0.2360+12
$3p6f$	$^3G_3$	1510.007	0.2315+12	0.3110+12	0.2332+13
$3p6f$	$^3G_4$	1510.053	0.2979+12	0.3220+12	0.2350+13
$3p6f$	$^3G_5$	1510.110	0.3648+12	0.3170+12	0.2363+13
$3p6f$	$^3D_3$	1511.151	0.2499+12	0.3000+11	0.1451+13
$3p6f$	$^3D_2$	1511.194	0.1796+12	0.2800+11	0.1427+13
$3p6f$	$^3D_1$	1511.223	0.1083+12	0.2600+11	0.1412+13
$3p6f$	$^1D_2$	1512.610	0.2526+12	0.7590+12	0.2098+13
$3p6f$	$^1G_4$	1511.832	0.2987+12	0.1361+14	0.3363+14
$3p6g$	$^3G_3$	1510.903	0.2000+12	0.1000+09	0.2000+10
$3p6g$	$^3F_2$	1512.723	0.1507+12	0.5800+11	0.6000+11
$3p6g$	$^3F_3$	1512.686	0.2109+12	0.5800+11	0.6200+11
$3p6g$	$^1F_3$	1513.869	0.2469+12	0.2600+11	0.1713+13
$3p6g$	$^1G_4$	1510.667	0.2588+12	0.2000+10	0.2100+11
$3p6g$	$^3G_4$	1510.912	0.2571+12	0.3000+10	0.8000+10
$3p6g$	$^3G_5$	1510.925	0.3143+12	0.4000+10	0.1000+11
$3p6g$	$^3H_4$	1511.622	0.2602+12	0.7780+12	0.1544+13
$3p6g$	$^3H_5$	1511.668	0.3183+12	0.7820+12	0.1554+13
$3p6g$	$^3F_4$	1512.640	0.2708+12	0.5900+11	0.6200+11
$3p6g$	$^1H_5$	1513.601	0.3300+12	0.2038+13	0.4819+13
$3p6g$	$^3H_6$	1511.726	0.3765+12	0.7860+12	0.1562+13
$3p6h$	$^1H_5$	1511.722	0.3055+12	0.1000+09	0.1000+10
$3p6h$	$^3H_4$	1511.732	0.2500+12	0.5000+10	0.1400+11
$3p6h$	$^3H_5$	1511.745	0.3055+12	0.1000+09	0.2000+10
$3p6h$	$^3H_6$	1511.752	0.3610+12	0.1000+09	0.2000+10
$3p6h$	$^3I_5$	1512.859	0.2988+12	0.8700+11	0.2240+12
$3p6h$	$^3I_6$	1512.891	0.3534+12	0.8900+11	0.2290+12
$3p6h$	$^3I_7$	1512.964	0.4075+12	0.8700+11	0.2250+12
$3p6h$	$^1I_6$	1513.071	0.3556+12	0.1030+12	0.2730+12
$3p6h$	$^3G_5$	1513.070	0.3145+12	0.4000+10	0.7000+10
$3p6h$	$^3G_4$	1513.097	0.2574+12	0.4000+10	0.9000+10
$3p6h$	$^3G_3$	1513.155	0.2001+12	0.4000+10	0.7000+10
$3p6h$	$^1G_4$	1513.211	0.2578+12	0.2000+10	0.1000+11
$3d6s$	$^3D_1$	1512.964	0.2572+12	0.6620+12	0.2767+13
$3d6s$	$^3D_2$	1512.982	0.4289+12	0.6610+12	0.2745+13
$3d6s$	$^3D_3$	1513.009	0.6011+12	0.6550+12	0.2710+13
$3d6s$	$^1D_2$	1514.981	0.3399+12	0.2411+14	0.2760+14
$3d6p$	$^3P_0$	1516.734	0.9482+11	0.9030+12	0.8110+13
$3d6p$	$^3D_1$	1515.523	0.2754+12	0.1000+09	0.1268+14
$3d6p$	$^3P_1$	1516.746	0.2843+12	0.9040+12	0.8097+13
$3d6p$	$^1P_1$	1519.889	0.2783+12	0.9300+12	0.4293+14

TABLE II. continued.

1	2	3	4	5	6
$3s6d$	$^1D_2$	1482.625	0.2376+12	0.1344+14	0.3198+14
$3s6d$	$^3D_1$	1483.017	0.1058+12	0.2218+13	0.2311+13
$3s6d$	$^3D_2$	1483.019	0.1766+12	0.2217+13	0.2318+13
$3s6d$	$^3D_3$	1483.023	0.2479+12	0.2210+13	0.2306+13
$3s6f$	$^3F_2$	1484.220	0.1518+12	0.1192+13	0.2398+13
$3s6f$	$^1F_3$	1482.549	0.4012+12	0.1536+14	0.3995+14
$3s6f$	$^3F_3$	1484.222	0.2127+12	0.1192+13	0.2416+13
$3s6f$	$^3F_4$	1484.224	0.2745+12	0.1190+13	0.2416+13
$3s6g$	$^1G_4$	1490.238	0.4970+12	0.3300+12	0.4561+14
$3s6g$	$^3G_3$	1486.252	0.2674+12	0.2000+10	0.2112+13
$3s6g$	$^3G_4$	1486.255	0.3441+12	0.2000+10	0.2117+13
$3s6g$	$^3G_5$	1486.258	0.4210+12	0.2000+10	0.2123+13
$3s6h$	$^3H_4$	1487.653	0.2028+12	0.1000+10	0.6270+12
$3s6h$	$^3H_5$	1487.661	0.2482+12	0.2000+10	0.6360+12
$3s6h$	$^1H_5$	1487.898	0.2948+12	0.2240+12	0.3941+13
$3s6h$	$^3H_6$	1487.671	0.2938+12	0.1000+10	0.6380+12
$3p6s$	$^3P_0$	1503.313	0.3287+11	0.1943+13	0.6719+13
$3p6s$	$^3P_1$	1503.356	0.9869+11	0.1983+13	0.6818+13
$3p6s$	$^1P_1$	1504.477	0.1076+12	0.1441+14	0.4088+14
$3p6s$	$^3P_2$	1503.454	0.1647+12	0.1942+13	0.6703+13
$3p6p$	$^1P_1$	1505.520	0.9733+11	0.2000+10	0.9850+12
$3p6p$	$^3D_1$	1505.967	0.1065+12	0.2250+12	0.1964+13
$3p6p$	$^3D_2$	1506.010	0.1780+12	0.2280+12	0.2068+13
$3p6p$	$^3D_3$	1506.090	0.2496+12	0.2300+12	0.1938+13
$3p6p$	$^3P_0$	1506.720	0.3454+11	0.2000+10	0.3368+14
$3p6p$	$^3P_1$	1506.746	0.1037+12	0.1000+10	0.3343+14
$3p6p$	$^3P_2$	1506.802	0.1730+12	0.1000+10	0.3365+14
$3p6p$	$^1D_2$	1507.368	0.2420+12	0.1000+09	0.4421+14
$3p6p$	$^3S_1$	1507.413	0.1108+12	0.3500+11	0.1239+13
$3p6p$	$^1S_0$	1511.316	0.5123+11	0.9541+13	0.1228+15
$3p6d$	$^3P_0$	1510.006	0.3986+11	0.2000+10	0.1110+14
$3p6d$	$^3D_1$	1507.945	0.1182+12	0.1000+09	0.9845+13
$3p6d$	$^3P_1$	1509.982	0.1200+12	0.3000+10	0.1115+14
$3p6d$	$^1P_1$	1510.268	0.1564+12	0.1540+12	0.1402+14
$3p6d$	$^3D_2$	1507.958	0.1960+12	0.1000+09	0.9539+13
$3p6d$	$^1D_2$	1508.036	0.1798+12	0.1000+10	0.3990+13
$3p6d$	$^3F_2$	1508.648	0.1826+12	0.6600+11	0.1172+13
$3p6d$	$^3P_2$	1509.944	0.1991+12	0.1000+10	0.1115+14
$3p6d$	$^3D_3$	1507.986	0.2768+12	0.2000+10	0.9816+13
$3p6d$	$^3F_3$	1508.648	0.2877+12	0.2950+12	0.6527+13
$3p6d$	$^3F_3$	1508.742	0.2882+12	0.2950+12	0.6560+13
$3p6d$	$^3F_4$	1508.759	0.3290+12	0.6600+11	0.1127+13
$3p6f$	$^1F_3$	1509.374	0.2199+12	0.2000+10	0.1717+13

TABLE II. continued.

1	2	3	4	5	6
$3d6f$	$^3G_5$	1519.375	0.1034+13	0.1000+09	0.8148+13
$3d6f$	$^1H_5$	1522.529	0.1015+13	0.1257+14	0.8623+14
$3d6f$	$^3H_6$	1518.239	0.1108+13	0.9330+12	0.1004+14
$3d6g$	$^1H_5$	1519.243	0.9822+12	0.1000+09	0.1123+13
$3d6g$	$^3H_4$	1519.482	0.8042+12	0.1800+12	0.3404+13
$3d6g$	$^3H_5$	1519.497	0.9817+12	0.1000+10	0.1325+13
$3d6g$	$^3H_6$	1519.513	0.1159+13	0.1000+10	0.1330+13
$3d6g$	$^1G_4$	1519.551	0.8213+12	0.5423+13	0.6623+14
$3d6g$	$^3G_3$	1519.611	0.6384+12	0.6700+11	0.1054+13
$3d6g$	$^3G_4$	1519.620	0.8201+12	0.1060+12	0.1562+13
$3d6g$	$^3G_5$	1519.629	0.1002+13	0.6600+11	0.1060+13
$3d6g$	$^3I_5$	1519.892	0.9535+12	0.7010+12	0.4859+13
$3d6g$	$^3I_6$	1519.910	0.1349+13	0.7020+12	0.4861+13
$3d6g$	$^3I_5$	1519.933	0.1298+13	0.7020+12	0.4863+13
$3d6g$	$^1F_3$	1519.955	0.6500+12	0.1000+09	0.9000+10
$3d6g$	$^3F_2$	1520.138	0.4667+12	0.7000+10	0.7480+12
$3d6g$	$^3F_3$	1520.135	0.6521+12	0.1000+09	0.2000+12
$3d6g$	$^3F_4$	1520.134	0.8384+12	0.3000+10	0.2580+12
$3d6g$	$^1I_6$	1520.820	0.1119+13	0.1196+13	0.8096+13
$3d6g$	$^3D_1$	1521.295	0.2846+12	0.1800+11	0.7300+11
$3d6g$	$^3D_2$	1521.283	0.4746+12	0.1800+11	0.7800+11
$3d6g$	$^3D_3$	1521.265	0.6649+12	0.1800+11	0.7300+11
$3d6g$	$^1D_2$	1522.602	0.4807+12	0.1044+13	0.9060+13
$3d6h$	$^3F_2$	1521.263	0.4672+12	0.3000+10	0.4000+10
$3d6h$	$^3G_3$	1520.490	0.6454+12	0.1000+10	0.3000+10
$3d6h$	$^3F_3$	1521.249	0.6545+12	0.2700+11	0.1230+12
$3d6h$	$^1F_3$	1521.499	0.6535+12	0.1193+13	0.7769+13
$3d6h$	$^3I_5$	1520.043	0.9743+12	0.1000+09	0.1030+12
$3d6h$	$^3H_4$	1520.222	0.8145+12	0.1000+10	0.1250+12
$3d6h$	$^3H_5$	1520.228	0.9951+12	0.1000+10	0.1280+12
$3d6h$	$^1H_5$	1520.271	0.9938+12	0.1000+10	0.1860+12
$3d6h$	$^1G_4$	1520.479	0.8297+12	0.1000+09	0.4000+10
$3d6h$	$^3G_5$	1520.485	0.1014+13	0.1000+09	0.2000+10
$3d6h$	$^3F_4$	1521.231	0.8420+12	0.1000+09	0.4000+10
$3d6h$	$^1I_6$	1520.038	0.1151+13	0.1000+09	0.1010+12
$3d6h$	$^3I_6$	1520.066	0.1150+13	0.1000+09	0.1020+12
$3d6h$	$^3I_7$	1520.071	0.1327+13	0.1000+09	0.1030+12
$3d6h$	$^3H_6$	1520.237	0.1175+13	0.1000+10	0.1270+12
$3d6h$	$^3K_6$	1520.581	0.1117+13	0.5700+11	0.3930+12
$3d6h$	$^3K_7$	1520.593	0.1289+13	0.5800+11	0.3980+12
$3d6h$	$^3K_8$	1520.621	0.1459+13	0.5700+11	0.3930+12
$3d6h$	$^1K_7$	1520.658	0.1287+13	0.6400+11	0.4380+12

TABLE II. continued.

1	2	3	4	5	6
$3d6p$	$^1D_2$	1514.870	0.4759+12	0.1000+09	0.5600+12
$3d6p$	$^3D_2$	1515.541	0.4587+12	0.1000+09	0.1266+14
$3d6p$	$^3F_2$	1515.705	0.4540+12	0.3910+12	0.4250+12
$3d6p$	$^3P_2$	1516.771	0.4732+12	0.9060+12	0.8061+13
$3d6p$	$^3D_3$	1515.566	0.6415+12	0.1000+10	0.1266+14
$3d6p$	$^3F_3$	1515.728	0.6352+12	0.3920+12	0.4330+12
$3d6p$	$^1F_3$	1518.554	0.5701+12	0.1282+14	0.7104+14
$3d6p$	$^3F_4$	1515.758	0.8160+12	0.3920+12	0.4140+12
$3d6d$	$^1F_3$	1516.426	0.6597+12	0.1000+09	0.4770+12
$3d6d$	$^3G_3$	1517.167	0.6482+12	0.2250+12	0.2501+13
$3d6d$	$^3G_4$	1517.188	0.8326+12	0.2260+12	0.2513+13
$3d6d$	$^3G_5$	1517.214	0.1016+13	0.2260+12	0.2508+13
$3d6d$	$^3D_1$	1517.200	0.3392+12	0.2340+12	0.1276+13
$3d6d$	$^3D_2$	1517.213	0.4616+12	0.2360+12	0.1288+13
$3d6d$	$^3D_3$	1517.231	0.6458+12	0.2350+12	0.1287+13
$3d6d$	$^1P_1$	1517.415	0.2872+12	0.2000+10	0.3550+12
$3d6d$	$^3F_2$	1517.939	0.4939+12	0.1000+09	0.2206+14
$3d6d$	$^3F_3$	1517.954	0.6911+12	0.1000+09	0.2205+14
$3d6d$	$^3F_4$	1517.974	0.8879+12	0.1000+09	0.2206+14
$3d6d$	$^3S_1$	1518.994	0.2756+12	0.1690+12	0.1359+13
$3d6d$	$^3P_0$	1519.706	0.1117+12	0.1000+09	0.4480+13
$3d6d$	$^3P_1$	1519.713	0.3350+12	0.1000+09	0.4467+13
$3d6d$	$^3P_2$	1519.724	0.5580+12	0.1000+09	0.4529+13
$3d6d$	$^1D_2$	1520.094	0.5141+12	0.5230+12	0.4973+14
$3d6d$	$^1G_4$	1521.230	0.8185+12	0.1398+13	0.7588+14
$3d6d$	$^1S_0$	1527.619	0.1306+12	0.5635+13	0.2625+14
$3d6f$	$^3P_0$	1520.776	0.9625+11	0.9400+11	0.1181+13
$3d6f$	$^3D_1$	1520.094	0.2918+12	0.1000+10	0.2520+12
$3d6f$	$^3P_1$	1520.768	0.2889+12	0.9500+11	0.1189+13
$3d6f$	$^1P_1$	1524.678	0.3160+12	0.7080+12	0.1376+14
$3d6f$	$^3F_2$	1518.362	0.4549+12	0.4400+11	0.2920+13
$3d6f$	$^1D_2$	1518.960	0.4688+12	0.1000+09	0.2210+12
$3d6f$	$^3D_2$	1520.095	0.4863+12	0.1000+09	0.1920+12
$3d6f$	$^3P_2$	1520.751	0.4818+12	0.9700+11	0.1202+13
$3d6f$	$^3F_3$	1518.371	0.6365+12	0.5600+11	0.2993+13
$3d6f$	$^3G_3$	1519.344	0.6586+12	0.1000+09	0.8148+13
$3d6f$	$^3D_3$	1520.096	0.6808+12	0.2000+10	0.1980+12
$3d6f$	$^1F_3$	1521.039	0.6682+12	0.5464+13	0.2292+14
$3d6f$	$^1G_4$	1517.772	0.8033+12	0.1000+10	0.3048+13
$3d6f$	$^3H_4$	1518.195	0.7687+12	0.9350+12	0.1005+14
$3d6f$	$^3H_5$	1518.214	0.9386+12	0.9350+12	0.1005+14
$3d6f$	$^3F_4$	1518.383	0.8179+12	0.4300+11	0.2922+13
$3d6f$	$^3G_4$	1519.358	0.8463+12	0.1000+09	0.8146+13

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p^2\ ^1D_2$	$2p6d\ ^3F_3$	141.58	8.347+08	$2s2p\ ^1P_1$	$2p6f\ ^1D_2$	126.99	5.345+09
$2p^2\ ^1D_2$	$2p6d\ ^3F_2$	141.62	2.842+09	$2s2p\ ^1P_1$	$2p6f\ ^3D_2$	127.05	5.773+08
$2p^2\ ^1D_2$	$2p6s\ ^1P_1$	142.35	5.061+09	$2s2p\ ^1P_1$	$2p6f\ ^3F_2$	127.18	5.045+08
$2p^2\ ^1D_2$	$2p6s\ ^3P_1$	142.58	2.464+08	$2s2p\ ^1P_1$	$2p6p\ ^1D_2$	127.31	1.444+10
$2p^2\ ^3P_0$	$2p5d\ ^1P_1$	143.79	1.571+08	$2s2p\ ^1P_1$	$2p6p\ ^3P_2$	127.46	1.803+08
$2p^2\ ^3P_2$	$2p5d\ ^1F_3$	143.95	1.161+08	$2s2p\ ^1P_1$	$2p6p\ ^3S_1$	127.56	1.170+09
$2p^2\ ^3P_0$	$2p5d\ ^3P_1$	144.33	3.143+09	$2s2p\ ^1P_1$	$2p6p\ ^3D_2$	127.66	1.706+08
$2p^2\ ^3P_1$	$2p5d\ ^3P_0$	144.35	8.186+09	$2s2p\ ^1P_1$	$2p6p\ ^3D_1$	127.67	7.624+09
$2p^2\ ^3P_1$	$2p5d\ ^3P_1$	144.36	1.094+10	$2s2p\ ^1P_1$	$2p6p\ ^1P_1$	127.72	1.307+10
$2p^2\ ^3P_1$	$2p5d\ ^3P_2$	144.38	3.086+08	$2s2p\ ^3P_0$	$2s6d\ ^3D_1$	131.41	8.606+09
$2p^2\ ^3P_2$	$2p5d\ ^3P_1$	144.42	1.124+10	$2s2p\ ^3P_1$	$2p4f\ ^3F_2$	131.43	2.645+09
$2p^2\ ^3P_2$	$2p5d\ ^3P_2$	144.44	4.361+10	$2s2p\ ^3P_1$	$2s6d\ ^3D_2$	131.44	1.667+10
$2p^2\ ^3P_0$	$2p5d\ ^3D_1$	144.49	2.926+10	$2s2p\ ^3P_1$	$2s6d\ ^3D_1$	131.44	6.436+09
$2p^2\ ^3P_1$	$2p5d\ ^3D_2$	144.51	6.322+10	$2s2p\ ^3P_2$	$2p4f\ ^3F_3$	131.47	2.595+08
$2p^2\ ^3P_1$	$2p5d\ ^3D_1$	144.52	1.349+10	$2s2p\ ^3P_2$	$2p4f\ ^3F_2$	131.48	8.728+08
$2p^2\ ^3P_2$	$2p5d\ ^3D_3$	144.54	1.008+11	$2s2p\ ^3P_2$	$2s6d\ ^3D_3$	131.49	3.304+10
$2p^2\ ^3P_2$	$2p5d\ ^3D_2$	144.57	4.998+09	$2s2p\ ^3P_2$	$2s6d\ ^3D_2$	131.49	5.531+09
$2p^2\ ^3P_2$	$2p5d\ ^3D_1$	144.58	1.820+08	$2s2p\ ^3P_2$	$2s6d\ ^3D_1$	131.49	4.267+08
$2p^2\ ^3P_1$	$2p5d\ ^1D_2$	144.75	1.459+09	$2s2p\ ^3P_2$	$2p4f\ ^1F_3$	131.50	2.578+09
$2p^2\ ^3P_2$	$2p5d\ ^3F_3$	144.83	1.556+09	$2s2p\ ^3P_2$	$2s6d\ ^3S_1$	132.26	3.262+08
$2p^2\ ^3P_2$	$2p5d\ ^3F_2$	144.89	1.904+08	$2s2p\ ^3P_0$	$2p4p\ ^3P_1$	132.50	5.874+09
$2p^2\ ^3P_1$	$2p5s\ ^3P_2$	146.51	2.265+09	$2s2p\ ^3P_1$	$2p4p\ ^3P_2$	132.50	7.494+09
$2p^2\ ^3P_0$	$2p5s\ ^3P_1$	146.56	1.735+09	$2s2p\ ^3P_1$	$2s6d\ ^1S_0$	132.50	8.666+08
$2p^2\ ^3P_2$	$2p5s\ ^3P_2$	146.57	6.615+09	$2s2p\ ^3P_1$	$2p4p\ ^3P_1$	132.53	4.633+09
$2p^2\ ^3P_1$	$2p5s\ ^3P_1$	146.59	1.270+09	$2s2p\ ^1P_1$	$2p5p\ ^1S_0$	132.54	1.387+09
$2p^2\ ^3P_1$	$2p5s\ ^3P_0$	146.62	1.724+09	$2s2p\ ^3P_2$	$2p4p\ ^3P_2$	132.55	2.577+10
$2p^2\ ^3P_2$	$2p5s\ ^3P_1$	146.66	2.143+09	$2s2p\ ^3P_1$	$2p4p\ ^3P_0$	132.55	5.794+09
$2p^2\ ^1D_2$	$2p5d\ ^1P_1$	147.92	2.849+09	$2s2p\ ^3P_2$	$2p4p\ ^3P_1$	132.58	9.420+09
$2p^2\ ^1D_2$	$2p5d\ ^1F_3$	147.99	1.550+11	$2s2p\ ^1P_1$	$2p5f\ ^1D_2$	132.63	2.344+09
$2p^2\ ^1D_2$	$2p5g\ ^3F_3$	148.18	1.591+08	$2s2p\ ^1P_1$	$2p5f\ ^3D_2$	132.71	1.941+08
$2p^2\ ^1D_2$	$2p5d\ ^3P_2$	148.52	1.531+08	$2s2p\ ^3P_0$	$2p4p\ ^3S_1$	133.00	3.086+09
$2p^2\ ^1D_2$	$2p5d\ ^3D_3$	148.62	1.679+08	$2s2p\ ^3P_1$	$2p4p\ ^3S_1$	133.03	8.959+09
$2p^2\ ^1D_2$	$2p5d\ ^3D_2$	148.65	2.189+08	$2s2p\ ^3P_2$	$2p4p\ ^3S_1$	133.09	1.247+10
$2p^2\ ^1D_2$	$2p5d\ ^1D_2$	148.91	1.355+10	$2s2p\ ^1P_1$	$2p5p\ ^1D_2$	133.22	2.346+10
$2p^2\ ^1D_2$	$2p5d\ ^3F_3$	148.92	3.872+08	$2s2p\ ^3P_2$	$2p4p\ ^3D_3$	133.28	3.456+10
$2p^2\ ^1D_2$	$2p5d\ ^3F_2$	148.99	7.524+09	$2s2p\ ^3P_1$	$2p4p\ ^3D_2$	133.28	1.919+10
$2p^2\ ^1D_2$	$2p5s\ ^1P_1$	150.41	6.822+09	$2s2p\ ^3P_0$	$2p4p\ ^3D_1$	133.28	8.538+09
$2s^2\ ^1S_0$	$2p3s\ ^1P_1$	150.66	1.008+09	$2s2p\ ^3P_1$	$2p4p\ ^3D_1$	133.31	5.485+09
$2p^2\ ^1S_0$	$2p6d\ ^1P_1$	151.86	2.588+10	$2s2p\ ^3P_2$	$2p4p\ ^3D_2$	133.33	5.379+09
$2p^2\ ^1S_0$	$2p6d\ ^3D_1$	152.36	2.987+08	$2s2p\ ^3P_2$	$2p4p\ ^3D_1$	133.36	3.719+08
$2p^2\ ^1S_0$	$2p6s\ ^1P_1$	153.40	2.231+09	$2s2p\ ^1P_1$	$2p5p\ ^3P_2$	133.50	1.235+08
$2p^2\ ^1S_0$	$2p6s\ ^3P_1$	153.67	1.097+08	$2s2p\ ^3P_1$	$2p4p\ ^1P_1$	133.51	3.110+08
$2p^2\ ^3P_0$	$2p4d\ ^3P_1$	158.55	1.108+10	$2s2p\ ^1P_1$	$2p5p\ ^3S_1$	133.67	2.256+08

TABLE III. Wavelengths (λ), and weighted radiative transition probabilities (A_r in sec^{-1}) for bound-bound transitions in Be-like oxygen ($2l_1nl_2$ - $2ln'l'$ transitions)

	even-odd transitions				odd-even transitions		
$2l_1nl_2$ LSJ	$2ln'l'$ $L'S'J'$	λ, Å	gA_r, s^{-1}	$2l_1nl_2$ LSJ	$2ln'l'$ $L'S'J'$	λ, Å	gA_r, s^{-1}
1	2	3	4	5	6	7	8
$2s^2\ ^1S_0$	$2p6d\ ^1P_1$	106.26	1.564+09	$2s2p\ ^3P_0$	$2p6f\ ^3D_1$	116.37	1.274+08
$2s^2\ ^1S_0$	$2p5d\ ^1P_1$	110.14	1.842+09	$2s2p\ ^3P_1$	$2p6f\ ^3D_2$	116.40	2.279+08
$2s^2\ ^1S_0$	$2p5s\ ^1P_1$	111.51	2.521+08	$2s2p\ ^3P_2$	$2p6f\ ^3D_3$	116.46	4.417+08
$2s^2\ ^1S_0$	$2p4d\ ^1P_1$	117.95	5.374+08	$2s2p\ ^3P_1$	$2p6p\ ^1D_2$	116.63	1.209+08
$2s^2\ ^1S_0$	$2p4d\ ^3D_1$	118.90	4.080+08	$2s2p\ ^3P_0$	$2p6p\ ^3P_1$	116.74	1.420+08
$2s^2\ ^1S_0$	$2s6p\ ^1P_1$	118.94	1.843+10	$2s2p\ ^3P_1$	$2p6p\ ^3P_2$	116.75	6.658+08
$2s^2\ ^1S_0$	$2p4s\ ^1P_1$	121.13	6.855+08	$2s2p\ ^3P_2$	$2p6p\ ^3P_2$	116.79	4.743+09
$2s^2\ ^1S_0$	$2s5p\ ^1P_1$	124.48	2.218+10	$2s2p\ ^3P_1$	$2p6p\ ^3P_0$	116.79	1.079+09
$2s^2\ ^1S_0$	$2s4p\ ^1P_1$	135.44	3.772+10	$2s2p\ ^3P_2$	$2p6p\ ^3P_1$	116.80	4.514+09
$2p^2\ ^3P_0$	$2p6d\ ^1P_1$	137.26	2.196+08	$2s2p\ ^3P_0$	$2p6p\ ^3S_1$	116.81	1.812+09
$2p^2\ ^3P_2$	$2p6d\ ^1F_3$	137.38	2.073+08	$2s2p\ ^3P_1$	$2p6p\ ^3S_1$	116.83	5.876+09
$2p^2\ ^3P_0$	$2p6d\ ^3P_1$	137.56	8.461+08	$2s2p\ ^3P_2$	$2p6p\ ^3S_1$	116.88	4.689+09
$2p^2\ ^3P_1$	$2p6d\ ^3P_0$	137.58	4.679+09	$2s2p\ ^3P_0$	$2p6p\ ^3D_1$	116.91	2.645+09
$2p^2\ ^3P_1$	$2p6d\ ^3P_1$	137.59	7.648+09	$2s2p\ ^3P_2$	$2p6p\ ^3D_3$	116.92	1.084+10
$2p^2\ ^3P_1$	$2p6d\ ^3P_2$	137.61	4.410+08	$2s2p\ ^3P_1$	$2p6p\ ^3D_2$	116.92	6.365+09
$2p^2\ ^3P_2$	$2p6d\ ^3P_1$	137.65	6.513+09	$2s2p\ ^3P_1$	$2p6p\ ^3D_1$	116.93	2.968+08
$2p^2\ ^3P_2$	$2p6d\ ^3P_2$	137.66	2.689+10	$2s2p\ ^3P_0$	$2p6p\ ^1P_1$	116.95	6.609+08
$2p^2\ ^3P_0$	$2p6d\ ^3D_1$	137.67	1.743+10	$2s2p\ ^3P_2$	$2p6p\ ^3D_2$	116.96	1.245+09
$2p^2\ ^3P_1$	$2p6d\ ^3D_2$	137.68	3.281+10	$2s2p\ ^3P_1$	$2p6p\ ^1P_1$	116.97	1.357+09
$2p^2\ ^3P_1$	$2p6d\ ^3D_1$	137.70	6.212+09	$2s2p\ ^3P_2$	$2p6p\ ^3D_1$	116.97	3.039+08
$2p^2\ ^3P_2$	$2p6d\ ^3D_3$	137.71	5.541+10	$2s2p\ ^3P_2$	$2p5f\ ^3D_3$	121.20	1.050+08
$2p^2\ ^3P_2$	$2p6d\ ^3D_2$	137.74	6.431+08	$2s2p\ ^3P_1$	$2p5p\ ^3P_2$	121.80	2.927+09
$2p^2\ ^3P_1$	$2p6d\ ^1D_2$	137.80	3.574+09	$2s2p\ ^3P_0$	$2p5p\ ^3P_1$	121.80	1.668+09
$2p^2\ ^3P_2$	$2p6d\ ^3F_3$	137.87	2.479+09	$2s2p\ ^3P_1$	$2p5p\ ^3P_1$	121.82	1.093+09
$2p^2\ ^3P_2$	$2p6d\ ^3F_2$	137.91	2.382+08	$2s2p\ ^3P_1$	$2p5p\ ^3P_0$	121.84	3.071+09
$2p^2\ ^3P_1$	$2p6s\ ^3P_2$	138.68	1.200+09	$2s2p\ ^3P_2$	$2p5p\ ^3P_2$	121.85	1.237+10
$2p^2\ ^3P_0$	$2p6s\ ^3P_1$	138.73	8.722+08	$2s2p\ ^3P_2$	$2p5p\ ^3P_1$	121.86	6.779+09
$2p^2\ ^3P_2$	$2p6s\ ^3P_2$	138.74	3.439+09	$2s2p\ ^3P_0$	$2p5p\ ^3S_1$	121.92	2.525+09
$2p^2\ ^3P_1$	$2p6s\ ^3P_1$	138.76	6.254+08	$2s2p\ ^3P_1$	$2p5p\ ^3S_1$	121.94	6.652+09
$2p^2\ ^3P_1$	$2p6s\ ^3P_0$	138.78	8.823+08	$2s2p\ ^3P_2$	$2p5p\ ^3S_1$	121.98	5.553+09
$2p^2\ ^3P_2$	$2p6s\ ^3P_1$	138.82	1.070+09	$2s2p\ ^3P_2$	$2p5p\ ^3D_3$	122.11	1.877+10
$2s^2\ ^1S_0$	$2p3d\ ^1P_1$	139.46	1.300+10	$2s2p\ ^3P_1$	$2p5p\ ^3D_2$	122.11	1.087+10
$2p^2\ ^1D_2$	$2p6d\ ^1P_1$	141.02	3.666+09	$2s2p\ ^3P_0$	$2p5p\ ^3D_1$	122.11	4.679+09
$2p^2\ ^1D_2$	$2p6d\ ^1F_3$	141.07	1.100+11	$2s2p\ ^3P_1$	$2p5p\ ^3D_1$	122.13	2.159+09
$2p^2\ ^1D_2$	$2p6d\ ^3P_2$	141.36	1.366+08	$2s2p\ ^3P_2$	$2p5p\ ^3D_2$	122.16	2.494+09
$2p^2\ ^1D_2$	$2p6d\ ^3D_3$	141.40	2.841+08	$2s2p\ ^3P_2$	$2p5p\ ^3D_1$	122.17	1.951+08
$2p^2\ ^1D_2$	$2p6d\ ^3D_2$	141.44	6.838+08	$2s2p\ ^3P_0$	$2p5p\ ^1P_1$	122.18	3.548+08
$2p^2\ ^1D_2$	$2p6d\ ^1D_2$	141.56	6.879+09	$2s2p\ ^3P_1$	$2p5p\ ^1P_1$	122.20	8.226+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s^2\ ^1S_0$	$2s3p\ ^3P_1$	171.95	1.269+08	$2s2p\ ^3P_1$	$2p3p\ ^3D_1$	168.41	1.030+10
$2s^2\ ^1S_0$	$2s3p\ ^1P_1$	172.37	9.701+10	$2s2p\ ^3P_2$	$2p3p\ ^3D_2$	168.44	1.014+10
$2p^2\ ^1D_2$	$2s5p\ ^1P_1$	175.00	5.390+09	$2s2p\ ^3P_2$	$2p3p\ ^3D_1$	168.50	6.668+08
$2p^2\ ^1S_0$	$2p4d\ ^1P_1$	176.91	6.850+10	$2s2p\ ^1P_1$	$2s4s\ ^1S_0$	172.85	8.977+09
$2p^2\ ^1S_0$	$2p4s\ ^1P_1$	184.17	5.257+09	$2s2p\ ^1P_1$	$2p3p\ ^1S_0$	180.42	2.914+09
$2p^2\ ^3P_0$	$2s4p\ ^3P_1$	191.00	7.882+08	$2s2p\ ^1P_1$	$2p3p\ ^1D_2$	183.73	1.045+11
$2p^2\ ^3P_1$	$2s4p\ ^3P_2$	191.04	9.589+08	$2s2p\ ^1P_1$	$2p3p\ ^3D_1$	191.63	1.214+08
$2p^2\ ^3P_1$	$2s4p\ ^3P_1$	191.05	6.099+08	$2s2p\ ^3P_0$	$2s3d\ ^3D_1$	193.05	1.142+11
$2p^2\ ^3P_1$	$2s4p\ ^3P_0$	191.06	8.056+08	$2s2p\ ^3P_1$	$2s3d\ ^3D_2$	193.11	2.567+11
$2p^2\ ^3P_2$	$2s4p\ ^3P_2$	191.15	2.985+09	$2s2p\ ^3P_1$	$2s3d\ ^3D_1$	193.11	8.558+10
$2p^2\ ^3P_2$	$2s4p\ ^3P_1$	191.16	1.002+09	$2s2p\ ^1P_1$	$2p3p\ ^1P_1$	193.15	5.391+10
$2p^2\ ^1S_0$	$2s5p\ ^1P_1$	192.00	3.874+08	$2s2p\ ^3P_2$	$2s3d\ ^3D_3$	193.21	4.783+11
$2p^2\ ^1D_2$	$2s4f\ ^1F_3$	193.34	3.825+10	$2s2p\ ^3P_2$	$2s3d\ ^3D_2$	193.22	8.540+10
$2p^2\ ^3P_0$	$2p3d\ ^3P_1$	203.05	3.977+10	$2s2p\ ^3P_2$	$2s3d\ ^3D_1$	193.22	5.694+09
$2p^2\ ^3P_1$	$2p3d\ ^3P_0$	203.08	4.573+10	$2s2p\ ^3P_0$	$2s3s\ ^3S_1$	215.21	6.612+09
$2p^2\ ^3P_1$	$2p3d\ ^3P_1$	203.11	3.894+10	$2s2p\ ^3P_1$	$2s3s\ ^3S_1$	215.28	1.981+10
$2p^2\ ^3P_1$	$2p3d\ ^3P_2$	203.16	4.354+10	$2s2p\ ^3P_2$	$2s3s\ ^3S_1$	215.42	3.295+10
$2p^2\ ^3P_2$	$2p3d\ ^3P_1$	203.23	5.845+10	$2s2p\ ^1P_1$	$2s3d\ ^1D_2$	218.33	2.354+11
$2p^2\ ^3P_2$	$2p3d\ ^3P_2$	203.29	1.846+11	$2s2p\ ^1P_1$	$2s3s\ ^1S_0$	246.36	7.460+09
$2p^2\ ^3P_0$	$2p3d\ ^3D_1$	204.63	1.481+11	$2s3p\ ^1P_1$	$2p6f\ ^1D_2$	277.59	1.758+08
$2p^2\ ^3P_1$	$2p3d\ ^3D_2$	204.67	3.331+11	$2s3p\ ^3P_1$	$2p6f\ ^3D_2$	278.94	1.134+08
$2p^2\ ^3P_1$	$2p3d\ ^3D_1$	204.69	1.021+11	$2s3p\ ^3P_2$	$2p6f\ ^3D_3$	279.07	2.272+08
$2p^2\ ^3P_2$	$2p3d\ ^3D_3$	204.74	5.966+11	$2s3p\ ^3P_2$	$2p6p\ ^3S_1$	281.48	1.382+08
$2p^2\ ^3P_2$	$2p3d\ ^3D_2$	204.79	9.287+10	$2s3p\ ^1P_1$	$2p5p\ ^1S_0$	305.55	1.094+08
$2p^2\ ^3P_2$	$2p3d\ ^3D_1$	204.82	5.683+09	$2s3p\ ^1P_1$	$2p5f\ ^1D_2$	306.04	1.242+08
$2p^2\ ^1D_2$	$2p3d\ ^1P_1$	206.14	9.793+09	$2s3p\ ^3P_1$	$2p5f\ ^3D_2$	307.80	1.466+08
$2p^2\ ^1D_2$	$2p3d\ ^1F_3$	208.28	6.304+11	$2s3p\ ^3P_2$	$2p5f\ ^3D_3$	307.97	2.929+08
$2p^2\ ^3P_2$	$2p3d\ ^3F_3$	208.61	1.681+08	$2p3s\ ^3P_1$	$2p6f\ ^3D_2$	346.32	1.044+08
$2p^2\ ^1D_2$	$2p3d\ ^1D_2$	216.95	1.515+11	$2p3s\ ^3P_2$	$2p6f\ ^3D_3$	346.83	2.080+08
$2p^2\ ^1D_2$	$2p3d\ ^3F_2$	217.32	7.340+09	$2p3s\ ^3P_0$	$2p6p\ ^3P_1$	349.32	1.435+08
$2p^2\ ^1S_0$	$2s4p\ ^1P_1$	219.39	1.275+10	$2p3s\ ^3P_1$	$2p6p\ ^3P_2$	349.40	2.801+08
$2p^2\ ^3P_1$	$2p3s\ ^3P_2$	227.78	1.713+10	$2p3s\ ^3P_1$	$2p6p\ ^3P_1$	349.52	1.111+08
$2p^2\ ^3P_0$	$2p3s\ ^3P_1$	227.88	1.362+10	$2p3s\ ^3P_1$	$2p6p\ ^3P_0$	349.76	4.096+08
$2p^2\ ^3P_2$	$2p3s\ ^3P_2$	227.94	5.107+10	$2p3s\ ^3P_2$	$2p6p\ ^3P_2$	349.82	1.759+09
$2p^2\ ^3P_1$	$2p3s\ ^3P_1$	227.96	1.017+10	$2p3s\ ^3P_2$	$2p6p\ ^3P_1$	349.93	9.963+08
$2p^2\ ^3P_1$	$2p3s\ ^3P_0$	228.04	1.355+10	$2p3s\ ^3P_0$	$2p6p\ ^3S_1$	349.95	2.387+08
$2p^2\ ^3P_2$	$2p3s\ ^3P_1$	228.11	1.695+10	$2p3s\ ^3P_1$	$2p6p\ ^3S_1$	350.15	7.588+08
$2p^2\ ^1S_0$	$2p3d\ ^1P_1$	230.16	1.436+11	$2p3s\ ^3P_2$	$2p6p\ ^3S_1$	350.57	3.040+08
$2p^2\ ^1D_2$	$2p3s\ ^1P_1$	231.58	3.489+10	$2p3s\ ^3P_0$	$2p6p\ ^3D_1$	350.79	7.323+08
$2p^2\ ^1S_0$	$2p3s\ ^1P_1$	262.33	1.221+10	$2p3s\ ^3P_1$	$2p6p\ ^3D_2$	350.94	1.957+09
$2p^2\ ^3P_1$	$2s3p\ ^3P_2$	271.00	1.167+08	$2p3s\ ^3P_2$	$2p6p\ ^3D_3$	350.98	3.252+09
$2p^2\ ^3P_2$	$2s3p\ ^3P_2$	271.22	3.443+08	$2p3s\ ^3P_1$	$2p6p\ ^3D_1$	350.99	1.315+08
$2p^2\ ^3P_2$	$2s3p\ ^3P_1$	271.27	1.130+08	$2p3s\ ^3P_0$	$2p6p\ ^1P_1$	351.15	2.313+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p^2\ ^3P_1$	$2p4d\ ^3P_0$	158.58	1.449+10	$2s2p\ ^1P_1$	$2p5p\ ^3D_1$	133.90	2.490+09
$2p^2\ ^3P_1$	$2p4d\ ^3P_1$	158.59	1.350+10	$2s2p\ ^1P_1$	$2p5p\ ^1P_1$	133.98	1.696+10
$2p^2\ ^3P_1$	$2p4d\ ^3P_2$	158.62	1.046+10	$2s2p\ ^3P_0$	$2s5d\ ^3D_1$	137.69	1.782+10
$2p^2\ ^3P_2$	$2s6f\ ^3F_3$	158.64	1.037+08	$2s2p\ ^3P_1$	$2s5d\ ^3D_1$	137.72	1.335+10
$2p^2\ ^3P_2$	$2p4d\ ^3P_1$	158.67	1.875+10	$2s2p\ ^3P_1$	$2s5d\ ^3D_2$	137.72	4.005+10
$2p^2\ ^3P_2$	$2p4d\ ^3P_2$	158.70	6.082+10	$2s2p\ ^3P_2$	$2s5d\ ^3D_2$	137.78	1.332+10
$2p^2\ ^3P_2$	$2s6f\ ^1F_3$	159.04	2.740+09	$2s2p\ ^3P_2$	$2s5d\ ^3D_3$	137.78	7.461+10
$2p^2\ ^3P_0$	$2p4d\ ^3D_1$	159.10	5.212+10	$2s2p\ ^3P_2$	$2s5d\ ^3D_1$	137.78	8.883+08
$2p^2\ ^3P_1$	$2p4d\ ^3D_2$	159.12	1.196+11	$2s2p\ ^3P_0$	$2s5s\ ^3S_1$	139.67	1.118+09
$2p^2\ ^3P_1$	$2p4d\ ^3D_1$	159.14	3.528+10	$2s2p\ ^3P_1$	$2s5s\ ^3S_1$	139.70	3.348+09
$2p^2\ ^3P_2$	$2p4d\ ^3D_3$	159.17	2.107+11	$2s2p\ ^3P_2$	$2s5s\ ^3S_1$	139.76	5.560+09
$2p^2\ ^3P_0$	$2s6p\ ^1P_1$	159.17	1.277+09	$2s2p\ ^1P_1$	$2p4p\ ^1S_0$	143.86	6.328+09
$2p^2\ ^3P_2$	$2p4d\ ^3D_2$	159.20	3.187+10	$2s2p\ ^1P_1$	$2p4f\ ^1D_2$	144.46	5.273+09
$2p^2\ ^3P_2$	$2p4d\ ^3D_1$	159.21	1.896+09	$2s2p\ ^1P_1$	$2p4f\ ^3D_2$	144.60	2.943+08
$2p^2\ ^3P_1$	$2s6p\ ^1P_1$	159.21	8.010+08	$2s2p\ ^1P_1$	$2s6d\ ^1D_2$	144.93	2.440+10
$2p^2\ ^3P_0$	$2s6p\ ^3P_1$	159.57	3.352+09	$2s2p\ ^1P_1$	$2p4p\ ^1D_2$	145.78	4.637+10
$2p^2\ ^3P_1$	$2s6p\ ^3P_2$	159.61	5.046+09	$2s2p\ ^1P_1$	$2s6d\ ^1S_0$	146.47	1.025+08
$2p^2\ ^3P_1$	$2s6p\ ^3P_1$	159.61	1.385+09	$2s2p\ ^1P_1$	$2p4p\ ^3D_1$	147.45	5.978+08
$2p^2\ ^3P_1$	$2s6p\ ^3P_0$	159.61	2.440+09	$2s2p\ ^1P_1$	$2p4p\ ^1P_1$	147.70	2.719+10
$2p^2\ ^3P_2$	$2s6p\ ^3P_1$	159.68	2.990+09	$2s2p\ ^3P_0$	$2s4d\ ^3D_1$	151.11	3.677+10
$2p^2\ ^3P_2$	$2s6p\ ^3P_2$	159.69	8.551+09	$2s2p\ ^3P_1$	$2s4d\ ^3D_1$	151.15	2.755+10
$2p^2\ ^3P_1$	$2p4d\ ^1D_2$	159.84	5.397+08	$2s2p\ ^3P_1$	$2s4d\ ^3D_2$	151.15	8.266+10
$2p^2\ ^1S_0$	$2p5d\ ^1P_1$	159.89	3.544+10	$2s2p\ ^3P_2$	$2s4d\ ^3D_3$	151.22	1.541+11
$2p^2\ ^3P_2$	$2p4d\ ^3F_3$	159.96	5.535+08	$2s2p\ ^3P_2$	$2s4d\ ^3D_2$	151.22	2.751+10
$2p^2\ ^3P_2$	$2p4d\ ^3F_2$	160.02	1.177+08	$2s2p\ ^3P_2$	$2s4d\ ^3D_1$	151.22	1.834+09
$2p^2\ ^1S_0$	$2p5d\ ^3D_1$	160.76	1.495+08	$2s2p\ ^1P_1$	$2s5d\ ^1D_2$	152.38	4.644+10
$2p^2\ ^1D_2$	$2p4d\ ^1F_3$	162.21	2.418+11	$2s2p\ ^1P_1$	$2s5s\ ^1S_0$	154.83	1.976+09
$2p^2\ ^1D_2$	$2p4d\ ^1P_1$	162.37	2.447+09	$2s2p\ ^3P_0$	$2s4s\ ^3S_1$	155.83	1.405+09
$2p^2\ ^1S_0$	$2p5s\ ^1P_1$	162.81	3.462+09	$2s2p\ ^3P_1$	$2s4s\ ^3S_1$	155.87	4.204+09
$2p^2\ ^1D_2$	$2s6f\ ^1F_3$	163.99	4.136+10	$2s2p\ ^3P_2$	$2s4s\ ^3S_1$	155.94	6.965+09
$2p^2\ ^1D_2$	$2p4d\ ^3D_3$	164.14	7.312+08	$2s2p\ ^3P_1$	$2p3p\ ^3P_2$	164.47	1.702+10
$2p^2\ ^3P_1$	$2p4s\ ^3P_2$	164.20	5.164+09	$2s2p\ ^3P_0$	$2p3p\ ^3P_1$	164.49	1.344+10
$2p^2\ ^3P_0$	$2p4s\ ^3P_1$	164.25	4.061+09	$2s2p\ ^3P_1$	$2p3p\ ^3P_1$	164.53	1.010+10
$2p^2\ ^1D_2$	$2s6p\ ^1P_1$	164.25	4.916+09	$2s2p\ ^3P_1$	$2p3p\ ^3P_0$	164.56	1.394+10
$2p^2\ ^3P_2$	$2p4s\ ^3P_2$	164.28	1.528+10	$2s2p\ ^3P_2$	$2p3p\ ^3P_2$	164.56	5.270+10
$2p^2\ ^3P_1$	$2p4s\ ^3P_1$	164.29	3.010+09	$2s2p\ ^3P_2$	$2p3p\ ^3P_1$	164.61	1.829+10
$2p^2\ ^3P_1$	$2p4s\ ^3P_0$	164.34	4.025+09	$2s2p\ ^3P_0$	$2p3p\ ^3S_1$	166.71	5.629+09
$2p^2\ ^3P_2$	$2p4s\ ^3P_1$	164.37	5.040+09	$2s2p\ ^3P_1$	$2p3p\ ^3S_1$	166.75	1.646+10
$2p^2\ ^1D_2$	$2s6p\ ^3P_2$	164.68	3.424+08	$2s2p\ ^3P_2$	$2p3p\ ^3S_1$	166.84	2.582+10
$2p^2\ ^1D_2$	$2p4d\ ^1D_2$	164.92	4.032+10	$2s2p\ ^3P_1$	$2p3p\ ^3D_2$	168.35	3.195+10
$2p^2\ ^1D_2$	$2p4d\ ^3F_3$	164.97	1.645+08	$2s2p\ ^3P_2$	$2p3p\ ^3D_3$	168.35	5.916+10
$2p^2\ ^1D_2$	$2p4d\ ^3F_2$	165.04	8.782+09	$2s2p\ ^1P_1$	$2s4d\ ^1D_2$	168.36	8.943+10
$2p^2\ ^1D_2$	$2p4s\ ^1P_1$	168.46	1.476+10	$2s2p\ ^3P_0$	$2p3p\ ^3D_1$	168.37	1.417+10

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^3D_3$	$2p6d\ ^3F_3$	380.26	3.189+08	$2p3s\ ^3P_1$	$2p5p\ ^3D_1$	402.45	7.429+08
$2p3p\ ^3S_1$	$2p6d\ ^3P_0$	386.40	7.032+08	$2p3s\ ^3P_2$	$2p5p\ ^3D_2$	402.83	8.498+08
$2p3p\ ^3S_1$	$2p6d\ ^3P_1$	386.46	1.924+09	$2p3s\ ^3P_0$	$2p5p\ ^1P_1$	402.95	1.339+08
$2p3p\ ^3D_2$	$2p6s\ ^3P_2$	386.50	1.655+08	$2p3s\ ^3P_1$	$2p5p\ ^1P_1$	403.21	2.531+08
$2p3p\ ^3S_1$	$2p6d\ ^3P_2$	386.58	2.723+09	$2p3d\ ^3F_3$	$2p6f\ ^1G_4$	403.61	1.675+09
$2p3p\ ^3D_1$	$2p6s\ ^3P_1$	386.81	1.580+08	$2p3d\ ^3F_2$	$2p6f\ ^3G_3$	403.96	3.321+09
$2p3p\ ^3D_3$	$2p6s\ ^3P_2$	386.97	9.927+08	$2p3d\ ^1D_2$	$2p6f\ ^1D_2$	404.00	1.541+09
$2p3p\ ^3D_1$	$2p6s\ ^3P_0$	386.98	2.398+08	$2p3d\ ^3F_4$	$2p6f\ ^3D_3$	404.12	1.283+08
$2p3p\ ^3D_2$	$2p6s\ ^3P_1$	387.10	5.178+08	$2p3d\ ^3F_3$	$2p6f\ ^3G_4$	404.22	6.412+09
$2p3p\ ^3S_1$	$2p6d\ ^3D_2$	387.19	8.374+08	$2p3d\ ^3F_3$	$2p6f\ ^3G_3$	404.31	1.413+09
$2p3p\ ^3S_1$	$2p6d\ ^3D_1$	387.30	2.112+08	$2p3d\ ^3F_4$	$2p6f\ ^3G_5$	404.37	1.639+10
$2s3s\ ^3S_1$	$2s5p\ ^3P_2$	387.47	4.113+09	$2p3d\ ^1D_2$	$2p6f\ ^3D_2$	404.55	1.676+08
$2s3s\ ^3S_1$	$2s5p\ ^3P_1$	387.49	2.460+09	$2p3d\ ^3F_4$	$2p6f\ ^3G_4$	404.62	2.234+09
$2s3s\ ^3S_1$	$2s5p\ ^3P_0$	387.50	8.220+08	$2p3d\ ^3F_2$	$2p6f\ ^3F_2$	404.63	9.446+08
$2p3p\ ^3S_1$	$2p6d\ ^1D_2$	388.10	1.486+08	$2p3d\ ^3F_2$	$2p6f\ ^3F_3$	404.68	2.644+09
$2p3p\ ^3S_1$	$2p6s\ ^3P_2$	395.22	2.512+08	$2p3d\ ^1D_2$	$2p6f\ ^3D_3$	404.68	3.739+08
$2p3p\ ^3S_1$	$2p6s\ ^3P_1$	395.85	1.658+08	$2p3d\ ^3F_2$	$2p6f\ ^1F_3$	404.75	3.753+09
$2p3p\ ^3P_1$	$2p6d\ ^3P_0$	398.88	6.226+08	$2p3d\ ^3F_3$	$2p6f\ ^3F_4$	404.96	4.626+09
$2p3p\ ^3P_1$	$2p6d\ ^3P_1$	398.95	1.061+09	$2p3d\ ^3F_3$	$2p6f\ ^3F_3$	405.02	3.032+08
$2p3p\ ^3P_2$	$2p6d\ ^3P_1$	399.27	8.405+08	$2p3d\ ^3F_3$	$2p6f\ ^1F_3$	405.09	3.093+08
$2p3p\ ^3P_2$	$2p6d\ ^3P_2$	399.40	3.521+09	$2p3d\ ^1D_2$	$2p6f\ ^3G_3$	405.26	3.525+09
$2p3p\ ^3P_0$	$2p6d\ ^3D_1$	399.67	2.387+09	$2p3d\ ^3F_4$	$2p6f\ ^3F_4$	405.35	3.730+08
$2p3p\ ^3P_1$	$2p6d\ ^3D_2$	399.72	4.408+09	$2p3d\ ^1D_2$	$2p6f\ ^3F_3$	405.98	4.547+08
$2p3p\ ^3P_2$	$2p6d\ ^3D_3$	399.78	7.680+09	$2p3d\ ^1D_2$	$2p6f\ ^1F_3$	406.05	5.246+09
$2p3p\ ^3P_1$	$2p6d\ ^3D_1$	399.84	8.698+08	$2p3s\ ^1P_1$	$2p5p\ ^1S_0$	410.35	3.727+08
$2p3p\ ^3P_2$	$2p6d\ ^3D_2$	400.05	1.174+08	$2p3s\ ^1P_1$	$2p5f\ ^1D_2$	411.23	1.358+08
$2p3p\ ^3P_1$	$2p6d\ ^1D_2$	400.69	4.512+08	$2p3s\ ^1P_1$	$2p5p\ ^1D_2$	417.00	4.516+09
$2p3p\ ^3P_2$	$2p6d\ ^3F_3$	401.16	3.203+08	$2p3d\ ^3D_1$	$2p6f\ ^1D_2$	418.02	1.841+08
$2p3p\ ^3P_1$	$2p6s\ ^3P_2$	408.29	5.137+08	$2p3d\ ^3D_1$	$2p6f\ ^3D_1$	418.42	6.173+08
$2p3p\ ^3P_2$	$2p6s\ ^3P_2$	408.63	1.468+09	$2p3d\ ^3D_2$	$2p6f\ ^3D_1$	418.53	2.166+08
$2p3p\ ^3P_0$	$2p6s\ ^3P_1$	408.77	3.734+08	$2p3d\ ^3D_2$	$2p6f\ ^3D_2$	418.73	1.361+09
$2s3s\ ^1S_0$	$2s5p\ ^1P_1$	408.95	2.584+09	$2p3d\ ^3D_3$	$2p6f\ ^3D_2$	418.91	2.530+08
$2p3p\ ^3P_1$	$2p6s\ ^3P_1$	408.96	2.651+08	$2p3d\ ^3D_3$	$2p6f\ ^1G_4$	418.93	1.223+08
$2s3d\ ^3D_3$	$2s6f\ ^3F_4$	409.08	1.623+10	$2p3d\ ^3D_3$	$2p6f\ ^3D_3$	419.06	2.493+09
$2s3d\ ^3D_2$	$2s6f\ ^3F_3$	409.08	1.123+10	$2p3d\ ^3D_2$	$2p6f\ ^3G_3$	419.50	1.772+09
$2s3d\ ^3D_1$	$2s6f\ ^3F_2$	409.08	7.598+09	$2p3d\ ^3D_3$	$2p6f\ ^3G_4$	419.59	4.095+09
$2s3d\ ^3D_2$	$2s6f\ ^3F_2$	409.10	1.407+09	$2p3d\ ^3D_3$	$2p6f\ ^3G_3$	419.68	1.892+08
$2s3d\ ^3D_3$	$2s6f\ ^3F_3$	409.11	1.407+09	$2p3d\ ^3D_1$	$2p6f\ ^3F_2$	420.10	5.561+09
$2p3p\ ^3P_1$	$2p6s\ ^3P_0$	409.15	3.720+08	$2p3d\ ^3D_2$	$2p6f\ ^3F_2$	420.22	5.775+08
$2p3p\ ^3P_2$	$2p6s\ ^3P_1$	409.30	4.545+08	$2p3d\ ^3D_2$	$2p6f\ ^3F_3$	420.26	6.509+09
$2p3p\ ^1D_2$	$2p6d\ ^1F_3$	410.51	1.318+10	$2p3d\ ^3D_2$	$2p6f\ ^1F_3$	420.34	1.567+08
$2p3p\ ^1D_2$	$2p6d\ ^3D_2$	413.69	1.642+08	$2p3d\ ^3D_3$	$2p6f\ ^3F_4$	420.38	7.421+09
$2p3p\ ^1D_2$	$2p6d\ ^1D_2$	414.73	1.604+09	$2p3d\ ^3D_3$	$2p6f\ ^3F_3$	420.45	2.472+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p^2\ ^1D_2$	$2s3p\ ^1P_1$	287.17	7.781+09	$2p3s\ ^3P_1$	$2p6p\ ^1P_1$	351.35	3.594+08
$2s3d\ ^3D_1$	$2p6d\ ^3P_0$	293.55	4.986+08	$2p3s\ ^3P_2$	$2p6p\ ^3D_2$	351.36	3.553+08
$2s3d\ ^3D_1$	$2p6d\ ^3P_1$	293.59	4.504+08	$2p3s\ ^1P_1$	$2p6p\ ^1S_0$	360.61	1.996+08
$2s3d\ ^3D_2$	$2p6d\ ^3P_1$	293.60	9.141+08	$2p3s\ ^1P_1$	$2p6f\ ^1D_2$	361.46	2.776+08
$2s3d\ ^3D_2$	$2p6d\ ^3P_2$	293.67	4.947+08	$2p3s\ ^1P_1$	$2p6p\ ^1D_2$	364.05	3.546+09
$2s3d\ ^3D_3$	$2p6d\ ^3P_2$	293.68	1.359+09	$2p3s\ ^1P_1$	$2p6p\ ^3S_1$	366.09	1.581+08
$2s3d\ ^3D_3$	$2p6d\ ^3D_3$	293.89	2.094+08	$2p3s\ ^1P_1$	$2p6p\ ^3D_1$	367.00	9.747+08
$2s3d\ ^3D_3$	$2p6d\ ^3D_2$	294.04	6.322+08	$2p3s\ ^1P_1$	$2p6p\ ^1P_1$	367.40	1.625+09
$2s3d\ ^3D_2$	$2p6d\ ^3D_1$	294.08	2.276+08	$2s3p\ ^1P_1$	$2p4f\ ^1D_2$	377.31	8.270+08
$2s3d\ ^3D_3$	$2p6d\ ^1D_2$	294.56	1.224+08	$2s3p\ ^3P_1$	$2p4f\ ^3D_2$	380.30	1.008+08
$2s3d\ ^1D_2$	$2p6d\ ^1P_1$	302.94	2.620+09	$2s3p\ ^1P_1$	$2s6d\ ^1D_2$	380.53	6.662+09
$2s3d\ ^1D_2$	$2p6d\ ^1F_3$	303.16	5.884+08	$2s3p\ ^3P_2$	$2p4f\ ^3D_3$	380.59	1.939+08
$2s3d\ ^3D_1$	$2p5d\ ^3P_0$	326.16	1.357+08	$2s3p\ ^3P_0$	$2s6d\ ^3D_1$	384.21	2.254+09
$2s3d\ ^3D_1$	$2p5d\ ^3P_1$	326.22	1.044+08	$2s3p\ ^3P_1$	$2p4f\ ^3F_2$	384.22	6.465+08
$2s3d\ ^3D_2$	$2p5d\ ^3P_1$	326.23	2.849+08	$2s3p\ ^3P_1$	$2s6d\ ^3D_1$	384.27	1.687+09
$2s3d\ ^3D_2$	$2p5d\ ^3P_2$	326.35	1.024+08	$2s3p\ ^3P_1$	$2s6d\ ^3D_2$	384.28	4.421+09
$2s3d\ ^3D_3$	$2p5d\ ^3P_2$	326.37	4.902+08	$2s3p\ ^3P_2$	$2p4f\ ^3F_2$	384.33	2.160+08
$2s3d\ ^3D_3$	$2p5d\ ^3F_4$	328.06	2.440+08	$2s3p\ ^3P_2$	$2s6d\ ^3D_3$	384.37	8.651+09
$2s3d\ ^3D_2$	$2p5d\ ^3F_3$	328.32	1.641+08	$2s3p\ ^3P_2$	$2s6d\ ^3D_1$	384.38	1.126+08
$2p^2\ ^1S_0$	$2s3p\ ^1P_1$	336.02	2.180+08	$2s3p\ ^3P_2$	$2s6d\ ^3D_2$	384.39	1.474+09
$2s3d\ ^1D_2$	$2p5d\ ^1P_1$	336.69	5.407+08	$2s3p\ ^3P_2$	$2p4f\ ^1F_3$	384.49	7.738+08
$2s3d\ ^1D_2$	$2p5d\ ^1F_3$	337.08	1.053+09	$2s3p\ ^1P_1$	$2p4p\ ^1D_2$	386.50	1.039+09
$2s3s\ ^3S_1$	$2s6p\ ^3P_0$	340.50	4.047+08	$2s3p\ ^3P_0$	$2s6d\ ^3S_1$	390.84	1.364+08
$2s3s\ ^3S_1$	$2s6p\ ^3P_1$	340.51	1.208+09	$2s3p\ ^3P_1$	$2s6d\ ^3S_1$	390.90	4.115+08
$2s3s\ ^3S_1$	$2s6p\ ^3P_2$	340.53	1.988+09	$2s3p\ ^3P_2$	$2s6d\ ^3S_1$	391.01	6.950+08
$2s3s\ ^1S_0$	$2p4d\ ^1P_1$	346.06	1.055+08	$2s3p\ ^1P_1$	$2s6d\ ^1S_0$	391.35	6.068+08
$2s3s\ ^1S_0$	$2s6p\ ^1P_1$	354.74	1.861+09	$2p3s\ ^3P_0$	$2p5f\ ^3D_1$	391.50	1.020+08
$2p3p\ ^1P_1$	$2p6d\ ^1P_1$	369.84	1.781+09	$2p3s\ ^3P_1$	$2p5f\ ^3D_2$	391.94	2.145+08
$2p3p\ ^1P_1$	$2p6d\ ^3D_2$	372.74	2.377+08	$2p3s\ ^3P_2$	$2p5f\ ^3D_3$	392.63	4.293+08
$2p3p\ ^1P_1$	$2p6d\ ^1D_2$	373.58	2.446+09	$2s3p\ ^3P_1$	$2p4p\ ^3S_1$	398.22	2.070+08
$2p3p\ ^1P_1$	$2p6d\ ^3F_2$	374.03	1.259+09	$2s3p\ ^3P_2$	$2p4p\ ^3S_1$	398.34	3.535+08
$2p3p\ ^3D_2$	$2p6d\ ^3P_2$	378.24	3.366+08	$2p3s\ ^3P_0$	$2p5p\ ^3P_1$	398.85	4.263+08
$2p3p\ ^3D_1$	$2p6d\ ^3D_1$	378.65	7.543+08	$2p3s\ ^3P_1$	$2p5p\ ^3P_2$	398.91	6.691+08
$2p3p\ ^3D_2$	$2p6d\ ^3D_2$	378.82	1.285+09	$2p3s\ ^3P_1$	$2p5p\ ^3P_1$	399.11	3.263+08
$2p3p\ ^3D_2$	$2p6d\ ^3D_1$	378.93	2.506+08	$2p3s\ ^3P_1$	$2p5p\ ^3P_0$	399.36	7.315+08
$2p3p\ ^3D_3$	$2p6d\ ^3D_3$	379.02	2.875+09	$2p3s\ ^3P_2$	$2p5p\ ^3P_2$	399.45	2.982+09
$2p3p\ ^1P_1$	$2p6s\ ^1P_1$	379.12	3.510+08	$2p3s\ ^3P_2$	$2p5p\ ^3P_1$	399.65	1.443+09
$2p3p\ ^3D_3$	$2p6d\ ^3D_2$	379.26	2.178+08	$2p3s\ ^3P_0$	$2p5p\ ^3S_1$	400.14	4.073+08
$2p3p\ ^3D_1$	$2p6d\ ^1D_2$	379.41	1.548+09	$2p3s\ ^3P_1$	$2p5p\ ^3S_1$	400.40	1.065+09
$2p3p\ ^3D_2$	$2p6d\ ^3F_3$	379.81	6.828+09	$2p3s\ ^3P_2$	$2p5p\ ^3S_1$	400.94	7.276+08
$2p3p\ ^3D_3$	$2p6d\ ^3F_4$	379.85	9.457+09	$2p3s\ ^3P_0$	$2p5p\ ^3D_1$	402.19	1.472+09
$2p3p\ ^3D_1$	$2p6d\ ^3F_2$	379.87	3.142+09	$2p3s\ ^3P_1$	$2p5p\ ^3D_2$	402.28	3.510+09
$2p3p\ ^3D_2$	$2p6d\ ^3F_2$	380.15	4.863+08	$2p3s\ ^3P_2$	$2p5p\ ^3D_3$	402.35	6.109+09

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^3P_1$	$2p5d\ ^3P_1$	461.71	1.338+09	$2s3p\ ^3P_2$	$2s5s\ ^3S_1$	464.73	2.138+09
$2p3p\ ^3P_2$	$2p5d\ ^3P_1$	462.14	1.277+09	$2p3d\ ^3F_3$	$2p5f\ ^1G_4$	467.11	2.356+09
$2p3p\ ^3P_2$	$2p5d\ ^3P_2$	462.38	4.981+09	$2p3d\ ^1D_2$	$2p5f\ ^1D_2$	467.19	3.140+09
$2p3p\ ^3P_0$	$2p5d\ ^3D_1$	463.14	3.535+09	$2p3d\ ^3F_4$	$2p5f\ ^3D_3$	467.69	1.158+08
$2p3p\ ^3P_1$	$2p5d\ ^3D_2$	463.25	7.525+09	$2p3d\ ^3F_2$	$2p5f\ ^3G_3$	468.09	1.305+10
$2p3p\ ^3P_2$	$2p5d\ ^3D_3$	463.36	1.227+10	$2p3d\ ^1D_2$	$2p5f\ ^3D_2$	468.21	2.456+08
$2p3p\ ^3P_1$	$2p5d\ ^3D_1$	463.38	1.660+09	$2p3d\ ^3F_3$	$2p5f\ ^3G_4$	468.36	2.052+10
$2p3p\ ^3P_2$	$2p5d\ ^3D_2$	463.68	6.748+08	$2p3d\ ^3F_4$	$2p5f\ ^3G_5$	468.44	3.591+10
$2p3p\ ^3P_1$	$2p5d\ ^1D_2$	465.79	1.511+08	$2p3d\ ^1D_2$	$2p5f\ ^3D_3$	468.44	2.969+08
$2s3d\ ^1D_2$	$2p4s\ ^1P_1$	466.04	1.007+08	$2p3d\ ^3F_3$	$2p5f\ ^3G_3$	468.55	2.956+09
$2p3p\ ^3S_1$	$2p5s\ ^3P_2$	466.20	5.149+08	$2p3d\ ^3F_4$	$2p5f\ ^3G_4$	468.89	3.797+09
$2p3p\ ^3P_2$	$2p5d\ ^3F_3$	466.35	1.638+08	$2p3d\ ^3F_2$	$2p5f\ ^3F_3$	469.35	5.551+09
$2p3p\ ^3S_1$	$2p5s\ ^3P_1$	467.01	3.408+08	$2p3d\ ^3F_2$	$2p5f\ ^3F_2$	469.39	2.145+09
$2p3p\ ^3S_1$	$2p5s\ ^3P_0$	467.32	1.220+08	$2p3d\ ^3F_2$	$2p5f\ ^1F_3$	469.56	2.736+09
$2p3p\ ^1D_2$	$2p5d\ ^1F_3$	475.27	1.569+10	$2p3d\ ^3F_3$	$2p5f\ ^3F_4$	469.72	5.041+09
$2s3d\ ^3D_1$	$2s5f\ ^3F_2$	475.83	1.517+10	$2p3d\ ^3F_3$	$2p5f\ ^3F_3$	469.82	1.040+09
$2s3d\ ^3D_2$	$2s5f\ ^3F_3$	475.85	2.248+10	$2p3d\ ^1D_2$	$2p5f\ ^3G_3$	469.83	4.789+09
$2s3d\ ^3D_2$	$2s5f\ ^3F_2$	475.86	2.809+09	$2p3d\ ^3F_3$	$2p5f\ ^3F_2$	469.86	2.346+08
$2s3d\ ^3D_3$	$2s5f\ ^3F_4$	475.89	3.253+10	$2p3d\ ^3F_3$	$2p5f\ ^1F_3$	470.02	6.351+08
$2s3d\ ^3D_3$	$2s5f\ ^3F_3$	475.90	2.809+09	$2p3d\ ^3F_4$	$2p5f\ ^3F_4$	470.25	2.151+09
$2s4s\ ^1S_0$	$2p6d\ ^1P_1$	477.12	8.680+08	$2p3d\ ^3F_4$	$2p5f\ ^3F_3$	470.35	1.440+08
$2p3p\ ^3P_1$	$2p5s\ ^3P_2$	484.49	8.277+08	$2p3d\ ^1D_2$	$2p5f\ ^3F_3$	471.10	2.826+08
$2p3p\ ^1D_2$	$2p5d\ ^1D_2$	484.87	2.134+09	$2p3d\ ^1D_2$	$2p5f\ ^1F_3$	471.31	1.620+10
$2p3p\ ^3P_2$	$2p5s\ ^3P_2$	484.97	2.384+09	$2p3d\ ^3F_2$	$2p5p\ ^3D_1$	481.43	1.794+08
$2p3p\ ^3P_0$	$2p5s\ ^3P_1$	485.11	6.239+08	$2p3d\ ^3F_4$	$2p5p\ ^3D_3$	481.56	5.657+08
$2p3p\ ^3P_1$	$2p5s\ ^3P_1$	485.37	4.498+08	$2p3d\ ^3F_3$	$2p5p\ ^3D_2$	481.68	3.928+08
$2p3p\ ^1D_2$	$2p5d\ ^3F_2$	485.65	1.160+09	$2p3d\ ^1D_2$	$2p5p\ ^1P_1$	484.38	2.483+08
$2p3p\ ^3P_1$	$2p5s\ ^3P_0$	485.70	6.060+08	$2p3d\ ^3D_1$	$2p5f\ ^1D_2$	486.05	2.014+08
$2p3p\ ^3P_2$	$2p5s\ ^3P_1$	485.85	7.582+08	$2p3d\ ^3D_1$	$2p5f\ ^3D_1$	486.86	1.174+09
$2s3d\ ^3D_2$	$2s5p\ ^3P_2$	488.42	1.199+08	$2p3d\ ^3D_2$	$2p5f\ ^3D_1$	487.01	4.119+08
$2s3d\ ^3D_1$	$2s5p\ ^3P_1$	488.43	1.196+08	$2p3d\ ^3D_2$	$2p5f\ ^3D_2$	487.31	2.294+09
$2s3d\ ^3D_1$	$2s5p\ ^3P_0$	488.45	1.599+08	$2p3d\ ^3D_3$	$2p5f\ ^3D_2$	487.56	4.784+08
$2s3d\ ^3D_2$	$2s5p\ ^3P_1$	488.46	3.588+08	$2p3d\ ^3D_3$	$2p5f\ ^1G_4$	487.75	1.213+08
$2s3d\ ^3D_3$	$2s5p\ ^3P_2$	488.47	6.718+08	$2p3d\ ^3D_3$	$2p5f\ ^3D_3$	487.82	4.471+09
$2s4s\ ^1S_0$	$2p6s\ ^1P_1$	492.67	1.757+08	$2p3d\ ^3D_2$	$2p5f\ ^3G_3$	489.07	1.642+09
$2p3p\ ^1S_0$	$2p5d\ ^1P_1$	498.06	3.136+09	$2p3d\ ^3D_3$	$2p5f\ ^3G_4$	489.12	3.345+09
$2p3p\ ^1D_2$	$2p5s\ ^1P_1$	501.15	2.382+09	$2p3d\ ^3D_3$	$2p5f\ ^3G_3$	489.32	1.922+08
$2s3d\ ^1D_2$	$2s5f\ ^1F_3$	504.13	2.289+10	$2p3d\ ^3D_1$	$2p5f\ ^3F_2$	490.33	1.184+10
$2s4d\ ^3D_2$	$2p6d\ ^3P_1$	508.00	1.356+08	$2p3d\ ^3D_2$	$2p5f\ ^3F_3$	490.45	1.426+10
$2s4d\ ^3D_3$	$2p6d\ ^3P_2$	508.22	1.982+08	$2p3d\ ^3D_2$	$2p5f\ ^3F_2$	490.49	1.624+09
$2s4d\ ^3D_3$	$2p6d\ ^3D_2$	509.27	1.121+08	$2p3d\ ^3D_3$	$2p5f\ ^3F_4$	490.60	2.107+10
$2s4d\ ^1D_2$	$2p6d\ ^1P_1$	515.05	4.908+08	$2p3d\ ^3D_2$	$2p5f\ ^1F_3$	490.67	1.794+09
$2s3d\ ^1D_2$	$2s5p\ ^1P_1$	519.71	1.142+09	$2p3d\ ^3D_3$	$2p5f\ ^3F_3$	490.71	1.214+09

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^1D_2$	$2p6d\ ^3F_2$	415.28	6.521+08	$2p3d\ ^3D_2$	$2p6p\ ^3P_1$	423.41	1.674+08
$2s3d\ ^3D_1$	$2s6p\ ^3P_0$	416.05	1.011+08	$2p3d\ ^3D_3$	$2p6p\ ^3P_2$	423.43	3.712+08
$2s3d\ ^3D_2$	$2s6p\ ^3P_1$	416.09	2.280+08	$2p3s\ ^1P_1$	$2p5p\ ^3D_1$	423.65	4.175+08
$2s3d\ ^3D_3$	$2s6p\ ^3P_2$	416.15	4.275+08	$2p3s\ ^1P_1$	$2p5p\ ^1P_1$	424.49	2.697+09
$2s3d\ ^1D_2$	$2p4d\ ^1F_3$	421.12	9.249+09	$2p3d\ ^3P_2$	$2p6f\ ^1D_2$	424.55	2.050+08
$2p3p\ ^1P_1$	$2p5d\ ^1P_1$	421.40	2.768+09	$2p3d\ ^3P_1$	$2p6f\ ^1D_2$	424.79	4.829+08
$2p3p\ ^1D_2$	$2p6s\ ^1P_1$	421.56	1.939+09	$2p3d\ ^3P_2$	$2p6f\ ^3D_1$	424.95	1.304+08
$2p3p\ ^1S_0$	$2p6d\ ^1P_1$	427.60	2.719+09	$2p3d\ ^3D_3$	$2p6p\ ^3D_3$	425.13	1.643+08
$2p3p\ ^1P_1$	$2p5d\ ^1D_2$	429.56	5.130+09	$2p3d\ ^3P_2$	$2p6f\ ^3D_2$	425.15	1.575+09
$2p3p\ ^1P_1$	$2p5d\ ^3F_2$	430.17	3.494+09	$2p3d\ ^3P_1$	$2p6f\ ^3D_1$	425.20	1.779+09
$2s3d\ ^1D_2$	$2s6f\ ^1F_3$	433.37	5.538+09	$2p3d\ ^3P_2$	$2p6f\ ^3D_3$	425.30	8.493+09
$2p3p\ ^3D_2$	$2p5d\ ^3P_1$	434.04	1.799+08	$2p3d\ ^3P_0$	$2p6f\ ^3D_1$	425.32	2.265+09
$2p3p\ ^3D_2$	$2p5d\ ^3P_2$	434.25	1.078+08	$2p3d\ ^3P_1$	$2p6f\ ^3D_2$	425.40	4.361+09
$2p3p\ ^3D_3$	$2p5d\ ^3P_2$	434.84	3.884+08	$2p3d\ ^3P_2$	$2p6f\ ^3F_3$	426.74	4.422+08
$2p3p\ ^3D_1$	$2p5d\ ^3D_2$	435.03	1.135+08	$2p3d\ ^3P_2$	$2p6f\ ^1F_3$	426.82	3.858+08
$2p3p\ ^3D_1$	$2p5d\ ^3D_1$	435.15	1.399+09	$2p3d\ ^3P_1$	$2p6f\ ^3F_2$	426.94	1.601+08
$2s3d\ ^1D_2$	$2s6p\ ^1P_1$	435.19	1.096+09	$2p3d\ ^3P_2$	$2p6p\ ^3S_1$	430.94	4.008+08
$2p3p\ ^3D_2$	$2p5d\ ^3D_2$	435.40	2.469+09	$2p3d\ ^3P_1$	$2p6p\ ^3S_1$	431.19	2.369+08
$2p3p\ ^3D_2$	$2p5d\ ^3D_1$	435.52	3.686+08	$2p3d\ ^3P_2$	$2p6p\ ^3D_3$	431.56	3.220+08
$2p3p\ ^3D_3$	$2p5d\ ^3D_3$	435.71	4.523+09	$2p3d\ ^3P_1$	$2p6p\ ^3D_2$	432.39	1.508+08
$2p3p\ ^3D_3$	$2p5d\ ^3D_2$	435.99	2.935+08	$2s3p\ ^1P_1$	$2s5d\ ^1D_2$	436.58	1.143+10
$2p3p\ ^3D_1$	$2p5d\ ^1D_2$	437.28	4.037+09	$2p3d\ ^1F_3$	$2p6f\ ^1G_4$	438.60	9.352+09
$2p3p\ ^3D_2$	$2p5d\ ^1D_2$	437.65	3.229+08	$2p3d\ ^1F_3$	$2p6f\ ^3G_4$	439.32	5.591+08
$2p3p\ ^3D_2$	$2p5d\ ^3F_3$	437.75	1.454+10	$2p3d\ ^1F_3$	$2p6f\ ^3G_3$	439.42	2.973+08
$2p3p\ ^3D_3$	$2p5d\ ^3F_4$	437.84	2.039+10	$2p3d\ ^1F_3$	$2p6f\ ^3F_4$	440.19	8.895+08
$2p3p\ ^3D_1$	$2p5d\ ^3F_2$	437.91	5.850+09	$2p3d\ ^1F_3$	$2p6f\ ^1F_3$	440.35	9.487+08
$2p3p\ ^3D_2$	$2p5d\ ^3F_2$	438.28	1.053+09	$2p3d\ ^1F_3$	$2p6p\ ^1D_2$	441.74	1.786+09
$2p3p\ ^3D_3$	$2p5d\ ^3F_3$	438.35	1.151+09	$2s3p\ ^3P_0$	$2s5d\ ^3D_1$	443.32	3.978+09
$2s3d\ ^1D_2$	$2p4d\ ^1D_2$	439.93	1.984+08	$2s3p\ ^3P_1$	$2s5d\ ^3D_1$	443.40	2.978+09
$2p3p\ ^1S_0$	$2p6s\ ^1P_1$	440.05	7.904+08	$2s3p\ ^3P_1$	$2s5d\ ^3D_2$	443.40	8.934+09
$2p3p\ ^1P_1$	$2p5s\ ^1P_1$	442.28	9.358+08	$2s3p\ ^3P_2$	$2s5d\ ^3D_3$	443.54	1.668+10
$2p3p\ ^3S_1$	$2p5d\ ^3P_0$	444.96	1.283+09	$2s3p\ ^3P_2$	$2s5d\ ^3D_2$	443.54	2.979+09
$2p3p\ ^3S_1$	$2p5d\ ^3P_1$	445.07	3.719+09	$2s3p\ ^3P_2$	$2s5d\ ^3D_1$	443.55	1.986+08
$2p3p\ ^3S_1$	$2p5d\ ^3P_2$	445.29	5.915+09	$2p3d\ ^1P_1$	$2p6p\ ^1S_0$	446.39	5.051+08
$2p3p\ ^3S_1$	$2p5d\ ^3D_2$	446.50	7.831+08	$2p3d\ ^1P_1$	$2p6f\ ^1D_2$	447.70	5.705+09
$2p3p\ ^3S_1$	$2p5d\ ^3D_1$	446.62	1.855+08	$2p3d\ ^1P_1$	$2p6f\ ^3D_2$	448.38	4.823+08
$2p3p\ ^3D_2$	$2p5s\ ^3P_2$	454.12	4.094+08	$2p3d\ ^1P_1$	$2p6f\ ^3F_2$	450.09	1.910+08
$2p3p\ ^3D_1$	$2p5s\ ^3P_1$	454.48	4.069+08	$2p3d\ ^1P_1$	$2p6p\ ^1D_2$	451.68	1.836+08
$2p3p\ ^3D_3$	$2p5s\ ^3P_2$	454.76	2.406+09	$2p3d\ ^1P_1$	$2p6p\ ^3D_1$	456.23	2.327+08
$2p3p\ ^3D_1$	$2p5s\ ^3P_0$	454.78	5.817+08	$2p3d\ ^1P_1$	$2p6p\ ^1P_1$	456.85	3.896+08
$2p3p\ ^3D_2$	$2p5s\ ^3P_1$	454.89	1.292+09	$2s3p\ ^1P_1$	$2s5s\ ^1S_0$	457.36	1.272+09
$2p3p\ ^3P_0$	$2p5d\ ^3P_1$	461.47	3.369+08	$2s3p\ ^3P_0$	$2s5s\ ^3S_1$	464.48	4.282+08
$2p3p\ ^3P_1$	$2p5d\ ^3P_0$	461.59	9.636+08	$2s3p\ ^3P_1$	$2s5s\ ^3S_1$	464.57	1.282+09

