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Comparison of the satellite lines of H-like and He-like spectra

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Abstract

The two kinds of theoretical atomic data by MZ method with Z expansion (Vainshtein and Safronova (1978)) and AUTOLSJ method with intermediate coupling (Dubau et al (1981), TFR group et al(1981)) for the wavelengths and the dielectronic and inner shell satellite lines of H-like ions and He-like Fe, Ca and S ions are compared in a form of the synthetic spectra. The agreement is rather good within 20% for main satellite lines.

Key word; dielectronic satellite lines, inner-shell satellite lines, X-ray spectra, H-like ions, He-like ions,

1. Introduction

The dielectronic satellite lines are important for plasma diagnostics to derive the electron temperature in plasmas from the X-ray spectra. The dielectronic satellite lines have been calculated by Dubau et al(1981), for He-like, Gabriel(1972), Bhalla et al.(1975) and Bely Dubau et al (1979a, b, 1982a) for Li-like, Vainshtein and Safronova (1978, 1980) for He- and Li-like, Nilsen (1987) for He-like, Nilsen(1986b, 1988) for Li-like. Chen (1986) for Li-like, Chen (1987) for Be-like satellite lines. Cornille et al.(1988) calculated the satellite lines of Be-, B-, C- and O- like ions for the $1s2p^m nl - 1s^2 2p^{m-1} nl$ transitions including higher n satellite lines. Recently Itikawa et al(1995) reviewed and recommended the atomic data of excitation, ionization and recombination for He-like S, Ca and Fe ions.

In this paper we compare the two theoretical data by MZ method by Z expansion (Vainshtein and Safronova (1978)) and AUTOLSJ method by intermediate coupling (Dubau et al (1981), TFR Group et al(1981)) for dielectronic and inner-shell satellite lines in a form of the synthetic spectra for the spectral analysis of the observed spectra. For the rate coefficients of the excitation and inner shell excitation of Li-like ions we have used the data in Itikawa et al(1995)

2. Dielectronic satellite lines for H-like Fe ion spectra ($1snl - 2lnl'$)

Recently Safronova calculated dielectronic satellite lines including the total radiative transition decay ΣA_T which was not included in the previous paper (Vainshtein and Safronova (1978)). The new data of He-like dielectronic satellite lines for H-like iron spectra by Safronova were

compared with those by Cornille data by AUTOLSJ method. . The data by Safronova and Cornille are listed in Table I(a) and in Table I(b), respectively.

In Table I(a) the following values are listed.

- W.L. Wavelength in Angstrom
- Ar Transition probability in unit $10^{13} \text{ (s}^{-1}\text{)}$.
- SumAa ΣAa (Total autoionizing rate from the 2pnl state) in unit $10^{13} \text{ (s}^{-1}\text{)}$.
- Br $Ar/(\Sigma Ar+\Sigma Aa)$ (branching ratio for radiative decay)
- Qd Intensity factor = $g_s AaAr/(\Sigma Ar+\Sigma Aa)$ (g_s is the statistical weight of the satellite upper level) in unit $10^{13} \text{ (s}^{-1}\text{)}$.
- Z Atomic number
- n Principal quantum number of the state 2pnl

The explanation of symbols for the configuration in Transitions is given at the top of the Table I(a).

In Table I(b) the following values are listed.

- n Principal quantum number of the state 2pnl
- Transition the level numbers of the satellite upper(KU) and lower(KL) state of the transition. The configuration of these level can be found in Table II(c).
- W.L. Wavelength in Angstrom
- Qd Intensity factor = $g_s AaAr/(\Sigma Ar+\Sigma Aa)$ (g_s is the statistical weight of the satellite upper level) in unit $10^{13} \text{ (s}^{-1}\text{)}$.

Ar	Transition probability in unit $10^{13} \text{ (s}^{-1}\text{)}$.
Br	$Ar/(\Sigma Ar + \Sigma Aa)$ (branching ratio for radiative decay).

In Table I(c) the following values are listed.

K	Transition number KU and KL in Table I(b).
CF	Configuration Number listed at the top of the Table.I(c)
2S+1	Multiplet quantum number
L	Total orbital quantum number
2J	J is the total quantum number

The line intensity of the satellite line can be calculated as,

$$\begin{aligned}
 I_s &= 3.3 \times 10^{-24} (I_H/T_e)^{3/2} (Qd/g_1) \exp(-E_s/T_e) n_e n(H) \\
 &= 3.3 \times 10^{-11} (I_H/T_e)^{3/2} ((Qd/10^{13})/g_1) \exp(-E_s/T_e) n_e n(Z) \\
 &\hspace{15em} \text{photons cm}^{-3}\text{s}^{-1} \quad (1)
 \end{aligned}$$

where T_e is the electron temperature, n_e the electron density (cm^{-3}), $n(Z)$ the density (cm^{-3}) of H-like ions, E_s the energy difference between the autoionizing state and the ground state of H-like ions, g_1 is the statistical weight of the ground state of the recombining ions of the satellite lines. For He-like satellite lines, the recombining ion is the H-like ion ($g_1 = 2$). We should note that the values of Qd in Table I(a) and (b) are given in unit of 10^{13} s^{-1} .

We have compared the spectra calculated with the new satellite data by Safronova and Cornille in Fig. 1. The voigt profile is assumed for the

convoluted spectra together with Gaussian profile with FWHM = 0.00056 and the Lorentzian profile with Lorentz factor $g = 0.00005$. The unit of the spectra is the emissivity per one electron per one ion ($\text{photons cm}^3 \text{s}^{-1} \text{Angstrom}^{-1}$). Fig. 1 (a) i, ii, iii show the comparison of only satellite spectra with two different data for the electron temperatures (i) 1.5, (ii) 2.0 and (iii) 3 keV, respectively. The contribution of $n = 3$ and $n = 4$ satellite lines are also indicated by the solid and dotted lines. Fig.1 (b) i, ii, iii are the spectra including the resonance lines of H-like ions, $\text{Ly}\alpha_1$ and $\text{Ly}\alpha_2$. The intensity of the strongest satellite line J at 1.7917 A agree very well each other. The second strongest satellite lines near at 1.788 A show the different feature. The peak intensity around 1.788 A is different about factor of two as shown in Fig.1. But the difference become smaller to be about 15 % when the larger value of the resolution like FWHM = 0.0015 is used.

3. Dielectronic satellite lines for He-like Fe ion spectra

i) Li-like satellite lines ($1s^2 nl - 1s 2l nl'$)

We list the new data by Safronova in Table II(a) and those by Cornille in Table II(b), respectively. The notations for Table II(a), (b) and (c) are the same as those in Table I(a), (b) and (c) in the previous section. In Eq. (1), $g_1 = 1$ for Li-like satellite lines since the statistical weight of the ground state of He-like ions is 1 and $n(Z)$ is the ion density of He-like ions..

The comparison of the data by Cornille and Safronova through convoluted satellite line spectra of Li-like Fe ions are shown in Fig.2 for the three electron temperatures i) 0.8 keV, ii) 1.5 keV and iii) 2.5 keV. The

unit of the spectra is the emissivity per electron per ion (photons $\text{cm}^3 \text{s}^{-1} \text{Angstrom}^{-1}$). The wavelengths by Safronova are longer than those by Cornille systematically by about 10^{-3} Angstrom due to the relativistic correction by Safronova. Comparison of the data of the individual Li-like satellite lines of Fe ion are given in Nilsen(1988).

The difference of the spectra for $n = 2$ satellite lines is within 5 %, although 10 % for $n = 3$ and 4 satellite lines of He - and Li- like Fe ions. The values by Safronova are generally larger than those by Cornille.

ii) Be-like satellite lines $(1s^2 2s nl - 1s 2s 2p nl)$

The data by Safronova and Cornille are listed in Table III(a) and (b), respectively. The value of $g_1 = 2$ and $n(Z)$ is the density of Li-like ions in Eq. (1) for Be-like satellite lines. The comparison of the data through convoluted satellite line spectra of Be-like Fe ions are shown in Fig.3 for i) 0.8 keV, ii) 1.5 keV and iii) 2.5 keV. The unit of the spectra is the emissivity per electron per ion (photons $\text{cm}^3 \text{s}^{-1} \text{Angstrom}^{-1}$). The agreement is very good for the strongest line group although the different is 20% for the second strongest line group near 1.870A by Cornille and 1.872A by Safronova.

iii) B-like satellite lines $(1s^2 2s^k 2p^m - 1s 2s^{k'} 2p^{m'})$

The data by Safronova and Cornille are listed in Table IV(a) and (b), respectively. The value of $g_1 = 1$ and $n(Z)$ is the density of Be-like ions in Eq. (1) for B-like satellite lines. The convoluted satellite line spectra of B-like Fe ions are compared in Fig. 4 for i) Te = 0.8 keV, ii) 1.5 keV and iii) 2.5 keV, respectively. The unit of the spectra is the emissivity per

electron per ion (photons $\text{cm}^3 \text{s}^{-1} \text{Angstrom}^{-1}$). The strongest peak agrees within 20%. But the second strongest peak at 1.878A by Cornille and 1.881A by Safronova differs about 36%.

iv) C-like satellite lines $(1s^2 2s^k 2p^m - 1s 2s^{k'} 2p^{m'})$

The data by Safronova and Cornille are listed in Table V (a) and (b), respectively. In Table V(a) and (b), the values of the autoionization rate A_a in unit of 10^{13}s^{-1} are listed for the sake of the comparison. Qd(1) is for the dielectronic satellite lines originated from the ground state of the B-like ions $2s^2 2p^2 P_{1/2}$. Qd(2) is for those originated from the the upper level $2s^2 2p^2 P_{3/2}$ of the same ground configuration. In the low density plasmas, satellite lines are derived from Qd(1) with $g_1 = 2$ whereas in the high density plasmas $Qd = Qd(1) + Qd(2)$ with $g_1 = 6$. For intermediate density plasmas $Qd/g_1 = \alpha Qd(1)/2 + \beta Qd(2)/4$ where α and β are the relative population densities of the two levels: $\alpha + \beta = 1$. $n(Z)$ is the density of B-like ions in Eq. (1) for C-like satellite lines. The comparison of the data through convoluted satellite line spectra of C-like Fe ions in low density plasmas with only Qd(1) is shown in Fig.5 for i) $T_e = 0.8 \text{ keV}$, ii) 1.5 keV and iii) 2.5 keV , respectively. The unit of the spectra is the emissivity per electron per ion (photons $\text{cm}^3 \text{s}^{-1} \text{Angstrom}^{-1}$). There are four peaks as shown in Fig.5. The intensities by Cornille are smaller than those by Safronova by about 10% for the strongest peak and 20% for the second strongest peak.

4. Inner- shell satellite lines for Fe ions

For the analysis of He-like ion spectra, the inner-shell excitation

satellite lines are also important to derive the ion density. Itikawa et al (1995) summarized the Li-like inner- shell excitation rate coefficient ($1s^2 2s - 1s 2s 2p$) of S XIV, Ca XVIII and Fe XXIV. They adopted the data by Sampson et al(1985). They fitted the collision strength in an analytical formula as follows and gave the parameters.

$$\Omega = A1 + A2/X + A3/X^2 + A4/X^3 + A5\ln X, \quad (3)$$

where $X = E/\Delta E$, E is the incident energy of the electron and ΔE the excitation energy. The fit parameters $A1$, $A2$, $A3$, $A4$ and $A5$ are given in their paper. The comparison of the rate coefficients of six transitions by three authors, Itikawa et al(1994) based on Sampson et al(1985), Bely - Dubau et al. (1982a) and Safronova are shown in Fig. 6 a), b) and c). They agree very well as shown in Fig. 6. We have used the cross sections given in Bely - Dubau et al. (1982a) for Li-like Fe ions because they include two more lines than those in Sampson (1985). For Li-like Ca and S ions, we used the data in Itikawa(1995).