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^1P_1$	$2p4s\ ^1P_1$	645.71	1.919+09	$2p3d\ ^1P_1$	$2p5f\ ^1D_2$	526.65	1.035+10
$2p3p\ ^3P_0$	$2p4d\ ^3P_1$	647.15	1.023+09	$2p3d\ ^1P_1$	$2p5f\ ^3D_2$	527.94	6.323+08
$2p3p\ ^3P_1$	$2p4d\ ^3P_0$	647.36	1.435+09	$2s4f\ ^1F_3$	$2p6p\ ^1D_2$	528.30	2.916+08
$2p3p\ ^3P_1$	$2p4d\ ^3P_1$	647.62	1.398+09	$2p3d\ ^1P_1$	$2p5f\ ^3F_2$	531.68	1.207+08
$2p3p\ ^3P_1$	$2p4d\ ^3P_2$	648.11	8.282+08	$2p3d\ ^1P_1$	$2p5p\ ^1D_2$	536.14	2.974+08
$2p3p\ ^3P_2$	$2p4d\ ^3P_1$	648.47	1.786+09	$2p3s\ ^3P_1$	$2s6d\ ^3S_1$	537.42	1.666+08
$2p3p\ ^3P_2$	$2p4d\ ^3P_2$	648.96	5.772+09	$2p3s\ ^3P_2$	$2s6d\ ^3S_1$	538.40	4.201+08
$2s2\ ^1S_0$	$2s2p\ ^1P_1$	653.89	8.131+09	$2p3s\ ^3P_1$	$2p4p\ ^3P_2$	542.30	1.260+09
$2s2\ ^1S_0$	$2s2p\ ^1P_1$	653.89	8.131+09	$2p3s\ ^3P_0$	$2p4p\ ^3P_1$	542.35	1.031+09
$2p3p\ ^3P_2$	$2s6f\ ^1F_3$	654.74	2.759+08	$2p3s\ ^3P_1$	$2s6d\ ^1S_0$	542.40	1.498+08
$2p3p\ ^3P_0$	$2p4d\ ^3D_1$	656.35	5.700+09	$2p3s\ ^1P_1$	$2p4p\ ^1S_0$	542.59	6.101+08
$2p3p\ ^3P_1$	$2p4d\ ^3D_2$	656.57	1.301+10	$2p3s\ ^3P_1$	$2p4p\ ^3P_1$	542.83	8.638+08
$2p3p\ ^3P_1$	$2p4d\ ^3D_1$	656.83	3.931+09	$2p3s\ ^3P_1$	$2p4p\ ^3P_0$	543.25	1.004+09
$2p3p\ ^3P_2$	$2p4d\ ^3D_3$	657.03	2.314+10	$2p3s\ ^3P_2$	$2p4p\ ^3P_2$	543.30	4.510+09
$2p3p\ ^3P_2$	$2p4d\ ^3D_2$	657.44	3.639+09	$2p3s\ ^3P_2$	$2p4p\ ^3P_1$	543.83	1.550+09
$2p3p\ ^3P_0$	$2s6p\ ^1P_1$	657.56	1.392+08	$2p3d\ ^1P_1$	$2p5p\ ^1P_1$	548.59	5.404+08
$2p3p\ ^3P_2$	$2p4d\ ^3D_1$	657.71	2.211+08	$2p3s\ ^3P_0$	$2p4p\ ^3S_1$	550.86	3.770+08
$2p3p\ ^1D_2$	$2p4d\ ^1F_3$	661.38	1.865+10	$2p3s\ ^1P_1$	$2p4f\ ^1D_2$	551.13	2.662+08
$2p3p\ ^1D_2$	$2p4d\ ^1P_1$	664.05	1.623+08	$2p3s\ ^3P_1$	$2p4p\ ^3S_1$	551.36	1.103+09
$2p3p\ ^3P_0$	$2s6p\ ^3P_1$	664.44	3.995+08	$2p3s\ ^3P_2$	$2p4p\ ^3S_1$	552.39	1.474+09
$2p3p\ ^3P_1$	$2s6p\ ^3P_0$	664.89	3.080+08	$2p3s\ ^3P_0$	$2p4p\ ^3D_1$	555.58	2.707+09
$2p3p\ ^3P_1$	$2s6p\ ^3P_1$	664.94	1.835+08	$2p3s\ ^3P_1$	$2p4p\ ^3D_2$	555.60	6.119+09
$2p3p\ ^3P_1$	$2s6p\ ^3P_2$	665.01	5.600+08	$2p3s\ ^3P_2$	$2p4p\ ^3D_3$	555.76	1.108+10
$2p3p\ ^3P_2$	$2s6p\ ^3P_1$	665.84	3.637+08	$2p3s\ ^3P_1$	$2p4p\ ^3D_1$	556.09	1.807+09
$2p3p\ ^3P_2$	$2s6p\ ^3P_2$	665.91	1.021+09	$2p3s\ ^3P_2$	$2p4p\ ^3D_2$	556.65	1.793+09
$2s3d\ ^3D_1$	$2s4f\ ^3F_2$	674.87	4.317+10	$2p3s\ ^3P_2$	$2p4p\ ^3D_1$	557.13	1.202+08
$2s3d\ ^3D_2$	$2s4f\ ^3F_3$	674.91	6.396+10	$2p3s\ ^1P_1$	$2s6d\ ^1D_2$	558.02	4.017+08
$2s3d\ ^3D_2$	$2s4f\ ^3F_2$	674.93	7.988+09	$2p3s\ ^1P_1$	$2p4p\ ^1D_2$	570.97	7.222+09
$2s3d\ ^3D_3$	$2s4f\ ^3F_4$	674.97	9.251+10	$2s4p\ ^3P_2$	$2p5f\ ^3D_3$	587.32	1.318+08
$2s3d\ ^3D_3$	$2s4f\ ^3F_3$	675.00	7.984+09	$2s4p\ ^1P_1$	$2p5f\ ^1D_2$	593.24	1.547+08
$2s3d\ ^3D_3$	$2s4f\ ^3F_2$	675.02	2.279+08	$2p3s\ ^1P_1$	$2p4p\ ^3D_1$	597.39	1.130+08
$2p3p\ ^3D_2$	$2p4s\ ^3P_2$	681.71	9.743+08	$2s3p\ ^1P_1$	$2s4d\ ^1D_2$	599.73	1.888+10
$2p3p\ ^3D_1$	$2p4s\ ^3P_1$	682.44	9.873+08	$2p3s\ ^1P_1$	$2p4p\ ^1P_1$	601.58	4.494+09
$2p3p\ ^3D_3$	$2p4s\ ^3P_2$	683.15	5.682+09	$2s4p\ ^1P_1$	$2p5p\ ^1D_2$	605.31	1.537+08
$2p3p\ ^3D_1$	$2p4s\ ^3P_0$	683.18	1.373+09	$2s3p\ ^3P_0$	$2s4d\ ^3D_1$	620.91	7.567+09
$2p3p\ ^3D_2$	$2p4s\ ^3P_1$	683.35	3.081+09	$2s3p\ ^3P_1$	$2s4d\ ^3D_2$	621.05	1.699+10
$2p3p\ ^1D_2$	$2s6f\ ^1F_3$	692.09	6.639+09	$2s3p\ ^3P_1$	$2s4d\ ^3D_1$	621.06	5.664+09
$2p3p\ ^1D_2$	$2p4d\ ^1D_2$	708.97	5.480+09	$2s3p\ ^3P_2$	$2s4d\ ^3D_3$	621.31	3.172+10
$2p3p\ ^3S_1$	$2p4s\ ^3P_2$	709.31	1.303+09	$2s3p\ ^3P_2$	$2s4d\ ^3D_2$	621.34	5.663+09
$2p3p\ ^1D_2$	$2p4d\ ^3F_2$	711.06	1.162+09	$2s3p\ ^3P_2$	$2s4d\ ^3D_1$	621.35	3.776+08
$2p3p\ ^3S_1$	$2p4s\ ^3P_1$	711.08	8.556+08	$2s4f\ ^3F_4$	$2p5f\ ^3G_5$	628.96	5.857+08
$2p3p\ ^1S_0$	$2p4d\ ^1P_1$	711.12	5.277+09	$2s4f\ ^3F_3$	$2p5f\ ^3G_4$	629.74	3.428+08
$2p3p\ ^3S_1$	$2p4s\ ^3P_0$	711.88	2.984+08	$2s4f\ ^3F_2$	$2p5f\ ^3G_3$	630.06	2.653+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s3s\ ^3S_1$	$2s4p\ ^3P_2$	524.68	6.598+09	$2p3d\ ^3P_2$	$2p5f\ ^1D_2$	494.89	2.759+08
$2s3s\ ^3S_1$	$2s4p\ ^3P_1$	524.76	3.955+09	$2p3d\ ^3P_1$	$2p5f\ ^1D_2$	495.23	6.312+08
$2s3s\ ^3S_1$	$2s4p\ ^3P_0$	524.80	1.318+09	$2p3d\ ^3P_2$	$2p5f\ ^3D_1$	495.73	2.577+08
$2p3p\ ^1S_0$	$2p5s\ ^1P_1$	527.50	1.083+09	$2p3d\ ^3P_2$	$2p5f\ ^3D_2$	496.03	3.333+09
$2s3s\ ^1S_0$	$2s4p\ ^1P_1$	557.08	3.457+09	$2p3d\ ^3P_1$	$2p5f\ ^3D_1$	496.06	3.522+09
$2p3p\ ^1P_1$	$2p4d\ ^1P_1$	564.50	3.556+09	$2p3d\ ^3P_0$	$2p5f\ ^3D_1$	496.23	4.489+09
$2s4s\ ^1S_0$	$2p5d\ ^1P_1$	566.55	8.177+08	$2p3d\ ^3P_2$	$2p5f\ ^3D_3$	496.30	1.802+10
$2p3p\ ^1P_1$	$2s6p\ ^1P_1$	587.97	4.516+08	$2p3d\ ^3P_1$	$2p5f\ ^3D_2$	496.37	9.218+09
$2p3p\ ^3D_1$	$2s6f\ ^3F_2$	593.48	9.963+08	$2p3d\ ^3D_2$	$2p5p\ ^3P_2$	498.12	1.128+08
$2p3p\ ^3D_2$	$2s6f\ ^3F_3$	594.12	1.586+09	$2p3d\ ^3D_1$	$2p5p\ ^3P_1$	498.27	1.001+08
$2p3p\ ^3D_2$	$2s6f\ ^3F_2$	594.17	2.191+08	$2p3d\ ^3D_3$	$2p5p\ ^3P_2$	498.39	5.521+08
$2p3p\ ^3D_2$	$2p4d\ ^3P_1$	594.46	2.314+08	$2p3d\ ^3D_2$	$2p5p\ ^3P_1$	498.44	2.761+08
$2p3p\ ^3D_3$	$2s6f\ ^3F_4$	595.15	2.618+09	$2p3d\ ^3D_1$	$2p5p\ ^3P_0$	498.66	1.398+08
$2p3p\ ^3D_3$	$2s6f\ ^3F_3$	595.22	2.590+08	$2p3d\ ^3P_2$	$2p5f\ ^3F_3$	499.29	1.091+08
$2p3p\ ^3D_3$	$2p4d\ ^3P_2$	595.98	4.519+08	$2p3d\ ^3P_2$	$2p5f\ ^1F_3$	499.52	3.793+08
$2p3p\ ^1P_1$	$2p4d\ ^1D_2$	596.64	1.350+10	$2s4p\ ^1P_1$	$2p6p\ ^1D_2$	499.80	3.080+08
$2p3p\ ^1P_1$	$2p4d\ ^3F_2$	598.12	3.750+09	$2p3d\ ^3D_3$	$2p5p\ ^3D_3$	502.92	2.543+08
$2p3p\ ^3D_1$	$2p4d\ ^3D_2$	601.29	5.501+08	$2p3d\ ^3D_2$	$2p5p\ ^3D_2$	503.39	1.377+08
$2p3p\ ^3D_1$	$2p4d\ ^3D_1$	601.52	2.303+09	$2p3d\ ^3P_2$	$2p5p\ ^3S_1$	509.65	7.375+08
$2p3p\ ^3D_2$	$2p4d\ ^3D_3$	601.65	4.756+08	$2p3d\ ^3P_1$	$2p5p\ ^3S_1$	510.00	3.950+08
$2p3p\ ^3D_2$	$2p4d\ ^3D_2$	602.00	3.891+09	$2p3d\ ^3P_0$	$2p5p\ ^3S_1$	510.18	1.125+08
$2p3p\ ^3D_2$	$2p4d\ ^3D_1$	602.22	7.266+08	$2p3d\ ^3P_2$	$2p5p\ ^3D_3$	511.94	4.648+08
$2p3p\ ^3D_3$	$2p4d\ ^3D_3$	602.78	6.895+09	$2p3d\ ^3P_1$	$2p5p\ ^3D_2$	513.06	2.273+08
$2p3p\ ^3D_3$	$2p4d\ ^3D_2$	603.12	7.616+08	$2p3d\ ^1F_3$	$2p5f\ ^1G_4$	514.62	1.783+10
$2s4s\ ^1S_0$	$2p5s\ ^1P_1$	604.95	1.845+08	$2p3d\ ^1F_3$	$2p5f\ ^3G_4$	516.14	1.104+09
$2p3p\ ^3D_3$	$2s6p\ ^3P_2$	610.24	1.163+08	$2p3d\ ^1F_3$	$2p5f\ ^3G_3$	516.37	2.439+08
$2p3p\ ^3D_1$	$2p4d\ ^1D_2$	611.64	4.038+09	$2p3s\ ^3P_0$	$2p4f\ ^3D_1$	516.81	2.053+08
$2p3p\ ^3D_2$	$2p4d\ ^1D_2$	612.37	4.219+08	$2p3s\ ^3P_1$	$2p4f\ ^3D_1$	517.24	1.549+08
$2p3p\ ^3D_2$	$2p4d\ ^3F_3$	613.06	2.742+10	$2p3s\ ^3P_1$	$2p4f\ ^3D_2$	517.59	4.454+08
$2p3p\ ^3D_1$	$2p4d\ ^3F_2$	613.18	1.458+10	$2s4f\ ^3F_2$	$2p6f\ ^3D_1$	517.67	2.732+08
$2p3p\ ^3D_3$	$2p4d\ ^3F_4$	613.36	3.877+10	$2p3d\ ^1F_3$	$2p5f\ ^3F_4$	517.78	5.203+08
$2p3p\ ^3D_2$	$2p4d\ ^3F_2$	613.92	2.669+09	$2p3d\ ^1F_3$	$2p5f\ ^3F_3$	517.91	1.373+08
$2p3p\ ^3D_3$	$2p4d\ ^3F_3$	614.22	2.901+09	$2s4f\ ^3F_3$	$2p6f\ ^3D_2$	517.98	3.394+08
$2p3p\ ^3S_1$	$2p4d\ ^3P_0$	615.11	2.026+09	$2p3d\ ^1F_3$	$2p5f\ ^1F_3$	518.16	2.251+09
$2p3p\ ^3S_1$	$2p4d\ ^3P_1$	615.34	6.100+09	$2s4f\ ^3F_4$	$2p6f\ ^3D_3$	518.22	5.124+08
$2p3p\ ^3S_1$	$2p4d\ ^3P_2$	615.78	1.032+10	$2p3s\ ^3P_2$	$2p4f\ ^3D_2$	518.49	1.508+08
$2s4d\ ^1D_2$	$2p5d\ ^1P_1$	620.84	1.200+08	$2s4f\ ^3F_4$	$2p6f\ ^3G_5$	518.63	2.390+08
$2s4d\ ^1D_2$	$2p5d\ ^1F_3$	622.15	1.422+08	$2p3s\ ^3P_2$	$2p4f\ ^3D_3$	518.84	8.782+08
$2s3s\ ^3S_1$	$2p3d\ ^3P_1$	626.96	1.848+08	$2s4f\ ^3F_3$	$2p6f\ ^3G_4$	519.02	1.147+08
$2s3s\ ^3S_1$	$2p3d\ ^3P_2$	627.50	3.088+08	$2p3d\ ^1F_3$	$2p5p\ ^1D_2$	522.18	1.228+09
$2p3p\ ^3S_1$	$2s6p\ ^3P_0$	630.91	2.666+08	$2s4f\ ^1F_3$	$2p6f\ ^1D_2$	522.87	3.049+08
$2p3p\ ^3S_1$	$2s6p\ ^3P_1$	630.96	8.586+08	$2s4f\ ^1F_3$	$2p6f\ ^1G_4$	523.82	5.155+08
$2p3p\ ^3S_1$	$2s6p\ ^3P_2$	631.02	1.603+09	$2p3d\ ^1P_1$	$2p5p\ ^1S_0$	525.20	2.715+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p4p\ ^3D_3$	$2p6d\ ^3F_4$	934.94	4.451+09	$2p3d\ ^3D_2$	$2p4f\ ^3D_1$	697.34	1.097+09
$2p4p\ ^3D_1$	$2p6d\ ^3F_2$	935.61	1.276+09	$2p3d\ ^3D_1$	$2p4f\ ^3D_2$	697.64	6.987+08
$2p4p\ ^3S_1$	$2p6d\ ^3P_0$	936.39	2.125+08	$2p3d\ ^3D_2$	$2p4f\ ^3D_2$	697.96	5.422+09
$2p4p\ ^3S_1$	$2p6d\ ^3P_1$	936.75	5.933+08	$2p3d\ ^3D_3$	$2p4f\ ^3D_2$	698.48	1.254+09
$2p4p\ ^3D_2$	$2p6d\ ^3F_2$	936.98	2.559+08	$2p3d\ ^3D_2$	$2p4f\ ^3D_3$	698.59	8.639+08
$2p4p\ ^3D_3$	$2p6d\ ^3F_3$	937.44	1.909+08	$2p3d\ ^3D_3$	$2p4f\ ^3D_3$	699.11	1.099+10
$2p4p\ ^3S_1$	$2p6d\ ^3P_2$	937.45	8.925+08	$2s3p\ ^3P_0$	$2s4s\ ^3S_1$	709.15	8.963+08
$2p4p\ ^3S_1$	$2p6d\ ^3D_2$	941.04	3.414+08	$2s3p\ ^3P_1$	$2s4s\ ^3S_1$	709.35	2.685+09
$2s3d\ ^3D_1$	$2p3d\ ^3P_0$	941.31	7.564+08	$2s3p\ ^3P_2$	$2s4s\ ^3S_1$	709.73	4.479+09
$2s3d\ ^3D_1$	$2p3d\ ^3P_1$	941.91	6.366+08	$2p3d\ ^3D_2$	$2p4f\ ^3F_3$	710.84	4.386+10
$2s3s\ ^3S_1$	$2p3s\ ^3P_2$	941.96	2.169+09	$2p3d\ ^3D_1$	$2p4f\ ^3F_2$	710.94	3.061+10
$2s3d\ ^3D_2$	$2p3d\ ^3P_1$	942.03	1.627+09	$2p3d\ ^3D_3$	$2p4f\ ^3F_4$	711.11	7.329+10
$2p3p\ ^1D_2$	$2s5p\ ^1P_1$	942.04	5.264+08	$2p3d\ ^3D_1$	$2s6d\ ^3D_2$	711.14	5.278+09
$2s3d\ ^1D_2$	$2p3d\ ^1P_1$	942.73	2.621+09	$2p3d\ ^3D_2$	$2p4f\ ^3F_2$	711.27	5.467+09
$2s3d\ ^3D_2$	$2p3d\ ^3P_2$	943.24	6.871+08	$2p3d\ ^3D_3$	$2p4f\ ^3F_3$	711.38	5.124+09
$2s3d\ ^3D_3$	$2p3d\ ^3P_2$	943.42	3.015+09	$2p3d\ ^3D_2$	$2s6d\ ^3D_2$	711.48	5.045+08
$2s3s\ ^3S_1$	$2p3s\ ^3P_1$	944.97	1.290+09	$2p3d\ ^3D_3$	$2p4f\ ^3F_2$	711.81	1.513+08
$2s3s\ ^3S_1$	$2p3s\ ^3P_0$	946.43	4.281+08	$2p3d\ ^3D_2$	$2p4f\ ^1F_3$	711.82	8.888+09
$2s6d\ ^1S_0$	$2p6d\ ^1P_1$	948.99	1.209+08	$2p3d\ ^3D_3$	$2p4f\ ^1F_3$	712.36	4.329+08
$2s3s\ ^1S_0$	$2p3s\ ^1P_1$	953.28	3.718+09	$2p3d\ ^3P_2$	$2p4f\ ^1D_2$	712.56	4.315+08
$2p4p\ ^1P_1$	$2p6s\ ^1P_1$	957.25	2.649+08	$2p3d\ ^3P_1$	$2p4f\ ^1D_2$	713.25	9.323+08
$2p4p\ ^3P_1$	$2p6d\ ^3P_0$	962.06	2.292+08	$2p3d\ ^3D_3$	$2s6g\ ^1G_4$	714.92	5.624+08
$2p4p\ ^3P_1$	$2p6d\ ^3P_1$	962.44	3.958+08	$2p3d\ ^3P_2$	$2p4f\ ^3D_1$	715.34	7.162+08
$2p4p\ ^3P_2$	$2p6d\ ^3P_1$	964.10	3.105+08	$2p3d\ ^3P_2$	$2p4f\ ^3D_2$	716.00	9.688+09
$2p4p\ ^3P_2$	$2p6d\ ^3P_2$	964.85	1.281+09	$2p3d\ ^3P_1$	$2p4f\ ^3D_1$	716.04	9.805+09
$2p4p\ ^3P_0$	$2p6d\ ^3D_1$	966.32	8.034+08	$2p3d\ ^3D_2$	$2s6g\ ^3G_3$	716.27	3.287+08
$2p4p\ ^3P_1$	$2p6d\ ^3D_2$	966.97	1.642+09	$2p3d\ ^3P_0$	$2p4f\ ^3D_1$	716.39	1.251+10
$2p4p\ ^3P_2$	$2p6d\ ^3D_3$	967.04	2.922+09	$2p3d\ ^3D_3$	$2s6g\ ^3G_4$	716.50	1.114+09
$2p4p\ ^3P_1$	$2p6d\ ^3D_1$	967.67	3.361+08	$2p3d\ ^3P_2$	$2p4f\ ^3D_3$	716.66	5.145+10
$2p4p\ ^3P_1$	$2p6d\ ^1D_2$	972.65	1.407+08	$2p3d\ ^3P_1$	$2p4f\ ^3D_2$	716.70	2.675+10
$2s3d\ ^3D_2$	$2p3d\ ^3D_3$	975.47	4.855+08	$2p3d\ ^3F_3$	$2p4p\ ^3D_3$	717.89	1.779+08
$2s3d\ ^3D_3$	$2p3d\ ^3D_3$	975.66	3.788+09	$2p3d\ ^3F_2$	$2p4p\ ^3D_2$	718.29	1.756+08
$2s3d\ ^3D_1$	$2p3d\ ^3D_2$	976.36	4.500+08	$2p3d\ ^3F_2$	$2p4p\ ^3D_1$	719.09	8.835+08
$2s3d\ ^3D_2$	$2p3d\ ^3D_2$	976.49	1.998+09	$2p3d\ ^3F_4$	$2p4p\ ^3D_3$	719.13	2.168+09
$2p4p\ ^3D_2$	$2p6s\ ^3P_2$	976.51	1.286+08	$2p3d\ ^3F_3$	$2p4p\ ^3D_2$	719.38	1.506+09
$2s3d\ ^3D_3$	$2p3d\ ^3D_2$	976.68	5.990+08	$2p3d\ ^1D_2$	$2p4p\ ^3D_1$	723.22	1.364+08
$2s3d\ ^3D_1$	$2p3d\ ^3D_1$	976.99	1.307+09	$2p3d\ ^3F_2$	$2p4p\ ^1P_1$	725.18	1.362+08
$2s3d\ ^3D_2$	$2p3d\ ^3D_1$	977.12	5.196+08	$2p3d\ ^1D_2$	$2p4p\ ^1P_1$	729.38	9.842+08
$2p4p\ ^3D_1$	$2p6s\ ^3P_1$	978.84	1.127+08	$2p3d\ ^3P_2$	$2s6d\ ^3D_3$	730.17	2.009+08
$2p4p\ ^3D_3$	$2p6s\ ^3P_2$	979.28	8.505+08	$2p3d\ ^3P_2$	$2p4f\ ^1F_3$	730.59	2.789+08
$2s6d\ ^3S_1$	$2p6d\ ^3P_1$	979.92	1.654+08	$2p3d\ ^3P_1$	$2s6d\ ^3D_2$	730.96	1.705+08
$2p4p\ ^3D_1$	$2p6s\ ^3P_0$	979.97	2.165+08	$2p3d\ ^3D_2$	$2p4p\ ^3P_2$	743.66	2.151+08
$2p4p\ ^3D_2$	$2p6s\ ^3P_1$	980.34	4.641+08	$2p3d\ ^3D_3$	$2p4p\ ^3P_2$	744.25	1.233+09

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s3d\ ^1D_2$	$2s4f\ ^1F_3$	723.68	6.955+10	$2s4f\ ^1F_3$	$2p5f\ ^1G_4$	636.03	1.013+09
$2s3d\ ^3D_2$	$2s4p\ ^3P_2$	728.62	2.221+08	$2s4f\ ^1F_3$	$2p5f\ ^1F_3$	641.44	1.126+08
$2s3d\ ^3D_1$	$2s4p\ ^3P_1$	728.70	2.218+08	$2s4f\ ^1F_3$	$2p5p\ ^1D_2$	647.62	1.296+08
$2s3d\ ^3D_3$	$2s4p\ ^3P_2$	728.73	1.253+09	$2p3d\ ^3F_3$	$2p4f\ ^1G_4$	649.80	1.737+09
$2s3d\ ^3D_2$	$2s4p\ ^3P_1$	728.77	6.687+08	$2p3d\ ^3F_2$	$2p4f\ ^3G_3$	651.47	2.425+10
$2s3d\ ^3D_1$	$2s4p\ ^3P_0$	728.78	2.963+08	$2p3d\ ^3F_3$	$2p4f\ ^3G_4$	652.07	3.366+10
$2p3p\ ^3D_1$	$2s5f\ ^3F_2$	745.13	2.805+08	$2p3d\ ^3F_3$	$2p4f\ ^3G_3$	652.37	2.568+09
$2p3p\ ^3D_2$	$2s5f\ ^3F_3$	746.20	4.125+08	$2p3d\ ^3F_4$	$2p4f\ ^3G_5$	652.50	4.888+10
$2p3p\ ^3D_3$	$2s5f\ ^3F_4$	747.92	5.879+08	$2p3d\ ^3F_4$	$2p4f\ ^3G_4$	653.10	2.704+09
$2p3p\ ^3P_1$	$2p4s\ ^3P_2$	752.54	1.880+09	$2p3d\ ^3F_2$	$2p4f\ ^1D_2$	653.11	2.251+08
$2p3p\ ^3P_2$	$2p4s\ ^3P_2$	753.69	5.440+09	$2p3d\ ^1D_2$	$2p4f\ ^3G_3$	654.86	1.828+09
$2p3p\ ^3P_0$	$2p4s\ ^3P_1$	753.90	1.440+09	$2p3d\ ^1D_2$	$2p4f\ ^1D_2$	656.51	7.862+09
$2p3p\ ^3P_1$	$2p4s\ ^3P_1$	754.54	1.047+09	$2p3d\ ^1D_2$	$2p4f\ ^3D_2$	659.43	3.419+08
$2p3p\ ^3P_1$	$2p4s\ ^3P_0$	755.44	1.391+09	$2p3d\ ^1D_2$	$2p4f\ ^3D_3$	659.99	1.575+08
$2p3p\ ^3P_2$	$2p4s\ ^3P_1$	755.70	1.752+09	$2s3p\ ^1P_1$	$2s4s\ ^1S_0$	660.91	1.357+09
$2p2\ ^3P_2$	$2s2p\ ^3P_1$	757.86	2.885+09	$2p3d\ ^1D_2$	$2s6d\ ^1D_2$	666.30	1.611+08
$2s5d\ ^1D_2$	$2p6d\ ^1P_1$	758.48	1.519+08	$2p3d\ ^3F_2$	$2p4f\ ^3F_3$	667.36	1.097+09
$2p2\ ^3P_1$	$2s2p\ ^3P_0$	758.68	2.300+09	$2p3d\ ^3F_2$	$2p4f\ ^3F_2$	667.74	5.078+09
$2p2\ ^3P_1$	$2s2p\ ^3P_1$	759.55	1.719+09	$2p3d\ ^3F_2$	$2s6d\ ^3D_3$	667.87	1.268+08
$2p2\ ^3P_2$	$2s2p\ ^3P_2$	759.61	8.593+09	$2p3d\ ^3F_2$	$2s6d\ ^3D_1$	667.90	2.873+08
$2p2\ ^3P_0$	$2s2p\ ^3P_1$	760.42	2.284+09	$2p3d\ ^3F_2$	$2s6d\ ^3D_2$	667.92	1.300+09
$2p2\ ^3P_1$	$2s2p\ ^3P_2$	761.31	2.845+09	$2p3d\ ^3F_3$	$2p4f\ ^3F_4$	668.07	3.644+08
$2s5g\ ^1G_4$	$2p6g\ ^1H_5$	763.40	1.591+08	$2p3d\ ^3F_2$	$2p4f\ ^1F_3$	668.22	6.145+08
$2s5g\ ^3G_5$	$2p6g\ ^3H_6$	763.44	2.059+08	$2p3d\ ^3F_3$	$2p4f\ ^3F_3$	668.30	7.668+09
$2p3p\ ^1D_2$	$2p4s\ ^1P_1$	779.35	4.380+09	$2p3d\ ^3F_3$	$2p4f\ ^3F_2$	668.68	1.148+09
$2s3d\ ^1D_2$	$2s4p\ ^1P_1$	784.99	1.115+09	$2p3d\ ^3F_4$	$2p4f\ ^3F_4$	669.14	1.306+10
$2s4s\ ^3S_1$	$2p4d\ ^3P_1$	828.84	2.538+08	$2p3d\ ^3F_3$	$2p4f\ ^1F_3$	669.17	1.379+09
$2s4s\ ^3S_1$	$2p4d\ ^3P_2$	829.65	4.288+08	$2p3d\ ^3F_4$	$2p4f\ ^3F_3$	669.38	8.230+08
$2p3p\ ^1S_0$	$2p4s\ ^1P_1$	844.99	2.995+09	$2p3d\ ^3F_4$	$2s6d\ ^3D_3$	669.89	6.290+08
$2s4s\ ^3S_1$	$2s6p\ ^3P_1$	857.43	2.932+08	$2p3d\ ^1D_2$	$2p4f\ ^3F_3$	670.91	8.090+09
$2s4s\ ^3S_1$	$2s6p\ ^3P_2$	857.54	4.761+08	$2p3d\ ^3F_3$	$2s6g\ ^1G_4$	671.42	2.665+09
$2s4s\ ^1S_0$	$2p4d\ ^1P_1$	859.47	2.113+09	$2p3d\ ^1D_2$	$2s6d\ ^3D_3$	671.43	4.816+09
$2p3p\ ^1D_2$	$2s5f\ ^1F_3$	892.06	7.309+08	$2p3d\ ^1D_2$	$2p4f\ ^1F_3$	671.78	4.764+10
$2p4p\ ^1P_1$	$2p6d\ ^1P_1$	900.24	4.782+08	$2p3d\ ^3F_2$	$2s6g\ ^3G_3$	672.14	3.121+10
$2s4s\ ^1S_0$	$2s6p\ ^1P_1$	915.07	2.643+08	$2p3d\ ^3F_4$	$2s6g\ ^1G_4$	672.51	5.205+08
$2p4p\ ^1P_1$	$2p6d\ ^1D_2$	922.75	8.635+08	$2p3d\ ^3F_3$	$2s6g\ ^3G_4$	672.82	3.620+10
$2p4p\ ^1P_1$	$2p6d\ ^3F_2$	925.50	7.111+08	$2p3d\ ^3F_3$	$2s6g\ ^3G_3$	673.10	1.809+09
$2p4p\ ^3D_3$	$2p6d\ ^3P_2$	927.90	1.193+08	$2p3d\ ^3F_4$	$2s6g\ ^3G_5$	673.29	4.692+10
$2p4p\ ^3D_1$	$2p6d\ ^3D_1$	928.22	2.101+08	$2p3d\ ^3F_4$	$2s6g\ ^3G_4$	673.91	1.103+09
$2p4p\ ^3D_2$	$2p6d\ ^3D_2$	928.91	4.338+08	$2p3s\ ^1P_1$	$2s5d\ ^1D_2$	687.44	5.205+08
$2p4p\ ^3D_3$	$2p6d\ ^3D_3$	929.93	8.578+08	$2p3d\ ^3D_3$	$2p4f\ ^3G_4$	693.02	1.795+08
$2p4p\ ^3D_1$	$2p6d\ ^1D_2$	932.80	8.836+08	$2p3d\ ^3D_1$	$2p4f\ ^1D_2$	694.37	2.132+08
$2p4p\ ^3D_2$	$2p6d\ ^3F_3$	934.90	3.179+09	$2p3d\ ^3D_1$	$2p4f\ ^3D_1$	697.01	3.136+09

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s4d\ ^3D_3$	$2p4d\ ^3D_3$	1014.32	3.103+09	$2p3d\ ^1P_1$	$2p4p\ ^1D_2$	820.68	1.129+09
$2s6g\ ^3G_4$	$2p6g\ ^3G_3$	1014.32	3.629+08	$2p4s\ ^1P_1$	$2p3p\ ^1S_0$	844.99	2.995+09
$2s6g\ ^3G_4$	$2p6g\ ^3G_4$	1014.33	1.834+09	$2s3p\ ^1P_1$	$2p3p\ ^1D_2$	854.22	3.936+08
$2p4f\ ^1F_3$	$2p6g\ ^3F_3$	1014.99	3.256+08	$2p3d\ ^3F_2$	$2s5g\ ^3G_3$	854.31	1.854+09
$2s4d\ ^3D_1$	$2p4d\ ^3D_2$	1015.17	3.631+08	$2p3d\ ^3F_3$	$2s5g\ ^1G_4$	855.82	4.251+08
$2s4d\ ^3D_2$	$2p4d\ ^3D_2$	1015.22	1.689+09	$2p3d\ ^3F_3$	$2s5g\ ^3G_4$	855.85	2.118+09
$2s4d\ ^3D_3$	$2p4d\ ^3D_2$	1015.30	4.386+08	$2p3d\ ^3F_3$	$2s5g\ ^3G_3$	855.86	1.693+08
$2s6g\ ^3G_5$	$2p6g\ ^3G_5$	1015.71	2.213+09	$2p3d\ ^3F_4$	$2s5g\ ^3G_5$	857.59	3.302+09
$2s6g\ ^3G_5$	$2p6g\ ^3G_4$	1015.74	9.978+08	$2p3d\ ^3F_4$	$2s5g\ ^3G_4$	857.61	1.386+08
$2s4d\ ^3D_1$	$2p4d\ ^3D_1$	1015.81	1.076+09	$2p4s\ ^3P_1$	$2p6p\ ^3P_2$	860.54	1.035+08
$2s4d\ ^3D_2$	$2p4d\ ^3D_1$	1015.86	3.900+08	$2p4s\ ^3P_1$	$2p6p\ ^3P_0$	862.69	1.560+08
$2s5d\ ^1D_2$	$2p5d\ ^1F_3$	1016.06	2.920+09	$2p4s\ ^3P_2$	$2p6p\ ^3P_2$	863.16	6.765+08
$2p4f\ ^3F_2$	$2p6g\ ^3F_2$	1016.14	2.929+08	$2p4s\ ^3P_2$	$2p6p\ ^3P_1$	863.85	3.885+08
$2p4f\ ^1F_3$	$2p6g\ ^3F_4$	1016.61	8.481+08	$2p4s\ ^3P_1$	$2p6p\ ^3S_1$	865.10	3.022+08
$2s5s\ ^3S_1$	$2p5s\ ^3P_2$	1016.68	2.190+09	$2p4s\ ^1P_1$	$2p6p\ ^1S_0$	865.64	2.343+08
$2s5d\ ^3D_1$	$2p5d\ ^3P_0$	1017.05	5.353+08	$2p4s\ ^3P_2$	$2p6p\ ^3S_1$	867.74	1.272+08
$2s6d\ ^3D_3$	$2p6g\ ^3F_4$	1017.42	1.503+08	$2p4s\ ^3P_0$	$2p6p\ ^3D_1$	869.01	3.176+08
$2s6g\ ^1G_4$	$2p6g\ ^3G_3$	1017.52	5.680+08	$2p4s\ ^3P_1$	$2p6p\ ^3D_2$	869.92	8.696+08
$2s6g\ ^1G_4$	$2p6g\ ^1G_4$	1017.54	2.339+09	$2p4s\ ^3P_2$	$2p6p\ ^3D_3$	870.27	1.448+09
$2s5d\ ^3D_1$	$2p5d\ ^3P_1$	1017.63	6.843+08	$2p3d\ ^3F_3$	$2s5d\ ^3D_2$	871.00	1.425+08
$2s5d\ ^3D_2$	$2p5d\ ^3P_1$	1017.65	9.065+08	$2p4s\ ^3P_0$	$2p6p\ ^1P_1$	871.25	1.044+08
$2p4f\ ^3F_2$	$2p6g\ ^1F_3$	1017.69	7.013+08	$2p4s\ ^3P_1$	$2p6p\ ^1P_1$	872.45	1.682+08
$2p4f\ ^1F_3$	$2p6g\ ^3H_4$	1017.95	5.572+08	$2p4s\ ^3P_2$	$2p6p\ ^3D_2$	872.59	1.642+08
$2p4f\ ^3F_3$	$2p6g\ ^1F_3$	1018.57	1.044+09	$2p3d\ ^3F_4$	$2s5d\ ^3D_3$	872.80	2.047+08
$2p4p\ ^3P_1$	$2p6s\ ^3P_2$	1018.66	4.086+08	$2p3d\ ^1P_1$	$2p4p\ ^1P_1$	885.44	1.457+09
$2s6d\ ^3D_3$	$2p6g\ ^3H_4$	1018.75	1.267+08	$2p4s\ ^1P_1$	$2p6p\ ^1D_2$	885.77	1.928+09
$2s5d\ ^3D_1$	$2p5d\ ^3P_2$	1018.79	1.350+08	$2p4s\ ^1P_1$	$2p6p\ ^3D_1$	903.43	1.539+08
$2s5d\ ^3D_2$	$2p5d\ ^3P_2$	1018.82	9.927+08	$2p4s\ ^1P_1$	$2p6p\ ^1P_1$	905.85	2.262+08
$2s5d\ ^3D_3$	$2p5d\ ^3P_2$	1018.86	1.475+09	$2s4p\ ^3P_0$	$2p4f\ ^3D_1$	920.74	2.768+08
$2p4f\ ^3F_4$	$2p6g\ ^3F_4$	1019.16	1.404+09	$2s4p\ ^3P_1$	$2p4f\ ^3D_1$	920.86	2.071+08
$2s6d\ ^1D_2$	$2p6d\ ^1P_1$	1019.33	1.703+09	$2s4p\ ^3P_1$	$2p4f\ ^3D_2$	921.95	6.022+08
$2p4f\ ^3F_3$	$2p6g\ ^3H_4$	1019.94	2.768+09	$2s4p\ ^3P_2$	$2p4f\ ^3D_2$	922.19	2.000+08
$2p4f\ ^3F_4$	$2p6g\ ^3G_5$	1020.46	4.231+09	$2s4p\ ^3P_2$	$2p4f\ ^3D_3$	923.29	1.167+09
$2p4p\ ^3P_2$	$2p6s\ ^3P_2$	1020.52	8.399+08	$2s3p\ ^3P_1$	$2p3p\ ^3P_2$	930.97	6.906+08
$2s5s\ ^3S_1$	$2p5s\ ^3P_1$	1020.56	1.282+09	$2s3p\ ^3P_2$	$2p3p\ ^3P_2$	931.63	1.980+09
$2s5s\ ^1S_0$	$2p5s\ ^1P_1$	1020.78	1.635+09	$2s3p\ ^3P_0$	$2p3p\ ^3P_1$	932.39	5.601+08
$2p4p\ ^3P_0$	$2p6s\ ^3P_1$	1021.31	2.878+08	$2s3p\ ^3P_1$	$2p3p\ ^3P_1$	932.74	4.164+08
$2s6d\ ^1D_2$	$2p6d\ ^1F_3$	1021.78	2.438+09	$2s3p\ ^3P_2$	$2p3p\ ^3P_1$	933.39	6.198+08
$2s5s\ ^3S_1$	$2p5s\ ^3P_0$	1022.03	4.327+08	$2s3p\ ^3P_1$	$2p3p\ ^3P_0$	933.71	5.295+08
$2p4f\ ^1F_3$	$2p6g\ ^3G_4$	1022.75	2.735+09	$2s4p\ ^1P_1$	$2p4f\ ^1D_2$	935.98	6.184+08
$2p4f\ ^1F_3$	$2p6g\ ^3G_3$	1022.75	1.047+08	$2s4p\ ^3P_1$	$2p4f\ ^3F_2$	945.32	2.640+08
$2p4f\ ^1F_3$	$2p6g\ ^1G_4$	1022.77	3.080+09	$2s4p\ ^3P_0$	$2s6d\ ^3D_1$	945.52	7.314+08
$2s6d\ ^3D_2$	$2p6g\ ^3G_3$	1023.44	7.009+08	$2s4p\ ^3P_1$	$2s6d\ ^3D_1$	945.65	5.494+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s6d\ ^3S_1$	$2p6d\ ^3P_2$	980.68	1.998+08	$2p3d\ ^3D_1$	$2p4p\ ^3P_1$	744.28	2.227+08
$2p4p\ ^1D_2$	$2p6d\ ^1F_3$	981.03	4.447+09	$2p3d\ ^3D_2$	$2p4p\ ^3P_1$	744.65	6.777+08
$2s4d\ ^1D_2$	$2p4d\ ^1F_3$	984.98	9.948+09	$2p3d\ ^3D_1$	$2p4p\ ^3P_0$	745.08	2.695+08
$2p4p\ ^3S_1$	$2p6s\ ^3P_2$	989.92	1.225+09	$2p3d\ ^1F_3$	$2p4f\ ^1G_4$	745.55	2.653+10
$2s4d\ ^1D_2$	$2p4d\ ^1P_1$	990.92	1.235+09	$2p3d\ ^1F_3$	$2p4f\ ^3G_4$	748.54	8.615+08
$2s4d\ ^3D_3$	$2s6f\ ^3F_4$	992.90	1.073+10	$2p3d\ ^3P_2$	$2s6d\ ^3S_1$	754.52	4.599+08
$2s4d\ ^3D_2$	$2s6f\ ^3F_3$	993.02	7.420+09	$2p3d\ ^3P_1$	$2s6d\ ^3S_1$	755.30	2.999+08
$2s4d\ ^3D_3$	$2s6f\ ^3F_3$	993.10	8.427+08	$2p3d\ ^3P_0$	$2s6d\ ^3S_1$	755.69	1.045+08
$2s4d\ ^3D_1$	$2s6f\ ^3F_2$	993.12	4.980+09	$2s2p\ ^3P_1$	$2p^2\ ^3P_2$	757.86	2.885+09
$2s4d\ ^3D_2$	$2s6f\ ^3F_2$	993.17	8.582+08	$2s2p\ ^3P_0$	$2p^2\ ^3P_1$	758.68	2.300+09
$2s4d\ ^3D_1$	$2p4d\ ^3P_0$	993.34	2.823+08	$2s2p\ ^3P_1$	$2p^2\ ^3P_1$	759.55	1.719+09
$2p4p\ ^3S_1$	$2p6s\ ^3P_1$	993.85	7.699+08	$2s2p\ ^3P_2$	$2p^2\ ^3P_2$	759.61	8.593+09
$2s4d\ ^3D_1$	$2p4d\ ^3P_1$	993.93	2.756+08	$2s2p\ ^3P_1$	$2p^2\ ^3P_0$	760.42	2.284+09
$2s4d\ ^3D_2$	$2p4d\ ^3P_1$	993.98	5.589+08	$2s2p\ ^3P_2$	$2p^2\ ^3P_1$	761.31	2.845+09
$2p4p\ ^3S_1$	$2p6s\ ^3P_0$	995.01	2.808+08	$2p3d\ ^1P_1$	$2p4p\ ^1S_0$	763.30	3.126+08
$2s4d\ ^3D_2$	$2p4d\ ^3P_2$	995.14	3.304+08	$2s5f\ ^3F_4$	$2p6f\ ^3D_3$	763.41	1.314+08
$2s4d\ ^3D_3$	$2p4d\ ^3P_2$	995.22	9.912+08	$2p3d\ ^1F_3$	$2s6d\ ^1D_2$	763.94	9.360+08
$2p4p\ ^1D_2$	$2p6d\ ^1D_2$	1005.44	6.077+08	$2p3d\ ^3P_2$	$2p4p\ ^3P_2$	764.17	2.930+08
$2s6g\ ^3G_3$	$2p6g\ ^3F_2$	1006.11	1.171+09	$2p3d\ ^3P_1$	$2p4p\ ^3P_2$	764.97	1.190+08
$2s6g\ ^3G_4$	$2p6g\ ^3F_3$	1006.69	1.351+09	$2p3d\ ^3D_3$	$2p4p\ ^3D_3$	767.83	5.465+08
$2s6g\ ^3G_3$	$2p6g\ ^1F_3$	1007.63	8.048+08	$2p3d\ ^3D_2$	$2p4p\ ^3D_2$	768.91	3.186+08
$2s6g\ ^3G_4$	$2p6g\ ^1H_5$	1007.95	1.038+08	$2p3d\ ^3D_1$	$2p4p\ ^3D_1$	769.44	1.926+08
$2s6g\ ^3G_4$	$2p6g\ ^3F_4$	1008.29	1.020+09	$2p3d\ ^1F_3$	$2p4f\ ^3F_4$	769.69	3.383+08
$2p4p\ ^1D_2$	$2p6d\ ^3F_2$	1008.71	2.315+08	$2p3d\ ^1F_3$	$2p4f\ ^3F_3$	770.01	1.530+09
$2s4s\ ^3S_1$	$2p4s\ ^3P_2$	1008.86	1.724+09	$2p3d\ ^1F_3$	$2s6d\ ^3D_3$	770.69	8.203+08
$2s6g\ ^3G_5$	$2p6g\ ^3H_6$	1009.41	5.167+08	$2p3d\ ^1F_3$	$2p4f\ ^1F_3$	771.15	7.751+09
$2p4p\ ^3P_0$	$2p6s\ ^1P_1$	1009.59	1.632+08	$2s2p\ ^1P_1$	$2p2\ ^1S_0$	771.54	3.927+09
$2s6g\ ^3G_4$	$2p6g\ ^3H_4$	1009.60	3.517+08	$2p3d\ ^1F_3$	$2s6g\ ^1G_4$	774.15	2.611+10
$2s6g\ ^3G_5$	$2p6g\ ^3F_4$	1009.69	1.222+09	$2p3d\ ^1F_3$	$2s6g\ ^3G_4$	776.01	2.686+09
$2s6g\ ^1G_4$	$2p6g\ ^3F_3$	1009.84	3.653+08	$2p3d\ ^1F_3$	$2s6g\ ^3G_3$	776.38	1.434+08
$2s6g\ ^3G_5$	$2p6g\ ^3G_5$	1010.96	2.574+09	$2p3d\ ^1P_1$	$2p4f\ ^1D_2$	780.30	3.143+10
$2s6g\ ^1G_4$	$2p6g\ ^1H_5$	1011.10	1.793+08	$2p3d\ ^3P_2$	$2p4p\ ^3S_1$	782.28	1.323+09
$2s6g\ ^1G_4$	$2p6g\ ^1F_3$	1011.41	1.016+09	$2p3d\ ^3P_1$	$2p4p\ ^3S_1$	783.11	7.594+08
$2s4s\ ^3S_1$	$2p4s\ ^3P_1$	1012.46	1.020+09	$2p3d\ ^3P_0$	$2p4p\ ^3S_1$	783.53	2.398+08
$2s6d\ ^1S_0$	$2p6s\ ^1P_1$	1012.56	1.748+09	$2p3d\ ^1P_1$	$2p4f\ ^3D_2$	784.43	1.041+09
$2s5d\ ^1D_2$	$2p5d\ ^1P_1$	1012.57	1.667+09	$2s3p\ ^1P_1$	$2p3p\ ^1S_0$	787.19	1.518+09
$2s6g\ ^1G_4$	$2p6g\ ^3H_4$	1012.76	1.822+09	$2p3d\ ^1F_3$	$2p4p\ ^1D_2$	788.43	1.770+09
$2s6g\ ^3G_3$	$2p6g\ ^3G_3$	1013.69	1.798+09	$2p3d\ ^3P_2$	$2p4p\ ^3D_3$	789.05	1.338+09
$2s6g\ ^3G_3$	$2p6g\ ^3G_4$	1013.70	4.609+08	$2p3d\ ^3P_2$	$2p4p\ ^3D_2$	790.86	2.191+08
$2s6g\ ^3G_3$	$2p6g\ ^1G_4$	1013.71	6.164+08	$2p3d\ ^3P_1$	$2p4p\ ^3D_2$	791.71	6.874+08
$2s4s\ ^3S_1$	$2p4s\ ^3P_0$	1014.08	3.393+08	$2p3d\ ^3P_1$	$2p4p\ ^3D_1$	792.69	1.998+08
$2s4d\ ^3D_2$	$2p4d\ ^3D_3$	1014.25	3.727+08	$2p3d\ ^3P_0$	$2p4p\ ^3D_1$	793.11	2.983+08
$2s6g\ ^3G_4$	$2p6g\ ^3G_5$	1014.29	1.141+09	$2p3d\ ^1P_1$	$2s6d\ ^1D_2$	794.18	6.202+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s5g\ ^1G_4$	$2p5g\ ^3H_4$	1028.67	8.957+08	$2s3p\ ^3P_0$	$2p3p\ ^3S_1$	1008.55	2.771+08
$2s6d\ ^3D_2$	$2p6d\ ^3D_2$	1029.28	3.620+08	$2p4d\ ^3D_1$	$2p6f\ ^3D_1$	1008.59	2.759+08
$2s6d\ ^3D_1$	$2p6d\ ^3D_2$	1029.33	4.268+08	$2s3p\ ^3P_1$	$2p3p\ ^3S_1$	1008.96	8.536+08
$2s6d\ ^1D_2$	$2p6g\ ^1F_3$	1029.38	1.122+08	$2s3p\ ^3P_2$	$2p3p\ ^3S_1$	1009.72	1.479+09
$2s6d\ ^3D_3$	$2p6d\ ^3D_2$	1029.41	1.308+09	$2p4d\ ^3D_2$	$2p6f\ ^3D_2$	1010.34	7.017+08
$2s6d\ ^3D_2$	$2p6d\ ^3D_1$	1030.08	8.037+08	$2p4d\ ^3D_3$	$2p6f\ ^3D_3$	1012.17	1.191+09
$2s6d\ ^3D_1$	$2p6d\ ^3D_1$	1030.13	6.131+08	$2s4f\ ^3F_4$	$2p4f\ ^3G_5$	1012.40	2.428+10
$2p4f\ ^1F_3$	$2p6d\ ^3F_4$	1032.88	2.451+08	$2s6f\ ^1F_3$	$2p6f\ ^1D_2$	1013.32	1.572+09
$2s6d\ ^3D_3$	$2p6d\ ^3F_4$	1033.72	2.845+09	$2s4f\ ^3F_3$	$2p4f\ ^3G_4$	1013.76	1.788+10
$2s5g\ ^3G_4$	$2p5g\ ^3G_5$	1034.10	1.318+08	$2s4f\ ^3F_4$	$2p4f\ ^3G_4$	1013.84	1.046+09
$2s5g\ ^3G_3$	$2p5g\ ^1G_4$	1034.12	1.693+08	$2s4f\ ^3F_2$	$2p4f\ ^3G_3$	1014.44	1.414+10
$2s5g\ ^1G_4$	$2p5g\ ^3G_5$	1034.13	1.584+08	$2s4f\ ^3F_3$	$2p4f\ ^3G_3$	1014.49	1.141+09
$2s5g\ ^3G_5$	$2p5g\ ^3G_5$	1034.14	4.295+09	$2p4d\ ^3D_2$	$2p6f\ ^3G_3$	1014.83	1.042+09
$2s5g\ ^3G_4$	$2p5g\ ^1G_4$	1034.14	4.216+08	$2p4d\ ^3D_3$	$2p6f\ ^3G_4$	1015.28	2.288+09
$2s5g\ ^1G_4$	$2p5g\ ^1G_4$	1034.17	3.057+09	$2p4d\ ^3D_3$	$2p6f\ ^3G_3$	1015.81	2.194+08
$2s5g\ ^3G_3$	$2p5g\ ^3G_3$	1034.49	2.516+09	$2s5p\ ^3P_1$	$2p5p\ ^3P_2$	1015.88	6.772+08
$2s5g\ ^3G_4$	$2p5g\ ^3G_4$	1034.51	2.782+09	$2s5p\ ^3P_2$	$2p5p\ ^3P_2$	1016.04	1.449+09
$2s5g\ ^3G_4$	$2p5g\ ^3G_3$	1034.51	3.075+08	$2s6p\ ^3P_2$	$2p6p\ ^3P_2$	1016.64	1.226+09
$2s5g\ ^3G_5$	$2p5g\ ^3G_4$	1034.54	9.962+08	$2s6f\ ^1F_3$	$2p6f\ ^3D_2$	1016.78	1.999+08
$2s5g\ ^1G_4$	$2p5g\ ^3G_4$	1034.54	5.058+08	$2s6p\ ^3P_1$	$2p6p\ ^3P_2$	1016.80	7.905+08
$2s5g\ ^1G_4$	$2p5g\ ^3G_3$	1034.54	5.860+08	$2s5p\ ^3P_0$	$2p5p\ ^3P_1$	1017.11	6.065+08
$2p4f\ ^1F_3$	$2p6d\ ^1D_2$	1035.01	1.107+08	$2s5p\ ^3P_1$	$2p5p\ ^3P_1$	1017.20	4.593+08
$2s4d\ ^3D_1$	$2s6p\ ^3P_0$	1035.20	3.098+08	$2s5p\ ^3P_2$	$2p5p\ ^3P_1$	1017.35	2.301+08
$2s4d\ ^3D_1$	$2s6p\ ^3P_1$	1035.33	2.037+08	$2s6f\ ^1F_3$	$2p6f\ ^3D_3$	1017.65	2.732+08
$2s4d\ ^3D_2$	$2s6p\ ^3P_1$	1035.38	7.408+08	$2s6p\ ^3P_1$	$2p6p\ ^3P_1$	1017.76	5.741+08
$2s5d\ ^3D_3$	$2p5d\ ^3F_4$	1035.50	3.793+09	$2p4d\ ^3F_4$	$2p6p\ ^3D_3$	1017.79	2.886+08
$2s4d\ ^3D_2$	$2s6p\ ^3P_2$	1035.55	1.964+08	$2s6p\ ^3P_0$	$2p6p\ ^3P_1$	1017.88	7.286+08
$2s4d\ ^3D_3$	$2s6p\ ^3P_2$	1035.63	1.395+09	$2p4d\ ^3D_1$	$2p6f\ ^3F_2$	1018.43	3.122+09
$2s6d\ ^3D_2$	$2p6d\ ^1D_2$	1035.73	1.645+08	$2p4d\ ^3F_3$	$2p6p\ ^3D_2$	1018.60	2.092+08
$2s6d\ ^3D_2$	$2p6d\ ^1D_2$	1035.73	1.645+08	$2s5p\ ^3P_1$	$2p5p\ ^3P_0$	1018.82	4.215+08
$2s6d\ ^3D_1$	$2p6d\ ^1D_2$	1035.78	2.279+08	$2p4d\ ^3D_2$	$2p6f\ ^3F_2$	1019.08	4.034+08
$2s6d\ ^3D_1$	$2p6d\ ^1D_2$	1035.78	2.279+08	$2p4d\ ^3D_2$	$2p6f\ ^3F_3$	1019.34	3.598+09
$2s6d\ ^3D_3$	$2p6d\ ^1D_2$	1035.85	1.863+08	$2p4d\ ^3F_2$	$2p6p\ ^1P_1$	1019.69	1.212+08
$2s6d\ ^3D_3$	$2p6d\ ^1D_2$	1035.85	1.863+08	$2s6p\ ^3P_1$	$2p6p\ ^3P_0$	1019.81	4.252+08
$2s6d\ ^3D_2$	$2p6d\ ^3F_3$	1036.64	1.462+09	$2p4d\ ^3D_3$	$2p6f\ ^3F_4$	1019.92	4.070+09
$2s6d\ ^3D_3$	$2p6d\ ^3F_3$	1036.77	6.637+08	$2p4d\ ^3D_3$	$2p6f\ ^3F_3$	1020.32	1.940+08
$2p4f\ ^3F_2$	$2p6d\ ^3F_3$	1037.08	2.315+08	$2p4d\ ^3D_3$	$2p6f\ ^1F_3$	1020.77	1.057+08
$2s5d\ ^3D_1$	$2p5d\ ^1D_2$	1037.68	5.233+08	$2p4d\ ^1D_2$	$2p6p\ ^3D_1$	1020.91	1.439+08
$2s5d\ ^3D_2$	$2p5d\ ^1D_2$	1037.71	1.834+08	$2s5f\ ^3F_3$	$2p5f\ ^1D_2$	1021.11	1.846+08
$2s6d\ ^3S_1$	$2p6s\ ^3P_2$	1038.25	9.527+08	$2s6f\ ^1F_3$	$2p6f\ ^3G_3$	1021.33	8.037+08
$2s5d\ ^3D_2$	$2p5d\ ^3F_3$	1038.29	2.339+09	$2s6p\ ^3P_2$	$2p6p\ ^3S_1$	1023.01	1.545+09
$2s5d\ ^3D_3$	$2p5d\ ^3F_3$	1038.33	5.842+08	$2s6p\ ^3P_1$	$2p6p\ ^3S_1$	1023.17	4.536+08
$2s6d\ ^3D_2$	$2p6d\ ^3F_2$	1039.19	2.922+08	$2s6p\ ^1P_1$	$2p6p\ ^1D_2$	1023.67	1.076+09

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s6d\ ^3D_3$	$2p6g\ ^1G_4$	1023.58	3.099+08	$2s4p\ ^3P_1$	$2s6d\ ^3D_2$	945.69	1.375+09
$2s5d\ ^3D_2$	$2p5d\ ^3D_3$	1023.59	6.183+08	$2s4p\ ^3P_2$	$2s6d\ ^3D_3$	945.84	2.857+09
$2s5d\ ^3D_3$	$2p5d\ ^3D_3$	1023.63	2.469+09	$2s4p\ ^3P_2$	$2s6d\ ^3D_2$	945.95	4.597+08
$2s6d\ ^3D_1$	$2p6d\ ^3P_0$	1023.78	5.682+08	$2s4p\ ^3P_2$	$2p4f\ ^1F_3$	946.54	1.499+08
$2p4f\ ^3F_2$	$2p6g\ ^3G_3$	1023.87	4.164+09	$2s4p\ ^1P_1$	$2s6d\ ^1D_2$	956.02	3.410+09
$2p4p\ ^3P_1$	$2p6s\ ^3P_0$	1024.04	1.617+08	$2s5p\ ^1P_1$	$2p5p\ ^1S_0$	960.95	5.872+08
$2s6d\ ^3D_2$	$2p6d\ ^3P_1$	1024.16	6.637+08	$2p4d\ ^1D_2$	$2p6f\ ^1D_2$	979.19	5.804+08
$2s5g\ ^3G_4$	$2p5g\ ^3F_3$	1024.19	2.623+09	$2p4d\ ^3F_3$	$2p6f\ ^1G_4$	980.77	5.583+08
$2s6d\ ^3D_1$	$2p6d\ ^3P_1$	1024.21	8.814+08	$2p4d\ ^3F_3$	$2p6f\ ^3D_3$	981.46	1.551+08
$2s5g\ ^3G_3$	$2p5g\ ^3F_2$	1024.22	2.140+09	$2p4d\ ^1D_2$	$2p6f\ ^3D_2$	982.42	1.631+08
$2s5g\ ^1G_4$	$2p5g\ ^3F_3$	1024.22	2.742+08	$2p4d\ ^3F_2$	$2p6f\ ^3G_3$	982.66	3.902+08
$2p4f\ ^3F_2$	$2p6d\ ^3P_1$	1024.59	1.339+08	$2p4d\ ^1D_2$	$2p6f\ ^3D_3$	983.23	1.331+08
$2p4p\ ^3P_2$	$2p6s\ ^3P_1$	1024.70	2.431+08	$2p4d\ ^3F_3$	$2p6f\ ^3G_4$	984.38	1.696+09
$2p4f\ ^3F_3$	$2p6g\ ^3G_3$	1024.76	1.834+08	$2p4d\ ^3F_3$	$2p6f\ ^3G_3$	984.88	7.998+08
$2p4f\ ^3F_3$	$2p6g\ ^3G_4$	1024.77	3.111+09	$2p4d\ ^3F_4$	$2p6f\ ^3G_5$	985.14	5.234+09
$2p4f\ ^3F_3$	$2p6g\ ^1G_4$	1024.78	1.004+09	$2p4d\ ^3F_4$	$2p6f\ ^3G_4$	986.59	1.571+09
$2s6d\ ^3D_2$	$2p6d\ ^3P_2$	1025.00	1.173+09	$2p4d\ ^3F_2$	$2p6f\ ^3F_2$	986.64	8.608+08
$2s6d\ ^3D_1$	$2p6d\ ^3P_2$	1025.04	2.414+08	$2p4d\ ^1D_2$	$2p6f\ ^3G_3$	986.67	1.977+09
$2s6d\ ^3D_3$	$2p6d\ ^3P_2$	1025.12	1.001+09	$2p4d\ ^3F_2$	$2p6f\ ^3F_3$	986.88	9.397+08
$2s5d\ ^3D_1$	$2p5d\ ^3D_2$	1025.13	3.925+08	$2s4p\ ^3P_2$	$2s6d\ ^3S_1$	987.11	1.996+08
$2s5d\ ^3D_2$	$2p5d\ ^3D_2$	1025.16	7.984+08	$2p4d\ ^3F_2$	$2p6f\ ^1F_3$	987.30	2.414+09
$2s5d\ ^3D_3$	$2p5d\ ^3D_2$	1025.20	1.027+09	$2p4d\ ^3F_3$	$2p6f\ ^3F_4$	988.74	2.134+09
$2p4f\ ^3F_4$	$2p6g\ ^3G_5$	1025.30	4.718+09	$2p4d\ ^3F_3$	$2p6f\ ^3F_2$	988.88	1.746+08
$2p4f\ ^3F_4$	$2p6g\ ^3G_4$	1025.33	1.524+08	$2p4d\ ^3F_3$	$2p6f\ ^3F_3$	989.12	5.332+08
$2p4f\ ^3F_2$	$2p6d\ ^3P_2$	1025.43	2.115+08	$2p4d\ ^3F_3$	$2p6f\ ^1F_3$	989.54	1.390+08
$2s5d\ ^3D_1$	$2p5d\ ^3D_1$	1025.76	7.097+08	$2s6p\ ^3P_1$	$2p6f\ ^3D_1$	990.06	1.272+08
$2s5d\ ^3D_2$	$2p5d\ ^3D_1$	1025.79	6.114+08	$2s6p\ ^3P_0$	$2p6f\ ^3D_1$	990.18	1.790+08
$2s5g\ ^3G_4$	$2p5g\ ^1H_5$	1026.01	1.589+08	$2p4d\ ^1D_2$	$2p6f\ ^3F_3$	990.92	5.904+08
$2s5g\ ^1G_4$	$2p5g\ ^1H_5$	1026.04	2.083+09	$2p4d\ ^3F_4$	$2p6f\ ^3F_4$	990.98	8.204+08
$2s5g\ ^3G_5$	$2p5g\ ^3H_6$	1026.11	2.706+09	$2s6p\ ^3P_1$	$2p6f\ ^3D_2$	991.14	3.474+08
$2s5g\ ^3G_3$	$2p5g\ ^1F_3$	1026.32	8.557+08	$2p4d\ ^1D_2$	$2p6f\ ^1F_3$	991.34	2.119+09
$2s5g\ ^1G_4$	$2p5g\ ^1F_3$	1026.37	2.108+09	$2p4d\ ^3F_4$	$2p6f\ ^3F_3$	991.36	1.606+08
$2s5g\ ^3G_4$	$2p5g\ ^3F_4$	1026.37	1.158+09	$2s6p\ ^3P_2$	$2p6f\ ^3D_3$	991.80	7.672+08
$2s5g\ ^3G_5$	$2p5g\ ^3F_4$	1026.41	2.730+09	$2s4p\ ^1P_1$	$2p4p\ ^1D_2$	994.68	4.463+08
$2p4f\ ^1F_3$	$2p6d\ ^3D_3$	1026.77	1.604+08	$2s6p\ ^1P_1$	$2p6p\ ^1S_0$	996.88	7.146+08
$2s6d\ ^3D_2$	$2p6d\ ^3D_3$	1027.47	7.069+08	$2s5p\ ^1P_1$	$2p5p\ ^1D_2$	998.20	2.132+09
$2s6d\ ^3D_3$	$2p6d\ ^3D_3$	1027.59	2.270+09	$2s4p\ ^3P_1$	$2p4p\ ^3P_2$	1003.40	5.873+08
$2s6d\ ^1D_2$	$2p6g\ ^3F_3$	1027.75	1.054+08	$2s4p\ ^3P_2$	$2p4p\ ^3P_2$	1003.69	1.513+09
$2p4f\ ^3F_2$	$2p6d\ ^3D_3$	1027.91	1.129+08	$2s4p\ ^3P_0$	$2p4p\ ^3P_1$	1005.06	4.886+08
$2s5g\ ^3G_4$	$2p5g\ ^3H_5$	1028.57	2.069+09	$2s4p\ ^3P_1$	$2p4p\ ^3P_1$	1005.20	3.596+08
$2p4f\ ^1F_3$	$2p6d\ ^3D_2$	1028.58	1.187+08	$2s4p\ ^3P_2$	$2p4p\ ^3P_1$	1005.50	4.114+08
$2s5g\ ^3G_5$	$2p5g\ ^3H_5$	1028.61	1.017+09	$2s4p\ ^3P_1$	$2p4p\ ^3P_0$	1006.66	3.665+08
$2s5g\ ^3G_3$	$2p5g\ ^3H_4$	1028.62	1.669+09	$2s4f\ ^3F_3$	$2p4f\ ^1G_4$	1008.29	7.693+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s4s\ ^1S_0$	$2p4s\ ^1P_1$	1063.01	2.909+08	$2s6h\ ^3H_4$	$2p6h\ ^3H_4$	1031.00	2.225+09
$2p4f\ ^1G_4$	$2p6g\ ^3F_3$	1063.03	3.984+08	$2s6h\ ^3H_5$	$2p6h\ ^3G_5$	1031.00	2.970+08
$2p4f\ ^1G_4$	$2p6g\ ^1H_5$	1064.43	9.251+09	$2s6h\ ^1H_5$	$2p6h\ ^3H_4$	1031.01	2.785+08
$2p4f\ ^3G_3$	$2p6g\ ^3G_4$	1064.63	7.193+08	$2s6h\ ^1H_5$	$2p6h\ ^3H_4$	1031.01	2.785+08
$2p4f\ ^3G_3$	$2p6g\ ^3G_3$	1064.63	2.470+08	$2p4d\ ^3P_2$	$2p6f\ ^3D_2$	1031.05	7.708+08
$2p4f\ ^3G_3$	$2p6g\ ^1G_4$	1064.65	3.121+09	$2p4d\ ^3P_1$	$2p6f\ ^3D_1$	1031.13	8.323+08
$2s5d\ ^1D_2$	$2p5d\ ^3F_2$	1064.71	7.072+08	$2s6h\ ^1H_5$	$2p6h\ ^3H_6$	1031.50	1.829+09
$2p4f\ ^1G_4$	$2p6g\ ^1F_3$	1064.77	8.069+08	$2s6h\ ^3H_5$	$2p6h\ ^3I_5$	1031.50	2.199+09
$2p4f\ ^3G_4$	$2p6g\ ^3G_5$	1065.40	3.388+09	$2s6h\ ^3H_6$	$2p6h\ ^3H_6$	1031.50	2.868+09
$2p4f\ ^3G_4$	$2p6g\ ^3G_4$	1065.43	4.983+08	$2s6h\ ^1H_5$	$2p6h\ ^3H_6$	1031.50	1.829+09
$2p4f\ ^3G_4$	$2p6g\ ^3G_3$	1065.43	2.133+08	$2s6h\ ^3H_4$	$2p6h\ ^3I_5$	1031.50	1.695+09
$2p4f\ ^3G_4$	$2p6g\ ^1G_4$	1065.45	1.935+08	$2s6h\ ^3H_5$	$2p6h\ ^3H_6$	1031.50	2.481+08
$2s4d\ ^1D_2$	$2s6p\ ^1P_1$	1065.58	8.950+08	$2s6h\ ^1H_5$	$2p6h\ ^3I_5$	1031.51	2.547+08
$2p4f\ ^1G_4$	$2p6g\ ^3G_5$	1066.22	1.428+09	$2p4d\ ^3P_0$	$2p6f\ ^3D_1$	1031.77	1.034+09
$2p4f\ ^3G_5$	$2p6g\ ^3G_5$	1066.99	8.850+08	$2p4d\ ^3P_2$	$2p6f\ ^3D_3$	1031.94	3.872+09
$2p4f\ ^3G_5$	$2p6g\ ^3G_4$	1067.02	6.266+08	$2s6f\ ^3F_2$	$2p6f\ ^3D_1$	1032.00	1.513+09
$2s3d\ ^3D_3$	$2p3d\ ^3F_4$	1067.53	2.871+08	$2p4d\ ^3P_1$	$2p6f\ ^3D_2$	1032.30	2.016+09
$2s3d\ ^3D_2$	$2p3d\ ^3F_3$	1070.05	1.885+08	$2s5f\ ^3F_3$	$2p5f\ ^3G_4$	1032.89	3.033+09
$2p4f\ ^1G_4$	$2p6g\ ^3G_5$	1071.51	1.400+09	$2s6f\ ^3F_2$	$2p6f\ ^3D_2$	1033.18	5.970+08
$2p4f\ ^1G_4$	$2p6g\ ^3G_3$	1071.54	3.140+08	$2s6f\ ^3F_3$	$2p6f\ ^3D_2$	1033.33	1.570+09
$2p4f\ ^1G_4$	$2p6g\ ^1G_4$	1071.56	3.486+08	$2s6f\ ^3F_3$	$2p6f\ ^1G_4$	1033.46	5.854+08
$2s3d\ ^3D_1$	$2p3d\ ^3F_2$	1072.32	1.214+08	$2s6p\ ^3P_1$	$2p6p\ ^1P_1$	1033.47	3.087+08
$2p4f\ ^1D_2$	$2p6d\ ^1D_2$	1073.49	1.588+08	$2s6p\ ^3P_0$	$2p6p\ ^1P_1$	1033.60	2.393+08
$2p4p\ ^1S_0$	$2p6d\ ^1P_1$	1075.16	1.207+09	$2s6f\ ^3F_4$	$2p6f\ ^1G_4$	1033.67	1.713+08
$2p4f\ ^3G_5$	$2p6d\ ^3F_4$	1078.05	1.382+08	$2s5f\ ^3F_2$	$2p5f\ ^3G_3$	1033.80	2.301+09
$2s6d\ ^1D_2$	$2p6s\ ^1P_1$	1093.04	1.080+08	$2s6f\ ^3F_3$	$2p6f\ ^3D_3$	1034.22	6.921+08
$2s4d\ ^1D_2$	$2p4d\ ^1D_2$	1094.40	1.456+09	$2s6f\ ^3F_4$	$2p6f\ ^3D_3$	1034.44	2.423+09
$2s4d\ ^1D_2$	$2p4d\ ^3F_2$	1099.37	3.136+08	$2s4p\ ^3P_0$	$2p4p\ ^3S_1$	1034.70	1.593+08
$2s3d\ ^1D_2$	$2p3d\ ^1D_2$	1220.87	1.175+09	$2s4p\ ^3P_1$	$2p4p\ ^3S_1$	1034.85	5.430+08
$2s4s\ ^3S_1$	$2s5p\ ^3P_2$	1234.03	1.343+09	$2s5p\ ^3P_2$	$2p5p\ ^3D_3$	1035.05	3.168+09
$2s4s\ ^3S_1$	$2s5p\ ^3P_1$	1234.26	8.043+08	$2s4p\ ^3P_2$	$2p4p\ ^3S_1$	1035.16	1.029+09
$2s4s\ ^3S_1$	$2s5p\ ^3P_0$	1234.38	2.688+08	$2s6f\ ^3F_4$	$2p6f\ ^3G_5$	1036.08	7.464+09
$2p4p\ ^1P_1$	$2p5d\ ^1P_1$	1282.10	5.593+08	$2s4f\ ^1F_3$	$2p4f\ ^3G_4$	1036.26	1.015+09
$2p4p\ ^3D_3$	$2p5d\ ^3P_2$	1357.49	1.483+08	$2s5f\ ^1F_3$	$2p5f\ ^3G_4$	1036.54	1.608+08
$2p4p\ ^1P_1$	$2p5d\ ^1D_2$	1360.71	1.437+09	$2s6h\ ^3H_4$	$2p6h\ ^3H_4$	1036.56	1.719+09
$2p4p\ ^3D_1$	$2p5d\ ^3D_1$	1361.60	4.106+08	$2s6h\ ^1H_5$	$2p6h\ ^3G_5$	1036.57	2.146+09
$2p4p\ ^3D_2$	$2p5d\ ^3D_2$	1363.37	7.762+08	$2s6h\ ^3H_6$	$2p6h\ ^3G_5$	1036.57	2.959+09
$2p4p\ ^3D_2$	$2p5d\ ^3D_1$	1364.49	1.123+08	$2s6h\ ^3H_5$	$2p6h\ ^3H_4$	1036.57	2.464+09
$2p4p\ ^3D_3$	$2p5d\ ^3D_3$	1365.98	1.451+09	$2s6h\ ^1H_5$	$2p6h\ ^3H_6$	1036.61	1.603+09
$2p4p\ ^1P_1$	$2p5d\ ^3F_2$	1366.86	1.503+09	$2s6h\ ^3H_4$	$2p6h\ ^3I_5$	1036.61	1.311+09
$2p4p\ ^3S_1$	$2p5d\ ^3P_0$	1374.85	2.857+08	$2s6h\ ^1H_5$	$2p6h\ ^3H_6$	1036.61	1.603+09
$2p4p\ ^3S_1$	$2p5d\ ^3P_1$	1375.90	8.491+08	$2s6h\ ^3H_5$	$2p6h\ ^3I_5$	1036.62	2.378+09
$2p4p\ ^3S_1$	$2p5d\ ^3P_2$	1378.02	1.442+09	$2s6h\ ^3H_6$	$2p6h\ ^3H_6$	1036.62	2.832+09

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s6d\ ^3D_1$	$2p6d\ ^3F_2$	1039.24	9.315+08	$2s4f\ ^3F_2$	$2p4f\ ^3D_1$	1024.09	1.308+09
$2p3p\ ^1S_0$	$2s5p\ ^1P_1$	1039.67	3.603+08	$2s5f\ ^3F_2$	$2p5f\ ^3D_1$	1024.66	1.413+09
$2s5d\ ^3D_1$	$2p5d\ ^3F_2$	1041.25	1.065+09	$2s5f\ ^1F_3$	$2p5f\ ^1D_2$	1024.67	1.968+09
$2s5d\ ^3D_2$	$2p5d\ ^3F_2$	1041.28	2.815+08	$2s4f\ ^3F_2$	$2p4f\ ^3D_2$	1025.43	3.210+08
$2s6d\ ^1D_2$	$2p6d\ ^3D_2$	1041.69	1.276+08	$2s6f\ ^1F_3$	$2p6f\ ^3F_4$	1025.48	1.118+08
$2s6d\ ^1D_2$	$2p6d\ ^3D_2$	1041.69	1.276+08	$2s6f\ ^1F_3$	$2p6f\ ^3F_4$	1025.48	1.118+08
$2s6d\ ^3S_1$	$2p6s\ ^3P_1$	1042.58	5.925+08	$2s4f\ ^3F_3$	$2p4f\ ^3D_2$	1025.49	1.758+09
$2p4f\ ^1D_2$	$2p6d\ ^1P_1$	1043.14	2.179+08	$2s5p\ ^3P_1$	$2p5p\ ^3S_1$	1025.59	3.665+08
$2p4f\ ^3D_3$	$2p6g\ ^3F_3$	1043.16	4.422+08	$2s5p\ ^3P_2$	$2p5p\ ^3S_1$	1025.75	1.133+09
$2s6d\ ^3S_1$	$2p6s\ ^3P_0$	1043.85	2.158+08	$2s5f\ ^3F_2$	$2p5f\ ^3D_2$	1025.96	5.144+08
$2p4f\ ^3D_2$	$2p6g\ ^3F_3$	1044.56	1.792+09	$2s5f\ ^3F_3$	$2p5f\ ^3D_2$	1025.98	1.683+09
$2p4f\ ^3D_2$	$2p6g\ ^3F_2$	1044.61	6.939+08	$2s6f\ ^1F_3$	$2p6f\ ^1F_3$	1026.34	2.676+09
$2s4d\ ^3D_3$	$2p4d\ ^3F_4$	1044.66	1.146+09	$2s6p\ ^3P_2$	$2p6p\ ^3D_3$	1026.52	3.011+09
$2p4f\ ^3D_3$	$2p6g\ ^1F_3$	1044.84	2.457+08	$2s5f\ ^3F_3$	$2p5f\ ^1G_4$	1026.83	2.131+08
$2p4f\ ^3D_3$	$2p6g\ ^3F_4$	1044.87	6.120+09	$2s4f\ ^3F_3$	$2p4f\ ^3D_3$	1026.84	3.478+08
$2p4f\ ^3D_1$	$2p6g\ ^3F_2$	1046.00	3.498+09	$2s4f\ ^3F_4$	$2p4f\ ^3D_3$	1026.92	2.630+09
$2p4f\ ^3D_2$	$2p6g\ ^1F_3$	1046.24	2.762+09	$2s5f\ ^3F_3$	$2p5f\ ^3D_3$	1027.11	5.885+08
$2p4p\ ^1D_2$	$2p6s\ ^1P_1$	1046.54	9.966+08	$2s5f\ ^3F_4$	$2p5f\ ^3D_3$	1027.14	2.599+09
$2s4d\ ^3D_2$	$2p4d\ ^3F_3$	1047.08	7.929+08	$2s4p\ ^1P_1$	$2s6d\ ^1S_0$	1027.45	5.122+08
$2s4d\ ^3D_3$	$2p4d\ ^3F_3$	1047.16	1.694+08	$2p4d\ ^3P_1$	$2p6f\ ^1D_2$	1028.73	1.880+08
$2s6d\ ^1D_2$	$2p6d\ ^1D_2$	1048.29	1.258+09	$2p3d\ ^1F_3$	$2s5d\ ^1D_2$	1029.23	1.320+08
$2s4d\ ^3D_1$	$2p4d\ ^3F_2$	1049.55	4.751+08	$2s5f\ ^1F_3$	$2p5f\ ^3D_2$	1029.57	1.299+08
$2s4d\ ^3D_2$	$2p4d\ ^3F_2$	1049.60	1.251+08	$2s6p\ ^3P_2$	$2p6p\ ^3D_2$	1029.75	7.816+08
$2p4f\ ^3D_3$	$2p6g\ ^3G_4$	1051.36	9.911+08	$2s6f\ ^3F_3$	$2p6f\ ^1D_2$	1029.75	3.160+08
$2p4f\ ^3D_3$	$2p6g\ ^1G_4$	1051.37	2.952+08	$2s6p\ ^3P_1$	$2p6p\ ^3D_2$	1029.92	1.348+09
$2s6d\ ^1D_2$	$2p6d\ ^3F_2$	1051.84	5.207+08	$2s6h\ ^1H_5$	$2p6h\ ^3G_4$	1029.96	4.309+09
$2p4f\ ^1D_2$	$2p6g\ ^3F_3$	1051.96	3.522+09	$2s6h\ ^3H_4$	$2p6h\ ^3G_3$	1029.96	3.592+09
$2p4f\ ^3D_2$	$2p6g\ ^3G_3$	1052.78	5.621+08	$2s6h\ ^3H_5$	$2p6h\ ^3G_4$	1029.96	2.068+08
$2p4f\ ^1D_2$	$2p6g\ ^1F_3$	1053.67	1.560+09	$2s6h\ ^3H_4$	$2p6h\ ^3G_4$	1029.96	1.011+08
$2s4d\ ^1D_2$	$2s6f\ ^1F_3$	1054.70	1.451+09	$2p3d\ ^1F_3$	$2s5g\ ^1G_4$	1030.05	4.341+09
$2p4f\ ^3G_3$	$2p6g\ ^3F_2$	1056.27	1.366+09	$2p3d\ ^1F_3$	$2s5g\ ^3G_4$	1030.08	9.082+08
$2p4f\ ^3G_4$	$2p6g\ ^3F_3$	1057.01	1.321+09	$2s6p\ ^3P_2$	$2p6p\ ^3D_1$	1030.16	1.866+08
$2p4f\ ^3G_3$	$2p6g\ ^1F_3$	1057.95	2.712+08	$2s6p\ ^3P_1$	$2p6p\ ^3D_1$	1030.32	2.595+08
$2p4f\ ^3G_4$	$2p6g\ ^1H_5$	1058.40	2.663+09	$2s5f\ ^1F_3$	$2p5f\ ^1G_4$	1030.44	2.578+09
$2p4f\ ^3G_4$	$2p6g\ ^1F_3$	1058.74	2.387+08	$2s6p\ ^3P_0$	$2p6p\ ^3D_1$	1030.45	3.972+08
$2p4f\ ^3G_4$	$2p6g\ ^3F_4$	1058.77	3.469+08	$2s6h\ ^3H_6$	$2p6h\ ^3I_7$	1030.51	4.178+09
$2p4f\ ^3G_3$	$2p6g\ ^3H_4$	1059.42	5.445+09	$2s6h\ ^3H_5$	$2p6h\ ^1I_6$	1030.51	3.407+09
$2p4f\ ^3G_5$	$2p6g\ ^1H_5$	1059.96	2.197+08	$2s6h\ ^1H_5$	$2p6h\ ^1I_6$	1030.51	1.668+08
$2p4f\ ^3G_5$	$2p6g\ ^3H_6$	1060.04	1.433+10	$2s4f\ ^1F_3$	$2p4f\ ^1G_4$	1030.55	2.440+10
$2p4f\ ^3G_4$	$2p6g\ ^3G_5$	1060.17	5.509+09	$2s5f\ ^3F_4$	$2p5f\ ^3G_5$	1030.74	3.931+09
$2p4f\ ^1D_2$	$2p6g\ ^3G_3$	1060.30	3.791+08	$2s6h\ ^1H_5$	$2p6h\ ^3G_5$	1031.00	2.471+09
$2p4f\ ^3G_5$	$2p6g\ ^3F_4$	1060.34	1.427+09	$2s6h\ ^3H_6$	$2p6h\ ^3G_5$	1031.00	2.532+09
$2s5d\ ^1D_2$	$2p5d\ ^1D_2$	1060.98	1.284+09	$2s6h\ ^3H_5$	$2p6h\ ^3H_4$	1031.00	1.873+09