Recently Safronova calculated the inner- shell excitation cross sections for Li-, Be-, B- and C-like Fe ions. Her data of Li-like Fe ions are very good agreements with Sampson et al (1985) and Bely-Dubau et al(1982a, b) as shown in Fig. 6. Her data are fitted in the same formula as eq.(3) with $A4 = 0.0$ and the fit parameters are given in Table VI together with the branching ratios $BR = A_T/(\Sigma A_T + \Sigma A_a)$ which are necessary for the estimation of the line intensities. The inner shell excitation rate coefficients are shown in Fig. 7 for a) Be- like, b) B- like and c) C- like Fe ions, respectively.

The excitation rate coefficients C are obtained using the effective

collision strength γ

$$C = 8.010 \times 10^{-8} \exp(-\Delta E/T_e) \gamma / (g_i \sqrt{T_e}) \text{ cm}^3 \text{ s}^{-1} \quad (4)$$

where

$$\gamma = y((A1/y + A3) + (A4/2)(1-y) + \exp(y)E1(y)(A2 - A3 + A4y^2/2 + A5/y)). \quad (5)$$

Here E1 is the exponential integral, ΔE the transition energy, $y = \Delta E/T_e$, T_e the electron temperature in eV, g_i the statistical weight of the initial state. The convoluted spectra with the only inner-shell satellite lines of Li-, Be-, B- and C- like Fe ions are shown in Fig. 8 assuming the ion density $n(z) = 1.0$ for all the ions; He-, Li-, Be-, B-, C- like ions. .

5. Wavelengths of the main lines of He-like ions

For the spectral analysis the absolute values of the wavelengths are not so important but the relative values are more important, because generally we calibrate the observed wavelengths through the observed resonance line. The wavelengths of the resonance line $w(1s^2 \ ^1S - 1s2p \ ^1P)$, intercombination lines $x(1s^2 \ ^1S - 1s2p \ ^3P_2)$, $y(1s^2 \ ^1S - 1s2p \ ^3P_1)$ and the forbidden line $z(1s^2 \ ^1S - 1s2s \ ^3S)$ are compared with the two different theoretical models in Table VII for He-like Fe, Ca and S ions. (C) and (S) indicate the data by Cornille and Safronova, respectively. We have used the data marked (S') in our spectral analysis in order to have the consistency

with the wavelengths of the satellite lines. We have used the excitation data in Itikawa et al(1995) for the lines in Table VII.

6. The convoluted total spectra for spectral analysis

The observed spectra are not consisted with only the satellite lines but the addition of all the processes; the excitation, the dielectronic recombination, the inner shell ionization and the inner shell excitation. The convoluted total spectra including all these processes are shown in Fig. 9 for He-like ion spectra. The ion abundance ratios of $n(\text{Li})/n(\text{He})$, $n(\text{Be})/n(\text{He})$, $n(\text{B})/n(\text{He})$ and $n(\text{C})/n(\text{He})$ are all assumed to be 1. To see the difference of the dielectronic satellite lines more clearly, the spectra without inner shell excitation lines including the excitation and dielectronic satellite lines are shown in Fig. 10.

7. Dielectronic satellite lines of Li-like Ca ions

The data of Li-like satellite lines of Ca ions by Safronova and Cornille are listed in Table VIII(a) and (b), respectively. The level designations are the same as those in Table II(c). The convoluted satellite spectra of Li-like Ca ions are compared in Fig. 11(a) for i) $T_e = 1 \text{ keV}$, ii) 1.5 keV , iii) 2 keV . The voigt profile is assumed for the convoluted spectra with $T_i = T_e$ and the Lorentz factor $g = 0.0003$. Generally the intensities by Safronova are larger than those by Cornille. The differences are within 10% for strong $n = 2$ lines but exceed 20% for the lines $n > 2$. The convoluted spectra including the excitation lines are shown in Fig. 11

(b). The wavelength of the forbidden line z coincides with that of the satellite line j.

8. Dielectronic satellite lines of Li-like S ions

The data of Li-like satellite lines of S ions by Safronova and Cornille are listed in Table IX(a) and (b), respectively. The level designations are the same as those in Table II(c). The convoluted satellite spectra of Li-like S ions are compared in Fig. 12. for i) $T_e = 0.5$ keV, ii) 1. keV, iii) 2 keV. The voigt profile is assumed for the convoluted spectra with $T_i = T_e$ and the Lorentz factor $g = 0.0003$. The differences are within 10% for strong $n = 2$ lines but exceed 20% for the lines $n > 2$ like Li-like Ca ions. When the temperature increases, the intensities of $n = 4$ satellite lines by Cornille are larger than those by Safronova, although generally the values by Cornille are smaller than those by Safronova. In the case of Cornille the wavelength of the forbidden line z (5.1005Å) and the satellite line j (5.1009Å) are very close within 0.0004Å, however the difference of the wavelength of z (5.1015Å) and j line (5.1025Å) is about 0.001Å in the case of Safronova.

9. Example of the spectral analysis

Highly resolved X ray spectra of He like S XV, Ca XIX and Fe XXV ions from solar flares have been measured by Bragg crystal spectrometer flown on the Yohkoh satellite (Doschek et al(1992)). We show the examples of the analysis using the two sets of data by Safronova and Cornille for the flares of September 6, 1992 (Kato et al(1993)).

The observed spectra for the flare on Sep. 6 1992, 05:15:47 are

shown in Fig. 13 by histogram. The solid line shows the synthetic spectra with the atomic data for satellite lines by Safronova in Fig. 13(a) and Cornille in Fig. 13(b). The wavelengths obtained from observed spectra are the relative values which depend on the position of the flare on the Sun since the wavelength is has been set for the flare at the center of the Sun. Then the wavelength of the synthetic spectra is adjusted to the two observed peaks of the resonance line and the B-like inner shell line. The electron temperature is derived mainly from the satellite lines j and k to be $T_e = 2.0$ keV. The ion ratios $n(\text{Li})/n(\text{He})$, $n(\text{Be})/n(\text{Li})$ and $n(\text{B})/n(\text{Li})$ are obtained to be 0.6, 0.45 and 0.1, respectively from the inner shell satellite lines which are shown in dotted lines in Fig. 13(a). For the same spectra the derived temperature by the satellite data by Cornille are as follows, $T_e = 1.9$ keV, $n(\text{Li})/n(\text{He}) = 0.51$, $n(\text{Be})/n(\text{Li}) = 0.4$ and $n(\text{B})/n(\text{Li}) = 0.18$. The derived electron temperature is 10% smaller than that by Safronova. The ion ratios are also smaller than those by Safronova, except for B-like ion. The fitted spectra by Cornille is shown in Fig. 13(b). In Fig.14 the spectra in the decay phase of the flare on Sep. 6, 05:22:47 is shown with the data by Safronova (a) and Cornille (b). For the Li-like satellite lines near 1.865Å in the Figure 14(actual wavelength is around 1.86Å near the inner shell satellite line q), fit by Cornille is better than by Safronova. The disagreement near the Be-like dielectronic satellite lines around 1.875Å (actual wavelength is around 1.87Å) is larger for those by Cornille than by Safronova. The derived electron temperature 1.2 keV by Cornille is smaller than that by Safronova 1.3 keV by 10% . The ion ratio $n(\text{Be})/n(\text{Li})$ derived by the data by Cornille is 0.5 which is larger than that by Safronova by about factor of two. This is due to the difference of the B-like dielectronic satellite lines near 1.878Å discussed in Sec. 3 iii).

10. Summary

We have compared the atomic data based on the MZ method (Vainshtein and Safronova (1978)) and AUTOLSJ method by intermediate coupling (Dubau et al (1981), TFR group(1981)) in synthetic spectra with the voigt profile for the line profile. Generally agreement is within 10% for the strong satellite lines and 20% for $n = 3$ and $n = 4$ satellite lines, except for the dielectric satellite lines B-like Fe ions which differs more than 30%. The derived electron temperature from Safronova data is about 10% larger than that by Cornille's data for the Fe He-like spectra.

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Table I(a) - 1

Atomic data for dielectronic satellite lines of He-like Fe ions
Safronova data by MZ method

F = 2p2p, C = 2s2p, E = 2s2s, P = 1s2p, S = 1s2s, R = 2p, Y = 1s. A' = 2p3d, B' = 2p3s,
C' = 2s3p, F' = 2p3p, G' = 2s3d, E' = 2s3s, S' = 1s3s, P' = 1s3p, D' = 1s3d
Numbers after letter mean (2S+1)(2L+1)(2J+1)

Transition	W.L.	Ar	SumAa	Br	Qd	Z	n
F 111-P 333	1.7746	2.44E-02	3.87E+00	4.51E-04	1.75E-03	26	2 HEST
R 234-Y 212	1.7780	2.96E+01	0.00E+00	1.00E+00	0.00E+00	26	2 HEST
C 133-S 313	1.7791	1.08E+00	1.96E+01	2.23E-02	1.31E+00	26	2 HEST
F 155-P 331	1.7830	0.00E+00	2.53E+01	0.00E+00	0.00E+00	26	2 HEST
F 111-P 133	1.7830	5.02E+01	3.87E+00	9.28E-01	3.59E+00	26	2 HEST
R 232-Y 212	1.7834	2.93E+01	0.00E+00	1.00E+00	0.00E+00	26	2 HEST
F 155-P 333	1.7835	6.37E-02	2.53E+01	7.71E-04	9.74E-02	26	2 HEST
C 133-S 111	1.7872	2.79E+01	1.96E+01	5.75E-01	3.37E+01	26	2 HEST
F 155-P 335	1.7873	1.40E+01	2.53E+01	1.69E-01	2.14E+01	26	2 HEST
C 335-S 313	1.7881	2.87E+01	1.36E+00	9.55E-01	6.49E+00	26	2 HEST
F 335-P 331	1.7883	0.00E+00	1.21E+01	0.00E+00	0.00E+00	26	2 HEST
F 335-P 333	1.7888	1.79E+01	1.21E+01	2.59E-01	1.57E+01	26	2 HEST
F 333-P 331	1.7899	1.91E+01	0.00E+00	3.35E-01	0.00E+00	26	2 HEST
F 333-P 333	1.7905	1.31E+01	0.00E+00	2.30E-01	0.00E+00	26	2 HEST
F 155-P 133	1.7920	4.33E+01	2.53E+01	5.24E-01	6.62E+01	26	2 HEST
C 333-S 313	1.7922	2.74E+01	2.06E+00	8.98E-01	5.56E+00	26	2 HEST
F 335-P 335	1.7926	2.89E+01	1.21E+01	4.17E-01	2.53E+01	26	2 HEST
F 331-P 333	1.7931	5.19E+01	3.59E-01	9.77E-01	3.51E-01	26	2 HEST
C 331-S 313	1.7934	2.84E+01	1.36E+00	9.54E-01	1.30E+00	26	2 HEST
F 333-P 335	1.7943	2.37E+01	0.00E+00	4.15E-01	0.00E+00	26	2 HEST
C 335-S 111	1.7963	0.00E+00	1.36E+00	0.00E+00	0.00E+00	26	2 HEST
F 335-P 133	1.7973	1.03E+01	1.21E+01	1.49E-01	9.01E+00	26	2 HEST
F 333-P 133	1.7990	1.19E+00	0.00E+00	2.08E-02	0.00E+00	26	2 HEST
C 333-S 111	1.8004	1.06E+00	2.06E+00	3.46E-02	2.14E-01	26	2 HEST
C 331-S 111	1.8016	0.00E+00	1.36E+00	0.00E+00	0.00E+00	26	2 HEST
F 331-P 133	1.8016	8.77E-01	3.59E-01	1.65E-02	5.93E-03	26	2 HEST
E 111-P 333	1.8024	4.90E+00	3.19E+01	1.15E-01	3.66E+00	26	2 HEST
E 111-P 133	1.8110	5.90E+00	3.19E+01	1.38E-01	4.41E+00	26	2 HEST
A' 133-S' 313	1.7717	2.99E-02	1.96E-02	1.03E-03	6.04E-05	26	3 HEST
A' 133-S' 111	1.7738	1.25E-02	1.96E-02	4.30E-04	2.52E-05	26	3 HEST
A' 331-S' 313	1.7739	2.60E-01	2.05E-02	9.03E-03	1.85E-04	26	3 HEST
A' 335-S' 313	1.7741	6.15E-01	1.56E-02	2.13E-02	1.66E-03	26	3 HEST
A' 333-S' 313	1.7741	3.45E-01	4.07E-02	1.19E-02	1.46E-03	26	3 HEST
F' 111-P' 333	1.7742	5.71E-02	2.20E+00	1.64E-03	3.61E-03	26	3 HEST
A' 155-S' 313	1.7758	9.52E-02	8.84E-02	3.23E-03	1.43E-03	26	3 HEST
A' 133-D' 355	1.7761	1.17E+00	1.96E-02	4.03E-02	2.36E-03	26	3 HEST
A' 133-D' 353	1.7761	2.57E-01	1.96E-02	8.86E-03	5.20E-04	26	3 HEST
A' 333-S' 111	1.7762	6.08E-02	4.07E-02	2.10E-03	2.57E-04	26	3 HEST
F' 111-P' 133	1.7766	2.66E+01	2.20E+00	7.64E-01	1.68E+00	26	3 HEST
A' 133-D' 155	1.7766	2.73E+01	1.96E-02	9.41E-01	5.52E-02	26	3 HEST
A' 177-D' 355	1.7767	9.94E+00	2.23E+00	3.12E-01	4.86E+00	26	3 HEST
A' 177-D' 357	1.7771	4.41E+00	2.23E+00	1.38E-01	2.16E+00	26	3 HEST
F' 155-P' 333	1.7771	2.65E-01	1.10E+01	6.22E-03	3.43E-01	26	3 HEST
A' 177-D' 155	1.7772	1.53E+01	2.23E+00	4.80E-01	7.48E+00	26	3 HEST
B' 133-S' 313	1.7773	3.03E+00	8.12E+00	9.47E-02	2.31E+00	26	3 HEST

Table I(a) - 2

R 234-Y 212	1.7780	2.96E+01	0.00E+00	1.00E+00	0.00E+00	26	3	HEST
F' 155-P' 335	1.7782	6.71E+00	1.10E+01	1.57E-01	8.69E+00	26	3	HEST
A' 331-D' 353	1.7783	2.82E+01	2.05E-02	9.80E-01	2.01E-02	26	3	HEST
A' 335-D' 355	1.7784	5.80E+00	1.56E-02	2.01E-01	1.56E-02	26	3	HEST
A' 333-D' 355	1.7785	7.12E+00	4.07E-02	2.46E-01	3.01E-02	26	3	HEST
A' 335-D' 353	1.7785	3.06E+00	1.56E-02	1.06E-01	8.24E-03	26	3	HEST
A' 333-D' 353	1.7785	2.02E+01	4.07E-02	6.99E-01	8.54E-02	26	3	HEST
A' 335-D' 357	1.7789	7.16E+00	1.56E-02	2.48E-01	1.93E-02	26	3	HEST
A' 335-D' 155	1.7789	1.20E+01	1.56E-02	4.14E-01	3.22E-02	26	3	HEST
A' 333-D' 155	1.7790	8.86E-01	4.07E-02	3.06E-02	3.74E-03	26	3	HEST
A' 355-S' 313	1.7791	9.23E+00	3.45E-02	3.30E-01	5.68E-02	26	3	HEST
F' 313-P' 331	1.7792	5.74E+00	2.18E-02	1.65E-01	1.08E-02	26	3	HEST
A' 353-S' 313	1.7792	1.15E-04	2.03E-01	3.97E-06	2.41E-06	26	3	HEST
F' 313-P' 333	1.7793	9.36E+00	2.18E-02	2.70E-01	1.76E-02	26	3	HEST
B' 133-S' 111	1.7795	1.80E+01	8.12E+00	5.63E-01	1.37E+01	26	3	HEST
A' 357-D' 355	1.7795	1.56E+01	2.60E-01	5.25E-01	9.56E-01	26	3	HEST
F' 155-P' 133	1.7795	1.87E+01	1.10E+01	4.39E-01	2.43E+01	26	3	HEST
F' 335-P' 333	1.7795	1.67E+01	1.59E+00	5.11E-01	4.07E+00	26	3	HEST
A' 357-D' 357	1.7799	1.22E+01	2.60E-01	4.09E-01	7.44E-01	26	3	HEST
A' 357-D' 155	1.7800	1.72E+00	2.60E-01	5.77E-02	1.05E-01	26	3	HEST
A' 155-D' 355	1.7802	1.05E+01	8.84E-02	3.55E-01	1.57E-01	26	3	HEST
A' 155-D' 353	1.7803	1.00E+01	8.84E-02	3.41E-01	1.51E-01	26	3	HEST
B' 335-S' 313	1.7804	1.92E+01	1.09E-01	6.57E-01	3.59E-01	26	3	HEST
F' 313-P' 335	1.7805	3.91E+00	2.18E-02	1.13E-01	7.36E-03	26	3	HEST
F' 333-P' 331	1.7805	1.31E+01	2.02E-02	3.64E-01	2.20E-02	26	3	HEST
A' 379-D' 355	1.7806	0.00E+00	5.33E-01	0.00E+00	0.00E+00	26	3	HEST
F' 333-P' 333	1.7806	2.05E+00	2.02E-02	5.67E-02	3.43E-03	26	3	HEST
F' 335-P' 335	1.7807	8.29E+00	1.59E+00	2.54E-01	2.02E+00	26	3	HEST
A' 155-D' 357	1.7807	4.63E+00	8.84E-02	1.57E-01	6.94E-02	26	3	HEST
A' 155-D' 155	1.7807	4.11E+00	8.84E-02	1.40E-01	6.17E-02	26	3	HEST
A' 379-D' 357	1.7810	2.94E+01	5.33E-01	9.82E-01	4.72E+00	26	3	HEST
F' 357-P' 335	1.7810	2.57E+01	1.21E-01	7.82E-01	6.62E-01	26	3	HEST
A' 379-D' 155	1.7811	0.00E+00	5.33E-01	0.00E+00	0.00E+00	26	3	HEST
A' 353-S' 111	1.7813	9.66E-01	2.03E-01	3.33E-02	2.02E-02	26	3	HEST
G' 155-P' 333	1.7814	6.07E+00	1.36E+00	5.32E-01	3.62E+00	26	3	HEST
F' 313-P' 133	1.7817	8.32E+00	2.18E-02	2.40E-01	1.57E-02	26	3	HEST
B' 133-D' 355	1.7817	1.26E-01	8.12E+00	3.95E-03	9.63E-02	26	3	HEST
B' 133-D' 353	1.7818	7.03E-01	8.12E+00	2.20E-02	5.35E-01	26	3	HEST
F' 333-P' 335	1.7818	5.79E+00	2.02E-02	1.60E-01	9.70E-03	26	3	HEST
A' 375-S' 313	1.7819	1.06E-01	4.20E-01	3.58E-03	7.53E-03	26	3	HEST
F' 335-P' 133	1.7819	9.70E-02	1.59E+00	2.97E-03	2.36E-02	26	3	HEST
B' 133-D' 155	1.7822	9.78E-02	8.12E+00	3.06E-03	7.45E-02	26	3	HEST
G' 155-P' 335	1.7826	8.24E-01	1.36E+00	7.21E-02	4.90E-01	26	3	HEST
B' 333-S' 313	1.7829	1.39E+01	1.23E+00	6.92E-01	2.55E+00	26	3	HEST
F' 333-P' 133	1.7830	7.73E+00	2.02E-02	2.14E-01	1.30E-02	26	3	HEST
G' 353-P' 331	1.7831	2.44E-01	2.07E-01	2.51E-02	1.56E-02	26	3	HEST
G' 355-P' 333	1.7831	1.88E-02	2.05E+00	1.55E-03	1.60E-02	26	3	HEST
G' 353-P' 333	1.7832	1.85E+00	2.07E-01	1.90E-01	1.18E-01	26	3	HEST
R 232-Y 212	1.7834	2.93E+01	0.00E+00	1.00E+00	0.00E+00	26	3	HEST
A' 355-D' 355	1.7835	2.42E-02	3.45E-02	8.64E-04	1.49E-04	26	3	HEST
A' 355-D' 353	1.7835	1.61E-04	3.45E-02	5.76E-06	9.93E-07	26	3	HEST
A' 353-D' 355	1.7836	1.92E+01	2.03E-01	6.62E-01	4.03E-01	26	3	HEST
F' 331-P' 333	1.7836	2.54E+01	2.99E-01	7.97E-01	2.38E-01	26	3	HEST
A' 353-D' 353	1.7836	8.11E+00	2.03E-01	2.79E-01	1.70E-01	26	3	HEST
C' 335-S' 313	1.7837	2.36E-01	5.64E-01	2.22E-02	6.26E-02	26	3	HEST