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s6g\ ^1G_4$	$2p5g\ ^3H_4$	1535.58	3.208+08	$2s4p\ ^3P_1$	$2p4p\ ^3D_2$	1049.92	1.309+09
$2p4f\ ^1F_3$	$2p5g\ ^3F_3$	1537.47	9.705+08	$2s4p\ ^3P_2$	$2p4p\ ^3D_2$	1050.24	5.043+08
$2s6d\ ^3D_2$	$2p5g\ ^3F_3$	1539.04	1.054+08	$2s6p\ ^1P_1$	$2p6p\ ^1P_1$	1050.59	1.297+09
$2s6g\ ^3G_3$	$2p5g\ ^1G_4$	1539.05	6.794+09	$2s4p\ ^3P_0$	$2p4p\ ^3D_1$	1051.48	5.722+08
$2s6d\ ^3D_3$	$2p5g\ ^3F_3$	1539.32	1.148+08	$2s4p\ ^3P_1$	$2p4p\ ^3D_1$	1051.64	4.433+08
$2s6g\ ^3G_3$	$2p5g\ ^3G_3$	1539.85	3.648+08	$2s4f\ ^3F_4$	$2p4f\ ^3F_4$	1053.03	2.488+09
$2p4f\ ^3F_2$	$2p5g\ ^3F_2$	1540.13	8.272+08	$2s4f\ ^3F_3$	$2p4f\ ^3F_3$	1053.54	1.471+09
$2s6g\ ^3G_4$	$2p5g\ ^3G_5$	1540.41	6.870+09	$2s4f\ ^3F_4$	$2p4f\ ^3F_3$	1053.62	1.570+08
$2s6g\ ^3G_4$	$2p5g\ ^3G_4$	1541.31	3.709+08	$2s4f\ ^3F_2$	$2p4f\ ^3F_2$	1054.43	1.182+09
$2p4f\ ^3F_3$	$2p5g\ ^3F_3$	1542.03	1.714+08	$2s4f\ ^3F_2$	$2s6d\ ^3D_1$	1054.83	1.490+08
$2p4f\ ^3F_3$	$2p5g\ ^3F_2$	1542.14	1.107+08	$2s4f\ ^3F_4$	$2s6d\ ^3D_3$	1054.89	2.575+08
$2p4f\ ^1F_3$	$2p5g\ ^1F_3$	1542.33	1.684+08	$2s4f\ ^3F_3$	$2s6d\ ^3D_2$	1054.94	3.820+08
$2p4f\ ^1F_3$	$2p5g\ ^3F_4$	1542.40	8.255+08	$2s4f\ ^3F_3$	$2p4f\ ^1F_3$	1055.68	1.813+08
$2s6g\ ^3G_5$	$2p5g\ ^3G_5$	1543.69	1.567+08	$2s4f\ ^3F_3$	$2p4f\ ^1F_3$	1055.68	1.813+08
$2s6d\ ^3D_3$	$2p5g\ ^3F_4$	1544.26	4.095+08	$2s4f\ ^3F_4$	$2p4f\ ^1F_3$	1055.76	2.057+08
$2p4f\ ^3F_2$	$2p5g\ ^1F_3$	1544.90	8.451+08	$2s4f\ ^3F_4$	$2p4f\ ^1F_3$	1055.76	2.057+08
$2p4f\ ^3F_3$	$2p5g\ ^1F_3$	1546.93	1.952+09	$2s3p\ ^3P_2$	$2p3p\ ^3D_3$	1067.92	3.521+09
$2p4f\ ^1F_3$	$2p5g\ ^3H_4$	1547.52	1.348+09	$2p4d\ ^3P_2$	$2p6p\ ^3D_3$	1069.57	1.318+08
$2s6g\ ^1G_4$	$2p5g\ ^3G_5$	1547.79	1.190+09	$2s3p\ ^3P_1$	$2p3p\ ^3D_2$	1070.60	1.857+09
$2s6g\ ^1G_4$	$2p5g\ ^1G_4$	1547.88	2.229+08	$2s3p\ ^3P_2$	$2p3p\ ^3D_2$	1071.47	6.381+08
$2p4f\ ^3F_4$	$2p5g\ ^3F_4$	1548.28	2.719+09	$2s3p\ ^3P_0$	$2p3p\ ^3D_1$	1072.38	8.222+08
$2p4p\ ^1D_2$	$2p5d\ ^1D_2$	1548.51	8.142+08	$2s3p\ ^3P_1$	$2p3p\ ^3D_1$	1072.85	6.267+08
$2s6d\ ^3D_3$	$2p5g\ ^3H_4$	1549.39	2.983+08	$2s4f\ ^1F_3$	$2p4f\ ^3F_3$	1077.86	1.626+08
$2p4f\ ^3F_3$	$2p5g\ ^3H_4$	1552.14	6.326+09	$2s4f\ ^1F_3$	$2p4f\ ^3F_3$	1077.86	1.626+08
$2p4f\ ^3F_4$	$2p5g\ ^3H_5$	1553.29	9.732+09	$2s4f\ ^1F_3$	$2p4f\ ^1F_3$	1080.11	8.082+08
$2p4f\ ^3F_4$	$2p5g\ ^3H_4$	1553.43	2.172+08	$2p4d\ ^1P_1$	$2p6f\ ^1D_2$	1080.11	3.320+09
$2p4p\ ^1D_2$	$2p5d\ ^3F_2$	1556.47	4.194+08	$2p4d\ ^1P_1$	$2p6f\ ^3D_2$	1084.05	2.618+08
$2p4f\ ^1F_3$	$2p5g\ ^1G_4$	1560.02	1.963+09	$2s4f\ ^1F_3$	$2s6g\ ^1G_4$	1086.00	2.653+08
$2p4f\ ^1F_3$	$2p5g\ ^3G_4$	1560.85	1.779+10	$2p4d\ ^1F_3$	$2p6f\ ^1D_2$	1087.25	4.056+08
$2p4f\ ^1F_3$	$2p5g\ ^3G_3$	1560.85	4.163+08	$2p4d\ ^1F_3$	$2p6f\ ^1G_4$	1091.38	8.794+09
$2s6d\ ^3D_3$	$2p5g\ ^1G_4$	1561.92	4.938+08	$2s4p\ ^1P_1$	$2p4p\ ^1P_1$	1091.44	1.804+09
$2s6d\ ^3D_2$	$2p5g\ ^3G_3$	1562.46	2.410+09	$2p4d\ ^1F_3$	$2p6f\ ^3G_4$	1095.86	4.946+08
$2s6d\ ^3D_3$	$2p5g\ ^3G_4$	1562.75	7.806+08	$2p4d\ ^1F_3$	$2p6f\ ^3F_4$	1101.27	7.998+08
$2p4f\ ^3F_2$	$2p5g\ ^3G_3$	1563.47	1.389+10	$2s3p\ ^1P_1$	$2p3p\ ^1P_1$	1104.85	2.528+09
$2p4f\ ^3F_3$	$2p5g\ ^1G_4$	1564.71	1.209+10	$2p4d\ ^1F_3$	$2p6p\ ^1D_2$	1111.01	1.158+09
$2p4p\ ^3D_2$	$2p5s\ ^3P_2$	1565.37	2.872+08	$2s4f\ ^1F_3$	$2p4p\ ^1D_2$	1114.31	3.594+08
$2p4f\ ^3F_3$	$2p5g\ ^3G_4$	1565.55	3.593+09	$2p3s\ ^1P_1$	$2s4d\ ^1D_2$	1202.60	1.601+09
$2p4f\ ^3F_3$	$2p5g\ ^3G_3$	1565.55	5.102+08	$2p4s\ ^3P_0$	$2p5p\ ^3P_1$	1238.87	1.462+08
$2p4f\ ^3F_4$	$2p5g\ ^3G_5$	1565.94	1.853+10	$2p4s\ ^3P_1$	$2p5p\ ^3P_2$	1239.34	2.271+08
$2p4f\ ^3F_4$	$2p5g\ ^1G_4$	1566.03	4.262+08	$2p4s\ ^3P_1$	$2p5p\ ^3P_1$	1241.30	1.119+08
$2p4f\ ^3F_4$	$2p5g\ ^3G_4$	1566.86	1.520+08	$2p4s\ ^3P_1$	$2p5p\ ^3P_0$	1243.73	2.481+08
$2s6d\ ^1D_2$	$2p5g\ ^3F_3$	1566.95	1.764+08	$2p4s\ ^3P_2$	$2p5p\ ^3P_2$	1244.78	1.013+09
$2p4p\ ^3D_1$	$2p5s\ ^3P_1$	1570.74	2.827+08	$2p4s\ ^3P_2$	$2p5p\ ^3P_1$	1246.76	4.838+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p4p\ ^3D_1$	$2p5d\ ^1D_2$	1382.68	1.713+09	$2p4d\ ^3D_2$	$2p6p\ ^3P_2$	1037.02	1.276+08
$2s6d\ ^1S_0$	$2p5d\ ^1P_1$	1383.30	2.054+08	$2s5p\ ^1P_1$	$2p5p\ ^3D_1$	1037.18	1.060+08
$2p3p\ ^3D_1$	$2s4f\ ^3F_2$	1384.63	3.067+08	$2s6f\ ^3F_3$	$2p6f\ ^3G_4$	1037.47	4.496+09
$2p4p\ ^3D_2$	$2p5d\ ^1D_2$	1385.66	1.019+08	$2s5f\ ^1F_3$	$2p5f\ ^3G_3$	1037.47	2.835+08
$2p4p\ ^3D_2$	$2p5d\ ^3F_3$	1386.70	5.034+09	$2s6f\ ^3F_4$	$2p6f\ ^3G_4$	1037.68	1.934+08
$2p4p\ ^3D_3$	$2p5d\ ^3F_4$	1387.19	7.033+09	$2s6f\ ^3F_2$	$2p6f\ ^3G_3$	1037.87	3.121+09
$2p3p\ ^3D_2$	$2s4f\ ^3F_3$	1388.28	4.522+08	$2p4d\ ^3D_2$	$2p6p\ ^3P_1$	1038.02	1.334+08
$2p4p\ ^3D_1$	$2p5d\ ^3F_2$	1389.02	1.700+09	$2s5p\ ^3P_1$	$2p5p\ ^3D_2$	1038.04	1.549+09
$2p4p\ ^3S_1$	$2p5d\ ^3D_2$	1389.65	2.506+08	$2p4d\ ^3D_3$	$2p6p\ ^3P_2$	1038.05	3.301+08
$2s4s\ ^1S_0$	$2s5p\ ^1P_1$	1390.58	1.061+09	$2s5p\ ^3P_2$	$2p5p\ ^3D_2$	1038.20	6.945+08
$2p4p\ ^3D_2$	$2p5d\ ^3F_2$	1392.03	3.833+08	$2s5p\ ^3P_0$	$2p5p\ ^3D_1$	1039.08	6.058+08
$2p4p\ ^3D_3$	$2p5d\ ^3F_3$	1392.29	4.042+08	$2s5p\ ^3P_1$	$2p5p\ ^3D_1$	1039.16	5.153+08
$2p3p\ ^3D_3$	$2s4f\ ^3F_4$	1394.15	6.471+08	$2s5f\ ^3F_4$	$2p5f\ ^3F_4$	1039.54	3.816+09
$2p4p\ ^3P_1$	$2p5d\ ^3P_0$	1430.91	3.297+08	$2s6p\ ^1P_1$	$2p6p\ ^3S_1$	1039.95	1.114+08
$2p4p\ ^3P_1$	$2p5d\ ^3P_1$	1432.05	4.641+08	$2s5f\ ^3F_3$	$2p5f\ ^3F_3$	1040.00	2.423+09
$2p4p\ ^3P_2$	$2p5d\ ^3P_1$	1435.73	4.436+08	$2s5f\ ^3F_4$	$2p5f\ ^3F_3$	1040.03	4.509+08
$2p4p\ ^3P_2$	$2p5d\ ^3P_2$	1438.05	1.713+09	$2s5f\ ^3F_2$	$2p5f\ ^3F_2$	1040.17	1.751+09
$2p4p\ ^3P_0$	$2p5d\ ^3D_1$	1445.19	1.136+09	$2s5f\ ^3F_3$	$2p5f\ ^3F_2$	1040.19	4.597+08
$2p4p\ ^3P_1$	$2p5d\ ^3D_2$	1446.95	2.692+09	$2p4d\ ^3P_2$	$2p6f\ ^3F_3$	1040.41	1.277+08
$2p4p\ ^3P_2$	$2p5d\ ^3D_3$	1447.57	4.450+09	$2p4d\ ^3P_2$	$2p6f\ ^1F_3$	1040.88	1.453+08
$2p4p\ ^3P_1$	$2p5d\ ^3D_1$	1448.21	6.223+08	$2s5f\ ^3F_2$	$2p5f\ ^1F_3$	1041.00	1.856+08
$2p4p\ ^3P_2$	$2p5d\ ^3D_2$	1450.71	2.833+08	$2s5f\ ^3F_2$	$2p5f\ ^1F_3$	1041.00	1.856+08
$2s6d\ ^1S_0$	$2p5d\ ^3D_1$	1451.29	1.422+08	$2s5f\ ^3F_4$	$2p5f\ ^1F_3$	1041.04	1.826+08
$2p4p\ ^1D_2$	$2p5d\ ^1F_3$	1454.66	5.361+09	$2s5f\ ^3F_4$	$2p5f\ ^1F_3$	1041.04	1.826+08
$2s6d\ ^3S_1$	$2p5d\ ^3P_0$	1469.88	1.250+08	$2s4f\ ^1F_3$	$2p4f\ ^1D_2$	1041.16	2.081+09
$2s6d\ ^3S_1$	$2p5d\ ^3P_1$	1471.08	3.413+08	$2s5p\ ^1P_1$	$2p5p\ ^1P_1$	1042.26	9.018+08
$2s6d\ ^3S_1$	$2p5d\ ^3P_2$	1473.51	4.675+08	$2s6f\ ^3F_2$	$2p6f\ ^3F_2$	1042.31	9.801+08
$2p4p\ ^1D_2$	$2p5g\ ^1F_3$	1477.57	1.154+08	$2s6f\ ^3F_3$	$2p6f\ ^3F_4$	1042.32	7.033+08
$2p4p\ ^1P_1$	$2p5s\ ^1P_1$	1497.17	5.925+08	$2s6f\ ^3F_3$	$2p6f\ ^3F_2$	1042.47	4.847+08
$2s4d\ ^3D_1$	$2s5f\ ^3F_2$	1505.98	6.633+09	$2s6f\ ^3F_4$	$2p6f\ ^3F_4$	1042.53	2.482+09
$2s4d\ ^3D_2$	$2s5f\ ^3F_3$	1506.05	9.826+09	$2s6f\ ^3F_2$	$2p6f\ ^3F_3$	1042.58	3.222+08
$2s4d\ ^3D_2$	$2s5f\ ^3F_2$	1506.09	1.228+09	$2s6f\ ^3F_3$	$2p6f\ ^3F_3$	1042.74	1.580+09
$2s4d\ ^3D_3$	$2s5f\ ^3F_4$	1506.16	1.421+10	$2s6f\ ^3F_4$	$2p6f\ ^3F_3$	1042.96	6.965+08
$2s4d\ ^3D_3$	$2s5f\ ^3F_3$	1506.21	1.227+09	$2s6f\ ^3F_2$	$2p6f\ ^1F_3$	1043.05	8.926+08
$2s6g\ ^3G_4$	$2p5g\ ^1H_5$	1522.53	2.537+09	$2s6f\ ^3F_2$	$2p6f\ ^1F_3$	1043.05	8.926+08
$2s6g\ ^3G_5$	$2p5g\ ^1H_5$	1525.73	2.615+08	$2s6f\ ^3F_4$	$2p6f\ ^1F_3$	1043.42	1.485+08
$2s6g\ ^3G_5$	$2p5g\ ^3H_6$	1525.87	1.844+10	$2s6f\ ^3F_4$	$2p6f\ ^1F_3$	1043.42	1.485+08
$2s6g\ ^3G_3$	$2p5g\ ^3H_4$	1526.88	6.879+09	$2s5f\ ^1F_3$	$2p5f\ ^3F_3$	1043.70	1.691+08
$2s6g\ ^3G_4$	$2p5g\ ^3H_5$	1528.17	7.050+09	$2s5f\ ^1F_3$	$2p5f\ ^3F_3$	1043.70	1.691+08
$2s6g\ ^3G_4$	$2p5g\ ^3H_4$	1528.31	5.757+08	$2s5f\ ^1F_3$	$2p5f\ ^1F_3$	1044.72	2.711+09
$2s6g\ ^1G_4$	$2p5g\ ^1H_5$	1529.74	1.157+10	$2s4p\ ^3P_2$	$2p4p\ ^3D_3$	1047.05	2.571+09
$2s6g\ ^3G_5$	$2p5g\ ^3H_5$	1531.39	8.818+08	$2s6p\ ^1P_1$	$2p6p\ ^3D_1$	1047.33	7.378+08
$2s6g\ ^1G_4$	$2p5g\ ^3H_5$	1535.44	1.088+09	$2p4d\ ^3D_3$	$2p6p\ ^3D_3$	1048.34	1.150+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p4f\ ^1G_4$	$2p5g\ ^3H_4$	1662.03	2.823+08	$2p4d\ ^3D_1$	$2p5f\ ^3D_1$	1525.50	4.911+08
$2p4f\ ^3G_4$	$2p5g\ ^3G_4$	1662.49	4.305+08	$2p4d\ ^3D_2$	$2p5f\ ^3D_1$	1526.95	1.800+08
$2p4f\ ^3G_5$	$2p5g\ ^3G_5$	1665.31	2.157+08	$2p4d\ ^3D_2$	$2p5f\ ^3D_2$	1529.84	1.022+09
$2p4p\ ^1S_0$	$2p5d\ ^1P_1$	1668.76	1.296+09	$2p4d\ ^3D_3$	$2p5f\ ^3D_2$	1532.06	2.202+08
$2p4f\ ^1G_4$	$2p5g\ ^3G_5$	1676.36	8.936+08	$2p4d\ ^3D_3$	$2p5f\ ^3D_3$	1534.59	1.982+09
$2p4f\ ^1G_4$	$2p5g\ ^1G_4$	1676.46	2.727+08	$2s6f\ ^1F_3$	$2p5f\ ^1G_4$	1546.60	4.035+09
$2p4p\ ^3P_1$	$2p5s\ ^3P_2$	1676.56	5.494+08	$2p4d\ ^3D_2$	$2p5f\ ^3G_3$	1547.34	1.054+09
$2p4f\ ^1G_4$	$2p5g\ ^3G_4$	1677.42	1.794+08	$2p4d\ ^3D_3$	$2p5f\ ^3G_4$	1547.54	1.889+09
$2p4p\ ^3P_2$	$2p5s\ ^3P_2$	1681.61	1.627+09	$2p4d\ ^3D_3$	$2p5f\ ^3G_3$	1549.61	1.393+08
$2p4p\ ^3P_0$	$2p5s\ ^3P_1$	1683.04	3.846+08	$2s6p\ ^1P_1$	$2p5f\ ^3F_2$	1553.38	2.088+08
$2p4p\ ^3P_1$	$2p5s\ ^3P_1$	1687.14	3.117+08	$2p4d\ ^3D_1$	$2p5f\ ^3F_2$	1560.14	6.228+09
$2p4p\ ^3P_1$	$2p5s\ ^3P_0$	1691.16	3.905+08	$2s6f\ ^1F_3$	$2p5f\ ^3G_4$	1560.39	3.609+08
$2p4p\ ^3P_2$	$2p5s\ ^3P_1$	1692.25	4.778+08	$2p4d\ ^3D_2$	$2p5f\ ^3F_3$	1561.23	7.590+09
$2p4f\ ^3G_5$	$2p5d\ ^3F_4$	1727.43	2.492+08	$2p4d\ ^3D_2$	$2p5f\ ^3F_2$	1561.66	9.316+08
$2p4p\ ^1D_2$	$2p5s\ ^1P_1$	1727.72	1.617+09	$2p4d\ ^3D_3$	$2p5f\ ^3F_4$	1562.44	1.133+10
$2p4f\ ^3G_4$	$2p5d\ ^3F_3$	1731.14	1.702+08	$2p4d\ ^3D_2$	$2p5f\ ^1F_3$	1563.52	8.755+08
$2s4d\ ^1D_2$	$2s5p\ ^1P_1$	1770.62	9.803+08	$2p4d\ ^3D_3$	$2p5f\ ^3F_3$	1563.55	7.197+08
$2s6d\ ^1D_2$	$2p5s\ ^1P_1$	1858.24	1.048+08	$2p5s\ ^3P_2$	$2p4p\ ^3D_2$	1565.37	2.872+08
$2s3d\ ^1D_2$	$2p3s\ ^1P_1$	1894.51	1.385+08	$2p4d\ ^3P_2$	$2p5f\ ^1D_2$	1566.33	1.289+08
$2p3p\ ^1D_2$	$2s4f\ ^1F_3$	1925.99	3.195+08	$2p4d\ ^3P_1$	$2p5f\ ^1D_2$	1569.22	2.254+08
$2p4p\ ^1S_0$	$2p5s\ ^1P_1$	2052.52	2.705+08	$2p4d\ ^3P_2$	$2p5f\ ^3D_1$	1574.74	1.165+08
$2p3p\ ^1P_1$	$2p3d\ ^1P_1$	2156.65	4.743+08	$2p4d\ ^3P_1$	$2p5f\ ^3D_1$	1577.66	1.517+09
$2s5s\ ^3S_1$	$2s6p\ ^3P_1$	2361.42	1.718+08	$2p4d\ ^3P_2$	$2p5f\ ^3D_2$	1577.81	1.455+09
$2s5s\ ^3S_1$	$2s6p\ ^3P_2$	2362.29	2.807+08	$2s6f\ ^1F_3$	$2p5f\ ^1F_3$	1579.00	2.279+08
$2s5s\ ^1S_0$	$2s6p\ ^1P_1$	2384.25	2.360+08	$2p4d\ ^3P_0$	$2p5f\ ^3D_1$	1579.15	1.886+09
$2p5p\ ^1P_1$	$2p6d\ ^1P_1$	2396.14	1.219+08	$2p4d\ ^3P_2$	$2p5f\ ^3D_3$	1580.50	7.444+09
$2s5d\ ^1D_2$	$2p4d\ ^1F_3$	2550.31	5.757+08	$2p4d\ ^3P_1$	$2p5f\ ^3D_2$	1580.74	3.867+09
$2p5p\ ^3D_2$	$2p6d\ ^3D_2$	2560.56	1.940+08	$2s6f\ ^3F_4$	$2p5f\ ^3G_5$	1594.99	9.835+08
$2p5p\ ^1P_1$	$2p6d\ ^1D_2$	2562.54	2.444+08	$2s6f\ ^3F_3$	$2p5f\ ^3G_4$	1599.70	5.522+08
$2p5p\ ^3D_3$	$2p6d\ ^3D_3$	2568.54	4.072+08	$2s6f\ ^3F_4$	$2p5f\ ^3G_4$	1600.21	1.017+08
$2p5p\ ^1P_1$	$2p6d\ ^3F_2$	2583.87	5.247+08	$2s6f\ ^3F_2$	$2p5f\ ^3G_3$	1601.54	3.976+08
$2p5p\ ^3D_1$	$2p6d\ ^1D_2$	2593.74	5.862+08	$2s4f\ ^3F_2$	$2s5g\ ^3G_3$	1609.46	1.579+10
$2p5p\ ^3S_1$	$2p6d\ ^3P_1$	2606.12	2.203+08	$2s4f\ ^3F_3$	$2s5g\ ^1G_4$	1609.48	3.647+09
$2p5p\ ^3D_2$	$2p6d\ ^3F_3$	2606.59	1.417+09	$2s4f\ ^3F_3$	$2s5g\ ^3G_4$	1609.56	1.709+10
$2p5p\ ^3D_3$	$2p6d\ ^3F_4$	2607.14	1.947+09	$2s4f\ ^3F_3$	$2s5g\ ^3G_3$	1609.60	1.381+09
$2p5p\ ^3S_1$	$2p6d\ ^3P_2$	2611.55	4.103+08	$2s4f\ ^3F_4$	$2s5g\ ^3G_5$	1609.65	2.703+10
$2p5p\ ^3D_1$	$2p6d\ ^3F_2$	2615.61	3.631+08	$2s4f\ ^3F_4$	$2s5g\ ^1G_4$	1609.66	2.454+08
$2p5p\ ^3D_2$	$2p6d\ ^3F_2$	2622.79	1.198+08	$2s4f\ ^3F_4$	$2s5g\ ^3G_4$	1609.74	1.135+09
$2p5p\ ^3S_1$	$2p6d\ ^3D_2$	2639.57	3.158+08	$2p4d\ ^3F_2$	$2p5p\ ^3D_1$	1614.68	2.204+08
$2p5p\ ^3P_1$	$2p6d\ ^3P_0$	2659.05	1.408+08	$2s6p\ ^3P_2$	$2p5p\ ^3S_1$	1615.17	1.908+08
$2p5p\ ^3P_1$	$2p6d\ ^3P_1$	2661.94	2.691+08	$2p4d\ ^3F_4$	$2p5p\ ^3D_3$	1616.25	9.715+08
$2p5p\ ^3P_2$	$2p6d\ ^3P_1$	2670.99	1.340+08	$2s6f\ ^1F_3$	$2p5p\ ^1D_2$	1616.98	1.718+08
$2p5p\ ^3P_2$	$2p6d\ ^3P_2$	2676.70	5.418+08	$2p4d\ ^3F_3$	$2p5p\ ^3D_2$	1617.94	6.913+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s6d\ ^1D_2$	$2p5g\ ^1F_3$	1572.00	2.758+08	$2p4s\ ^3P_0$	$2p5p\ ^3S_1$	1251.35	1.319+08
$2p4p\ ^3D_3$	$2p5s\ ^3P_2$	1572.50	1.866+09	$2p4s\ ^3P_1$	$2p5p\ ^3S_1$	1253.83	3.364+08
$2p4p\ ^3D_1$	$2p5s\ ^3P_0$	1574.22	4.635+08	$2p4s\ ^3P_2$	$2p5p\ ^3S_1$	1259.39	2.277+08
$2p4p\ ^3D_2$	$2p5s\ ^3P_1$	1574.58	1.039+09	$2s2p\ ^1P_1$	$2p2\ ^1D_2$	1265.99	2.253+09
$2p4f\ ^3F_4$	$2p5d\ ^3D_3$	1591.86	1.840+08	$2p4s\ ^3P_0$	$2p5p\ ^3D_1$	1271.62	5.113+08
$2p4f\ ^3F_3$	$2p5d\ ^3D_2$	1594.30	1.096+08	$2p4s\ ^3P_1$	$2p5p\ ^3D_2$	1272.48	1.222+09
$2s6g\ ^3G_5$	$2p5d\ ^3F_4$	1596.92	1.737+08	$2p4s\ ^3P_2$	$2p5p\ ^3D_3$	1273.45	2.134+09
$2p4p\ ^3S_1$	$2p5s\ ^3P_2$	1600.11	1.345+08	$2p4s\ ^3P_1$	$2p5p\ ^3D_1$	1274.17	2.405+08
$2s6g\ ^3G_4$	$2p5d\ ^3F_3$	1600.14	1.379+08	$2p4s\ ^3P_2$	$2p5p\ ^3D_2$	1278.21	2.974+08
$2s4d\ ^1D_2$	$2s5f\ ^1F_3$	1601.90	1.080+10	$2p4s\ ^1P_1$	$2p5p\ ^1D_2$	1281.72	6.513+08
$2p4f\ ^3D_3$	$2p5g\ ^3F_3$	1603.04	1.315+09	$2p4s\ ^3P_1$	$2p5p\ ^1P_1$	1281.84	1.191+08
$2p4f\ ^3D_2$	$2p5g\ ^3F_3$	1606.35	5.353+09	$2p4s\ ^1P_1$	$2p5p\ ^3D_1$	1346.70	2.319+08
$2p4f\ ^3D_2$	$2p5g\ ^3F_2$	1606.47	2.053+09	$2p4s\ ^1P_1$	$2p5p\ ^1P_1$	1355.27	1.369+09
$2p4f\ ^3D_3$	$2p5g\ ^1F_3$	1608.33	8.041+08	$2s4p\ ^3P_0$	$2s5d\ ^3D_1$	1407.29	1.426+09
$2p4f\ ^3D_3$	$2p5g\ ^3F_4$	1608.41	2.043+10	$2s4p\ ^3P_1$	$2s5d\ ^3D_2$	1407.52	3.206+09
$2p4p\ ^3S_1$	$2p5s\ ^3P_1$	1609.74	1.191+08	$2s4p\ ^3P_1$	$2s5d\ ^3D_1$	1407.57	1.069+09
$2p4f\ ^3D_1$	$2p5g\ ^3F_2$	1609.78	1.039+10	$2s4p\ ^3P_2$	$2s5d\ ^3D_3$	1408.01	5.976+09
$2p4f\ ^3D_2$	$2p5g\ ^1F_3$	1611.67	9.173+09	$2s4p\ ^3P_2$	$2s5d\ ^3D_2$	1408.09	1.068+09
$2p4f\ ^1F_3$	$2p5d\ ^1D_2$	1619.79	1.235+08	$2s4p\ ^1P_1$	$2s5d\ ^1D_2$	1411.22	3.731+09
$2p4f\ ^1D_2$	$2p5g\ ^3F_3$	1623.93	1.061+10	$2p4d\ ^3F_2$	$2p5f\ ^1D_2$	1448.08	1.350+08
$2p4f\ ^3D_3$	$2p5g\ ^3G_4$	1628.47	1.541+09	$2p4d\ ^1D_2$	$2p5f\ ^1D_2$	1456.79	1.016+09
$2p4f\ ^1D_2$	$2p5g\ ^1F_3$	1629.36	5.480+09	$2p4d\ ^3F_3$	$2p5f\ ^1G_4$	1464.52	9.970+08
$2p4f\ ^3D_2$	$2p5g\ ^3G_3$	1631.89	6.819+08	$2p4d\ ^3F_2$	$2p5f\ ^3G_3$	1473.77	4.584+09
$2s6d\ ^1S_0$	$2p5s\ ^1P_1$	1637.03	1.497+08	$2p4d\ ^3F_3$	$2p5f\ ^3G_4$	1476.88	9.940+09
$2s4d\ ^3D_2$	$2s5p\ ^3P_2$	1639.61	1.829+08	$2p4d\ ^3F_4$	$2p5f\ ^3G_5$	1477.39	1.734+10
$2s4d\ ^3D_3$	$2s5p\ ^3P_2$	1639.80	1.025+09	$2p4d\ ^3F_3$	$2p5f\ ^3G_3$	1478.77	1.242+09
$2s4d\ ^3D_1$	$2s5p\ ^3P_1$	1639.88	1.823+08	$2p4d\ ^3F_4$	$2p5f\ ^3G_4$	1481.87	1.577+09
$2s4d\ ^3D_2$	$2s5p\ ^3P_1$	1640.01	5.471+08	$2p4d\ ^1D_2$	$2p5f\ ^3G_3$	1482.80	3.986+09
$2s4d\ ^3D_1$	$2s5p\ ^3P_0$	1640.11	2.437+08	$2s6p\ ^3P_1$	$2p5f\ ^3D_1$	1483.50	2.581+08
$2p4f\ ^3G_4$	$2p5g\ ^1H_5$	1640.66	3.368+09	$2s6p\ ^3P_0$	$2p5f\ ^3D_1$	1483.77	3.646+08
$2p4f\ ^3D_3$	$2p5d\ ^3P_2$	1643.04	1.318+08	$2s6p\ ^3P_2$	$2p5f\ ^3D_2$	1485.89	2.089+08
$2p4f\ ^3G_5$	$2p5g\ ^1H_5$	1644.43	2.607+08	$2s6p\ ^3P_1$	$2p5f\ ^3D_2$	1486.23	7.889+08
$2p4f\ ^3G_5$	$2p5g\ ^3H_6$	1644.60	1.844+10	$2p4d\ ^3F_2$	$2p5f\ ^3F_3$	1486.37	2.786+09
$2p4f\ ^3G_3$	$2p5g\ ^3H_4$	1645.46	8.369+09	$2p4d\ ^3F_2$	$2p5f\ ^3F_2$	1486.75	6.221+08
$2p4f\ ^3G_4$	$2p5g\ ^3H_5$	1647.21	8.025+09	$2s6p\ ^3P_2$	$2p5f\ ^3D_3$	1488.27	1.683+09
$2p4f\ ^3G_4$	$2p5g\ ^3H_4$	1647.37	7.347+08	$2p4d\ ^3F_2$	$2p5f\ ^1F_3$	1488.44	3.001+09
$2p4f\ ^1D_2$	$2p5g\ ^3G_3$	1650.03	5.003+08	$2p4d\ ^3F_3$	$2p5f\ ^3F_4$	1490.44	2.652+09
$2p4f\ ^3G_5$	$2p5g\ ^3H_5$	1651.01	9.621+08	$2p4d\ ^3F_3$	$2p5f\ ^3F_3$	1491.45	2.243+08
$2p4f\ ^1G_4$	$2p5g\ ^1H_5$	1655.20	1.302+10	$2p4d\ ^3F_3$	$2p5f\ ^1F_3$	1493.54	2.510+08
$2p4f\ ^3G_3$	$2p5g\ ^1G_4$	1659.60	2.803+09	$2p4d\ ^3F_4$	$2p5f\ ^3F_4$	1495.53	5.828+08
$2p4f\ ^3G_3$	$2p5g\ ^3G_3$	1660.54	4.391+08	$2p4d\ ^1D_2$	$2p5f\ ^1F_3$	1497.65	6.263+09
$2p4f\ ^3G_4$	$2p5g\ ^3G_5$	1661.44	2.789+09	$2s6p\ ^1P_1$	$2p5f\ ^1D_2$	1511.20	1.997+08
$2p4f\ ^1G_4$	$2p5g\ ^3H_6$	1661.87	3.173+09	$2p4d\ ^3D_1$	$2p5f\ ^1D_2$	1517.61	1.213+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2s5g\ ^3G_4$	$2s6h\ ^3H_5$	2933.60	2.658+09	$2p5s\ ^3P_1$	$2p6p\ ^3D_2$	2412.15	3.841+08
$2s5g\ ^3G_4$	$2s6h\ ^3H_4$	2933.62	3.741+08	$2p5s\ ^3P_2$	$2p6p\ ^3D_3$	2416.09	6.407+08
$2s5g\ ^1G_4$	$2s6h\ ^1H_5$	2933.83	2.881+09	$2s5p\ ^1P_1$	$2s6d\ ^1D_2$	2526.77	8.505+08
$2s5g\ ^3G_5$	$2s6h\ ^3H_6$	2933.84	1.344+10	$2p5s\ ^1P_1$	$2p6p\ ^3D_1$	2534.33	1.684+08
$2s5g\ ^1G_4$	$2s6h\ ^3H_5$	2933.86	8.408+09	$2p5s\ ^1P_1$	$2p6p\ ^1P_1$	2553.48	2.277+08
$2s5g\ ^3G_5$	$2s6h\ ^1H_5$	2933.86	1.510+08	$2s5p\ ^3P_1$	$2p4f\ ^3F_2$	2612.61	1.173+08
$2s5g\ ^3G_5$	$2s6h\ ^3H_5$	2933.89	3.037+08	$2s5p\ ^3P_0$	$2s6d\ ^3D_1$	2614.54	3.727+08
$2p5f\ ^3G_5$	$2p6g\ ^3G_5$	2944.09	5.960+08	$2s5p\ ^3P_1$	$2s6d\ ^3D_1$	2615.10	2.786+08
$2p5f\ ^3D_3$	$2p6g\ ^3F_3$	2949.19	4.077+08	$2s5p\ ^3P_1$	$2s6d\ ^3D_2$	2615.42	7.175+08
$2p5f\ ^3D_2$	$2p6g\ ^3F_3$	2958.59	1.077+09	$2s5p\ ^3P_2$	$2s6d\ ^3D_3$	2615.65	1.441+09
$2p5f\ ^3D_2$	$2p6g\ ^3F_2$	2958.97	5.731+08	$2s5p\ ^3P_2$	$2s6d\ ^3D_2$	2616.45	2.393+08
$2p5f\ ^3G_4$	$2p6g\ ^3G_3$	2959.30	2.015+08	$2s5p\ ^3P_2$	$2p4f\ ^1F_3$	2621.00	1.046+08
$2p5f\ ^3G_3$	$2p6g\ ^3G_4$	2959.34	2.017+08	$2p3d\ ^3P_2$	$2s4d\ ^3D_3$	2649.72	1.002+08
$2p5f\ ^3G_3$	$2p6g\ ^1G_4$	2959.47	6.471+08	$2p3s\ ^3P_1$	$2p3p\ ^3P_2$	2654.79	2.516+08
$2p5f\ ^1G_4$	$2p6g\ ^1H_5$	2962.30	6.378+09	$2p3s\ ^3P_0$	$2p3p\ ^3P_1$	2657.60	1.989+08
$2p5f\ ^3D_3$	$2p6g\ ^1F_3$	2962.66	2.098+08	$2p3s\ ^3P_1$	$2p3p\ ^3P_1$	2669.18	1.487+08
$2p5f\ ^3D_3$	$2p6g\ ^3F_4$	2962.91	5.090+09	$2p3s\ ^3P_1$	$2p3p\ ^3P_0$	2677.17	2.017+08
$2p5f\ ^3G_4$	$2p6g\ ^3G_5$	2966.66	1.000+09	$2p3s\ ^3P_2$	$2p3p\ ^3P_2$	2678.87	7.614+08
$2p5f\ ^3G_4$	$2p6g\ ^3G_4$	2966.94	1.264+08	$2s5f\ ^3F_3$	$2p4f\ ^1G_4$	2688.39	1.045+08
$2p5f\ ^3D_1$	$2p6g\ ^3F_2$	2969.84	2.702+09	$2p3s\ ^3P_2$	$2p3p\ ^3P_1$	2693.52	2.581+08
$2p5f\ ^3D_2$	$2p6g\ ^1F_3$	2972.15	2.555+09	$2p5d\ ^1D_2$	$2p6f\ ^1D_2$	2707.61	2.124+08
$2p5p\ ^1S_0$	$2p6d\ ^1P_1$	2974.79	5.457+08	$2s5f\ ^1F_3$	$2p4f\ ^1G_4$	2713.21	2.858+09
$2p5f\ ^1G_4$	$2p6g\ ^3G_5$	2976.25	9.478+08	$2s5f\ ^3F_4$	$2p4f\ ^3G_5$	2717.47	3.704+09
$2p5f\ ^1G_4$	$2p6g\ ^3H_4$	2976.63	2.285+08	$2s5f\ ^3F_3$	$2p4f\ ^3G_4$	2727.65	2.862+09
$2p5p\ ^3D_3$	$2p6s\ ^3P_2$	2983.84	7.335+08	$2s5f\ ^3F_4$	$2p4f\ ^3G_4$	2727.83	1.922+08
$2p5p\ ^3D_2$	$2p6s\ ^3P_1$	2993.40	4.246+08	$2p5d\ ^3F_3$	$2p6f\ ^1G_4$	2729.33	3.806+08
$2p5p\ ^3D_1$	$2p6s\ ^3P_0$	2994.50	1.828+08	$2s5f\ ^3F_2$	$2p4f\ ^3G_3$	2732.78	2.337+09
$2p5f\ ^1D_2$	$2p6g\ ^3F_3$	2999.83	3.125+09	$2s5f\ ^3F_3$	$2p4f\ ^3G_3$	2732.92	2.054+08
$2p5f\ ^1D_2$	$2p6g\ ^1F_3$	3013.77	1.117+09	$2p5d\ ^3F_2$	$2p6f\ ^3G_3$	2740.52	2.170+08
$2p5f\ ^3D_3$	$2p6g\ ^3G_4$	3015.70	4.223+08	$2s5f\ ^1F_3$	$2p4f\ ^3G_4$	2753.21	1.502+08
$2p5f\ ^3D_3$	$2p6g\ ^1G_4$	3015.83	1.314+08	$2p5d\ ^3F_3$	$2p6f\ ^3G_4$	2757.49	1.557+09
$2p5f\ ^1G_4$	$2p6g\ ^3G_5$	3017.81	3.968+08	$2p5d\ ^3F_3$	$2p6f\ ^3G_3$	2761.43	3.112+08
$2p5f\ ^1G_4$	$2p6g\ ^1G_4$	3018.23	1.115+08	$2p5d\ ^1D_2$	$2p6f\ ^3G_3$	2765.57	1.452+09
$2p5f\ ^3D_2$	$2p6g\ ^3G_3$	3025.49	2.877+08	$2p5d\ ^3F_4$	$2p6f\ ^3G_5$	2766.22	4.603+09
$2p5f\ ^3D_3$	$2p6d\ ^3P_2$	3029.20	1.009+08	$2p5d\ ^3F_2$	$2p6f\ ^3F_2$	2771.68	1.727+08
$2p5f\ ^1D_2$	$2p6g\ ^3G_3$	3068.63	1.882+08	$2p5d\ ^3F_2$	$2p6f\ ^3F_3$	2773.60	4.299+08
$2p5f\ ^3G_5$	$2p6d\ ^3F_4$	3073.02	3.032+08	$2p5d\ ^3F_2$	$2p6f\ ^1F_3$	2776.90	2.054+09
$2s5d\ ^1D_2$	$2s6f\ ^1F_3$	3076.90	2.618+09	$2p5d\ ^3F_4$	$2p6f\ ^3G_4$	2777.68	5.571+08
$2p5f\ ^3G_4$	$2p6d\ ^3F_3$	3080.63	1.540+08	$2p5d\ ^3F_3$	$2p6f\ ^3F_4$	2792.00	1.703+09
$2p5p\ ^3S_1$	$2p6s\ ^3P_1$	3101.94	1.143+08	$2p5d\ ^1D_2$	$2p6f\ ^3F_3$	2799.26	7.166+08
$2s5d\ ^3D_2$	$2s6p\ ^3P_1$	3118.27	2.231+08	$2p5d\ ^1D_2$	$2p6f\ ^1F_3$	2802.62	5.245+08
$2s5d\ ^3D_3$	$2s6p\ ^3P_2$	3120.18	4.110+08	$2s5p\ ^1P_1$	$2p4p\ ^1D_2$	2816.03	1.586+08
$2p5p\ ^3P_1$	$2p6s\ ^3P_2$	3141.41	2.727+08	$2p5d\ ^3D_2$	$2p6f\ ^3D_2$	2823.48	1.545+08

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p5p\ ^1D_2$	$2p6d\ ^1F_3$	2683.51	1.697+09	$2p4d\ ^1D_2$	$2p5p\ ^3D_1$	1625.52	2.574+08
$2p5p\ ^3P_0$	$2p6d\ ^3D_1$	2690.89	3.867+08	$2p4d\ ^3F_2$	$2p5p\ ^1P_1$	1627.02	2.540+08
$2p5p\ ^3P_2$	$2p6d\ ^3D_3$	2693.65	1.259+09	$2p4d\ ^1D_2$	$2p5p\ ^1P_1$	1638.03	2.481+08
$2p5p\ ^3P_1$	$2p6d\ ^3D_2$	2696.86	5.580+08	$2p4d\ ^3D_2$	$2p5p\ ^3P_2$	1641.73	1.234+08
$2p5p\ ^3P_1$	$2p6d\ ^3D_1$	2702.32	1.189+08	$2p4d\ ^3D_1$	$2p5p\ ^3P_1$	1643.49	1.130+08
$2s5d\ ^3D_3$	$2s6f\ ^3F_4$	2762.07	3.390+09	$2p4d\ ^3D_3$	$2p5p\ ^3P_2$	1644.29	6.366+08
$2s5d\ ^3D_2$	$2s6f\ ^3F_3$	2763.29	2.363+09	$2p4d\ ^3D_2$	$2p5p\ ^3P_1$	1645.17	3.244+08
$2s5d\ ^3D_3$	$2s6f\ ^3F_3$	2763.59	2.948+08	$2s4p\ ^3P_0$	$2s5s\ ^3S_1$	1645.20	3.449+08
$2s5d\ ^3D_1$	$2s6f\ ^3F_2$	2764.19	1.606+09	$2s4p\ ^3P_1$	$2s5s\ ^3S_1$	1645.59	1.034+09
$2s5d\ ^3D_2$	$2s6f\ ^3F_2$	2764.39	2.978+08	$2s4p\ ^3P_2$	$2s5s\ ^3S_1$	1646.37	1.722+09
$2s3s\ ^3S_1$	$2s3p\ ^3P_2$	2766.10	7.306+08	$2p4d\ ^3D_1$	$2p5p\ ^3P_0$	1647.74	1.568+08
$2s3s\ ^3S_1$	$2s3p\ ^3P_1$	2771.86	4.351+08	$2s4p\ ^1P_1$	$2s5s\ ^1S_0$	1654.24	9.040+08
$2s3s\ ^3S_1$	$2s3p\ ^3P_0$	2774.97	1.447+08	$2s4f\ ^3F_2$	$2s5d\ ^3D_1$	1663.95	1.752+08
$2p5f\ ^1F_3$	$2p6g\ ^3F_3$	2840.27	1.780+08	$2s4f\ ^3F_3$	$2s5d\ ^3D_2$	1664.02	2.597+08
$2p5f\ ^3F_2$	$2p6g\ ^3F_2$	2846.79	1.620+08	$2s4f\ ^3F_4$	$2s5d\ ^3D_3$	1664.10	3.758+08
$2p5p\ ^1P_1$	$2p6s\ ^1P_1$	2847.52	1.709+08	$2s4f\ ^1F_3$	$2s5d\ ^1D_2$	1664.80	2.330+08
$2p5f\ ^1F_3$	$2p6g\ ^3F_4$	2852.99	3.560+08	$2s4f\ ^1F_3$	$2s5g\ ^1G_4$	1666.94	1.608+10
$2p5f\ ^3F_2$	$2p6g\ ^1F_3$	2858.98	3.540+08	$2s4f\ ^1F_3$	$2s5g\ ^3G_4$	1667.03	3.430+09
$2p5f\ ^3F_3$	$2p6g\ ^1F_3$	2860.40	2.797+08	$2p4d\ ^1P_1$	$2p5p\ ^1S_0$	1677.15	1.248+08
$2p5f\ ^1F_3$	$2p6g\ ^3H_4$	2863.54	2.558+08	$2p4d\ ^1P_1$	$2p5f\ ^1D_2$	1691.99	6.075+09
$2p5f\ ^3F_4$	$2p6g\ ^3F_4$	2864.36	4.484+08	$2p4d\ ^3D_3$	$2p5p\ ^3D_3$	1694.68	2.306+08
$2p5f\ ^3F_3$	$2p6g\ ^3H_4$	2871.24	4.487+08	$2p4d\ ^3D_2$	$2p5p\ ^3D_2$	1700.38	1.202+08
$2p5p\ ^1D_2$	$2p6d\ ^1D_2$	2874.45	2.450+08	$2p4d\ ^1P_1$	$2p5f\ ^3D_2$	1705.40	3.349+08
$2p5f\ ^3F_4$	$2p6g\ ^3G_5$	2874.64	1.145+09	$2s6p\ ^1P_1$	$2p5p\ ^1P_1$	1707.14	2.261+08
$2p5f\ ^1F_3$	$2p6g\ ^3G_3$	2901.87	2.022+08	$2p4d\ ^3P_2$	$2p5p\ ^3S_1$	1724.38	3.618+08
$2p5f\ ^1F_3$	$2p6g\ ^3G_4$	2901.90	1.280+09	$2p4d\ ^1F_3$	$2p5f\ ^1G_4$	1725.70	1.037+10
$2p5f\ ^1F_3$	$2p6g\ ^1G_4$	2902.03	3.970+09	$2p4d\ ^3P_1$	$2p5p\ ^3S_1$	1727.88	1.816+08
$2p5f\ ^1G_4$	$2p6d\ ^1F_3$	2902.73	1.364+08	$2p4d\ ^1F_3$	$2p5f\ ^3G_4$	1742.88	6.035+08
$2p5f\ ^3G_3$	$2p6g\ ^1F_3$	2908.25	2.833+08	$2p4d\ ^3P_2$	$2p5p\ ^3D_3$	1750.83	1.303+08
$2p5f\ ^3F_2$	$2p6g\ ^3G_3$	2908.30	3.938+09	$2s6f\ ^3F_4$	$2p5p\ ^3D_3$	1758.05	1.498+08
$2p5f\ ^3F_3$	$2p6g\ ^3G_4$	2909.81	4.237+09	$2p4d\ ^1F_3$	$2p5f\ ^3F_4$	1761.81	2.731+08
$2p5f\ ^3F_3$	$2p6g\ ^1G_4$	2909.93	1.191+09	$2p4d\ ^1F_3$	$2p5f\ ^1F_3$	1766.14	7.167+08
$2p5f\ ^3G_4$	$2p6g\ ^1H_5$	2913.01	1.170+09	$2p4d\ ^1P_1$	$2p5p\ ^1D_2$	1794.00	2.724+08
$2p5f\ ^3F_4$	$2p6g\ ^3G_5$	2913.39	6.257+09	$2p4d\ ^1F_3$	$2p5p\ ^1D_2$	1813.79	1.030+09
$2p5f\ ^3F_4$	$2p6g\ ^1G_4$	2913.79	1.529+08	$2p4d\ ^1P_1$	$2p5p\ ^1P_1$	1941.49	2.075+08
$2p5f\ ^3G_4$	$2p6g\ ^3F_4$	2915.83	2.806+08	$2p3d\ ^3F_4$	$2s4d\ ^3D_3$	1997.48	1.125+08
$2p5f\ ^3G_3$	$2p6g\ ^3H_4$	2919.45	4.938+09	$2s5p\ ^1P_1$	$2p4p\ ^1S_0$	2238.63	1.045+08
$2p5f\ ^3G_4$	$2p6g\ ^3G_5$	2926.49	5.002+09	$2p3s\ ^1P_1$	$2p3p\ ^1S_0$	2301.73	5.227+08
$2p5f\ ^3G_4$	$2p6g\ ^3H_4$	2926.85	3.933+08	$2p5s\ ^3P_2$	$2p6p\ ^3P_2$	2362.07	3.056+08
$2p5f\ ^3G_5$	$2p6g\ ^1H_5$	2930.45	1.238+08	$2p5s\ ^3P_2$	$2p6p\ ^3P_1$	2367.26	1.693+08
$2p5f\ ^3G_5$	$2p6g\ ^3H_6$	2931.01	9.107+09	$2p5s\ ^3P_1$	$2p6p\ ^3S_1$	2375.46	1.145+08
$2s5g\ ^3G_3$	$2s6h\ ^3H_4$	2933.48	8.843+09	$2p5s\ ^1P_1$	$2p6p\ ^1D_2$	2400.10	3.718+08
$2s5g\ ^3G_4$	$2s6h\ ^1H_5$	2933.57	8.336+09	$2p5s\ ^3P_0$	$2p6p\ ^3D_1$	2406.18	1.400+08

TABLES

TABLE IV. Wavelengths (λ) and weighted radiative transition probabilities ((gA_r) in sec^{-1}) for excited states of Be-like O. Comparison of theoretical results (Cowan code) with recommended NIST data (W. L. Wiese, J. R. Fuhr, and T. M. Deters, J. Phys. Chem. Ref. Data, Monograph No. 7 (1996)).

$2l_1 2l_2$ LSJ	$2l'l''$ LSJ	λ,Å		gA_r, s^{-1}	
		Cowan	NIST	Cowan	NIST
$2s^2\ ^1S_0$	$2s2p\ ^1P_1$	653.885	629.732	8.131+09	8.616+09
$2s^2\ ^1S_0$	$2s3p\ ^1P_1$	172.370	172.169	9.701+10	8.82+10
$2s^2\ ^1S_0$	$2p3d\ ^1P_1$	139.465	139.029	1.300+10	1.54+10
$2s^2\ ^1S_0$	$2s4p\ ^1P_1$	135.438	135.523	3.772+10	2.83+10
$2s^2\ ^1S_0$	$2s5p\ ^1P_1$	124.476	124.616	2.218+10	2.14+10
$2s^2\ ^1S_0$	$2s6p\ ^1P_1$	118.944	119.162	1.843+10	1.39+10
$2s^2\ ^1S_0$	$2p4d\ ^1P_1$	117.952	118.000	5.374+08	2.71+09
$2p^2\ ^3P_2$	$2s3p\ ^3P_1$	271.273	271.035	1.130+08	6.93+07
$2p^2\ ^3P_2$	$2s3p\ ^3P_2$	271.217	270.978	3.443+08	2.12+08
$2p^2\ ^3P_1$	$2s3p\ ^3P_0$	271.086	270.860	9.111+07	5.57+07
$2p^2\ ^3P_1$	$2s3p\ ^3P_1$	271.056	270.838	6.813+07	4.14+07
$2p^2\ ^3P_1$	$2s3p\ ^3P_2$	271.001	270.781	1.167+08	7.20+07
$2p^2\ ^3P_0$	$2s3p\ ^3P_1$	270.946	270.723	9.207+07	5.64+07
$2p^2\ ^1D_2$	$2s3p\ ^1P_1$	287.169	286.448	7.781+09	6.84+09
$2p^2\ ^1D_2$	$2p3s\ ^1P_1$	231.581	231.075	3.489+10	3.36+10
$2p^2\ ^1D_2$	$2p3d\ ^1D_2$	216.948	216.019	1.515+11	1.53+11
$2p^2\ ^1D_2$	$2p3d\ ^1F_3$	208.281	207.796	6.304+11	6.01+11
$2p^2\ ^1D_2$	$2p3d\ ^1P_1$	206.141	205.106	9.793+09	6.78+09
$2p^2\ ^1D_2$	$2s4f\ ^1F_3$	193.344	193.006	3.825+10	4.23+10
$2p^2\ ^1D_2$	$2s5f\ ^1F_3$	173.192	173.252	4.419+06	5.63+07
$2p^2\ ^1D_2$	$2p4s\ ^1P_1$	168.462	168.789	1.476+10	1.31+10
$2p^2\ ^1D_2$	$2p4d\ ^1D_2$	164.923	164.986	4.032+10	5.10+10
$2p^2\ ^1D_2$	$2s6f\ ^1F_3$	163.993	164.177	4.136+10	5.84+10
$2p^2\ ^1D_2$	$2p4d\ ^1F_3$	162.208	162.492	2.418+11	1.83+11
$2p^2\ ^1D_2$	$2p5d\ ^1D_2$	148.913	149.038	1.355+10	2.38+10
$2p^2\ ^1S_0$	$2s3p\ ^1P_1$	336.016	341.396	2.180+08	3.78+08
$2p^2\ ^1S_0$	$2p3s\ ^1P_1$	262.334	265.561	1.221+10	1.32+10
$2p^2\ ^1S_0$	$2p3d\ ^1P_1$	230.158	231.822	1.436+11	1.31+11
$2p^2\ ^1S_0$	$2s4p\ ^1P_1$	219.395	222.237	1.275+10	1.86+10
$2p^2\ ^1S_0$	$2p4s\ ^1P_1$	184.168	186.438	5.257+09	5.07+09
$2p^2\ ^1S_0$	$2p4d\ ^1P_1$	176.909	178.715	6.850+10	5.25+10

TABLE III. continued.

1	2	3	4	5	6	7	8
$2p5p\ ^3P_2$	$2p6s\ ^3P_2$	3154.02	6.291+08	$2p5d\ ^3D_2$	$2p6f\ ^3D_3$	2830.15	1.093+08
$2p5p\ ^3P_0$	$2p6s\ ^3P_1$	3165.53	1.536+08	$2p5d\ ^3D_3$	$2p6f\ ^3D_3$	2842.17	6.053+08
$2s5d\ ^1D_2$	$2s6p\ ^1P_1$	3171.39	3.631+08	$2p5d\ ^3D_2$	$2p6f\ ^3G_3$	2858.82	7.901+08
$2p5p\ ^3P_1$	$2p6s\ ^3P_0$	3193.23	1.052+08	$2p5d\ ^3D_3$	$2p6f\ ^3G_4$	2866.83	1.566+09
$2p5p\ ^3P_2$	$2p6s\ ^3P_1$	3194.29	1.569+08	$2p5d\ ^3P_2$	$2p6f\ ^3D_2$	2872.74	6.076+08
$2s5d\ ^3D_3$	$2p4d\ ^3F_4$	3203.66	4.562+08	$2p5d\ ^3P_1$	$2p6f\ ^3D_1$	2872.91	5.611+08
$2p3p\ ^1S_0$	$2s4p\ ^1P_1$	3209.22	1.178+08	$2p5d\ ^3P_0$	$2p6f\ ^3D_1$	2877.50	6.193+08
$2s5d\ ^3D_2$	$2p4d\ ^3F_3$	3226.82	2.916+08	$2p5d\ ^3P_2$	$2p6f\ ^3D_3$	2879.64	2.300+09
$2p5p\ ^1D_2$	$2p6s\ ^1P_1$	3237.95	6.849+08	$2p5d\ ^3P_1$	$2p6f\ ^3D_2$	2882.01	1.214+09
$2s5d\ ^3D_1$	$2p4d\ ^3F_2$	3250.60	1.516+08	$2p5d\ ^3D_1$	$2p6f\ ^3F_2$	2887.72	1.778+09
$2p5p\ ^1S_0$	$2p6s\ ^1P_1$	3703.66	1.922+08	$2p5d\ ^3D_2$	$2p6f\ ^3F_2$	2892.75	2.308+08
$2p3p\ ^3S_1$	$2p3d\ ^3P_2$	4136.72	1.658+08	$2p5d\ ^3D_2$	$2p6f\ ^3F_3$	2894.84	1.800+09
$2p3p\ ^1P_1$	$2p3d\ ^1D_2$	4503.99	1.142+08	$2p5g\ ^3G_4$	$2p6h\ ^3G_4$	2897.33	1.789+08
$2p3p\ ^3D_3$	$2p3d\ ^3F_4$	5797.97	1.408+08	$2p5g\ ^3G_3$	$2p6h\ ^3G_3$	2897.38	1.384+08
$2s4s\ ^3S_1$	$2s4p\ ^3P_2$	7385.08	1.435+08	$2p5d\ ^3D_3$	$2p6f\ ^3F_4$	2904.15	1.986+09
$2p5g\ ^1F_3$	$2p6h\ ^3H_4$	2972.01	7.508+09	$2p5g\ ^3G_4$	$2p6h\ ^3G_5$	2905.56	9.837+08
$2s5f\ ^1F_3$	$2s6d\ ^1D_2$	2973.72	1.422+08	$2p5g\ ^3G_3$	$2p6h\ ^3H_4$	2905.61	7.875+08
$2p5g\ ^3H_6$	$2p6h\ ^3H_6$	2978.34	6.914+08	$2p5d\ ^3D_3$	$2p6f\ ^3F_3$	2907.42	1.062+08
$2p5g\ ^1H_5$	$2p6h\ ^3I_5$	2978.95	5.677+08	$2p5g\ ^1G_4$	$2p6h\ ^3H_4$	2908.48	2.411+08
$2p5g\ ^3F_2$	$2p6h\ ^3G_3$	2981.12	6.311+09	$2p5g\ ^3G_5$	$2p6h\ ^3G_5$	2908.76	2.959+08
$2p5g\ ^3F_3$	$2p6h\ ^3G_4$	2981.48	8.516+09	$2p5g\ ^1G_4$	$2p6h\ ^3I_5$	2912.47	1.184+09
$2p5g\ ^3F_3$	$2p6h\ ^3G_3$	2981.54	3.014+08	$2p5g\ ^3G_5$	$2p6h\ ^3H_6$	2912.74	1.463+09
$2p3s\ ^1P_1$	$2p3p\ ^1D_2$	2987.05	7.712+08	$2p5g\ ^3G_4$	$2p6h\ ^3G_5$	2950.19	1.006+10
$2p5g\ ^3H_4$	$2p6h\ ^3H_4$	2999.06	1.113+08	$2p5g\ ^3G_3$	$2p6h\ ^3H_4$	2950.23	7.987+09
$2p5g\ ^3H_4$	$2p6h\ ^3I_5$	2999.47	1.274+09	$2p5g\ ^3G_4$	$2p6h\ ^3H_4$	2950.23	2.333+08
$2p5g\ ^3H_5$	$2p6h\ ^3G_5$	2999.55	1.402+08	$2p5g\ ^3H_4$	$2p6h\ ^3H_4$	2952.95	5.350+08
$2p5g\ ^3H_5$	$2p6h\ ^3H_6$	2999.95	1.570+09	$2p5g\ ^3H_5$	$2p6h\ ^3G_5$	2953.43	6.509+08
$2p5g\ ^3F_4$	$2p6h\ ^3G_5$	3018.41	1.088+09	$2p5g\ ^3G_5$	$2p6h\ ^3G_5$	2953.49	1.204+08
$2p5g\ ^1F_3$	$2p6h\ ^3H_4$	3018.71	8.703+08	$2p5g\ ^1G_4$	$2p6h\ ^3I_5$	2953.60	9.940+09
$2p5d\ ^3F_4$	$2p6p\ ^3D_3$	3040.04	5.270+08	$2p5g\ ^3G_5$	$2p6h\ ^3H_6$	2953.88	1.194+10
$2p5d\ ^3F_3$	$2p6p\ ^3D_2$	3043.98	3.806+08	$2p5g\ ^3G_5$	$2p6h\ ^3I_5$	2953.93	1.863+08
$2s5f\ ^3F_4$	$2s6d\ ^3D_3$	3046.90	2.134+08	$2s5p\ ^3P_1$	$2s6d\ ^3S_1$	2956.27	2.717+08
$2s5f\ ^3F_2$	$2s6d\ ^3D_1$	3047.16	1.071+08	$2p5g\ ^3H_4$	$2p6h\ ^3I_5$	2957.06	9.482+09
$2s5f\ ^3F_3$	$2s6d\ ^3D_2$	3047.77	1.345+08	$2p5g\ ^3H_5$	$2p6h\ ^3H_6$	2957.53	1.136+10
$2p5d\ ^3F_2$	$2p6p\ ^1P_1$	3049.31	2.232+08	$2s5p\ ^3P_2$	$2s6d\ ^3S_1$	2957.58	4.523+08
$2p5d\ ^1D_2$	$2p6p\ ^3D_1$	3052.53	2.319+08	$2p5g\ ^3F_4$	$2p6h\ ^3G_4$	2963.09	5.723+08
$2p5d\ ^1P_1$	$2p6f\ ^1D_2$	3083.84	1.842+09	$2p5g\ ^1F_3$	$2p6h\ ^3G_3$	2963.41	4.566+08
$2p5d\ ^1F_3$	$2p6f\ ^1G_4$	3084.64	3.978+09	$2p5g\ ^3H_6$	$2p6h\ ^3I_7$	2970.09	1.557+10
$2s5f\ ^3F_4$	$2s6g\ ^3G_5$	3118.40	3.957+09	$2p5g\ ^3H_6$	$2p6h\ ^1I_6$	2970.13	1.721+08
$2s5f\ ^3F_3$	$2s6g\ ^3G_4$	3131.60	2.543+09	$2p5g\ ^1H_5$	$2p6h\ ^1I_6$	2970.69	1.332+10
$2s5f\ ^1F_3$	$2s6g\ ^1G_4$	3134.62	2.998+09	$2p5g\ ^3F_4$	$2p6h\ ^3G_5$	2971.71	9.459+09
$2s5f\ ^3F_2$	$2s6g\ ^3G_3$	3137.46	2.054+09	$2p5g\ ^3F_4$	$2p6h\ ^3H_4$	2971.75	2.163+08

TABLES

TABLE VI. Wavelengths (WL), and weighted radiative transition probabilities (A_r in sec^{-1}) for dielectronic satellite lines of Be-like oxygen ($2l_1nl_2$ - $3ln'l'$ transitions)

even-odd transitions				odd-even transitions			
$2l_1nl_2[LSJ]$	$3ln'l'[LSJ]$	(WL), Å	(gA_r), s^{-1}	$2l_1nl_2[LSJ]$	$3ln'l'[LS.J]$	(WL), Å	(gA_r), s^{-1}
1	2	3	4	5	6	7	8
$2s3s\ ^3S_1$	$3s3p\ ^3P_2$	157.19	1.097+11	$2p3d\ ^1F_3$	$3d2\ ^1G_4$	181.96	1.236+12
$2s3d\ ^3D_1$	$3p3d\ ^3F_2$	158.91	1.319+11	$2p5g\ ^3H_6$	$3d5g\ ^3I_7$	172.88	1.263+12
$2s3d\ ^1D_2$	$3p3d\ ^1D_2$	161.73	1.224+11	$2s3p\ ^1P_1$	$3s3d\ ^1D_2$	160.42	1.786+11
$2s3d\ ^3D_2$	$3p3d\ ^3F_3$	158.90	1.959+11	$2s3p\ ^3P_2$	$3p2\ ^3P_2$	157.26	1.600+11
$2s3d\ ^3D_3$	$3p3d\ ^3F_4$	158.89	2.835+11	$2p3s\ ^3P_0$	$3s3d\ ^3D_1$	179.37	1.315+11
$2s4s\ ^3S_1$	$3p4s\ ^3P_2$	152.15	1.134+11	$2p3s\ ^1P_1$	$3s3d\ ^1D_2$	185.05	1.460+11
$2s4d\ ^1D_2$	$3p4d\ ^1D_2$	153.90	1.036+11	$2p3s\ ^3P_1$	$3s3d\ ^3D_2$	179.42	2.956+11
$2s4d\ ^3D_2$	$3p4d\ ^3F_3$	152.10	1.252+11	$2p3s\ ^1P_1$	$3p2\ ^1D_2$	175.06	1.610+11
$2s4d\ ^3D_3$	$3p4d\ ^3D_3$	153.81	1.017+11	$2p3s\ ^1P_1$	$3s4d\ ^1D_2$	141.20	1.006+11
$2s4d\ ^3D_3$	$3p4d\ ^3F_4$	152.08	1.808+11	$2p3s\ ^3P_2$	$3s3d\ ^3D_3$	179.52	5.512+11
$2s5s\ ^3S_1$	$3p5s\ ^3P_2$	150.41	1.169+11	$2p3s\ ^3P_2$	$3s4d\ ^3D_3$	139.16	1.438+11
$2s3s\ ^3S_1$	$3s3p\ ^3P_0$	157.22	2.192+10	$2p3d\ ^3P_0$	$3d2\ ^3P_1$	178.52	1.064+11
$2s3s\ ^3S_1$	$3s3p\ ^3P_1$	157.21	6.578+10	$2p3d\ ^3P_1$	$3d2\ ^3P_0$	178.51	1.016+11
$2s3s\ ^1S_0$	$3s3p\ ^1P_1$	155.33	5.776+10	$2p3d\ ^1P_1$	$3d2\ ^1S_0$	170.20	1.115+11
$2s3s\ ^1S_0$	$3s4p\ ^1P_1$	124.55	2.456+10	$2p3d\ ^3D_1$	$3d2\ ^3F_2$	181.70	4.188+11
$2s3s\ ^3S_1$	$3s4p\ ^3P_0$	122.08	1.014+10	$2p3d\ ^1P_1$	$3d2\ ^1D_2$	180.83	2.181+11
$2s3s\ ^3S_1$	$3s4p\ ^3P_1$	122.08	3.043+10	$2p3d\ ^3P_1$	$3d2\ ^3P_2$	178.49	1.340+11
$2s3s\ ^1S_0$	$3s5p\ ^1P_1$	113.25	1.380+10	$2p3d\ ^3P_2$	$3d2\ ^3P_1$	178.46	1.219+11
$2s3s\ ^3S_1$	$3s5p\ ^3P_1$	111.65	1.490+10	$2p3d\ ^1D_2$	$3p2\ ^1D_2$	184.66	1.786+11
$2s3s\ ^3S_1$	$3s4p\ ^3P_2$	122.08	5.073+10	$2p3d\ ^3D_2$	$3d2\ ^3F_3$	181.71	6.230+11
$2s3s\ ^3S_1$	$3s5p\ ^3P_2$	111.65	2.485+10	$2p3d\ ^3F_2$	$3d2\ ^3F_2$	178.72	2.182+11
$2s3s\ ^3S_1$	$3s6p\ ^3P_2$	106.93	1.130+10	$2p3d\ ^3P_2$	$3d2\ ^3P_2$	178.45	4.092+11
$2s3d\ ^3D_1$	$3p3d\ ^3D_1$	156.14	3.516+10	$2p3d\ ^1D_2$	$3d2\ ^1D_2$	173.41	2.556+11
$2s3d\ ^3D_1$	$3p3d\ ^3P_1$	155.46	1.616+10	$2p3d\ ^3F_3$	$3d2\ ^3F_3$	178.78	3.001+11
$2s3d\ ^3D_1$	$3p3d\ ^3P_0$	155.46	2.084+10	$2p3d\ ^3D_3$	$3d2\ ^3P_2$	177.38	1.517+11
$2s3d\ ^3D_1$	$3d4p\ ^3D_1$	123.46	1.135+10	$2p3d\ ^3D_3$	$3d2\ ^3F_4$	181.74	9.033+11
$2s3d\ ^1D_2$	$3s3p\ ^1P_1$	168.93	1.260+10	$2p3d\ ^3F_4$	$3d2\ ^3F_4$	178.84	4.225+11
$2s3d\ ^3D_2$	$3p3d\ ^3D_1$	156.14	1.245+10	$2p3d\ ^3F_4$	$3p4f\ ^3G_5$	141.04	1.004+11
$2s3d\ ^3D_1$	$3p3d\ ^3D_2$	156.13	1.202+10	$2p3d\ ^1F_3$	$3d4d\ ^1G_4$	140.53	1.163+11
$2s3d\ ^3D_2$	$3p3d\ ^3P_1$	155.47	4.634+10	$2p3d\ ^3D_3$	$3d4d\ ^3F_4$	139.95	1.274+11
$2s3d\ ^1D_2$	$3p3d\ ^1P_1$	151.83	4.161+10	$2p3d\ ^3F_4$	$3d4d\ ^3G_5$	139.43	1.276+11
$2s3d\ ^1D_2$	$3p4d\ ^1P_1$	127.07	1.206+10	$2s4f\ ^3F_2$	$3p4f\ ^3F_2$	152.29	1.084+11
$2s3d\ ^3D_1$	$3p4d\ ^3F_2$	124.82	1.535+10	$2s4f\ ^1F_3$	$3p4f\ ^1F_3$	153.36	1.095+11
$2s3d\ ^3D_1$	$3d4p\ ^3F_2$	124.09	2.755+10	$2s4f\ ^3F_3$	$3p4f\ ^3F_3$	152.28	1.425+11
$2s3d\ ^3D_2$	$3d4p\ ^3P_1$	123.21	1.736+10	$2s4f\ ^1F_3$	$3p4f\ ^1D_2$	149.55	1.090+11
$2s3d\ ^1D_2$	$3d4p\ ^1P_1$	123.11	1.021+10	$2s4f\ ^3F_3$	$3p4f\ ^3G_4$	152.83	1.312+11
$2s3d\ ^3D_1$	$3d5p\ ^3F_2$	113.78	1.110+10	$2s4f\ ^3F_4$	$3p4f\ ^3G_5$	152.82	1.724+11
$2s3d\ ^3D_2$	$3d5p\ ^3P_1$	113.51	1.021+10	$2s4f\ ^3F_4$	$3p4f\ ^3F_4$	152.28	2.058+11
$2s3d\ ^3D_2$	$3p3d\ ^3F_2$	158.92	2.463+10	$2s4f\ ^1F_3$	$3p4f\ ^1G_4$	151.01	2.064+11
$2s3d\ ^3D_2$	$3p3d\ ^3D_2$	156.13	5.403+10	$2p4s\ ^1P_1$	$3d4s\ ^1D_2$	177.42	2.075+11

TABLE V. Mixing coefficients in the odd-parity complex with J=3: $2pnd\ ^1F$+$2snf\ ^1F$ for O4+.