Table I(a) - 3

G' 155-P' 133	1.7838	1.12E+00	1.36E+00	9.79E-02	6.66E-01	26	3	HEST
A' 355-D' 357	1.7839	7.37E+00	3.45E-02	2.63E-01	4.54E-02	26	3	HEST
A' 355-D' 155	1.7840	1.08E+01	3.45E-02	3.87E-01	6.68E-02	26	3	HEST
A' 353-D' 155	1.7841	3.74E-01	2.03E-01	1.29E-02	7.83E-03	26	3	HEST
G' 355-P' 335	1.7843	3.85E+00	2.05E+00	3.18E-01	3.26E+00	26	3	HEST
F' 133-P' 331	1.7843	5.15E-03	2.27E-02	1.82E-04	1.24E-05	26	3	HEST
G' 353-P' 335	1.7844	5.08E+00	2.07E-01	5.21E-01	3.24E-01	26	3	HEST
F' 133-P' 333	1.7844	4.98E-02	2.27E-02	1.76E-03	1.20E-04	26	3	HEST
C' 331-S' 313	1.7846	8.80E+00	1.39E-01	5.81E-01	8.08E-02	26	3	HEST
A' 377-D' 355	1.7847	3.97E+00	6.51E-01	1.33E-01	6.05E-01	26	3	HEST
G' 357-P' 335	1.7848	3.74E+00	1.28E-01	7.64E-01	6.86E-01	26	3	HEST
C' 333-S' 313	1.7848	5.58E+00	1.08E+00	4.14E-01	1.34E+00	26	3	HEST
B' 335-D' 355	1.7849	1.20E-02	1.09E-01	4.09E-04	2.23E-04	26	3	HEST
B' 335-D' 353	1.7849	1.43E-01	1.09E-01	4.89E-03	2.67E-03	26	3	HEST
B' 333-S' 111	1.7850	1.95E-01	1.23E+00	9.74E-03	3.60E-02	26	3	HEST
A' 377-D' 357	1.7851	1.28E+01	6.51E-01	4.29E-01	1.95E+00	26	3	HEST
A' 377-D' 155	1.7852	1.24E+01	6.51E-01	4.16E-01	1.90E+00	26	3	HEST
B' 335-D' 357	1.7853	7.34E+00	1.09E-01	2.51E-01	1.37E-01	26	3	HEST
B' 335-D' 155	1.7854	2.36E+00	1.09E-01	8.07E-02	4.40E-02	26	3	HEST
F' 355-P' 333	1.7855	6.36E+00	1.13E+00	2.26E-01	1.28E+00	26	3	HEST
G' 355-P' 133	1.7855	4.21E+00	2.05E+00	3.47E-01	3.56E+00	26	3	HEST
F' 133-P' 335	1.7856	1.09E+01	2.27E-02	3.86E-01	2.63E-02	26	3	HEST
B' 331-S' 313	1.7856	2.02E+01	5.39E-01	8.75E-01	4.72E-01	26	3	HEST
G' 353-P' 133	1.7856	4.13E-01	2.07E-01	4.24E-02	2.63E-02	26	3	HEST
F' 331-P' 133	1.7860	1.70E-01	2.99E-01	5.33E-03	1.60E-03	26	3	HEST
A' 375-D' 355	1.7863	1.27E+01	4.20E-01	4.30E-01	9.05E-01	26	3	HEST
A' 375-D' 353	1.7863	1.61E+01	4.20E-01	5.45E-01	1.14E+00	26	3	HEST
C' 133-S' 313	1.7865	6.47E+00	8.13E-02	3.18E-01	7.75E-02	26	3	HEST
F' 355-P' 335	1.7866	9.68E+00	1.13E+00	3.44E-01	1.94E+00	26	3	HEST
A' 375-D' 357	1.7867	1.08E-01	4.20E-01	3.67E-03	7.71E-03	26	3	HEST
A' 375-D' 155	1.7868	5.95E-02	4.20E-01	2.02E-03	4.24E-03	26	3	HEST
F' 133-P' 133	1.7868	1.13E+01	2.27E-02	3.98E-01	2.71E-02	26	3	HEST
C' 333-S' 111	1.7870	2.07E-01	1.08E+00	1.54E-02	4.99E-02	26	3	HEST
B' 333-D' 355	1.7874	1.97E-01	1.23E+00	9.85E-03	3.64E-02	26	3	HEST
B' 333-D' 353	1.7874	1.79E-01	1.23E+00	8.92E-03	3.29E-02	26	3	HEST
F' 353-P' 331	1.7875	1.02E+01	1.55E-03	3.04E-01	1.41E-03	26	3	HEST
F' 353-P' 333	1.7877	1.41E+01	1.55E-03	4.21E-01	1.96E-03	26	3	HEST
B' 333-D' 155	1.7879	7.97E-01	1.23E+00	3.98E-02	1.47E-01	26	3	HEST
E' 111-P' 333	1.7879	3.79E+00	1.58E+01	1.59E-01	2.50E+00	26	3	HEST
F' 355-P' 133	1.7879	5.23E+00	1.13E+00	1.86E-01	1.05E+00	26	3	HEST
C' 335-D' 355	1.7881	3.54E-01	5.64E-01	3.33E-02	9.38E-02	26	3	HEST
C' 335-D' 353	1.7881	2.12E-02	5.64E-01	2.00E-03	5.63E-03	26	3	HEST
C' 335-D' 357	1.7885	2.74E+00	5.64E-01	2.57E-01	7.26E-01	26	3	HEST
C' 335-D' 155	1.7886	8.38E-02	5.64E-01	7.88E-03	2.22E-02	26	3	HEST
C' 133-S' 111	1.7887	9.90E+00	8.13E-02	4.86E-01	1.19E-01	26	3	HEST
F' 353-P' 335	1.7888	4.98E-01	1.55E-03	1.49E-02	6.92E-05	26	3	HEST
C' 331-D' 353	1.7890	1.30E+00	1.39E-01	8.56E-02	1.19E-02	26	3	HEST
C' 333-D' 355	1.7893	7.31E-01	1.08E+00	5.41E-02	1.76E-01	26	3	HEST
C' 333-D' 353	1.7893	3.79E-02	1.08E+00	2.81E-03	9.12E-03	26	3	HEST
E' 313-P' 331	1.7897	4.14E-02	6.85E-02	6.35E-03	1.30E-03	26	3	HEST
C' 333-D' 155	1.7898	5.07E-02	1.08E+00	3.76E-03	1.22E-02	26	3	HEST
E' 313-P' 333	1.7899	1.87E+00	6.85E-02	2.87E-01	5.90E-02	26	3	HEST
B' 331-D' 353	1.7901	2.55E-02	5.39E-01	1.11E-03	5.97E-04	26	3	HEST
F' 353-P' 133	1.7901	1.40E+00	1.55E-03	4.17E-02	1.94E-04	26	3	HEST
E' 111-P' 133	1.7903	2.83E+00	1.58E+01	1.18E-01	1.87E+00	26	3	HEST

Table I(a) - 4

C' 133-D' 355	1.7910	8.07E-01	8.13E-02	3.96E-02	9.66E-03	26	3	HEST
C' 133-D' 353	1.7910	2.32E-05	8.13E-02	1.14E-06	2.78E-07	26	3	HEST
E' 313-P' 335	1.7910	3.04E+00	6.85E-02	4.67E-01	9.58E-02	26	3	HEST
C' 133-D' 155	1.7915	1.04E-01	8.13E-02	5.12E-03	1.25E-03	26	3	HEST
E' 313-P' 133	1.7923	1.09E-01	6.85E-02	1.68E-02	3.45E-03	26	3	HEST
A' 133-S' 313	1.7755	4.93E-02	9.05E-03	1.68E-03	4.56E-05	26	4	HE
A' 331-S' 313	1.7763	8.93E-02	1.81E-02	3.05E-03	5.52E-05	26	4	HE
A' 133-S' 111	1.7764	7.85E-02	9.05E-03	2.67E-03	7.25E-05	26	4	HE
A' 333-S' 313	1.7764	2.02E-01	2.17E-02	6.88E-03	4.47E-04	26	4	HE
F' 111-P' 333	1.7767	8.14E-01	1.32E+00	2.52E-02	3.32E-02	26	4	HE
A' 133-D' 353	1.7773	4.94E-01	9.05E-03	1.68E-02	4.56E-04	26	4	HE
A' 133-D' 355	1.7773	7.89E-01	9.05E-03	2.69E-02	7.29E-04	26	4	HE
A' 333-S' 111	1.7773	8.73E-02	2.17E-02	2.98E-03	1.94E-04	26	4	HE
A' 133-D' 155	1.7775	2.79E+01	9.05E-03	9.51E-01	2.58E-02	26	4	HE
A' 177-D' 355	1.7775	1.05E+01	9.93E-01	3.43E-01	2.38E+00	26	4	HE
F' 111-P' 133	1.7777	2.76E+01	1.32E+00	8.55E-01	1.13E+00	26	4	HE
A' 177-D' 155	1.7778	1.15E+01	9.93E-01	3.76E-01	2.61E+00	26	4	HE
A' 177-D' 357	1.7778	7.62E+00	9.93E-01	2.49E-01	1.73E+00	26	4	HE
F' 155-P' 333	1.7778	1.22E-02	3.67E+00	3.43E-04	6.30E-03	26	4	HE
R 234-Y 212	1.7780	2.96E+01	0.00E+00	1.00E+00	0.00E+00	26	4	HE
A' 331-D' 353	1.7782	2.91E+01	1.81E-02	9.95E-01	1.80E-02	26	4	HE
B' 133-S' 313	1.7782	7.18E+00	2.15E+00	2.39E-01	1.54E+00	26	4	HE
A' 335-D' 355	1.7783	5.12E+00	1.43E-02	1.78E-01	1.27E-02	26	4	HE
A' 335-D' 353	1.7783	4.13E+00	1.43E-02	1.43E-01	1.02E-02	26	4	HE
A' 333-D' 355	1.7783	5.49E+00	2.17E-02	1.87E-01	1.22E-02	26	4	HE
A' 333-D' 353	1.7783	2.25E+01	2.17E-02	7.68E-01	5.00E-02	26	4	HE
F' 155-P' 335	1.7783	1.17E+01	3.67E+00	3.29E-01	6.05E+00	26	4	HE
A' 335-D' 357	1.7785	5.24E+00	1.43E-02	1.82E-01	1.29E-02	26	4	HE
A' 335-D' 155	1.7785	1.43E+01	1.43E-02	4.97E-01	3.54E-02	26	4	HE
A' 333-D' 155	1.7785	9.60E-01	2.17E-02	3.28E-02	2.13E-03	26	4	HE
F' 313-P' 331	1.7786	7.07E+00	1.92E-02	2.21E-01	1.27E-02	26	4	HE
A' 357-D' 355	1.7787	1.84E+01	1.77E-01	6.18E-01	7.67E-01	26	4	HE
F' 313-P' 333	1.7787	9.55E+00	1.92E-02	2.99E-01	1.72E-02	26	4	HE
F' 155-P' 133	1.7788	1.74E+01	3.67E+00	4.91E-01	9.03E+00	26	4	HE
F' 335-P' 333	1.7789	2.59E+01	1.46E+00	7.73E-01	5.65E+00	26	4	HE
A' 357-D' 357	1.7789	7.95E+00	1.77E-01	2.67E-01	3.32E-01	26	4	HE
A' 357-D' 155	1.7789	3.23E+00	1.77E-01	1.09E-01	1.35E-01	26	4	HE
A' 155-D' 355	1.7790	1.03E+01	5.48E-02	3.51E-01	9.60E-02	26	4	HE
A' 155-D' 353	1.7790	9.87E+00	5.48E-02	3.34E-01	9.16E-02	26	4	HE
B' 133-S' 111	1.7791	2.02E+01	2.15E+00	6.72E-01	4.33E+00	26	4	HE
A' 379-D' 355	1.7791	0.00E+00	2.76E-01	0.00E+00	0.00E+00	26	4	HE
F' 133-P' 331	1.7791	1.24E+01	7.86E-03	3.80E-01	8.95E-03	26	4	HE
F' 313-P' 335	1.7792	3.04E+00	1.92E-02	9.52E-02	5.47E-03	26	4	HE
A' 155-D' 357	1.7792	3.01E+00	5.48E-02	1.02E-01	2.79E-02	26	4	HE
A' 155-D' 155	1.7792	6.24E+00	5.48E-02	2.11E-01	5.79E-02	26	4	HE
F' 133-P' 333	1.7792	1.92E+00	7.86E-03	5.91E-02	1.39E-03	26	4	HE
A' 379-D' 155	1.7793	0.00E+00	2.76E-01	0.00E+00	0.00E+00	26	4	HE
A' 379-D' 357	1.7793	2.95E+01	2.76E-01	9.91E-01	2.46E+00	26	4	HE
F' 335-P' 335	1.7794	2.25E+00	1.46E+00	6.71E-02	4.91E-01	26	4	HE
F' 357-P' 335	1.7794	2.91E+01	4.90E-02	9.00E-01	3.09E-01	26	4	HE
F' 133-P' 335	1.7797	3.23E+00	7.86E-03	9.91E-02	2.34E-03	26	4	HE
F' 313-P' 133	1.7797	9.20E+00	1.92E-02	2.88E-01	1.66E-02	26	4	HE
F' 335-P' 133	1.7799	1.01E+00	1.46E+00	3.01E-02	2.20E-01	26	4	HE
B' 133-D' 355	1.7800	9.99E-03	2.15E+00	3.33E-04	2.14E-03	26	4	HE
B' 133-D' 353	1.7800	2.10E-01	2.15E+00	7.00E-03	4.51E-02	26	4	HE