	$2p3d\ ^1F$	$2s4f\ ^1F$	$2s5f\ ^1F$	$2s6f\ ^1F$	$2p4d\ ^1F$	$2s7f\ ^1F$	$2p5d\ ^1F$
$2p3d\ ^1F$	0.95661	-0.26774	-0.06591	-0.00362	0.07312	-0.03515	0.03415
$2s4f\ ^1F$	0.27143	0.96183	0.01296	0.00119	-0.00880	0.00417	-0.00594
$2p4d\ ^1F$	-0.05965	0.02395	0.08956	0.46444	0.86180	-0.13140	0.06419
$2s5f\ ^1F$	0.06578	-0.03297	0.99356	-0.03477	-0.07578	0.01343	-0.00463
$2p5d\ ^1F$	-0.02732	0.01213	0.00106	-0.01126	-0.06774	0.04015	0.99036
$2s6f\ ^1F$	0.03612	-0.01583	-0.00810	0.87387	-0.47086	0.02730	-0.02158
$2p6d\ ^1F$	-0.01718	0.00746	0.00232	-0.01248	-0.02786	0.01216	-0.06906
$2s7f\ ^1F$	0.02440	-0.01021	-0.00388	0.03865	0.13432	0.98932	-0.02893

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2s4d\ ^3D_1$	$3p4d\ ^3P_0$	151.32	1.579+10	$2p5d\ ^3P_2$	$3d5d\ ^3D_3$	173.89	1.962+11
$2s4d\ ^3D_1$	$3d4p\ ^3D_1$	150.10	1.649+10	$2p5d\ ^1D_2$	$3d5d\ ^1F_3$	173.78	2.511+11
$2s4d\ ^3D_2$	$3p4d\ ^3D_1$	153.82	1.233+10	$2p5d\ ^3D_2$	$3d5d\ ^3D_2$	173.72	1.497+11
$2s4d\ ^3D_1$	$3p4d\ ^3D_2$	153.82	1.197+10	$2p5d\ ^3F_2$	$3d5d\ ^1F_3$	173.68	1.371+11
$2s4d\ ^1D_2$	$3p4d\ ^1P_1$	153.66	3.775+10	$2p5d\ ^1D_2$	$3d5d\ ^3G_3$	173.34	1.687+11
$2s4d\ ^3D_1$	$3p4d\ ^3F_2$	152.11	8.455+10	$2p5d\ ^3F_2$	$3d5d\ ^3G_3$	173.24	3.276+11
$2s4d\ ^3D_2$	$3p4d\ ^3P_1$	151.32	3.555+10	$2p5d\ ^3D_2$	$3d5d\ ^3F_3$	173.13	3.125+11
$2s4d\ ^1D_2$	$3d4p\ ^1P_1$	147.91	2.029+10	$2p5d\ ^3P_2$	$3d5d\ ^3P_2$	172.43	2.508+11
$2s4d\ ^1D_2$	$3s4f\ ^1F_3$	157.70	2.454+10	$2p5d\ ^1F_3$	$3d5d\ ^1F_3$	175.05	1.881+11
$2s4d\ ^1D_2$	$3p4d\ ^1F_3$	154.30	6.755+10	$2p5d\ ^3D_3$	$3d5d\ ^3D_3$	173.76	2.175+11
$2s4d\ ^3D_2$	$3p4d\ ^3D_2$	153.82	5.660+10	$2p5d\ ^3F_3$	$3d5d\ ^3F_3$	172.76	1.871+11
$2s4d\ ^3D_2$	$3p4d\ ^3D_3$	153.81	1.233+10	$2p5d\ ^1F_3$	$3d5d\ ^1G_4$	173.55	2.555+11
$2s4d\ ^1D_2$	$3d4p\ ^1D_2$	152.47	1.929+10	$2p5d\ ^3F_4$	$3d5d\ ^3G_5$	173.39	8.553+11
$2s4d\ ^3D_2$	$3p4d\ ^3F_2$	152.11	1.552+10	$2p5d\ ^3F_3$	$3d5d\ ^3G_4$	173.31	6.466+11
$2s4d\ ^3D_2$	$3p4d\ ^3P_2$	151.32	1.191+10	$2p5d\ ^1F_3$	$3d5g\ ^1G_4$	173.24	2.477+11
$2s4d\ ^3D_2$	$3d4p\ ^3D_2$	150.10	2.536+10	$2p5d\ ^3D_3$	$3d5d\ ^3F_4$	173.17	5.090+11
$2s4d\ ^1D_2$	$3d4p\ ^1F_3$	148.87	4.424+10	$2p5d\ ^3F_4$	$3d5d\ ^3F_4$	172.83	2.422+11
$2s4d\ ^3D_2$	$3d4f\ ^3F_3$	148.68	1.399+10	$2p5d\ ^1F_3$	$3s6g\ ^1G_4$	171.68	1.822+11
$2s4d\ ^1D_2$	$3d4f\ ^1F_3$	147.39	1.689+10	$2p5g\ ^3G_3$	$3d5g\ ^3G_3$	172.86	2.534+11
$2s4d\ ^3D_3$	$3p4d\ ^3D_2$	153.82	1.289+10	$2p5g\ ^3G_3$	$3d5g\ ^3F_2$	172.46	1.810+11
$2s4d\ ^3D_3$	$3p4d\ ^3F_3$	152.10	1.546+10	$2p5g\ ^3H_5$	$3d5g\ ^1H_5$	173.15	1.198+11
$2s4d\ ^3D_3$	$3p4d\ ^3P_2$	151.32	6.648+10	$2p5g\ ^3H_4$	$3d5g\ ^3H_4$	173.04	1.276+11
$2s4d\ ^3D_3$	$3d4p\ ^3D_3$	150.09	4.557+10	$2p5g\ ^3H_4$	$3d5g\ ^3H_5$	173.04	1.142+11
$2s4d\ ^3D_3$	$3d4p\ ^3P_2$	149.73	1.579+10	$2p5g\ ^3H_5$	$3d5g\ ^3H_6$	173.04	2.415+11
$2s4d\ ^3D_3$	$3d4f\ ^3F_4$	148.68	2.038+10	$2p5g\ ^3H_5$	$3d5g\ ^3G_5$	173.02	1.932+11
$2s5s\ ^1S_0$	$3p5s\ ^1P_1$	150.45	5.974+10	$2p5g\ ^1G_4$	$3d5g\ ^1H_5$	173.00	2.147+11
$2s5s\ ^3S_1$	$3p5s\ ^3P_0$	150.44	2.339+10	$2p5g\ ^3G_4$	$3d5g\ ^1H_5$	172.99	2.441+11
$2s5s\ ^3S_1$	$3p5s\ ^3P_1$	150.43	7.009+10	$2p5g\ ^1G_4$	$3d5g\ ^3H_4$	172.89	1.876+11
$2s5d\ ^3D_1$	$3d5p\ ^3D_1$	149.01	7.889+09	$2p5g\ ^3G_5$	$3d5g\ ^3H_5$	172.89	2.126+11
$2s5d\ ^3D_1$	$3s6p\ ^3P_0$	148.45	1.176+09	$2p5g\ ^1G_4$	$3d5g\ ^3H_5$	172.89	1.342+11
$2s5d\ ^3D_1$	$3d5f\ ^3D_1$	147.32	1.439+09	$2p5g\ ^3G_5$	$3d5g\ ^3H_6$	172.88	4.343+11
$2s5d\ ^3D_1$	$3d5f\ ^3P_1$	147.04	1.517+09	$2p5g\ ^3G_3$	$3d5g\ ^3H_4$	172.88	3.647+11
$2s5d\ ^3D_1$	$3d5f\ ^3P_0$	147.04	1.970+09	$2p5g\ ^3G_4$	$3d5g\ ^3H_5$	172.88	2.409+11
$2s5d\ ^1D_2$	$3s5p\ ^1P_1$	158.08	2.060+09	$2p5g\ ^3G_5$	$3d5g\ ^3G_5$	172.87	1.889+11
$2s5d\ ^3D_2$	$3s5p\ ^3P_1$	157.71	1.703+09	$2p5g\ ^3G_4$	$3d5g\ ^3G_4$	172.86	1.666+11
$2s5d\ ^3D_1$	$3s5f\ ^3F_2$	156.09	1.884+09	$2p5g\ ^3H_4$	$3d5g\ ^3I_5$	172.82	6.561+11
$2s5d\ ^1D_2$	$3p5s\ ^1P_1$	152.84	2.634+09	$2p5g\ ^3H_5$	$3d5g\ ^3I_6$	172.82	4.538+11
$2s5d\ ^3D_2$	$3p5s\ ^3P_1$	152.79	1.370+09	$2p5g\ ^1G_4$	$3d5g\ ^1G_4$	172.71	1.224+11
$2s5d\ ^3D_1$	$3p5d\ ^3P_2$	150.19	1.091+09	$2p5g\ ^3G_4$	$3d5g\ ^1G_4$	172.70	1.270+11
$2s5d\ ^3D_1$	$3d5p\ ^3F_2$	149.11	3.082+09	$2p5g\ ^1G_4$	$3d5g\ ^3I_5$	172.67	2.441+11
$2s5d\ ^3D_2$	$3d5p\ ^3D_1$	149.01	2.573+09	$2p5g\ ^3G_5$	$3d5g\ ^3I_6$	172.66	1.621+11
$2s5d\ ^3D_1$	$3d5p\ ^3D_2$	149.00	2.702+09	$2p5g\ ^3H_5$	$3d5g\ ^1I_6$	172.49	3.356+11
$2s5d\ ^3D_1$	$3p5g\ ^3F_2$	148.91	1.703+09	$2p5g\ ^3G_5$	$3d5g\ ^3F_4$	172.47	2.040+11

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2s3d\ ^3D_2$	$3p3d\ ^3D_3$	156.12	1.270+10	$2p4s\ ^3P_1$	$3d4s\ ^3D_2$	173.91	2.138+11
$2s3d\ ^3D_2$	$3p3d\ ^3P_2$	155.47	1.652+10	$2p4s\ ^1P_1$	$3p4p\ ^1D_2$	172.29	1.074+11
$2s3d\ ^1D_2$	$3p3d\ ^1F_3$	155.01	9.910+10	$2p4s\ ^3P_2$	$3p4p\ ^3D_3$	176.34	1.527+11
$2s3d\ ^1D_2$	$3p4d\ ^1F_3$	127.51	3.666+10	$2p4s\ ^3P_2$	$3d4s\ ^3D_3$	174.01	3.980+11
$2s3d\ ^1D_2$	$3d4p\ ^1D_2$	126.25	4.810+10	$2p4d\ ^1P_1$	$3d4d\ ^1P_1$	177.91	1.522+11
$2s3d\ ^3D_2$	$3p4d\ ^3D_2$	125.97	1.358+10	$2p4d\ ^3D_1$	$3d4d\ ^3F_2$	174.00	2.167+11
$2s3d\ ^3D_2$	$3p4d\ ^3F_3$	124.81	2.273+10	$2p4d\ ^1P_1$	$3d4d\ ^1D_2$	173.40	1.161+11
$2s3d\ ^3D_2$	$3d4p\ ^3F_3$	124.09	4.080+10	$2p4d\ ^1D_2$	$3d4d\ ^1F_3$	176.19	2.655+11
$2s3d\ ^1D_2$	$3d4p\ ^1F_3$	123.77	2.044+10	$2p4d\ ^3F_2$	$3d4d\ ^3G_3$	174.93	3.164+11
$2s3d\ ^3D_2$	$3d4p\ ^3D_2$	123.46	1.748+10	$2p4d\ ^3D_2$	$3d4d\ ^3F_3$	174.01	3.291+11
$2s3d\ ^1D_2$	$3p5d\ ^1F_3$	116.36	1.263+10	$2p4d\ ^3P_2$	$3d4d\ ^3P_2$	172.77	2.001+11
$2s3d\ ^1D_2$	$3d5p\ ^1D_2$	115.51	2.680+10	$2p4d\ ^1D_2$	$3d4d\ ^1D_2$	170.58	1.120+11
$2s3d\ ^3D_2$	$3p5d\ ^3F_3$	114.61	1.090+10	$2p4d\ ^1F_3$	$3d4d\ ^1F_3$	179.41	1.071+11
$2s3d\ ^3D_2$	$3d5p\ ^3F_3$	113.78	1.581+10	$2p4d\ ^3D_3$	$3d4d\ ^3D_3$	176.72	1.584+11
$2s3d\ ^3D_2$	$3d5p\ ^3D_2$	113.71	1.327+10	$2p4d\ ^3F_3$	$3d4d\ ^3F_3$	173.09	1.549+11
$2s3d\ ^1D_2$	$3d6p\ ^1D_2$	110.60	1.687+10	$2p4d\ ^1F_3$	$2s3p\ ^1D_2$	162.11	2.407+11
$2s3d\ ^1D_2$	$3d6p\ ^1F_3$	110.15	1.071+10	$2p4d\ ^1F_3$	$3p4f\ ^1G_4$	177.68	1.515+11
$2s3d\ ^3D_2$	$3d6p\ ^3F_3$	109.08	1.381+10	$2p4d\ ^3F_4$	$3p4f\ ^3G_5$	177.58	2.292+11
$2s3d\ ^3D_3$	$3p3d\ ^3F_3$	158.91	2.479+10	$2p4d\ ^3F_3$	$3p4f\ ^3G_4$	177.53	1.753+11
$2s3d\ ^3D_3$	$3p3d\ ^3D_2$	156.14	1.338+10	$2p4d\ ^3F_4$	$3d4d\ ^3G_5$	175.05	6.332+11
$2s3d\ ^3D_3$	$3p3d\ ^3D_3$	156.13	9.868+10	$2p4d\ ^3F_3$	$3d4d\ ^3G_4$	174.99	4.889+11
$2s3d\ ^3D_3$	$3p3d\ ^3P_2$	155.47	8.641+10	$2p4d\ ^3D_3$	$3d4d\ ^3F_4$	174.03	4.739+11
$2s3d\ ^3D_3$	$3p4d\ ^3D_3$	125.96	2.429+10	$2p4d\ ^1F_3$	$3d4d\ ^1G_4$	173.93	4.614+11
$2s3d\ ^3D_3$	$3p4d\ ^3F_4$	124.80	3.303+10	$2p4d\ ^3F_4$	$3d4d\ ^3F_4$	173.15	2.095+11
$2s3d\ ^3D_3$	$3d4p\ ^3F_4$	124.08	5.894+10	$2s5p\ ^3P_2$	$3p5p\ ^3D_3$	150.97	1.333+11
$2s3d\ ^3D_3$	$3d4p\ ^3D_3$	123.46	3.182+10	$2s5f\ ^3F_2$	$3p5f\ ^3G_3$	150.55	1.532+11
$2s3d\ ^3D_3$	$3d4p\ ^3P_2$	123.21	3.241+10	$2s5f\ ^1F_3$	$3p5f\ ^1F_3$	150.80	1.686+11
$2s3d\ ^3D_3$	$3p5d\ ^3F_4$	114.61	1.598+10	$2s5f\ ^3F_4$	$3p5f\ ^3F_4$	150.58	2.223+11
$2s3d\ ^3D_3$	$3d5p\ ^3F_4$	113.78	2.139+10	$2s5f\ ^3F_3$	$3p5f\ ^3G_4$	150.54	1.978+11
$2s3d\ ^3D_3$	$3d5p\ ^3D_3$	113.71	2.381+10	$2s5f\ ^3F_4$	$3p5f\ ^3G_5$	150.53	2.396+11
$2s3d\ ^3D_3$	$3p5g\ ^3F_4$	113.67	1.005+10	$2s5f\ ^3F_4$	$3p5f\ ^3D_3$	149.94	1.363+11
$2s3d\ ^3D_3$	$3d5p\ ^3P_2$	113.51	1.903+10	$2s5f\ ^1F_3$	$3p5f\ ^1G_4$	149.93	1.867+11
$2s3d\ ^3D_3$	$3d6p\ ^3D_3$	109.10	1.603+10	$2p5s\ ^3P_0$	$3d5s\ ^3D_1$	172.89	1.087+11
$2s3d\ ^3D_3$	$3d6p\ ^3F_4$	109.08	2.054+10	$2p5s\ ^1P_1$	$3p6p\ ^1D_2$	175.22	1.713+11
$2s3d\ ^3D_3$	$3d6p\ ^3P_2$	108.96	1.099+10	$2p5s\ ^3P_1$	$3d5s\ ^3D_2$	172.93	1.967+11
$2s4s\ ^1S_0$	$3p3d\ ^1P_1$	185.89	2.552+10	$2p5s\ ^1P_1$	$3d5s\ ^1D_2$	172.86	1.544+11
$2s4s\ ^1S_0$	$3s4p\ ^1P_1$	158.64	1.428+10	$2p5s\ ^3P_2$	$3p5p\ ^3D_3$	175.19	1.061+11
$2s4s\ ^1S_0$	$3p4s\ ^1P_1$	152.63	4.600+10	$2p5s\ ^3P_2$	$3p5f\ ^3F_3$	173.03	1.957+11
$2s4s\ ^3S_1$	$3p4s\ ^3P_0$	152.17	2.267+10	$2p5s\ ^3P_2$	$3d5s\ ^3D_3$	173.03	2.546+11
$2s4s\ ^3S_1$	$3p4s\ ^3P_1$	152.17	6.803+10	$2p5d\ ^1P_1$	$3d5d\ ^1P_1$	174.56	1.813+11
$2s4s\ ^1S_0$	$3d4p\ ^1P_1$	144.59	1.040+10	$2p5d\ ^3P_1$	$3d5d\ ^3D_2$	173.93	1.077+11
$2s4d\ ^3D_1$	$3p4d\ ^3D_1$	153.82	3.655+10	$2p5d\ ^3D_1$	$3d5d\ ^3F_2$	173.12	2.200+11
$2s4d\ ^3D_1$	$3p4d\ ^3P_1$	151.32	1.187+10	$2p5d\ ^3P_2$	$3d5d\ ^3S_1$	172.76	1.029+11

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2s5g\ ^1G_4$	$3d4f\ ^3G_4$	163.86	1.665+09	$2s6h\ ^1H_5$	$3p6h\ ^1G_4$	149.29	2.252+11
$2s5g\ ^3G_4$	$3d4f\ ^3G_4$	163.85	5.228+09	$2s6h\ ^3H_6$	$3p6h\ ^3H_6$	149.61	3.303+11
$2s5g\ ^3G_5$	$3d4f\ ^3G_5$	163.85	8.862+09	$2s6h\ ^3H_6$	$3p6h\ ^3I_7$	149.34	3.643+11
$2s5g\ ^1G_4$	$3d4f\ ^1F_3$	162.31	4.948+09	$2s6h\ ^3H_6$	$3p6h\ ^3G_5$	149.32	2.770+11
$2s5g\ ^3G_4$	$3d4f\ ^1F_3$	162.31	1.611+09	$2s3p\ ^1P_1$	$3s2\ ^1S_0$	171.22	1.359+10
$2s5g\ ^3G_4$	$3d4f\ ^1H_5$	161.73	8.615+09	$2s3p\ ^3P_1$	$3p2\ ^3P_0$	157.27	4.260+10
$2s5g\ ^1G_4$	$3p5d\ ^1F_3$	151.32	1.283+09	$2s3p\ ^3P_1$	$3p2\ ^3P_1$	157.26	3.196+10
$2s5g\ ^1G_4$	$3p5g\ ^3G_3$	150.17	3.459+09	$2s3p\ ^3P_0$	$3p2\ ^3P_1$	157.25	4.268+10
$2s5g\ ^3G_4$	$3p5g\ ^3G_3$	150.17	8.724+09	$2s3p\ ^1P_1$	$3p2\ ^1S_0$	153.13	2.476+10
$2s5g\ ^3G_4$	$3p5g\ ^3H_4$	150.10	1.909+09	$2s3p\ ^1P_1$	$3p4p\ ^1P_1$	124.05	2.378+10
$2s5g\ ^3G_4$	$3d5p\ ^3F_4$	149.57	3.284+09	$2s3p\ ^3P_1$	$3p4p\ ^3P_0$	123.04	1.027+10
$2s5g\ ^1G_4$	$3p5g\ ^3F_4$	149.38	1.713+09	$2s3p\ ^3P_0$	$3p4p\ ^3P_1$	123.03	1.020+10
$2s5g\ ^3G_4$	$3p5g\ ^3F_4$	149.38	6.712+09	$2s3p\ ^1P_1$	$3p5p\ ^1P_1$	112.97	1.125+10
$2s5g\ ^1G_4$	$3d5f\ ^1G_4$	148.79	3.509+09	$2s3p\ ^3P_2$	$3p2\ ^3P_1$	157.28	5.334+10
$2s5g\ ^3G_4$	$3d5f\ ^1G_4$	148.79	1.120+09	$2s3p\ ^3P_1$	$3p2\ ^3P_2$	157.24	5.330+10
$2s5g\ ^1G_4$	$3d5f\ ^3H_5$	148.66	1.657+09	$2s3p\ ^1P_1$	$3p2\ ^1D_2$	152.86	4.366+10
$2s5g\ ^3G_4$	$3d5f\ ^3H_5$	148.66	4.834+09	$2s3p\ ^1P_1$	$3s4d\ ^1D_2$	126.39	1.980+10
$2s5g\ ^3G_5$	$3d5f\ ^3H_6$	148.66	7.978+09	$2s3p\ ^3P_1$	$3p4p\ ^3D_2$	123.90	1.613+10
$2s5g\ ^1G_4$	$3s6f\ ^1F_3$	148.53	2.405+09	$2s3p\ ^1P_1$	$3d4s\ ^1D_2$	123.64	2.808+10
$2s5g\ ^3G_5$	$3s6f\ ^3F_4$	148.16	3.657+09	$2s3p\ ^3P_2$	$3p4p\ ^3S_1$	123.50	1.083+10
$2s5g\ ^3G_4$	$3s6f\ ^3F_3$	148.16	2.106+09	$2s3p\ ^3P_2$	$3p4p\ ^3P_1$	123.04	1.311+10
$2s5g\ ^1G_4$	$3d5p\ ^1F_3$	148.09	7.779+09	$2s3p\ ^3P_1$	$3p4p\ ^3P_2$	123.02	1.288+10
$2s5g\ ^3G_4$	$3d5p\ ^1F_3$	148.09	2.723+09	$2s3p\ ^3P_1$	$3p5p\ ^3D_2$	113.08	1.200+10
$2s5g\ ^3G_4$	$3s6h\ ^3H_4$	147.41	1.056+09	$2s3p\ ^3P_2$	$3p5p\ ^3P_1$	112.81	1.129+10
$2s5g\ ^3G_5$	$3s6h\ ^3H_5$	147.41	1.363+09	$2s3p\ ^1P_1$	$3p5p\ ^1D_2$	112.71	1.700+10
$2s5g\ ^1G_4$	$3s6h\ ^3H_5$	147.41	7.386+09	$2s3p\ ^1P_1$	$3p6p\ ^1D_2$	107.86	1.243+10
$2s5g\ ^3G_4$	$3s6h\ ^1H_5$	147.36	8.118+09	$2s3p\ ^3P_2$	$3s4d\ ^3D_3$	126.85	1.459+10
$2s5g\ ^1G_4$	$3d5f\ ^1H_5$	147.11	6.566+09	$2s3p\ ^3P_2$	$3p4p\ ^3D_3$	123.91	3.043+10
$2s5g\ ^3G_4$	$3d5f\ ^1H_5$	147.11	2.079+09	$2s3p\ ^3P_2$	$3p4p\ ^3P_2$	123.03	3.855+10
$2s5g\ ^1G_4$	$3d5f\ ^1F_3$	147.10	1.354+09	$2s3p\ ^3P_2$	$3d4s\ ^3D_3$	122.75	1.247+10
$2s5g\ ^3G_5$	$3d6h\ ^3F_4$	140.46	1.446+09	$2s3p\ ^3P_2$	$3p5p\ ^3D_3$	113.08	2.196+10
$2s5g\ ^1G_4$	$3d6h\ ^1F_3$	140.41	1.199+09	$2s3p\ ^3P_2$	$3p5p\ ^3P_2$	112.81	2.157+10
$2s6s\ ^1S_0$	$3s4p\ ^1P_1$	190.12	1.092+09	$2s3p\ ^3P_2$	$3p6p\ ^3D_3$	108.18	1.321+10
$2s6s\ ^3S_1$	$3p4s\ ^3P_1$	184.39	1.830+09	$2s3p\ ^3P_2$	$3p6p\ ^3P_2$	108.10	1.355+10
$2s6s\ ^1S_0$	$3p4d\ ^3D_1$	179.53	2.100+09	$2p3s\ ^1P_1$	$3s2\ ^1S_0$	199.56	1.888+10
$2s6s\ ^1S_0$	$3p4d\ ^1P_1$	177.95	5.840+09	$2p3s\ ^3P_1$	$3s3d\ ^3D_1$	179.42	9.850+10
$2s6s\ ^3S_1$	$3p4d\ ^3P_1$	176.67	3.497+09	$2p3s\ ^3P_1$	$3s4d\ ^3D_1$	139.10	2.564+10
$2s6s\ ^3S_1$	$3p4d\ ^3P_0$	176.67	1.130+09	$2p3s\ ^3P_0$	$3s4d\ ^3D_1$	139.07	3.422+10
$2s6s\ ^3S_1$	$3d4p\ ^3P_0$	174.51	9.132+09	$2p3s\ ^3P_1$	$3s5d\ ^3D_1$	126.01	1.395+10
$2s6s\ ^1S_0$	$3d4p\ ^3D_1$	174.48	4.612+09	$2p3s\ ^3P_0$	$3s5d\ ^3D_1$	125.99	1.861+10
$2s6s\ ^1S_0$	$3d4p\ ^3P_1$	173.98	1.851+09	$2p3s\ ^1P_1$	$3d2\ ^1D_2$	164.92	6.818+10
$2s6s\ ^3S_1$	$3d4f\ ^3P_1$	169.91	1.392+09	$2p3s\ ^3P_1$	$3s4d\ ^3D_2$	139.10	7.701+10
$2s6s\ ^1S_0$	$3d5p\ ^1P_1$	153.61	5.187+09	$2p3s\ ^3P_1$	$3p4p\ ^3D_2$	135.58	1.815+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2s5d\ ^3D_2$	$3d5p\ ^3P_1$	148.66	2.143+09	$2p5g\ ^3G_4$	$3d5g\ ^3F_3$	172.46	1.533+11
$2s5d\ ^3D_2$	$3s6p\ ^3P_1$	148.45	2.595+09	$2p5g\ ^3G_5$	$3d5g\ ^1I_6$	172.34	1.309+11
$2s5d\ ^3D_1$	$3d5f\ ^3F_2$	148.06	5.246+09	$2p5g\ ^3F_2$	$3d5g\ ^3D_1$	172.11	2.638+11
$2s5d\ ^3D_2$	$3d5f\ ^3P_1$	147.04	4.380+09	$2p5g\ ^3F_2$	$3d5g\ ^3G_3$	173.15	1.073+11
$2s5d\ ^1D_2$	$3d5f\ ^1P_1$	146.49	2.106+09	$2p5g\ ^3F_2$	$3d5g\ ^3F_2$	172.74	2.424+11
$2s5d\ ^1D_2$	$3d4p\ ^1F_3$	164.11	1.817+09	$2p5g\ ^3F_3$	$3d5g\ ^1F_3$	172.81	1.620+11
$2s5d\ ^3D_2$	$3s5f\ ^3F_3$	156.09	2.782+09	$2p5g\ ^1F_3$	$3d5g\ ^1F_3$	172.75	1.920+11
$2s5d\ ^1D_2$	$3s5f\ ^1F_3$	156.04	4.662+09	$2p5g\ ^3F_3$	$3d5g\ ^3F_3$	172.74	1.842+11
$2s5d\ ^1D_2$	$3p5g\ ^1F_3$	149.20	1.500+09	$2p5g\ ^1F_3$	$3d5g\ ^3F_3$	172.68	1.508+11
$2s5d\ ^3D_2$	$3d5p\ ^3F_3$	149.11	4.382+09	$2p5g\ ^3F_3$	$3d5g\ ^3D_2$	172.11	2.170+11
$2s5d\ ^3D_2$	$3d5p\ ^3D_3$	149.00	2.813+09	$2p5g\ ^1F_3$	$3d5g\ ^3D_2$	172.05	1.511+11
$2s5d\ ^3D_2$	$3p5g\ ^3F_3$	148.92	2.757+09	$2p5g\ ^3F_3$	$3d5g\ ^1D_2$	171.62	1.532+11
$2s5d\ ^1D_2$	$3d5f\ ^1D_2$	148.23	5.050+09	$2p5g\ ^1F_3$	$3d5g\ ^1D_2$	171.56	1.642+11
$2s5d\ ^3D_2$	$3d5f\ ^3F_3$	148.06	7.823+09	$2p5g\ ^1H_5$	$3d5g\ ^1H_5$	173.22	2.033+11
$2s5d\ ^3D_2$	$3d5f\ ^3D_2$	147.32	2.206+09	$2p5g\ ^1H_5$	$3d5g\ ^3H_5$	173.11	1.638+11
$2s5d\ ^1D_2$	$3d5f\ ^1F_3$	147.10	3.494+09	$2p5g\ ^3F_4$	$3d5g\ ^3G_5$	173.09	2.229+11
$2s5d\ ^3D_2$	$3d5f\ ^3P_2$	147.04	1.540+09	$2p5g\ ^1H_5$	$3d5g\ ^3I_6$	172.89	4.531+11
$2s5d\ ^3D_3$	$3s5p\ ^3P_2$	157.71	3.189+09	$2p5g\ ^3F_4$	$3d5g\ ^3F_4$	172.68	4.482+11
$2s5d\ ^3D_3$	$3s5f\ ^3F_4$	156.09	4.012+09	$2p5g\ ^1H_5$	$3d5g\ ^1I_6$	172.56	6.290+11
$2s5d\ ^3D_3$	$3p5s\ ^3P_2$	152.77	2.615+09	$2p5g\ ^3F_4$	$3d5g\ ^3D_3$	172.05	4.925+11
$2s5d\ ^3D_3$	$3d5p\ ^3F_4$	149.11	5.993+09	$2p5g\ ^3H_6$	$3d5g\ ^3H_6$	173.11	4.468+11
$2s5d\ ^3D_3$	$3d5p\ ^3D_2$	149.01	2.630+09	$2s6p\ ^3P_2$	$3p6p\ ^3D_3$	149.97	1.262+11
$2s5d\ ^3D_3$	$3p5g\ ^3F_4$	148.92	4.372+09	$2s6f\ ^3F_2$	$3p6f\ ^3F_2$	150.10	1.054+11
$2s5d\ ^3D_3$	$3d5p\ ^3P_2$	148.65	4.014+09	$2s6f\ ^3F_2$	$3p6f\ ^3G_3$	150.01	1.553+11
$2s5d\ ^3D_3$	$3s6p\ ^3P_2$	148.45	4.724+09	$2s6f\ ^3F_3$	$3p6f\ ^3F_3$	150.10	1.468+11
$2s5d\ ^3D_3$	$3d5f\ ^3D_3$	147.32	4.054+09	$2s6f\ ^1F_3$	$3p6f\ ^1F_3$	149.80	1.377+11
$2s5d\ ^3D_3$	$3d5f\ ^3P_2$	147.04	8.139+09	$2s6f\ ^3F_3$	$3p6f\ ^3D_2$	149.75	1.009+11
$2s5g\ ^3G_3$	$3s4f\ ^3F_2$	175.77	1.500+09	$2s6f\ ^1F_3$	$3d4d\ ^1G_4$	171.93	1.100+11
$2s5g\ ^3G_3$	$3d4f\ ^3F_2$	165.02	1.834+09	$2s6f\ ^3F_4$	$3p6f\ ^3F_4$	150.10	2.122+11
$2s5g\ ^3G_3$	$3d4f\ ^3G_3$	163.86	5.608+09	$2s6f\ ^3F_3$	$3p6f\ ^3G_4$	150.01	2.029+11
$2s5g\ ^3G_3$	$3p5g\ ^3G_4$	150.17	2.262+09	$2s6f\ ^3F_4$	$3p6f\ ^3G_5$	150.00	2.499+11
$2s5g\ ^3G_3$	$3d5p\ ^3F_3$	149.57	3.423+09	$2s6f\ ^3F_4$	$3p6f\ ^3D_3$	149.76	1.458+11
$2s5g\ ^3G_3$	$3p5g\ ^3F_3$	149.37	8.682+09	$2s6f\ ^1F_3$	$3p6f\ ^1G_4$	149.25	1.534+11
$2s5g\ ^3G_3$	$3d5f\ ^3H_4$	148.67	5.247+09	$2s6h\ ^1H_5$	$3p6h\ ^1H_5$	149.62	2.620+11
$2s5g\ ^3G_3$	$3s6f\ ^3F_2$	148.16	2.205+09	$2s6h\ ^3H_4$	$3p6h\ ^3H_4$	149.62	2.192+11
$2s5g\ ^3G_4$	$3s4f\ ^3F_3$	175.77	1.484+09	$2s6h\ ^3H_5$	$3p6h\ ^3H_5$	149.62	2.609+11
$2s5g\ ^3G_5$	$3s4f\ ^3F_4$	175.77	2.548+09	$2s6h\ ^3H_4$	$3p6h\ ^3I_5$	149.37	2.613+11
$2s5g\ ^1G_4$	$3s4f\ ^1F_3$	174.90	1.380+09	$2s6h\ ^1H_5$	$3p6h\ ^3I_6$	149.36	2.119+11
$2s5g\ ^1G_4$	$3d4f\ ^1G_4$	166.38	4.256+09	$2s6h\ ^3H_5$	$3p6h\ ^3I_6$	149.36	1.002+11
$2s5g\ ^3G_4$	$3d4f\ ^1G_4$	166.38	1.336+09	$2s6h\ ^1H_5$	$3p6h\ ^1I_6$	149.32	1.022+11
$2s5g\ ^1G_4$	$3d4f\ ^3H_5$	166.27	4.426+09	$2s6h\ ^3H_5$	$3p6h\ ^1I_6$	149.32	2.105+11
$2s5g\ ^3G_4$	$3d4f\ ^3F_3$	165.02	1.826+09	$2s6h\ ^3H_5$	$3p6h\ ^3G_4$	149.31	2.155+11
$2s5g\ ^3G_5$	$3d4f\ ^3F_4$	165.01	3.106+09	$2s6h\ ^3H_4$	$3p6h\ ^3G_3$	149.30	1.858+11

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2s6d\ ^3D_3$	$3d4p\ ^1F_3$	173.40	1.925+09	$2p3d\ ^3P_2$	$3d5d\ ^3S_1$	128.29	1.108+10
$2s6d\ ^3D_3$	$3d4f\ ^3D_3$	172.20	1.960+09	$2p3d\ ^3P_1$	$3d5d\ ^3P_2$	128.13	1.496+10
$2s6d\ ^3D_3$	$3d4f\ ^3P_2$	171.19	1.736+09	$2p3d\ ^3P_2$	$3d5d\ ^3P_1$	128.11	1.397+10
$2s6d\ ^3D_3$	$3s6f\ ^3F_4$	155.69	1.688+09	$2p3d\ ^3D_1$	$3d5d\ ^3F_2$	128.01	3.315+10
$2s6d\ ^3D_3$	$3d5f\ ^3P_2$	154.95	1.188+09	$2p3d\ ^3D_2$	$3d5d\ ^3P_1$	127.54	1.300+10
$2s6d\ ^3D_3$	$3p6s\ ^3P_2$	151.17	2.046+09	$2p3d\ ^1P_1$	$3d6d\ ^1D_2$	124.45	1.539+10
$2s6d\ ^3D_3$	$3p6d\ ^3F_3$	149.99	3.996+09	$2p3d\ ^3P_1$	$3d6d\ ^3P_2$	122.72	1.301+10
$2s6d\ ^3D_3$	$3p6d\ ^3F_3$	149.97	8.199+09	$2p3d\ ^3P_2$	$3d6d\ ^3P_1$	122.70	1.203+10
$2s6d\ ^3D_3$	$3d6p\ ^3D_3$	148.45	7.718+09	$2p3d\ ^3D_1$	$3d6d\ ^3F_2$	122.43	2.083+10
$2s6d\ ^3D_3$	$3d6p\ ^3F_4$	148.41	4.787+09	$2p3d\ ^3D_2$	$3d6d\ ^3P_1$	122.18	1.326+10
$2s6d\ ^3D_3$	$3d6f\ ^3F_4$	147.83	5.148+09	$2p3d\ ^3D_2$	$3s3d\ ^3D_2$	197.13	1.513+10
$2s6d\ ^3D_3$	$3d6f\ ^3D_3$	147.46	2.120+09	$2p3d\ ^1D_2$	$3s3d\ ^1D_2$	195.81	1.445+10
$2s6d\ ^3D_3$	$3d6f\ ^3P_2$	147.31	3.608+09	$2p3d\ ^3P_2$	$3p2\ ^3P_2$	194.98	1.725+10
$2s6g\ ^3G_3$	$3s4f\ ^3F_3$	186.14	3.075+09	$2p3d\ ^3D_2$	$3d2\ ^3F_2$	181.72	7.385+10
$2s6g\ ^3G_3$	$3d4p\ ^3F_2$	177.36	1.949+09	$2p3d\ ^3F_2$	$3d2\ ^3F_3$	178.71	2.368+10
$2s6g\ ^3G_3$	$3d4f\ ^1D_2$	173.47	2.004+09	$2p3d\ ^3D_2$	$3d2\ ^3P_2$	177.35	1.696+10
$2s6g\ ^3G_3$	$3d4f\ ^3D_2$	171.91	1.102+09	$2p3d\ ^3D_2$	$3d4s\ ^3D_2$	143.86	2.107+10
$2s6g\ ^3G_3$	$3d4f\ ^1F_3$	171.12	3.940+09	$2p3d\ ^3P_2$	$3d4d\ ^3D_3$	142.37	4.703+10
$2s6g\ ^3G_3$	$3p5g\ ^3G_3$	157.68	2.744+09	$2p3d\ ^3D_2$	$3p4f\ ^3F_3$	142.34	1.125+10
$2s6g\ ^3G_3$	$3p5g\ ^3H_4$	157.60	6.417+09	$2p3d\ ^3D_2$	$3d4d\ ^3D_2$	141.66	2.342+10
$2s6g\ ^3G_3$	$3p5g\ ^3F_2$	156.79	2.090+09	$2p3d\ ^1D_2$	$3p4f\ ^1F_3$	141.19	1.974+10
$2s6g\ ^3G_3$	$3d5f\ ^3G_3$	155.37	1.167+09	$2p3d\ ^3P_2$	$3p4f\ ^3D_3$	141.10	2.350+10
$2s6g\ ^3G_3$	$3s6h\ ^3H_4$	154.64	1.399+09	$2p3d\ ^3F_2$	$3p4f\ ^3G_3$	140.96	5.139+10
$2s6g\ ^3G_3$	$3p6g\ ^3G_4$	149.27	2.924+09	$2p3d\ ^3D_2$	$3p4f\ ^3D_2$	140.40	1.191+10
$2s6g\ ^3G_3$	$3p6g\ ^3F_3$	148.87	6.629+09	$2p3d\ ^1D_2$	$3p4p\ ^1D_2$	140.27	3.746+10
$2s6g\ ^3G_3$	$3d6f\ ^3H_4$	147.66	1.044+09	$2p3d\ ^1D_2$	$3d4d\ ^1F_3$	140.25	7.229+10
$2s6g\ ^1G_4$	$3s4f\ ^3F_3$	186.25	2.918+09	$2p3d\ ^3D_2$	$3d4d\ ^3F_2$	139.93	1.044+10
$2s6g\ ^3G_4$	$3s4f\ ^3F_4$	186.16	4.561+09	$2p3d\ ^3D_2$	$3d4d\ ^3F_3$	139.93	8.769+10
$2s6g\ ^3G_4$	$3s4f\ ^1F_3$	186.19	1.935+09	$2p3d\ ^3P_2$	$3d4d\ ^3P_2$	139.43	7.054+10
$2s6g\ ^3G_5$	$3d4p\ ^3F_4$	177.40	2.283+09	$2p3d\ ^3F_2$	$3d4d\ ^3G_3$	139.36	7.243+10
$2s6g\ ^3G_4$	$3d4p\ ^3F_3$	177.37	2.473+09	$2p3d\ ^3F_2$	$3d4d\ ^3F_2$	138.15	3.947+10
$2s6g\ ^1G_4$	$3d4f\ ^3H_4$	175.62	1.332+09	$2p3d\ ^1D_2$	$3p4f\ ^1D_2$	137.95	1.415+10
$2s6g\ ^1G_4$	$3d4f\ ^3F_3$	174.23	2.328+09	$2p3d\ ^1D_2$	$3d4d\ ^1D_2$	136.67	3.988+10
$2s6g\ ^1G_4$	$3d4f\ ^3F_4$	174.22	2.610+09	$2p3d\ ^3P_2$	$3d5d\ ^3D_3$	128.92	1.946+10
$2s6g\ ^3G_4$	$3d4f\ ^3F_4$	174.14	1.876+09	$2p3d\ ^3D_2$	$3d5d\ ^3D_2$	128.34	1.045+10
$2s6g\ ^1G_4$	$3d4p\ ^1F_3$	173.21	1.388+09	$2p3d\ ^3P_2$	$3d5d\ ^3P_2$	128.11	4.617+10
$2s6g\ ^1G_4$	$3d4f\ ^3G_5$	172.92	6.242+09	$2p3d\ ^3D_2$	$3d5d\ ^3F_3$	128.02	4.934+10
$2s6g\ ^3G_5$	$3d4f\ ^3G_4$	172.89	6.274+09	$2p3d\ ^1D_2$	$3d5s\ ^1D_2$	127.81	1.355+10
$2s6g\ ^3G_4$	$3d4f\ ^3G_3$	172.85	6.154+09	$2p3d\ ^1D_2$	$3d5d\ ^1F_3$	127.20	3.553+10
$2s6g\ ^3G_4$	$3d4f\ ^3D_3$	171.93	3.703+09	$2p3d\ ^3F_2$	$3d5d\ ^3G_3$	126.82	4.230+10
$2s6g\ ^3G_4$	$3d4f\ ^1F_3$	171.13	4.764+09	$2p3d\ ^1D_2$	$3s6d\ ^1D_2$	126.62	1.502+10
$2s6g\ ^1G_4$	$3s5f\ ^1F_3$	164.24	1.855+09	$2p3d\ ^3F_2$	$3d5d\ ^3F_2$	126.52	2.122+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2s6s\ ^1S_0$	$3d5f\ ^1P_1$	152.40	1.091+09	$2p3s\ ^1P_1$	$3s5d\ ^1D_2$	127.81	4.664+10
$2s6s\ ^3S_1$	$3d6p\ ^3P_1$	147.23	2.757+09	$2p3s\ ^3P_1$	$3s5d\ ^3D_2$	126.01	4.185+10
$2s6s\ ^1S_0$	$3d6p\ ^1P_1$	146.17	3.190+09	$2p3s\ ^1P_1$	$3s6d\ ^1D_2$	122.03	1.102+10
$2s6s\ ^3S_1$	$3p4s\ ^3P_2$	184.36	3.832+09	$2p3s\ ^3P_1$	$3s6d\ ^3D_2$	120.21	1.893+10
$2s6s\ ^3S_1$	$3p4d\ ^3P_2$	176.68	6.206+09	$2p3s\ ^3P_2$	$3s3d\ ^3D_2$	179.53	9.837+10
$2s6s\ ^3S_1$	$3d4f\ ^3P_2$	169.91	2.586+09	$2p3s\ ^3P_2$	$3s4d\ ^3D_2$	139.17	2.564+10
$2s6s\ ^3S_1$	$3p5s\ ^3P_2$	160.18	1.207+09	$2p3s\ ^3P_2$	$3p4p\ ^3D_3$	135.63	3.393+10
$2s6s\ ^3S_1$	$3p6d\ ^3P_2$	148.72	1.404+09	$2p3s\ ^3P_2$	$3s5d\ ^3D_2$	126.07	1.394+10
$2s6s\ ^3S_1$	$3d6p\ ^3P_2$	147.22	4.675+09	$2p3s\ ^3P_2$	$3s5d\ ^3D_3$	126.07	7.807+10
$2s6d\ ^3D_1$	$3d6p\ ^3D_1$	148.46	2.949+09	$2p3s\ ^3P_2$	$3s6d\ ^3D_3$	120.26	3.531+10
$2s6d\ ^3D_2$	$3d4f\ ^3D_1$	172.20	8.112+09	$2p3d\ ^1P_1$	$3p2\ ^1S_0$	193.53	3.484+10
$2s6d\ ^1D_2$	$3d4f\ ^1P_1$	169.12	4.516+09	$2p3d\ ^3P_1$	$3d2\ ^3P_1$	178.50	8.327+10
$2s6d\ ^1D_2$	$3d5p\ ^1P_1$	155.34	1.561+09	$2p3d\ ^3D_1$	$3d2\ ^3P_0$	177.33	4.109+10
$2s6d\ ^1D_2$	$3p6s\ ^1P_1$	151.19	4.501+09	$2p3d\ ^3D_1$	$3d2\ ^3P_1$	177.33	2.359+10
$2s6d\ ^3D_1$	$3p6d\ ^3P_2$	149.70	1.436+09	$2p3d\ ^1P_1$	$3d4d\ ^1P_1$	144.22	6.453+10
$2s6d\ ^3D_1$	$3d6p\ ^3F_2$	148.42	2.437+09	$2p3d\ ^3D_1$	$3d4s\ ^3D_1$	143.85	1.371+10
$2s6d\ ^3D_1$	$3d6f\ ^3F_2$	147.83	2.472+09	$2p3d\ ^3P_0$	$3d4d\ ^3D_1$	142.41	1.102+10
$2s6d\ ^3D_2$	$3d6f\ ^3P_1$	147.31	1.837+09	$2p3d\ ^3D_1$	$3d4d\ ^3D_1$	141.65	1.503+10
$2s6d\ ^1D_2$	$3d6f\ ^1P_1$	146.71	1.267+09	$2p3d\ ^3P_1$	$3d4d\ ^3S_1$	140.34	1.914+10
$2s6d\ ^3D_2$	$3s4f\ ^3F_2$	186.48	4.585+09	$2p3d\ ^1P_1$	$3d4d\ ^1S_0$	139.50	1.069+10
$2s6d\ ^3D_2$	$3p4d\ ^3F_2$	179.15	2.409+09	$2p3d\ ^3P_0$	$3d4d\ ^3P_1$	139.47	1.817+10
$2s6d\ ^3D_2$	$3d4p\ ^3F_2$	177.67	3.368+09	$2p3d\ ^3P_1$	$3d4d\ ^3P_0$	139.46	1.736+10
$2s6d\ ^3D_2$	$3d4p\ ^3F_3$	177.66	2.895+09	$2p3d\ ^3P_1$	$3d4d\ ^3P_1$	139.46	1.428+10
$2s6d\ ^3D_2$	$3d4f\ ^3F_3$	174.42	3.818+09	$2p3d\ ^1P_1$	$3d5d\ ^1P_1$	130.82	1.900+10
$2s6d\ ^1D_2$	$3d4f\ ^1D_2$	174.10	6.306+09	$2p3d\ ^1P_1$	$3d5d\ ^1S_0$	128.74	1.336+10
$2s6d\ ^1D_2$	$3d4p\ ^1F_3$	173.73	6.064+09	$2p3d\ ^3P_0$	$3d5d\ ^3P_1$	128.15	1.172+10
$2s6d\ ^3D_2$	$3d4f\ ^3D_2$	172.20	5.188+09	$2p3d\ ^3P_1$	$3d5d\ ^3P_0$	128.14	1.134+10
$2s6d\ ^1D_2$	$3d4f\ ^1F_3$	171.73	4.001+09	$2p3d\ ^1P_1$	$3d6d\ ^1S_0$	123.29	2.856+10
$2s6d\ ^1D_2$	$3s6f\ ^1F_3$	156.37	3.541+09	$2p3d\ ^3P_0$	$3d6d\ ^3P_1$	122.73	1.020+10
$2s6d\ ^3D_2$	$3s6f\ ^3F_3$	155.69	1.070+09	$2p3d\ ^3F_2$	$3s3d\ ^3D_1$	193.60	1.875+10
$2s6d\ ^1D_2$	$3p6d\ ^3D_2$	150.40	6.012+09	$2p3d\ ^1P_1$	$3p2\ ^1D_2$	193.10	3.747+10
$2s6d\ ^3D_2$	$3p6d\ ^1D_2$	150.13	5.574+09	$2p3d\ ^3D_2$	$3d2\ ^3P_1$	177.35	9.272+10
$2s6d\ ^1D_2$	$3p6g\ ^1F_3$	149.07	1.110+09	$2p3d\ ^3P_1$	$3d4d\ ^3D_2$	142.39	2.544+10
$2s6d\ ^3D_2$	$3d6p\ ^3D_2$	148.46	4.009+09	$2p3d\ ^1P_1$	$3d4d\ ^1D_2$	141.23	1.872+10
$2s6d\ ^3D_2$	$3d6p\ ^3F_3$	148.41	3.100+09	$2p3d\ ^3P_1$	$3p4f\ ^3D_2$	141.13	1.243+10
$2s6d\ ^1D_2$	$3d6f\ ^1D_2$	147.95	2.968+09	$2p3d\ ^3P_2$	$3d4d\ ^3S_1$	140.31	3.148+10
$2s6d\ ^3D_2$	$3d6f\ ^3F_3$	147.83	3.140+09	$2p3d\ ^3D_1$	$3d4d\ ^3F_2$	139.92	5.888+10
$2s6d\ ^1D_2$	$3d6f\ ^1F_3$	147.49	2.625+09	$2p3d\ ^3P_1$	$3d4d\ ^3P_2$	139.46	2.297+10
$2s6d\ ^1D_2$	$3d6h\ ^1F_3$	147.39	3.317+09	$2p3d\ ^1D_2$	$3d4d\ ^1P_1$	139.46	1.333+10
$2s6d\ ^3D_3$	$3s4f\ ^1F_3$	185.50	3.562+09	$2p3d\ ^3P_2$	$3d4d\ ^3P_1$	139.44	2.093+10
$2s6d\ ^3D_3$	$3p4d\ ^1F_3$	180.81	2.788+09	$2p3d\ ^3D_2$	$3d4d\ ^3P_1$	138.76	1.919+10
$2s6d\ ^3D_3$	$3d4p\ ^3F_4$	177.64	1.539+09	$2p3d\ ^1P_1$	$3d5d\ ^1D_2$	129.89	1.158+10
$2s6d\ ^3D_3$	$3d4f\ ^1D_2$	173.76	7.879+09	$2p3d\ ^3P_1$	$3d5d\ ^3D_2$	128.94	1.050+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^1S_0$	$3s4p\ ^1P_1$	152.72	1.267+09	$2p3d\ ^1F_3$	$3d5g\ ^1G_4$	129.35	2.786+10
$2p3p\ ^1S_0$	$3p4s\ ^1P_1$	147.14	6.341+09	$2p3d\ ^1F_3$	$3s6g\ ^1G_4$	128.47	1.711+10
$2p3p\ ^3S_1$	$3s4p\ ^3P_1$	146.18	1.077+09	$2p3d\ ^3F_4$	$3p5f\ ^3G_5$	128.04	1.909+10
$2p3p\ ^3P_1$	$3p4s\ ^3P_0$	144.69	4.097+09	$2p3d\ ^3D_3$	$3d5d\ ^3F_4$	128.03	7.159+10
$2p3p\ ^3P_1$	$3p4s\ ^3P_1$	144.68	3.066+09	$2p3d\ ^3F_3$	$3p5f\ ^3G_4$	128.00	1.299+10
$2p3p\ ^3P_0$	$3p4s\ ^3P_1$	144.66	4.023+09	$2p3d\ ^3F_4$	$3d5d\ ^3G_5$	126.89	7.485+10
$2p3p\ ^3S_1$	$3p4s\ ^3P_1$	143.02	1.228+09	$2p3d\ ^3F_3$	$3d5d\ ^3G_4$	126.85	5.767+10
$2p3p\ ^3D_1$	$3p4s\ ^3P_0$	141.81	1.653+09	$2p3d\ ^3F_4$	$3d5d\ ^3F_4$	126.59	4.113+10
$2p3p\ ^3D_1$	$3p4s\ ^3P_1$	141.81	1.278+09	$2p3d\ ^1F_3$	$3d6g\ ^1G_4$	123.81	2.787+10
$2p3p\ ^3P_1$	$3p4d\ ^3P_1$	139.89	4.693+09	$2p3d\ ^1F_3$	$3d6d\ ^1G_4$	123.55	2.785+10
$2p3p\ ^3P_1$	$3p4d\ ^3P_0$	139.89	6.492+09	$2p3d\ ^3D_3$	$3d6d\ ^3F_4$	122.45	4.523+10
$2p3p\ ^3P_0$	$3p4d\ ^3P_1$	139.87	6.850+09	$2p3d\ ^3F_4$	$3d6d\ ^3G_5$	121.24	4.467+10
$2p3p\ ^1S_0$	$3d4p\ ^1P_1$	139.65	4.050+09	$2p3d\ ^3F_3$	$3d6d\ ^3G_4$	121.21	3.449+10
$2p3p\ ^3D_1$	$3p4d\ ^3D_1$	139.25	5.930+09	$2p3d\ ^3F_4$	$3d6d\ ^3F_4$	121.13	2.778+10
$2p3p\ ^3P_1$	$3d4p\ ^3D_1$	138.85	7.060+09	$2s4p\ ^1P_1$	$3p4p\ ^1P_1$	154.30	6.776+10
$2p3p\ ^3P_0$	$3d4p\ ^3D_1$	138.83	9.593+09	$2s4p\ ^3P_1$	$3p4p\ ^3D_1$	153.24	1.753+10
$2p3p\ ^3P_1$	$3d4p\ ^3P_0$	138.53	2.225+09	$2s4p\ ^3P_0$	$3p4p\ ^3D_1$	153.24	2.318+10
$2p3p\ ^3P_1$	$3d4p\ ^3P_1$	138.53	1.667+09	$2s4p\ ^3P_1$	$3p4p\ ^3S_1$	152.60	2.003+10
$2p3p\ ^3P_0$	$3d4p\ ^3P_1$	138.51	2.204+09	$2s4p\ ^3P_1$	$3p4p\ ^3P_0$	151.91	2.318+10
$2p3p\ ^3D_1$	$3p4d\ ^3P_1$	137.20	1.042+09	$2s4p\ ^3P_1$	$3p4p\ ^3P_1$	151.90	1.779+10
$2p3p\ ^3D_1$	$3p4d\ ^3P_0$	137.20	1.497+09	$2s4p\ ^3P_0$	$3p4p\ ^3P_1$	151.90	2.342+10
$2p3p\ ^3S_1$	$3d4p\ ^3P_0$	137.01	1.934+09	$2s4p\ ^1P_1$	$3p4p\ ^1S_0$	150.10	1.341+10
$2p3p\ ^3S_1$	$3d4p\ ^3P_1$	137.01	5.639+09	$2s4p\ ^3P_1$	$3s4d\ ^3D_2$	157.75	1.428+10
$2p3p\ ^3D_1$	$3d4p\ ^3D_1$	136.20	8.541+09	$2s4p\ ^1P_1$	$3d4s\ ^1D_2$	153.68	7.205+10
$2p3p\ ^3S_1$	$3d4f\ ^3P_1$	134.15	2.031+09	$2s4p\ ^3P_1$	$3p4p\ ^3D_2$	153.24	5.143+10
$2p3p\ ^1P_1$	$3d4p\ ^1P_1$	132.94	9.811+09	$2s4p\ ^3P_2$	$3p4p\ ^3S_1$	152.61	3.471+10
$2p3p\ ^3P_1$	$3p5s\ ^3P_0$	129.37	1.604+09	$2s4p\ ^3P_2$	$3p4p\ ^3P_1$	151.91	2.833+10
$2p3p\ ^3P_1$	$3p5s\ ^3P_1$	129.36	1.191+09	$2s4p\ ^3P_1$	$3p4p\ ^3P_2$	151.89	2.890+10
$2p3p\ ^3P_0$	$3p5s\ ^3P_1$	129.34	1.585+09	$2s4p\ ^3P_1$	$3d4s\ ^3D_2$	151.47	1.802+10
$2p3p\ ^1S_0$	$3d5p\ ^1P_1$	128.23	3.541+09	$2s4p\ ^1P_1$	$3p4p\ ^1D_2$	149.81	3.356+10
$2p3p\ ^3P_1$	$3p5d\ ^3D_1$	128.09	8.610+09	$2s4p\ ^1P_1$	$3d4d\ ^1D_2$	145.71	1.984+10
$2p3p\ ^3P_1$	$3p5d\ ^3P_1$	127.49	2.961+09	$2s4p\ ^3P_2$	$3s4d\ ^3D_3$	157.75	2.651+10
$2p3p\ ^3P_1$	$3p5d\ ^3P_0$	127.48	3.987+09	$2s4p\ ^3P_2$	$3p4p\ ^3D_2$	153.24	1.759+10
$2p3p\ ^3P_0$	$3p5d\ ^3P_1$	127.47	4.072+09	$2s4p\ ^3P_2$	$3p4p\ ^3D_3$	153.23	9.743+10
$2p3p\ ^3P_1$	$3d5p\ ^3D_1$	126.64	1.999+09	$2s4p\ ^3P_2$	$3p4p\ ^3P_2$	151.90	8.699+10
$2p3p\ ^3P_0$	$3d5p\ ^3D_1$	126.62	2.682+09	$2s4p\ ^3P_2$	$3d4s\ ^3D_3$	151.46	3.337+10
$2p3p\ ^3S_1$	$3p5d\ ^3P_0$	126.19	6.275+09	$2s4p\ ^3P_2$	$3p4f\ ^3D_3$	147.65	1.067+10
$2p3p\ ^1P_1$	$3p5s\ ^1P_1$	126.13	4.354+09	$2s4f\ ^3F_2$	$3d4d\ ^3D_1$	151.51	2.791+10
$2p3p\ ^3D_1$	$3p5d\ ^3D_1$	125.83	3.918+09	$2s4f\ ^3F_2$	$3p4f\ ^3D_1$	150.07	4.222+10
$2p3p\ ^3S_1$	$3d5p\ ^3P_1$	125.12	1.327+09	$2s4f\ ^3F_2$	$3p4f\ ^3G_3$	152.84	9.635+10
$2p3p\ ^3S_1$	$3s6p\ ^3P_1$	124.97	1.173+09	$2s4f\ ^3F_2$	$3p4f\ ^3F_3$	152.28	1.452+10
$2p3p\ ^1P_1$	$3p5d\ ^1P_1$	124.78	9.392+09	$2s4f\ ^3F_2$	$3d4d\ ^3G_3$	150.96	4.788+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2s6g\ ^1G_4$	$3p5g\ ^1G_4$	157.87	1.459+09	$2p3d\ ^1D_2$	$3d5d\ ^1D_2$	126.01	1.885+10
$2s6g\ ^3G_5$	$3p5g\ ^3G_5$	157.72	4.045+09	$2p3d\ ^3P_2$	$3d6d\ ^3D_3$	123.08	1.084+10
$2s6g\ ^3G_4$	$3p5g\ ^3G_4$	157.69	3.080+09	$2p3d\ ^3P_2$	$3d6d\ ^3P_2$	122.70	4.026+10
$2s6g\ ^3G_5$	$3p5g\ ^3H_6$	157.63	9.289+09	$2p3d\ ^3D_2$	$3d6d\ ^3F_3$	122.44	3.101+10
$2s6g\ ^3G_4$	$3p5g\ ^3H_5$	157.60	6.887+09	$2p3d\ ^1D_2$	$3d6d\ ^1F_3$	121.42	1.778+10
$2s6g\ ^3G_4$	$3p5g\ ^1H_5$	157.10	2.959+09	$2p3d\ ^3F_2$	$3d6d\ ^3G_3$	121.18	2.523+10
$2s6g\ ^3G_5$	$3p5g\ ^3F_4$	156.85	3.035+09	$2p3d\ ^3F_2$	$3d6d\ ^3F_2$	121.07	1.422+10
$2s6g\ ^3G_4$	$3p5g\ ^3F_3$	156.81	2.165+09	$2p3d\ ^1D_2$	$3d6d\ ^1D_2$	120.89	2.520+10
$2s6g\ ^1G_4$	$3p5g\ ^1F_3$	156.68	3.365+09	$2p3d\ ^1F_3$	$3s3d\ ^1D_2$	203.37	1.905+10
$2s6g\ ^1G_4$	$3d5p\ ^1F_3$	155.46	1.885+09	$2p3d\ ^3D_3$	$3s3d\ ^3D_3$	197.16	2.793+10
$2s6g\ ^3G_5$	$3d5f\ ^3G_5$	155.41	1.941+09	$2p3d\ ^3D_3$	$3p2\ ^3P_2$	193.69	1.167+10
$2s6g\ ^3G_4$	$3d5f\ ^3G_4$	155.38	1.305+09	$2p3d\ ^3F_3$	$3s3d\ ^3D_2$	193.67	2.875+10
$2s6g\ ^3G_5$	$3s6h\ ^3H_6$	154.68	1.960+09	$2p3d\ ^3D_3$	$3d2\ ^3F_3$	181.75	7.264+10
$2s6g\ ^1G_4$	$3s6h\ ^1H_5$	154.65	1.231+09	$2p3d\ ^1F_3$	$3d2\ ^1D_2$	179.31	6.229+10
$2s6g\ ^3G_4$	$3s6h\ ^3H_5$	154.65	1.500+09	$2p3d\ ^3F_3$	$3d2\ ^3F_2$	178.78	2.812+10
$2s6g\ ^1G_4$	$3d5f\ ^1F_3$	154.37	4.359+09	$2p3d\ ^1F_3$	$3p4f\ ^1F_3$	145.07	3.551+10
$2s6g\ ^3G_4$	$3d5f\ ^1H_5$	154.31	3.707+09	$2p3d\ ^1F_3$	$3d4d\ ^1F_3$	144.08	3.526+10
$2s6g\ ^1G_4$	$3p6d\ ^3F_3$	149.84	1.118+09	$2p3d\ ^3D_3$	$3d4s\ ^3D_3$	143.87	3.824+10
$2s6g\ ^1G_4$	$3p6d\ ^3F_3$	149.82	2.109+09	$2p3d\ ^3D_3$	$3d4d\ ^3D_3$	141.68	3.903+10
$2s6g\ ^1G_4$	$3p6g\ ^3G_3$	149.34	1.435+09	$2p3d\ ^3D_3$	$3p4f\ ^3D_3$	140.43	2.034+10
$2s6g\ ^3G_5$	$3p6g\ ^3G_4$	149.31	7.740+09	$2p3d\ ^1F_3$	$3d4d\ ^1D_2$	140.31	1.528+10
$2s6g\ ^3G_4$	$3p6g\ ^3G_3$	149.28	5.453+09	$2p3d\ ^3D_3$	$3d4d\ ^3F_3$	139.95	1.030+10
$2s6g\ ^3G_4$	$3p6g\ ^3G_5$	149.28	2.336+09	$2p3d\ ^3D_3$	$3d4d\ ^3P_2$	138.78	3.177+10
$2s6g\ ^3G_5$	$3p6g\ ^3H_5$	149.14	2.367+09	$2p3d\ ^3F_3$	$3d4d\ ^3F_3$	138.18	5.439+10
$2s6g\ ^3G_4$	$3p6g\ ^3H_4$	149.12	2.918+09	$2p3d\ ^1F_3$	$3d5d\ ^1F_3$	130.35	1.800+10
$2s6g\ ^3G_4$	$3p6g\ ^3F_4$	148.89	6.784+09	$2p3d\ ^3D_3$	$3d5d\ ^3D_3$	128.35	1.754+10
$2s6g\ ^3G_5$	$3d6p\ ^3F_4$	148.24	1.458+09	$2p3d\ ^3D_3$	$3d5d\ ^3P_2$	127.56	2.155+10
$2s6g\ ^3G_5$	$3d6f\ ^3H_6$	147.70	2.084+09	$2p3d\ ^3F_3$	$3d5d\ ^3F_3$	126.56	2.914+10
$2s6g\ ^3G_4$	$3d6f\ ^3H_5$	147.67	1.184+09	$2p3d\ ^1F_3$	$3d6d\ ^1D_2$	123.73	1.173+10
$2s6g\ ^1G_4$	$3d6p\ ^1F_3$	147.65	2.023+09	$2p3d\ ^3D_3$	$3d6d\ ^3P_2$	122.19	2.219+10
$2p3p\ ^3P_0$	$2p6p\ ^3D_1$	399.35	2.300+09	$2p3d\ ^3F_3$	$3d6d\ ^3F_3$	121.10	1.965+10
$2p3p\ ^3P_1$	$2p6p\ ^3P_1$	398.63	1.033+09	$2p3d\ ^3F_4$	$3s3d\ ^3D_3$	193.76	4.205+10
$2p3p\ ^3S_1$	$2p6p\ ^3P_1$	386.25	1.951+09	$2p3d\ ^3F_4$	$3d2\ ^3F_3$	178.85	2.816+10
$2p3p\ ^1P_1$	$2p6p\ ^1P_1$	369.81	1.817+09	$2p3d\ ^3F_3$	$3d2\ ^3F_4$	178.77	2.293+10
$2p3p\ ^3P_1$	$3s3p\ ^3P_0$	202.86	1.767+09	$2p3d\ ^1F_3$	$3p4f\ ^1G_4$	142.97	4.200+10
$2p3p\ ^3P_1$	$3s3p\ ^3P_1$	202.84	1.319+09	$2p3d\ ^3D_3$	$3p4f\ ^3F_4$	142.35	1.615+10
$2p3p\ ^3P_0$	$3s3p\ ^3P_1$	202.79	1.637+09	$2p3d\ ^3F_3$	$3p4f\ ^3G_4$	141.00	7.672+10
$2p3p\ ^1S_0$	$3s3p\ ^1P_1$	201.71	1.059+09	$2p3d\ ^3F_4$	$3d4d\ ^3D_3$	139.92	1.186+10
$2p3p\ ^3S_1$	$3s3p\ ^3P_0$	199.60	2.846+09	$2p3d\ ^3F_3$	$3d4d\ ^3G_4$	139.39	9.843+10
$2p3p\ ^3S_1$	$3s3p\ ^3P_1$	199.58	8.705+09	$2p3d\ ^3F_4$	$3d4d\ ^3F_4$	138.23	7.682+10
$2p3p\ ^3D_1$	$3s3p\ ^3P_0$	197.24	8.848+09	$2p3d\ ^1F_3$	$3p5f\ ^1G_4$	130.80	1.889+10
$2p3p\ ^3D_1$	$3s3p\ ^3P_1$	197.23	6.678+09	$2p3d\ ^1F_3$	$3d5d\ ^1G_4$	129.52	3.477+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^3D_1$	$3d4p\ ^3D_2$	136.20	2.645+09	$2p4d\ ^3P_1$	$3d4d\ ^3S_1$	174.16	5.211+10
$2p3p\ ^3D_1$	$3d4f\ ^3F_2$	135.03	8.239+09	$2p4d\ ^3P_0$	$3d4d\ ^3P_1$	172.83	5.250+10
$2p3p\ ^3S_1$	$3d4f\ ^3P_2$	134.15	3.296+09	$2p4d\ ^3P_1$	$3d4d\ ^3P_0$	172.82	4.745+10
$2p3p\ ^1P_1$	$3d4f\ ^1D_2$	133.93	2.233+09	$2p4d\ ^3P_1$	$3d4d\ ^3P_1$	172.81	4.230+10
$2p3p\ ^1D_2$	$3p5s\ ^1P_1$	130.40	3.057+09	$2p4d\ ^3D_1$	$3d4d\ ^3P_0$	172.19	2.436+10
$2p3p\ ^3P_2$	$3p5s\ ^3P_1$	129.39	2.003+09	$2p4d\ ^3D_1$	$3d4d\ ^3P_1$	172.18	1.355+10
$2p3p\ ^3P_1$	$3p5s\ ^3P_2$	129.34	1.959+09	$2p4d\ ^1P_1$	$3d4d\ ^1S_0$	170.78	3.901+10
$2p3p\ ^3D_1$	$3s5f\ ^3F_2$	129.33	2.929+09	$2p4d\ ^1P_1$	$3s5s\ ^1S_0$	168.82	2.679+10
$2p3p\ ^1D_2$	$3p5d\ ^1P_1$	128.96	1.402+09	$2p4d\ ^3F_2$	$3s4d\ ^3D_1$	187.92	1.348+10
$2p3p\ ^1D_2$	$3s6p\ ^1P_1$	127.76	1.276+09	$2p4d\ ^3P_2$	$3p4p\ ^3S_1$	182.38	2.471+10
$2p3p\ ^3P_2$	$3p5d\ ^3P_1$	127.52	5.202+09	$2p4d\ ^1P_1$	$3p4p\ ^1D_2$	179.24	2.979+10
$2p3p\ ^3P_1$	$3p5d\ ^3P_2$	127.49	5.437+09	$2p4d\ ^3D_1$	$3p4f\ ^3F_2$	177.73	1.868+10
$2p3p\ ^3D_2$	$3p5s\ ^3P_1$	127.09	1.951+09	$2p4d\ ^3P_1$	$3d4d\ ^3D_2$	177.34	5.412+10
$2p3p\ ^3P_1$	$3d5p\ ^3D_2$	126.64	6.062+09	$2p4d\ ^3D_2$	$3d4d\ ^3D_1$	176.69	1.910+10
$2p3p\ ^3D_2$	$3p5d\ ^3D_1$	125.86	1.263+09	$2p4d\ ^3D_1$	$3d4d\ ^3D_2$	176.67	1.650+10
$2p3p\ ^3D_1$	$3p5d\ ^3D_2$	125.82	1.460+09	$2p4d\ ^1P_1$	$3p4f\ ^1D_2$	175.47	1.031+10
$2p3p\ ^3D_2$	$3p5d\ ^3P_1$	125.28	1.626+09	$2p4d\ ^3P_1$	$3p4f\ ^3D_2$	175.38	3.620+10
$2p3p\ ^3S_1$	$3d5p\ ^3P_2$	125.11	2.122+09	$2p4d\ ^1D_2$	$3d4d\ ^1P_1$	174.94	5.031+10
$2p3p\ ^3S_1$	$3s6p\ ^3P_2$	124.97	1.850+09	$2p4d\ ^3P_2$	$3d4d\ ^3S_1$	174.13	8.638+10
$2p3p\ ^3D_1$	$3d5p\ ^3F_2$	124.51	2.130+09	$2p4d\ ^3P_1$	$3d4d\ ^3P_2$	172.81	6.581+10
$2p3p\ ^3D_2$	$3d5p\ ^3D_1$	124.46	1.169+09	$2p4d\ ^3P_2$	$3d4d\ ^3P_1$	172.78	5.339+10
$2p3p\ ^3D_1$	$3d5p\ ^3D_2$	124.43	1.081+09	$2p4d\ ^3D_2$	$3d4d\ ^3P_1$	172.20	5.577+10
$2p3p\ ^3D_1$	$3p5g\ ^3F_2$	124.37	1.380+09	$2p4d\ ^3P_1$	$3p6p\ ^3D_2$	150.88	1.513+10
$2p3p\ ^1D_2$	$3p6s\ ^1P_1$	123.80	2.216+09	$2p4d\ ^3P_2$	$3s4d\ ^3D_3$	189.77	1.156+10
$2p3p\ ^3D_1$	$3d5f\ ^3F_2$	123.77	2.006+09	$2p4d\ ^3D_2$	$3s4d\ ^3D_2$	189.08	1.450+10
$2p3p\ ^1D_2$	$3p6d\ ^1P_1$	122.92	2.787+09	$2p4d\ ^1D_2$	$3s4d\ ^1D_2$	187.59	2.178+10
$2p3p\ ^3P_2$	$3p6s\ ^3P_1$	122.78	1.204+09	$2p4d\ ^3D_2$	$3p4p\ ^3D_2$	182.64	2.036+10
$2p3p\ ^3P_1$	$3p6s\ ^3P_2$	122.74	1.198+09	$2p4d\ ^3P_2$	$3p4p\ ^3P_2$	181.37	1.325+10
$2p3p\ ^3P_2$	$3p6d\ ^3P_1$	121.79	3.829+09	$2p4d\ ^3P_2$	$3d4s\ ^3D_3$	180.75	1.050+10
$2p3p\ ^3P_1$	$3p6d\ ^3P_2$	121.77	3.706+09	$2p4d\ ^3D_2$	$3d4s\ ^3D_2$	180.13	2.274+10
$2p3p\ ^1D_2$	$3d6p\ ^1P_1$	121.48	2.318+09	$2p4d\ ^3D_2$	$3p4f\ ^3F_3$	177.75	2.840+10
$2p3p\ ^3P_1$	$3d6p\ ^3D_2$	120.94	2.066+09	$2p4d\ ^1D_2$	$3p4f\ ^1F_3$	177.67	4.942+10
$2p3p\ ^1D_2$	$3d6f\ ^1P_1$	120.78	1.276+09	$2p4d\ ^1D_2$	$3p4f\ ^3G_3$	177.60	3.678+10
$2p3p\ ^3D_1$	$3p6d\ ^3D_2$	120.01	1.127+09	$2p4d\ ^3F_2$	$3p4f\ ^1F_3$	177.53	2.968+10
$2p3p\ ^3S_1$	$3d6p\ ^3P_2$	119.60	1.114+09	$2p4d\ ^3F_2$	$3p4f\ ^3G_3$	177.47	9.496+10
$2p3p\ ^3P_2$	$3s3p\ ^3P_2$	202.89	6.024+09	$2p4d\ ^3P_2$	$3d4d\ ^3D_3$	177.30	9.891+10
$2p3p\ ^3D_2$	$3s3p\ ^3P_2$	197.27	6.792+09	$2p4d\ ^3P_2$	$3d4d\ ^3D_2$	177.30	1.030+10
$2p3p\ ^3D_2$	$3s4f\ ^3F_2$	142.18	1.460+09	$2p4d\ ^3D_2$	$3d4d\ ^3D_3$	176.69	1.483+10
$2p3p\ ^3D_2$	$3p4s\ ^3P_2$	141.83	1.331+09	$2p4d\ ^3D_2$	$3d4d\ ^3D_2$	176.69	9.481+10
$2p3p\ ^3D_2$	$3p4d\ ^3D_2$	139.29	9.106+09	$2p4d\ ^1D_2$	$3p4p\ ^1D_2$	176.23	8.281+10
$2p3p\ ^3D_2$	$3p4d\ ^3D_3$	139.28	1.917+09	$2p4d\ ^3F_2$	$3p4p\ ^1D_2$	176.09	1.553+10
$2p3p\ ^3P_2$	$3d4p\ ^3D_2$	138.89	6.953+09	$2p4d\ ^3F_2$	$3d4d\ ^1F_3$	176.06	5.219+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^1S_0$	$3p6d\ ^1P_1$	124.48	8.575+09	$2s4f\ ^3F_3$	$3p4f\ ^3F_2$	152.29	1.421+10
$2p3p\ ^3D_1$	$3d5p\ ^3D_1$	124.43	3.476+09	$2s4f\ ^1F_3$	$3d4d\ ^1F_3$	152.25	5.558+10
$2p3p\ ^1S_0$	$3d6p\ ^1P_1$	123.01	4.442+09	$2s4f\ ^3F_3$	$3d4d\ ^3D_2$	151.51	4.130+10
$2p3p\ ^1P_1$	$3d5p\ ^1P_1$	122.54	3.701+09	$2s4f\ ^3F_3$	$3p4f\ ^3D_2$	150.07	6.200+10
$2p3p\ ^3P_1$	$3p6d\ ^3D_1$	122.06	5.450+09	$2s4f\ ^1F_3$	$3d2\ ^1G_4$	195.19	5.938+10
$2p3p\ ^3P_0$	$3p6d\ ^3D_1$	122.05	7.697+09	$2s4f\ ^3F_4$	$3p4f\ ^3G_4$	152.84	1.031+10
$2p3p\ ^3P_1$	$3p6d\ ^3P_1$	121.76	2.251+09	$2s4f\ ^3F_4$	$3p4f\ ^3F_3$	152.29	1.462+10
$2p3p\ ^3P_1$	$3p6d\ ^3P_0$	121.76	2.940+09	$2s4f\ ^3F_3$	$3p4f\ ^3F_4$	152.28	1.505+10
$2p3p\ ^3P_0$	$3p6d\ ^3P_1$	121.74	2.846+09	$2s4f\ ^3F_4$	$3d4d\ ^3D_3$	151.51	6.049+10
$2p3p\ ^3S_1$	$3p6d\ ^3P_0$	120.58	3.946+09	$2s4f\ ^3F_3$	$3d4d\ ^3G_4$	150.95	6.318+10
$2p3p\ ^3D_1$	$3p6d\ ^3D_1$	120.01	2.414+09	$2s4f\ ^3F_4$	$3d4d\ ^3G_5$	150.94	8.269+10
$2p3p\ ^1P_1$	$3p6s\ ^1P_1$	119.94	2.201+09	$2s4f\ ^3F_4$	$3p4f\ ^3D_3$	150.08	8.882+10
$2p3p\ ^1P_1$	$3p6d\ ^1P_1$	119.12	5.187+09	$2s4f\ ^1F_3$	$3d4d\ ^1G_4$	148.29	2.049+10
$2p3p\ ^3D_1$	$3d6p\ ^3D_1$	118.93	2.139+09	$2s4f\ ^1F_3$	$3s5g\ ^1G_4$	142.10	1.089+10
$2p3p\ ^1P_1$	$3d6p\ ^1P_1$	117.77	4.770+09	$2p4s\ ^3P_1$	$3s4s\ ^3S_1$	188.95	1.475+10
$2p3p\ ^1P_1$	$3d6f\ ^1P_1$	117.11	1.110+09	$2p4s\ ^1P_1$	$3s4s\ ^1S_0$	188.33	1.368+10
$2p3p\ ^3P_2$	$3s3p\ ^3P_1$	202.92	2.150+09	$2p4s\ ^3P_1$	$3p4p\ ^3D_1$	176.26	2.666+10
$2p3p\ ^3P_1$	$3s3p\ ^3P_2$	202.80	1.831+09	$2p4s\ ^3P_0$	$3p4p\ ^3D_1$	176.21	3.577+10
$2p3p\ ^1D_2$	$3s3p\ ^1P_1$	197.64	8.322+09	$2p4s\ ^3P_1$	$3d4s\ ^3D_1$	173.92	7.143+10
$2p3p\ ^3P_2$	$3p3d\ ^3D_1$	181.65	4.370+09	$2p4s\ ^3P_0$	$3d4s\ ^3D_1$	173.87	9.565+10
$2p3p\ ^3D_1$	$3p3d\ ^1D_2$	180.39	3.173+09	$2p4s\ ^3P_2$	$3s4s\ ^3S_1$	189.08	2.462+10
$2p3p\ ^1P_1$	$3p3d\ ^3F_2$	179.39	3.239+09	$2p4s\ ^1P_1$	$3s4d\ ^1D_2$	183.13	1.478+10
$2p3p\ ^1D_2$	$3s4p\ ^1P_1$	150.37	3.609+09	$2p4s\ ^3P_1$	$3s4d\ ^3D_2$	182.24	1.019+10
$2p3p\ ^3S_1$	$3s4p\ ^3P_2$	146.17	1.758+09	$2p4s\ ^3P_1$	$3p4p\ ^3D_2$	176.25	8.147+10
$2p3p\ ^1D_2$	$3p4s\ ^1P_1$	144.96	3.361+09	$2p4s\ ^3P_1$	$3p4f\ ^3D_2$	168.89	1.190+10
$2p3p\ ^3D_2$	$3s4p\ ^3P_1$	144.95	1.403+09	$2p4s\ ^1P_1$	$3p4f\ ^1D_2$	168.81	2.168+10
$2p3p\ ^3P_2$	$3p4s\ ^3P_1$	144.73	5.077+09	$2p4s\ ^1P_1$	$3d4d\ ^1D_2$	166.89	2.304+10
$2p3p\ ^3P_1$	$3p4s\ ^3P_2$	144.67	4.893+09	$2p4s\ ^3P_2$	$3s4d\ ^3D_3$	182.35	1.891+10
$2p3p\ ^3S_1$	$3p4s\ ^3P_2$	143.00	2.271+09	$2p4s\ ^3P_2$	$3p4p\ ^3D_2$	176.36	2.662+10
$2p3p\ ^3D_1$	$3s4f\ ^3F_2$	142.14	7.896+09	$2p4s\ ^3P_2$	$3d4s\ ^3D_2$	174.02	7.133+10
$2p3p\ ^3P_2$	$3p4d\ ^3D_1$	142.07	1.055+09	$2p4s\ ^3P_2$	$3p4f\ ^3D_3$	168.99	2.224+10
$2p3p\ ^3D_2$	$3p4s\ ^3P_1$	141.85	3.725+09	$2p4d\ ^1P_1$	$3p4p\ ^1P_1$	185.70	1.138+10
$2p3p\ ^3P_2$	$3p4d\ ^3P_1$	139.93	8.487+09	$2p4d\ ^3D_1$	$3p4p\ ^3D_1$	182.63	1.327+10
$2p3p\ ^3P_1$	$3p4d\ ^3P_2$	139.89	9.415+09	$2p4d\ ^3P_1$	$3p4p\ ^3S_1$	182.42	1.486+10
$2p3p\ ^3D_2$	$3p4d\ ^3D_1$	139.29	1.945+09	$2p4d\ ^3D_1$	$3d4s\ ^3D_1$	180.12	1.428+10
$2p3p\ ^3D_1$	$3p4d\ ^3D_2$	139.25	1.903+09	$2p4d\ ^1P_1$	$3p4p\ ^1S_0$	179.65	2.509+10
$2p3p\ ^3P_2$	$3d4p\ ^3P_1$	138.57	2.884+09	$2p4d\ ^3P_0$	$3d4d\ ^3D_1$	177.36	2.260+10
$2p3p\ ^3P_1$	$3d4p\ ^3P_2$	138.53	2.827+09	$2p4d\ ^3P_1$	$3d4d\ ^3D_1$	177.34	1.303+10
$2p3p\ ^1D_2$	$3d4p\ ^1P_1$	137.69	5.098+09	$2p4d\ ^3D_1$	$3d4d\ ^3D_1$	176.67	6.038+10
$2p3p\ ^3D_2$	$3p4d\ ^3P_1$	137.23	3.335+09	$2p4d\ ^3P_0$	$3p4f\ ^3D_1$	175.39	1.519+10
$2p3p\ ^3S_1$	$3d4p\ ^3P_2$	137.00	8.884+09	$2p4d\ ^3D_1$	$3p4f\ ^3D_1$	174.72	2.489+10
$2p3p\ ^3D_2$	$3d4p\ ^3D_1$	136.24	2.871+09	$2p4d\ ^3P_0$	$3d4d\ ^3S_1$	174.18	1.746+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^3D_3$	$3p4d\ ^3P_2$	137.30	6.060+09	$2p4d\ ^3F_4$	$3p6f\ ^3D_3$	148.63	1.301+10
$2p3p\ ^3D_3$	$3d4p\ ^3F_3$	137.05	1.865+09	$2s5p\ ^1P_1$	$3p5p\ ^1P_1$	151.07	6.740+10
$2p3p\ ^3D_3$	$3d4p\ ^3D_2$	136.29	2.979+09	$2s5p\ ^3P_1$	$3p5p\ ^3D_1$	150.99	2.442+10
$2p3p\ ^3D_3$	$3d4f\ ^3F_3$	135.12	1.548+09	$2s5p\ ^3P_0$	$3p5p\ ^3D_1$	150.99	3.103+10
$2p3p\ ^3D_3$	$3s5p\ ^3P_2$	130.53	1.120+09	$2s5p\ ^3P_1$	$3p5p\ ^3P_0$	150.51	2.429+10
$2p3p\ ^3D_3$	$3s5f\ ^3F_4$	129.42	6.264+09	$2s5p\ ^3P_1$	$3p5p\ ^3P_1$	150.50	3.013+10
$2p3p\ ^3D_3$	$3p5s\ ^3P_2$	127.12	3.697+09	$2s5p\ ^3P_0$	$3p5p\ ^3P_1$	150.49	3.104+10
$2p3p\ ^3D_3$	$3p5d\ ^3D_2$	125.90	1.255+09	$2s5p\ ^1P_1$	$3p5p\ ^1S_0$	149.49	1.271+10
$2p3p\ ^3D_3$	$3p5d\ ^3F_3$	125.58	7.562+09	$2s5p\ ^1P_1$	$3d4s\ ^1D_2$	170.79	1.481+10
$2p3p\ ^3D_3$	$3p5d\ ^3P_2$	125.33	2.953+09	$2s5p\ ^3P_1$	$3p5p\ ^3D_2$	150.98	7.017+10
$2p3p\ ^3D_3$	$3d5p\ ^3F_4$	124.58	3.972+09	$2s5p\ ^1P_1$	$3p5p\ ^1D_2$	150.61	7.715+10
$2p3p\ ^3D_3$	$3d5p\ ^3D_2$	124.51	1.214+09	$2s5p\ ^3P_2$	$3p5p\ ^3S_1$	150.53	5.298+10
$2p3p\ ^3D_3$	$3d5p\ ^3D_3$	124.50	9.576+09	$2s5p\ ^3P_2$	$3p5p\ ^3P_1$	150.50	1.021+10
$2p3p\ ^3D_3$	$3p5g\ ^3F_4$	124.45	3.586+09	$2s5p\ ^3P_1$	$3p5p\ ^3P_2$	150.49	3.172+10
$2p3p\ ^3D_3$	$3d5f\ ^3F_4$	123.85	4.445+09	$2s5p\ ^1P_1$	$3d5s\ ^1D_2$	148.86	2.125+10
$2p3p\ ^3D_3$	$3s6f\ ^3F_4$	123.60	1.773+09	$2s5p\ ^3P_2$	$3p5p\ ^3D_2$	150.98	2.524+10
$2p3p\ ^3D_3$	$3p6s\ ^3P_2$	120.73	1.647+09	$2s5p\ ^3P_2$	$3p5p\ ^3P_2$	150.49	9.013+10
$2p3p\ ^3D_3$	$3p6d\ ^3D_3$	120.08	5.790+09	$2s5p\ ^3P_2$	$3d5s\ ^3D_3$	149.36	1.235+10
$2p3p\ ^3D_3$	$3p6d\ ^3F_3$	119.98	2.635+09	$2s5f\ ^3F_2$	$3p5f\ ^3D_1$	149.92	6.465+10
$2p3p\ ^3D_3$	$3p6d\ ^3F_3$	119.97	2.026+09	$2s5f\ ^3F_2$	$3d5s\ ^3D_2$	150.59	1.198+10
$2p3p\ ^3D_3$	$3p6d\ ^3P_2$	119.79	1.177+09	$2s5f\ ^3F_2$	$3p5f\ ^3F_2$	150.58	9.861+10
$2p3p\ ^3D_3$	$3d6p\ ^3D_3$	118.99	5.800+09	$2s5f\ ^3F_2$	$3p5f\ ^3D_2$	149.93	1.303+10
$2p3p\ ^3D_3$	$3d6p\ ^3F_4$	118.96	2.249+09	$2s5f\ ^3F_2$	$3d5d\ ^3G_3$	148.95	1.085+10
$2p4p\ ^1S_0$	$2p6p\ ^1P_1$	1071.35	1.191+09	$2s5f\ ^3F_3$	$3d5s\ ^3D_2$	150.59	1.832+10
$2p4p\ ^1S_0$	$3s4p\ ^1P_1$	194.59	2.986+09	$2s5f\ ^3F_3$	$3p5f\ ^3F_3$	150.59	7.533+10
$2p4p\ ^3P_1$	$3s4p\ ^3P_0$	188.95	6.046+09	$2s5f\ ^3F_3$	$3d5s\ ^3D_3$	150.58	8.292+10
$2p4p\ ^3P_1$	$3s4p\ ^3P_1$	188.95	4.148+09	$2s5f\ ^1F_3$	$3d5s\ ^1D_2$	150.18	1.941+10
$2p4p\ ^3P_0$	$3s4p\ ^3P_1$	188.90	5.220+09	$2s5f\ ^3F_3$	$3p5f\ ^3D_3$	149.94	1.342+10
$2p4p\ ^1P_1$	$3s4p\ ^1P_1$	188.10	9.615+09	$2s5f\ ^3F_3$	$3p5f\ ^3D_2$	149.93	9.451+10
$2p4p\ ^3S_1$	$3s4p\ ^3P_1$	187.99	2.489+09	$2s5f\ ^1F_3$	$3p5f\ ^1D_2$	149.17	8.465+10
$2p4p\ ^3D_1$	$3s4p\ ^3P_0$	187.43	8.017+09	$2s5f\ ^1F_3$	$3s6d\ ^1D_2$	148.54	1.635+10
$2p4p\ ^3D_1$	$3s4p\ ^3P_1$	187.43	6.393+09	$2s5f\ ^3F_4$	$3p5f\ ^3F_3$	150.59	2.853+10
$2p4p\ ^1S_0$	$3p4s\ ^1P_1$	185.62	4.720+09	$2s5f\ ^3F_3$	$3d5d\ ^3G_4$	148.95	1.432+10
$2p4p\ ^3P_1$	$3p4s\ ^3P_0$	183.72	3.703+09	$2s5f\ ^3F_4$	$3d5d\ ^3G_5$	148.94	1.879+10
$2p4p\ ^3P_1$	$3p4s\ ^3P_1$	183.70	2.680+09	$2s5f\ ^3F_4$	$3s6d\ ^3D_3$	148.39	1.190+10
$2p4p\ ^3P_0$	$3p4s\ ^3P_1$	183.66	3.711+09	$2s5f\ ^1F_3$	$3s6g\ ^1G_4$	146.88	2.436+10
$2p4p\ ^3S_1$	$3p4s\ ^3P_0$	182.81	2.681+09	$2p5s\ ^3P_1$	$3s5s\ ^3S_1$	185.24	1.543+10
$2p4p\ ^3S_1$	$3p4s\ ^3P_1$	182.80	7.573+09	$2p5s\ ^3P_1$	$3p5p\ ^3D_1$	175.11	1.813+10
$2p4p\ ^3D_1$	$3p4d\ ^1P_1$	176.53	1.122+09	$2p5s\ ^3P_0$	$3p5p\ ^3D_1$	175.06	2.474+10
$2p4p\ ^3S_1$	$3p4d\ ^3P_0$	175.21	3.878+09	$2p5s\ ^3P_1$	$3d5s\ ^3D_1$	172.93	8.008+10
$2p4p\ ^3D_1$	$3p4d\ ^3P_0$	174.72	1.617+09	$2p5s\ ^3P_2$	$3s5s\ ^3S_1$	185.36	2.611+10
$2p4p\ ^3D_1$	$3d4p\ ^3P_0$	172.61	2.212+09	$2p5s\ ^3P_1$	$3p5p\ ^3D_2$	175.09	5.605+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^3P_2$	$3d4p\ ^3P_2$	138.57	8.688+09	$2p4d\ ^3P_2$	$3p4f\ ^3D_3$	175.34	6.774+10
$2p3p\ ^1D_2$	$3d4f\ ^1F_3$	137.24	2.778+09	$2p4d\ ^1D_2$	$3d4d\ ^3G_3$	175.07	5.923+10
$2p3p\ ^3D_2$	$3p4d\ ^3P_2$	137.24	1.010+09	$2p4d\ ^3D_2$	$3p4f\ ^3D_2$	174.75	4.065+10
$2p3p\ ^3D_2$	$3d4p\ ^3F_2$	137.00	1.864+09	$2p4d\ ^3D_2$	$3d4d\ ^3F_2$	174.02	3.533+10
$2p3p\ ^3D_2$	$3d4p\ ^3D_3$	136.23	2.647+09	$2p4d\ ^1D_2$	$3d4d\ ^3F_2$	173.16	1.969+10
$2p3p\ ^3P_2$	$3d4f\ ^3P_2$	135.65	1.060+09	$2p4d\ ^3F_2$	$3d4d\ ^3F_2$	173.03	9.811+10
$2p3p\ ^3D_2$	$3d4f\ ^3F_2$	135.06	1.535+09	$2p4d\ ^1D_2$	$3p4f\ ^1D_2$	172.58	1.656+10
$2p3p\ ^3P_2$	$3p5s\ ^3P_2$	129.38	5.901+09	$2p4d\ ^3F_2$	$3d4d\ ^1D_2$	170.45	2.086+10
$2p3p\ ^3D_2$	$3s5f\ ^3F_3$	129.36	4.341+09	$2p4d\ ^3P_2$	$3p6p\ ^3D_3$	150.84	3.198+10
$2p3p\ ^3P_2$	$3p5d\ ^3D_2$	128.12	8.342+09	$2p4d\ ^3P_2$	$3p6p\ ^3P_2$	150.68	1.891+10
$2p3p\ ^1D_2$	$3p5g\ ^1F_3$	127.74	1.098+09	$2p4d\ ^1F_3$	$3s4d\ ^1D_2$	191.24	2.501+10
$2p3p\ ^1D_2$	$3s6f\ ^1F_3$	127.25	6.460+09	$2p4d\ ^3D_3$	$3s4d\ ^3D_3$	189.11	2.734+10
$2p3p\ ^3P_2$	$3d5p\ ^3D_2$	126.67	1.997+09	$2p4d\ ^3F_3$	$3s4d\ ^3D_2$	187.99	2.329+10
$2p3p\ ^3P_2$	$3d5p\ ^3P_2$	126.42	1.932+09	$2p4d\ ^3D_3$	$3p4p\ ^3D_3$	182.65	3.567+10
$2p3p\ ^1D_2$	$3d5f\ ^1F_3$	126.20	3.791+09	$2p4d\ ^1F_3$	$3p4f\ ^1F_3$	180.94	2.441+10
$2p3p\ ^3D_2$	$3p5d\ ^3D_2$	125.85	5.858+09	$2p4d\ ^3D_3$	$3d4s\ ^3D_3$	180.15	3.958+10
$2p3p\ ^3D_2$	$3p5d\ ^3D_3$	125.85	1.567+09	$2p4d\ ^3F_3$	$3p4f\ ^3G_3$	177.54	1.170+10
$2p3p\ ^3D_2$	$3p5d\ ^3F_2$	125.54	7.470+09	$2p4d\ ^3D_3$	$3d4d\ ^3D_2$	176.72	1.852+10
$2p3p\ ^3D_2$	$3d5p\ ^3F_3$	124.53	2.999+09	$2p4d\ ^3F_3$	$3d4d\ ^3D_2$	175.74	1.285+10
$2p3p\ ^3D_2$	$3d5p\ ^3D_2$	124.46	5.403+09	$2p4d\ ^3F_3$	$3d4d\ ^3G_3$	175.00	3.303+10
$2p3p\ ^3D_2$	$3d5p\ ^3D_3$	124.46	1.094+09	$2p4d\ ^3D_3$	$3p4f\ ^3D_3$	174.78	6.807+10
$2p3p\ ^3D_2$	$3p5g\ ^3F_3$	124.40	2.207+09	$2p4d\ ^3D_3$	$3d4d\ ^3F_3$	174.04	3.301+10
$2p3p\ ^3D_2$	$3d5f\ ^3F_3$	123.80	3.016+09	$2p4d\ ^3F_3$	$3p4f\ ^3D_2$	173.81	1.642+10
$2p3p\ ^3D_2$	$3s6f\ ^3F_3$	123.55	1.246+09	$2p4d\ ^1F_3$	$3d4d\ ^1D_2$	173.59	2.675+10
$2p3p\ ^1D_2$	$3p6d\ ^1D_2$	123.26	5.794+09	$2p4d\ ^3F_3$	$3d4d\ ^3F_2$	173.09	1.414+10
$2p3p\ ^3P_2$	$3p6s\ ^3P_2$	122.77	3.576+09	$2p4d\ ^3D_3$	$3d4d\ ^3P_2$	172.22	8.889+10
$2p3p\ ^3P_2$	$3p6d\ ^3D_2$	122.09	4.764+09	$2p4d\ ^1F_3$	$3p6f\ ^1F_3$	151.32	3.948+10
$2p3p\ ^3P_2$	$3d6p\ ^3D_3$	120.97	3.891+09	$2p4d\ ^1F_3$	$3p6f\ ^1D_2$	150.58	2.227+10
$2p3p\ ^3D_2$	$3p6d\ ^3D_2$	120.04	3.280+09	$2p4d\ ^1F_3$	$3d6s\ ^1D_2$	150.04	1.004+10
$2p3p\ ^3D_2$	$3p6d\ ^3D_3$	120.03	1.503+09	$2p4d\ ^3F_3$	$3p6f\ ^3F_3$	148.92	1.026+10
$2p3p\ ^3D_2$	$3p6d\ ^3F_2$	119.94	4.371+09	$2p4d\ ^3F_4$	$3s4d\ ^3D_3$	188.07	3.486+10
$2p3p\ ^3D_2$	$3d6p\ ^3D_2$	118.95	3.259+09	$2p4d\ ^3D_3$	$3p4f\ ^3F_4$	177.77	4.151+10
$2p3p\ ^3D_2$	$3d6p\ ^3F_3$	118.93	1.472+09	$2p4d\ ^3F_4$	$3p4f\ ^3G_4$	177.60	1.200+10
$2p3p\ ^3D_3$	$2s6g\ ^3P_2$	386.64	1.031+09	$2p4d\ ^3F_4$	$3p4f\ ^3F_4$	176.85	1.202+10
$2p3p\ ^3D_3$	$2p6p\ ^3F_4$	379.52	9.596+09	$2p4d\ ^3F_4$	$3d4d\ ^3D_3$	175.81	1.601+10
$2p3p\ ^3D_3$	$2p6p\ ^3D_3$	378.69	2.947+09	$2p4d\ ^3F_4$	$3d4d\ ^3G_4$	175.06	3.289+10
$2p3p\ ^3D_3$	$3p3d\ ^3F_2$	180.83	1.328+09	$2p4d\ ^3F_4$	$3p4f\ ^3D_3$	173.89	2.217+10
$2p3p\ ^3D_3$	$3p3d\ ^3P_2$	176.37	1.038+09	$2p4d\ ^3F_4$	$3d4d\ ^3F_3$	173.16	1.377+10
$2p3p\ ^3D_3$	$3s4p\ ^3P_2$	145.01	2.599+09	$2p4d\ ^1F_3$	$3p6f\ ^1G_4$	150.76	5.191+10
$2p3p\ ^3D_3$	$3s4f\ ^3F_3$	142.24	1.453+09	$2p4d\ ^3F_4$	$3p6f\ ^3F_4$	148.96	1.657+10
$2p3p\ ^3D_3$	$3p4s\ ^3P_2$	141.89	7.080+09	$2p4d\ ^3F_4$	$3p6f\ ^3G_5$	148.86	1.780+10
$2p3p\ ^3D_3$	$3p4d\ ^3D_2$	139.35	1.973+09	$2p4d\ ^3F_3$	$3p6f\ ^3G_4$	148.83	1.303+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p4p\ ^3D_2$	$3s4f\ ^3F_3$	182.88	2.172+09	$2p5d\ ^3P_2$	$3s5d\ ^3D_2$	185.40	1.065+10
$2p4p\ ^1D_2$	$3p4d\ ^1D_2$	179.22	6.136+09	$2p5d\ ^3P_2$	$3s5d\ ^3D_3$	185.40	1.222+10
$2p4p\ ^3D_2$	$3p4d\ ^3D_3$	178.10	3.353+09	$2p5d\ ^3D_2$	$3s5d\ ^3D_2$	185.20	1.141+10
$2p4p\ ^3P_2$	$3p4d\ ^3P_2$	176.11	3.979+09	$2p5d\ ^3D_2$	$3s5d\ ^3D_3$	185.20	1.182+10
$2p4p\ ^3D_2$	$3p4d\ ^3F_2$	175.83	7.971+09	$2p5d\ ^1D_2$	$3s5d\ ^1D_2$	184.49	2.002+10
$2p4p\ ^3D_2$	$3d4p\ ^3D_3$	173.14	8.547+09	$2p5d\ ^3F_2$	$3s5d\ ^1D_2$	184.38	1.037+10
$2p4p\ ^3D_2$	$3d4f\ ^3F_2$	171.27	6.073+09	$2p5d\ ^3P_2$	$3p5p\ ^3P_2$	177.67	1.424+10
$2p4p\ ^3P_2$	$3d4f\ ^3P_2$	169.38	2.417+09	$2p5d\ ^1D_2$	$3p5f\ ^3G_3$	175.50	1.763+10
$2p4p\ ^1D_2$	$3s5f\ ^1F_3$	163.55	5.022+09	$2p5d\ ^3F_2$	$3p5f\ ^3G_3$	175.40	3.199+10
$2p4p\ ^1D_2$	$3p5d\ ^1F_3$	158.37	4.431+09	$2p5d\ ^3P_2$	$3p5f\ ^3D_3$	175.22	1.615+10
$2p4p\ ^3P_2$	$3p5d\ ^3D_3$	157.78	1.918+09	$2p5d\ ^3D_2$	$3p5f\ ^3D_2$	175.03	1.943+10
$2p4p\ ^1D_2$	$3d5f\ ^1F_3$	153.76	1.093+09	$2p5d\ ^1D_2$	$3d5s\ ^1D_2$	174.92	3.294+10
$2p4p\ ^1D_2$	$3p6d\ ^3F_3$	149.27	1.050+09	$2p5d\ ^3F_2$	$3d5s\ ^1D_2$	174.82	1.693+10
$2p4p\ ^3D_3$	$2p6p\ ^3F_4$	934.49	4.446+09	$2p5d\ ^3P_2$	$3d5d\ ^3F_3$	173.31	3.991+10
$2p4p\ ^3D_3$	$3s4f\ ^3F_4$	182.97	3.116+09	$2p5d\ ^3D_2$	$3d5d\ ^3F_2$	173.14	2.421+10
$2p4p\ ^3D_3$	$3p4d\ ^3D_2$	178.21	4.931+09	$2p5d\ ^3P_2$	$3s6d\ ^3D_3$	173.11	2.944+10
$2p4p\ ^3D_3$	$3p4d\ ^3F_3$	175.90	7.918+09	$2p5d\ ^3D_2$	$3s6d\ ^3D_2$	172.93	2.141+10
$2p4p\ ^3D_3$	$3p4d\ ^3P_2$	174.87	6.308+09	$2p5d\ ^1D_2$	$3d5d\ ^3F_2$	172.78	5.182+10
$2p4p\ ^3D_3$	$3d4p\ ^3F_2$	174.48	1.489+09	$2p5d\ ^1D_2$	$3s6d\ ^1D_2$	172.70	4.148+10
$2p4p\ ^3D_3$	$3d4p\ ^3P_2$	172.74	6.888+09	$2p5d\ ^3F_2$	$3d5d\ ^3F_2$	172.68	9.094+10
$2p4p\ ^3D_3$	$3d4f\ ^3F_3$	171.35	6.126+09	$2p5d\ ^3F_2$	$3s6d\ ^1D_2$	172.60	1.993+10
$2p4p\ ^3D_3$	$3d4f\ ^3P_2$	168.23	2.898+09	$2p5d\ ^1D_2$	$3d5d\ ^1D_2$	171.57	7.025+10
$2p4f\ ^3D_1$	$3p4d\ ^3D_1$	182.47	2.134+09	$2p5d\ ^3F_2$	$3d5d\ ^1D_2$	171.47	3.602+10
$2p4f\ ^3D_1$	$3p4d\ ^3P_1$	178.95	9.133+09	$2p5d\ ^1D_2$	$3d5g\ ^1D_2$	170.65	1.478+10
$2p4f\ ^3D_1$	$3d4p\ ^3D_1$	177.26	2.169+09	$2p5d\ ^1F_3$	$3s5d\ ^1D_2$	185.93	3.550+10
$2p4f\ ^1D_2$	$3p3d\ ^1P_1$	235.75	1.545+09	$2p5d\ ^3D_3$	$3s5d\ ^3D_3$	185.25	3.297+10
$2p4f\ ^3F_2$	$3p4d\ ^3D_1$	181.52	1.567+09	$2p5d\ ^3F_3$	$3s5d\ ^3D_2$	184.77	2.850+10
$2p4f\ ^3D_1$	$3p4d\ ^3F_2$	180.06	2.442+09	$2p5d\ ^3D_3$	$3p5p\ ^3D_3$	178.20	1.634+10
$2p4f\ ^1D_2$	$3p4d\ ^3P_1$	179.09	1.586+09	$2p5d\ ^3D_3$	$3d5s\ ^3D_3$	175.96	1.656+10
$2p4f\ ^3F_2$	$3d4p\ ^3D_1$	176.37	1.045+09	$2p5d\ ^3D_3$	$3p5f\ ^3D_3$	175.09	3.125+10
$2p4f\ ^1D_2$	$3d4f\ ^3D_1$	173.16	3.864+09	$2p5d\ ^3D_3$	$3d5d\ ^3D_2$	173.76	2.109+10
$2p4f\ ^1D_2$	$3d4p\ ^1P_1$	173.06	1.834+09	$2p5d\ ^3F_3$	$3d5d\ ^3D_2$	173.34	2.838+10
$2p4f\ ^1D_2$	$3d4f\ ^3P_1$	172.14	9.108+09	$2p5d\ ^3F_3$	$3d5d\ ^3G_3$	173.32	4.412+10
$2p4f\ ^3D_1$	$3d4f\ ^3P_2$	172.02	3.817+09	$2p5d\ ^3D_3$	$3d5d\ ^3F_3$	173.18	2.357+10
$2p4f\ ^3F_2$	$3d4f\ ^3P_1$	171.18	1.270+09	$2p5d\ ^3D_3$	$3s6d\ ^3D_3$	172.98	3.138+10
$2p4f\ ^1D_2$	$3d5f\ ^1P_1$	154.61	5.895+09	$2p5d\ ^1F_3$	$3d5d\ ^1D_2$	172.81	2.415+10
$2p4f\ ^3F_2$	$3p6d\ ^3D_1$	150.14	1.995+09	$2p5d\ ^3F_3$	$3d5d\ ^3F_2$	172.77	1.678+10
$2p4f\ ^3F_2$	$3p6d\ ^3P_1$	149.68	6.104+09	$2p5d\ ^3D_3$	$3d5d\ ^3P_2$	172.30	9.015+10
$2p4f\ ^3D_2$	$3d6f\ ^3P_1$	147.89	1.392+09	$2p5d\ ^3F_4$	$3s5d\ ^3D_3$	184.86	4.610+10
$2p4f\ ^1D_2$	$3d6f\ ^1P_1$	147.16	4.799+09	$2p5d\ ^3D_3$	$3p5f\ ^3F_4$	175.96	1.884+10
$2p4f\ ^1D_2$	$3s4f\ ^3F_3$	187.61	1.140+09	$2p5d\ ^1F_3$	$3p5f\ ^1G_4$	175.86	7.630+10
$2p4f\ ^3D_2$	$3s4f\ ^3F_2$	187.41	3.335+09	$2p5d\ ^3F_4$	$3p5f\ ^3F_4$	175.61	1.065+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p4p\ ^1S_0$	$3d4f\ ^1P_1$	170.50	1.243+09	$2p5s\ ^3P_1$	$3p5f\ ^3F_2$	172.91	4.301+10
$2p4p\ ^3P_0$	$3d4p\ ^1P_1$	170.18	1.029+09	$2p5s\ ^3P_1$	$3p5f\ ^3D_2$	172.05	1.588+10
$2p4p\ ^3D_1$	$3d4p\ ^1P_1$	168.98	1.002+09	$2p5s\ ^1P_1$	$3p5f\ ^1D_2$	171.52	6.035+10
$2p4p\ ^3S_1$	$3d4f\ ^3P_1$	168.56	4.479+09	$2p5s\ ^3P_1$	$3d5d\ ^3D_2$	170.79	1.272+10
$2p4p\ ^3S_1$	$3d4f\ ^3P_0$	168.55	1.515+09	$2p5s\ ^1P_1$	$3d5d\ ^1D_2$	169.58	2.758+10
$2p4p\ ^1P_1$	$3d4f\ ^1P_1$	165.50	1.378+09	$2p5s\ ^3P_2$	$3p5p\ ^3D_2$	175.21	1.855+10
$2p4p\ ^1S_0$	$3p5s\ ^1P_1$	162.40	5.113+09	$2p5s\ ^3P_2$	$3d5s\ ^3D_2$	173.04	6.649+10
$2p4p\ ^1S_0$	$3p5d\ ^1P_1$	160.17	3.690+09	$2p5s\ ^3P_2$	$3p5f\ ^3F_2$	173.03	1.459+10
$2p4p\ ^3S_1$	$3d5p\ ^3P_1$	154.54	1.075+09	$2p5s\ ^3P_2$	$3p5f\ ^3D_3$	172.18	3.154+10
$2p4p\ ^1S_0$	$3p6d\ ^1P_1$	150.96	2.065+09	$2p5s\ ^3P_2$	$3d5d\ ^3D_3$	170.90	2.385+10
$2p4p\ ^3P_0$	$3p6s\ ^1P_1$	149.45	3.177+09	$2p5d\ ^1P_1$	$3p5p\ ^1S_0$	177.19	1.214+10
$2p4p\ ^3S_1$	$3p6s\ ^3P_0$	149.14	5.968+09	$2p5d\ ^1P_1$	$3s6s\ ^1S_0$	175.17	1.692+10
$2p4p\ ^1S_0$	$3d6p\ ^1P_1$	148.80	1.343+09	$2p5d\ ^3D_1$	$3p5f\ ^3D_1$	175.00	1.303+10
$2p4p\ ^1S_0$	$3d6f\ ^1P_1$	147.74	1.184+09	$2p5d\ ^3P_0$	$3d5d\ ^3D_1$	173.95	4.043+10
$2p4p\ ^3P_2$	$3s4p\ ^3P_1$	189.01	7.734+09	$2p5d\ ^3P_1$	$3d5d\ ^3D_1$	173.94	1.276+10
$2p4p\ ^3P_1$	$3s4p\ ^3P_2$	188.94	6.493+09	$2p5d\ ^3D_1$	$3d5d\ ^3D_1$	173.70	9.591+10
$2p4p\ ^3S_1$	$3s4p\ ^3P_2$	187.98	5.250+09	$2p5d\ ^3D_1$	$3s6d\ ^3D_1$	172.92	1.352+10
$2p4p\ ^3P_2$	$3p4s\ ^3P_1$	183.76	4.841+09	$2p5d\ ^3P_0$	$3d5d\ ^3S_1$	172.81	2.154+10
$2p4p\ ^3P_1$	$3p4s\ ^3P_2$	183.67	5.454+09	$2p5d\ ^3P_1$	$3d5d\ ^3S_1$	172.80	6.330+10
$2p4p\ ^3D_1$	$3s4f\ ^3F_2$	182.83	1.442+09	$2p5d\ ^3P_0$	$3d5d\ ^3P_1$	172.49	6.509+10
$2p4p\ ^3P_2$	$3p4d\ ^3D_1$	179.50	1.480+09	$2p5d\ ^3P_1$	$3d5d\ ^3P_0$	172.47	4.626+10
$2p4p\ ^1D_2$	$3p4d\ ^1P_1$	178.90	1.301+09	$2p5d\ ^3P_1$	$3d5d\ ^3P_1$	172.47	5.968+10
$2p4p\ ^3D_2$	$3p4d\ ^3D_1$	178.12	4.947+09	$2p5d\ ^3D_1$	$3d5d\ ^3P_0$	172.24	3.889+10
$2p4p\ ^3D_1$	$3p4d\ ^3D_2$	178.07	3.667+09	$2p5d\ ^1P_1$	$3d5d\ ^1S_0$	170.87	5.899+10
$2p4p\ ^3P_2$	$3p4d\ ^3P_1$	176.10	1.158+09	$2p5d\ ^1P_1$	$3s5d\ ^1D_2$	186.04	1.203+10
$2p4p\ ^3P_1$	$3p4d\ ^3P_2$	176.05	1.330+09	$2p5d\ ^3F_2$	$3s5d\ ^3D_1$	184.68	1.345+10
$2p4p\ ^1P_1$	$3p4d\ ^3F_2$	175.44	1.513+09	$2p5d\ ^3P_2$	$3p5p\ ^3S_1$	177.73	1.850+10
$2p4p\ ^3D_1$	$3d4p\ ^1D_2$	174.96	6.294+09	$2p5d\ ^1P_1$	$3d5s\ ^1D_2$	176.31	1.953+10
$2p4p\ ^3D_2$	$3p4d\ ^3P_1$	174.77	3.553+09	$2p5d\ ^3P_2$	$3s6s\ ^3S_1$	175.05	1.089+10
$2p4p\ ^3P_2$	$3d4p\ ^3D_1$	174.46	2.921+09	$2p5d\ ^1P_1$	$3s6d\ ^1D_2$	174.05	3.872+10
$2p4p\ ^1P_1$	$3d4p\ ^3F_2$	174.01	5.864+09	$2p5d\ ^3D_2$	$3d5d\ ^3D_1$	173.72	2.372+10
$2p4p\ ^3D_1$	$3d4p\ ^3D_2$	173.10	9.271+09	$2p5d\ ^3P_1$	$3d5d\ ^3F_2$	173.35	1.031+10
$2p4p\ ^3D_2$	$3d4p\ ^3P_1$	172.65	4.479+09	$2p5d\ ^3F_2$	$3d5d\ ^3D_1$	173.27	1.191+10
$2p4p\ ^1P_1$	$3d4f\ ^1D_2$	170.26	4.889+09	$2p5d\ ^1D_2$	$3d5d\ ^1P_1$	173.20	4.247+10
$2p4p\ ^3S_1$	$3d4f\ ^3P_2$	168.56	6.926+09	$2p5d\ ^3P_1$	$3s6d\ ^3D_2$	173.15	1.569+10
$2p4p\ ^3D_2$	$3d4f\ ^3P_1$	168.15	1.591+09	$2p5d\ ^3F_2$	$3d5d\ ^1P_1$	173.10	2.041+10
$2p4p\ ^1D_2$	$3d4f\ ^1P_1$	167.90	2.923+09	$2p5d\ ^1P_1$	$3d5d\ ^1D_2$	172.90	7.038+10
$2p4p\ ^3S_1$	$3p5s\ ^3P_2$	158.98	1.364+09	$2p5d\ ^3D_2$	$3d5d\ ^3S_1$	172.58	1.364+10
$2p4p\ ^3P_1$	$3p5d\ ^3D_2$	157.74	1.029+09	$2p5d\ ^3P_1$	$3d5d\ ^3P_2$	172.47	8.041+10
$2p4p\ ^3S_1$	$3d5p\ ^3P_2$	154.53	1.733+09	$2p5d\ ^3P_2$	$3d5d\ ^3P_1$	172.44	3.394+10
$2p4p\ ^3S_1$	$3p6d\ ^3P_2$	147.68	1.022+09	$2p5d\ ^3D_2$	$3d5d\ ^3P_1$	172.26	8.862+10
$2p4p\ ^3D_2$	$3s4p\ ^3P_2$	187.47	7.141+09	$2p5d\ ^1P_1$	$3d5g\ ^1D_2$	171.97	1.769+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p4f\ ^3F_3$	$3p4d\ ^1D_2$	180.28	1.655+09	$2p5g\ ^3H_4$	$3d5g\ ^3F_3$	172.62	2.676+10
$2p4f\ ^1F_3$	$3p4d\ ^1D_2$	180.23	5.438+09	$2p5g\ ^1G_4$	$3d5g\ ^1F_3$	172.53	9.168+10
$2p4f\ ^3D_3$	$3p4d\ ^3F_4$	179.94	5.763+09	$2p5g\ ^3G_4$	$3d5g\ ^1F_3$	172.52	9.115+10
$2p4f\ ^3F_3$	$3p4d\ ^3F_2$	179.18	1.615+09	$2p5g\ ^3H_5$	$3s6g\ ^3G_5$	172.48	4.982+10
$2p4f\ ^3F_3$	$3p4d\ ^3F_4$	179.14	1.470+09	$2p5g\ ^3H_4$	$3s6g\ ^3G_4$	172.48	2.147+10
$2p4f\ ^1F_3$	$3p4d\ ^3F_3$	179.11	5.644+09	$2p5g\ ^1G_4$	$3d5g\ ^3F_3$	172.46	7.047+10
$2p4f\ ^3G_3$	$3d4p\ ^3F_2$	178.86	1.549+09	$2p5g\ ^3G_4$	$3d5g\ ^3F_4$	172.46	2.463+10
$2p4f\ ^3D_3$	$3d4p\ ^3F_3$	178.46	1.033+09	$2p5g\ ^1G_4$	$3s6g\ ^3G_3$	172.33	1.200+10
$2p4f\ ^3F_3$	$3d4p\ ^3F_2$	177.69	3.139+09	$2p5g\ ^3G_5$	$3s6g\ ^3G_4$	172.33	1.380+10
$2p4f\ ^3F_3$	$3d4p\ ^3F_4$	177.66	3.562+09	$2p5g\ ^1G_4$	$3s6g\ ^3G_4$	172.33	3.025+10
$2p4f\ ^1F_3$	$3d4p\ ^3F_2$	177.63	1.322+09	$2p5g\ ^3G_5$	$3s6g\ ^3G_5$	172.33	9.438+10
$2p4f\ ^3D_3$	$3d4p\ ^3D_3$	177.16	6.055+09	$2p5g\ ^3G_4$	$3s6g\ ^3G_4$	172.32	6.056+10
$2p4f\ ^3D_3$	$3d4f\ ^1G_4$	176.73	1.768+09	$2p5g\ ^3G_4$	$3d5g\ ^3D_3$	171.83	7.136+10
$2p4f\ ^3F_3$	$3d4p\ ^3D_2$	176.39	1.110+09	$2p5g\ ^3H_4$	$3s6g\ ^1G_4$	171.30	1.197+10
$2p4f\ ^3F_3$	$3d4f\ ^3H_4$	175.84	4.574+09	$2p5g\ ^1G_4$	$3s6g\ ^1G_4$	171.15	2.918+10
$2p4f\ ^1F_3$	$3d4f\ ^3H_4$	175.79	2.095+09	$2p5g\ ^3G_4$	$3s6g\ ^1G_4$	171.14	2.987+10
$2p4f\ ^3G_3$	$3d4f\ ^3F_3$	175.56	2.888+09	$2p5g\ ^3H_4$	$3p6h\ ^3I_5$	164.91	1.376+10
$2p4f\ ^3D_3$	$3d4f\ ^3F_3$	175.20	8.422+09	$2p5g\ ^3H_5$	$3p6h\ ^3I_6$	164.90	1.439+10
$2p4f\ ^1F_3$	$3d4f\ ^3F_2$	174.39	6.023+09	$2p5g\ ^3F_2$	$3s5g\ ^3G_3$	183.83	2.031+10
$2p4f\ ^3D_3$	$3d4f\ ^3G_4$	173.89	2.600+09	$2p5g\ ^3F_2$	$3d5g\ ^3F_3$	172.74	3.043+10
$2p4f\ ^3F_3$	$3d4p\ ^1F_3$	173.42	6.982+09	$2p5g\ ^3F_2$	$3s6g\ ^3G_3$	172.61	3.770+10
$2p4f\ ^1F_3$	$3d4f\ ^3G_3$	173.09	9.277+09	$2p5g\ ^3F_2$	$3d5g\ ^3D_2$	172.11	5.031+10
$2p4f\ ^3F_3$	$3d4f\ ^3D_3$	172.22	9.370+09	$2p5g\ ^1F_3$	$3s5g\ ^3G_3$	183.76	1.119+10
$2p4f\ ^3D_3$	$3d4f\ ^1F_3$	172.15	1.286+09	$2p5g\ ^1F_3$	$3d5g\ ^3G_3$	173.09	1.305+10
$2p4f\ ^1F_3$	$3d4f\ ^3P_2$	171.16	3.560+09	$2p5g\ ^3F_3$	$3d5g\ ^3F_2$	172.74	1.716+10
$2p4f\ ^1F_3$	$3s5f\ ^1F_3$	164.39	3.412+09	$2p5g\ ^3F_3$	$3d5d\ ^1D_2$	172.55	4.042+10
$2p4f\ ^3G_3$	$3p5g\ ^3G_3$	158.86	3.640+09	$2p5g\ ^1F_3$	$3d5d\ ^1D_2$	172.49	4.779+10
$2p4f\ ^3G_3$	$3p5g\ ^3H_4$	158.78	2.253+09	$2p5g\ ^3F_3$	$3d5g\ ^3D_3$	172.11	2.949+10
$2p4f\ ^3F_3$	$3p5g\ ^3G_4$	157.93	1.717+09	$2p5g\ ^1F_3$	$3d5g\ ^3D_3$	172.05	1.877+10
$2p4f\ ^3D_3$	$3p5g\ ^3F_4$	157.67	1.332+09	$2p5g\ ^3F_3$	$3s5g\ ^3G_4$	183.83	1.503+10
$2p4f\ ^3G_3$	$3d5f\ ^3H_4$	157.17	5.300+09	$2p5g\ ^1H_5$	$3s5g\ ^3G_4$	183.77	2.209+10
$2p4f\ ^3G_3$	$3s6h\ ^3H_4$	155.77	1.919+09	$2p5g\ ^3F_4$	$3s5g\ ^3G_4$	183.76	1.114+10
$2p4f\ ^3D_3$	$3d5f\ ^3P_2$	155.56	1.233+09	$2p5g\ ^3F_4$	$3s5g\ ^3G_5$	183.76	2.511+10
$2p4f\ ^1F_3$	$3d5f\ ^1F_3$	154.50	2.303+09	$2p5g\ ^1H_5$	$3s5g\ ^1G_4$	183.10	2.441+10
$2p4f\ ^3D_3$	$3p6d\ ^3D_3$	150.71	1.813+09	$2p5g\ ^1F_3$	$3s5g\ ^1G_4$	183.10	1.006+10
$2p4f\ ^3D_3$	$3p6d\ ^3F_4$	150.54	2.011+09	$2p5g\ ^3F_3$	$3d5d\ ^1G_4$	173.30	2.112+10
$2p4f\ ^3G_3$	$3p6g\ ^3G_4$	150.32	3.076+09	$2p5g\ ^1F_3$	$3d5d\ ^1G_4$	173.24	2.022+10
$2p4f\ ^3D_3$	$3p6d\ ^3P_2$	150.27	1.345+09	$2p5g\ ^3F_4$	$3d5g\ ^1H_5$	173.22	3.034+10
$2p4f\ ^3F_3$	$3p6d\ ^3D_3$	150.15	2.375+09	$2p5g\ ^3F_3$	$3d5g\ ^3G_4$	173.15	7.765+10
$2p4f\ ^1F_3$	$3p6d\ ^3D_3$	150.11	6.069+09	$2p5g\ ^1H_5$	$3d5g\ ^3H_4$	173.12	1.146+10
$2p4f\ ^3F_3$	$3p6d\ ^3F_4$	149.98	3.468+09	$2p5g\ ^1F_3$	$3d5g\ ^3H_4$	173.11	3.255+10
$2p4f\ ^1F_3$	$3p6d\ ^3F_4$	149.94	8.822+09	$2p5g\ ^1H_5$	$3d5g\ ^3G_4$	173.10	2.218+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p4f\ ^1D_2$	$3s4f\ ^1F_3$	186.62	5.542+09	$2p5d\ ^3F_4$	$3p5f\ ^3G_5$	175.53	9.107+10
$2p4f\ ^3F_2$	$3s4f\ ^3F_3$	186.46	5.352+09	$2p5d\ ^3F_3$	$3p5f\ ^3G_4$	175.47	6.484+10
$2p4f\ ^3D_2$	$3p4d\ ^3D_2$	182.41	3.218+09	$2p5d\ ^3F_4$	$3d5d\ ^3D_3$	173.42	3.229+10
$2p4f\ ^3D_2$	$3p4d\ ^1D_2$	181.13	1.071+09	$2p5d\ ^3F_4$	$3d5d\ ^3G_4$	173.39	4.494+10
$2p4f\ ^3D_2$	$3p4d\ ^3F_3$	180.00	3.832+09	$2p5d\ ^3F_4$	$3d5d\ ^3F_3$	172.84	1.616+10
$2p4f\ ^1D_2$	$3d4p\ ^1D_2$	179.33	1.748+09	$2p5d\ ^3F_4$	$3d5g\ ^3G_5$	172.22	1.141+10
$2p4f\ ^3F_2$	$3p4d\ ^3F_3$	179.12	1.796+09	$2p5g\ ^3G_3$	$3s5g\ ^3G_3$	183.51	3.870+10
$2p4f\ ^3D_2$	$3p4d\ ^3P_2$	178.92	8.550+09	$2p5g\ ^3G_3$	$3d5g\ ^1F_3$	172.52	2.741+10
$2p4f\ ^3D_2$	$3d4p\ ^3F_2$	178.51	1.074+09	$2p5g\ ^3G_3$	$3s6g\ ^3G_3$	172.32	8.374+10
$2p4f\ ^3F_2$	$3d4p\ ^3F_3$	177.65	1.861+09	$2p5g\ ^3G_3$	$3d5g\ ^3D_2$	171.82	2.135+10
$2p4f\ ^3D_2$	$3d4p\ ^3D_2$	177.21	3.302+09	$2p5g\ ^3G_3$	$3d5g\ ^1D_2$	171.34	2.437+10
$2p4f\ ^1D_2$	$3d4f\ ^3F_2$	175.41	2.053+09	$2p5g\ ^3H_5$	$3s5g\ ^3G_4$	183.69	2.982+10
$2p4f\ ^1D_2$	$3d4f\ ^3F_3$	175.41	6.177+09	$2p5g\ ^3H_4$	$3s5g\ ^3G_3$	183.69	3.650+10
$2p4f\ ^3D_2$	$3d4f\ ^3F_2$	175.24	8.816+09	$2p5g\ ^3H_5$	$3s5g\ ^3G_5$	183.69	1.437+10
$2p4f\ ^3D_2$	$3d4p\ ^1F_3$	174.20	1.792+09	$2p5g\ ^3G_5$	$3s5g\ ^3G_5$	183.52	6.570+10
$2p4f\ ^3D_2$	$3d4f\ ^3G_3$	173.93	1.968+09	$2p5g\ ^1G_4$	$3s5g\ ^3G_4$	183.52	2.738+10
$2p4f\ ^1D_2$	$3d4f\ ^3D_2$	173.16	9.561+09	$2p5g\ ^3G_4$	$3s5g\ ^3G_4$	183.51	2.373+10
$2p4f\ ^1D_2$	$3d4f\ ^3D_3$	173.16	2.124+09	$2p5g\ ^3G_4$	$3s5g\ ^3G_5$	183.50	1.142+10
$2p4f\ ^3F_2$	$3d4f\ ^3D_2$	172.19	6.108+09	$2p5g\ ^3H_5$	$3s5g\ ^1G_4$	183.02	1.382+10
$2p4f\ ^3D_2$	$3d4f\ ^1F_3$	172.19	7.535+09	$2p5g\ ^3H_4$	$3s5g\ ^1G_4$	183.02	1.269+10
$2p4f\ ^1D_2$	$3d4f\ ^3P_2$	172.15	3.273+09	$2p5g\ ^1G_4$	$3s5g\ ^1G_4$	182.85	3.139+10
$2p4f\ ^1D_2$	$3s5f\ ^1F_3$	165.29	4.545+09	$2p5g\ ^3G_4$	$3s5g\ ^1G_4$	182.84	3.206+10
$2p4f\ ^3F_2$	$3p5g\ ^3G_3$	157.91	1.536+09	$2p5g\ ^3H_4$	$3d5d\ ^1G_4$	173.17	1.123+10
$2p4f\ ^1D_2$	$3p5g\ ^1F_3$	157.64	1.580+09	$2p5g\ ^3H_4$	$3d5g\ ^1H_5$	173.15	7.761+10
$2p4f\ ^1D_2$	$3d5f\ ^1F_3$	155.30	1.913+09	$2p5g\ ^3H_5$	$3d5g\ ^3H_5$	173.04	4.043+10
$2p4f\ ^1D_2$	$3p6d\ ^1D_2$	150.86	2.841+09	$2p5g\ ^3H_4$	$3d5g\ ^3G_3$	173.03	1.990+10
$2p4f\ ^3D_2$	$3p6d\ ^3D_2$	150.75	1.053+09	$2p5g\ ^3H_4$	$3d5g\ ^3G_4$	173.03	9.820+10
$2p4f\ ^1D_2$	$3p6d\ ^3F_3$	150.72	1.171+09	$2p5g\ ^3H_4$	$3d5g\ ^3G_5$	173.02	1.380+10
$2p4f\ ^1D_2$	$3p6d\ ^3F_3$	150.70	2.000+09	$2p5g\ ^1G_4$	$3d5d\ ^1G_4$	173.01	3.343+10
$2p4f\ ^3D_2$	$3p6d\ ^3F_3$	150.59	1.506+09	$2p5g\ ^3G_4$	$3d5d\ ^1G_4$	173.00	3.207+10
$2p4f\ ^3F_2$	$3p6d\ ^3D_3$	150.13	1.427+09	$2p5g\ ^3G_5$	$3d5g\ ^1H_5$	173.00	6.256+10
$2p4f\ ^3F_2$	$3p6d\ ^3F_2$	149.98	1.648+09	$2p5g\ ^3G_4$	$3d5g\ ^3H_4$	172.88	3.023+10
$2p4f\ ^3F_2$	$3p6d\ ^3F_3$	149.96	8.580+09	$2p5g\ ^1G_4$	$3d5g\ ^3G_3$	172.87	4.152+10
$2p4f\ ^3F_2$	$3p6d\ ^3P_2$	149.69	2.399+09	$2p5g\ ^3G_5$	$3d5g\ ^3G_4$	172.87	4.147+10
$2p4f\ ^3D_3$	$3s4f\ ^3F_3$	187.37	3.706+09	$2p5g\ ^1G_4$	$3d5g\ ^3G_4$	172.87	4.768+10
$2p4f\ ^3F_3$	$3s4f\ ^3F_2$	186.50	4.309+09	$2p5g\ ^1G_4$	$3d5g\ ^3G_5$	172.87	1.910+10
$2p4f\ ^3F_3$	$3s4f\ ^3F_4$	186.50	3.035+09	$2p5g\ ^3H_5$	$3d5g\ ^1G_4$	172.86	1.796+10
$2p4f\ ^1F_3$	$3s4f\ ^3F_3$	186.44	8.369+09	$2p5g\ ^3H_4$	$3d5g\ ^1G_4$	172.86	5.639+10
$2p4f\ ^1F_3$	$3s4f\ ^3F_4$	186.44	2.530+09	$2p5g\ ^3G_3$	$3d5g\ ^3G_4$	172.86	2.233+10
$2p4f\ ^3D_3$	$3p4d\ ^3D_3$	182.36	6.035+09	$2p5g\ ^3H_5$	$3d5g\ ^3I_5$	172.82	1.212+10
$2p4f\ ^3F_3$	$3p4d\ ^3D_2$	181.55	1.878+09	$2p5g\ ^3H_4$	$3d5g\ ^1F_3$	172.69	3.779+10
$2p4f\ ^3F_3$	$3p4d\ ^1F_3$	180.84	9.961+09	$2p5g\ ^3H_5$	$3d5g\ ^3F_4$	172.62	8.152+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p4f\ ^3F_4$	$3d5f\ ^3D_3$	155.29	1.259+09	$2s6p\ ^3P_2$	$3p6p\ ^3S_1$	149.67	2.439+10
$2p4f\ ^1G_4$	$3p6d\ ^3F_3$	150.94	1.352+09	$2s6p\ ^3P_2$	$3d4d\ ^3D_3$	176.10	1.957+10
$2p4f\ ^1G_4$	$3p6d\ ^3F_3$	150.92	1.392+09	$2s6p\ ^3P_2$	$3p4f\ ^3D_3$	174.16	1.271+10
$2p4f\ ^1G_4$	$3p6g\ ^3G_4$	150.43	8.955+09	$2s6p\ ^3P_2$	$3d4d\ ^3P_2$	171.63	4.102+10
$2p4f\ ^3G_4$	$3p6g\ ^1G_4$	150.39	9.885+09	$2s6p\ ^3P_2$	$3p6p\ ^3D_2$	149.98	2.655+10
$2p4f\ ^3G_5$	$3p6g\ ^3G_4$	150.37	7.129+09	$2s6p\ ^3P_2$	$3p6p\ ^3P_2$	149.81	6.989+10
$2p4f\ ^3G_4$	$3p6g\ ^3G_3$	150.34	6.292+09	$2s6f\ ^3F_2$	$3p6f\ ^3D_1$	149.74	6.999+10
$2p4f\ ^3G_4$	$3p6g\ ^3G_5$	150.33	2.372+09	$2s6f\ ^3F_2$	$3d4d\ ^3G_3$	176.63	2.908+10
$2p4f\ ^1G_4$	$3p6g\ ^3H_5$	150.26	6.772+09	$2s6f\ ^3F_2$	$3p6f\ ^3D_2$	149.75	1.538+10
$2p4f\ ^3G_5$	$3p6g\ ^3H_5$	150.20	2.188+09	$2s6f\ ^1F_3$	$3d4d\ ^1F_3$	177.28	3.513+10
$2p4f\ ^3G_4$	$3p6g\ ^3H_4$	150.17	3.080+09	$2s6f\ ^3F_3$	$3d4d\ ^3F_3$	174.69	1.172+10
$2p4f\ ^1G_4$	$3p6g\ ^3F_3$	150.03	7.156+09	$2s6f\ ^3F_3$	$3p6f\ ^3F_2$	150.10	1.573+10
$2p4f\ ^3G_4$	$3p6g\ ^3F_4$	149.95	7.606+09	$2s6f\ ^3F_3$	$3p6f\ ^3D_3$	149.76	1.635+10
$2p4f\ ^3G_4$	$3p6g\ ^1F_3$	149.67	8.697+09	$2s6f\ ^1F_3$	$3p6f\ ^1D_2$	149.08	7.051+10
$2p4f\ ^3F_4$	$3p6g\ ^1G_4$	149.56	2.618+09	$2s6f\ ^1F_3$	$3d6s\ ^1D_2$	148.56	2.932+10
$2p4f\ ^3F_4$	$3p6g\ ^3G_4$	149.51	2.395+09	$2s6f\ ^3F_3$	$3p4f\ ^3G_4$	179.21	1.204+10
$2p4f\ ^3F_4$	$3p6g\ ^3H_5$	149.34	2.463+09	$2s6f\ ^3F_4$	$3p4f\ ^3G_5$	179.20	1.732+10
$2p4f\ ^3F_4$	$3p6g\ ^3F_3$	149.11	1.706+09	$2s6f\ ^3F_3$	$3d4d\ ^3G_4$	176.63	4.043+10
$2p4f\ ^3F_4$	$3p6g\ ^1H_5$	148.91	2.179+09	$2s6f\ ^3F_4$	$3d4d\ ^3G_5$	176.62	5.705+10
$2p4f\ ^3F_4$	$3p6g\ ^1F_3$	148.85	1.819+09	$2s6f\ ^1F_3$	$3p4f\ ^1G_4$	175.60	5.352+10
$2p4f\ ^3G_5$	$3d6f\ ^3H_6$	148.73	9.541+09	$2s6f\ ^3F_4$	$3d4d\ ^3F_4$	174.69	1.961+10
$2p4f\ ^1G_4$	$3d6p\ ^1F_3$	148.72	3.974+09	$2s6f\ ^3F_4$	$3p6f\ ^3F_3$	150.10	1.709+10
$2p4f\ ^3G_4$	$3d6f\ ^3H_5$	148.70	7.237+09	$2s6h\ ^3H_5$	$3p6h\ ^1H_5$	149.62	1.475+10
$2p4f\ ^1G_4$	$3d6f\ ^1F_3$	148.17	2.499+09	$2s6h\ ^3H_6$	$3p6h\ ^3H_4$	149.62	1.034+10
$2p4f\ ^1G_4$	$3d6h\ ^1F_3$	148.07	3.798+09	$2s6h\ ^1H_5$	$3p6h\ ^3H_5$	149.62	1.041+10
$2p4f\ ^1G_4$	$3d6f\ ^1H_5$	147.84	7.747+09	$2s6h\ ^1H_5$	$3p6h\ ^3G_4$	149.31	1.061+10
$2p4f\ ^3F_4$	$3d6f\ ^3D_3$	147.48	1.800+09	$2s6h\ ^3H_4$	$3p6h\ ^3G_4$	149.31	1.261+10
$2p5p\ ^1S_0$	$3p4d\ ^1P_1$	203.92	1.138+09	$2s6h\ ^3H_5$	$3p6h\ ^1G_4$	149.29	1.271+10
$2p5p\ ^1S_0$	$3s5p\ ^1P_1$	187.07	3.587+09	$2s6h\ ^3H_6$	$3d5g\ ^3I_7$	155.81	1.159+10
$2p5p\ ^3P_1$	$3s5p\ ^3P_0$	185.41	7.556+09	$2p4s\ ^3P_0$	$3s4s\ ^3S_1$	188.89	4.937+09
$2p5p\ ^3P_1$	$3s5p\ ^3P_1$	185.40	5.703+09	$2p4s\ ^3P_1$	$3s4d\ ^3D_1$	182.25	3.411+09
$2p5p\ ^3P_0$	$3s5p\ ^3P_1$	185.35	5.544+09	$2p4s\ ^3P_0$	$3s4d\ ^3D_1$	182.19	4.564+09
$2p5p\ ^3S_1$	$3s5p\ ^3P_1$	185.16	2.645+09	$2p4s\ ^3P_1$	$3p4p\ ^3S_1$	175.41	1.901+09
$2p5p\ ^3D_1$	$3s5p\ ^3P_0$	184.72	7.165+09	$2p4s\ ^3P_1$	$3p4f\ ^3D_1$	168.88	3.917+09
$2p5p\ ^3D_1$	$3s5p\ ^3P_1$	184.72	5.959+09	$2p4s\ ^3P_0$	$3p4f\ ^3D_1$	168.84	5.285+09
$2p5p\ ^1P_1$	$3s5p\ ^3P_0$	184.57	1.260+09	$2p4s\ ^1P_1$	$3p5p\ ^1P_1$	156.24	1.882+09
$2p5p\ ^1P_1$	$3s5p\ ^3P_1$	184.56	1.337+09	$2p4s\ ^1P_1$	$3d5d\ ^1S_0$	149.71	1.932+09
$2p5p\ ^3D_1$	$3s5p\ ^1P_1$	184.52	2.515+09	$2p4s\ ^1P_1$	$3p6p\ ^1P_1$	147.03	5.927+09
$2p5p\ ^1S_0$	$3p5s\ ^1P_1$	179.77	5.433+09	$2p4s\ ^1P_1$	$2p6d\ ^1D_2$	884.33	1.901+09
$2p5p\ ^3P_1$	$3p5s\ ^3P_0$	178.64	1.643+09	$2p4s\ ^3P_2$	$3p4p\ ^3D_1$	176.37	1.771+09
$2p5p\ ^3P_0$	$3p5s\ ^3P_1$	178.57	3.172+09	$2p4s\ ^3P_2$	$3p4p\ ^3S_1$	175.52	3.265+09
$2p5p\ ^3S_1$	$3p5s\ ^3P_0$	178.41	3.919+09	$2p4s\ ^3P_2$	$3d4s\ ^3D_1$	174.03	4.767+09

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p4f\ ^3G_3$	$3p6g\ ^3F_3$	149.92	7.571+09	$2p5g\ ^1H_5$	$3d5g\ ^3G_5$	173.09	1.118+10
$2p4f\ ^3F_3$	$3p6d\ ^3P_2$	149.71	1.587+09	$2p5g\ ^1F_3$	$3d5g\ ^3G_4$	173.09	9.901+10
$2p4f\ ^1F_3$	$3p6d\ ^3P_2$	149.68	3.801+09	$2p5g\ ^3F_3$	$3d5g\ ^1G_4$	172.99	4.784+10
$2p4f\ ^3F_3$	$3p6g\ ^3G_3$	149.50	3.266+09	$2p5g\ ^1H_5$	$3d5g\ ^1G_4$	172.94	3.385+10
$2p4f\ ^3F_3$	$3p6g\ ^3H_4$	149.34	3.229+09	$2p5g\ ^1F_3$	$3d5g\ ^1G_4$	172.93	6.491+10
$2p4f\ ^3F_3$	$3p6g\ ^3F_2$	149.09	2.312+09	$2p5g\ ^3F_4$	$3d5g\ ^1G_4$	172.93	1.594+10
$2p4f\ ^3G_3$	$3d6f\ ^3H_4$	148.69	6.412+09	$2p5g\ ^1H_5$	$3d5g\ ^3I_5$	172.89	1.098+10
$2p4f\ ^3D_3$	$3d6f\ ^3D_3$	148.01	1.344+09	$2p5g\ ^3F_4$	$3d5g\ ^1F_3$	172.75	1.265+10
$2p4f\ ^3D_3$	$3d6f\ ^3P_2$	147.87	2.754+09	$2p5g\ ^3F_3$	$3d5g\ ^3F_4$	172.74	1.843+10
$2p4f\ ^3F_3$	$3d6f\ ^3D_2$	147.47	1.137+09	$2p5g\ ^1F_3$	$3d5g\ ^3F_4$	172.68	1.211+10
$2p4f\ ^1G_4$	$3s4f\ ^3F_3$	187.95	1.477+09	$2p5g\ ^3F_3$	$3s6g\ ^3G_4$	172.61	2.776+10
$2p4f\ ^3F_4$	$3s4f\ ^3F_3$	186.51	5.122+09	$2p5g\ ^1H_5$	$3s6g\ ^3G_4$	172.55	1.034+10
$2p4f\ ^3F_4$	$3p4d\ ^3D_3$	181.56	3.408+09	$2p5g\ ^1F_3$	$3s6g\ ^3G_4$	172.54	2.779+10
$2p4f\ ^3F_4$	$3p4d\ ^3F_3$	179.17	2.172+09	$2p5g\ ^3F_4$	$3s6g\ ^3G_5$	172.54	6.599+10
$2p4f\ ^3G_5$	$3d4p\ ^3F_4$	178.90	3.199+09	$2p5g\ ^3F_3$	$3s6g\ ^1G_4$	171.43	2.098+10
$2p4f\ ^3G_4$	$3d4p\ ^3F_3$	178.87	1.895+09	$2p5g\ ^1H_5$	$3s6g\ ^1G_4$	171.37	1.036+10
$2p4f\ ^3F_4$	$3d4p\ ^3F_3$	177.69	4.282+09	$2p5g\ ^1F_3$	$3s6g\ ^1G_4$	171.37	2.156+10
$2p4f\ ^3G_4$	$3d4f\ ^1G_4$	177.12	9.982+09	$2p5g\ ^1H_5$	$3p6h\ ^1I_6$	164.92	2.165+10
$2p4f\ ^3F_4$	$3d4p\ ^3D_3$	176.40	2.025+09	$2p5g\ ^3H_6$	$3s5g\ ^3G_5$	183.77	6.174+10
$2p4f\ ^3F_4$	$3d4f\ ^3H_5$	175.85	2.261+09	$2p5g\ ^3H_6$	$3d5g\ ^3H_5$	173.11	2.888+10
$2p4f\ ^1G_4$	$3d4f\ ^3F_3$	175.71	2.442+09	$2p5g\ ^3H_6$	$3d5g\ ^3G_5$	173.09	6.192+10
$2p4f\ ^3G_4$	$3d4f\ ^3F_4$	175.58	3.798+09	$2p5g\ ^3H_6$	$3d5g\ ^3I_6$	172.89	2.674+10
$2p4f\ ^1G_4$	$3d4p\ ^1F_3$	174.67	2.119+09	$2p5g\ ^3H_6$	$3s6g\ ^3G_5$	172.55	2.867+10
$2p4f\ ^3G_5$	$3d4f\ ^3G_4$	174.31	7.406+09	$2p5g\ ^3H_6$	$3p6h\ ^3I_7$	164.95	2.606+10
$2p4f\ ^3G_4$	$3d4f\ ^3G_3$	174.27	6.343+09	$2s6p\ ^3P_1$	$3d4d\ ^3S_1$	172.97	1.132+10
$2p4f\ ^3G_4$	$3d4f\ ^1F_3$	172.52	2.192+09	$2s6p\ ^3P_0$	$3d4d\ ^3P_1$	171.64	1.054+10
$2p4f\ ^3F_4$	$3d4f\ ^1H_5$	170.78	2.761+09	$2s6p\ ^3P_1$	$3d4d\ ^3P_0$	171.64	1.199+10
$2p4f\ ^1G_4$	$3p5g\ ^1G_4$	159.09	3.302+09	$2s6p\ ^1P_1$	$3p6p\ ^1P_1$	150.44	6.090+10
$2p4f\ ^3G_5$	$3p5g\ ^3G_5$	158.90	6.439+09	$2s6p\ ^3P_0$	$3p6p\ ^3D_1$	150.00	2.879+10
$2p4f\ ^3G_4$	$3p5g\ ^3G_4$	158.87	4.316+09	$2s6p\ ^3P_1$	$3p6p\ ^3D_1$	150.00	2.393+10
$2p4f\ ^3G_5$	$3p5g\ ^3H_6$	158.81	3.550+09	$2s6p\ ^3P_1$	$3p6p\ ^3P_0$	149.83	2.018+10
$2p4f\ ^3G_4$	$3p5g\ ^3H_5$	158.78	2.720+09	$2s6p\ ^3P_0$	$3p6p\ ^3P_1$	149.82	2.053+10
$2p4f\ ^3G_5$	$3p5g\ ^3F_4$	158.02	1.624+09	$2s6p\ ^3P_1$	$3p6p\ ^3P_1$	149.82	1.158+10
$2p4f\ ^3G_4$	$3p5g\ ^3F_3$	157.98	1.086+09	$2s6p\ ^3P_1$	$3p6p\ ^3S_1$	149.67	1.971+10
$2p4f\ ^3F_4$	$3p5g\ ^3G_5$	157.94	2.845+09	$2s6p\ ^1P_1$	$3p6p\ ^1S_0$	149.14	1.386+10
$2p4f\ ^1G_4$	$3p5g\ ^1F_3$	157.88	2.052+09	$2s6p\ ^3P_2$	$3d4d\ ^3S_1$	172.96	2.018+10
$2p4f\ ^1G_4$	$3d5f\ ^1G_4$	157.42	1.818+09	$2s6p\ ^3P_1$	$3d4d\ ^3P_2$	171.63	1.341+10
$2p4f\ ^3G_5$	$3d5f\ ^3H_6$	157.22	8.235+09	$2s6p\ ^3P_2$	$3d4d\ ^3P_1$	171.63	1.649+10
$2p4f\ ^3G_4$	$3d5f\ ^3H_5$	157.18	6.087+09	$2s6p\ ^1P_1$	$3p6p\ ^1D_2$	150.02	9.545+10
$2p4f\ ^1G_4$	$3s6h\ ^1H_5$	155.82	3.159+09	$2s6p\ ^3P_1$	$3p6p\ ^3D_2$	149.99	6.475+10
$2p4f\ ^3G_5$	$3s6h\ ^3H_6$	155.81	3.136+09	$2s6p\ ^3P_2$	$3p6p\ ^3P_1$	149.82	2.802+10
$2p4f\ ^3G_4$	$3s6h\ ^3H_5$	155.78	2.293+09	$2s6p\ ^3P_1$	$3p6p\ ^3P_2$	149.81	2.958+10

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p5p\ ^1P_1$	$3d5f\ ^1D_2$	171.10	3.816+09	$2s5p\ ^3P_1$	$3p5f\ ^3F_2$	149.36	2.102+09
$2p5p\ ^3P_1$	$3d5f\ ^3P_2$	170.83	3.330+09	$2s5p\ ^1P_1$	$3p5f\ ^1D_2$	147.87	3.060+09
$2p5p\ ^3S_1$	$3d5f\ ^3P_2$	170.62	7.046+09	$2s5p\ ^3P_1$	$3d5d\ ^3D_2$	147.77	4.451+09
$2p5p\ ^3D_2$	$3d5f\ ^3P_1$	170.27	1.491+09	$2s5p\ ^3P_1$	$3s6d\ ^3D_2$	147.20	2.591+09
$2p5p\ ^1D_2$	$3d5f\ ^1P_1$	169.95	2.206+09	$2s5p\ ^3P_2$	$3d5d\ ^3S_1$	146.95	6.115+09
$2p5p\ ^3S_1$	$3p6s\ ^3P_2$	166.04	1.664+09	$2s5p\ ^3P_2$	$3d5d\ ^3P_1$	146.72	1.401+09
$2p5p\ ^3P_2$	$3p4d\ ^3D_3$	203.75	1.350+09	$2s5p\ ^3P_1$	$3d5d\ ^3P_2$	146.71	1.547+09
$2p5p\ ^1D_2$	$3p4d\ ^1F_3$	203.47	2.034+09	$2s5p\ ^1P_1$	$3d5d\ ^1D_2$	146.43	8.022+09
$2p5p\ ^3D_2$	$3s5p\ ^3P_2$	184.75	8.682+09	$2s5p\ ^1P_1$	$3d5g\ ^1D_2$	145.76	2.187+09
$2p5p\ ^1D_2$	$3s5f\ ^1F_3$	182.94	4.685+09	$2s5p\ ^3P_2$	$3s4d\ ^3D_3$	176.55	1.059+09
$2p5p\ ^3D_2$	$3p5d\ ^1F_3$	175.40	1.002+09	$2s5p\ ^3P_2$	$3d4d\ ^3D_3$	165.71	1.012+09
$2p5p\ ^3D_2$	$3p5d\ ^3F_2$	175.01	5.844+09	$2s5p\ ^3P_2$	$3d4d\ ^3P_2$	161.75	1.420+09
$2p5p\ ^1D_2$	$3d5p\ ^3D_2$	173.97	1.332+09	$2s5p\ ^3P_2$	$3s5d\ ^3D_2$	156.00	1.142+09
$2p5p\ ^1D_2$	$3d5p\ ^3D_3$	173.96	1.521+09	$2s5p\ ^3P_2$	$3s5d\ ^3D_3$	156.00	6.332+09
$2p5p\ ^3P_2$	$3d5p\ ^3F_3$	173.67	1.548+09	$2s5p\ ^3P_2$	$3d5s\ ^3D_2$	149.37	3.084+09
$2p5p\ ^3P_2$	$3p5g\ ^3F_3$	173.40	1.111+09	$2s5p\ ^3P_2$	$3p5f\ ^3F_3$	149.37	9.475+09
$2p5p\ ^3D_2$	$3d5p\ ^3D_3$	172.90	5.955+09	$2s5p\ ^3P_2$	$3d5d\ ^3D_2$	147.77	1.492+09
$2p5p\ ^3P_2$	$3s6p\ ^3P_2$	172.77	6.128+09	$2s5p\ ^3P_2$	$3d5d\ ^3D_3$	147.77	8.420+09
$2p5p\ ^1D_2$	$3d5f\ ^3G_3$	172.10	1.076+09	$2s5p\ ^3P_2$	$3s6d\ ^3D_3$	147.20	4.943+09
$2p5p\ ^3P_2$	$3d5p\ ^1F_3$	171.67	1.131+09	$2s5p\ ^3P_2$	$3d5d\ ^3P_2$	146.71	4.536+09
$2p5p\ ^3D_2$	$3s6f\ ^1F_3$	171.66	1.147+09	$2s5f\ ^3F_2$	$3d5s\ ^3D_1$	150.59	5.597+09
$2p5p\ ^3D_2$	$3d5f\ ^3F_2$	171.65	3.901+09	$2s5f\ ^3F_2$	$3d5d\ ^3D_1$	148.97	1.031+09
$2p5p\ ^3D_2$	$3s6f\ ^3F_3$	171.17	3.345+09	$2s5f\ ^3F_2$	$3s6d\ ^3D_1$	148.39	5.699+09
$2p5p\ ^3P_2$	$3d5f\ ^3P_2$	170.86	3.566+09	$2s5f\ ^3F_2$	$3d4d\ ^3G_3$	166.55	2.957+09
$2p5p\ ^1D_2$	$3d5f\ ^1F_3$	170.77	3.971+09	$2s5f\ ^3F_2$	$3s5g\ ^3G_3$	155.82	1.184+09
$2p5p\ ^3P_2$	$3p6s\ ^3P_2$	166.27	1.184+09	$2s5f\ ^3F_2$	$3d5d\ ^3F_2$	148.54	3.438+09
$2p5p\ ^1D_2$	$3p6d\ ^3F_3$	165.26	3.318+09	$2s5f\ ^3F_2$	$3s6d\ ^3D_2$	148.39	1.102+09
$2p5p\ ^1D_2$	$3p6d\ ^3F_3$	165.23	3.318+09	$2s5f\ ^3F_2$	$3d5g\ ^3G_3$	148.08	5.575+09
$2p5p\ ^3P_2$	$3p6d\ ^3D_3$	165.03	1.730+09	$2s5f\ ^3F_2$	$3s6g\ ^3G_3$	147.68	1.160+09
$2p5p\ ^3D_3$	$3p5d\ ^3D_2$	175.70	2.283+09	$2s5f\ ^1F_3$	$3d4d\ ^1F_3$	167.65	4.209+09
$2p5p\ ^3D_3$	$3p5d\ ^3F_3$	175.09	5.787+09	$2s5f\ ^1F_3$	$3s5d\ ^1D_2$	157.19	1.491+09
$2p5p\ ^3D_3$	$3p5d\ ^3P_2$	174.59	1.017+09	$2s5f\ ^3F_3$	$3p5f\ ^3F_2$	150.58	5.178+09
$2p5p\ ^3D_3$	$3d5p\ ^3F_2$	173.15	1.295+09	$2s5f\ ^1F_3$	$3d5d\ ^1F_3$	149.34	6.470+09
$2p5p\ ^3D_3$	$3d5p\ ^3P_2$	172.53	8.924+09	$2s5f\ ^3F_3$	$3d5d\ ^3D_2$	148.97	1.491+09
$2p5p\ ^3D_3$	$3s6p\ ^3P_2$	172.25	1.260+09	$2s5f\ ^3F_3$	$3d5d\ ^3F_3$	148.54	4.519+09
$2p5p\ ^3D_3$	$3d5f\ ^3F_3$	171.73	4.039+09	$2s5f\ ^3F_3$	$3s6d\ ^3D_2$	148.39	8.323+09
$2p5p\ ^3D_3$	$3s6f\ ^3F_4$	171.26	4.999+09	$2s5f\ ^3F_3$	$3s6d\ ^3D_3$	148.39	1.113+09
$2p5p\ ^3D_3$	$3d5f\ ^3P_2$	170.36	2.610+09	$2s5f\ ^1F_3$	$3d5g\ ^1F_3$	147.90	1.983+09
$2p5f\ ^3D_1$	$3p5d\ ^3D_1$	177.71	2.769+09	$2s5f\ ^1F_3$	$3d5d\ ^1D_2$	147.71	3.957+09
$2p5f\ ^3D_1$	$3p5d\ ^3P_1$	176.56	4.435+09	$2s5f\ ^1F_3$	$3d5g\ ^1D_2$	147.02	1.809+09
$2p5f\ ^3D_1$	$3p5d\ ^3P_0$	176.55	5.840+09	$2s5f\ ^1F_3$	$3p6f\ ^1D_2$	142.21	1.348+09
$2p5f\ ^3D_1$	$3d5p\ ^3P_0$	174.47	1.096+09	$2s5f\ ^1F_3$	$3d2\ ^1G_4$	221.23	1.777+09

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p5p\ ^3S_1$	$3p5s\ ^3P_1$	178.40	9.304+09	$2p4s\ ^3P_1$	$3d4d\ ^3D_2$	170.70	1.624+09
$2p5p\ ^3D_1$	$3p5s\ ^1P_1$	177.41	2.446+09	$2p4s\ ^1P_1$	$3s5d\ ^1D_2$	161.23	2.086+09
$2p5p\ ^3D_1$	$3p5d\ ^3D_1$	175.59	6.865+09	$2p4s\ ^1P_1$	$3p5p\ ^1D_2$	155.74	8.756+09
$2p5p\ ^3D_1$	$3p5d\ ^1P_1$	174.74	3.688+09	$2p4s\ ^1P_1$	$3d5s\ ^1D_2$	153.87	1.500+09
$2p5p\ ^3S_1$	$3d5p\ ^3D_1$	173.27	3.529+09	$2p4s\ ^1P_1$	$3p5f\ ^1D_2$	152.81	3.639+09
$2p5p\ ^3P_1$	$3d5p\ ^3P_1$	173.01	2.989+09	$2p4s\ ^1P_1$	$3d5d\ ^1D_2$	151.27	4.172+09
$2p5p\ ^1P_1$	$3d5p\ ^3D_1$	172.75	5.260+09	$2p4s\ ^1P_1$	$3d5g\ ^1D_2$	150.55	1.332+09
$2p5p\ ^3P_0$	$3s6p\ ^3P_1$	172.69	1.555+09	$2p4s\ ^1P_1$	$3p6p\ ^1D_2$	146.63	1.553+09
$2p5p\ ^3D_1$	$3s6p\ ^1P_1$	172.57	4.304+09	$2p4s\ ^3P_2$	$3s4d\ ^3D_2$	182.36	3.401+09
$2p5p\ ^3S_1$	$3s6p\ ^3P_0$	172.52	3.118+09	$2p4s\ ^3P_2$	$3p4p\ ^3P_2$	174.57	1.210+09
$2p5p\ ^3S_1$	$3s6p\ ^3P_1$	172.52	8.279+09	$2p4s\ ^3P_2$	$3d4d\ ^3D_3$	170.81	2.875+09
$2p5p\ ^3D_1$	$3d5p\ ^3P_0$	172.42	4.563+09	$2p4s\ ^3P_2$	$3p4f\ ^3D_2$	168.99	3.901+09
$2p5p\ ^1P_1$	$3d5p\ ^3P_1$	172.28	2.143+09	$2p4s\ ^3P_2$	$3d4d\ ^3P_2$	166.60	1.401+09
$2p5p\ ^1S_0$	$3d5f\ ^1P_1$	171.05	7.435+09	$2p4s\ ^3P_2$	$3s5d\ ^3D_3$	160.51	1.569+09
$2p5p\ ^3S_1$	$3d5f\ ^3P_1$	170.61	6.162+09	$2s5p\ ^1P_1$	$3s4s\ ^1S_0$	180.88	1.096+09
$2p5p\ ^3S_1$	$3d5f\ ^3P_0$	170.61	2.276+09	$2s5p\ ^1P_1$	$3d4d\ ^1P_1$	164.90	1.090+09
$2p5p\ ^3D_1$	$3d5p\ ^1P_1$	170.40	4.754+09	$2s5p\ ^3P_1$	$3s5s\ ^3S_1$	158.46	1.305+09
$2p5p\ ^1P_1$	$3d5f\ ^1P_1$	168.78	3.896+09	$2s5p\ ^1P_1$	$3s5s\ ^1S_0$	157.05	4.607+09
$2p5p\ ^1S_0$	$3p6s\ ^1P_1$	167.46	5.519+09	$2s5p\ ^3P_1$	$3s5d\ ^3D_1$	156.00	1.139+09
$2p5p\ ^3S_1$	$3p6s\ ^3P_1$	166.07	1.559+09	$2s5p\ ^3P_0$	$3s5d\ ^3D_1$	155.99	1.520+09
$2p5p\ ^1S_0$	$3p6d\ ^1P_1$	165.85	4.888+09	$2s5p\ ^3P_1$	$3p5p\ ^3S_1$	150.53	7.381+09
$2p5p\ ^1P_1$	$3d6p\ ^1P_1$	161.18	1.504+09	$2s5p\ ^3P_1$	$3d5s\ ^3D_1$	149.37	3.808+09
$2p5p\ ^3P_2$	$3s5p\ ^3P_1$	185.45	8.850+09	$2s5p\ ^3P_0$	$3d5s\ ^3D_1$	149.37	5.176+09
$2p5p\ ^3P_1$	$3s5p\ ^3P_2$	185.40	3.171+09	$2s5p\ ^1P_1$	$3s6s\ ^1S_0$	148.05	2.487+09
$2p5p\ ^3P_2$	$3p5s\ ^3P_1$	178.67	3.774+09	$2s5p\ ^3P_1$	$3d5d\ ^3D_1$	147.77	1.468+09
$2p5p\ ^3P_1$	$3p5s\ ^3P_2$	178.60	8.203+09	$2s5p\ ^3P_0$	$3d5d\ ^3D_1$	147.77	1.971+09
$2p5p\ ^3S_1$	$3p5s\ ^3P_2$	178.37	8.723+09	$2s5p\ ^1P_1$	$3d5d\ ^1P_1$	147.61	3.347+09
$2p5p\ ^3S_1$	$3p5d\ ^3D_2$	175.98	2.429+09	$2s5p\ ^3P_0$	$3s6d\ ^3D_1$	147.20	1.145+09
$2p5p\ ^3D_2$	$3p5d\ ^3D_1$	175.62	2.376+09	$2s5p\ ^3P_1$	$3d5d\ ^3S_1$	146.95	3.577+09
$2p5p\ ^1P_1$	$3p5d\ ^3F_2$	174.84	4.851+09	$2s5p\ ^3P_0$	$3d5d\ ^3S_1$	146.94	1.179+09
$2p5p\ ^3S_1$	$3d5p\ ^1D_2$	173.83	3.392+09	$2s5p\ ^3P_1$	$3d5d\ ^3P_0$	146.72	1.203+09
$2p5p\ ^1D_2$	$3s6p\ ^1P_1$	173.65	5.226+09	$2s5p\ ^3P_0$	$3d5d\ ^3P_1$	146.71	1.270+09
$2p5p\ ^3P_2$	$3d5p\ ^3D_1$	173.53	3.305+09	$2s5p\ ^1P_1$	$3d5d\ ^1S_0$	144.97	3.343+09
$2p5p\ ^3D_1$	$3d5p\ ^3D_2$	172.88	6.285+09	$2s5p\ ^1P_1$	$3p4p\ ^1D_2$	166.03	7.709+09
$2p5p\ ^3P_2$	$3s6p\ ^3P_1$	172.77	1.721+09	$2s5p\ ^3P_2$	$3d4d\ ^3S_1$	162.93	1.013+09
$2p5p\ ^1P_1$	$3d5p\ ^3D_2$	172.75	3.372+09	$2s5p\ ^1P_1$	$3p4f\ ^1D_2$	162.79	2.314+09
$2p5p\ ^3P_1$	$3s6p\ ^3P_2$	172.73	5.429+09	$2s5p\ ^1P_1$	$3d4d\ ^1D_2$	161.01	4.362+09
$2p5p\ ^3S_1$	$3s6p\ ^3P_2$	172.52	9.384+09	$2s5p\ ^3P_2$	$3s5s\ ^3S_1$	158.46	2.189+09
$2p5p\ ^3D_2$	$3d5p\ ^3P_1$	172.45	6.995+09	$2s5p\ ^3P_1$	$3s5d\ ^3D_2$	156.00	3.395+09
$2p5p\ ^1P_1$	$3d5f\ ^3F_2$	171.49	3.057+09	$2s5p\ ^1P_1$	$3s5d\ ^1D_2$	155.74	5.284+09
$2p5p\ ^1D_2$	$3d5p\ ^1P_1$	171.45	7.064+09	$2s5p\ ^3P_2$	$3p5p\ ^3D_1$	150.99	1.781+09
$2p5p\ ^3D_1$	$3s6f\ ^3F_2$	171.14	1.934+09	$2s5p\ ^3P_1$	$3d5s\ ^3D_2$	149.37	9.594+09