Table I(a) - 5

F'133-P'133	1.7802	1.19E+01	7.86E-03	3.66E-01	8.63E-03	26	4	HE
B'133-D'155	1.7803	9.18E-02	2.15E+00	3.06E-03	1.97E-02	26	4	HE
B'335-D'355	1.7806	8.67E-03	3.92E-02	9.34E-03	1.83E-03	26	4	HE
B'335-D'353	1.7806	3.16E-02	3.92E-02	3.40E-02	6.65E-03	26	4	HE
B'335-D'357	1.7808	3.23E-03	3.92E-02	3.47E-03	6.80E-04	26	4	HE
B'335-D'155	1.7808	8.47E-01	3.92E-02	9.11E-01	1.78E-01	26	4	HE
A'353-S'313	1.7815	4.09E-03	2.87E-03	1.45E-04	1.25E-06	26	4	HE
G'155-P'333	1.7822	8.14E-01	5.08E-02	2.80E-01	7.12E-02	26	4	HE
A'353-S'111	1.7824	1.63E-01	2.87E-03	5.78E-03	4.98E-05	26	4	HE
G'155-P'335	1.7827	1.66E+00	5.08E-02	5.72E-01	1.45E-01	26	4	HE
C'133-S'313	1.7828	9.26E+00	1.61E+00	6.76E-01	3.26E+00	26	4	HE
G'353-P'331	1.7832	3.93E-01	1.18E-01	4.85E-02	1.72E-02	26	4	HE
G'155-P'133	1.7832	1.02E-01	5.08E-02	3.51E-02	8.92E-03	26	4	HE
G'355-P'333	1.7832	1.65E-01	6.12E-01	2.00E-02	6.14E-02	26	4	HE
F'331-P'333	1.7833	2.32E+01	1.15E-01	9.06E-01	1.05E-01	26	4	HE
G'353-P'333	1.7833	1.61E+00	1.18E-01	1.99E-01	7.04E-02	26	4	HE
A'353-D'355	1.7834	2.15E+01	2.87E-03	7.62E-01	6.57E-03	26	4	HE
A'353-D'353	1.7834	6.17E+00	2.87E-03	2.18E-01	1.88E-03	26	4	HE
R 232-Y 212	1.7834	2.93E+01	0.00E+00	1.00E+00	0.00E+00	26	4	HE
A'355-D'353	1.7836	6.58E-03	1.02E-02	2.52E-04	1.29E-05	26	4	HE
A'355-D'355	1.7836	5.57E-02	1.02E-02	2.14E-03	1.09E-04	26	4	HE
A'353-D'155	1.7836	2.61E-01	2.87E-03	9.25E-03	7.97E-05	26	4	HE
C'133-S'111	1.7836	4.63E-01	1.61E+00	3.38E-02	1.63E-01	26	4	HE
F'333-P'331	1.7837	1.78E-01	1.49E-02	7.48E-03	3.33E-04	26	4	HE
G'355-P'335	1.7837	3.40E+00	6.12E-01	4.14E-01	1.27E+00	26	4	HE
F'333-P'333	1.7837	4.62E-02	1.49E-02	1.94E-03	8.66E-05	26	4	HE
G'353-P'335	1.7838	4.82E+00	1.18E-01	5.95E-01	2.11E-01	26	4	HE
C'331-S'313	1.7838	8.45E+00	7.49E-02	7.62E-01	5.71E-02	26	4	HE
A'377-D'355	1.7838	7.11E-01	4.31E-01	2.39E-02	7.21E-02	26	4	HE
G'357-P'335	1.7838	4.44E-01	9.33E-02	7.58E-01	4.95E-01	26	4	HE
A'355-D'155	1.7838	7.80E+00	1.02E-02	2.99E-01	1.53E-02	26	4	HE
A'355-D'357	1.7838	1.82E+01	1.02E-02	6.98E-01	3.57E-02	26	4	HE
C'333-S'313	1.7839	2.50E+00	4.81E-01	3.69E-01	5.32E-01	26	4	HE
A'377-D'357	1.7840	1.39E+01	4.31E-01	4.67E-01	1.41E+00	26	4	HE
A'377-D'155	1.7840	1.47E+01	4.31E-01	4.95E-01	1.49E+00	26	4	HE
F'355-P'333	1.7841	2.67E+00	9.69E-01	1.12E-01	5.44E-01	26	4	HE
F'333-P'335	1.7842	1.49E+01	1.49E-02	6.26E-01	2.79E-02	26	4	HE
G'355-P'133	1.7842	3.35E+00	6.12E-01	4.07E-01	1.25E+00	26	4	HE
F'331-P'133	1.7843	9.98E-02	1.15E-01	3.90E-03	4.50E-04	26	4	HE
G'353-P'133	1.7843	4.14E-01	1.18E-01	5.10E-02	1.81E-02	26	4	HE
B'331-S'313	1.7843	2.07E+01	1.96E-01	9.50E-01	1.87E-01	26	4	HE
C'133-D'353	1.7846	1.05E-01	1.61E+00	7.66E-03	3.70E-02	26	4	HE
C'133-D'355	1.7846	2.36E-02	1.61E+00	1.72E-03	8.32E-03	26	4	HE
F'355-P'335	1.7846	1.04E+01	9.69E-01	4.39E-01	2.12E+00	26	4	HE
A'375-D'353	1.7846	1.53E+01	2.15E-01	5.23E-01	5.61E-01	26	4	HE
A'375-D'355	1.7846	1.35E+01	2.15E-01	4.63E-01	4.97E-01	26	4	HE
B'333-S'313	1.7846	1.02E+01	4.95E-02	5.03E-01	7.48E-02	26	4	HE
F'333-P'133	1.7847	6.40E+00	1.49E-02	2.69E-01	1.20E-02	26	4	HE
C'333-S'111	1.7848	3.11E-01	4.81E-01	4.59E-02	6.62E-02	26	4	HE
C'133-D'155	1.7848	2.94E-01	1.61E+00	2.15E-02	1.04E-01	26	4	HE
A'375-D'155	1.7849	9.97E-03	2.15E-01	3.42E-04	3.67E-04	26	4	HE
A'375-D'357	1.7849	1.83E-01	2.15E-01	6.25E-03	6.71E-03	26	4	HE
F'353-P'331	1.7851	9.38E+00	3.78E-03	3.26E-01	3.70E-03	26	4	HE
F'355-P'133	1.7852	7.54E+00	9.69E-01	3.18E-01	1.54E+00	26	4	HE
E'111-P'333	1.7852	5.33E+00	5.89E+00	3.88E-01	2.28E+00	26	4	HE

Table I(a) - 6

F' 353-P' 333	1.7852	1.48E+01	3.78E-03	5.15E-01	5.84E-03	26	4	HE
C' 335-D' 353	1.7853	1.00E-01	2.32E-01	2.73E-02	3.17E-02	26	4	HE
C' 335-D' 355	1.7853	3.47E-01	2.32E-01	9.48E-02	1.10E-01	26	4	HE
C' 335-D' 357	1.7855	2.71E+00	2.32E-01	7.40E-01	8.59E-01	26	4	HE
C' 335-D' 155	1.7855	2.72E-01	2.32E-01	7.44E-02	8.64E-02	26	4	HE
B' 333-S' 111	1.7855	8.18E+00	4.95E-02	4.04E-01	6.00E-02	26	4	HE
C' 331-D' 353	1.7856	4.70E-01	7.49E-02	4.24E-02	3.17E-03	26	4	HE
F' 353-P' 335	1.7857	5.69E-01	3.78E-03	1.98E-02	2.25E-04	26	4	HE
C' 333-D' 353	1.7857	6.49E-05	4.81E-01	9.57E-06	1.38E-05	26	4	HE
C' 333-D' 355	1.7857	8.11E-01	4.81E-01	1.19E-01	1.72E-01	26	4	HE
E' 313-P' 331	1.7859	5.58E-02	4.27E-02	1.08E-02	1.38E-03	26	4	HE
C' 333-D' 155	1.7860	4.42E-02	4.81E-01	6.52E-03	9.40E-03	26	4	HE
E' 313-P' 333	1.7860	1.43E+00	4.27E-02	2.77E-01	3.55E-02	26	4	HE
B' 331-D' 353	1.7862	7.78E-03	1.96E-01	3.56E-04	7.00E-05	26	4	HE
E' 111-P' 133	1.7862	1.87E+00	5.89E+00	1.36E-01	8.01E-01	26	4	HE
F' 353-P' 133	1.7862	1.12E+00	3.78E-03	3.88E-02	4.40E-04	26	4	HE
E' 313-P' 335	1.7864	2.76E+00	4.27E-02	5.34E-01	6.83E-02	26	4	HE
B' 333-D' 355	1.7865	7.50E-01	4.95E-02	3.71E-02	5.51E-03	26	4	HE
B' 333-D' 353	1.7865	1.73E-02	4.95E-02	8.56E-04	1.27E-04	26	4	HE
B' 333-D' 155	1.7867	2.40E-02	4.95E-02	1.19E-03	1.76E-04	26	4	HE
E' 313-P' 133	1.7870	3.75E-01	4.27E-02	7.25E-02	9.28E-03	26	4	HE
A' 133-S' 313	1.7767	6.55E-02	1.40E-02	2.22E-03	9.32E-05	26	5	HE
A' 331-S' 313	1.7772	3.13E-02	1.17E-02	1.06E-03	1.24E-05	26	5	HE
A' 133-S' 111	1.7772	1.30E-01	1.40E-02	4.39E-03	1.84E-04	26	5	HE
A' 333-S' 313	1.7772	1.35E-01	1.23E-02	4.58E-03	1.68E-04	26	5	HE
F' 111-P' 333	1.7774	1.56E+00	8.34E-01	4.98E-02	4.15E-02	26	5	HE
A' 333-S' 111	1.7777	1.01E-01	1.23E-02	3.44E-03	1.27E-04	26	5	HE
A' 133-D' 353	1.7777	6.42E-01	1.40E-02	2.17E-02	9.13E-04	26	5	HE
A' 133-D' 355	1.7777	4.46E-01	1.40E-02	1.51E-02	6.34E-04	26	5	HE
A' 133-D' 155	1.7778	2.82E+01	1.40E-02	9.56E-01	4.02E-02	26	5	HE
A' 177-D' 355	1.7778	9.90E+00	4.71E-01	3.29E-01	1.08E+00	26	5	HE
A' 177-D' 155	1.7779	1.04E+01	4.71E-01	3.46E-01	1.14E+00	26	5	HE
A' 177-D' 357	1.7779	9.30E+00	4.71E-01	3.09E-01	1.02E+00	26	5	HE
F' 155-P' 333	1.7779	1.55E-03	1.71E+00	4.75E-05	4.05E-04	26	5	HE
F' 111-P' 133	1.7779	2.76E+01	8.34E-01	8.78E-01	7.32E-01	26	5	HE
R 234-Y 212	1.7780	2.96E+01	0.00E+00	1.00E+00	0.00E+00	26	5	HE
A' 331-D' 353	1.7781	2.94E+01	1.17E-02	9.98E-01	1.17E-02	26	5	HE
A' 335-D' 355	1.7782	5.15E+00	9.41E-03	1.77E-01	8.34E-03	26	5	HE
A' 335-D' 353	1.7782	4.59E+00	9.41E-03	1.58E-01	7.44E-03	26	5	HE
A' 333-D' 355	1.7782	5.08E+00	1.23E-02	1.72E-01	6.34E-03	26	5	HE
A' 333-D' 353	1.7782	2.32E+01	1.23E-02	7.87E-01	2.90E-02	26	5	HE
F' 155-P' 335	1.7782	1.31E+01	1.71E+00	4.01E-01	3.42E+00	26	5	HE
B' 133-S' 313	1.7782	8.73E+00	8.21E-01	2.92E-01	7.19E-01	26	5	HE
A' 335-D' 357	1.7783	4.68E+00	9.41E-03	1.61E-01	7.59E-03	26	5	HE
A' 335-D' 155	1.7783	1.46E+01	9.41E-03	5.03E-01	2.37E-02	26	5	HE
A' 333-D' 155	1.7783	9.34E-01	1.23E-02	3.17E-02	1.16E-03	26	5	HE
F' 313-P' 331	1.7784	7.38E+00	1.13E-02	2.38E-01	8.04E-03	26	5	HE
A' 357-D' 355	1.7784	1.95E+01	9.88E-02	6.57E-01	4.54E-01	26	5	HE
F' 313-P' 333	1.7784	9.42E+00	1.13E-02	3.03E-01	1.03E-02	26	5	HE
F' 155-P' 133	1.7784	1.64E+01	1.71E+00	5.02E-01	4.28E+00	26	5	HE
A' 357-D' 357	1.7785	6.47E+00	9.88E-02	2.18E-01	1.51E-01	26	5	HE
A' 357-D' 155	1.7785	3.61E+00	9.88E-02	1.22E-01	8.41E-02	26	5	HE
F' 355-P' 333	1.7785	2.73E+01	7.57E-01	8.58E-01	3.25E+00	26	5	HE
A' 155-D' 355	1.7785	1.00E+01	2.93E-02	3.39E-01	4.97E-02	26	5	HE
A' 155-D' 353	1.7785	9.77E+00	2.93E-02	3.31E-01	4.85E-02	26	5	HE

Table I(a) - 7

A' 379-D' 355	1.7786	0.00E+00	1.41E-01	0.00E+00	0.00E+00	26	5	HE
F' 133-P' 331	1.7786	1.22E+01	3.37E-03	3.91E-01	3.95E-03	26	5	HE
A' 155-D' 357	1.7786	2.61E+00	2.93E-02	8.83E-02	1.29E-02	26	5	HE
A' 155-D' 155	1.7786	7.13E+00	2.93E-02	2.41E-01	3.54E-02	26	5	HE
F' 133-P' 333	1.7786	1.97E+00	3.37E-03	6.29E-02	6.36E-04	26	5	HE
F' 313-P' 335	1.7786	2.97E+00	1.13E-02	9.56E-02	3.23E-03	26	5	HE
B' 133-S' 111	1.7786	2.00E+01	8.21E-01	6.67E-01	1.64E+00	26	5	HE
A' 379-D' 155	1.7787	0.00E+00	1.41E-01	0.00E+00	0.00E+00	26	5	HE
A' 379-D' 357	1.7787	2.96E+01	1.41E-01	9.95E-01	1.27E+00	26	5	HE
F' 357-P' 335	1.7787	2.95E+01	2.06E-02	9.43E-01	1.36E-01	26	5	HE
F' 355-P' 335	1.7787	1.17E+00	7.57E-01	3.68E-02	1.39E-01	26	5	HE
F' 133-P' 335	1.7789	2.51E+00	3.37E-03	8.02E-02	8.10E-04	26	5	HE
F' 313-P' 133	1.7789	9.56E+00	1.13E-02	3.08E-01	1.04E-02	26	5	HE
F' 355-P' 133	1.7790	9.99E-01	7.57E-01	3.14E-02	1.19E-01	26	5	HE
B' 133-D' 355	1.7791	2.09E-02	8.21E-01	6.96E-04	1.72E-03	26	5	HE
B' 133-D' 353	1.7791	1.36E-01	8.21E-01	4.53E-03	1.12E-02	26	5	HE
F' 133-P' 133	1.7791	1.28E+01	3.37E-03	4.10E-01	4.14E-03	26	5	HE
B' 133-D' 155	1.7792	2.34E-01	8.21E-01	7.82E-03	1.93E-02	26	5	HE
B' 335-D' 355	1.7794	1.68E-02	2.22E-02	2.91E-02	3.24E-03	26	5	HE
B' 335-D' 353	1.7794	2.68E-02	2.22E-02	4.66E-02	5.18E-03	26	5	HE
B' 335-D' 357	1.7795	3.02E-02	2.22E-02	5.24E-02	5.83E-03	26	5	HE
B' 335-D' 155	1.7795	4.79E-01	2.22E-02	8.33E-01	9.26E-02	26	5	HE
A' 353-S' 313	1.7824	6.64E-03	1.29E-02	2.39E-04	9.27E-06	26	5	HE
G' 155-P' 333	1.7827	3.27E-01	9.70E-02	1.28E-01	6.23E-02	26	5	HE
A' 353-S' 111	1.7829	5.26E-02	1.29E-02	1.89E-03	7.35E-05	26	5	HE
C' 133-S' 313	1.7830	7.03E+00	1.07E+00	6.41E-01	2.06E+00	26	5	HE
G' 155-P' 335	1.7830	1.47E+00	9.70E-02	5.77E-01	2.80E-01	26	5	HE
G' 155-P' 133	1.7832	5.21E-01	9.70E-02	2.04E-01	9.91E-02	26	5	HE
F' 331-P' 333	1.7833	2.14E+01	4.92E-02	9.24E-01	4.54E-02	26	5	HE
G' 353-P' 331	1.7833	4.34E-01	6.06E-02	5.65E-02	1.03E-02	26	5	HE
G' 355-P' 333	1.7833	2.26E-01	2.88E-01	3.10E-02	4.47E-02	26	5	HE
G' 353-P' 333	1.7833	1.55E+00	6.06E-02	2.02E-01	3.67E-02	26	5	HE
A' 353-D' 355	1.7834	2.22E+01	1.29E-02	7.98E-01	3.10E-02	26	5	HE
A' 353-D' 353	1.7834	5.37E+00	1.29E-02	1.93E-01	7.49E-03	26	5	HE
C' 133-S' 111	1.7834	1.36E+00	1.07E+00	1.24E-01	3.99E-01	26	5	HE
R 232-Y 212	1.7834	2.93E+01	0.00E+00	1.00E+00	0.00E+00	26	5	HE
A' 355-D' 353	1.7835	2.40E-02	3.78E-03	9.21E-04	1.74E-05	26	5	HE
A' 355-D' 355	1.7835	4.43E-02	3.78E-03	1.70E-03	3.21E-05	26	5	HE
A' 353-D' 155	1.7835	8.39E-02	1.29E-02	3.02E-03	1.17E-04	26	5	HE
F' 333-P' 331	1.7835	2.84E-01	8.29E-03	1.26E-02	3.12E-04	26	5	HE
G' 355-P' 335	1.7835	3.29E+00	2.88E-01	4.52E-01	6.51E-01	26	5	HE
C' 331-S' 313	1.7835	8.26E+00	3.75E-02	8.57E-01	3.22E-02	26	5	HE
G' 357-P' 335	1.7835	9.65E-02	5.23E-02	6.24E-01	2.28E-01	26	5	HE
F' 333-P' 333	1.7835	5.85E-02	8.29E-03	2.59E-03	6.44E-05	26	5	HE
G' 353-P' 335	1.7835	4.81E+00	6.06E-02	6.27E-01	1.14E-01	26	5	HE
A' 377-D' 355	1.7836	1.94E-01	2.50E-01	6.58E-03	1.15E-02	26	5	HE
C' 333-S' 313	1.7836	1.64E+00	2.54E-01	3.57E-01	2.72E-01	26	5	HE
A' 355-D' 155	1.7836	6.82E+00	3.78E-03	2.61E-01	4.94E-03	26	5	HE
A' 355-D' 357	1.7836	1.92E+01	3.78E-03	7.36E-01	1.39E-02	26	5	HE
A' 377-D' 357	1.7837	1.37E+01	2.50E-01	4.63E-01	8.10E-01	26	5	HE
A' 377-D' 155	1.7837	1.54E+01	2.50E-01	5.22E-01	9.14E-01	26	5	HE
F' 335-P' 333	1.7838	1.69E+00	6.17E-01	7.57E-02	2.33E-01	26	5	HE
F' 331-P' 133	1.7838	5.85E-01	4.92E-02	2.52E-02	1.24E-03	26	5	HE
F' 333-P' 335	1.7838	1.59E+01	8.29E-03	7.04E-01	1.75E-02	26	5	HE
G' 355-P' 133	1.7838	3.12E+00	2.88E-01	4.28E-01	6.17E-01	26	5	HE

Table I(a) - 8

G' 353-P' 133	1.7838	4.14E-01	6.06E-02	5.40E-02	9.82E-03	26	5	HE
B' 331-S' 313	1.7839	2.10E+01	9.90E-02	9.74E-01	9.64E-02	26	5	HE
C' 133-D' 353	1.7839	9.72E-02	1.07E+00	8.87E-03	2.85E-02	26	5	HE
C' 133-D' 355	1.7839	1.71E-01	1.07E+00	1.56E-02	5.00E-02	26	5	HE
F' 335-P' 335	1.7840	1.04E+01	6.17E-01	4.67E-01	1.44E+00	26	5	HE
B' 333-S' 313	1.7840	1.18E+01	2.64E-02	5.73E-01	4.54E-02	26	5	HE
C' 133-D' 155	1.7840	9.07E-02	1.07E+00	8.27E-03	2.66E-02	26	5	HE
C' 333-S' 111	1.7840	3.70E-01	2.54E-01	8.06E-02	6.14E-02	26	5	HE
A' 375-D' 353	1.7840	1.48E+01	1.09E-01	5.11E-01	2.79E-01	26	5	HE
A' 375-D' 355	1.7840	1.39E+01	1.09E-01	4.78E-01	2.61E-01	26	5	HE
F' 333-P' 133	1.7841	5.11E+00	8.29E-03	2.26E-01	5.63E-03	26	5	HE
A' 375-D' 155	1.7842	2.75E-02	1.09E-01	9.45E-04	5.15E-04	26	5	HE
A' 375-D' 357	1.7842	2.01E-01	1.09E-01	6.91E-03	3.77E-03	26	5	HE
E' 111-P' 333	1.7843	6.36E+00	2.87E+00	5.78E-01	1.66E+00	26	5	HE
F' 335-P' 133	1.7843	8.42E+00	6.17E-01	3.78E-01	1.17E+00	26	5	HE
F' 353-P' 331	1.7843	8.89E+00	1.92E-03	3.27E-01	1.89E-03	26	5	HE
C' 335-D' 353	1.7843	1.69E-01	1.16E-01	4.59E-02	2.65E-02	26	5	HE
C' 335-D' 355	1.7843	3.26E-01	1.16E-01	8.85E-02	5.11E-02	26	5	HE
F' 353-P' 333	1.7843	1.52E+01	1.92E-03	5.58E-01	3.22E-03	26	5	HE
C' 335-D' 357	1.7844	2.64E+00	1.16E-01	7.16E-01	4.13E-01	26	5	HE
C' 335-D' 155	1.7844	4.38E-01	1.16E-01	1.19E-01	6.86E-02	26	5	HE
B' 333-S' 111	1.7845	7.49E+00	2.64E-02	3.64E-01	2.88E-02	26	5	HE
C' 331-D' 353	1.7845	1.68E-01	3.75E-02	1.74E-02	6.54E-04	26	5	HE
C' 333-D' 353	1.7845	2.34E-02	2.54E-01	5.10E-03	3.89E-03	26	5	HE
C' 333-D' 355	1.7845	7.94E-01	2.54E-01	1.73E-01	1.32E-01	26	5	HE
F' 353-P' 335	1.7846	6.12E-01	1.92E-03	2.25E-02	1.30E-04	26	5	HE
E' 313-P' 331	1.7846	2.51E-01	2.02E-02	5.08E-02	3.08E-03	26	5	HE
E' 313-P' 333	1.7846	1.22E+00	2.02E-02	2.47E-01	1.50E-02	26	5	HE
C' 333-D' 155	1.7846	1.87E-02	2.54E-01	4.08E-03	3.11E-03	26	5	HE
E' 111-P' 133	1.7848	1.38E+00	2.87E+00	1.26E-01	3.60E-01	26	5	HE
B' 331-D' 353	1.7848	2.49E-03	9.90E-02	1.15E-04	1.14E-05	26	5	HE
F' 353-P' 133	1.7848	9.60E-01	1.92E-03	3.53E-02	2.04E-04	26	5	HE
E' 313-P' 335	1.7849	2.56E+00	2.02E-02	5.19E-01	3.15E-02	26	5	HE
B' 333-D' 355	1.7850	6.86E-01	2.64E-02	3.34E-02	2.64E-03	26	5	HE
B' 333-D' 353	1.7850	4.63E-02	2.64E-02	2.25E-03	1.78E-04	26	5	HE
B' 333-D' 155	1.7851	8.65E-03	2.64E-02	4.21E-04	3.33E-05	26	5	HE
E' 313-P' 133	1.7852	6.07E-01	2.02E-02	1.23E-01	7.46E-03	26	5	HE