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p5f\ ^1D_2$	$3s6f\ ^3F_2$	173.24	1.566+09	$2s6p\ ^3P_0$	$3s4d\ ^3D_1$	188.41	1.037+09
$2p5f\ ^1D_2$	$3s6f\ ^3F_3$	173.24	1.576+09	$2s6p\ ^1P_1$	$3p4p\ ^1P_1$	183.29	1.063+09
$2p5f\ ^3F_2$	$3s6f\ ^1F_3$	173.21	1.055+09	$2s6p\ ^3P_0$	$3p4p\ ^3S_1$	181.11	1.134+09
$2p5f\ ^1D_2$	$3d5p\ ^1F_3$	173.14	6.397+09	$2s6p\ ^3P_1$	$3p4p\ ^3S_1$	181.11	3.559+09
$2p5f\ ^1D_2$	$3d5f\ ^3G_3$	173.12	2.834+09	$2s6p\ ^1P_1$	$3p4p\ ^1S_0$	177.39	1.012+09
$2p5f\ ^3F_2$	$3d5f\ ^1D_2$	172.81	3.850+09	$2s6p\ ^1P_1$	$3d4d\ ^3D_1$	176.57	1.056+09
$2p5f\ ^3F_2$	$3s6f\ ^3F_3$	172.71	1.242+09	$2s6p\ ^3P_0$	$3d4d\ ^3D_1$	176.10	4.664+09
$2p5f\ ^1D_2$	$3d5f\ ^3D_3$	172.70	4.268+09	$2s6p\ ^3P_1$	$3d4d\ ^3D_1$	176.10	4.722+09
$2p5f\ ^3F_2$	$3d5p\ ^1F_3$	172.62	3.157+09	$2s6p\ ^1P_1$	$3d4d\ ^1P_1$	175.70	7.001+09
$2p5f\ ^1D_2$	$3d5f\ ^3P_2$	172.32	6.437+09	$2s6p\ ^3P_0$	$3p4f\ ^3D_1$	174.17	2.837+09
$2p5f\ ^3F_2$	$3d5f\ ^3D_2$	172.18	4.924+09	$2s6p\ ^3P_1$	$3p4f\ ^3D_1$	174.16	2.757+09
$2p5f\ ^3F_2$	$3d5f\ ^1F_3$	171.27	1.989+09	$2s6p\ ^3P_0$	$3d4d\ ^3S_1$	172.97	3.603+09
$2p5f\ ^1D_2$	$3p6g\ ^1F_3$	164.77	1.057+09	$2s6p\ ^3P_1$	$3d4d\ ^3P_1$	171.64	7.471+09
$2p5f\ ^3D_3$	$3s5f\ ^3F_3$	184.71	6.522+09	$2s6p\ ^1P_1$	$3s5s\ ^1S_0$	166.82	1.843+09
$2p5f\ ^3F_3$	$3s5f\ ^3F_4$	184.29	5.145+09	$2s6p\ ^1P_1$	$3d5d\ ^1S_0$	153.25	4.044+09
$2p5f\ ^1F_3$	$3s5f\ ^3F_2$	184.27	2.804+09	$2s6p\ ^3P_0$	$3p6p\ ^3S_1$	149.67	7.574+09
$2p5f\ ^1F_3$	$3s5f\ ^3F_3$	184.26	2.989+09	$2s6p\ ^3P_0$	$3d6s\ ^3D_1$	148.44	2.150+09
$2p5f\ ^1F_3$	$3s5f\ ^3F_4$	184.26	2.816+09	$2s6p\ ^3P_1$	$3d6s\ ^3D_1$	148.44	1.561+09
$2p5f\ ^3D_3$	$3s5f\ ^1F_3$	183.94	1.067+09	$2s6p\ ^1P_1$	$3d6d\ ^1P_1$	147.79	2.456+09
$2p5f\ ^3G_3$	$3s5f\ ^1F_3$	183.72	5.647+09	$2s6p\ ^3P_0$	$3d6d\ ^3D_1$	147.51	1.346+09
$2p5f\ ^3F_3$	$3s5f\ ^1F_3$	183.52	6.295+09	$2s6p\ ^3P_1$	$3d6d\ ^3D_1$	147.51	1.003+09
$2p5f\ ^3D_3$	$3p5d\ ^3D_3$	177.62	7.784+09	$2s6p\ ^3P_1$	$3d6d\ ^3S_1$	147.12	1.335+09
$2p5f\ ^3F_3$	$3p5d\ ^3D_2$	177.25	2.584+09	$2s6p\ ^1P_1$	$3d6d\ ^1S_0$	145.60	3.399+09
$2p5f\ ^3G_3$	$3p5d\ ^1F_3$	177.21	1.436+09	$2s6p\ ^1P_1$	$3s4d\ ^1D_2$	188.45	3.346+09
$2p5f\ ^3F_3$	$3p5d\ ^1F_3$	177.03	1.456+09	$2s6p\ ^3P_1$	$3s4d\ ^3D_2$	188.40	2.611+09
$2p5f\ ^3D_3$	$3p5d\ ^3F_4$	176.98	2.808+09	$2s6p\ ^1P_1$	$3d4s\ ^1D_2$	182.41	7.152+09
$2p5f\ ^1F_3$	$3p5d\ ^1D_2$	176.96	3.625+09	$2s6p\ ^3P_2$	$3p4p\ ^3S_1$	181.10	6.349+09
$2p5f\ ^3G_3$	$3p5d\ ^3F_3$	176.80	1.153+09	$2s6p\ ^3P_2$	$3p4p\ ^3P_1$	180.12	1.028+09
$2p5f\ ^3F_3$	$3p5d\ ^3F_3$	176.62	9.155+09	$2s6p\ ^3P_1$	$3d4s\ ^3D_2$	179.51	1.879+09
$2p5f\ ^1F_3$	$3p5d\ ^3F_3$	176.59	1.575+09	$2s6p\ ^1P_1$	$3p4p\ ^1D_2$	176.99	8.507+09
$2p5f\ ^3F_3$	$3p5g\ ^1G_4$	175.60	1.464+09	$2s6p\ ^3P_1$	$3d4d\ ^3D_2$	176.10	9.879+09
$2p5f\ ^1F_3$	$3p5g\ ^1G_4$	175.58	9.656+09	$2s6p\ ^3P_1$	$3p4f\ ^3D_2$	174.16	6.246+09
$2p5f\ ^3F_3$	$3p5g\ ^3H_4$	175.36	6.001+09	$2s6p\ ^1P_1$	$3d4d\ ^3F_2$	173.90	3.573+09
$2p5f\ ^1F_3$	$3p5g\ ^3H_4$	175.34	1.027+09	$2s6p\ ^1P_1$	$3p5p\ ^1D_2$	159.58	1.876+09
$2p5f\ ^1F_3$	$3d5p\ ^1D_2$	175.04	1.686+09	$2s6p\ ^1P_1$	$3d5s\ ^1D_2$	157.61	1.228+09
$2p5f\ ^3D_3$	$3d5p\ ^3D_3$	174.86	1.536+09	$2s6p\ ^1P_1$	$3p5f\ ^1D_2$	156.50	1.078+09
$2p5f\ ^3G_3$	$3d5p\ ^3F_3$	174.82	3.727+09	$2s6p\ ^3P_1$	$3s6d\ ^3D_2$	155.34	1.262+09
$2p5f\ ^3D_3$	$3p5g\ ^3F_4$	174.75	4.857+09	$2s6p\ ^3P_2$	$3d5d\ ^3S_1$	155.06	1.663+09
$2p5f\ ^3F_3$	$3d5p\ ^3F_2$	174.64	4.173+09	$2s6p\ ^1P_1$	$3d5d\ ^1D_2$	154.88	2.178+09
$2p5f\ ^1F_3$	$3d5p\ ^3F_3$	174.62	5.709+09	$2s6p\ ^1P_1$	$3d5g\ ^1D_2$	154.13	1.394+09
$2p5f\ ^3D_3$	$3d5p\ ^3P_2$	174.38	4.486+09	$2s6p\ ^3P_2$	$3p6p\ ^3D_1$	149.99	2.080+09
$2p5f\ ^3F_3$	$3p5g\ ^3F_3$	174.37	1.777+09	$2s6p\ ^1P_1$	$3p6f\ ^1D_2$	148.85	3.133+09

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p5f\ ^3D_1$	$3s6p\ ^3P_0$	174.18	5.519+09	$2s5f\ ^3F_4$	$3p4f\ ^3G_5$	168.82	1.141+09
$2p5f\ ^3D_1$	$3s6p\ ^3P_1$	174.18	4.158+09	$2s5f\ ^3F_3$	$3d4d\ ^3G_4$	166.54	3.849+09
$2p5f\ ^1D_2$	$3d4p\ ^1P_1$	193.79	1.359+09	$2s5f\ ^3F_4$	$3d4d\ ^3G_5$	166.53	4.965+09
$2p5f\ ^1D_2$	$3d4f\ ^1P_1$	189.62	2.539+09	$2s5f\ ^1F_3$	$3p4f\ ^1G_4$	166.14	3.950+09
$2p5f\ ^3F_2$	$3p5d\ ^3D_1$	177.24	2.350+09	$2s5f\ ^1F_3$	$3d4d\ ^1G_4$	162.86	1.867+09
$2p5f\ ^3D_1$	$3p5d\ ^3F_2$	177.09	1.155+09	$2s5f\ ^3F_4$	$3s5d\ ^3D_3$	157.33	1.232+09
$2p5f\ ^3D_2$	$3p5d\ ^1P_1$	176.80	1.677+09	$2s5f\ ^3F_4$	$3s5g\ ^3G_5$	155.82	2.010+09
$2p5f\ ^1D_2$	$3p5d\ ^3P_1$	176.64	1.607+09	$2s5f\ ^3F_3$	$3s5g\ ^3G_4$	155.82	1.548+09
$2p5f\ ^3D_1$	$3d5p\ ^3F_2$	175.09	9.612+09	$2s5f\ ^3F_4$	$3d5d\ ^3D_3$	148.96	2.068+09
$2p5f\ ^3D_1$	$3p5g\ ^3F_2$	174.81	1.417+09	$2s5f\ ^3F_4$	$3d5d\ ^3F_4$	148.53	6.501+09
$2p5f\ ^3D_2$	$3d5p\ ^3P_1$	174.42	2.205+09	$2s5f\ ^3F_3$	$3d5g\ ^3G_4$	148.08	7.150+09
$2p5f\ ^1D_2$	$3s6p\ ^3P_1$	174.26	1.246+09	$2s5f\ ^3F_4$	$3d5g\ ^3G_5$	148.08	9.338+09
$2p5f\ ^1D_2$	$3d5f\ ^3D_1$	172.70	7.906+09	$2s5f\ ^1F_3$	$3d5g\ ^1G_4$	148.03	7.972+09
$2p5f\ ^1D_2$	$3d5p\ ^1P_1$	172.47	2.856+09	$2s5f\ ^3F_4$	$3d5g\ ^3F_4$	147.78	1.003+09
$2p5f\ ^3D_1$	$3d5f\ ^3P_2$	172.24	4.244+09	$2s5f\ ^3F_3$	$3s6g\ ^3G_4$	147.68	1.535+09
$2p5f\ ^3F_2$	$3d5f\ ^3P_1$	171.79	2.631+09	$2s5f\ ^3F_4$	$3s6g\ ^3G_5$	147.68	2.034+09
$2p5f\ ^3F_2$	$3d5f\ ^1P_1$	170.44	3.545+09	$2s5f\ ^3F_4$	$3d5g\ ^3D_3$	147.32	1.397+09
$2p5f\ ^1D_2$	$3p6d\ ^1P_1$	165.76	1.033+09	$2s5f\ ^1F_3$	$3d6d\ ^1G_4$	140.48	1.224+09
$2p5f\ ^3D_2$	$3d6f\ ^3P_1$	162.82	1.250+09	$2p5s\ ^1P_1$	$3d4d\ ^1S_0$	186.33	8.368+09
$2p5f\ ^1D_2$	$3d6f\ ^1P_1$	161.89	9.287+09	$2p5s\ ^3P_0$	$3s5s\ ^3S_1$	185.19	5.240+09
$2p5f\ ^3F_2$	$3d4f\ ^3G_3$	194.43	1.009+09	$2p5s\ ^1P_1$	$3s5s\ ^1S_0$	184.00	6.887+09
$2p5f\ ^1D_2$	$3d4f\ ^1F_3$	192.90	1.792+09	$2p5s\ ^1P_1$	$3d5s\ ^3D_1$	173.48	1.419+09
$2p5f\ ^1D_2$	$3s5f\ ^3F_3$	184.88	2.537+09	$2p5s\ ^3P_1$	$3p5f\ ^3D_1$	172.05	5.067+09
$2p5f\ ^3D_2$	$3s5f\ ^3F_2$	184.74	5.694+09	$2p5s\ ^3P_0$	$3p5f\ ^3D_1$	172.01	6.840+09
$2p5f\ ^3F_2$	$3s5f\ ^3F_3$	184.28	6.004+09	$2p5s\ ^3P_1$	$3d5d\ ^3D_1$	170.79	4.164+09
$2p5f\ ^3D_2$	$3s5f\ ^1F_3$	183.97	1.052+09	$2p5s\ ^3P_0$	$3d5d\ ^3D_1$	170.75	5.794+09
$2p5f\ ^3D_2$	$3p5d\ ^3D_2$	177.66	4.051+09	$2p5s\ ^1P_1$	$3s5d\ ^1D_2$	182.20	1.732+09
$2p5f\ ^1D_2$	$3p5d\ ^1D_2$	177.52	8.924+09	$2p5s\ ^3P_2$	$3p5p\ ^3D_1$	175.22	1.206+09
$2p5f\ ^3D_2$	$3p5d\ ^1D_2$	177.40	1.039+09	$2p5s\ ^3P_1$	$3p5p\ ^1D_2$	174.65	2.412+09
$2p5f\ ^3D_2$	$3p5d\ ^3F_3$	177.03	1.906+09	$2p5s\ ^3P_2$	$3p5p\ ^3S_1$	174.60	2.138+09
$2p5f\ ^3F_2$	$3p5d\ ^3F_2$	176.63	8.712+09	$2p5s\ ^1P_1$	$3d5s\ ^3D_2$	173.48	2.861+09
$2p5f\ ^3D_2$	$3p5d\ ^3P_2$	176.53	3.900+09	$2p5s\ ^3P_2$	$3d5s\ ^3D_1$	173.04	5.433+09
$2p5f\ ^1D_2$	$3d5p\ ^1D_2$	175.59	8.960+09	$2p5s\ ^3P_1$	$3d5s\ ^1D_2$	172.30	2.107+09
$2p5f\ ^3D_2$	$3d5p\ ^1D_2$	175.47	1.062+09	$2p5s\ ^3P_1$	$3p5f\ ^1D_2$	170.98	1.101+09
$2p5f\ ^1D_2$	$3d5p\ ^3F_3$	175.17	1.011+09	$2p5s\ ^1P_1$	$3s6d\ ^1D_2$	170.68	2.500+09
$2p5f\ ^3D_2$	$3p5g\ ^3F_3$	174.78	2.593+09	$2p5s\ ^1P_1$	$3d5g\ ^1D_2$	168.68	4.955+09
$2p5f\ ^1D_2$	$3p5g\ ^1F_3$	174.66	1.670+09	$2p5s\ ^1P_1$	$3p6p\ ^1D_2$	163.77	4.924+09
$2p5f\ ^3F_2$	$3d5p\ ^3F_3$	174.63	1.162+09	$2p5s\ ^1P_1$	$3d6s\ ^1D_2$	161.75	1.249+09
$2p5f\ ^3F_2$	$3p5g\ ^3F_2$	174.36	1.445+09	$2p5s\ ^1P_1$	$3d6d\ ^1D_2$	160.42	1.700+09
$2p5f\ ^3D_2$	$3s6p\ ^3P_2$	174.14	3.700+09	$2p5s\ ^3P_2$	$3p5f\ ^3D_2$	172.17	5.373+09
$2p5f\ ^1D_2$	$3d5f\ ^3F_2$	173.73	4.436+09	$2p5s\ ^3P_2$	$3d5d\ ^3D_2$	170.90	4.125+09
$2p5f\ ^3D_2$	$3s6f\ ^1F_3$	173.62	8.434+09	$2p5s\ ^3P_2$	$3d5d\ ^3P_2$	169.49	1.421+09
$2p5f\ ^3D_2$	$3d5f\ ^3F_2$	173.61	2.443+09	$2p5s\ ^3P_2$	$3p6p\ ^3D_3$	163.71	1.069+09

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p5f\ ^1G_4$	$3p5g\ ^1G_4$	175.94	5.875+09	$2s6f\ ^3F_4$	$3s4d\ ^3D_3$	189.88	3.316+09
$2p5f\ ^1G_4$	$3p5g\ ^3H_5$	175.69	8.169+09	$2s6f\ ^3F_4$	$3p4f\ ^3F_4$	178.46	1.515+09
$2p5f\ ^3G_5$	$3p5g\ ^3H_5$	175.62	2.293+09	$2s6f\ ^3F_4$	$3d4d\ ^3D_3$	177.40	1.173+09
$2p5f\ ^3G_4$	$3p5g\ ^3H_4$	175.57	1.922+09	$2s6f\ ^3F_4$	$3d4d\ ^3G_4$	176.63	2.966+09
$2p5f\ ^3F_4$	$3p5g\ ^3H_5$	175.36	5.400+09	$2s6f\ ^3F_4$	$3p4f\ ^3D_3$	175.44	1.408+09
$2p5f\ ^1G_4$	$3p5g\ ^1H_5$	175.07	9.737+09	$2s6f\ ^3F_4$	$3d4d\ ^3F_3$	174.70	1.292+09
$2p5f\ ^3G_4$	$3p5g\ ^1H_5$	174.93	1.693+09	$2s6f\ ^3F_3$	$3d4d\ ^3F_4$	174.68	2.458+09
$2p5f\ ^3G_5$	$3d5p\ ^3F_4$	174.90	3.986+09	$2s6f\ ^1F_3$	$3d4d\ ^3F_4$	174.20	5.736+09
$2p5f\ ^3G_4$	$3d5p\ ^3F_4$	174.84	7.352+09	$2s6f\ ^1F_3$	$3p5f\ ^1G_4$	157.59	5.397+09
$2p5f\ ^3F_4$	$3d5p\ ^3F_3$	174.65	4.411+09	$2s6f\ ^3F_3$	$3p6f\ ^3F_4$	150.09	3.545+09
$2p5f\ ^3G_5$	$3p5g\ ^3F_4$	174.65	1.293+09	$2s6f\ ^3F_4$	$3p6f\ ^3G_4$	150.01	2.977+09
$2p5f\ ^1G_4$	$3p5g\ ^1F_3$	174.47	2.023+09	$2s6f\ ^3F_4$	$3d6s\ ^3D_3$	149.35	7.149+09
$2p5f\ ^3F_4$	$3p5g\ ^3F_4$	174.39	3.696+09	$2s6f\ ^3F_4$	$3p6h\ ^3G_5$	149.33	1.456+09
$2p5f\ ^1G_4$	$3d5f\ ^3H_4$	173.75	3.214+09	$2s6f\ ^3F_3$	$3d6d\ ^3G_4$	148.42	5.298+09
$2p5f\ ^1G_4$	$3s6f\ ^1F_3$	173.55	7.768+09	$2s6f\ ^3F_4$	$3d6d\ ^3G_5$	148.42	6.965+09
$2p5f\ ^1G_4$	$3d5f\ ^3F_3$	173.54	7.312+09	$2s6f\ ^3F_4$	$3d6d\ ^3F_4$	148.25	1.803+09
$2p5f\ ^1G_4$	$3d5f\ ^3F_4$	173.53	1.038+09	$2s6f\ ^3F_4$	$3d6g\ ^3G_5$	147.89	1.793+09
$2p5f\ ^3F_4$	$3d5f\ ^3H_4$	173.42	3.746+09	$2s6f\ ^3F_3$	$3d6g\ ^3G_4$	147.89	1.336+09
$2p5f\ ^1G_4$	$3s6f\ ^3F_3$	173.05	1.399+09	$2s6f\ ^1F_3$	$3d6g\ ^1G_4$	147.55	5.123+09
$2p5f\ ^1G_4$	$3d5p\ ^1F_3$	172.96	8.601+09	$2s6f\ ^1F_3$	$3d6d\ ^1G_4$	147.19	7.158+09
$2p5f\ ^1G_4$	$3d5f\ ^3G_3$	172.94	1.370+09	$2s6h\ ^3H_4$	$3s5g\ ^3G_3$	164.61	1.094+09
$2p5f\ ^3G_4$	$3s6f\ ^3F_3$	172.92	3.394+09	$2s6h\ ^1H_5$	$3s5g\ ^1G_4$	164.07	1.016+09
$2p5f\ ^3G_4$	$3d5f\ ^3G_3$	172.80	9.705+09	$2s6h\ ^1H_5$	$3d5g\ ^1H_5$	156.09	1.804+09
$2p5f\ ^3F_4$	$3s6f\ ^3F_3$	172.73	7.546+09	$2s6h\ ^3H_4$	$3d5g\ ^3H_4$	156.01	2.097+09
$2p5f\ ^3F_4$	$3d5f\ ^3G_3$	172.62	3.311+09	$2s6h\ ^3H_5$	$3d5g\ ^3H_5$	156.00	1.647+09
$2p5f\ ^1G_4$	$3d5f\ ^3D_3$	172.52	1.128+09	$2s6h\ ^3H_4$	$3d5g\ ^3I_5$	155.82	8.293+09
$2p5f\ ^1G_4$	$3s6h\ ^3H_5$	172.03	3.442+09	$2s6h\ ^1H_5$	$3d5g\ ^3I_6$	155.82	3.902+09
$2p5f\ ^3G_5$	$3s6h\ ^3H_5$	171.96	1.384+09	$2s6h\ ^3H_6$	$3d5g\ ^3I_6$	155.82	5.924+09
$2p5f\ ^3G_4$	$3s6h\ ^3H_4$	171.90	1.070+09	$2s6h\ ^1H_5$	$3d5g\ ^1I_6$	155.55	7.086+09
$2p5f\ ^3G_4$	$3s6h\ ^1H_5$	171.82	7.617+09	$2s6h\ ^3H_5$	$3d5g\ ^1I_6$	155.55	4.542+09
$2p5f\ ^3F_4$	$3s6h\ ^3H_5$	171.71	3.546+09	$2s6h\ ^3H_4$	$3p6h\ ^1H_5$	149.62	2.791+09
$2p5f\ ^3F_4$	$3s6h\ ^1H_5$	171.64	3.272+09	$2s6h\ ^1H_5$	$3p6h\ ^3H_4$	149.62	2.990+09
$2p5f\ ^3G_4$	$3d5f\ ^1F_3$	171.47	4.888+09	$2s6h\ ^3H_4$	$3p6h\ ^3H_5$	149.62	3.331+09
$2p5f\ ^3F_4$	$3d5f\ ^1F_3$	171.29	1.827+09	$2s6h\ ^3H_5$	$3p6h\ ^3H_6$	149.61	4.815+09
$2p5f\ ^3G_5$	$3p6g\ ^3G_5$	165.34	2.099+09	$2s6h\ ^1H_5$	$3p6h\ ^3I_5$	149.37	3.983+09
$2p5f\ ^3G_5$	$3p6g\ ^3H_6$	165.13	1.876+09	$2s6h\ ^3H_5$	$3p6h\ ^3I_5$	149.37	1.791+09
$2p5f\ ^3F_4$	$3p6g\ ^3G_5$	165.11	1.211+09	$2s6h\ ^1H_5$	$3p6h\ ^3G_5$	149.32	7.821+09
$2p5f\ ^3G_4$	$3p6g\ ^3H_5$	165.08	1.367+09	$2s6h\ ^3H_5$	$3p6h\ ^3G_5$	149.32	6.658+09
$2p5f\ ^1G_4$	$3p6g\ ^1F_3$	164.61	1.191+09	$2s6h\ ^3H_6$	$3s5g\ ^3G_5$	164.61	1.664+09
$2p5f\ ^3G_4$	$3p6g\ ^1H_5$	164.56	2.051+09	$2s6h\ ^3H_6$	$3d5g\ ^3H_6$	156.00	3.373+09
$2p5f\ ^3G_5$	$3d6f\ ^3H_6$	163.37	4.213+09	$2s6h\ ^3H_6$	$3d5g\ ^3G_5$	155.99	1.148+09
$2p5f\ ^3G_4$	$3d6f\ ^3H_5$	163.32	2.607+09	$2s6h\ ^3H_6$	$3p6f\ ^3G_5$	149.98	1.768+09

TABLE VI. continued.

1	2	3	4	5	6	7	8
$2p5f\ ^1F_3$	$3p5g\ ^1F_3$	174.11	7.681+09	$2s6p\ ^3P_1$	$3d6s\ ^3D_2$	148.43	4.854+09
$2p5f\ ^3D_3$	$3d5f\ ^1G_4$	173.94	7.250+09	$2s6p\ ^1P_1$	$3d6s\ ^1D_2$	148.33	7.944+09
$2p5f\ ^3D_3$	$3s6f\ ^1F_3$	173.59	1.210+09	$2s6p\ ^3P_1$	$3d6d\ ^3D_2$	147.51	3.065+09
$2p5f\ ^3D_3$	$3d5f\ ^3F_3$	173.57	1.774+09	$2s6p\ ^1P_1$	$3d6d\ ^1D_2$	147.21	8.193+09
$2p5f\ ^3G_3$	$3s6f\ ^1F_3$	173.40	7.272+09	$2s6p\ ^3P_2$	$3d6d\ ^3S_1$	147.12	2.210+09
$2p5f\ ^3G_3$	$3d5f\ ^3F_4$	173.38	1.759+09	$2s6p\ ^1P_1$	$3d6g\ ^1D_2$	146.67	1.800+09
$2p5f\ ^3F_3$	$3d5f\ ^3F_4$	173.20	6.810+09	$2s6p\ ^3P_2$	$3s4d\ ^3D_3$	188.39	5.026+09
$2p5f\ ^3D_3$	$3d5f\ ^1D_2$	173.18	2.183+09	$2s6p\ ^3P_2$	$3p4p\ ^3P_2$	180.10	2.611+09
$2p5f\ ^3G_3$	$3s6f\ ^3F_2$	172.90	3.244+09	$2s6p\ ^3P_2$	$3d4s\ ^3D_2$	179.51	1.049+09
$2p5f\ ^3G_3$	$3s6f\ ^3F_3$	172.90	5.136+09	$2s6p\ ^3P_2$	$3d4s\ ^3D_3$	179.49	3.623+09
$2p5f\ ^3F_3$	$3s6f\ ^3F_2$	172.72	6.485+09	$2s6p\ ^3P_2$	$3d4d\ ^1F_3$	176.48	1.824+09
$2p5f\ ^1F_3$	$3s6f\ ^3F_3$	172.70	8.061+09	$2s6p\ ^3P_2$	$3d4d\ ^3D_2$	176.10	5.545+09
$2p5f\ ^3G_3$	$3d5f\ ^3D_3$	172.36	1.081+09	$2s6p\ ^3P_2$	$3p4f\ ^3D_2$	174.16	3.283+09
$2p5f\ ^3F_3$	$3d5f\ ^3D_3$	172.19	2.957+09	$2s6p\ ^3P_2$	$3s6d\ ^3D_3$	155.34	2.315+09
$2p5f\ ^1F_3$	$3d5f\ ^3D_3$	172.17	3.523+09	$2s6p\ ^3P_2$	$3d5d\ ^3P_2$	154.79	2.613+09
$2p5f\ ^3F_3$	$3d5f\ ^3P_2$	171.80	2.731+09	$2s6p\ ^3P_2$	$3d6s\ ^3D_2$	148.43	1.512+09
$2p5f\ ^1F_3$	$3d5f\ ^3P_2$	171.78	9.855+09	$2s6p\ ^3P_2$	$3d6s\ ^3D_3$	148.43	8.964+09
$2p5f\ ^3F_3$	$3s6h\ ^3H_4$	171.70	3.807+09	$2s6p\ ^3P_2$	$3d6d\ ^3D_3$	147.50	5.707+09
$2p5f\ ^3D_3$	$3d5f\ ^1F_3$	171.64	4.109+09	$2s6p\ ^3P_2$	$3d6d\ ^3P_2$	146.96	1.095+09
$2p5f\ ^3D_3$	$3p6d\ ^3P_2$	165.71	1.692+09	$2s6f\ ^3F_2$	$3s4d\ ^3D_1$	189.88	1.430+09
$2p5f\ ^3G_3$	$3p6g\ ^3H_4$	165.08	1.118+09	$2s6f\ ^3F_2$	$3d6s\ ^3D_1$	149.35	3.885+09
$2p5f\ ^1F_3$	$3p6g\ ^1F_3$	164.29	1.364+09	$2s6f\ ^3F_2$	$3p4f\ ^3G_3$	179.22	8.335+09
$2p5f\ ^3G_3$	$3d6f\ ^3H_4$	163.30	2.333+09	$2s6f\ ^3F_2$	$3d4d\ ^3P_2$	174.69	8.383+09
$2p5f\ ^3D_3$	$3d6f\ ^3D_3$	162.97	1.074+09	$2s6f\ ^3F_2$	$3d4d\ ^3F_3$	174.68	1.909+09
$2p5f\ ^3D_3$	$3d6f\ ^3P_2$	162.79	2.518+09	$2s6f\ ^3F_2$	$3p6f\ ^1F_3$	150.16	1.123+09
$2p5f\ ^3F_3$	$3d6f\ ^3D_2$	162.64	1.012+09	$2s6f\ ^3F_2$	$3p6f\ ^3F_3$	150.09	4.458+09
$2p5f\ ^1F_3$	$3d6f\ ^1F_3$	162.37	2.173+09	$2s6f\ ^3F_2$	$3d6d\ ^3G_3$	148.42	4.013+09
$2p5f\ ^1F_3$	$3d6h\ ^1F_3$	162.25	1.201+09	$2s6f\ ^3F_2$	$3d6d\ ^3P_2$	148.25	1.022+09
$2p5f\ ^1G_4$	$3d4f\ ^1G_4$	198.43	1.189+09	$2s6f\ ^3F_2$	$3d6g\ ^3G_3$	147.88	1.032+09
$2p5f\ ^3G_5$	$3d4f\ ^3H_6$	198.17	1.333+09	$2s6f\ ^3F_3$	$3s4d\ ^3D_2$	189.88	2.237+09
$2p5f\ ^1G_4$	$3d4p\ ^1F_3$	195.20	1.213+09	$2s6f\ ^1F_3$	$3s4d\ ^1D_2$	188.83	6.199+09
$2p5f\ ^3F_4$	$3d4f\ ^3G_5$	194.44	1.494+09	$2s6f\ ^1F_3$	$3p4f\ ^1F_3$	178.79	6.007+09
$2p5f\ ^1G_4$	$3d4f\ ^1F_3$	192.67	1.194+09	$2s6f\ ^1F_3$	$3d4d\ ^3D_3$	176.90	2.010+09
$2p5f\ ^3G_4$	$3d4f\ ^1H_5$	191.69	1.669+09	$2s6f\ ^3F_3$	$3d4d\ ^3G_3$	176.64	2.731+09
$2p5f\ ^1G_4$	$3s5f\ ^3F_3$	184.67	5.358+09	$2s6f\ ^3F_3$	$3d4d\ ^3F_2$	174.69	1.136+09
$2p5f\ ^1G_4$	$3s5f\ ^3F_4$	184.67	1.477+09	$2s6f\ ^1F_3$	$3d4d\ ^3P_2$	172.39	1.127+09
$2p5f\ ^3G_4$	$3s5f\ ^3F_4$	184.52	1.375+09	$2s6f\ ^1F_3$	$3d4d\ ^1D_2$	171.60	8.608+09
$2p5f\ ^3G_4$	$3s5f\ ^1F_3$	183.74	3.865+09	$2s6f\ ^1F_3$	$3p5f\ ^1D_2$	156.75	1.435+09
$2p5f\ ^3F_4$	$3s5f\ ^1F_3$	183.53	1.602+09	$2s6f\ ^1F_3$	$3s6d\ ^1D_2$	156.06	1.893+09
$2p5f\ ^3F_4$	$3p5d\ ^3D_3$	177.25	3.829+09	$2s6f\ ^3F_3$	$3p6f\ ^3G_3$	150.02	4.564+09
$2p5f\ ^3G_4$	$3p5d\ ^3F_4$	176.80	2.415+09	$2s6f\ ^3F_3$	$3d6s\ ^3D_2$	149.35	5.338+09
$2p5f\ ^3F_4$	$3p5d\ ^3F_3$	176.63	1.033+09	$2s6f\ ^3F_3$	$3d6d\ ^3F_3$	148.25	1.310+09

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p^2\ ^3P_2$	$2p7d\ ^3F_2$	134.06	2.420+08	$2s2p\ ^3P_2$	$2p7p\ ^3D_2$	114.08	5.713+08
$2p^2\ ^3P_1$	$2p7s\ ^3P_2$	134.45	7.600+08	$2s2p\ ^3P_2$	$2p7p\ ^1P_1$	114.08	2.938+08
$2p^2\ ^3P_0$	$2p7s\ ^3P_1$	134.50	5.103+08	$2s2p\ ^3P_1$	$2p6p\ ^1D_2$	116.63	1.602+08
$2p^2\ ^3P_2$	$2p7s\ ^3P_2$	134.51	2.112+09	$2s2p\ ^3P_0$	$2p6p\ ^3P_1$	116.74	4.383+08
$2p^2\ ^3P_1$	$2p7s\ ^3P_1$	134.53	3.555+08	$2s2p\ ^3P_1$	$2p6p\ ^3P_2$	116.75	1.208+09
$2p^2\ ^3P_1$	$2p7s\ ^3P_0$	134.55	5.299+08	$2s2p\ ^3P_1$	$2p6p\ ^3P_1$	116.76	2.122+08
$2p^2\ ^3P_2$	$2p7s\ ^3P_1$	134.58	6.175+08	$2s2p\ ^3P_1$	$2p6p\ ^3P_0$	116.79	1.703+09
$2p^2\ ^1D_2$	$2p8d\ ^1P_1$	134.75	2.873+09	$2s2p\ ^3P_2$	$2p6p\ ^3P_2$	116.79	7.235+09
$2p^2\ ^1D_2$	$2p8d\ ^1F_3$	134.77	5.360+10	$2s2p\ ^3P_2$	$2p6p\ ^3P_1$	116.80	5.156+09
$2p^2\ ^1D_2$	$2p8d\ ^3D_3$	134.90	3.282+08	$2s2p\ ^3P_0$	$2p6p\ ^3S_1$	116.81	1.585+09
$2p^2\ ^1D_2$	$2p8d\ ^1D_2$	134.92	1.438+09	$2s2p\ ^3P_1$	$2p6p\ ^3S_1$	116.83	4.657+09
$2p^2\ ^1D_2$	$2p8d\ ^3D_1$	134.96	1.424+08	$2s2p\ ^3P_2$	$2p6p\ ^3S_1$	116.87	2.348+09
$2p^2\ ^1D_2$	$2p8d\ ^1D_2$	134.99	1.471+09	$2s2p\ ^3P_0$	$2p6p\ ^3D_1$	116.90	2.764+09
$2p^2\ ^1D_2$	$2p8d\ ^3F_3$	135.00	2.107+09	$2s2p\ ^3P_2$	$2p6p\ ^3D_3$	116.92	1.120+10
$2p^2\ ^1D_2$	$2p8d\ ^3F_2$	135.03	8.567+08	$2s2p\ ^3P_1$	$2p6p\ ^3D_2$	116.92	6.760+09
$2p^2\ ^1D_2$	$2p8s\ ^1P_1$	135.25	2.470+09	$2s2p\ ^3P_1$	$2p6p\ ^3D_1$	116.92	4.218+08
$2p^2\ ^1D_2$	$2p8s\ ^3P_1$	135.38	3.934+08	$2s2p\ ^3P_0$	$2p6p\ ^1P_1$	116.95	6.597+08
$2p^2\ ^1D_2$	$2p7d\ ^1P_1$	137.16	1.708+09	$2s2p\ ^3P_2$	$2p6p\ ^3D_2$	116.96	1.148+09
$2p^2\ ^1D_2$	$2p7d\ ^1F_3$	137.19	6.137+10	$2s2p\ ^3P_1$	$2p6p\ ^1P_1$	116.97	1.219+09
$2p^2\ ^1D_2$	$2p7g\ ^3F_3$	137.24	1.477+08	$2s2p\ ^3P_2$	$2p6p\ ^3D_1$	116.97	1.562+08
$2p^2\ ^3P_0$	$2p6d\ ^1P_1$	137.29	2.612+08	$2s2p\ ^1P_1$	$2p8p\ ^1S_0$	121.77	1.259+09
$2p^2\ ^1D_2$	$2p7d\ ^3P_2$	137.35	1.128+08	$2s2p\ ^1P_1$	$2p8f\ ^1D_2$	121.82	6.456+09
$2p^2\ ^1D_2$	$2p7d\ ^3D_3$	137.37	3.257+08	$2s2p\ ^1P_1$	$2p8f\ ^3D_2$	121.85	9.925+08
$2p^2\ ^1D_2$	$2p7d\ ^3D_2$	137.40	1.345+09	$2s2p\ ^1P_1$	$2p8f\ ^3F_2$	121.93	3.204+09
$2p^2\ ^3P_2$	$2p6d\ ^1F_3$	137.41	2.530+08	$2s2p\ ^1P_1$	$2p8p\ ^1D_2$	121.95	3.645+09
$2p^2\ ^1D_2$	$2p7d\ ^1D_2$	137.48	3.531+09	$2s2p\ ^1P_1$	$2p8p\ ^3P_2$	122.00	2.175+08
$2p^2\ ^1D_2$	$2p7d\ ^3F_3$	137.50	1.277+09	$2s2p\ ^1P_1$	$2p8p\ ^3S_1$	122.05	5.662+09
$2p^2\ ^1D_2$	$2p7d\ ^3F_2$	137.54	1.574+09	$2s2p\ ^1P_1$	$2p8p\ ^1P_1$	122.11	6.152+09
$2p^2\ ^3P_0$	$2p6d\ ^3P_1$	137.56	8.374+08	$2s2p\ ^1P_1$	$2p8p\ ^3D_2$	122.11	4.153+08
$2p^2\ ^3P_1$	$2p6d\ ^3P_0$	137.58	4.592+09	$2s2p\ ^1P_1$	$2p8p\ ^3D_1$	122.14	5.951+09
$2p^2\ ^3P_1$	$2p6d\ ^3P_1$	137.59	7.489+09	$2s2p\ ^1P_1$	$2p7f\ ^1D_2$	123.80	2.110+09
$2p^2\ ^3P_1$	$2p6d\ ^3P_2$	137.60	3.968+08	$2s2p\ ^1P_1$	$2p7f\ ^3D_2$	123.83	3.492+08
$2p^2\ ^3P_2$	$2p6d\ ^3P_1$	137.65	6.387+09	$2s2p\ ^1P_1$	$2p7f\ ^3F_2$	123.93	6.143+08
$2p^2\ ^3P_2$	$2p6d\ ^3P_2$	137.66	2.634+10	$2s2p\ ^1P_1$	$2p7p\ ^1D_2$	124.00	7.852+09
$2p^2\ ^3P_0$	$2p6d\ ^3D_1$	137.67	1.706+10	$2s2p\ ^1P_1$	$2p7p\ ^3P_2$	124.08	2.175+08
$2p^2\ ^3P_1$	$2p6d\ ^3D_2$	137.68	3.243+10	$2s2p\ ^1P_1$	$2p7p\ ^3S_1$	124.14	1.897+09
$2p^2\ ^3P_1$	$2p6d\ ^3D_1$	137.70	6.117+09	$2s2p\ ^1P_1$	$2p7p\ ^3D_2$	124.21	2.599+08
$2p^2\ ^3P_2$	$2p6d\ ^3D_3$	137.71	5.444+10	$2s2p\ ^1P_1$	$2p7p\ ^1P_1$	124.21	5.013+09
$2p^2\ ^3P_2$	$2p6d\ ^3D_2$	137.74	6.731+08	$2s2p\ ^1P_1$	$2p7p\ ^3D_1$	124.25	5.252+09
$2p^2\ ^3P_1$	$2p6d\ ^1D_2$	137.80	3.325+09	$2s2p\ ^1P_1$	$2p6p\ ^1S_0$	126.94	7.221+08
$2p^2\ ^3P_2$	$2p6d\ ^3F_3$	137.87	2.362+09	$2s2p\ ^1P_1$	$2p6f\ ^1D_2$	126.97	1.597+09
$2p^2\ ^3P_2$	$2p6d\ ^3F_2$	137.92	2.291+08	$2s2p\ ^1P_1$	$2p6f\ ^3D_2$	127.02	2.200+08
$2p^2\ ^1D_2$	$2p7s\ ^1P_1$	137.93	2.774+09	$2s2p\ ^1P_1$	$2p6f\ ^3F_2$	127.16	2.058+08

TABLES

TABLE VII. Wavelengths (λ) and weighted radiative transition probabilities (gA_r in sec^{-1}) for transitions between bound and autoionizing states in Be-like oxygen ($2l_1nl_2$ - $2ln'l'$ transitions)

	even-odd transitions				odd-even transitions		
$2l_1nl_2\ LSJ$	$2ln'l'\ L'S'J'$	λ, Å	gA_r, s^{-1}	$2l_1nl_2\ LSJ$	$2ln'l'\ L'S'J'$	λ, Å	gA_r, s^{-1}
1	2	3	4	5	6	7	8
$2s^2\ ^1S_0$	$2p8d\ ^1P_1$	102.68	8.203+08	$2s2p\ ^3P_0$	$2p8f\ ^3D_1$	112.01	2.443+08
$2s^2\ ^1S_0$	$2p7d\ ^1P_1$	104.07	8.728+08	$2s2p\ ^3P_1$	$2p8f\ ^1D_2$	112.02	1.261+08
$2s^2\ ^1S_0$	$2p6d\ ^1P_1$	106.28	1.126+09	$2s2p\ ^3P_1$	$2p8f\ ^3D_1$	112.03	1.815+08
$2p^2\ ^3P_0$	$2p8d\ ^1P_1$	131.33	3.644+08	$2s2p\ ^3P_1$	$2p8f\ ^3D_2$	112.04	3.438+08
$2p^2\ ^3P_2$	$2p8d\ ^1F_3$	131.43	4.383+08	$2s2p\ ^3P_2$	$2p8f\ ^3D_2$	112.08	1.164+08
$2p^2\ ^3P_1$	$2p8d\ ^3P_0$	131.47	1.971+09	$2s2p\ ^3P_2$	$2p8f\ ^3D_3$	112.09	6.680+08
$2p^2\ ^3P_1$	$2p8d\ ^3P_1$	131.48	3.895+09	$2s2p\ ^3P_1$	$2p8p\ ^1D_2$	112.13	1.874+08
$2p^2\ ^3P_1$	$2p8d\ ^3P_2$	131.48	1.212+09	$2s2p\ ^3P_2$	$2p8f\ ^3F_3$	112.16	2.496+08
$2p^2\ ^3P_1$	$2p8d\ ^1D_2$	131.52	7.152+09	$2s2p\ ^3P_0$	$2p8p\ ^3P_1$	112.16	1.501+08
$2p^2\ ^3P_2$	$2p8d\ ^3P_1$	131.53	2.708+09	$2s2p\ ^3P_1$	$2p8p\ ^3P_1$	112.18	3.591+08
$2p^2\ ^3P_0$	$2p8d\ ^3D_1$	131.53	7.271+09	$2s2p\ ^3P_0$	$2p8p\ ^3S_1$	112.19	3.389+08
$2p^2\ ^3P_2$	$2p8d\ ^3P_2$	131.53	1.127+10	$2s2p\ ^3P_1$	$2p8p\ ^3S_1$	112.21	2.532+09
$2p^2\ ^3P_2$	$2p8d\ ^3D_3$	131.55	2.045+10	$2s2p\ ^3P_2$	$2p8p\ ^3P_2$	112.21	1.021+09
$2p^2\ ^3P_1$	$2p8d\ ^3D_1$	131.56	1.845+09	$2s2p\ ^3P_1$	$2p8p\ ^3P_0$	112.22	1.648+08
$2p^2\ ^3P_1$	$2p8d\ ^1D_2$	131.59	6.863+09	$2s2p\ ^3P_2$	$2p8p\ ^3P_1$	112.22	2.906+09
$2p^2\ ^3P_2$	$2p8d\ ^3F_3$	131.65	3.198+09	$2s2p\ ^3P_0$	$2p8p\ ^1P_1$	112.24	1.348+09
$2p^2\ ^3P_2$	$2p8d\ ^3F_2$	131.68	2.348+08	$2s2p\ ^3P_2$	$2p8p\ ^3S_1$	112.25	1.799+09
$2p^2\ ^3P_1$	$2p8s\ ^3P_2$	131.88	5.158+08	$2s2p\ ^3P_2$	$2p8p\ ^3D_3$	112.26	4.406+09
$2p^2\ ^3P_2$	$2p8s\ ^3P_2$	131.93	1.371+09	$2s2p\ ^3P_1$	$2p8p\ ^1P_1$	112.26	2.617+08
$2p^2\ ^3P_0$	$2p8s\ ^3P_1$	131.93	3.137+08	$2s2p\ ^3P_1$	$2p8p\ ^3D_2$	112.26	2.400+09
$2p^2\ ^3P_1$	$2p8s\ ^3P_1$	131.96	2.096+08	$2s2p\ ^3P_0$	$2p8p\ ^3D_1$	112.27	4.294+08
$2p^2\ ^3P_1$	$2p8s\ ^3P_0$	131.97	3.348+08	$2s2p\ ^3P_1$	$2p8p\ ^3D_1$	112.29	9.571+08
$2p^2\ ^3P_2$	$2p8s\ ^3P_1$	132.01	3.730+08	$2s2p\ ^3P_2$	$2p8p\ ^1P_1$	112.30	8.858+08
$2p^2\ ^3P_0$	$2p7d\ ^1P_1$	133.62	3.385+08	$2s2p\ ^3P_2$	$2p8p\ ^3D_2$	112.30	3.924+08
$2p^2\ ^3P_2$	$2p7d\ ^1F_3$	133.72	3.776+08	$2s2p\ ^3P_2$	$2p7f\ ^3D_3$	113.77	1.527+08
$2p^2\ ^3P_0$	$2p7d\ ^3P_1$	133.79	2.221+08	$2s2p\ ^3P_1$	$2p7p\ ^1D_2$	113.86	1.960+08
$2p^2\ ^3P_1$	$2p7d\ ^3P_0$	133.81	2.874+09	$2s2p\ ^3P_1$	$2p7p\ ^3P_2$	113.93	2.976+08
$2p^2\ ^3P_1$	$2p7d\ ^3P_1$	133.81	5.316+09	$2s2p\ ^3P_0$	$2p7p\ ^3S_1$	113.96	8.037+08
$2p^2\ ^3P_1$	$2p7d\ ^3P_2$	133.82	1.098+09	$2s2p\ ^3P_2$	$2p7p\ ^3P_2$	113.97	3.689+09
$2p^2\ ^3P_2$	$2p7d\ ^3P_1$	133.87	3.982+09	$2s2p\ ^3P_1$	$2p7p\ ^3P_0$	113.97	7.964+08
$2p^2\ ^3P_0$	$2p7d\ ^3D_1$	133.87	1.074+10	$2s2p\ ^3P_2$	$2p7p\ ^3P_1$	113.97	3.848+09
$2p^2\ ^3P_2$	$2p7d\ ^3P_2$	133.88	1.664+10	$2s2p\ ^3P_1$	$2p7p\ ^3S_1$	113.98	3.482+09
$2p^2\ ^3P_1$	$2p7d\ ^3D_2$	133.88	1.540+10	$2s2p\ ^3P_2$	$2p7p\ ^3S_1$	114.02	1.603+09
$2p^2\ ^3P_2$	$2p7g\ ^3G_3$	133.89	1.024+08	$2s2p\ ^3P_0$	$2p7p\ ^1P_1$	114.02	1.938+09
$2p^2\ ^3P_1$	$2p7d\ ^3D_1$	133.90	3.131+09	$2s2p\ ^3P_2$	$2p7p\ ^3D_3$	114.04	7.097+09
$2p^2\ ^3P_2$	$2p7d\ ^3D_3$	133.90	3.203+10	$2s2p\ ^3P_1$	$2p7p\ ^3D_2$	114.04	4.307+09
$2p^2\ ^3P_1$	$2p7d\ ^1D_2$	133.95	5.927+09	$2s2p\ ^3P_0$	$2p7p\ ^3D_1$	114.05	6.527+08
$2p^2\ ^3P_2$	$2p7d\ ^3F_3$	134.02	2.967+09	$2s2p\ ^3P_1$	$2p7p\ ^3D_1$	114.07	1.174+09

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2s3d\ ^1D_2$	$2p8d\ ^3D_1$	276.29	1.735+08	$2p3s\ ^3P_2$	$2p7p\ ^3D_2$	326.57	1.645+08
$2s3d\ ^1D_2$	$2p8d\ ^1D_2$	276.43	1.338+08	$2p3s\ ^1P_1$	$2p7p\ ^1S_0$	336.57	1.286+08
$2s3d\ ^3D_1$	$2p7d\ ^3P_0$	276.84	2.040+08	$2p3s\ ^1P_1$	$2p7f\ ^1D_2$	336.78	1.047+08
$2s3d\ ^3D_1$	$2p7d\ ^3P_1$	276.87	1.796+08	$2p3s\ ^1P_1$	$2p7p\ ^1D_2$	338.25	1.904+09
$2s3d\ ^3D_2$	$2p7d\ ^3P_1$	276.88	3.492+08	$2p3s\ ^1P_1$	$2p7p\ ^3S_1$	339.33	2.676+08
$2s3d\ ^3D_2$	$2p7d\ ^3P_2$	276.92	1.821+08	$2p3s\ ^1P_1$	$2p7p\ ^1P_1$	339.86	6.787+08
$2s3d\ ^3D_3$	$2p7d\ ^3P_2$	276.93	4.667+08	$2p3s\ ^1P_1$	$2p7p\ ^3D_1$	340.15	6.935+08
$2s3d\ ^3D_3$	$2p7d\ ^3D_2$	277.17	2.484+08	$2p3s\ ^3P_1$	$2p6f\ ^3D_2$	346.32	1.117+08
$2s3d\ ^3D_2$	$2p7d\ ^3D_1$	277.25	1.111+08	$2p3s\ ^3P_2$	$2p6f\ ^3D_3$	346.83	2.254+08
$2s3d\ ^3D_3$	$2p7d\ ^1D_2$	277.49	1.443+08	$2p3s\ ^3P_0$	$2p6p\ ^3P_1$	349.31	1.507+08
$2s3d\ ^1D_2$	$2p7d\ ^1P_1$	285.68	8.742+08	$2p3s\ ^3P_1$	$2p6p\ ^3P_2$	349.41	3.030+08
$2s3d\ ^1D_2$	$2p7d\ ^1F_3$	285.79	4.026+08	$2p3s\ ^3P_1$	$2p6p\ ^3P_1$	349.51	1.136+08
$2s3d\ ^3D_1$	$2p6d\ ^3P_0$	293.50	1.058+08	$2p3s\ ^3P_1$	$2p6p\ ^3P_0$	349.76	4.495+08
$2s3d\ ^3D_2$	$2p6d\ ^3P_1$	293.54	2.055+08	$2p3s\ ^3P_2$	$2p6p\ ^3P_2$	349.82	1.933+09
$2s3d\ ^3D_3$	$2p6d\ ^3P_2$	293.63	3.138+08	$2p3s\ ^3P_0$	$2p6p\ ^3S_1$	349.91	2.599+08
$2s3d\ ^3D_3$	$2p6d\ ^3D_2$	293.98	1.072+08	$2p3s\ ^3P_2$	$2p6p\ ^3P_1$	349.93	1.089+09
$2s3d\ ^3D_3$	$2p6d\ ^3F_4$	294.35	1.461+08	$2p3s\ ^3P_1$	$2p6p\ ^3S_1$	350.11	7.867+08
$2s3d\ ^1D_2$	$2p6d\ ^1P_1$	302.98	4.086+08	$2p3s\ ^3P_2$	$2p6p\ ^3S_1$	350.52	2.465+08
$2s3d\ ^1D_2$	$2p6d\ ^1F_3$	303.16	6.552+08	$2p3s\ ^3P_0$	$2p6p\ ^3D_1$	350.79	8.137+08
$2p3p\ ^1P_1$	$2p8d\ ^1P_1$	329.74	6.553+08	$2p3s\ ^3P_1$	$2p6p\ ^3D_2$	350.94	2.154+09
$2p3p\ ^1P_1$	$2p8d\ ^1D_2$	330.76	3.712+08	$2p3s\ ^3P_2$	$2p6p\ ^3D_3$	350.98	3.585+09
$2p3p\ ^1P_1$	$2p8d\ ^1D_2$	331.18	4.011+08	$2p3s\ ^3P_1$	$2p6p\ ^3D_1$	350.99	1.758+08
$2p3p\ ^1P_1$	$2p8d\ ^3F_2$	331.42	2.922+08	$2p3s\ ^3P_0$	$2p6p\ ^1P_1$	351.16	2.373+08
$2p3p\ ^3D_1$	$2p8d\ ^3P_1$	335.02	1.160+08	$2p3s\ ^3P_2$	$2p6p\ ^3D_2$	351.36	3.906+08
$2p3p\ ^3D_2$	$2p8d\ ^3P_2$	335.28	3.356+08	$2p3s\ ^3P_1$	$2p6p\ ^1P_1$	351.37	3.616+08
$2p3p\ ^3D_2$	$2p8d\ ^1D_2$	335.54	3.030+08	$2p3d\ ^3F_2$	$2p8f\ ^1F_3$	355.46	4.742+08
$2p3p\ ^3D_1$	$2p8d\ ^3D_1$	335.54	2.252+08	$2p3d\ ^3F_3$	$2p8f\ ^1G_4$	355.48	8.152+08
$2p3p\ ^3D_3$	$2p8d\ ^3D_3$	335.75	1.200+09	$2p3d\ ^3F_3$	$2p8f\ ^3F_4$	355.69	1.102+09
$2p3p\ ^3D_1$	$2p8d\ ^1D_2$	335.75	3.172+08	$2p3d\ ^3F_3$	$2p8f\ ^1F_3$	355.72	3.660+08
$2p3p\ ^3D_2$	$2p8d\ ^3D_1$	335.76	1.408+08	$2p3d\ ^3F_4$	$2p8f\ ^3G_5$	355.91	4.925+09
$2p3p\ ^3D_3$	$2p8g\ ^3F_4$	335.87	1.787+08	$2p3d\ ^3F_2$	$2p8f\ ^3F_2$	355.94	2.317+08
$2p3p\ ^3D_3$	$2p8d\ ^1D_2$	335.89	1.051+08	$2p3d\ ^3F_4$	$2p8f\ ^3F_4$	356.00	7.363+08
$2p3p\ ^3D_3$	$2p8d\ ^3F_4$	335.98	2.576+09	$2p3d\ ^3F_2$	$2p8f\ ^3G_3$	356.05	2.365+09
$2p3p\ ^3D_1$	$2p8d\ ^3F_2$	335.99	1.007+09	$2p3d\ ^1D_2$	$2p8f\ ^1D_2$	356.13	4.757+08
$2p3p\ ^3D_2$	$2p8d\ ^3F_3$	336.01	1.937+09	$2p3d\ ^3F_3$	$2p8f\ ^3G_4$	356.27	1.910+09
$2p3p\ ^3D_2$	$2p8d\ ^3F_2$	336.21	1.119+08	$2p3d\ ^3F_3$	$2p8f\ ^3F_3$	356.28	1.369+08
$2p3p\ ^3D_3$	$2p8s\ ^3P_2$	338.26	2.215+08	$2p3d\ ^1D_2$	$2p8f\ ^3D_3$	356.40	2.971+08
$2p3p\ ^3D_2$	$2p8s\ ^3P_1$	338.41	1.045+08	$2p3d\ ^1D_2$	$2p8f\ ^1F_3$	356.55	1.419+09
$2p3p\ ^3S_1$	$2p8d\ ^3P_0$	341.75	2.490+08	$2p3d\ ^1D_2$	$2p8f\ ^3F_3$	357.11	7.560+08
$2p3p\ ^3S_1$	$2p8d\ ^3P_1$	341.77	6.165+08	$2p3d\ ^1D_2$	$2p8f\ ^3G_3$	357.15	4.412+08
$2p3p\ ^3S_1$	$2p8d\ ^3P_2$	341.82	7.382+08	$2p3s\ ^1P_1$	$2p6p\ ^1S_0$	361.09	2.356+08
$2p3p\ ^3S_1$	$2p8d\ ^1D_2$	342.09	2.541+08	$2p3s\ ^1P_1$	$2p6p\ ^1D_2$	363.98	2.733+09
$2p3p\ ^3S_1$	$2p8d\ ^3D_1$	342.32	1.320+08	$2p3s\ ^1P_1$	$2p6p\ ^3S_1$	365.88	1.062+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p^2\ ^1D_2$	$2p7s\ ^3P_1$	138.09	2.712+08	$2s2p\ ^1P_1$	$2p6p\ ^1D_2$	127.29	1.316+10
$2p^2\ ^3P_1$	$2p6s\ ^3P_2$	138.68	1.241+09	$2s2p\ ^1P_1$	$2p6p\ ^3P_2$	127.43	1.857+08
$2p^2\ ^3P_0$	$2p6s\ ^3P_1$	138.73	9.039+08	$2s2p\ ^1P_1$	$2p6p\ ^3S_1$	127.52	6.145+08
$2p^2\ ^3P_2$	$2p6s\ ^3P_2$	138.74	3.555+09	$2s2p\ ^1P_1$	$2p6p\ ^3D_2$	127.64	1.574+08
$2p^2\ ^3P_1$	$2p6s\ ^3P_1$	138.76	6.489+08	$2s2p\ ^1P_1$	$2p6p\ ^3D_1$	127.64	4.169+09
$2p^2\ ^3P_1$	$2p6s\ ^3P_0$	138.78	9.113+08	$2s2p\ ^1P_1$	$2p6p\ ^1P_1$	127.69	7.964+09
$2p^2\ ^3P_2$	$2p6s\ ^3P_1$	138.82	1.107+09	$2s3p\ ^1P_1$	$2p8f\ ^1D_2$	254.10	2.038+08
$2p^2\ ^1D_2$	$2p6d\ ^1P_1$	141.03	1.731+09	$2s3p\ ^1P_1$	$2p8f\ ^3F_2$	254.56	1.101+08
$2p^2\ ^1D_2$	$2p6d\ ^1F_3$	141.06	8.889+10	$2s3p\ ^1P_1$	$2p8p\ ^1D_2$	254.67	1.283+08
$2p^2\ ^1D_2$	$2p6g\ ^3F_3$	141.15	1.873+08	$2s3p\ ^1P_1$	$2p8p\ ^3S_1$	255.09	1.652+08
$2p^2\ ^1D_2$	$2p6d\ ^3P_2$	141.33	1.448+08	$2s3p\ ^3P_2$	$2p8f\ ^3D_3$	255.23	1.326+08
$2p^2\ ^1D_2$	$2p6d\ ^3D_3$	141.38	2.704+08	$2s3p\ ^1P_1$	$2p8p\ ^1P_1$	255.35	1.899+08
$2p^2\ ^1D_2$	$2p6d\ ^3D_2$	141.41	7.042+08	$2s3p\ ^1P_1$	$2p8p\ ^3D_1$	255.48	1.851+08
$2p^2\ ^1D_2$	$2p6d\ ^1D_2$	141.54	7.555+09	$2s3p\ ^3P_2$	$2p7f\ ^3D_3$	264.11	1.152+08
$2p^2\ ^1D_2$	$2p6d\ ^3F_3$	141.55	7.428+08	$2s3p\ ^3P_2$	$2p6f\ ^3D_3$	279.07	1.611+08
$2p^2\ ^1D_2$	$2p6d\ ^3F_2$	141.60	3.138+09	$2p3s\ ^3P_1$	$2p8p\ ^3S_1$	311.71	3.030+08
$2p^2\ ^1D_2$	$2p6s\ ^1P_1$	142.31	3.864+09	$2p3s\ ^3P_1$	$2p8p\ ^3P_0$	311.73	1.485+08
$2p^2\ ^1D_2$	$2p6s\ ^3P_1$	142.55	1.708+08	$2p3s\ ^3P_2$	$2p8p\ ^3P_2$	311.75	7.065+08
$2p^2\ ^1S_0$	$2p8d\ ^1P_1$	144.64	1.299+10	$2p3s\ ^3P_2$	$2p8p\ ^3P_1$	311.78	4.901+08
$2p^2\ ^1S_0$	$2p8d\ ^3D_1$	144.87	6.482+08	$2p3s\ ^3P_0$	$2p8p\ ^1P_1$	311.93	3.181+08
$2p^2\ ^1S_0$	$2p8s\ ^1P_1$	145.22	1.070+09	$2p3s\ ^3P_2$	$2p8p\ ^3D_3$	312.08	1.200+09
$2p^2\ ^1S_0$	$2p8s\ ^3P_1$	145.36	1.676+08	$2p3s\ ^3P_1$	$2p8p\ ^3D_2$	312.09	7.638+08
$2p^2\ ^1S_0$	$2p7d\ ^1P_1$	147.41	1.409+10	$2p3s\ ^3P_0$	$2p8p\ ^3D_1$	312.13	1.502+08
$2p^2\ ^1S_0$	$2p7d\ ^3D_1$	147.72	4.246+08	$2p3s\ ^3P_1$	$2p8p\ ^3D_1$	312.29	2.125+08
$2p^2\ ^1S_0$	$2p7s\ ^1P_1$	148.30	1.269+09	$2p3s\ ^1P_1$	$2p8f\ ^1D_2$	322.54	3.091+08
$2p^2\ ^1S_0$	$2p7s\ ^3P_1$	148.49	1.244+08	$2p3s\ ^1P_1$	$2p8f\ ^3F_2$	323.29	4.760+08
$2p^2\ ^1S_0$	$2p6d\ ^1P_1$	151.89	2.020+10	$2p3s\ ^1P_1$	$2p8p\ ^1D_2$	323.46	1.462+09
$2p^2\ ^1S_0$	$2p6d\ ^3D_1$	152.36	2.751+08	$2p3s\ ^3P_2$	$2p7f\ ^3D_3$	324.02	1.195+08
$2p^2\ ^1S_0$	$2p6s\ ^1P_1$	153.38	1.947+09	$2p3s\ ^1P_1$	$2p8p\ ^3S_1$	324.14	6.348+08
$2s3d\ ^3D_1$	$2p8g\ ^3F_2$	266.79	1.041+08	$2p3s\ ^1P_1$	$2p8p\ ^1P_1$	324.56	6.717+08
$2s3d\ ^3D_3$	$2p8g\ ^3F_4$	266.87	1.277+08	$2p3s\ ^1P_1$	$2p8p\ ^3D_2$	324.56	1.050+08
$2s3d\ ^3D_1$	$2p8d\ ^3P_0$	267.02	6.294+08	$2p3s\ ^1P_1$	$2p8p\ ^3D_1$	324.77	6.407+08
$2s3d\ ^3D_1$	$2p8d\ ^3P_1$	267.04	6.281+08	$2p3s\ ^3P_1$	$2p7p\ ^3P_2$	325.29	1.166+08
$2s3d\ ^3D_2$	$2p8d\ ^3P_1$	267.05	9.609+08	$2p3s\ ^3P_0$	$2p7p\ ^3S_1$	325.55	1.123+08
$2s3d\ ^3D_2$	$2p8d\ ^3P_2$	267.08	6.980+08	$2p3s\ ^3P_1$	$2p7p\ ^3P_0$	325.61	2.748+08
$2s3d\ ^3D_3$	$2p8d\ ^3P_2$	267.09	1.163+09	$2p3s\ ^3P_2$	$2p7p\ ^3P_2$	325.64	1.246+09
$2s3d\ ^3D_3$	$2p8d\ ^3D_3$	267.16	3.752+08	$2p3s\ ^3P_2$	$2p7p\ ^3P_1$	325.70	7.649+08
$2s3d\ ^3D_3$	$2p8d\ ^1D_2$	267.25	6.453+08	$2p3s\ ^3P_1$	$2p7p\ ^3S_1$	325.72	5.386+08
$2s3d\ ^3D_2$	$2p8d\ ^3D_1$	267.38	4.695+08	$2p3s\ ^3P_0$	$2p7p\ ^1P_1$	326.04	5.070+08
$2s3d\ ^3D_3$	$2p8d\ ^1D_2$	267.53	8.587+08	$2p3s\ ^3P_1$	$2p7p\ ^3D_2$	326.21	1.336+09
$2s3d\ ^1D_2$	$2p8d\ ^1P_1$	275.43	3.368+09	$2p3s\ ^3P_2$	$2p7p\ ^3D_3$	326.22	2.140+09
$2s3d\ ^1D_2$	$2p8d\ ^1F_3$	275.51	2.455+08	$2p3s\ ^3P_0$	$2p7p\ ^3D_1$	326.31	2.259+08
$2s3d\ ^1D_2$	$2p8d\ ^1D_2$	276.14	1.299+08	$2p3s\ ^3P_1$	$2p7p\ ^3D_1$	326.48	3.154+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^3S_1$	$2p7d\ ^3D_1$	358.67	1.961+08	$2p3d\ ^1D_2$	$2p7f\ ^3G_3$	374.88	1.591+09
$2p3p\ ^3S_1$	$2p7d\ ^1D_2$	359.04	3.114+08	$2p3d\ ^1F_3$	$2p8f\ ^1G_4$	382.18	4.048+09
$2p3p\ ^1D_2$	$2p8d\ ^1F_3$	361.45	8.004+09	$2p3d\ ^1F_3$	$2p8f\ ^3F_4$	382.42	1.878+08
$2p3p\ ^1D_2$	$2p8d\ ^1D_2$	362.53	5.693+08	$2p3d\ ^1F_3$	$2p8f\ ^1F_3$	382.45	2.121+08
$2p3p\ ^3S_1$	$2p7s\ ^3P_2$	362.65	1.504+08	$2p3d\ ^1F_3$	$2p8f\ ^3F_2$	383.01	2.314+08
$2p3p\ ^1D_2$	$2p8d\ ^1D_2$	363.03	5.764+08	$2p3d\ ^1F_3$	$2p8f\ ^3G_4$	383.08	9.838+08
$2p3p\ ^1D_2$	$2p8d\ ^3F_3$	363.08	3.004+08	$2p3d\ ^1F_3$	$2p8f\ ^3F_3$	383.09	1.132+08
$2p3p\ ^1D_2$	$2p8d\ ^3F_2$	363.32	3.334+08	$2p3d\ ^1F_3$	$2p8f\ ^3G_3$	383.14	1.723+08
$2p3p\ ^1D_2$	$2p8s\ ^1P_1$	364.94	1.164+09	$2p3d\ ^1F_3$	$2p8p\ ^1D_2$	383.26	1.415+09
$2p3p\ ^1D_2$	$2p8s\ ^3P_1$	365.88	1.819+08	$2p3d\ ^3D_1$	$2p7f\ ^1D_2$	385.55	1.664+08
$2p3p\ ^3P_1$	$2p7d\ ^3P_0$	368.71	3.805+08	$2p3d\ ^3D_1$	$2p7f\ ^3D_1$	385.74	3.511+08
$2p3p\ ^3P_1$	$2p7d\ ^3P_1$	368.75	7.279+08	$2p3d\ ^3D_2$	$2p7f\ ^3D_1$	385.84	1.230+08
$2p3p\ ^3P_1$	$2p7d\ ^3P_2$	368.83	1.810+08	$2p3d\ ^3D_2$	$2p7f\ ^3D_2$	385.98	8.594+08
$2p3p\ ^3P_2$	$2p7d\ ^3P_1$	369.03	5.109+08	$2p3d\ ^3D_2$	$2p7f\ ^3D_3$	386.06	1.254+08
$2p3p\ ^3P_2$	$2p7d\ ^3P_2$	369.10	2.159+09	$2p3d\ ^3D_3$	$2p7f\ ^1G_4$	386.11	1.024+08
$2p3p\ ^3P_1$	$2p7d\ ^3D_2$	369.25	2.022+09	$2p3d\ ^3D_3$	$2p7f\ ^3D_2$	386.14	1.397+08
$2p3p\ ^3P_0$	$2p7d\ ^3D_1$	369.27	1.437+09	$2p3d\ ^3D_3$	$2p7f\ ^3D_3$	386.22	1.466+09
$2p3p\ ^3P_2$	$2p7d\ ^3D_3$	369.31	4.341+09	$2p3d\ ^3D_2$	$2p7f\ ^3G_3$	386.36	1.248+09
$2p3p\ ^3P_1$	$2p7d\ ^3D_1$	369.42	4.258+08	$2p3d\ ^3D_3$	$2p7f\ ^3F_4$	386.47	3.320+09
$2p3p\ ^3P_1$	$2p7d\ ^1D_2$	369.82	7.440+08	$2p3d\ ^3D_3$	$2p7f\ ^3G_3$	386.52	1.240+08
$2p3p\ ^1P_1$	$2p6d\ ^1P_1$	370.02	1.756+09	$2p3d\ ^3D_1$	$2p7f\ ^3F_2$	386.84	2.968+09
$2p3p\ ^3P_2$	$2p7d\ ^3F_3$	370.19	3.820+08	$2p3d\ ^3D_2$	$2p7f\ ^3F_2$	386.94	2.237+08
$2p3p\ ^1P_1$	$2p6d\ ^3D_2$	372.70	2.778+08	$2p3d\ ^3D_2$	$2p7f\ ^3F_3$	387.00	3.342+09
$2p3p\ ^1P_1$	$2p6d\ ^1D_2$	373.57	3.031+09	$2p3d\ ^3D_3$	$2p7f\ ^3F_4$	387.13	3.152+09
$2p3p\ ^3P_1$	$2p7s\ ^3P_2$	373.64	3.116+08	$2p3d\ ^3D_3$	$2p7p\ ^3P_2$	388.53	1.931+08
$2p3p\ ^3P_2$	$2p7s\ ^3P_2$	373.93	8.749+08	$2p3d\ ^1P_1$	$2p8p\ ^1S_0$	389.01	4.990+08
$2p3p\ ^1P_1$	$2p6d\ ^3F_2$	374.02	1.563+09	$2p3d\ ^1P_1$	$2p8f\ ^1D_2$	389.55	2.503+09
$2p3p\ ^3P_0$	$2p7s\ ^3P_1$	374.08	2.129+08	$2p3d\ ^1P_1$	$2p8f\ ^3D_2$	389.81	3.190+08
$2p3p\ ^3P_1$	$2p7s\ ^3P_1$	374.24	1.479+08	$2p3d\ ^1P_1$	$2p8f\ ^3F_2$	390.65	2.245+08
$2p3p\ ^3P_1$	$2p7s\ ^3P_0$	374.37	2.188+08	$2p3d\ ^1P_1$	$2p8p\ ^1D_2$	390.90	2.028+08
$2p3p\ ^3P_2$	$2p7s\ ^3P_1$	374.52	2.573+08	$2p3d\ ^3P_2$	$2p7f\ ^1D_2$	391.07	1.847+08
$2p3p\ ^1S_0$	$2p8d\ ^1P_1$	374.72	1.736+09	$2p3d\ ^3P_1$	$2p7f\ ^1D_2$	391.27	4.495+08
$2p3p\ ^3D_2$	$2p6d\ ^3P_1$	378.08	1.217+08	$2p3d\ ^3P_2$	$2p7f\ ^3D_2$	391.41	7.895+08
$2p3p\ ^3D_2$	$2p6d\ ^3P_2$	378.19	2.296+08	$2p3d\ ^3P_1$	$2p7f\ ^3D_1$	391.47	1.011+09
$2p3p\ ^3D_1$	$2p6d\ ^3D_1$	378.61	7.961+08	$2p3d\ ^3P_2$	$2p7f\ ^3D_3$	391.50	4.335+09
$2p3p\ ^1S_0$	$2p8s\ ^1P_1$	378.63	4.384+08	$2p3d\ ^3P_0$	$2p7f\ ^3D_1$	391.58	1.287+09
$2p3p\ ^3D_3$	$2p6d\ ^3P_2$	378.64	2.685+08	$2p3d\ ^3P_1$	$2p7f\ ^3D_2$	391.62	2.193+09
$2p3p\ ^3D_2$	$2p6d\ ^3D_2$	378.78	1.422+09	$2p3d\ ^1P_1$	$2p8p\ ^3S_1$	391.89	1.827+08
$2p3p\ ^3D_2$	$2p6d\ ^3D_1$	378.89	1.934+08	$2p3d\ ^3P_2$	$2p7f\ ^3F_3$	392.46	8.110+08
$2p3p\ ^3D_3$	$2p6d\ ^3D_3$	378.98	2.883+09	$2p3d\ ^1P_1$	$2p8p\ ^1P_1$	392.50	1.941+08
$2p3p\ ^1P_1$	$2p6s\ ^1P_1$	379.01	4.715+08	$2p3d\ ^3P_2$	$2p7f\ ^3G_3$	392.51	1.359+08
$2p3p\ ^3D_3$	$2p6d\ ^3D_2$	379.23	1.230+08	$2p3d\ ^3P_1$	$2p7f\ ^3F_2$	392.61	1.905+08
$2p3p\ ^1D_2$	$2p7d\ ^1F_3$	379.35	7.010+09	$2p3d\ ^1P_1$	$2p8p\ ^3D_1$	392.81	1.851+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^3S_1$	$2p8d\ ^1D_2$	342.53	3.374+08	$2p3s\ ^1P_1$	$2p6p\ ^3D_1$	366.84	6.729+08
$2p3p\ ^1P_1$	$2p7d\ ^1P_1$	344.55	1.156+09	$2p3d\ ^3D_1$	$2p8f\ ^1D_2$	367.00	1.424+08
$2p3p\ ^1P_1$	$2p7d\ ^3D_2$	346.09	5.034+08	$2p3d\ ^3D_1$	$2p8f\ ^3D_1$	367.13	2.457+08
$2p3p\ ^1P_1$	$2p7d\ ^1D_2$	346.59	1.369+09	$2p3d\ ^3D_1$	$2p8f\ ^3D_2$	367.23	1.347+08
$2p3p\ ^1P_1$	$2p7d\ ^3F_2$	346.92	7.613+08	$2p3s\ ^1P_1$	$2p6p\ ^1P_1$	367.25	1.242+09
$2p3p\ ^1P_1$	$2p7s\ ^1P_1$	349.43	2.117+08	$2p3d\ ^3D_2$	$2p8f\ ^3D_2$	367.32	6.316+08
$2p3p\ ^3D_2$	$2p7d\ ^3P_2$	350.94	2.948+08	$2p3d\ ^3D_2$	$2p8f\ ^3D_3$	367.38	1.815+08
$2p3p\ ^3D_1$	$2p7d\ ^3D_1$	351.24	4.553+08	$2p3d\ ^3D_3$	$2p8f\ ^3D_3$	367.52	1.004+09
$2p3p\ ^3D_2$	$2p7d\ ^3D_2$	351.32	7.574+08	$2p3d\ ^3D_2$	$2p8f\ ^1F_3$	367.54	8.649+08
$2p3p\ ^3D_3$	$2p7d\ ^3P_2$	351.32	1.156+08	$2p3d\ ^3D_3$	$2p8f\ ^3F_4$	367.66	2.521+09
$2p3p\ ^3D_2$	$2p7d\ ^3D_1$	351.48	1.322+08	$2p3d\ ^3D_1$	$2p8f\ ^3F_2$	367.97	1.644+09
$2p3p\ ^3P_1$	$2p8d\ ^3P_0$	351.50	3.152+08	$2p3d\ ^3D_2$	$2p8f\ ^3F_3$	368.13	1.931+09
$2p3p\ ^3D_3$	$2p7d\ ^3D_3$	351.51	1.910+09	$2p3d\ ^3D_2$	$2p8f\ ^3G_3$	368.18	1.512+08
$2p3p\ ^3P_1$	$2p8d\ ^3P_1$	351.52	6.502+08	$2p3d\ ^3D_1$	$2p8p\ ^1D_2$	368.20	2.158+08
$2p3p\ ^3P_1$	$2p8d\ ^3P_2$	351.57	2.357+08	$2p3d\ ^3D_3$	$2p8f\ ^3G_4$	368.27	1.685+09
$2p3p\ ^3D_1$	$2p7d\ ^1D_2$	351.59	8.656+08	$2p3d\ ^3D_3$	$2p8p\ ^3P_2$	368.91	1.777+08
$2p3p\ ^3P_2$	$2p8d\ ^3P_1$	351.77	4.228+08	$2p3d\ ^3P_2$	$2p8f\ ^1D_2$	372.00	1.408+08
$2p3p\ ^3P_2$	$2p8d\ ^3P_2$	351.82	1.798+09	$2p3d\ ^3P_1$	$2p8f\ ^1D_2$	372.19	3.462+08
$2p3p\ ^3P_1$	$2p8d\ ^1D_2$	351.85	1.162+09	$2p3d\ ^3P_2$	$2p8f\ ^3D_2$	372.24	4.761+08
$2p3p\ ^3D_3$	$2p7d\ ^3F_4$	351.93	6.210+09	$2p3d\ ^3P_2$	$2p8f\ ^3D_3$	372.29	2.540+09
$2p3p\ ^3D_2$	$2p7d\ ^3F_3$	351.93	4.404+09	$2p3d\ ^3P_1$	$2p8f\ ^3D_1$	372.32	6.658+08
$2p3p\ ^3D_1$	$2p7d\ ^3F_2$	351.94	2.170+09	$2p3d\ ^3P_0$	$2p8f\ ^3D_1$	372.41	8.465+08
$2p3p\ ^3P_2$	$2p8d\ ^3D_3$	351.95	3.437+09	$2p3d\ ^3P_1$	$2p8f\ ^3D_2$	372.42	1.319+09
$2p3p\ ^3P_0$	$2p8d\ ^3D_1$	351.96	1.202+09	$2p3d\ ^3F_3$	$2p7f\ ^1G_4$	372.93	1.339+09
$2p3p\ ^3P_1$	$2p8d\ ^3D_1$	352.10	3.132+08	$2p3d\ ^3F_2$	$2p7f\ ^3G_3$	373.03	1.275+09
$2p3p\ ^3D_2$	$2p7d\ ^3F_2$	352.18	3.094+08	$2p3d\ ^3P_2$	$2p8f\ ^3F_3$	373.07	8.714+08
$2p3p\ ^3D_3$	$2p7d\ ^3F_3$	352.31	1.176+08	$2p3d\ ^3P_1$	$2p8f\ ^3F_2$	373.18	1.518+08
$2p3p\ ^3P_1$	$2p8d\ ^1D_2$	352.33	1.078+09	$2p3d\ ^3F_3$	$2p7f\ ^3F_4$	373.28	2.686+09
$2p3p\ ^3P_2$	$2p8d\ ^3F_3$	352.63	5.236+08	$2p3d\ ^3F_3$	$2p7f\ ^3G_5$	373.32	7.821+08
$2p3p\ ^3P_1$	$2p8s\ ^3P_2$	354.45	2.720+08	$2p3d\ ^3F_4$	$2p7f\ ^3G_5$	373.47	9.584+09
$2p3p\ ^3P_2$	$2p8s\ ^3P_2$	354.71	7.504+08	$2p3d\ ^1D_2$	$2p7f\ ^1D_2$	373.56	8.574+08
$2p3p\ ^3P_0$	$2p8s\ ^3P_1$	354.87	1.742+08	$2p3d\ ^3F_2$	$2p7f\ ^3F_2$	373.57	5.350+08
$2p3p\ ^3P_1$	$2p8s\ ^3P_1$	355.01	1.184+08	$2p3d\ ^3F_4$	$2p7f\ ^3F_4$	373.61	1.441+09
$2p3p\ ^3P_1$	$2p8s\ ^3P_0$	355.10	1.871+08	$2p3d\ ^3F_2$	$2p7f\ ^3F_3$	373.63	5.350+08
$2p3p\ ^3P_2$	$2p8s\ ^3P_1$	355.27	2.105+08	$2p3d\ ^3F_2$	$2p7f\ ^3G_3$	373.67	3.871+09
$2p3p\ ^3D_2$	$2p7s\ ^3P_2$	355.30	1.007+08	$2p3d\ ^1D_2$	$2p7f\ ^3D_2$	373.88	1.436+08
$2p3p\ ^3D_3$	$2p7s\ ^3P_2$	355.69	6.136+08	$2p3d\ ^3F_3$	$2p7f\ ^3F_4$	373.89	3.423+09
$2p3p\ ^3D_1$	$2p7s\ ^3P_0$	355.71	1.482+08	$2p3d\ ^3F_3$	$2p7f\ ^3F_3$	373.92	2.310+08
$2p3p\ ^3D_2$	$2p7s\ ^3P_1$	355.83	3.066+08	$2p3d\ ^1D_2$	$2p7f\ ^3D_3$	373.96	4.086+08
$2p3p\ ^3S_1$	$2p7d\ ^3P_0$	358.00	4.532+08	$2p3d\ ^3F_3$	$2p7f\ ^3G_3$	373.96	1.344+08
$2p3p\ ^3S_1$	$2p7d\ ^3P_1$	358.04	1.171+09	$2p3d\ ^3P_2$	$2p8p\ ^3D_3$	374.19	2.072+08
$2p3p\ ^3S_1$	$2p7d\ ^3P_2$	358.11	1.497+09	$2p3d\ ^1D_2$	$2p7f\ ^3G_3$	374.24	2.452+09
$2p3p\ ^3S_1$	$2p7d\ ^3D_2$	358.51	5.825+08	$2p3d\ ^1D_2$	$2p7f\ ^3F_3$	374.84	1.141+09