Table I(b) - 1

Atomic data for dielectronic satellite lines of He-like Fe ions
Cornille data
(See Table I(c) for the configuration of KU and KL levels)

n	Transition		W.L.	Qd	Ar	Br
	KU	KL				
2	46	5	1.8015	3.642E+00	4.976E+00	1.197E-01
2	46	7	1.8103	4.508E+00	6.161E+00	1.483E-01
2	47	2	1.7930	1.245E+00	2.690E+01	9.535E-01
2	48	2	1.7918	5.128E+00	2.600E+01	9.029E-01
2	49	2	1.7880	6.126E+00	2.692E+01	9.543E-01
2	50	5	1.7924	3.970E-01	4.866E+01	9.742E-01
2	52	5	1.7882	1.405E+01	1.637E+01	2.536E-01
2	52	6	1.7922	2.408E+01	2.804E+01	4.343E-01
2	52	7	1.7970	7.774E+00	9.055E+00	1.403E-01
2	53	2	1.7787	1.084E+00	9.042E-01	2.025E-02
2	53	4	1.7859	3.102E+01	2.588E+01	5.797E-01
2	54	6	1.7870	1.960E+01	1.221E+01	1.557E-01
2	54	7	1.7918	6.574E+01	4.095E+01	5.222E-01
2	55	7	1.7826	3.560E+00	4.677E+01	9.230E-01
3	59	5	1.5221	4.688E-01	7.287E-01	3.174E-02
3	59	7	1.5285	4.034E-01	6.270E-01	2.731E-02
3	59	11	1.7865	2.214E+00	3.441E+00	1.499E-01
3	59	15	1.7889	2.126E+00	3.305E+00	1.440E-01
3	60	8	1.7843	2.456E-01	2.043E+01	9.227E-01
3	62	2	1.5162	1.088E+00	4.878E+00	4.282E-01
3	62	8	1.7837	9.184E-01	4.119E+00	3.616E-01
3	62	14	1.7881	2.050E-01	9.199E-01	8.076E-02
3	63	2	1.5156	1.775E+00	5.686E+00	5.613E-01
3	63	16	1.7876	9.184E-01	2.942E+00	2.904E-01
3	64	5	1.5208	8.500E-01	4.804E+00	1.678E-01
3	64	11	1.7847	1.229E+00	6.945E+00	2.426E-01
3	64	12	1.7858	1.529E+00	8.642E+00	3.019E-01
3	64	15	1.7871	7.602E-01	4.296E+00	1.501E-01
3	65	4	1.5203	2.252E-01	1.679E+00	8.254E-02
3	65	8	1.7822	2.004E+00	1.494E+01	7.345E-01
3	67	13	1.7855	1.122E+00	1.428E+01	5.435E-01
3	67	14	1.7855	8.542E-01	1.087E+01	4.137E-01
3	68	12	1.7840	3.062E-01	4.580E+00	4.814E-01
3	69	12	1.7834	2.592E-01	3.961E+00	4.368E-01
3	70	11	1.7823	2.312E-01	2.226E+01	7.674E-01
3	71	5	1.5190	1.199E+00	1.214E+00	1.064E-01
3	71	7	1.5253	3.642E-01	3.686E-01	3.230E-02
3	71	12	1.7834	2.744E+00	2.777E+00	2.433E-01
3	71	15	1.7846	3.496E+00	3.538E+00	3.100E-01
3	73	14	1.7838	6.914E-01	4.537E+00	1.662E-01
3	73	16	1.7843	1.637E+00	1.074E+01	3.935E-01
3	73	17	1.7843	1.594E+00	1.046E+01	3.832E-01
3	74	5	1.5179	2.706E-01	2.980E-01	2.212E-02
3	74	6	1.5208	4.024E-01	4.433E-01	3.291E-02
3	74	7	1.5242	1.253E+00	1.380E+00	1.024E-01
3	74	11	1.7807	5.466E+00	6.020E+00	4.469E-01
3	74	12	1.7819	5.328E-01	5.869E-01	4.357E-02
3	74	15	1.7831	1.382E+00	1.522E+00	1.130E-01

Table I(b) - 2

3	76	13	1.7826	3.042E-01	7.148E+00	2.441E-01
3	76	14	1.7826	7.148E-01	1.680E+01	5.737E-01
3	78	6	1.5199	2.074E-01	5.702E+00	2.083E-01
3	78	12	1.7807	7.818E-01	2.149E+01	7.851E-01
3	80	6	1.5193	5.874E-01	4.796E+00	1.626E-01
3	80	11	1.7788	1.561E+00	1.275E+01	4.324E-01
3	80	12	1.7799	1.163E+00	9.494E+00	3.219E-01
3	81	4	1.5161	1.241E+00	1.581E+00	5.567E-02
3	81	8	1.7764	1.641E+00	2.090E+00	7.359E-02
3	81	10	1.7784	1.167E+01	1.486E+01	5.232E-01
3	81	13	1.7807	7.012E-01	8.932E-01	3.145E-02
3	81	17	1.7812	4.476E-01	5.700E-01	2.007E-02
3	82	16	1.7808	4.608E+00	2.588E+01	9.800E-01
3	84	14	1.7790	6.634E-01	1.281E+01	4.331E-01
3	84	16	1.7795	6.174E-01	1.192E+01	4.030E-01
3	85	6	1.5175	8.080E-01	5.930E-01	1.537E-02
3	85	7	1.5209	5.390E+00	3.955E+00	1.025E-01
3	85	11	1.7763	4.818E-01	3.536E-01	9.162E-03
3	85	12	1.7774	6.030E+00	4.425E+00	1.147E-01
3	85	15	1.7787	2.246E+01	1.649E+01	4.273E-01
3	89	14	1.7761	3.772E+00	8.581E+00	2.599E-01
3	89	16	1.7765	1.449E+00	3.296E+00	9.984E-02
3	89	17	1.7766	6.198E+00	1.410E+01	4.271E-01
3	90	7	1.5189	3.942E-01	5.603E+00	1.766E-01
3	90	15	1.7758	1.612E+00	2.290E+01	7.216E-01
4	95	21	1.7842	2.158E+00	5.182E+00	3.772E-01
4	95	25	1.7852	8.732E-01	2.097E+00	1.527E-01
4	97	2	1.4408	4.470E-01	1.645E+00	2.792E-01
4	97	18	1.7829	4.276E-01	1.574E+00	2.671E-01
4	97	24	1.7847	4.334E-01	1.595E+00	2.707E-01
4	99	2	1.4406	3.630E-01	1.926E+00	2.883E-01
4	99	26	1.7845	6.164E-01	3.271E+00	4.897E-01
4	100	5	1.4453	4.446E-01	1.612E+00	7.103E-02
4	100	21	1.7831	6.164E-01	2.235E+00	9.849E-02
4	100	22	1.7836	2.596E+00	9.416E+00	4.149E-01
4	100	25	1.7841	1.960E+00	7.107E+00	3.132E-01
4	101	23	1.7836	5.234E-01	1.252E+01	5.112E-01
4	101	24	1.7836	4.624E-01	1.106E+01	4.516E-01
4	103	4	1.4448	3.510E-01	1.032E+00	8.140E-02
4	103	18	1.7817	2.776E+00	8.166E+00	6.441E-01
4	105	22	1.7827	8.000E-01	1.580E+00	2.439E-01
4	105	25	1.7832	1.183E+00	2.336E+00	3.606E-01
4	105	28	1.7834	3.712E-01	7.332E-01	1.132E-01
4	108	26	1.7831	1.125E+00	9.832E+00	4.431E-01
4	108	29	1.7831	1.158E+00	1.012E+01	4.560E-01
4	115	28	1.7824	2.552E-01	1.751E+01	6.893E-01
4	117	26	1.7823	2.820E-01	2.566E+00	4.614E-01
4	117	29	1.7824	2.420E-01	2.202E+00	3.959E-01
4	122	18	1.7777	1.561E+00	6.360E+00	2.385E-01
4	122	20	1.7785	4.300E+00	1.752E+01	6.569E-01
4	123	6	1.4447	3.370E-01	1.742E+00	5.940E-02
4	123	21	1.7784	4.406E+00	2.277E+01	7.765E-01
4	123	22	1.7788	4.304E-01	2.225E+00	7.587E-02
4	124	22	1.7788	3.628E-01	2.547E+01	9.044E-01
4	127	26	1.7787	2.468E+00	2.569E+01	9.781E-01

Table I(b) - 3

4	128	6	1.4442	2.946E-01	5.015E-01	1.572E-02
4	128	7	1.4472	8.942E-01	1.522E+00	4.770E-02
4	128	22	1.7779	5.736E+00	9.762E+00	3.059E-01
4	128	25	1.7784	8.978E+00	1.528E+01	4.788E-01
4	129	24	1.7783	7.622E-01	1.711E+01	6.287E-01
4	129	26	1.7784	3.028E-01	6.797E+00	2.498E-01
4	135	27	1.7777	3.458E-01	1.857E+01	6.928E-01
4	137	30	1.7777	3.462E-01	2.592E+01	9.780E-01
4	138	24	1.7773	1.916E+00	7.763E+00	2.696E-01
4	138	26	1.7775	1.666E+00	6.753E+00	2.345E-01
4	138	29	1.7775	2.828E+00	1.146E+01	3.979E-01
4	139	25	1.7774	1.184E+00	2.416E+01	8.279E-01
4	140	28	1.7775	3.066E-01	1.901E+01	7.169E-01
4	143	31	1.7774	1.053E+00	2.578E+01	9.559E-01
5	147	35	1.7833	1.740E+00	6.630E+00	5.740E-01
5	147	39	1.7838	4.068E-01	1.550E+00	1.342E-01
5	149	38	1.7835	6.152E-01	2.104E+00	5.539E-01
5	150	40	1.7834	4.484E-01	3.702E+00	6.230E-01
5	152	35	1.7827	2.042E-01	1.400E+00	6.691E-02
5	152	36	1.7830	1.418E+00	9.718E+00	4.645E-01
5	152	39	1.7832	1.194E+00	8.182E+00	3.910E-01
5	153	37	1.7830	3.256E-01	1.185E+01	4.987E-01
5	153	38	1.7830	3.076E-01	1.119E+01	4.710E-01
5	155	32	1.7820	1.945E+00	5.646E+00	5.802E-01
5	155	33	1.7823	4.518E-01	1.311E+00	1.347E-01
5	156	44	1.7829	2.088E-01	1.870E+00	5.950E-01
5	157	36	1.7825	5.548E-01	1.136E+00	2.277E-01
5	157	39	1.7828	7.098E-01	1.453E+00	2.912E-01
5	157	42	1.7829	5.842E-01	1.196E+00	2.397E-01
5	160	40	1.7827	8.754E-01	9.460E+00	4.472E-01
5	160	43	1.7827	9.726E-01	1.051E+01	4.968E-01
5	167	41	1.7824	5.364E-01	5.343E+00	2.327E-01
5	167	42	1.7824	1.584E+00	1.578E+01	6.871E-01
5	170	43	1.7824	2.004E-01	2.678E+00	4.706E-01
5	173	32	1.7778	8.946E-01	7.900E+00	2.960E-01
5	173	33	1.7781	1.980E+00	1.749E+01	6.552E-01
5	175	35	1.7780	1.821E+00	2.418E+01	8.848E-01
5	176	36	1.7782	2.534E-01	2.592E+01	9.615E-01
5	179	36	1.7778	2.618E+00	1.131E+01	4.004E-01
5	179	39	1.7781	3.304E+00	1.427E+01	5.052E-01
5	180	40	1.7781	1.607E+00	2.589E+01	9.858E-01
5	181	38	1.7780	5.824E-01	1.818E+01	6.828E-01
5	187	39	1.7776	9.286E-01	2.433E+01	8.670E-01
5	188	41	1.7777	6.608E-01	1.948E+01	7.328E-01
5	188	42	1.7777	2.188E-01	6.449E+00	2.426E-01
5	190	44	1.7777	3.280E-01	2.597E+01	9.881E-01
5	191	38	1.7775	1.199E+00	7.321E+00	2.665E-01
5	191	40	1.7776	1.351E+00	8.249E+00	3.002E-01
5	191	43	1.7776	1.710E+00	1.044E+01	3.800E-01
5	192	42	1.7776	2.718E-01	1.785E+01	6.786E-01
5	195	45	1.7775	4.416E+00	2.588E+01	9.453E-01

Table I(c) - 1

Information for the transition No. of KU and KL in Table I(b)

No. for CF (Configuration)

1	1s1s	2	1s2s	3	1s2p
4	1s3s	5	1s3p	6	1s3d
7	1s4s	8	1s4p	9	1s4d
10	1s4f	11	1s5s	12	1s5p
13	1s5d	14	1s5f	15	2s2s
16	2s2p	17	2s3s	18	2s3p
19	2s3d	20	2s4s	21	2s4p
22	2s4d	23	2s4f	24	2s5s
25	2s5p	26	2s5d	27	2s5f
28	2p2p	29	2p3s	30	2p3p
31	2p3d	32	2p4s	33	2p4p
34	2p4d	35	2p4f	36	2p5s
37	2p5p	38	2p5d	39	2p5f