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^1D_2$	$2p6d\ ^1F_3$	410.56	9.328+09	$2p3d\ ^3D_3$	$2p6f\ ^3D_3$	419.07	2.395+09
$2s4s\ ^1S_0$	$2p8d\ ^1P_1$	412.09	7.061+08	$2p3d\ ^3D_2$	$2p6f\ ^3G_3$	419.49	1.719+09
$2p3p\ ^1D_2$	$2p6d\ ^3D_2$	413.54	1.216+08	$2p3d\ ^3D_3$	$2p6f\ ^3G_4$	419.58	3.965+09
$2p3p\ ^1D_2$	$2p6d\ ^1D_2$	414.60	1.260+09	$2p3d\ ^3D_3$	$2p6f\ ^3G_3$	419.67	1.832+08
$2p3p\ ^1D_2$	$2p6d\ ^3F_2$	415.15	5.128+08	$2p3d\ ^3D_1$	$2p6f\ ^3F_2$	420.11	5.521+09
$2s4s\ ^1S_0$	$2p8s\ ^1P_1$	416.84	1.607+08	$2p3d\ ^3D_2$	$2p6f\ ^3F_2$	420.23	5.798+08
$2p3p\ ^1D_2$	$2p6s\ ^1P_1$	421.31	1.347+09	$2p3d\ ^3D_2$	$2p6f\ ^3F_3$	420.26	6.391+09
$2p3p\ ^1S_0$	$2p6d\ ^1P_1$	427.62	1.873+09	$2p3d\ ^3D_2$	$2p6f\ ^1F_3$	420.34	2.788+08
$2s4d\ ^3D_1$	$2p8d\ ^3P_0$	433.45	1.072+08	$2p3d\ ^3D_3$	$2p6f\ ^3F_4$	420.38	7.512+09
$2s4d\ ^3D_1$	$2p8d\ ^3P_1$	433.49	1.172+08	$2p3d\ ^3D_3$	$2p6f\ ^3F_3$	420.45	2.701+08
$2s4d\ ^3D_2$	$2p8d\ ^3P_1$	433.50	1.565+08	$2p3d\ ^3D_2$	$2p6p\ ^3P_1$	423.41	1.268+08
$2s4d\ ^3D_2$	$2p8d\ ^3P_2$	433.57	1.420+08	$2p3d\ ^3D_3$	$2p6p\ ^3P_2$	423.45	2.871+08
$2s4d\ ^3D_3$	$2p8d\ ^3P_2$	433.58	1.854+08	$2p3d\ ^3P_2$	$2p6f\ ^1D_2$	424.57	2.302+08
$2s4d\ ^3D_3$	$2p8d\ ^3D_3$	433.78	1.048+08	$2p3d\ ^3P_1$	$2p6f\ ^1D_2$	424.81	5.492+08
$2s4d\ ^3D_3$	$2p8d\ ^1D_2$	434.01	1.194+08	$2p3d\ ^3P_2$	$2p6f\ ^3D_1$	424.93	1.267+08
$2s4d\ ^3D_3$	$2p8d\ ^1D_2$	434.73	1.523+08	$2p3d\ ^3P_2$	$2p6f\ ^3D_2$	425.14	1.501+09
$2s4s\ ^1S_0$	$2p7d\ ^1P_1$	435.48	3.778+08	$2p3d\ ^3D_3$	$2p6p\ ^3D_3$	425.14	1.401+08
$2p3p\ ^1S_0$	$2p6s\ ^1P_1$	439.66	5.911+08	$2p3d\ ^3P_1$	$2p6f\ ^3D_1$	425.18	1.730+09
$2s4d\ ^1D_2$	$2p8d\ ^1P_1$	440.37	6.815+08	$2p3d\ ^3P_2$	$2p6f\ ^3D_3$	425.28	8.266+09
$2s4d\ ^1D_2$	$2p7d\ ^1P_1$	467.19	1.850+08	$2p3d\ ^3P_0$	$2p6f\ ^3D_1$	425.30	2.203+09
$2s4s\ ^1S_0$	$2p6d\ ^1P_1$	476.99	4.471+08	$2p3d\ ^3P_1$	$2p6f\ ^3D_2$	425.38	4.163+09
$2s4s\ ^1S_0$	$2p6s\ ^1P_1$	492.03	1.105+08	$2s4p\ ^1P_1$	$2p8p\ ^1D_2$	426.49	3.289+08
$2s4d\ ^1D_2$	$2p6d\ ^1F_3$	515.81	1.101+08	$2p3d\ ^3P_2$	$2p6f\ ^3F_3$	426.71	3.835+08
$2s5g\ ^3G_4$	$2p8g\ ^3F_3$	608.02	1.492+08	$2p3d\ ^3P_2$	$2p6f\ ^1F_3$	426.79	4.206+08
$2s5g\ ^3G_3$	$2p8g\ ^3F_2$	608.02	1.225+08	$2p3d\ ^3P_1$	$2p6f\ ^3F_2$	426.92	1.579+08
$2s5g\ ^3G_5$	$2p8g\ ^3F_4$	608.34	1.083+08	$2p3d\ ^3P_2$	$2p6p\ ^3S_1$	430.86	3.513+08
$2p4p\ ^1P_1$	$2p8d\ ^1P_1$	694.65	2.113+08	$2p3d\ ^3P_1$	$2p6p\ ^3S_1$	431.11	1.887+08
$2p4p\ ^1P_1$	$2p8d\ ^1D_2$	699.20	1.511+08	$2p3d\ ^3P_2$	$2p6p\ ^3D_3$	431.54	2.583+08
$2p4p\ ^1P_1$	$2p8d\ ^1D_2$	701.08	1.833+08	$2p3d\ ^3P_1$	$2p6p\ ^3D_2$	432.37	1.170+08
$2p4p\ ^1P_1$	$2p8d\ ^3F_2$	702.14	2.065+08	$2p3d\ ^1F_3$	$2p6f\ ^1G_4$	438.20	7.941+09
$2p4p\ ^3D_2$	$2p8d\ ^1D_2$	705.76	1.349+08	$2p3d\ ^1F_3$	$2p6f\ ^3G_4$	438.92	5.026+08
$2p4p\ ^3D_3$	$2p8d\ ^3D_3$	706.59	4.425+08	$2p3d\ ^1F_3$	$2p6f\ ^3G_3$	439.02	2.684+08
$2p4p\ ^3D_1$	$2p8d\ ^1D_2$	706.89	2.052+08	$2p3d\ ^1F_3$	$2p6f\ ^3F_4$	439.79	7.311+08
$2p4p\ ^3D_3$	$2p8d\ ^3F_4$	707.63	1.383+09	$2p3d\ ^1F_3$	$2p6f\ ^1F_3$	439.95	8.972+08
$2p4p\ ^3D_2$	$2p8d\ ^3F_3$	707.87	1.015+09	$2s4f\ ^3F_3$	$2p8f\ ^1D_2$	441.14	1.249+08
$2p4p\ ^3D_1$	$2p8d\ ^3F_2$	707.98	4.621+08	$2s4f\ ^3F_2$	$2p8f\ ^3D_1$	441.32	4.079+08
$2p4p\ ^3S_1$	$2p8d\ ^3P_1$	710.86	1.858+08	$2s4f\ ^3F_3$	$2p8f\ ^3D_2$	441.47	3.813+08
$2p4p\ ^3S_1$	$2p8d\ ^3P_2$	711.05	2.359+08	$2p3d\ ^1F_3$	$2p6p\ ^1D_2$	441.49	7.592+08
$2p4p\ ^3S_1$	$2p8d\ ^1D_2$	712.21	1.084+08	$2s4f\ ^3F_4$	$2p8f\ ^3D_3$	441.57	5.743+08
$2p4p\ ^3S_1$	$2p8d\ ^1D_2$	714.15	1.105+08	$2s4f\ ^3F_4$	$2p8f\ ^3F_3$	442.66	2.916+08
$2p4p\ ^3D_3$	$2p8s\ ^3P_2$	717.79	2.557+08	$2s4f\ ^1F_3$	$2p8f\ ^1D_2$	445.29	4.475+08
$2p4p\ ^3D_2$	$2p8s\ ^3P_1$	718.59	1.300+08	$2s4f\ ^1F_3$	$2p8f\ ^1G_4$	445.58	2.736+08
$2p4p\ ^3P_1$	$2p8d\ ^3P_0$	726.03	1.097+08	$2s4f\ ^1F_3$	$2p8p\ ^1D_2$	447.06	3.821+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p3p\ ^3D_1$	$2p6d\ ^1D_2$	379.39	1.849+09	$2p3d\ ^3P_2$	$2p7p\ ^3S_1$	394.51	1.774+08
$2p3p\ ^3D_2$	$2p6d\ ^3F_3$	379.79	8.104+09	$2p3d\ ^3P_2$	$2p7p\ ^3D_3$	394.72	1.858+08
$2p3p\ ^3D_3$	$2p6d\ ^3F_4$	379.83	1.134+10	$2p3d\ ^3P_1$	$2p7p\ ^3S_1$	394.72	1.107+08
$2p3p\ ^3D_1$	$2p6d\ ^3F_2$	379.85	3.725+09	$2p3d\ ^1F_3$	$2p7f\ ^1G_4$	402.42	4.677+09
$2p3p\ ^3D_2$	$2p6d\ ^3F_2$	380.14	6.031+08	$2p3d\ ^1F_3$	$2p7f\ ^3F_4$	402.82	2.515+08
$2p3p\ ^3D_3$	$2p6d\ ^3F_3$	380.24	4.303+08	$2p3d\ ^1F_3$	$2p7f\ ^3G_3$	402.87	2.286+08
$2p3p\ ^1D_2$	$2p7d\ ^3D_2$	381.02	2.923+08	$2p3d\ ^3F_3$	$2p6f\ ^1G_4$	403.46	1.827+09
$2p3p\ ^1D_2$	$2p7d\ ^1D_2$	381.63	7.513+08	$2p3d\ ^1F_3$	$2p7f\ ^3F_4$	403.53	8.032+08
$2p3p\ ^1D_2$	$2p7d\ ^3F_3$	381.74	1.308+08	$2p3d\ ^1F_3$	$2p7f\ ^3G_3$	403.62	3.299+08
$2p3p\ ^1D_2$	$2p7d\ ^3F_2$	382.04	3.299+08	$2p3d\ ^3F_2$	$2p6f\ ^3G_3$	403.82	3.813+09
$2p3p\ ^1D_2$	$2p7s\ ^1P_1$	385.08	1.046+09	$2p3d\ ^1D_2$	$2p6f\ ^1D_2$	404.02	1.547+09
$2p3p\ ^3S_1$	$2p6d\ ^3P_0$	386.35	7.498+08	$2p3d\ ^3F_3$	$2p6f\ ^3G_4$	404.07	6.948+09
$2p3p\ ^3S_1$	$2p6d\ ^3P_1$	386.41	2.053+09	$2p3d\ ^3F_3$	$2p6f\ ^3G_3$	404.16	1.535+09
$2p3p\ ^3D_2$	$2p6s\ ^3P_2$	386.46	2.083+08	$2p3d\ ^1F_3$	$2p7p\ ^1D_2$	404.19	8.306+08
$2p3p\ ^3S_1$	$2p6d\ ^3P_2$	386.53	2.918+09	$2p3d\ ^3F_4$	$2p6f\ ^3G_5$	404.22	1.755+10
$2p3p\ ^3D_1$	$2p6s\ ^3P_1$	386.77	1.995+08	$2p3d\ ^3F_4$	$2p6f\ ^3G_4$	404.47	2.408+09
$2p3p\ ^3D_3$	$2p6s\ ^3P_2$	386.93	1.238+09	$2p3d\ ^3F_2$	$2p6f\ ^3F_2$	404.50	1.033+09
$2p3p\ ^3D_1$	$2p6s\ ^3P_0$	386.94	2.996+08	$2p3d\ ^1D_2$	$2p6f\ ^3D_2$	404.53	2.034+08
$2p3p\ ^3D_2$	$2p6s\ ^3P_1$	387.06	6.476+08	$2p3d\ ^3F_2$	$2p6f\ ^3F_3$	404.54	3.210+09
$2p3p\ ^3S_1$	$2p6d\ ^3D_2$	387.15	8.777+08	$2p3d\ ^3F_2$	$2p6f\ ^1F_3$	404.61	3.395+09
$2p3p\ ^3S_1$	$2p6d\ ^3D_1$	387.26	2.200+08	$2p3d\ ^1D_2$	$2p6f\ ^3D_3$	404.66	4.089+08
$2p3p\ ^3S_1$	$2p6d\ ^1D_2$	388.07	1.462+08	$2p3d\ ^3F_3$	$2p6f\ ^3F_4$	404.81	4.831+09
$2p3p\ ^1S_0$	$2p7d\ ^1P_1$	393.96	1.430+09	$2p3d\ ^3F_3$	$2p6f\ ^3F_3$	404.88	3.113+08
$2p3p\ ^3S_1$	$2p6s\ ^3P_2$	395.18	2.747+08	$2p3d\ ^3F_3$	$2p6f\ ^1F_3$	404.95	3.516+08
$2p3p\ ^3S_1$	$2p6s\ ^3P_1$	395.80	1.806+08	$2p3d\ ^3F_4$	$2p6f\ ^3F_4$	405.21	4.474+08
$2p3p\ ^3P_1$	$2p6d\ ^3P_0$	398.85	5.670+08	$2p3d\ ^1D_2$	$2p6f\ ^3G_3$	405.23	3.597+09
$2p3p\ ^3P_1$	$2p6d\ ^3P_1$	398.92	9.565+08	$2p3d\ ^1D_2$	$2p6f\ ^3F_3$	405.96	2.558+08
$2p3p\ ^3P_2$	$2p6d\ ^3P_1$	399.24	7.625+08	$2p3d\ ^1D_2$	$2p6f\ ^1F_3$	406.03	6.101+09
$2p3p\ ^3P_2$	$2p6d\ ^3P_2$	399.37	3.167+09	$2p3d\ ^3F_4$	$2p6p\ ^3D_3$	409.63	2.179+08
$2p3p\ ^3P_0$	$2p6d\ ^3D_1$	399.64	2.127+09	$2p3d\ ^3F_3$	$2p6p\ ^3D_2$	409.74	1.493+08
$2p3p\ ^3P_1$	$2p6d\ ^3D_2$	399.70	3.968+09	$2p3d\ ^1P_1$	$2p7p\ ^1S_0$	410.20	2.000+08
$2p3p\ ^3P_2$	$2p6d\ ^3D_3$	399.75	6.858+09	$2p3d\ ^1P_1$	$2p7f\ ^1D_2$	410.51	2.825+09
$2p3p\ ^3P_1$	$2p6d\ ^3D_1$	399.82	7.751+08	$2p3d\ ^1P_1$	$2p7f\ ^3D_2$	410.89	3.576+08
$2p3p\ ^3P_2$	$2p6d\ ^3D_2$	400.03	1.077+08	$2p3d\ ^1P_1$	$2p7f\ ^3F_2$	411.98	2.149+08
$2p3p\ ^1S_0$	$2p7s\ ^1P_1$	400.35	4.310+08	$2p3d\ ^1P_1$	$2p7p\ ^1D_2$	412.70	1.173+08
$2p3p\ ^3P_1$	$2p6d\ ^1D_2$	400.69	3.790+08	$2p3d\ ^1P_1$	$2p7p\ ^1P_1$	415.11	1.522+08
$2p3p\ ^3P_2$	$2p6d\ ^3F_3$	401.16	2.737+08	$2p3d\ ^1P_1$	$2p7p\ ^3D_1$	415.54	1.562+08
$2p3p\ ^3P_1$	$2p6s\ ^3P_2$	408.27	4.570+08	$2p3d\ ^3D_1$	$2p6f\ ^1D_2$	418.07	1.913+08
$2p3p\ ^3P_2$	$2p6s\ ^3P_2$	408.60	1.301+09	$2p3d\ ^3D_1$	$2p6f\ ^3D_1$	418.42	5.866+08
$2p3p\ ^3P_0$	$2p6s\ ^3P_1$	408.74	3.314+08	$2p3d\ ^3D_2$	$2p6f\ ^3D_1$	418.54	2.057+08
$2p3p\ ^3P_1$	$2p6s\ ^3P_1$	408.93	2.351+08	$2p3d\ ^3D_2$	$2p6f\ ^3D_2$	418.74	1.303+09
$2p3p\ ^3P_1$	$2p6s\ ^3P_0$	409.13	3.279+08	$2p3d\ ^3D_3$	$2p6f\ ^1G_4$	418.92	1.175+08
$2p3p\ ^3P_2$	$2p6s\ ^3P_1$	409.27	4.015+08	$2p3d\ ^3D_3$	$2p6f\ ^3D_2$	418.92	2.382+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p4p\ ^1P_1$	$2p7d\ ^1D_2$	773.90	4.980+08	$2p4d\ ^3F_3$	$2p8f\ ^1G_4$	737.97	4.238+08
$2p4f\ ^3D_3$	$2p8g\ ^3F_3$	774.00	1.252+08	$2p4s\ ^1P_1$	$2p7p\ ^1S_0$	738.20	1.049+08
$2p4f\ ^3D_3$	$2p8g\ ^3F_4$	774.49	1.362+09	$2p4d\ ^1D_2$	$2p8f\ ^1D_2$	738.53	2.034+08
$2p4f\ ^3D_2$	$2p8g\ ^3F_3$	774.76	4.780+08	$2p4d\ ^3F_3$	$2p8f\ ^3F_4$	738.88	5.344+08
$2p4f\ ^3D_2$	$2p8g\ ^3F_2$	774.78	1.939+08	$2p4d\ ^3F_3$	$2p8f\ ^1F_3$	738.99	2.063+08
$2p4f\ ^3D_2$	$2p8g\ ^3G_3$	775.24	6.321+08	$2p4d\ ^1D_2$	$2p8f\ ^3D_3$	739.68	1.315+08
$2p4f\ ^3D_1$	$2p8g\ ^3F_2$	775.55	9.739+08	$2p4d\ ^3F_4$	$2p8f\ ^3G_5$	739.74	2.678+09
$2p4p\ ^1P_1$	$2p7d\ ^3F_2$	775.58	4.317+08	$2p4d\ ^3F_2$	$2p8f\ ^3F_2$	739.90	1.402+08
$2p4f\ ^3D_3$	$2p8g\ ^3F_4$	777.60	6.561+08	$2p4d\ ^3F_4$	$2p8f\ ^3F_4$	740.12	4.599+08
$2p4f\ ^3D_2$	$2p8g\ ^3G_3$	778.39	3.133+08	$2p4d\ ^1D_2$	$2p8f\ ^1F_3$	740.35	9.035+08
$2p4f\ ^1D_2$	$2p8g\ ^3F_3$	778.71	1.053+09	$2p4d\ ^3F_2$	$2p8f\ ^3G_3$	740.38	1.512+09
$2p4f\ ^1D_2$	$2p8g\ ^3G_3$	779.19	3.580+08	$2p4d\ ^3F_3$	$2p8f\ ^3G_4$	741.35	1.160+09
$2p4p\ ^3D_1$	$2p7d\ ^3D_1$	779.24	1.417+08	$2p4d\ ^1D_2$	$2p8f\ ^3F_3$	742.76	5.674+08
$2p4p\ ^3D_2$	$2p7d\ ^3D_2$	779.42	2.828+08	$2s6p\ ^3P_1$	$2p8f\ ^3D_2$	744.39	1.156+08
$2p4p\ ^3D_3$	$2p7d\ ^3D_3$	780.21	6.602+08	$2s6p\ ^3P_2$	$2p8f\ ^3D_3$	744.53	2.628+08
$2p4p\ ^3D_1$	$2p7d\ ^1D_2$	781.00	4.786+08	$2p4s\ ^1P_1$	$2p7p\ ^1D_2$	746.34	8.560+08
$2p4f\ ^3G_4$	$2p8g\ ^1H_5$	781.13	2.411+08	$2p4s\ ^1P_1$	$2p7p\ ^1P_1$	754.24	1.708+08
$2p4f\ ^3G_3$	$2p8g\ ^1G_4$	781.19	3.054+08	$2p4d\ ^3D_1$	$2p8f\ ^3D_1$	754.51	1.113+08
$2p4f\ ^3G_4$	$2p8g\ ^3G_5$	781.58	2.911+08	$2p4d\ ^3D_2$	$2p8f\ ^3D_2$	755.30	3.224+08
$2p4f\ ^3G_5$	$2p8g\ ^3H_6$	781.97	1.336+09	$2p4s\ ^1P_1$	$2p7p\ ^3D_1$	755.66	1.593+08
$2p4p\ ^3D_3$	$2p7d\ ^3F_4$	782.27	2.749+09	$2p4d\ ^3D_3$	$2p8f\ ^3D_3$	756.06	4.851+08
$2p4f\ ^1D_2$	$2p8g\ ^3G_3$	782.37	2.077+08	$2s6p\ ^1P_1$	$2p8f\ ^3F_2$	756.13	1.103+08
$2p4f\ ^3G_5$	$2p8g\ ^3G_5$	782.40	1.229+08	$2p4d\ ^3D_2$	$2p8f\ ^1F_3$	756.23	5.283+08
$2p4p\ ^3D_2$	$2p7d\ ^3F_3$	782.40	1.949+09	$2p4d\ ^3D_3$	$2p8f\ ^3F_4$	756.64	1.396+09
$2p4p\ ^3D_1$	$2p7d\ ^3F_2$	782.71	8.374+08	$2p4d\ ^3D_1$	$2p8f\ ^3F_2$	758.07	8.628+08
$2p4p\ ^3D_2$	$2p7d\ ^3F_2$	783.66	1.518+08	$2s6f\ ^1F_3$	$2p8f\ ^1G_4$	758.42	5.913+08
$2p4f\ ^3G_3$	$2p8g\ ^3H_4$	784.15	5.021+08	$2p4d\ ^3D_2$	$2p8f\ ^3F_3$	758.74	1.039+09
$2p4f\ ^1G_4$	$2p8g\ ^1H_5$	784.22	9.453+08	$2p4d\ ^3D_1$	$2p8p\ ^1D_2$	759.03	1.501+08
$2p4f\ ^3G_4$	$2p8g\ ^3G_5$	784.54	4.948+08	$2p4d\ ^3D_3$	$2p8f\ ^3G_4$	759.24	9.756+08
$2p4f\ ^1G_4$	$2p8g\ ^3G_5$	784.67	1.169+08	$2p4d\ ^3D_3$	$2p8p\ ^3P_2$	761.96	1.238+08
$2p4p\ ^3S_1$	$2p7d\ ^3P_0$	784.85	1.292+08	$2p4d\ ^3P_1$	$2p8f\ ^1D_2$	766.05	1.433+08
$2p4p\ ^3S_1$	$2p7d\ ^3P_1$	785.03	3.368+08	$2p4d\ ^3P_2$	$2p8f\ ^3D_2$	766.37	2.356+08
$2p4p\ ^3S_1$	$2p7d\ ^3P_2$	785.37	4.553+08	$2p4d\ ^3P_1$	$2p8f\ ^3D_1$	766.61	3.174+08
$2p4p\ ^1S_0$	$2p8d\ ^1P_1$	786.61	7.599+08	$2p4d\ ^3P_2$	$2p8f\ ^3D_3$	766.61	1.203+09
$2p4p\ ^3S_1$	$2p7d\ ^3D_2$	787.29	2.248+08	$2p4d\ ^3P_0$	$2p8f\ ^3D_1$	766.95	3.920+08
$2p4f\ ^1G_4$	$2p8g\ ^3G_5$	787.66	1.729+08	$2p4d\ ^3P_1$	$2p8f\ ^3D_2$	767.05	6.285+08
$2p4p\ ^1P_1$	$2p7s\ ^1P_1$	788.21	1.484+08	$2s6f\ ^3F_4$	$2p8f\ ^3G_5$	768.50	2.020+08
$2p4p\ ^3D_3$	$2p7s\ ^3P_2$	801.12	5.012+08	$2p4d\ ^3P_2$	$2p8f\ ^3F_3$	769.92	3.254+08
$2p4p\ ^3D_1$	$2p7s\ ^3P_0$	801.58	1.261+08	$2p4d\ ^3P_2$	$2p8p\ ^3D_3$	774.71	1.151+08
$2p4p\ ^3D_2$	$2p7s\ ^3P_1$	801.98	2.632+08	$2p4d\ ^1P_1$	$2p8p\ ^1S_0$	791.17	2.251+08
$2p4p\ ^3P_1$	$2p7d\ ^3P_0$	803.52	1.458+08	$2p4d\ ^1P_1$	$2p8f\ ^1D_2$	793.40	1.232+09
$2p4p\ ^3P_1$	$2p7d\ ^3P_1$	803.71	2.840+08	$2p4d\ ^1P_1$	$2p8f\ ^3D_2$	794.48	1.462+08
$2p4p\ ^1S_0$	$2p8s\ ^1P_1$	804.07	2.840+08	$2p4d\ ^1F_3$	$2p8f\ ^1G_4$	796.60	1.630+09

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p4p\ ^3P_1$	$2p8d\ ^3P_1$	726.14	2.315+08	$2p3d\ ^1P_1$	$2p6p\ ^1S_0$	447.22	1.657+08
$2p4p\ ^3P_2$	$2p8d\ ^3P_1$	727.09	1.512+08	$2p3d\ ^1P_1$	$2p6f\ ^1D_2$	447.59	4.721+09
$2p4p\ ^3P_2$	$2p8d\ ^3P_2$	727.29	6.445+08	$2p3d\ ^1P_1$	$2p6f\ ^3D_2$	448.22	4.782+08
$2p4p\ ^3P_1$	$2p8d\ ^1D_2$	727.55	4.329+08	$2p3d\ ^1P_1$	$2p6f\ ^3F_2$	449.92	1.739+08
$2p4p\ ^3P_0$	$2p8d\ ^3D_1$	727.81	4.020+08	$2p3d\ ^1P_1$	$2p6p\ ^1D_2$	451.66	1.466+08
$2p4p\ ^3P_2$	$2p8d\ ^3D_3$	727.84	1.273+09	$2s4p\ ^1P_1$	$2p7p\ ^1D_2$	452.58	1.051+08
$2p4p\ ^3P_1$	$2p8d\ ^3D_1$	728.59	1.188+08	$2p3d\ ^1P_1$	$2p6p\ ^3D_1$	456.07	1.288+08
$2p4p\ ^3P_1$	$2p8d\ ^1D_2$	729.58	3.696+08	$2p3d\ ^1P_1$	$2p6p\ ^1P_1$	456.70	2.392+08
$2p4p\ ^3P_2$	$2p8d\ ^3F_3$	730.74	1.759+08	$2s4f\ ^3F_4$	$2p7f\ ^3D_3$	468.85	1.504+08
$2s6s\ ^3S_1$	$2p8d\ ^3P_1$	735.91	1.176+08	$2s4f\ ^3F_4$	$2p7f\ ^3G_5$	468.99	1.635+08
$2s6s\ ^3S_1$	$2p8d\ ^3P_2$	736.12	1.307+08	$2s4f\ ^1F_3$	$2p7f\ ^1G_4$	473.35	2.678+08
$2p4p\ ^3P_1$	$2p8s\ ^3P_2$	738.75	1.256+08	$2s4f\ ^1F_3$	$2p7p\ ^1D_2$	475.80	1.300+08
$2p4p\ ^3P_2$	$2p8s\ ^3P_2$	739.73	3.553+08	$2s4f\ ^3F_4$	$2p6f\ ^3G_5$	518.52	3.186+08
$2p4p\ ^1D_2$	$2p8d\ ^1F_3$	740.89	2.775+09	$2s4f\ ^3F_3$	$2p6f\ ^3G_4$	518.91	1.359+08
$2p4p\ ^1D_2$	$2p8d\ ^1D_2$	745.45	1.875+08	$2s4f\ ^3F_2$	$2p6f\ ^3G_3$	519.04	1.010+08
$2p4p\ ^1D_2$	$2p8d\ ^1D_2$	747.58	1.817+08	$2s4f\ ^1F_3$	$2p6f\ ^1G_4$	523.63	4.602+08
$2p4p\ ^1D_2$	$2p8d\ ^3F_2$	748.79	1.015+08	$2s5f\ ^3F_2$	$2p8f\ ^3D_1$	607.56	1.347+08
$2s6g\ ^3G_4$	$2p8g\ ^1H_5$	753.53	1.924+08	$2s5f\ ^3F_3$	$2p8f\ ^3D_2$	607.84	1.208+08
$2s6g\ ^3G_3$	$2p8g\ ^1G_4$	753.60	1.467+08	$2s5f\ ^3F_4$	$2p8f\ ^3D_3$	608.00	1.833+08
$2s6g\ ^3G_4$	$2p8g\ ^3G_5$	753.95	1.481+08	$2s5f\ ^1F_3$	$2p8f\ ^1D_2$	608.46	1.630+08
$2s6g\ ^3G_5$	$2p8g\ ^3H_6$	754.36	1.379+09	$2s5f\ ^3F_4$	$2p8f\ ^3F_3$	610.08	1.026+08
$2s6g\ ^3G_5$	$2p8g\ ^3G_5$	754.76	1.716+08	$2p4s\ ^3P_1$	$2p8p\ ^3S_1$	663.06	1.257+08
$2s6g\ ^1G_4$	$2p8g\ ^1H_5$	755.35	8.638+08	$2p4s\ ^3P_2$	$2p8p\ ^3P_2$	663.31	3.188+08
$2p4p\ ^1D_2$	$2p8s\ ^1P_1$	755.73	4.950+08	$2p4s\ ^3P_2$	$2p8p\ ^3P_1$	663.45	2.160+08
$2s6g\ ^3G_3$	$2p8g\ ^3H_4$	756.36	8.884+08	$2p4s\ ^3P_0$	$2p8p\ ^1P_1$	664.10	1.455+08
$2s6g\ ^3G_4$	$2p8g\ ^3G_5$	756.70	9.101+08	$2p4s\ ^3P_1$	$2p8p\ ^3D_2$	664.81	3.684+08
$2s6g\ ^1G_4$	$2p8g\ ^3G_5$	758.54	1.480+08	$2p4s\ ^3P_2$	$2p8p\ ^3D_3$	664.81	5.699+08
$2p4f\ ^1F_3$	$2p8g\ ^3F_4$	758.86	4.057+08	$2p4s\ ^3P_1$	$2p8p\ ^3D_1$	665.69	1.070+08
$2p4f\ ^1F_3$	$2p8g\ ^1G_4$	759.12	2.257+08	$2p4s\ ^1P_1$	$2p8f\ ^3F_2$	677.20	1.507+08
$2s6d\ ^3D_3$	$2p8g\ ^3F_4$	759.28	1.022+08	$2p4s\ ^1P_1$	$2p8p\ ^1D_2$	677.96	6.226+08
$2p4f\ ^3F_2$	$2p8g\ ^3G_3$	759.47	3.993+08	$2p4s\ ^1P_1$	$2p8p\ ^3S_1$	680.95	1.542+08
$2p4f\ ^3F_3$	$2p8g\ ^3G_3$	759.96	2.416+08	$2p4s\ ^1P_1$	$2p8p\ ^1P_1$	682.78	1.473+08
$2p4f\ ^3F_3$	$2p8g\ ^1G_4$	760.24	1.091+09	$2p4s\ ^1P_1$	$2p8p\ ^3D_1$	683.72	1.325+08
$2p4f\ ^3F_4$	$2p8g\ ^3F_4$	760.28	2.911+08	$2p4s\ ^3P_1$	$2p7p\ ^3P_0$	729.30	1.105+08
$2p4f\ ^3F_4$	$2p8g\ ^3G_5$	760.54	1.705+09	$2p4s\ ^3P_2$	$2p7p\ ^3P_2$	729.56	5.037+08
$2p4f\ ^1F_3$	$2p8g\ ^3F_4$	761.84	1.114+09	$2p4s\ ^3P_2$	$2p7p\ ^3P_1$	729.85	3.094+08
$2s6d\ ^3D_2$	$2p8g\ ^3G_3$	762.21	1.508+08	$2p4s\ ^3P_1$	$2p7p\ ^3S_1$	729.87	2.129+08
$2p4f\ ^3F_2$	$2p8g\ ^3G_3$	762.49	9.057+08	$2p4s\ ^3P_0$	$2p7p\ ^1P_1$	731.51	2.161+08
$2p4f\ ^3F_3$	$2p8g\ ^3F_4$	762.97	2.825+08	$2p4s\ ^3P_1$	$2p7p\ ^3D_2$	732.34	5.895+08
$2p4f\ ^3F_3$	$2p8g\ ^3H_4$	763.04	4.348+08	$2p4s\ ^3P_2$	$2p7p\ ^3D_3$	732.48	9.406+08
$2p4f\ ^3F_4$	$2p8g\ ^3G_5$	763.34	7.094+08	$2p4s\ ^3P_0$	$2p7p\ ^3D_1$	732.85	1.001+08
$2p4p\ ^1P_1$	$2p7d\ ^1P_1$	763.80	3.214+08	$2p4s\ ^3P_1$	$2p7p\ ^3D_1$	733.69	1.474+08
$2p4p\ ^1P_1$	$2p7d\ ^3D_2$	771.43	1.656+08	$2p4d\ ^3F_2$	$2p8f\ ^1F_3$	737.80	1.043+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p4f\ ^1F_3$	$2p7g\ ^3H_4$	846.89	2.501+08	$2p4d\ ^3P_1$	$2p7f\ ^3D_2$	853.18	1.005+09
$2s6d\ ^3D_2$	$2p7g\ ^3G_3$	847.26	2.680+08	$2s6f\ ^3F_4$	$2p7f\ ^3G_5$	855.33	3.490+08
$2p4p\ ^1D_2$	$2p7s\ ^1P_1$	847.49	5.543+08	$2s6f\ ^3F_3$	$2p7f\ ^3F_4$	855.95	1.083+08
$2p4f\ ^3F_2$	$2p7g\ ^3G_3$	847.60	1.817+09	$2p4d\ ^3P_2$	$2p7f\ ^3F_3$	857.33	2.695+08
$2p4f\ ^3F_3$	$2p7g\ ^3G_4$	848.22	6.132+08	$2p4s\ ^3P_1$	$2p6p\ ^3P_2$	860.59	1.072+08
$2p4f\ ^3F_3$	$2p7g\ ^3H_4$	848.28	9.006+08	$2p4s\ ^3P_1$	$2p6p\ ^3P_0$	862.75	1.641+08
$2p4f\ ^3F_4$	$2p7g\ ^3G_5$	848.64	1.543+09	$2p4s\ ^3P_2$	$2p6p\ ^3P_2$	863.22	7.126+08
$2p4f\ ^3D_3$	$2p7g\ ^3F_3$	861.50	2.110+08	$2p4s\ ^3P_2$	$2p6p\ ^3P_1$	863.85	4.106+08
$2p4f\ ^3D_3$	$2p7g\ ^3G_3$	862.32	1.029+08	$2p4s\ ^3P_1$	$2p6p\ ^3S_1$	864.86	3.051+08
$2p4f\ ^3D_3$	$2p7g\ ^3F_4$	862.34	2.546+09	$2p4d\ ^3P_2$	$2p7p\ ^3S_1$	867.16	1.389+08
$2p4f\ ^3D_2$	$2p7g\ ^3F_3$	862.45	8.188+08	$2p4s\ ^1P_1$	$2p6p\ ^1S_0$	867.40	1.847+08
$2p4f\ ^3D_2$	$2p7g\ ^3F_2$	862.47	3.274+08	$2p4s\ ^3P_2$	$2p6p\ ^3S_1$	867.51	1.038+08
$2p4f\ ^3D_2$	$2p7g\ ^3G_3$	863.28	1.170+09	$2p4d\ ^3P_2$	$2p7p\ ^3D_3$	868.17	1.463+08
$2p4f\ ^3D_1$	$2p7g\ ^3F_2$	863.43	1.646+09	$2p4s\ ^3P_0$	$2p6p\ ^3D_1$	869.09	3.400+08
$2p4f\ ^3D_3$	$2p7g\ ^3G_4$	866.34	9.211+08	$2p4s\ ^3P_1$	$2p6p\ ^3D_2$	869.95	9.190+08
$2p4f\ ^3D_2$	$2p7g\ ^3G_3$	867.30	4.060+08	$2p4s\ ^3P_2$	$2p6p\ ^3D_3$	870.30	1.533+09
$2p4f\ ^1D_2$	$2p7g\ ^3F_3$	867.34	1.707+09	$2p4s\ ^3P_0$	$2p6p\ ^1P_1$	871.37	1.027+08
$2p4f\ ^1D_2$	$2p7g\ ^3G_3$	868.17	6.416+08	$2p4s\ ^3P_1$	$2p6p\ ^1P_1$	872.57	1.642+08
$2p4f\ ^3G_4$	$2p7g\ ^1H_5$	870.53	3.912+08	$2p4s\ ^3P_2$	$2p6p\ ^3D_2$	872.63	1.735+08
$2p4f\ ^3G_3$	$2p7g\ ^3H_4$	870.86	5.457+08	$2p4d\ ^1P_1$	$2p7p\ ^1S_0$	884.03	1.190+08
$2p4f\ ^3G_4$	$2p7g\ ^3G_5$	871.35	5.077+08	$2p4s\ ^1P_1$	$2p6p\ ^1D_2$	884.29	1.575+09
$2p4f\ ^3G_4$	$2p7g\ ^3H_4$	871.37	1.220+08	$2p4d\ ^1P_1$	$2p7f\ ^1D_2$	885.48	1.573+09
$2p4f\ ^3G_5$	$2p7g\ ^3H_6$	871.58	2.150+09	$2p4d\ ^1P_1$	$2p7f\ ^3D_2$	887.25	1.844+08
$2p4f\ ^1D_2$	$2p7g\ ^3G_3$	872.24	2.696+08	$2p4d\ ^1F_3$	$2p7f\ ^1G_4$	889.92	1.824+09
$2p4f\ ^3G_5$	$2p7g\ ^3G_5$	872.36	3.060+08	$2p4d\ ^1F_3$	$2p7f\ ^3G_3$	892.12	1.903+08
$2p4f\ ^1G_4$	$2p7g\ ^1H_5$	874.36	1.475+09	$2p4d\ ^1F_3$	$2p7f\ ^3F_4$	895.36	2.844+08
$2p4f\ ^3G_3$	$2p7g\ ^3G_3$	874.38	1.064+08	$2p4d\ ^1P_1$	$2p7p\ ^1D_2$	895.73	1.808+08
$2p4f\ ^3G_3$	$2p7g\ ^3H_4$	874.45	7.497+08	$2p4d\ ^1F_3$	$2p7f\ ^3G_3$	895.81	2.669+08
$2p4f\ ^3G_4$	$2p7g\ ^3G_4$	874.89	1.011+08	$2p4d\ ^1F_3$	$2p7p\ ^1D_2$	898.62	3.635+08
$2p4f\ ^3G_4$	$2p7g\ ^3G_5$	874.93	7.534+08	$2p4s\ ^1P_1$	$2p6p\ ^3D_1$	901.36	1.188+08
$2p4f\ ^1G_4$	$2p7g\ ^3G_5$	875.18	2.118+08	$2p4s\ ^1P_1$	$2p6p\ ^1P_1$	903.82	1.875+08
$2p4f\ ^1G_4$	$2p7g\ ^3H_4$	875.21	1.501+08	$2p4d\ ^1D_2$	$2p6f\ ^1D_2$	979.25	5.844+08
$2p4p\ ^1S_0$	$2p7d\ ^1P_1$	876.46	5.787+08	$2p4d\ ^3F_3$	$2p6f\ ^1G_4$	979.86	5.813+08
$2p4f\ ^1G_4$	$2p7g\ ^3G_5$	878.80	2.301+08	$2p4d\ ^3F_3$	$2p6f\ ^3D_3$	980.65	1.472+08
$2p4p\ ^1P_1$	$2p6d\ ^1P_1$	901.38	4.478+08	$2p4d\ ^3F_2$	$2p6f\ ^3G_3$	981.89	5.514+08
$2p4p\ ^1S_0$	$2p7s\ ^1P_1$	908.75	4.344+08	$2p4d\ ^1D_2$	$2p6f\ ^3D_2$	982.27	1.651+08
$2p4p\ ^1P_1$	$2p6d\ ^1D_2$	922.69	9.858+08	$2p4d\ ^1D_2$	$2p6f\ ^3D_3$	983.04	1.418+08
$2p4p\ ^1P_1$	$2p6d\ ^3F_2$	925.45	8.055+08	$2p4d\ ^3F_3$	$2p6f\ ^3G_4$	983.48	1.786+09
$2p4p\ ^3D_3$	$2p6d\ ^3P_2$	927.74	1.571+08	$2p4d\ ^3F_3$	$2p6f\ ^3G_3$	983.99	8.043+08
$2p4p\ ^3D_1$	$2p6d\ ^3D_1$	928.10	2.154+08	$2p4d\ ^3F_4$	$2p6f\ ^3G_5$	984.20	5.363+09
$2p4p\ ^3D_2$	$2p6d\ ^3D_2$	928.79	4.562+08	$2p4d\ ^3F_4$	$2p6f\ ^3G_4$	985.69	1.554+09
$2p4p\ ^3D_3$	$2p6d\ ^3D_3$	929.81	8.641+08	$2p4d\ ^3F_2$	$2p6f\ ^3F_2$	985.94	8.926+08
$2p4p\ ^3D_1$	$2p6d\ ^1D_2$	932.80	9.782+08	$2p4d\ ^3F_2$	$2p6f\ ^3F_3$	986.14	1.211+09

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p4p\ ^3P_2$	$2p7d\ ^3P_1$	804.87	1.994+08	$2p4d\ ^1F_3$	$2p8f\ ^1F_3$	797.79	1.071+08
$2p4p\ ^3P_2$	$2p7d\ ^3P_2$	805.23	8.384+08	$2p4d\ ^1P_1$	$2p8p\ ^1D_2$	799.01	2.037+08
$2p4p\ ^3P_0$	$2p7d\ ^3D_1$	805.94	5.156+08	$2p4d\ ^1F_3$	$2p8f\ ^3G_4$	800.54	3.688+08
$2p4p\ ^3P_1$	$2p7d\ ^3D_2$	806.08	8.084+08	$2p4d\ ^1F_3$	$2p8p\ ^1D_2$	801.32	5.343+08
$2p4p\ ^3P_2$	$2p7d\ ^3D_3$	806.20	1.749+09	$2p4d\ ^3F_3$	$2p7f\ ^1G_4$	817.37	6.071+08
$2p4p\ ^3P_1$	$2p7d\ ^3D_1$	806.89	1.757+08	$2p4d\ ^1D_2$	$2p7f\ ^1D_2$	817.67	3.414+08
$2p4p\ ^3S_1$	$2p7s\ ^3P_2$	807.54	1.197+08	$2p4d\ ^3F_2$	$2p7f\ ^3G_3$	817.78	2.907+08
$2p4p\ ^3P_1$	$2p7d\ ^1D_2$	808.78	2.661+08	$2p4d\ ^3F_3$	$2p7f\ ^3F_4$	819.02	1.166+09
$2p4p\ ^3P_2$	$2p7d\ ^3F_3$	810.44	1.306+08	$2p4d\ ^3F_3$	$2p7f\ ^3G_3$	819.23	3.822+08
$2s6s\ ^3S_1$	$2p7d\ ^3P_1$	815.70	1.308+08	$2p4d\ ^1D_2$	$2p7f\ ^3D_3$	819.56	1.564+08
$2s6s\ ^3S_1$	$2p7d\ ^3P_2$	816.06	1.525+08	$2p4d\ ^3F_4$	$2p7f\ ^3G_5$	819.85	4.547+09
$2p4p\ ^1D_2$	$2p7d\ ^1F_3$	820.25	2.679+09	$2p4d\ ^3F_2$	$2p7f\ ^3F_2$	820.38	2.887+08
$2p4p\ ^3P_1$	$2p7s\ ^3P_2$	827.32	1.734+08	$2p4d\ ^3F_4$	$2p7f\ ^3F_4$	820.55	7.631+08
$2p4p\ ^1D_2$	$2p7d\ ^3D_2$	828.11	1.147+08	$2p4d\ ^3F_2$	$2p7f\ ^3F_3$	820.64	1.458+08
$2p4p\ ^3P_2$	$2p7s\ ^3P_2$	828.55	4.931+08	$2p4d\ ^3F_2$	$2p7f\ ^3G_3$	820.87	2.350+09
$2p4p\ ^3P_0$	$2p7s\ ^3P_1$	829.21	1.249+08	$2p4d\ ^1D_2$	$2p7f\ ^3G_3$	820.90	1.490+09
$2p4p\ ^3P_1$	$2p7s\ ^3P_0$	830.88	1.157+08	$2p4d\ ^3F_3$	$2p7f\ ^3F_4$	821.96	1.823+09
$2p4p\ ^1D_2$	$2p7d\ ^1D_2$	830.97	2.803+08	$2p4d\ ^3F_3$	$2p7f\ ^3F_3$	822.11	1.240+08
$2p4p\ ^3P_2$	$2p7s\ ^3P_1$	831.46	1.369+08	$2p4d\ ^1D_2$	$2p7f\ ^3F_3$	823.79	8.688+08
$2p4p\ ^1D_2$	$2p7d\ ^3F_2$	832.90	1.167+08	$2p4d\ ^1D_2$	$2p7f\ ^3G_3$	824.02	4.858+08
$2s6g\ ^3G_4$	$2p7g\ ^1H_5$	836.38	3.251+08	$2s6p\ ^3P_0$	$2p7f\ ^3D_1$	824.68	1.215+08
$2s6g\ ^3G_3$	$2p7g\ ^3H_4$	836.72	3.043+08	$2s6p\ ^3P_1$	$2p7f\ ^3D_2$	825.24	2.049+08
$2s6g\ ^3G_4$	$2p7g\ ^3G_5$	837.14	3.059+08	$2s6p\ ^3P_2$	$2p7f\ ^3D_3$	825.52	4.693+08
$2s6g\ ^3G_5$	$2p7g\ ^3H_6$	837.42	2.317+09	$2p4d\ ^3F_4$	$2p7p\ ^3D_3$	833.66	1.701+08
$2s6g\ ^3G_5$	$2p7g\ ^3G_5$	838.13	2.924+08	$2p4d\ ^3F_3$	$2p7p\ ^3D_2$	834.35	1.192+08
$2s6g\ ^1G_4$	$2p7g\ ^1H_5$	838.63	1.422+09	$2p4d\ ^3D_1$	$2p7f\ ^3D_1$	837.55	1.638+08
$2s6g\ ^1G_4$	$2p7g\ ^3H_4$	839.41	1.501+08	$2p4d\ ^3D_2$	$2p7f\ ^3D_2$	838.66	4.454+08
$2s6g\ ^3G_3$	$2p7g\ ^3G_3$	839.96	1.153+08	$2p4d\ ^3D_3$	$2p7f\ ^3D_3$	839.73	7.236+08
$2s6g\ ^3G_3$	$2p7g\ ^3H_4$	840.03	1.438+09	$2p4d\ ^3D_2$	$2p7f\ ^3G_3$	840.47	7.909+08
$2s6g\ ^3G_4$	$2p7g\ ^3G_4$	840.41	1.072+08	$2p4d\ ^3D_3$	$2p7f\ ^3F_4$	840.90	1.911+09
$2s6g\ ^3G_4$	$2p7g\ ^3G_5$	840.45	1.476+09	$2p4d\ ^3D_3$	$2p7f\ ^3G_3$	841.13	1.020+08
$2p4f\ ^1F_3$	$2p7g\ ^3F_3$	842.20	1.670+08	$2s6f\ ^1F_3$	$2p7f\ ^1G_4$	842.53	7.710+08
$2s6g\ ^1G_4$	$2p7g\ ^3G_5$	842.71	2.284+08	$2p4d\ ^3D_1$	$2p7f\ ^3F_2$	842.77	1.673+09
$2p4f\ ^3F_2$	$2p7g\ ^3F_2$	842.99	1.523+08	$2p4d\ ^3D_2$	$2p7f\ ^3F_2$	843.22	1.475+08
$2p4f\ ^1F_3$	$2p7g\ ^3F_4$	843.01	6.042+08	$2p4d\ ^3D_2$	$2p7f\ ^3F_3$	843.49	1.853+09
$2s6d\ ^3D_3$	$2p7g\ ^3F_4$	843.52	1.417+08	$2p4d\ ^3D_3$	$2p7f\ ^3F_4$	844.01	1.845+09
$2p4f\ ^1F_3$	$2p7g\ ^3H_4$	843.53	3.824+08	$2s6f\ ^1F_3$	$2p7f\ ^3F_4$	844.28	1.314+08
$2p4f\ ^3F_2$	$2p7g\ ^3G_3$	843.76	5.745+08	$2p4d\ ^3D_3$	$2p7p\ ^3P_2$	850.70	1.780+08
$2p4f\ ^3F_3$	$2p7g\ ^3G_3$	844.37	4.144+08	$2p4d\ ^3P_1$	$2p7f\ ^1D_2$	851.54	1.795+08
$2p4f\ ^3F_4$	$2p7g\ ^3F_4$	844.76	5.112+08	$2p4d\ ^3P_2$	$2p7f\ ^3D_2$	852.34	3.763+08
$2p4f\ ^3F_3$	$2p7g\ ^3H_4$	844.90	1.853+09	$2p4d\ ^3P_1$	$2p7f\ ^3D_1$	852.49	4.676+08
$2p4f\ ^3F_4$	$2p7g\ ^3G_5$	845.27	2.877+09	$2p4d\ ^3P_2$	$2p7f\ ^3D_3$	852.75	1.968+09
$2p4f\ ^1F_3$	$2p7g\ ^3G_4$	846.83	2.172+09	$2p4d\ ^3P_0$	$2p7f\ ^3D_1$	852.92	5.778+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2s6g\ ^1G_4$	$2p6g\ ^1H_5$	1010.14	1.137+08	$2s6p\ ^3P_2$	$2p6p\ ^3S_1$	1022.47	1.394+09
$2s6g\ ^1G_4$	$2p6g\ ^1F_3$	1010.58	8.808+08	$2s6p\ ^3P_1$	$2p6p\ ^3S_1$	1022.64	3.409+08
$2s6g\ ^1G_4$	$2p6g\ ^3H_4$	1011.86	1.714+09	$2s6p\ ^1P_1$	$2p6p\ ^1D_2$	1023.86	1.285+09
$2s6s\ ^1S_0$	$2p6s\ ^1P_1$	1011.89	1.571+09	$2s8p\ ^1P_1$	$2p8f\ ^3F_2$	1024.68	2.890+08
$2s6g\ ^3G_3$	$2p6g\ ^3H_4$	1012.69	9.380+08	$2s6f\ ^1F_3$	$2p6f\ ^3F_4$	1024.86	1.677+08
$2s6g\ ^3G_3$	$2p6g\ ^3G_3$	1012.73	1.767+09	$2s8p\ ^3P_2$	$2p8p\ ^1D_2$	1024.99	1.542+08
$2s6g\ ^3G_4$	$2p6g\ ^3G_5$	1013.29	1.004+09	$2s7p\ ^1P_1$	$2p7p\ ^1D_2$	1025.72	1.552+09
$2s6g\ ^3G_4$	$2p6g\ ^3H_4$	1013.33	3.021+08	$2s6f\ ^1F_3$	$2p6f\ ^1F_3$	1025.74	2.630+09
$2s6g\ ^3G_4$	$2p6g\ ^3G_3$	1013.38	3.390+08	$2s6p\ ^3P_2$	$2p6p\ ^3D_3$	1026.35	2.883+09
$2s6g\ ^3G_4$	$2p6g\ ^1G_4$	1013.39	1.605+09	$2s8p\ ^1P_1$	$2p8p\ ^1D_2$	1026.44	1.284+09
$2s6g\ ^3G_5$	$2p6g\ ^3G_5$	1014.75	2.241+09	$2p4d\ ^3P_2$	$2p6f\ ^1D_2$	1027.00	1.104+08
$2s6g\ ^3G_5$	$2p6g\ ^1G_4$	1014.85	8.922+08	$2s7p\ ^3P_1$	$2p7p\ ^3P_2$	1027.46	9.412+08
$2p4f\ ^1F_3$	$2p6g\ ^3F_3$	1014.98	3.192+08	$2s7p\ ^3P_2$	$2p7p\ ^3P_2$	1027.51	1.095+09
$2p4f\ ^3F_2$	$2p6g\ ^3F_2$	1016.14	3.009+08	$2s7p\ ^3P_0$	$2p7p\ ^3P_1$	1028.00	7.117+08
$2p4f\ ^1F_3$	$2p6g\ ^3F_4$	1016.59	8.404+08	$2s7p\ ^3P_1$	$2p7p\ ^3P_1$	1028.03	5.413+08
$2s6g\ ^1G_4$	$2p6g\ ^3H_4$	1016.63	1.483+09	$2s7f\ ^3F_3$	$2p7f\ ^1D_2$	1028.16	4.456+08
$2s6g\ ^1G_4$	$2p6g\ ^3G_3$	1016.68	5.043+08	$2p4d\ ^3P_1$	$2p6f\ ^1D_2$	1028.22	2.138+08
$2s6g\ ^1G_4$	$2p6g\ ^1G_4$	1016.68	8.493+08	$2s8p\ ^3P_1$	$2p8p\ ^3P_2$	1028.64	1.117+09
$2s6d\ ^3D_3$	$2p6g\ ^3F_4$	1017.35	1.787+08	$2s8p\ ^3P_2$	$2p8p\ ^3P_2$	1028.68	9.247+08
$2p4f\ ^3F_2$	$2p6g\ ^1F_3$	1017.68	7.397+08	$2s8f\ ^3F_3$	$2p8f\ ^1D_2$	1028.91	5.452+08
$2p4f\ ^1F_3$	$2p6g\ ^3H_4$	1017.86	5.400+08	$2s8p\ ^3P_0$	$2p8p\ ^3P_1$	1028.97	7.683+08
$2p4f\ ^3F_3$	$2p6g\ ^1F_3$	1018.56	1.023+09	$2s8p\ ^3P_1$	$2p8p\ ^3P_1$	1028.99	5.844+08
$2p4p\ ^3P_1$	$2p6s\ ^3P_2$	1018.58	3.954+08	$2s7f\ ^3F_2$	$2p7f\ ^3D_1$	1029.53	1.395+09
$2s6d\ ^3D_3$	$2p6g\ ^3H_4$	1018.62	1.361+08	$2s6p\ ^3P_2$	$2p6p\ ^3D_2$	1029.60	7.555+08
$2p4f\ ^3F_4$	$2p6g\ ^3F_4$	1019.15	1.372+09	$2s6p\ ^3P_1$	$2p6p\ ^3D_2$	1029.77	1.284+09
$2p4f\ ^3F_3$	$2p6g\ ^3H_4$	1019.87	2.686+09	$2s6h\ ^3H_5$	$2p6h\ ^3G_4$	1029.86	1.479+08
$2p4f\ ^3F_4$	$2p6g\ ^3G_5$	1020.38	4.112+09	$2s6h\ ^1H_5$	$2p6h\ ^3G_4$	1029.87	3.577+09
$2p4p\ ^3P_2$	$2p6s\ ^3P_2$	1020.44	8.141+08	$2s6h\ ^3H_4$	$2p6h\ ^3G_3$	1029.87	2.962+09
$2s6d\ ^1D_2$	$2p6d\ ^1P_1$	1020.61	1.408+09	$2s6f\ ^3F_3$	$2p6f\ ^1D_2$	1029.87	3.190+08
$2p4p\ ^3P_0$	$2p6s\ ^3P_1$	1021.18	2.725+08	$2s8f\ ^3F_2$	$2p8f\ ^3D_1$	1029.91	1.443+09
$2s6d\ ^1D_2$	$2p6d\ ^1F_3$	1022.63	2.994+09	$2s6p\ ^3P_2$	$2p6p\ ^3D_1$	1030.05	1.570+08
$2s8d\ ^3D_3$	$2p8d\ ^1F_3$	1022.66	1.125+08	$2s6p\ ^3P_1$	$2p6p\ ^3D_1$	1030.22	2.842+08
$2p4f\ ^1F_3$	$2p6g\ ^3H_4$	1022.68	2.617+08	$2s7f\ ^3F_3$	$2p7f\ ^1G_4$	1030.32	5.048+08
$2p4f\ ^1F_3$	$2p6g\ ^3G_3$	1022.73	1.091+08	$2p4d\ ^3P_2$	$2p6f\ ^3D_2$	1030.32	7.293+08
$2p4f\ ^1F_3$	$2p6g\ ^1G_4$	1022.74	5.572+09	$2s7f\ ^3F_4$	$2p7f\ ^1G_4$	1030.33	2.237+08
$2s6d\ ^3D_2$	$2p6g\ ^3G_3$	1023.37	5.480+08	$2s7h\ ^3H_5$	$2p7h\ ^3G_4$	1030.33	3.849+09
$2s6d\ ^3D_3$	$2p6g\ ^3H_4$	1023.44	1.072+08	$2s7h\ ^3H_4$	$2p7h\ ^3G_3$	1030.33	3.095+09
$2s7s\ ^3S_1$	$2p7s\ ^1P_1$	1023.47	1.146+08	$2p4d\ ^3P_1$	$2p6f\ ^3D_1$	1030.35	8.042+08
$2s6d\ ^3D_3$	$2p6g\ ^1G_4$	1023.50	3.603+08	$2s6p\ ^3P_0$	$2p6p\ ^3D_1$	1030.36	3.838+08
$2s6d\ ^3D_1$	$2p6d\ ^3P_0$	1023.63	4.946+08	$2s6h\ ^3H_5$	$2p6h\ ^1I_6$	1030.41	3.417+09
$2p4f\ ^3F_2$	$2p6g\ ^3G_3$	1023.86	4.375+09	$2s6h\ ^3H_6$	$2p6h\ ^3I_7$	1030.41	4.164+09
$2p4p\ ^3P_1$	$2p6s\ ^3P_0$	1023.96	1.562+08	$2s6h\ ^1H_5$	$2p6h\ ^1I_6$	1030.42	1.445+08
$2s6d\ ^3D_2$	$2p6d\ ^3P_1$	1024.03	5.843+08	$2s8f\ ^3F_3$	$2p8f\ ^1G_4$	1030.45	5.334+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p4p\ ^3D_2$	$2p6d\ ^3F_3$	934.90	3.489+09	$2p4d\ ^1D_2$	$2p6f\ ^3G_3$	986.40	1.919+09
$2p4p\ ^3D_3$	$2p6d\ ^3F_4$	934.94	4.914+09	$2p4d\ ^3F_2$	$2p6f\ ^1F_3$	986.57	2.008+09
$2p4p\ ^3S_1$	$2p6d\ ^3P_0$	935.29	2.140+08	$2p4d\ ^3F_3$	$2p6f\ ^3F_4$	987.87	2.119+09
$2p4p\ ^3D_1$	$2p6d\ ^3F_2$	935.62	1.398+09	$2p4d\ ^3F_3$	$2p6f\ ^3F_2$	988.06	1.681+08
$2p4p\ ^3S_1$	$2p6d\ ^3P_1$	935.66	5.981+08	$2p4d\ ^3F_3$	$2p6f\ ^3F_3$	988.26	5.127+08
$2p4p\ ^3S_1$	$2p6d\ ^3P_2$	936.36	9.033+08	$2p4d\ ^3F_3$	$2p6f\ ^1F_3$	988.69	1.701+08
$2p4p\ ^3D_2$	$2p6d\ ^3F_2$	936.98	2.842+08	$2s6p\ ^3P_1$	$2p6f\ ^3D_1$	989.89	1.294+08
$2p4p\ ^3D_3$	$2p6d\ ^3F_3$	937.44	2.214+08	$2s6p\ ^3P_0$	$2p6f\ ^3D_1$	990.01	1.818+08
$2p4p\ ^3S_1$	$2p6d\ ^3D_2$	939.98	3.361+08	$2p4d\ ^3F_4$	$2p6f\ ^3F_4$	990.10	8.389+08
$2s6s\ ^1S_0$	$2p6d\ ^1P_1$	950.29	1.093+08	$2p4d\ ^3F_4$	$2p6f\ ^3F_3$	990.49	1.444+08
$2p4p\ ^1P_1$	$2p6s\ ^1P_1$	956.62	2.921+08	$2p4d\ ^1D_2$	$2p6f\ ^3F_3$	990.69	3.675+08
$2p4p\ ^3P_1$	$2p6d\ ^3P_0$	961.93	2.198+08	$2s6p\ ^3P_1$	$2p6f\ ^3D_2$	990.99	3.454+08
$2p4p\ ^3P_1$	$2p6d\ ^3P_1$	962.31	3.749+08	$2p4d\ ^1D_2$	$2p6f\ ^1F_3$	991.13	2.698+09
$2p4p\ ^3P_2$	$2p6d\ ^3P_1$	963.98	2.981+08	$2s6p\ ^3P_2$	$2p6f\ ^3D_3$	991.63	7.807+08
$2p4p\ ^3P_2$	$2p6d\ ^3P_2$	964.73	1.216+09	$2s6p\ ^1P_1$	$2p6p\ ^1S_0$	1001.28	4.394+08
$2p4p\ ^3P_0$	$2p6d\ ^3D_1$	966.22	7.497+08	$2p4d\ ^3D_1$	$2p6f\ ^3D_1$	1008.62	2.682+08
$2p4p\ ^3P_1$	$2p6d\ ^3D_2$	966.89	1.567+09	$2s7p\ ^1P_1$	$2p7p\ ^1S_0$	1010.41	4.951+08
$2p4p\ ^3P_2$	$2p6d\ ^3D_3$	966.97	2.763+09	$2p4d\ ^3D_2$	$2p6f\ ^3D_2$	1010.41	6.814+08
$2p4p\ ^3P_1$	$2p6d\ ^3D_1$	967.60	3.179+08	$2p4d\ ^3D_3$	$2p6f\ ^3D_3$	1012.19	1.140+09
$2p4p\ ^3P_1$	$2p6d\ ^1D_2$	972.70	1.233+08	$2s8p\ ^1P_1$	$2p8p\ ^1S_0$	1013.53	6.827+08
$2p4p\ ^3D_2$	$2p6s\ ^3P_2$	976.38	1.397+08	$2p4d\ ^3D_2$	$2p6f\ ^3G_3$	1014.79	1.018+09
$2p4p\ ^3D_1$	$2p6s\ ^3P_1$	978.69	1.227+08	$2p4d\ ^3D_3$	$2p6f\ ^3G_4$	1015.21	2.234+09
$2p4p\ ^3D_3$	$2p6s\ ^3P_2$	979.15	9.159+08	$2p4d\ ^3D_3$	$2p6f\ ^3G_3$	1015.75	2.263+08
$2s6s\ ^3S_1$	$2p6d\ ^3P_1$	979.54	1.559+08	$2s6f\ ^1F_3$	$2p6f\ ^3D_2$	1016.26	2.023+08
$2p4p\ ^3D_1$	$2p6s\ ^3P_0$	979.83	2.330+08	$2s6p\ ^3P_2$	$2p6p\ ^3P_2$	1016.51	1.235+09
$2p4p\ ^3D_2$	$2p6s\ ^3P_1$	980.18	4.996+08	$2s6p\ ^3P_1$	$2p6p\ ^3P_2$	1016.68	7.918+08
$2s6s\ ^3S_1$	$2p6d\ ^3P_2$	980.32	1.889+08	$2p4d\ ^3F_4$	$2p6p\ ^3D_3$	1016.95	3.925+08
$2p4p\ ^1D_2$	$2p6d\ ^1F_3$	981.60	3.454+09	$2s6f\ ^1F_3$	$2p6f\ ^3D_3$	1017.09	2.877+08
$2p4p\ ^3S_1$	$2p6s\ ^3P_2$	988.76	1.205+09	$2s6p\ ^3P_1$	$2p6p\ ^3P_1$	1017.56	5.715+08
$2p4p\ ^3S_1$	$2p6s\ ^3P_1$	992.66	7.586+08	$2s6p\ ^3P_0$	$2p6p\ ^3P_1$	1017.69	7.144+08
$2p4p\ ^3S_1$	$2p6s\ ^3P_0$	993.83	2.743+08	$2p4d\ ^3F_3$	$2p6p\ ^3D_2$	1017.77	2.799+08
$2p4p\ ^1D_2$	$2p6d\ ^1D_2$	1004.98	5.457+08	$2p4d\ ^3D_1$	$2p6f\ ^3F_2$	1018.46	3.162+09
$2s6g\ ^3G_3$	$2p6g\ ^3F_2$	1005.17	1.029+09	$2p4d\ ^3F_2$	$2p6p\ ^1P_1$	1019.09	1.452+08
$2s6g\ ^3G_4$	$2p6g\ ^3F_3$	1005.77	1.185+09	$2p4d\ ^3D_2$	$2p6f\ ^3F_2$	1019.12	4.062+08
$2s6g\ ^3G_3$	$2p6g\ ^1F_3$	1006.69	7.814+08	$2p4d\ ^3D_2$	$2p6f\ ^3F_3$	1019.33	3.599+09
$2s6g\ ^3G_4$	$2p6g\ ^3F_4$	1007.36	9.816+08	$2s6p\ ^3P_1$	$2p6p\ ^3P_0$	1019.70	4.276+08
$2p4p\ ^1D_2$	$2p6d\ ^3F_2$	1008.25	2.072+08	$2p4d\ ^3D_2$	$2p6f\ ^1F_3$	1019.79	1.291+08
$2s6g\ ^3G_5$	$2p6g\ ^3H_6$	1008.40	3.982+08	$2p4d\ ^3D_3$	$2p6f\ ^3F_4$	1019.89	4.146+09
$2s6g\ ^3G_4$	$2p6g\ ^3H_4$	1008.60	3.284+08	$2p4d\ ^3D_3$	$2p6f\ ^3F_3$	1020.30	2.173+08
$2s6g\ ^3G_5$	$2p6g\ ^3F_4$	1008.80	1.048+09	$2s6f\ ^1F_3$	$2p6f\ ^3G_3$	1020.68	7.406+08
$2p4p\ ^3P_0$	$2p6s\ ^1P_1$	1008.99	1.663+08	$2p4d\ ^3D_3$	$2p6f\ ^1F_3$	1020.76	1.077+08
$2s6g\ ^1G_4$	$2p6g\ ^3F_3$	1009.01	3.206+08	$2p4d\ ^1D_2$	$2p6p\ ^3D_1$	1020.79	1.686+08
$2s6g\ ^3G_5$	$2p6g\ ^3G_5$	1010.00	2.419+09	$2s7p\ ^3P_2$	$2p7p\ ^1D_2$	1021.98	1.044+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2s8g\ ^3G_4$	$2p8g\ ^3F_3$	1030.67	2.005+09	$2s8k\ ^1K_7$	$2p8k\ ^3K_6$	1031.33	1.690+09
$2s8g\ ^3G_3$	$2p8g\ ^3F_2$	1030.69	2.354+09	$2s7h\ ^3H_5$	$2p7h\ ^3H_6$	1031.33	2.064+09
$2s8g\ ^1G_4$	$2p8g\ ^3F_3$	1030.74	1.180+09	$2s7h\ ^3H_4$	$2p7h\ ^3I_5$	1031.33	1.684+09
$2s7d\ ^3D_1$	$2p7d\ ^3D_2$	1030.91	4.980+08	$2s7h\ ^3H_6$	$2p7h\ ^3H_6$	1031.33	3.014+09
$2s7d\ ^3D_2$	$2p7d\ ^3D_2$	1030.92	1.699+08	$2s7h\ ^1H_5$	$2p7h\ ^3I_5$	1031.33	2.577+09
$2s7d\ ^3D_3$	$2p7d\ ^3D_2$	1030.93	1.098+09	$2s8k\ ^3K_7$	$2p8k\ ^3K_8$	1031.37	2.452+09
$2s8i\ ^3I_5$	$2p8k\ ^3H_4$	1031.00	4.298+09	$2s8k\ ^3K_6$	$2p8k\ ^1K_7$	1031.37	2.143+09
$2s8i\ ^3I_6$	$2p8k\ ^3H_5$	1031.00	5.174+09	$2s8k\ ^3K_8$	$2p8k\ ^3K_8$	1031.37	4.403+09
$2s8i\ ^3I_7$	$2p8k\ ^3K_8$	1031.11	5.955+09	$2s8k\ ^1K_7$	$2p8k\ ^1K_7$	1031.37	3.881+09
$2s8i\ ^1I_6$	$2p8k\ ^1K_7$	1031.11	5.204+09	$2s6h\ ^3H_5$	$2p6h\ ^3H_6$	1031.40	2.241+08
$2s8d\ ^3D_3$	$2p8g\ ^3F_4$	1031.22	1.702+08	$2s6h\ ^3H_4$	$2p6h\ ^3I_5$	1031.40	1.682+09
$2s8g\ ^3G_4$	$2p8g\ ^1H_5$	1031.22	1.256+09	$2s6h\ ^1H_5$	$2p6h\ ^3H_6$	1031.41	1.836+09
$2s8g\ ^3G_5$	$2p8g\ ^3H_6$	1031.28	4.656+09	$2s6h\ ^3H_6$	$2p6h\ ^3H_6$	1031.41	2.768+09
$2s8g\ ^1G_4$	$2p8g\ ^1H_5$	1031.29	2.585+09	$2s6h\ ^3H_5$	$2p6h\ ^3I_5$	1031.41	2.142+09
$2s8i\ ^3I_6$	$2p8k\ ^3H_6$	1031.29	3.775+09	$2s6h\ ^1H_5$	$2p6h\ ^3I_5$	1031.41	2.269+08
$2s8i\ ^3I_5$	$2p8k\ ^3I_5$	1031.29	3.190+09	$2s8f\ ^3F_4$	$2p8f\ ^3G_5$	1031.48	4.146+09
$2s8i\ ^3I_7$	$2p8k\ ^3H_6$	1031.29	2.010+09	$2p4d\ ^3P_1$	$2p6f\ ^3D_2$	1031.55	1.911+09
$2s8i\ ^1I_6$	$2p8k\ ^3I_5$	1031.29	1.716+09	$2s8p\ ^3P_1$	$2p8p\ ^3S_1$	1031.78	2.202+08
$2s7g\ ^3G_4$	$2p7g\ ^3F_3$	1031.30	1.879+09	$2s8p\ ^3P_2$	$2p8p\ ^3S_1$	1031.82	7.347+08
$2s7g\ ^3G_3$	$2p7g\ ^3F_2$	1031.32	2.239+09	$2s7p\ ^3P_1$	$2p7p\ ^3S_1$	1031.82	2.025+08
$2s8d\ ^3D_1$	$2p8d\ ^1D_2$	1031.35	5.384+08	$2s7f\ ^3F_4$	$2p7f\ ^3G_5$	1031.84	4.592+09
$2s8d\ ^3D_3$	$2p8d\ ^1D_2$	1031.37	8.026+08	$2s6f\ ^3F_2$	$2p6f\ ^3D_1$	1031.86	1.337+09
$2s8i\ ^3I_5$	$2p8k\ ^1I_6$	1031.38	1.924+09	$2s7p\ ^3P_2$	$2p7p\ ^3S_1$	1031.88	9.240+08
$2s8i\ ^3I_6$	$2p8k\ ^3I_7$	1031.38	2.245+09	$2s8p\ ^3P_1$	$2p8p\ ^3P_0$	1032.02	4.108+08
$2s8i\ ^3I_7$	$2p8k\ ^3I_7$	1031.38	3.793+09	$2s7f\ ^1F_3$	$2p7f\ ^1D_2$	1032.14	1.708+09
$2s8i\ ^1I_6$	$2p8k\ ^1I_6$	1031.38	3.278+09	$2s8f\ ^1F_3$	$2p8f\ ^1G_4$	1032.22	2.650+09
$2s7g\ ^1G_4$	$2p7g\ ^3F_3$	1031.49	1.147+09	$2s8f\ ^3F_3$	$2p8f\ ^3F_4$	1032.22	2.213+09
$2s8g\ ^3G_3$	$2p8g\ ^3G_3$	1031.51	1.791+09	$2s8f\ ^3F_4$	$2p8f\ ^3F_4$	1032.23	1.356+09
$2s8g\ ^3G_4$	$2p8g\ ^3G_3$	1031.52	2.699+08	$2s8p\ ^3P_2$	$2p8p\ ^3D_3$	1032.30	3.002+09
$2s8g\ ^3G_4$	$2p8g\ ^3F_4$	1031.54	1.796+09	$2s8f\ ^3F_2$	$2p8f\ ^1F_3$	1032.44	1.396+09
$2s8g\ ^3G_5$	$2p8g\ ^3F_4$	1031.55	1.677+09	$2s8f\ ^3F_3$	$2p8f\ ^1F_3$	1032.45	2.688+08
$2s8g\ ^1G_4$	$2p8g\ ^3G_3$	1031.59	1.116+09	$2s8f\ ^1F_3$	$2p8f\ ^3D_2$	1032.48	2.199+08
$2s8g\ ^1G_4$	$2p8g\ ^3F_4$	1031.60	5.419+08	$2s8f\ ^1F_3$	$2p8f\ ^3D_3$	1032.91	3.253+08
$2s8g\ ^3G_4$	$2p8g\ ^3G_5$	1032.01	1.726+09	$2s7f\ ^3F_3$	$2p7f\ ^3F_4$	1032.93	2.629+09
$2s8g\ ^3G_5$	$2p8g\ ^3G_5$	1032.02	2.346+09	$2s7f\ ^3F_4$	$2p7f\ ^3F_4$	1032.94	9.771+08
$2s8g\ ^3G_3$	$2p8g\ ^1G_4$	1032.02	1.618+09	$2s6f\ ^3F_2$	$2p6f\ ^3D_2$	1033.07	5.518+08
$2s8g\ ^3G_4$	$2p8g\ ^1G_4$	1032.03	4.206+08	$2s6f\ ^3F_3$	$2p6f\ ^1G_4$	1033.19	6.804+08
$2s8g\ ^1G_4$	$2p8g\ ^3G_5$	1032.08	3.965+08	$2s6f\ ^3F_3$	$2p6f\ ^3D_2$	1033.21	1.339+09
$2s8g\ ^1G_4$	$2p8g\ ^1G_4$	1032.10	1.571+09	$2s7f\ ^3F_2$	$2p7f\ ^3G_3$	1033.27	1.734+09
$2s7g\ ^3G_4$	$2p7g\ ^1H_5$	1032.11	1.485+09	$2s7f\ ^3F_3$	$2p7f\ ^3G_3$	1033.28	1.930+08
$2s7g\ ^3G_5$	$2p7g\ ^1H_5$	1032.13	1.036+08	$2s8p\ ^1P_1$	$2p8p\ ^3S_1$	1033.29	4.571+08
$2s7g\ ^3G_5$	$2p7g\ ^3H_6$	1032.19	5.383+09	$2s7p\ ^3P_2$	$2p7p\ ^3D_3$	1033.31	2.958+09
$2s7d\ ^3D_1$	$2p7d\ ^3D_1$	1032.25	4.693+08	$2s6f\ ^3F_4$	$2p6f\ ^1G_4$	1033.40	1.784+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2s6d\ ^3D_1$	$2p6d\ ^3P_1$	1024.07	7.941+08	$2s8f\ ^3F_4$	$2p8f\ ^1G_4$	1030.45	2.698+08
$2p4p\ ^3P_2$	$2p6s\ ^3P_1$	1024.59	2.342+08	$2s7f\ ^3F_2$	$2p7f\ ^3D_2$	1030.54	9.299+08
$2p4f\ ^3F_3$	$2p6g\ ^3H_4$	1024.70	3.558+09	$2s7f\ ^3F_3$	$2p7f\ ^3D_2$	1030.54	1.097+09
$2p4f\ ^3F_3$	$2p6g\ ^3G_3$	1024.75	1.778+08	$2s8h\ ^3H_5$	$2p8h\ ^3G_4$	1030.58	4.139+09
$2p4f\ ^3F_3$	$2p6g\ ^1G_4$	1024.76	7.719+08	$2s8h\ ^3H_4$	$2p8h\ ^3G_3$	1030.58	3.311+09
$2s6d\ ^3D_2$	$2p6d\ ^3P_2$	1024.87	1.110+09	$2s8f\ ^1F_3$	$2p8f\ ^1D_2$	1030.67	1.688+09
$2s6d\ ^3D_1$	$2p6d\ ^3P_2$	1024.91	2.256+08	$2s7p\ ^3P_1$	$2p7p\ ^3P_0$	1030.68	4.085+08
$2s7d\ ^1D_2$	$2p7d\ ^1P_1$	1024.95	1.491+09	$2s7h\ ^1H_5$	$2p7h\ ^1I_6$	1030.68	3.975+09
$2s6d\ ^3D_3$	$2p6d\ ^3P_2$	1025.00	8.489+08	$2s7h\ ^3H_6$	$2p7h\ ^3I_7$	1030.68	4.695+09
$2p4f\ ^3F_4$	$2p6g\ ^3G_5$	1025.22	5.014+09	$2s8f\ ^3F_2$	$2p8f\ ^3D_2$	1030.71	1.161+09
$2p4f\ ^3F_4$	$2p6g\ ^3H_4$	1025.27	1.185+08	$2s8f\ ^3F_3$	$2p8f\ ^3D_2$	1030.71	9.324+08
$2p4f\ ^3F_2$	$2p6d\ ^3P_2$	1025.37	1.553+08	$2s8h\ ^1H_5$	$2p8h\ ^1I_6$	1030.82	4.307+09
$2s8s\ ^3S_1$	$2p8s\ ^1P_1$	1025.98	1.782+08	$2s8h\ ^3H_6$	$2p8h\ ^3I_7$	1030.82	5.062+09
$2s7d\ ^1D_2$	$2p7d\ ^1F_3$	1026.38	2.595+09	$2s6h\ ^3H_5$	$2p6h\ ^3G_5$	1030.90	2.430+08
$2s8d\ ^1D_2$	$2p8d\ ^1P_1$	1026.69	1.584+09	$2s6h\ ^3H_4$	$2p6h\ ^3H_4$	1030.90	2.104+09
$2s7d\ ^3D_1$	$2p7d\ ^3P_0$	1026.74	4.873+08	$2s6h\ ^1H_5$	$2p6h\ ^3G_5$	1030.91	2.370+09
$2p4f\ ^1F_3$	$2p6d\ ^3D_3$	1026.76	1.829+08	$2s6h\ ^3H_5$	$2p6h\ ^3H_4$	1030.91	1.523+09
$2s7d\ ^3D_1$	$2p7d\ ^3P_1$	1027.05	8.723+08	$2s6h\ ^3H_6$	$2p6h\ ^3G_5$	1030.91	2.047+09
$2s7d\ ^3D_2$	$2p7d\ ^3P_1$	1027.06	5.659+08	$2s6h\ ^1H_5$	$2p6h\ ^3H_4$	1030.91	2.227+08
$2s6d\ ^1D_2$	$2p6g\ ^3F_3$	1027.35	1.044+08	$2p4d\ ^3P_0$	$2p6f\ ^3D_1$	1030.98	9.972+08
$2s6d\ ^3D_2$	$2p6d\ ^3D_3$	1027.40	7.259+08	$2s7h\ ^3H_4$	$2p7h\ ^3H_4$	1031.03	2.365+09
$2s6d\ ^3D_3$	$2p6d\ ^3D_3$	1027.52	2.160+09	$2s7h\ ^3H_5$	$2p7h\ ^3G_5$	1031.03	2.930+09
$2s7d\ ^3D_1$	$2p7d\ ^3P_2$	1027.63	3.017+08	$2s7h\ ^1H_5$	$2p7h\ ^3H_4$	1031.04	1.564+09
$2s7d\ ^3D_2$	$2p7d\ ^3P_2$	1027.64	1.363+09	$2s7h\ ^3H_6$	$2p7h\ ^3G_5$	1031.04	1.833+09
$2s7d\ ^3D_3$	$2p7d\ ^3P_2$	1027.65	6.501+08	$2s8h\ ^3H_4$	$2p8h\ ^3H_4$	1031.07	2.538+09
$2s8d\ ^1D_2$	$2p8d\ ^1F_3$	1027.86	2.274+09	$2s8h\ ^3H_5$	$2p8h\ ^3G_5$	1031.07	3.139+09
$2s7s\ ^3S_1$	$2p7s\ ^3P_2$	1027.94	2.049+09	$2s8h\ ^1H_5$	$2p8h\ ^3H_4$	1031.07	1.520+09
$2s8d\ ^3D_1$	$2p8d\ ^3P_0$	1028.30	5.071+08	$2s8h\ ^3H_6$	$2p8h\ ^3G_5$	1031.07	1.789+09
$2s8d\ ^3D_1$	$2p8d\ ^3P_1$	1028.53	9.552+08	$2s8f\ ^3F_3$	$2p8f\ ^3D_3$	1031.14	1.284+09
$2s8d\ ^3D_2$	$2p8d\ ^3P_1$	1028.53	5.280+08	$2s8f\ ^3F_4$	$2p8f\ ^3D_3$	1031.15	1.534+09
$2p4f\ ^1F_3$	$2p6d\ ^3D_2$	1028.56	1.283+08	$2s7f\ ^3F_3$	$2p7f\ ^3D_3$	1031.15	1.057+09
$2s8d\ ^3D_1$	$2p8d\ ^3P_2$	1028.94	3.628+08	$2s8k\ ^3K_7$	$2p8k\ ^3I_6$	1031.15	5.375+09
$2s8d\ ^3D_2$	$2p8d\ ^3P_2$	1028.94	1.438+09	$2s8k\ ^3K_6$	$2p8k\ ^3I_5$	1031.15	4.598+09
$2s8d\ ^3D_3$	$2p8d\ ^3P_2$	1028.95	5.498+08	$2p4d\ ^3P_2$	$2p6f\ ^3D_3$	1031.18	3.738+09
$2s6d\ ^3D_2$	$2p6d\ ^3D_2$	1029.21	3.867+08	$2s8k\ ^3K_8$	$2p8k\ ^3I_9$	1031.19	6.722+09
$2s7d\ ^3D_2$	$2p7d\ ^3D_3$	1029.22	1.047+09	$2s8k\ ^1K_7$	$2p8k\ ^1L_8$	1031.19	5.970+09
$2s7d\ ^3D_3$	$2p7d\ ^3D_3$	1029.23	1.961+09	$2s8h\ ^3H_5$	$2p8h\ ^3H_6$	1031.26	2.070+09
$2s6d\ ^3D_1$	$2p6d\ ^3D_2$	1029.25	4.292+08	$2s8h\ ^3H_4$	$2p8h\ ^1H_5$	1031.26	1.693+09
$2s6d\ ^3D_3$	$2p6d\ ^3D_2$	1029.33	1.173+09	$2s8h\ ^3H_6$	$2p8h\ ^3H_6$	1031.26	3.165+09
$2s6d\ ^3D_2$	$2p6d\ ^3D_1$	1030.01	7.726+08	$2s8h\ ^1H_5$	$2p8h\ ^1H_5$	1031.26	2.701+09
$2s8d\ ^3D_2$	$2p8d\ ^3D_3$	1030.04	1.297+09	$2s8k\ ^3K_7$	$2p8k\ ^3I_7$	1031.33	4.370+09
$2s8d\ ^3D_3$	$2p8d\ ^3D_3$	1030.05	1.708+09	$2s8k\ ^3K_6$	$2p8k\ ^3K_6$	1031.33	3.781+09
$2s6d\ ^3D_1$	$2p6d\ ^3D_1$	1030.05	6.110+08	$2s8k\ ^3K_8$	$2p8k\ ^3I_7$	1031.33	1.934+09

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2s8i\ ^3I_5$	$2p8k\ ^3K_6$	1036.83	2.535+09	$2s8h\ ^3H_6$	$2p8h\ ^3I_6$	1036.61	2.370+09
$2s8i\ ^3I_6$	$2p8k\ ^3K_7$	1036.83	2.967+09	$2s8h\ ^1H_5$	$2p8h\ ^3I_5$	1036.61	1.952+09
$2s8i\ ^3I_7$	$2p8k\ ^3K_7$	1036.83	2.551+09	$2s7p\ ^3P_0$	$2p7p\ ^1P_1$	1036.77	2.092+08
$2s8i\ ^1I_6$	$2p8k\ ^3K_6$	1036.83	2.212+09	$2s7p\ ^3P_1$	$2p7p\ ^3D_2$	1036.78	1.158+09
$2s6d\ ^3D_3$	$2p6d\ ^3F_3$	1036.85	6.576+08	$2s7p\ ^3P_1$	$2p7p\ ^1P_1$	1036.80	1.681+08
$2s8g\ ^3G_4$	$2p8g\ ^3F_4$	1037.07	7.196+08	$2s7p\ ^3P_2$	$2p7p\ ^3D_2$	1036.83	8.735+08
$2s8g\ ^3G_5$	$2p8g\ ^3F_4$	1037.07	2.265+09	$2s7p\ ^3P_2$	$2p7p\ ^1P_1$	1036.85	3.622+08
$2s8g\ ^3G_3$	$2p8g\ ^3G_3$	1037.09	1.144+09	$2s8k\ ^3K_7$	$2p8k\ ^3L_8$	1036.87	3.509+09
$2s8g\ ^3G_4$	$2p8g\ ^3G_3$	1037.09	9.811+08	$2s8k\ ^3K_6$	$2p8k\ ^3L_7$	1036.87	3.067+09
$2s8g\ ^1G_4$	$2p8g\ ^3F_4$	1037.13	7.738+08	$2s8k\ ^3K_8$	$2p8k\ ^3L_8$	1036.87	2.771+09
$2s8g\ ^1G_4$	$2p8g\ ^3G_3$	1037.16	9.619+08	$2s8k\ ^1K_7$	$2p8k\ ^3L_7$	1036.87	2.442+09
$2s8g\ ^3G_4$	$2p8g\ ^3G_5$	1037.18	9.658+08	$2s8k\ ^3K_7$	$2p8k\ ^3I_7$	1036.87	1.963+09
$2s8g\ ^3G_5$	$2p8g\ ^3G_5$	1037.19	2.260+09	$2s8k\ ^3K_6$	$2p8k\ ^3K_6$	1036.87	1.698+09
$2s8g\ ^3G_3$	$2p8g\ ^3H_4$	1037.20	1.500+09	$2s8k\ ^3K_8$	$2p8k\ ^3I_7$	1036.87	4.214+09
$2s8g\ ^3G_4$	$2p8g\ ^3H_4$	1037.21	9.098+08	$2s8k\ ^1K_7$	$2p8k\ ^3K_6$	1036.87	3.683+09
$2p4f\ ^3F_2$	$2p6d\ ^3F_3$	1037.23	1.911+08	$2s7f\ ^1F_3$	$2p7f\ ^3F_4$	1036.95	1.706+08
$2s8g\ ^1G_4$	$2p8g\ ^3G_5$	1037.25	9.324+08	$2s8f\ ^3F_3$	$2p8f\ ^3G_4$	1037.06	6.619+08
$2s8g\ ^1G_4$	$2p8g\ ^3H_4$	1037.28	9.603+08	$2s8f\ ^3F_4$	$2p8f\ ^3G_4$	1037.06	2.215+09
$2s8d\ ^3D_1$	$2p8d\ ^3F_2$	1037.76	1.058+09	$2p4d\ ^3D_2$	$2p6p\ ^3P_2$	1037.13	1.218+08
$2s8d\ ^3D_2$	$2p8d\ ^3F_2$	1037.77	4.538+08	$2s8f\ ^3F_3$	$2p8f\ ^3F_3$	1037.14	7.903+08
$2s6s\ ^3S_1$	$2p6s\ ^3P_2$	1037.90	9.741+08	$2s8f\ ^3F_4$	$2p8f\ ^3F_3$	1037.15	1.663+09
$2s8g\ ^3G_5$	$2p8d\ ^3F_4$	1038.14	1.561+08	$2s6f\ ^3F_3$	$2p6f\ ^3G_4$	1037.22	5.015+09
$2s7g\ ^3G_3$	$2p7g\ ^3G_3$	1038.23	1.306+09	$2s7f\ ^1F_3$	$2p7f\ ^3G_3$	1037.30	8.616+08
$2s7g\ ^3G_4$	$2p7g\ ^3G_3$	1038.24	8.712+08	$2s6f\ ^3F_4$	$2p6f\ ^3G_4$	1037.43	1.427+08
$2s7g\ ^3G_4$	$2p7g\ ^3G_4$	1038.25	9.196+08	$2s7f\ ^3F_2$	$2p7f\ ^3F_2$	1037.43	1.174+09
$2s7g\ ^3G_5$	$2p7g\ ^3G_4$	1038.28	2.014+09	$2s7f\ ^3F_3$	$2p7f\ ^3F_2$	1037.44	7.241+08
$2s7g\ ^3G_4$	$2p7g\ ^3G_5$	1038.30	9.930+08	$2s8f\ ^3F_2$	$2p8f\ ^3G_3$	1037.50	1.142+09
$2s7g\ ^3G_3$	$2p7g\ ^3H_4$	1038.32	1.590+09	$2s8f\ ^3F_3$	$2p8f\ ^3G_3$	1037.51	6.662+08
$2s7g\ ^3G_5$	$2p7g\ ^3G_5$	1038.33	2.489+09	$2s8p\ ^1P_1$	$2p8p\ ^1P_1$	1037.52	4.893+08
$2s7g\ ^3G_4$	$2p7g\ ^3H_4$	1038.34	9.504+08	$2s7f\ ^3F_3$	$2p7f\ ^3F_4$	1037.62	6.062+08
$2s7d\ ^3D_1$	$2p7d\ ^3F_2$	1038.35	1.082+09	$2s7f\ ^3F_4$	$2p7f\ ^3F_4$	1037.63	2.544+09
$2s7d\ ^3D_2$	$2p7d\ ^3F_2$	1038.36	4.031+08	$2s6f\ ^3F_2$	$2p6f\ ^3G_3$	1037.64	3.529+09
$2s7g\ ^1G_4$	$2p7g\ ^3G_3$	1038.43	7.548+08	$2s7f\ ^3F_3$	$2p7f\ ^3F_3$	1037.85	1.256+09
$2s7g\ ^1G_4$	$2p7g\ ^3G_4$	1038.44	8.123+08	$2s7f\ ^3F_4$	$2p7f\ ^3F_3$	1037.86	1.275+09
$2s7g\ ^1G_4$	$2p7g\ ^3G_5$	1038.50	1.001+09	$2p4d\ ^3D_2$	$2p6p\ ^3P_1$	1038.05	1.193+08
$2s7g\ ^1G_4$	$2p7g\ ^3H_4$	1038.53	1.101+09	$2p4d\ ^3D_3$	$2p6p\ ^3P_2$	1038.13	3.044+08
$2s7d\ ^1D_2$	$2p7d\ ^3D_2$	1038.72	4.364+08	$2s8p\ ^3P_0$	$2p8p\ ^3D_1$	1038.15	3.880+08
$2s6d\ ^3D_2$	$2p6d\ ^3F_2$	1039.28	3.089+08	$2s8p\ ^3P_1$	$2p8p\ ^3D_1$	1038.17	4.783+08
$2s6d\ ^3D_1$	$2p6d\ ^3F_2$	1039.32	9.921+08	$2s7f\ ^3F_2$	$2p7f\ ^3G_3$	1038.21	1.059+09
$2s8d\ ^1D_2$	$2p8d\ ^1D_2$	1040.78	8.378+08	$2s7f\ ^3F_3$	$2p7f\ ^3G_3$	1038.22	4.339+08
$2s6d\ ^1D_2$	$2p6d\ ^3D_2$	1041.27	1.152+08	$2s8f\ ^1F_3$	$2p8f\ ^3F_2$	1038.35	1.157+08
$2s6s\ ^3S_1$	$2p6s\ ^3P_1$	1042.20	6.067+08	$2s8f\ ^3F_2$	$2p8p\ ^1D_2$	1038.36	1.028+08
$2s8d\ ^1D_2$	$2p8d\ ^3F_2$	1043.13	4.858+08	$2s8f\ ^3F_3$	$2p8p\ ^1D_2$	1038.36	1.268+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2s7d\ ^3D_2$	$2p7d\ ^3D_1$	1032.26	8.114+08	$2s6p\ ^3P_1$	$2p6p\ ^1P_1$	1033.44	2.675+08
$2s8d\ ^3D_3$	$2p8d\ ^3F_4$	1032.28	3.380+09	$2s6p\ ^3P_0$	$2p6p\ ^1P_1$	1033.57	2.185+08
$2s7g\ ^1G_4$	$2p7g\ ^1H_5$	1032.30	2.972+09	$2s8f\ ^1F_3$	$2p8f\ ^3F_4$	1034.00	1.154+08
$2s7s\ ^3S_1$	$2p7s\ ^3P_1$	1032.43	1.104+09	$2s6f\ ^3F_3$	$2p6f\ ^3D_3$	1034.08	6.356+08
$2s7g\ ^3G_3$	$2p7g\ ^3G_3$	1032.47	1.514+09	$2s8f\ ^1F_3$	$2p8f\ ^1F_3$	1034.22	1.111+09
$2s7g\ ^3G_4$	$2p7g\ ^3G_3$	1032.48	3.400+08	$2s6f\ ^3F_4$	$2p6f\ ^3D_3$	1034.28	2.128+09
$2s7g\ ^3G_4$	$2p7g\ ^3F_4$	1032.51	1.541+09	$2s7f\ ^1F_3$	$2p7f\ ^1G_4$	1034.32	3.347+09
$2s7g\ ^3G_5$	$2p7g\ ^3F_4$	1032.53	1.874+09	$2s7f\ ^1F_3$	$2p7f\ ^3D_2$	1034.55	2.261+08
$2s7g\ ^1G_4$	$2p7g\ ^3G_3$	1032.67	1.193+09	$2s7f\ ^1F_3$	$2p7f\ ^3D_3$	1035.16	2.151+08
$2s7g\ ^1G_4$	$2p7g\ ^3F_4$	1032.70	4.467+08	$2s7p\ ^1P_1$	$2p7p\ ^3S_1$	1035.68	2.163+08
$2s7d\ ^3D_3$	$2p7d\ ^3F_4$	1032.83	3.553+09	$2s6f\ ^3F_4$	$2p6f\ ^3G_5$	1035.78	8.424+09
$2p4f\ ^1F_3$	$2p6d\ ^3F_4$	1033.02	3.074+08	$2s8p\ ^3P_0$	$2p8p\ ^1P_1$	1035.98	1.111+08
$2s7g\ ^3G_4$	$2p7g\ ^3G_5$	1033.26	2.046+09	$2s8p\ ^3P_1$	$2p8p\ ^3D_2$	1036.03	1.008+09
$2s7g\ ^3G_3$	$2p7g\ ^3H_4$	1033.27	2.009+09	$2s8p\ ^3P_2$	$2p8p\ ^1P_1$	1036.04	6.788+08
$2s7g\ ^3G_5$	$2p7g\ ^3G_5$	1033.28	1.954+09	$2s8p\ ^3P_2$	$2p8p\ ^3D_2$	1036.06	9.953+08
$2s7g\ ^3G_4$	$2p7g\ ^3H_4$	1033.29	3.279+08	$2s6h\ ^3H_4$	$2p6h\ ^3H_4$	1036.47	1.698+09
$2s7s\ ^3S_1$	$2p7s\ ^3P_0$	1033.44	4.044+08	$2s6h\ ^1H_5$	$2p6h\ ^3G_5$	1036.47	2.118+09
$2s7g\ ^1G_4$	$2p7g\ ^3G_5$	1033.45	5.657+08	$2s6h\ ^3H_5$	$2p6h\ ^3H_4$	1036.47	2.086+09
$2s8d\ ^3D_1$	$2p8d\ ^3D_1$	1033.46	4.003+08	$2s6h\ ^3H_6$	$2p6h\ ^3G_5$	1036.47	2.493+09
$2s8d\ ^3D_2$	$2p8d\ ^3D_1$	1033.46	8.728+08	$2s6h\ ^1H_5$	$2p6h\ ^3H_6$	1036.52	1.605+09
$2s7g\ ^1G_4$	$2p7g\ ^3H_4$	1033.48	1.355+09	$2s6h\ ^3H_4$	$2p6h\ ^3I_5$	1036.52	1.312+09
$2s6d\ ^3D_3$	$2p6d\ ^3F_4$	1033.80	2.969+09	$2s6h\ ^3H_6$	$2p6h\ ^3H_6$	1036.52	2.750+09
$2s8s\ ^3S_1$	$2p8s\ ^3P_0$	1034.23	4.110+08	$2s6h\ ^3H_5$	$2p6h\ ^3I_5$	1036.52	2.319+09
$2p4f\ ^1F_3$	$2p6d\ ^1D_2$	1035.14	1.346+08	$2s7h\ ^3H_4$	$2p7h\ ^3H_4$	1036.52	1.436+09
$2s7d\ ^3D_1$	$2p7d\ ^1D_2$	1035.34	1.233+08	$2s7h\ ^3H_5$	$2p7h\ ^3H_4$	1036.52	1.146+08
$2s7d\ ^3D_2$	$2p7d\ ^1D_2$	1035.35	2.486+08	$2s7h\ ^3H_6$	$2p7h\ ^3G_5$	1036.52	1.687+09
$2s7d\ ^3D_3$	$2p7d\ ^1D_2$	1035.36	6.149+08	$2s7h\ ^1H_5$	$2p7h\ ^3H_4$	1036.52	2.327+09
$2s8d\ ^3D_2$	$2p8d\ ^1D_2$	1035.44	2.535+08	$2s7h\ ^3H_6$	$2p7h\ ^3G_5$	1036.52	2.900+09
$2s8d\ ^3D_3$	$2p8d\ ^1D_2$	1035.45	1.094+09	$2s7h\ ^1H_5$	$2p7h\ ^3G_5$	1036.52	1.187+08
$2s6d\ ^3D_2$	$2p6d\ ^1D_2$	1035.80	1.788+08	$2s8f\ ^3F_2$	$2p8f\ ^3F_2$	1036.56	9.206+08
$2s6d\ ^3D_1$	$2p6d\ ^1D_2$	1035.84	2.524+08	$2s8h\ ^3H_4$	$2p8h\ ^3H_4$	1036.56	1.286+09
$2s8d\ ^3D_2$	$2p8d\ ^3F_3$	1035.86	1.469+09	$2s8h\ ^3H_5$	$2p8h\ ^3G_5$	1036.56	1.529+09
$2s8d\ ^3D_3$	$2p8d\ ^3F_3$	1035.87	1.196+09	$2s8f\ ^3F_3$	$2p8f\ ^3F_2$	1036.56	7.559+08
$2s6d\ ^3D_3$	$2p6d\ ^1D_2$	1035.93	1.431+08	$2s8h\ ^1H_5$	$2p8h\ ^3H_4$	1036.56	2.661+09
$2s7d\ ^3D_2$	$2p7d\ ^3F_3$	1036.14	1.730+09	$2s8h\ ^3H_6$	$2p8h\ ^3G_5$	1036.56	3.271+09
$2s7d\ ^3D_3$	$2p7d\ ^3F_3$	1036.15	9.849+08	$2s7h\ ^3H_5$	$2p7h\ ^3H_6$	1036.58	1.947+09
$2s7s\ ^1S_0$	$2p7s\ ^1P_1$	1036.38	1.065+09	$2s7h\ ^3H_4$	$2p7h\ ^3I_5$	1036.58	1.679+09
$2s8d\ ^1D_2$	$2p8d\ ^1D_2$	1036.66	8.197+08	$2s7h\ ^3H_5$	$2p7h\ ^3I_5$	1036.58	1.040+08
$2s6d\ ^3D_2$	$2p6d\ ^3F_3$	1036.72	1.626+09	$2s7h\ ^3H_6$	$2p7h\ ^3H_6$	1036.58	2.490+09
$2s8i\ ^3I_5$	$2p8k\ ^3I_5$	1036.81	1.459+09	$2s7h\ ^1H_5$	$2p7h\ ^3H_6$	1036.58	1.049+08
$2s8i\ ^3I_6$	$2p8k\ ^3H_6$	1036.81	1.733+09	$2s7h\ ^1H_5$	$2p7h\ ^3I_5$	1036.58	2.029+09
$2s8i\ ^3I_7$	$2p8k\ ^3H_6$	1036.81	4.055+09	$2s8h\ ^3H_5$	$2p8h\ ^3I_6$	1036.61	2.268+09
$2s8i\ ^1I_6$	$2p8k\ ^3I_5$	1036.81	3.473+09	$2s8h\ ^3H_4$	$2p8h\ ^1I_5$	1036.61	1.928+09

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p4f\ ^3G_5$	$2p6g\ ^3G_5$	1065.35	9.346+08	$2p5d\ ^3F_3$	$2p8f\ ^1G_4$	1426.60	2.685+08
$2p4f\ ^3G_5$	$2p6g\ ^1G_4$	1065.46	5.639+08	$2p5d\ ^3F_3$	$2p8f\ ^3F_4$	1430.01	3.292+08
$2p4f\ ^1G_4$	$2p6g\ ^3G_5$	1069.57	1.467+09	$2p5d\ ^1D_2$	$2p8f\ ^1F_3$	1431.38	5.758+08
$2p4f\ ^1G_4$	$2p6g\ ^3H_4$	1069.62	2.276+08	$2p5d\ ^3F_4$	$2p8f\ ^3G_5$	1433.96	1.883+09
$2p4f\ ^1G_4$	$2p6g\ ^3G_3$	1069.67	2.668+08	$2p5d\ ^3F_2$	$2p8f\ ^3G_3$	1434.36	1.045+09
$2p4f\ ^1G_4$	$2p6g\ ^1G_4$	1069.68	1.417+08	$2p5d\ ^3F_4$	$2p8f\ ^3F_4$	1435.42	2.296+08
$2p4f\ ^1D_2$	$2p6d\ ^1D_2$	1073.38	1.220+08	$2p5d\ ^3F_3$	$2p8f\ ^3G_4$	1439.30	8.858+08
$2p4f\ ^3G_5$	$2p6d\ ^3F_4$	1076.62	1.336+08	$2p5d\ ^1D_2$	$2p8f\ ^3F_3$	1440.43	4.221+08
$2p5p\ ^1P_1$	$2p8d\ ^3F_2$	1368.55	1.935+08	$2p5d\ ^3D_2$	$2p8f\ ^3D_2$	1452.74	1.031+08
$2p5p\ ^3D_3$	$2p8d\ ^3D_3$	1371.53	2.306+08	$2p5d\ ^3D_2$	$2p8f\ ^1F_3$	1456.19	3.898+08
$2p5p\ ^3D_1$	$2p8d\ ^1D_2$	1373.55	1.757+08	$2p5d\ ^3D_3$	$2p8f\ ^3D_3$	1456.70	2.791+08
$2p5p\ ^3D_3$	$2p8d\ ^3F_4$	1375.49	7.663+08	$2p5d\ ^3D_3$	$2p8f\ ^3F_4$	1458.86	9.306+08
$2p5p\ ^3D_2$	$2p8d\ ^3F_3$	1376.30	5.769+08	$2p5d\ ^3F_4$	$2p8p\ ^3D_3$	1461.92	1.062+08
$2p5p\ ^3D_1$	$2p8d\ ^3F_2$	1377.64	1.760+08	$2p5d\ ^3D_1$	$2p8f\ ^3F_2$	1463.05	5.835+08
$2p5p\ ^3S_1$	$2p8d\ ^3P_2$	1387.90	1.351+08	$2p5d\ ^3D_2$	$2p8f\ ^3F_3$	1465.55	6.659+08
$2p5p\ ^3S_1$	$2p8d\ ^1D_2$	1392.30	1.424+08	$2p5d\ ^3P_2$	$2p8f\ ^3D_2$	1466.23	2.244+08
$2p5p\ ^3S_1$	$2p8d\ ^1D_2$	1399.75	1.156+08	$2p5d\ ^3P_1$	$2p8f\ ^3D_1$	1467.06	2.387+08
$2p5p\ ^3P_1$	$2p8d\ ^3P_1$	1401.12	1.735+08	$2p5d\ ^3P_2$	$2p8f\ ^3D_3$	1467.11	8.959+08
$2p5p\ ^3P_2$	$2p8d\ ^3P_2$	1404.27	3.010+08	$2p5d\ ^3P_0$	$2p8f\ ^3D_1$	1468.29	2.640+08
$2p5p\ ^3P_2$	$2p8d\ ^3D_3$	1406.31	6.062+08	$2p5d\ ^3D_3$	$2p8f\ ^3G_4$	1468.53	4.404+08
$2p5p\ ^3P_1$	$2p8d\ ^1D_2$	1406.38	1.479+08	$2p5d\ ^3P_1$	$2p8f\ ^3D_2$	1468.68	4.607+08
$2p5p\ ^3P_0$	$2p8d\ ^3D_1$	1407.06	2.065+08	$2p5g\ ^3G_3$	$2p8h\ ^3H_4$	1475.71	2.013+08
$2p5p\ ^3D_3$	$2p8s\ ^3P_2$	1414.37	2.227+08	$2p5g\ ^3G_4$	$2p8h\ ^3G_5$	1475.71	2.516+08
$2p5p\ ^3D_2$	$2p8s\ ^3P_1$	1417.41	1.223+08	$2p5g\ ^1G_4$	$2p8h\ ^1H_5$	1477.13	2.984+08
$2p5p\ ^1D_2$	$2p8d\ ^1F_3$	1422.51	1.189+09	$2p5g\ ^3G_5$	$2p8h\ ^3H_6$	1477.20	3.654+08
$2p5p\ ^3P_2$	$2p8s\ ^3P_2$	1451.39	2.257+08	$2p5d\ ^3D_3$	$2p8p\ ^3P_2$	1478.76	1.000+08
$2p5f\ ^1F_3$	$2p8g\ ^3F_4$	1460.71	2.615+08	$2p5g\ ^3G_3$	$2p8h\ ^3H_4$	1486.98	1.078+09
$2p5f\ ^1F_3$	$2p8g\ ^1G_4$	1461.69	1.299+08	$2p5g\ ^3G_4$	$2p8h\ ^3G_5$	1486.98	1.355+09
$2p5f\ ^3F_2$	$2p8g\ ^3G_3$	1462.26	2.537+08	$2p5g\ ^1G_4$	$2p8h\ ^3I_5$	1488.12	1.324+09
$2p5f\ ^3F_3$	$2p8g\ ^3G_3$	1462.80	1.025+08	$2p5g\ ^3G_5$	$2p8h\ ^3I_6$	1488.20	1.588+09
$2p5f\ ^3F_4$	$2p8g\ ^3F_4$	1463.82	1.386+08	$2p5g\ ^3H_4$	$2p8h\ ^1H_5$	1489.04	1.275+09
$2p5f\ ^3F_3$	$2p8g\ ^1G_4$	1463.83	3.016+08	$2p5g\ ^3H_5$	$2p8h\ ^3H_6$	1489.17	1.525+09
$2p5f\ ^3F_4$	$2p8g\ ^3G_5$	1464.77	6.314+08	$2p5g\ ^3F_4$	$2p8h\ ^3G_5$	1492.58	1.268+09
$2p5f\ ^1F_3$	$2p8g\ ^3F_4$	1471.82	9.299+08	$2p5g\ ^1F_3$	$2p8h\ ^3H_4$	1492.65	1.005+09
$2p5f\ ^1F_3$	$2p8g\ ^3H_4$	1472.10	3.309+08	$2p5g\ ^3H_6$	$2p8h\ ^3I_7$	1493.78	2.352+09
$2p5f\ ^3F_2$	$2p8g\ ^3G_3$	1473.49	9.703+08	$2p5g\ ^1H_5$	$2p8h\ ^1I_6$	1493.92	2.010+09
$2p5f\ ^3F_3$	$2p8g\ ^3F_4$	1473.98	3.949+08	$2p5g\ ^3F_2$	$2p8h\ ^3G_3$	1496.10	9.255+08
$2p5f\ ^3F_3$	$2p8g\ ^3H_4$	1474.27	9.395+08	$2p5g\ ^3F_3$	$2p8h\ ^3G_4$	1496.20	1.247+09
$2p5f\ ^3F_4$	$2p8g\ ^3G_5$	1475.21	1.484+09	$2p5g\ ^3H_4$	$2p8h\ ^3I_5$	1500.22	3.438+08
$2p5f\ ^3G_3$	$2p8g\ ^1G_4$	1477.17	1.220+09	$2p5g\ ^3H_5$	$2p8h\ ^3I_6$	1500.35	4.196+08
$2p5f\ ^3G_4$	$2p8g\ ^1H_5$	1477.47	3.619+08	$2p5g\ ^3F_4$	$2p8h\ ^3G_5$	1504.12	2.750+08
$2p5p\ ^1D_2$	$2p8s\ ^1P_1$	1478.24	2.832+08	$2p5g\ ^1F_3$	$2p8h\ ^3H_4$	1504.18	2.201+08
$2p5f\ ^3G_4$	$2p8g\ ^3G_5$	1479.09	1.228+09	$2p5d\ ^1F_3$	$2p8f\ ^1G_4$	1517.83	1.602+09

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p4f\ ^3D_3$	$2p6g\ ^3F_3$	1043.13	4.353+08	$2s8f\ ^1F_3$	$2p8f\ ^3G_4$	1038.85	6.697+08
$2s7d\ ^1D_2$	$2p7d\ ^1D_2$	1043.22	1.139+09	$2s8f\ ^1F_3$	$2p8f\ ^3F_3$	1038.93	6.028+08
$2s6s\ ^3S_1$	$2p6s\ ^3P_0$	1043.49	2.197+08	$2s8f\ ^1F_3$	$2p8f\ ^3G_3$	1039.30	9.255+08
$2p4f\ ^3D_2$	$2p6g\ ^3F_3$	1044.53	1.730+09	$2s7p\ ^3P_0$	$2p7p\ ^3D_1$	1039.46	3.383+08
$2p4f\ ^3D_2$	$2p6g\ ^3F_2$	1044.57	6.812+08	$2s7p\ ^3P_1$	$2p7p\ ^3D_1$	1039.49	3.839+08
$2p4f\ ^1D_2$	$2p6d\ ^1P_1$	1044.64	1.192+08	$2p4d\ ^3P_2$	$2p6f\ ^3F_3$	1039.60	1.029+08
$2p4f\ ^3D_3$	$2p6g\ ^1F_3$	1044.81	2.416+08	$2s8p\ ^1P_1$	$2p8p\ ^3D_1$	1039.70	4.478+08
$2p4f\ ^3D_3$	$2p6g\ ^3F_4$	1044.84	6.024+09	$2p4d\ ^3P_2$	$2p6f\ ^1F_3$	1040.08	1.511+08
$2p4p\ ^1D_2$	$2p6s\ ^1P_1$	1045.36	8.331+08	$2s8f\ ^1F_3$	$2p8p\ ^1D_2$	1040.15	3.048+08
$2s7s\ ^1S_0$	$2p7s\ ^3P_1$	1045.57	1.059+08	$2s7p\ ^1P_1$	$2p7p\ ^1P_1$	1040.69	5.655+08
$2p4f\ ^3D_1$	$2p6g\ ^3F_2$	1045.98	3.439+09	$2s7f\ ^1F_3$	$2p7f\ ^3F_2$	1041.50	1.310+08
$2p4f\ ^3D_2$	$2p6g\ ^1F_3$	1046.21	2.746+09	$2s7f\ ^1F_3$	$2p7f\ ^3F_4$	1041.67	6.104+08
$2s7d\ ^1D_2$	$2p7d\ ^3F_2$	1046.27	5.047+08	$2s7f\ ^1F_3$	$2p7f\ ^3F_3$	1041.91	3.698+08
$2s6d\ ^1D_2$	$2p6d\ ^1D_2$	1048.02	1.215+09	$2s6f\ ^3F_3$	$2p6f\ ^3F_4$	1042.11	8.041+08
$2p4f\ ^3D_3$	$2p6g\ ^1G_4$	1051.34	1.241+09	$2s6f\ ^3F_2$	$2p6f\ ^3F_2$	1042.17	9.524+08
$2s6d\ ^1D_2$	$2p6d\ ^3F_2$	1051.58	5.057+08	$2s7f\ ^1F_3$	$2p7f\ ^3G_3$	1042.28	1.283+09
$2p4f\ ^1D_2$	$2p6g\ ^3F_3$	1051.71	3.478+09	$2s6f\ ^3F_4$	$2p6f\ ^3F_4$	1042.31	2.493+09
$2p4f\ ^3D_2$	$2p6g\ ^3G_3$	1052.74	5.555+08	$2s6f\ ^3F_3$	$2p6f\ ^3F_2$	1042.32	4.520+08
$2p4f\ ^1D_2$	$2p6g\ ^1F_3$	1053.41	1.508+09	$2s6f\ ^3F_2$	$2p6f\ ^3F_3$	1042.39	4.504+08
$2p4f\ ^3G_3$	$2p6g\ ^3F_2$	1054.86	1.151+09	$2s6f\ ^3F_3$	$2p6f\ ^3F_3$	1042.54	1.630+09
$2p4f\ ^3G_4$	$2p6g\ ^3F_3$	1055.55	1.116+09	$2s6f\ ^3F_4$	$2p6f\ ^3F_3$	1042.75	6.139+08
$2p4f\ ^3G_3$	$2p6g\ ^1F_3$	1056.52	2.572+08	$2s6f\ ^3F_2$	$2p6f\ ^1F_3$	1042.87	9.044+08
$2p4f\ ^3G_4$	$2p6g\ ^1H_5$	1056.79	2.902+09	$2s6f\ ^3F_4$	$2p6f\ ^1F_3$	1043.23	1.636+08
$2p4f\ ^3G_4$	$2p6g\ ^1F_3$	1057.27	1.918+08	$2s7p\ ^1P_1$	$2p7p\ ^3D_1$	1043.40	5.714+08
$2p4f\ ^3G_4$	$2p6g\ ^3F_4$	1057.30	3.235+08	$2s7f\ ^1F_3$	$2p7p\ ^1D_2$	1046.10	1.873+08
$2p4f\ ^3G_3$	$2p6g\ ^3H_4$	1057.93	6.078+09	$2s6p\ ^1P_1$	$2p6p\ ^3D_1$	1046.80	6.212+08
$2p4f\ ^3G_5$	$2p6g\ ^1H_5$	1058.27	2.395+08	$2p4d\ ^3D_3$	$2p6p\ ^3D_3$	1048.40	1.115+08
$2p4f\ ^3G_5$	$2p6g\ ^3H_6$	1058.35	1.568+10	$2s6p\ ^1P_1$	$2p6p\ ^1P_1$	1050.12	1.203+09
$2p4f\ ^3G_4$	$2p6g\ ^3G_5$	1058.63	6.136+09	$2p4d\ ^3P_2$	$2p6p\ ^3D_3$	1068.79	1.477+08
$2p4f\ ^3G_5$	$2p6g\ ^3F_4$	1058.79	1.186+09	$2p4d\ ^1P_1$	$2p6f\ ^1D_2$	1078.12	2.927+09
$2p4f\ ^1D_2$	$2p6g\ ^3G_3$	1060.03	3.634+08	$2p4d\ ^1P_1$	$2p6f\ ^3D_2$	1081.78	2.779+08
$2p4f\ ^1G_4$	$2p6g\ ^3F_3$	1061.19	3.286+08	$2p4d\ ^1F_3$	$2p6f\ ^1D_2$	1082.31	4.369+08
$2p4f\ ^1G_4$	$2p6g\ ^1H_5$	1062.44	1.008+10	$2p4d\ ^1F_3$	$2p6f\ ^1G_4$	1085.98	8.791+09
$2p4p\ ^1S_0$	$2p6d\ ^1P_1$	1062.56	8.082+08	$2p4d\ ^1F_3$	$2p6f\ ^3G_4$	1090.43	5.223+08
$2p4f\ ^1G_4$	$2p6g\ ^1F_3$	1062.93	6.750+08	$2p4d\ ^1F_3$	$2p6f\ ^3F_4$	1095.83	7.782+08
$2p4f\ ^3G_3$	$2p6g\ ^3H_4$	1063.13	3.989+09	$2p4d\ ^1F_3$	$2p6p\ ^1D_2$	1106.46	6.733+08
$2p4f\ ^3G_3$	$2p6g\ ^3G_3$	1063.19	2.621+08	$2p5s\ ^3P_2$	$2p8p\ ^3P_2$	1294.72	1.793+08
$2p4f\ ^3G_3$	$2p6g\ ^1G_4$	1063.20	1.097+08	$2p5s\ ^3P_2$	$2p8p\ ^3P_1$	1295.27	1.132+08
$2p4f\ ^3G_4$	$2p6g\ ^3G_5$	1063.84	3.622+09	$2p5s\ ^3P_1$	$2p8p\ ^3D_2$	1300.15	1.936+08
$2p4f\ ^3G_4$	$2p6g\ ^3H_4$	1063.89	6.202+08	$2p5s\ ^3P_2$	$2p8p\ ^3D_3$	1300.46	2.943+08
$2p4f\ ^3G_4$	$2p6g\ ^3G_3$	1063.94	1.900+08	$2p5s\ ^1P_1$	$2p8p\ ^1D_2$	1319.61	1.910+08
$2p4f\ ^3G_4$	$2p6g\ ^1G_4$	1063.95	1.178+08	$2p5s\ ^1P_1$	$2p8p\ ^3S_1$	1330.95	1.204+08
$2p4f\ ^1G_4$	$2p6g\ ^3G_5$	1064.30	1.584+09	$2p5s\ ^1P_1$	$2p8p\ ^1P_1$	1337.98	1.059+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p5f\ ^3F_2$	$2p7g\ ^3G_3$	1810.51	3.405+08	$2p5d\ ^1D_2$	$2p7p\ ^1P_1$	1838.43	1.135+08
$2p5f\ ^1F_3$	$2p7g\ ^3H_4$	1810.54	1.978+08	$2p5g\ ^3G_3$	$2p7h\ ^3H_4$	1847.71	2.409+09
$2p5f\ ^3F_3$	$2p7g\ ^3G_3$	1811.33	1.697+08	$2p5g\ ^3G_4$	$2p7h\ ^3G_5$	1847.71	3.030+09
$2p5f\ ^3F_4$	$2p7g\ ^3F_4$	1812.90	2.398+08	$2p5g\ ^1G_4$	$2p7h\ ^3I_5$	1849.49	2.915+09
$2p5f\ ^3F_3$	$2p7g\ ^3H_4$	1813.81	4.553+08	$2p5g\ ^3G_5$	$2p7h\ ^3H_6$	1849.61	3.496+09
$2p5f\ ^3F_4$	$2p7g\ ^3G_5$	1815.22	9.675+08	$2p5g\ ^3H_4$	$2p7h\ ^3H_4$	1850.28	1.604+08
$2p5f\ ^1F_3$	$2p7g\ ^3G_3$	1825.80	1.104+08	$2p5g\ ^3H_5$	$2p7h\ ^3G_5$	1850.49	1.957+08
$2p5f\ ^1F_3$	$2p7g\ ^3G_4$	1825.82	1.750+09	$2p5g\ ^3H_4$	$2p7h\ ^3I_5$	1851.23	2.781+09
$2p5f\ ^1F_3$	$2p7g\ ^3H_4$	1826.10	6.877+08	$2p5g\ ^3H_5$	$2p7h\ ^3H_6$	1851.44	3.328+09
$2p5f\ ^3F_2$	$2p7g\ ^3G_3$	1828.29	1.836+09	$2p5g\ ^3F_4$	$2p7h\ ^3G_4$	1854.09	1.819+08
$2p5f\ ^3F_3$	$2p7g\ ^3G_4$	1829.15	8.213+08	$2p5d\ ^3D_3$	$2p7p\ ^3P_2$	1854.11	1.611+08
$2p5f\ ^3F_3$	$2p7g\ ^3H_4$	1829.44	1.667+09	$2p5g\ ^1F_3$	$2p7h\ ^3G_3$	1854.20	1.450+08
$2p5f\ ^3F_4$	$2p7g\ ^3G_5$	1830.84	2.782+09	$2p5g\ ^3F_4$	$2p7h\ ^3G_5$	1856.37	2.817+09
$2p5f\ ^3G_3$	$2p7g\ ^3G_3$	1831.81	1.516+08	$2p5g\ ^1F_3$	$2p7h\ ^3H_4$	1856.47	2.233+09
$2p5f\ ^3G_4$	$2p7g\ ^1H_5$	1833.63	6.079+08	$2p5g\ ^3H_6$	$2p7h\ ^3I_7$	1857.89	4.924+09
$2p5p\ ^3P_1$	$2p7s\ ^3P_2$	1833.90	1.531+08	$2p5g\ ^1H_5$	$2p7h\ ^1I_6$	1858.11	4.208+09
$2p5f\ ^3G_3$	$2p7g\ ^3H_4$	1834.34	2.223+09	$2p5g\ ^3H_6$	$2p7h\ ^3H_6$	1859.99	2.028+08
$2p5f\ ^3G_4$	$2p7g\ ^3F_4$	1834.88	1.494+08	$2p5g\ ^1H_5$	$2p7h\ ^3I_5$	1860.21	1.667+08
$2p5f\ ^3G_4$	$2p7g\ ^3G_5$	1837.26	2.233+09	$2p5g\ ^3F_2$	$2p7h\ ^3G_3$	1861.12	1.974+09
$2p5f\ ^3G_4$	$2p7g\ ^3H_4$	1837.35	1.844+08	$2p5g\ ^3F_3$	$2p7h\ ^3G_4$	1861.27	2.660+09
$2p5p\ ^3P_2$	$2p7s\ ^3P_2$	1837.98	3.454+08	$2p5g\ ^3H_4$	$2p7h\ ^3I_5$	1868.21	6.302+08
$2p5f\ ^3G_5$	$2p7g\ ^3H_6$	1840.92	4.662+09	$2p5g\ ^3H_5$	$2p7h\ ^3H_6$	1868.42	7.703+08
$2p5f\ ^3G_5$	$2p7g\ ^3G_5$	1844.39	2.952+08	$2p5g\ ^3F_4$	$2p7h\ ^3G_5$	1874.24	4.845+08
$2p5f\ ^3D_3$	$2p7g\ ^3F_3$	1847.75	2.076+08	$2p5g\ ^1F_3$	$2p7h\ ^3H_4$	1874.34	3.881+08
$2p5f\ ^3G_3$	$2p7g\ ^3H_4$	1850.33	7.492+08	$2p5d\ ^1F_3$	$2p7f\ ^1G_4$	1896.84	2.194+09
$2p5f\ ^3D_2$	$2p7g\ ^3F_3$	1851.40	5.255+08	$2p5d\ ^1P_1$	$2p7f\ ^1D_2$	1899.33	1.005+09
$2p5f\ ^3D_2$	$2p7g\ ^3F_2$	1851.50	2.887+08	$2p5d\ ^1F_3$	$2p7f\ ^3F_4$	1905.72	1.138+08
$2p5f\ ^3D_3$	$2p7g\ ^3F_4$	1851.62	2.332+09	$2p5d\ ^1P_1$	$2p7f\ ^3D_2$	1907.50	1.100+08
$2p5f\ ^3G_4$	$2p7g\ ^3G_5$	1853.26	8.395+08	$2p5d\ ^1F_3$	$2p7f\ ^3F_4$	1921.73	2.835+08
$2p5f\ ^1G_4$	$2p7g\ ^1H_5$	1853.33	3.213+09	$2p5d\ ^1F_3$	$2p7p\ ^1D_2$	1936.84	3.502+08
$2p5f\ ^3D_2$	$2p7g\ ^3G_3$	1855.21	1.179+09	$2p5s\ ^3P_2$	$2p6p\ ^3P_2$	2362.75	3.126+08
$2p5f\ ^3D_1$	$2p7g\ ^3F_2$	1855.78	1.354+09	$2p5s\ ^3P_2$	$2p6p\ ^3P_1$	2367.53	1.750+08
$2p5f\ ^1G_4$	$2p7g\ ^3G_5$	1857.04	3.952+08	$2p5s\ ^3P_1$	$2p6p\ ^3S_1$	2374.16	1.168+08
$2p5f\ ^1G_4$	$2p7g\ ^3H_4$	1857.13	1.157+08	$2p5s\ ^3P_0$	$2p6p\ ^3D_1$	2407.05	1.464+08
$2p5f\ ^1D_2$	$2p7g\ ^3F_3$	1867.05	1.564+09	$2p5s\ ^3P_1$	$2p6p\ ^3D_2$	2412.94	3.962+08
$2p5f\ ^3D_3$	$2p7g\ ^3G_4$	1870.17	4.919+08	$2p5s\ ^3P_2$	$2p6p\ ^3D_3$	2416.62	6.617+08
$2p5f\ ^1D_2$	$2p7g\ ^3G_3$	1870.92	4.790+08	$2p5s\ ^1P_1$	$2p6p\ ^1D_2$	2417.55	3.358+08
$2p5f\ ^1G_4$	$2p7g\ ^3G_5$	1873.39	2.726+08	$2p5s\ ^1P_1$	$2p6p\ ^3D_1$	2549.49	1.564+08
$2p5f\ ^3D_2$	$2p7g\ ^3G_3$	1873.88	2.509+08	$2p5d\ ^1D_2$	$2p6f\ ^1D_2$	2709.24	2.017+08
$2p5p\ ^1D_2$	$2p7s\ ^1P_1$	1875.42	3.692+08	$2p5d\ ^3F_3$	$2p6f\ ^1G_4$	2728.88	3.934+08
$2p5f\ ^1D_2$	$2p7g\ ^3G_3$	1889.92	1.463+08	$2p5d\ ^3F_2$	$2p6f\ ^3G_3$	2739.94	2.127+08
$2p5p\ ^1P_1$	$2p6d\ ^1P_1$	2404.44	1.144+08	$2p5d\ ^3F_3$	$2p6f\ ^3G_4$	2757.15	1.600+09
$2p5p\ ^3D_2$	$2p6d\ ^3D_2$	2560.39	1.985+08	$2p5d\ ^3F_3$	$2p6f\ ^3G_3$	2761.19	3.165+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p5f\ ^3G_5$	$2p8g\ ^3H_6$	1482.18	2.780+09	$2p5d\ ^1P_1$	$2p8f\ ^1D_2$	1520.78	7.505+08
$2p5f\ ^3G_5$	$2p8g\ ^3G_5$	1483.71	1.550+08	$2p5d\ ^1F_3$	$2p8f\ ^3G_4$	1532.22	3.079+08
$2p5f\ ^3D_3$	$2p8g\ ^3F_3$	1487.15	1.240+08	$2p5d\ ^1F_3$	$2p8p\ ^1D_2$	1535.06	3.430+08
$2p5f\ ^3G_3$	$2p8g\ ^3H_4$	1487.81	5.449+08	$2p5s\ ^3P_2$	$2p7p\ ^3P_2$	1573.64	2.571+08
$2p5f\ ^3D_3$	$2p8g\ ^3F_4$	1488.96	1.279+09	$2p5s\ ^3P_2$	$2p7p\ ^3P_1$	1574.98	1.520+08
$2p5f\ ^3D_2$	$2p8g\ ^3F_3$	1489.51	3.106+08	$2p5s\ ^3P_0$	$2p7p\ ^1P_1$	1582.66	1.065+08
$2p5f\ ^3D_2$	$2p8g\ ^3F_2$	1489.56	1.722+08	$2p5s\ ^3P_1$	$2p7p\ ^3D_2$	1586.23	2.926+08
$2p5f\ ^3G_4$	$2p8g\ ^3G_5$	1489.73	6.013+08	$2p5s\ ^3P_2$	$2p7p\ ^3D_3$	1587.29	4.642+08
$2p5f\ ^1G_4$	$2p8g\ ^1H_5$	1490.23	1.933+09	$2p5s\ ^1P_1$	$2p7p\ ^1D_2$	1606.00	2.588+08
$2p5f\ ^3D_2$	$2p8g\ ^3G_3$	1491.28	6.481+08	$2p5s\ ^1P_1$	$2p7p\ ^1P_1$	1643.02	1.417+08
$2p5f\ ^1G_4$	$2p8g\ ^3G_5$	1491.88	2.113+08	$2p5s\ ^1P_1$	$2p7p\ ^3D_1$	1649.78	1.239+08
$2p5f\ ^3D_1$	$2p8g\ ^3F_2$	1492.33	8.062+08	$2p5d\ ^1D_2$	$2p7f\ ^1D_2$	1751.62	1.348+08
$2p5f\ ^1D_2$	$2p8g\ ^3F_3$	1499.63	9.437+08	$2p5d\ ^3F_3$	$2p7f\ ^1G_4$	1756.47	3.580+08
$2p5f\ ^3D_3$	$2p8g\ ^3F_4$	1500.50	3.820+08	$2p5d\ ^3F_3$	$2p7f\ ^3F_4$	1764.08	6.840+08
$2p5f\ ^1D_2$	$2p8g\ ^3G_3$	1501.42	2.631+08	$2p5d\ ^3F_3$	$2p7f\ ^3G_3$	1765.08	1.810+08
$2p5f\ ^1G_4$	$2p8g\ ^3G_5$	1502.70	1.954+08	$2p5d\ ^1D_2$	$2p7f\ ^3G_3$	1766.53	9.503+08
$2p5f\ ^3D_2$	$2p8g\ ^3G_3$	1502.96	2.075+08	$2p5d\ ^3F_2$	$2p7f\ ^3F_2$	1768.45	1.185+08
$2p6p\ ^1S_0$	$2p8d\ ^1P_1$	1503.13	4.001+08	$2p5d\ ^3F_4$	$2p7f\ ^3G_5$	1769.06	3.000+09
$2p5f\ ^1D_2$	$2p8g\ ^3G_3$	1513.26	1.137+08	$2p5d\ ^3F_2$	$2p7f\ ^3G_3$	1770.70	1.682+09
$2p5p\ ^1P_1$	$2p7d\ ^1P_1$	1624.11	1.017+08	$2p5d\ ^3F_4$	$2p7f\ ^3F_4$	1772.32	3.774+08
$2p5p\ ^1P_1$	$2p7d\ ^1D_2$	1670.46	1.628+08	$2p5d\ ^3F_3$	$2p7f\ ^3F_4$	1777.79	1.322+09
$2p5p\ ^3D_2$	$2p7d\ ^3D_2$	1675.33	1.335+08	$2p5d\ ^1D_2$	$2p7f\ ^3F_3$	1779.94	7.176+08
$2p5p\ ^1P_1$	$2p7d\ ^3F_2$	1678.30	3.498+08	$2p5d\ ^3D_2$	$2p7f\ ^3D_2$	1796.16	1.343+08
$2p5p\ ^3D_3$	$2p7d\ ^3D_3$	1679.06	3.265+08	$2p5d\ ^3D_3$	$2p7f\ ^3D_3$	1802.75	4.084+08
$2p5p\ ^3D_1$	$2p7d\ ^1D_2$	1684.03	3.623+08	$2p5d\ ^3D_2$	$2p7f\ ^3G_3$	1804.47	5.855+08
$2p5p\ ^3D_3$	$2p7d\ ^3F_4$	1688.65	1.368+09	$2p5d\ ^3D_3$	$2p7f\ ^3F_4$	1808.19	1.296+09
$2p5p\ ^3D_2$	$2p7d\ ^3F_3$	1689.16	9.928+08	$2p5d\ ^3D_1$	$2p7f\ ^3F_2$	1815.16	1.058+09
$2p5p\ ^3D_1$	$2p7d\ ^3F_2$	1692.00	2.843+08	$2p5d\ ^3P_2$	$2p7f\ ^3D_2$	1816.82	3.472+08
$2p5p\ ^3S_1$	$2p7d\ ^3P_1$	1700.74	1.328+08	$2p5d\ ^3D_2$	$2p7f\ ^3F_2$	1817.21	1.085+08
$2p5p\ ^3S_1$	$2p7d\ ^3P_2$	1702.33	2.256+08	$2p5d\ ^3P_1$	$2p7f\ ^3D_1$	1817.45	3.496+08
$2p5p\ ^3S_1$	$2p7d\ ^3D_2$	1711.35	2.491+08	$2p5d\ ^3D_2$	$2p7f\ ^3F_3$	1818.47	1.076+09
$2p5p\ ^3P_1$	$2p7d\ ^3P_0$	1720.92	1.060+08	$2p5d\ ^3P_2$	$2p7f\ ^3D_3$	1818.71	1.399+09
$2p5p\ ^3P_1$	$2p7d\ ^3P_1$	1721.79	2.216+08	$2p5d\ ^3P_0$	$2p7f\ ^3D_1$	1819.33	3.869+08
$2p5p\ ^3P_2$	$2p7d\ ^3P_2$	1727.03	3.988+08	$2p5d\ ^3P_1$	$2p7f\ ^3D_2$	1820.59	7.118+08
$2p5p\ ^3P_2$	$2p7d\ ^3D_3$	1731.50	8.474+08	$2p5d\ ^3D_3$	$2p7f\ ^3F_4$	1822.60	8.686+08
$2p5p\ ^3P_0$	$2p7d\ ^3D_1$	1731.55	2.736+08	$2p5g\ ^3G_3$	$2p7h\ ^3H_4$	1830.34	3.696+08
$2p5p\ ^3P_1$	$2p7d\ ^3D_2$	1732.66	2.820+08	$2p5g\ ^3G_4$	$2p7h\ ^3G_5$	1830.34	4.617+08
$2p5p\ ^1D_2$	$2p7d\ ^1F_3$	1747.03	1.199+09	$2p5g\ ^3G_5$	$2p7h\ ^3G_5$	1832.04	1.054+08
$2p5p\ ^3D_3$	$2p7s\ ^3P_2$	1779.01	4.021+08	$2p5g\ ^1G_4$	$2p7h\ ^3I_5$	1832.85	5.959+08
$2p5p\ ^3D_1$	$2p7s\ ^3P_0$	1782.76	1.005+08	$2p5g\ ^3G_5$	$2p7h\ ^3H_6$	1832.97	7.303+08
$2p5p\ ^3D_2$	$2p7s\ ^3P_1$	1783.13	2.258+08	$2p5d\ ^3F_4$	$2p7p\ ^3D_3$	1834.62	2.640+08
$2p5p\ ^1D_2$	$2p7d\ ^1D_2$	1796.39	1.280+08	$2p5d\ ^3F_2$	$2p7p\ ^3D_1$	1835.80	1.195+08
$2p5f\ ^1F_3$	$2p7g\ ^3F_4$	1808.13	3.536+08	$2p5d\ ^3F_3$	$2p7p\ ^3D_2$	1836.79	1.887+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p5f\ ^3G_3$	$2p6g\ ^3H_4$	2923.04	4.849+09	$2p5g\ ^3H_5$	$2p6h\ ^3I_5$	2960.79	1.861+08
$2p5f\ ^3G_4$	$2p6g\ ^3G_5$	2930.31	4.904+09	$2p5g\ ^3F_4$	$2p6h\ ^3G_4$	2963.07	5.709+08
$2p5f\ ^3G_4$	$2p6g\ ^3H_4$	2930.68	3.890+08	$2p5g\ ^1F_3$	$2p6h\ ^3G_4$	2963.38	4.552+08
$2p5f\ ^3G_5$	$2p6g\ ^1H_5$	2934.30	1.236+08	$2p5g\ ^3F_4$	$2p6h\ ^3G_5$	2971.68	9.447+09
$2p5f\ ^3G_5$	$2p6g\ ^3H_6$	2934.87	9.050+09	$2p5g\ ^3F_4$	$2p6h\ ^3H_4$	2971.72	2.162+08
$2p5f\ ^3F_4$	$2p6d\ ^3D_3$	2947.14	1.096+08	$2p5g\ ^1F_3$	$2p6h\ ^3H_4$	2971.98	7.495+09
$2p5f\ ^3G_5$	$2p6g\ ^3G_5$	2948.51	5.912+08	$2p5g\ ^3H_6$	$2p6h\ ^3I_7$	2974.40	1.550+10
$2p5f\ ^3D_3$	$2p6g\ ^3F_3$	2949.12	4.048+08	$2p5g\ ^3H_6$	$2p6h\ ^1I_6$	2974.44	1.713+08
$2p5f\ ^3D_2$	$2p6g\ ^3F_3$	2958.44	1.039+09	$2p5g\ ^1H_5$	$2p6h\ ^1I_6$	2975.00	1.326+10
$2p5f\ ^3D_2$	$2p6g\ ^3F_2$	2958.80	5.666+08	$2p5g\ ^3F_2$	$2p6h\ ^3G_3$	2981.10	6.296+09
$2p5f\ ^3D_3$	$2p6g\ ^1F_3$	2962.57	2.080+08	$2p5g\ ^3F_3$	$2p6h\ ^3G_4$	2981.44	8.491+09
$2p5f\ ^3D_3$	$2p6g\ ^3F_4$	2962.82	5.051+09	$2p5g\ ^3F_3$	$2p6h\ ^3G_3$	2981.50	3.009+08
$2p5f\ ^3G_3$	$2p6g\ ^3H_4$	2963.14	9.217+08	$2p5g\ ^3H_6$	$2p6h\ ^3H_6$	2982.68	6.922+08
$2p5f\ ^3G_3$	$2p6g\ ^3G_3$	2963.55	2.058+08	$2p5g\ ^1H_5$	$2p6h\ ^3I_5$	2983.29	5.690+08
$2p5f\ ^1G_4$	$2p6g\ ^1H_5$	2966.43	6.319+09	$2p5g\ ^3H_4$	$2p6h\ ^3H_4$	3002.34	1.197+08
$2p5f\ ^3D_1$	$2p6g\ ^3F_2$	2969.75	2.677+09	$2p5g\ ^3H_4$	$2p6h\ ^3I_6$	3002.76	1.564+09
$2p5f\ ^3G_4$	$2p6g\ ^3G_5$	2970.62	1.076+09	$2p5g\ ^3H_5$	$2p6h\ ^3G_5$	3002.85	1.509+08
$2p5f\ ^3G_4$	$2p6g\ ^1G_4$	2971.48	2.103+08	$2p5g\ ^3H_5$	$2p6h\ ^3H_6$	3003.25	1.920+09
$2p5f\ ^3D_2$	$2p6g\ ^1F_3$	2971.97	2.561+09	$2p5g\ ^3F_4$	$2p6h\ ^3G_5$	3018.38	1.081+09
$2p5f\ ^1G_4$	$2p6g\ ^3G_5$	2980.95	9.455+08	$2p5g\ ^1F_3$	$2p6h\ ^3H_4$	3018.69	8.630+08
$2p5f\ ^1G_4$	$2p6g\ ^3H_4$	2981.34	2.264+08	$2p5d\ ^3F_4$	$2p6p\ ^3D_3$	3040.73	5.700+08
$2p5p\ ^3D_3$	$2p6s\ ^3P_2$	2983.71	7.505+08	$2p5d\ ^3F_3$	$2p6p\ ^3D_2$	3044.75	4.094+08
$2p5p\ ^1S_0$	$2p6d\ ^1P_1$	2983.99	4.393+08	$2p5d\ ^3F_2$	$2p6p\ ^1P_1$	3050.67	2.401+08
$2p5p\ ^3D_2$	$2p6s\ ^3P_1$	2993.02	4.346+08	$2p5d\ ^3D_2$	$2p6p\ ^3P_1$	3051.40	1.111+08
$2p5p\ ^3D_1$	$2p6s\ ^3P_0$	2994.17	1.872+08	$2p5d\ ^1D_2$	$2p6p\ ^3D_1$	3053.03	2.496+08
$2p5f\ ^1D_2$	$2p6g\ ^3F_3$	2998.60	3.119+09	$2p5d\ ^3D_3$	$2p6p\ ^3P_2$	3057.08	3.030+08
$2p5f\ ^1D_2$	$2p6g\ ^1F_3$	3012.50	1.084+09	$2p5d\ ^1P_1$	$2p6f\ ^1D_2$	3079.70	1.720+09
$2p5f\ ^3D_3$	$2p6g\ ^1G_4$	3015.63	5.379+08	$2p5d\ ^1F_3$	$2p6f\ ^1G_4$	3083.39	3.782+09
$2p5f\ ^1G_4$	$2p6g\ ^3G_5$	3022.68	3.844+08	$2p5d\ ^1P_1$	$2p6f\ ^3D_2$	3109.77	1.447+08
$2p5f\ ^3D_2$	$2p6g\ ^3G_3$	3025.29	2.854+08	$2p5d\ ^1F_3$	$2p6f\ ^3G_4$	3119.53	2.170+08
$2p5f\ ^1D_2$	$2p6g\ ^3G_3$	3067.31	1.798+08	$2p5d\ ^3D_3$	$2p6p\ ^3D_3$	3147.87	1.188+08
$2p5f\ ^3G_5$	$2p6d\ ^3F_4$	3079.82	3.114+08	$2p5d\ ^3P_2$	$2p6p\ ^3S_1$	3159.49	1.813+08
$2p5f\ ^3G_4$	$2p6d\ ^3F_3$	3086.87	1.637+08	$2p5d\ ^1F_3$	$2p6f\ ^3F_4$	3164.14	2.447+08
$2p5p\ ^3S_1$	$2p6s\ ^3P_1$	3109.97	1.194+08	$2p5d\ ^1F_3$	$2p6f\ ^1F_3$	3172.61	2.528+08
$2p5p\ ^3P_1$	$2p6s\ ^3P_2$	3141.41	2.786+08	$2p5d\ ^1F_3$	$2p6p\ ^1D_2$	3254.35	5.288+08
$2p5p\ ^3P_2$	$2p6s\ ^3P_2$	3153.41	6.274+08	$2p5p\ ^3P_2$	$2p6s\ ^3P_1$	3193.39	1.557+08
$2p5p\ ^3P_0$	$2p6s\ ^3P_1$	3164.68	1.532+08	$2p5p\ ^1D_2$	$2p6s\ ^1P_1$	3227.20	6.353+08
$2p5p\ ^3P_1$	$2p6s\ ^3P_0$	3193.21	1.000+08	$2p5p\ ^1S_0$	$2p6s\ ^1P_1$	3689.26	1.640+08

TABLE VII. continued.

1	2	3	4	5	6	7	8
$2p5p\ ^1P_1$	$2p6d\ ^1D_2$	2562.33	2.705+08	$2p5d\ ^1D_2$	$2p6f\ ^3G_3$	2764.73	1.503+09
$2p5p\ ^3D_3$	$2p6d\ ^3D_3$	2568.42	4.110+08	$2p5d\ ^3F_4$	$2p6f\ ^3G_5$	2765.58	4.649+09
$2p5p\ ^1P_1$	$2p6d\ ^3F_2$	2583.73	5.494+08	$2p5d\ ^3F_2$	$2p6f\ ^3F_2$	2771.74	1.740+08
$2p5p\ ^3D_1$	$2p6d\ ^1D_2$	2594.40	6.113+08	$2p5d\ ^3F_2$	$2p6f\ ^3F_3$	2773.31	5.246+08
$2p5p\ ^3D_2$	$2p6d\ ^3F_3$	2607.42	1.491+09	$2p5d\ ^3F_2$	$2p6f\ ^1F_3$	2776.71	2.002+09
$2p5p\ ^3D_3$	$2p6d\ ^3F_4$	2607.97	2.057+09	$2p5d\ ^3F_4$	$2p6f\ ^3G_4$	2777.33	5.580+08
$2p5p\ ^3S_1$	$2p6d\ ^3P_1$	2611.54	2.022+08	$2p5d\ ^3F_3$	$2p6f\ ^3F_4$	2791.94	1.680+09
$2p5p\ ^3D_1$	$2p6d\ ^3F_2$	2616.34	3.901+08	$2p5d\ ^3F_3$	$2p6f\ ^1F_3$	2798.53	1.033+08
$2p5p\ ^3S_1$	$2p6d\ ^3P_2$	2617.04	3.963+08	$2p5d\ ^1D_2$	$2p6f\ ^3F_3$	2798.71	6.497+08
$2p5p\ ^3D_2$	$2p6d\ ^3F_2$	2623.65	1.264+08	$2p5d\ ^1D_2$	$2p6f\ ^1F_3$	2802.17	5.919+08
$2p5p\ ^3S_1$	$2p6d\ ^3D_2$	2645.49	3.330+08	$2p5d\ ^3D_2$	$2p6f\ ^3D_2$	2824.33	1.645+08
$2p5p\ ^3P_1$	$2p6d\ ^3P_0$	2658.57	1.448+08	$2p5d\ ^3D_2$	$2p6f\ ^3G_3$	2858.80	7.818+08
$2p5p\ ^3P_1$	$2p6d\ ^3P_1$	2661.50	2.778+08	$2p5d\ ^3D_3$	$2p6f\ ^3G_4$	2866.45	1.539+09
$2p5p\ ^3P_2$	$2p6d\ ^3P_1$	2670.11	1.321+08	$2p6d\ ^3F_4$	$2p8f\ ^3G_5$	2866.81	1.100+09
$2p5p\ ^3P_2$	$2p6d\ ^3P_2$	2675.87	5.296+08	$2p5d\ ^3P_2$	$2p6f\ ^3D_2$	2875.76	5.778+08
$2p5p\ ^1D_2$	$2p6d\ ^1F_3$	2688.20	1.466+09	$2p5d\ ^3P_1$	$2p6f\ ^3D_1$	2875.86	5.481+08
$2p5p\ ^3P_0$	$2p6d\ ^3D_1$	2690.47	3.757+08	$2p5d\ ^3P_0$	$2p6f\ ^3D_1$	2880.57	6.083+08
$2p5p\ ^3P_2$	$2p6d\ ^3D_3$	2693.17	1.227+09	$2p5d\ ^3P_2$	$2p6f\ ^3D_3$	2882.44	2.280+09
$2p5p\ ^3P_1$	$2p6d\ ^3D_2$	2696.78	5.233+08	$2p5d\ ^3P_1$	$2p6f\ ^3D_2$	2885.22	1.181+09
$2p5p\ ^3P_1$	$2p6d\ ^3D_1$	2702.31	1.104+08	$2p5d\ ^3D_1$	$2p6f\ ^3F_2$	2888.24	1.790+09
$2p5f\ ^1F_3$	$2p6g\ ^3F_3$	2840.34	1.856+08	$2p5d\ ^3D_2$	$2p6f\ ^3F_2$	2893.44	2.331+08
$2p5p\ ^1P_1$	$2p6s\ ^1P_1$	2842.27	1.795+08	$2p5d\ ^3D_2$	$2p6f\ ^3F_3$	2895.15	1.795+09
$2p5f\ ^3F_2$	$2p6g\ ^3F_2$	2846.70	1.615+08	$2p5g\ ^3G_4$	$2p6h\ ^3G_4$	2897.30	1.787+08
$2p5f\ ^1F_3$	$2p6g\ ^3F_4$	2853.04	3.763+08	$2p5g\ ^3G_3$	$2p6h\ ^3G_3$	2897.36	1.383+08
$2p5f\ ^3F_2$	$2p6g\ ^1F_3$	2858.89	3.587+08	$2p5d\ ^3D_3$	$2p6f\ ^3F_4$	2904.06	2.041+09
$2p5f\ ^3F_3$	$2p6g\ ^1F_3$	2860.94	3.063+08	$2p5g\ ^3G_4$	$2p6h\ ^3G_5$	2905.54	9.903+08
$2p5f\ ^1F_3$	$2p6g\ ^3H_4$	2863.05	2.511+08	$2p5g\ ^3G_3$	$2p6h\ ^3H_4$	2905.58	7.933+08
$2p5f\ ^3F_4$	$2p6g\ ^3F_4$	2864.92	4.700+08	$2p5d\ ^3D_3$	$2p6f\ ^3F_3$	2907.46	1.132+08
$2p5p\ ^1D_2$	$2p6d\ ^1D_2$	2871.05	2.358+08	$2p5g\ ^1G_4$	$2p6h\ ^3H_4$	2909.55	2.691+08
$2p5f\ ^3F_3$	$2p6g\ ^3H_4$	2871.24	5.491+08	$2p5g\ ^3G_5$	$2p6h\ ^3G_5$	2909.81	3.310+08
$2p5f\ ^3F_4$	$2p6g\ ^3G_5$	2874.66	1.247+09	$2p5g\ ^1G_4$	$2p6h\ ^3I_5$	2913.54	1.486+09
$2p5f\ ^1F_3$	$2p6g\ ^3H_4$	2901.51	8.017+08	$2p5g\ ^3G_5$	$2p6h\ ^3H_6$	2913.79	1.826+09
$2p5f\ ^1F_3$	$2p6g\ ^3G_3$	2901.91	1.999+08	$2p5g\ ^3G_4$	$2p6h\ ^3G_5$	2950.16	1.008+10
$2p5f\ ^1F_3$	$2p6g\ ^1G_4$	2901.97	4.476+09	$2p5g\ ^3G_4$	$2p6h\ ^3H_4$	2950.20	2.308+08
$2p5f\ ^3F_2$	$2p6g\ ^3G_3$	2908.20	3.966+09	$2p5g\ ^3G_3$	$2p6h\ ^3H_4$	2950.21	7.988+09
$2p5f\ ^3F_3$	$2p6g\ ^3H_4$	2909.92	4.388+09	$2p5g\ ^3G_5$	$2p6h\ ^3G_5$	2954.57	1.094+08
$2p5f\ ^3F_3$	$2p6g\ ^1G_4$	2910.39	9.647+08	$2p5g\ ^1G_4$	$2p6h\ ^3I_5$	2954.70	9.633+09
$2p5f\ ^3G_3$	$2p6g\ ^1F_3$	2912.36	2.629+08	$2p5g\ ^3G_5$	$2p6h\ ^3H_6$	2954.96	1.157+10
$2p5f\ ^3F_4$	$2p6g\ ^3G_5$	2913.44	6.189+09	$2p5g\ ^3G_5$	$2p6h\ ^3I_5$	2955.01	1.804+08
$2p5f\ ^3F_4$	$2p6g\ ^3H_4$	2913.80	1.175+08	$2p5g\ ^3H_4$	$2p6h\ ^3H_4$	2956.14	5.073+08
$2p5f\ ^3G_4$	$2p6g\ ^1H_5$	2916.28	1.175+09	$2p5g\ ^3H_5$	$2p6h\ ^3G_5$	2956.63	6.174+08
$2p5f\ ^1G_4$	$2p6d\ ^1F_3$	2917.94	1.192+08	$2p5g\ ^3H_4$	$2p6h\ ^3I_5$	2960.26	9.175+09
$2p5f\ ^3G_4$	$2p6g\ ^3F_4$	2920.19	2.608+08	$2p5g\ ^3H_5$	$2p6h\ ^3H_6$	2960.74	1.099+10

Table VIII: a: Mixing coefficients for even complex states with J=3 for O^{4+}.

		(2s6g+2s6d + 2p4f) mixing				
		$1s^2 2s6g$	$1s^2 2p4f$	$1s^2 2s6d$	$1s^2 2p4f$	$1s^2 2p4f$
		$(^2S)^3G$	$(^2P)^1F$	$(^2S)^3D$	$(^2P)^3F$	$(^2P)^3G$
$1s^2 2p4f$	$(^2P)^3G$	0.69115	-0.03309	-0.01511	-0.05538	0.70575
$1s^2 2p4f$	$(^2P)^3F$	0.08354	-0.39332	-0.05070	0.91044	-0.02988
$1s^2 2p4f$	$(^2P)^3D$	-0.00082	-0.11131	0.06117	0.03844	0.00014
$1s^2 2p4f$	$(^2P)^1F$	0.11273	0.86023	0.30920	0.38268	-0.03337
$1s^2 2s6g$	$(^2S)^3G$	0.70204	-0.05830	-0.02813	-0.11411	-0.69953
		(2s5g+2s5d + 2p4f) mixing				
		$1s^2 2s5d$	$1s^2 2s5g$			
		$(^2S)^3D$	$(^2S)^3G$			
$1s^2 2s4d$	$(^2S)^3D$	-0.01294	0.00000			
$1s^2 2p4p$	$(^2P)^3D$	-0.03798	0.00000			
$1s^2 2p4f$	$(^2P)^3G$	0.00000	0.09830			
$1s^2 2p4f$	$(^2P)^3D$	0.01054	0.00000			
$1s^2 2s5d$	$(^2S)^3D$	0.99871	0.00000			
$1s^2 2s5g$	$(^2S)^3G$	0.00000	0.99499			
$1s^2 2p5p$	$(^2P)^3D$	-0.02130	0.00000			
$1s^2 2p5f$	$(^2P)^3D$	0.00780	0.00000			

Table VIII: b: Mixing coefficients of even complex states with J=4 for O^{4+}.

		(2s6g + 2p4f) mixing				
		$1s^2 2s6g$	$1s^2 2s6g$	$1s^2 2p4f$	$1s^2 2p4f$	$1s^2 2p4f$
		$(^2S)^3G$	$(^2S)^1G$	$(^2P)^3F$	$(^2P)^3G$	$(^2P)^1G$
$1s^2 2p4f$	$(^2P)^3G$	0.65198	0.19352	-0.04232	0.69958	0.16240
$1s^2 2p4f$	$(^2P)^3F$	0.12172	-0.06901	0.98908	-0.03944	0.02135
$1s^2 2p4f$	$(^2P)^1G$	-0.20207	0.59252	0.04410	-0.14724	0.75046
$1s^2 2s6g$	$(^2S)^3G$	0.68069	0.23588	-0.09142	-0.67469	-0.12992
$1s^2 2s6g$	$(^2S)^1G$	-0.21535	0.73677	0.09703	0.14579	-0.61602
		(2s5g + 2p4f) mixing				
		$1s^2 2s5g$	$1s^2 2s5g$			
		$(^2S)^3G$	$(^2S)^1G$			
$1s^2 2p4f$	$(^2P)^3G$	0.08905	0.04044			
$1s^2 2p4f$	$(^2P)^1G$	-0.04137	0.08849			
$1s^2 2s5g$	$(^2S)^3G$	0.90365	0.41655			
$1s^2 2s5g$	$(^2S)^1G$	-0.41645	0.90371			

Table VIII: c: Mixing coefficients of even complex states with J=2 for O^{4+}.

		(2s3d + 2p3p) mixing				
		$1s^2 2s3d$	$1s^2 2s3d$	$1s^2 2p3p$	$1s^2 2p3p$	$1s^2 2p3p$
		$(^2S)^3D$	$(^2S)^1D$	$(^2P)^3D$	$(^2P)^1D$	$(^2P)^1D$
$1s^2 2s3d$	$(^2S)^3D$	0.99128	-0.00093	0.12127	-0.00085	0.00065
$1s^2 2s3d$	$(^2S)^1D$	0.00097	0.99121	-0.00080	-0.00156	0.07951
$1s^2 2p3p$	$(^2P)^3D$	-0.12168	0.00034	0.99173	-0.00825	0.00705
$1s^2 2p3p$	$(^2P)^3P$	-0.00015	0.00015	0.00817	0.99925	0.01789
$1s^2 2p3p$	$(^2P)^1D$	0.00013	-0.07904	-0.00717	-0.01771	0.99290
		(2s4d + 2p4p) mixing				
		$1s^2 2s4d$	$1s^2 2s4d$	$1s^2 2p4p$	$1s^2 2p4p$	$1s^2 2p4p$
		$(^2S)^3D$	$(^2S)^1D$	$(^2P)^3D$	$(^2P)^3P$	$(^2P)^1D$
$1s^2 2s4d$	$(^2S)^3D$	0.99867	-0.00124	0.04293	-0.00134	0.00103
$1s^2 2s4d$	$(^2S)^1D$	0.00124	0.99614	-0.00097	-0.00144	0.03439
$1s^2 2p4p$	$(^2P)^3D$	-0.04258	0.00013	0.99560	-0.03221	0.02395
$1s^2 2p4p$	$(^2P)^3P$	-0.00006	0.00005	0.03132	0.99794	0.04117
$1s^2 2p4p$	$(^2P)^1D$	0.00004	-0.03289	-0.02548	-0.04010	0.98500
$1s^2 2p4f$	$(^2P)^3F$	0.00002	0.00000	-0.00033	0.00015	-0.00902
$1s^2 2p4f$	$(^2P)^3D$	0.01242	-0.00001	-0.02290	0.00122	-0.00504
$1s^2 2p4f$	$(^2P)^1D$	0.00001	-0.00082	0.00132	0.00358	-0.13180
		(2s6d + 2p4p+2p4f) mixing				
		$1s^2 2p4p$	$1s^2 2s6d$	$1s^2 2p4f$	$1s^2 2s6d$	$1s^2 2p4f$	$1s^2 2p4f$
		$(^2P)^1D$	$(^2S)^3D$	$(^2P)^3F$	$(^2S)^1D$	$(^2P)^3D$	$(^2P)^1D$
$1s^2 2p4p$	$(^2P)^1D$	0.98500	0.00881	0.01627	-0.05326	0.02730	0.11834
$1s^2 2p4f$	$(^2P)^3F$	-0.00902	0.30783	0.94678	0.02805	-0.07432	-0.04830
$1s^2 2p4f$	$(^2P)^3D$	-0.00504	0.09953	0.03380	-0.00939	0.97199	-0.20317
$1s^2 2p4f$	$(^2P)^1D$	-0.13180	0.02211	0.05978	-0.13903	0.19393	0.95811
$1s^2 2s6d$	$(^2S)^3D$	-0.00349	0.94487	-0.31311	0.00030	-0.08385	0.01431
$1s^2 2s6d$	$(^2S)^1D$	0.03492	-0.00446	-0.01721	0.98666	0.03988	0.13926

Table VIII: e: Mixing coefficients of even configurations with J=5 for O^{4+}.

2s7i mixing			
		$1s^2 2s7i$ $(^2S)^3I$	$1s^2 2s7i$ $(^2S)^1I$
$1s^2 2s7i$	$(^2S)^3I$	0.73015	0.68321
$1s^2 2s7i$	$(^2S)^1I$	-0.68321	0.73015
2s8i mixing			
		$1s^2 2s8i$ $(^2S)^3I$	$1s^2 2s8i$ $(^2S)^1I$
$1s^2 2s8i$	$(^2S)^3I$	0.72880	0.68465
$1s^2 2s8i$	$(^2S)^1I$	-0.68465	0.72880
2s9i mixing			
		$1s^2 2s9i$ $(^2S)^3I$	$1s^2 2s9i$ $(^2S)^1I$
$1s^2 2s9i$	$(^2S)^3I$	0.72766	0.68587
$1s^2 2s9i$	$(^2S)^1I$	-0.68587	0.72766

Table VIII: d: Mixing coefficients for odd complex states with J=3 for O^{4+}.

(2s4f + 2p3d) mixing					
		$1s^2 2p3d$ $(^2P)^3F$	$1s^2 2p3d$ $(^2P)^1F$	$1s^2 2s4f$ $(^2S)^3F$	$1s^2 2s4f$ $(^2S)^1F$
$1s^2 2p3d$	$(^2P)^3F$	0.98870	0.00858	-0.13340	-0.00109
$1s^2 2p3d$	$(^2P)^1F$	-0.00886	0.95666	-0.00014	-0.26639
$1s^2 2s4f$	$(^2S)^3F$	0.13451	0.00185	0.99030	0.00175
$1s^2 2s4f$	$(^2S)^1F$	-0.00159	0.27021	-0.00200	0.96213
(2s5f + 2p4d+2p3d) mixing					
		$1s^2 2s5f$ $(^2S)^3F$	$1s^2 2s5f$ $(^2S)^1F$		
$1s^2 2p3d$	$(^2P)^3F$	-0.04382	-0.00010		
$1s^2 2p3d$	$(^2P)^1F$	-0.00008	-0.06566		
$1s^2 2s4f$	$(^2S)^1F$	0.00001	0.01262		
$1s^2 2p4d$	$(^2P)^3F$	0.04835	-0.00060		
$1s^2 2p4d$	$(^2P)^1F$	-0.00027	0.08919		
$1s^2 2s5f$	$(^2S)^3F$	0.99769	0.00040		
$1s^2 2s5f$	$(^2S)^1F$	-0.00036	0.99357		
$1s^2 2p5d$	$(^2P)^3F$	-0.00804	-0.00002		
(2s6f + 2p4d) mixing					
		$1s^2 2p4d$ $(^2P)^3F$	$1s^2 2p4d$ $(^2P)^3D$	$1s^2 2s6f$ $(^2S)^1F$	$1s^2 2s6f$ $(^2S)^3F$	$1s^2 2p4d$ $(^2P)^1F$
$1s^2 2p4d$	$(^2P)^3F$	0.95485	-0.04366	0.01383	-0.27866	0.01765
$1s^2 2p4d$	$(^2P)^3D$	0.04911	0.98823	0.14186	0.02156	0.01775
$1s^2 2p4d$	$(^2P)^1F$	-0.02632	-0.08193	0.47222	0.00068	0.85468
$1s^2 2s6f$	$(^2S)^3F$	0.27757	-0.03703	0.01669	0.95945	-0.00497
$1s^2 2s6f$	$(^2S)^1F$	-0.01414	-0.11479	0.86750	-0.01793	-0.48040

Recent Issues of NIFS-DATA Series

NIFS-DATA-44 J. Dubau, T. Kato and U.I. Safronova,
Dielectronic Recombination Rate Coefficients to the Excited States of CI From CII; Jan. 1998

NIFS-DATA-45 Y. Yamamura, W. Takeuchi and T. Kawamura,
The Screening Length of Interatomic Potential in Atomic Collisions; Mar. 1998

NIFS-DATA-46 T. Kenmotsu, T. Kawamura, T. Ono and Y. Yamamura,
Dynamical Simulation for Sputtering of B4C; Mar. 1998

NIFS-DATA-47 I. Murakami, K. Moribayashi and T. Kato,
Effect of Recombination Processes on FeXXIII Line Intensities; May 1998

NIFS-DATA-48 Zhijie Li, T. Kenmotsu, T. Kawamura, T. Ono and Y. Yamamura,
Sputtering Yield Calculations Using an Interatomic Potential with the Shell Effect and a New Local Model; Oct. 1998

NIFS-DATA-49 S. Sasaki, M. Goto, T. Kato and S. Takamura,
Line Intensity Ratios of Helium Atom in an Ionizing Plasma; Oct. 1998

NIFS-DATA-50 I. Murakami, T. Kato and U. Safronova,
Spectral Line Intensities of NeVII for Non-equilibrium Ionization Plasma Including Dielectronic Recombination Processses; Jan. 1999

NIFS-DATA-51 Hiro Tawara and Masa Kato,
Electron Impact Ionization Data for Atoms and Ions -up-dated in 1998-; Feb. 1999

NIFS-DATA-52 J.G. Wang, T. Kato and I. Murakami,
Validity of n^{-3} Scaling Law in Dielectronic Recombination Processes; Apr. 1999

NIFS-DATA-53 J.G. Wang, T. Kato and I. Murakami,
Dielectronic Recombination Rate Coefficients to Excited States of He from He^{+}; Apr. 1999

NIFS-DATA-54 T. Kato and E. Asano,
Comparison of Recombination Rate Coefficients Given by Empirical Formulas for Ions from Hydrogen through Nickel; June 1999

NIFS-DATA-55 H.P. Summers, H. Anderson, T. Kato and S. Murakami,
Hydrogen Beam Stopping and Beam Emission Data for LHD; Nov. 1999

NIFS-DATA-56 S. Born, N. Matsunami and H. Tawara,
A Simple Theoretical Approach to Determine Relative Ion Yield (RIY) in Glow Discharge Mass Spectrometry (GDMS); Jan. 2000

NIFS-DATA-57 T. Ono, T. Kawamura, T. Kenmotsu, Y. Yamamura,
Simulation Study on Retention and Reflection from Tungsten Carbide under High Fluence of Helium Ions; Aug. 2000

NIFS-DATA-58 J.G. Wang, M. Kato and T. Kato,
Spectra of Neutral Carbon for Plasma Diagnostics; Oct. 2000

NIFS-DATA-59 Yu. V. Ralchenko, R. K. Janev, T. Kato, D.V. Fursa, I. Bray and F.J. de Heer
Cross Section Database for Collision Processes of Helium Atom with Charged Particles.
I. Electron Impact Processes; Oct. 2000

NIFS-DATA-60 U.I. Safronova, C. Namba, W.R. Johnson, M.S. Safronova,
Relativistic Many-Body Calculations of Energies for n = 3 States in Aluminiumlike Ions; Jan. 2001

NIFS-DATA-61 U.I. Safronova, C. Namba, I. Murakami, W.R. Johnson and M.S. Safronova,
E1,E2, M1, and M2 Transitions in the Neon Isoelectronic Sequence; Jan. 2001

NIFS-DATA-62 R. K. Janev, Yu.V. Ralchenko, T. Kenmotsu,
Unified Analytic Formula for Physical Sputtering Yield at Normal Ion Incidence; Apr. 2001

NIFS-DATA-63 Y. Itikawa,
Bibliography on Electron Collisions with Molecules: Rotational and Vibrational Excitations, 1980-2000 Apr. 2001

NIFS-DATA-64 R.K. Janev, J.G. Wang and T.Kato,
Cross Sections and Rate Coefficients for Charge Exchange Reactions of Protons with Hydrocarbon Molecules; May 2001

NIFS-DATA-65 T. Kenmotsu, Y. Yamamura, T. Ono and T. Kawamura,
A New Formula of the Energy Spectrum of Sputtered Atoms from a Target Material Bombarded with Light Ions at Normal Incidence; May 2001

NIFS-DATA-66 I. Murakami, U. I. Safronova and T. Kato,
Dielectronic Recombination Rate Coefficients to Excited States of Be-like Oxygen:May 2001