K	CF	2S+1	L	2J	K	CF	2S+1	L	2J	K	CF	2S+1	L	2J
1	1	1	0	0	35	12	3	1	2	69	19	3	2	2
2	2	3	0	2	36	12	3	1	4	70	30	3	1	0
3	3	3	1	0	37	13	3	2	2	71	19	3	2	4
4	2	1	0	0	38	13	3	2	4	72	29	3	1	4
5	3	3	1	2	39	12	1	1	2	73	31	3	3	6
6	3	3	1	4	40	13	3	2	6	74	19	1	2	4
7	3	1	1	2	41	14	3	3	4	75	31	3	2	4
8	4	3	0	2	42	14	3	3	6	76	31	3	2	2
9	5	3	1	0	43	13	1	2	4	77	30	3	1	2
10	4	1	0	0	44	14	3	3	8	78	30	3	2	6
11	5	3	1	2	45	14	1	3	6	79	30	3	0	2
12	5	3	1	4	46	15	1	0	0	80	30	3	1	4
13	6	3	2	2	47	16	3	1	0	81	29	1	1	2
14	6	3	2	4	48	16	3	1	2	82	31	3	3	8
15	5	1	1	2	49	16	3	1	4	83	31	1	2	4
16	6	3	2	6	50	28	3	1	0	84	31	3	2	6
17	6	1	2	4	51	28	3	1	2	85	30	1	2	4
18	7	3	0	2	52	28	3	1	4	86	31	3	1	2
19	8	3	1	0	53	16	1	1	2	87	31	3	1	4
20	7	1	0	0	54	28	1	2	4	88	31	3	1	0
21	8	3	1	2	55	28	1	0	0	89	31	1	3	6
22	8	3	1	4	56	17	3	0	2	90	30	1	0	0
23	9	3	2	2	57	18	1	1	2	91	31	1	1	2
24	9	3	2	4	58	30	3	2	2	92	20	3	0	2
25	8	1	1	2	59	17	1	0	0	93	32	3	1	2
26	9	3	2	6	60	29	3	1	0	94	32	3	1	0
27	10	3	3	4	61	18	3	1	0	95	20	1	0	0
28	10	3	3	6	62	18	3	1	2	96	33	3	2	2
29	9	1	2	4	63	18	3	1	4	97	21	3	1	2
30	10	3	3	8	64	30	3	2	4	98	21	3	1	0
31	10	1	3	6	65	29	3	1	2	99	21	3	1	4
32	11	3	0	2	66	30	1	1	2	100	33	3	2	4
33	11	1	0	0	67	31	3	3	4	101	34	3	3	4
34	12	3	1	0	68	19	3	2	6	102	33	3	1	2

Table I(c) - 2

K	CF	2S+1	L	2J	K	CF	2S+1	L	2J
103	21	1	1	2	156	26	3	2	6
104	22	3	2	6	157	26	3	2	4
105	22	3	2	4	158	37	3	1	0
106	33	3	1	0	159	26	3	2	2
107	22	3	2	2	160	38	3	3	6
108	34	3	3	6	161	38	3	2	4
109	34	3	2	4	162	39	3	4	6
110	34	3	2	2	163	38	3	2	2
111	35	3	4	6	164	26	1	2	4
112	22	1	2	4	165	27	3	3	8
113	23	3	3	8	166	39	3	4	8
114	23	3	3	4	167	39	3	2	4
115	35	3	3	4	168	27	3	3	4
116	35	3	4	8	169	39	3	3	6
117	23	3	3	6	170	27	3	3	6
118	35	3	3	6	171	27	1	3	6
119	23	1	3	6	172	36	3	1	4
120	32	3	1	4	173	36	1	1	2
121	33	1	1	2	174	37	1	1	2
122	32	1	1	2	175	37	3	2	4
123	33	3	1	4	176	37	3	2	6
124	33	3	2	6	177	37	3	0	2
125	33	3	0	2	178	38	1	2	4
126	34	1	2	4	179	37	1	2	4
127	34	3	3	8	180	38	3	3	8
128	33	1	2	4	181	38	3	2	6
129	34	3	2	6	182	38	3	1	2
130	34	3	1	2	183	38	3	1	4
131	34	3	1	4	184	38	3	1	0
132	34	3	1	0	185	39	1	3	6
133	35	1	3	6	186	39	3	3	8
134	35	3	3	8	187	37	1	0	0
135	35	3	2	4	188	39	3	3	4
136	35	3	2	6	189	39	3	2	6
137	35	3	4	10	190	39	3	4	10
138	34	1	3	6	191	38	1	3	6
139	33	1	0	0	192	39	1	4	8
140	35	1	4	8	193	39	3	2	2
141	35	3	2	2	194	38	1	1	2
142	34	1	1	2	195	39	1	2	4
143	35	1	2	4					
144	24	3	0	2					
145	36	3	1	2					
146	36	3	1	0					
147	24	1	0	0					
148	37	3	2	2					
149	25	3	1	2					
150	25	3	1	4					
151	25	3	1	0					
152	37	3	1	4					
153	38	3	3	4					
154	37	3	1	2					
155	25	1	1	2					

Table II(a) - 1

Atomic data for dielectronic satellite lines of Li-like Fe ions
Safronova data

R = 1s2p, T = 1s2s, Y = 1s², F = 2p²(¹D)1s, F=2p²(¹S)1s, M = 2p²(³P)1s, E = 2s²(¹S)1s,
C = 2s2p(¹P)1s, K = 2s2p(³P)1s, E' = 1s2s(¹S)3s, L' = 1s2s(³S)3s, F' = 1s2p(¹P)3p, M' = 1s2p(³P)3p,
G' = 1s2s(¹S)3d, N' = 1s2s(³S)3d, A' = 1s2p(¹P)3d, I' = 1s2p(³P)3d, B' = 1s2p(¹P)3s, J' = 1s2p(³P)3s,
C' = 1s2s(¹S)3p, K' = 1s2s(³S)3d, S = 1s²2s, P = 1s²2p, S' = 1s²3s, P' = 1s²3p, D' = 1s²3d
Numbers after letter mean (2S+1)(2L+1)(2J+1)

TRANSITION	WL	Ar	SumAa	Br	Qd	Z	n	
R 133-Y 111	1.8504	4.75E+01	0.00E+00	1.00E+00	0.00E+00	26	2	RES
F 212-P 232	1.8523	1.09E+00	3.21E+00	3.82E-02	2.45E-01	26	2	LIS
R 335-Y 111	1.8555	0.00E+00	0.00E+00	0.00E+00	0.00E+00	26	2	RES
C 234-S 212	1.8563	7.78E-02	1.21E+01	6.41E-03	3.09E-01	26	2	LIS
F 212-P 234	1.8566	2.43E+01	3.21E+00	8.50E-01	5.46E+00	26	2	LIS
C 232-S 212	1.8571	1.79E+01	8.96E+00	6.67E-01	1.19E+01	26	2	LIS
M 234-P 232	1.8578	8.63E-01	4.16E+00	1.29E-02	2.14E-01	26	2	LIS
R 333-Y 111	1.8595	4.31E+00	0.00E+00	1.00E+00	0.00E+00	26	2	RES
K 234-S 212	1.8610	4.87E+01	3.02E-02	9.99E-01	1.21E-01	26	2	LIS
M 234-P 234	1.8622	6.21E+01	4.16E+00	9.25E-01	1.54E+01	26	2	LIS
M 232-P 232	1.8628	5.44E+01	9.08E-02	7.67E-01	1.39E-01	26	2	LIS
F 254-P 232	1.8630	3.27E+01	1.44E+01	6.41E-01	3.70E+01	26	2	LIS
K 232-S 212	1.8635	3.19E+01	3.21E+00	9.09E-01	5.83E+00	26	2	LIS
F 256-P 234	1.8659	2.16E+01	1.60E+01	5.73E-01	5.52E+01	26	2	LIS
M 232-P 234	1.8672	1.65E+01	9.08E-02	2.32E-01	4.21E-02	26	2	LIS
F 254-P 234	1.8674	3.90E+00	1.44E+01	7.64E-02	4.41E+00	26	2	LIS
T 313-Y 111	1.8683	0.00E+00	0.00E+00	0.00E+00	0.00E+00	26	2	LIS
M 434-P 232	1.8699	2.40E-03	1.01E-01	2.16E-03	8.72E-04	26	2	LIS
M 432-P 232	1.8722	2.10E+00	3.24E-02	9.81E-01	6.35E-02	26	2	LIS
M 436-P 234	1.8727	3.51E+00	2.64E+00	5.71E-01	9.04E+00	26	2	LIS
K 434-S 212	1.8738	1.59E+00	8.85E-02	9.47E-01	3.35E-01	26	2	LIS
M 434-P 234	1.8743	1.01E+00	1.01E-01	9.07E-01	3.67E-01	26	2	LIS
K 432-S 212	1.8748	4.92E-01	1.19E-02	9.76E-01	2.32E-02	26	2	LIS
M 432-P 234	1.8766	9.30E-03	3.24E-02	4.35E-03	2.82E-04	26	2	LIS
E 212-P 232	1.8924	8.75E-01	1.47E+01	5.29E-02	1.56E+00	26	2	LIS
E 212-P 234	1.8969	9.07E-01	1.47E+01	5.49E-02	1.62E+00	26	2	LIS
F' 212-P' 232	1.8492	1.76E+00	1.71E+00	4.86E-02	1.66E-01	26	3	LIS
A' 234-D' 254	1.8495	1.25E+00	1.60E-02	2.78E-02	1.77E-03	26	3	LIS
A' 234-D' 256	1.8499	4.35E+01	1.60E-02	9.67E-01	6.18E-02	26	3	LIS
A' 232-D' 254	1.8503	4.71E+01	1.26E-02	9.94E-01	2.50E-02	26	3	LIS
A' 276-D' 254	1.8505	2.04E+01	1.63E+00	4.99E-01	4.88E+00	26	3	LIS
F' 212-P' 234	1.8505	3.24E+01	1.71E+00	8.93E-01	3.05E+00	26	3	LIS
A' 276-D' 256	1.8509	1.89E+01	1.63E+00	4.61E-01	4.50E+00	26	3	LIS
A' 256-D' 254	1.8516	2.10E+01	3.79E-01	4.50E-01	1.02E+00	26	3	LIS
A' 278-D' 256	1.8517	4.03E+01	1.89E+00	9.55E-01	1.44E+01	26	3	LIS
A' 254-D' 254	1.8517	4.33E+01	2.01E-03	9.86E-01	7.94E-03	26	3	LIS
A' 256-D' 256	1.8520	2.53E+01	3.79E-01	5.41E-01	1.23E+00	26	3	LIS
B' 232-S' 212	1.8522	4.10E+01	1.63E+00	9.54E-01	3.11E+00	26	3	LIS
F' 234-P' 234	1.8523	4.22E+01	1.96E+00	8.59E-01	6.72E+00	26	3	LIS
B' 234-S' 212	1.8523	4.08E+01	1.35E-01	9.90E-01	5.33E-01	26	3	LIS
F' 254-P' 232	1.8525	4.17E+01	4.43E+00	8.57E-01	1.52E+01	26	3	LIS
F' 232-P' 232	1.8526	4.19E+01	1.96E-03	8.38E-01	3.28E-03	26	3	LIS

Table II(a) - 2

F' 256-P' 234	1.8532	4.44E+01	3.64E+00	8.89E-01	1.94E+01	26	3	LIS
I' 454-S' 212	1.8535	9.48E-02	5.18E-02	3.04E-02	6.30E-03	26	3	LIS
I' 452-S' 212	1.8536	3.95E-01	5.78E-03	1.25E-01	1.45E-03	26	3	LIS
F' 254-P' 234	1.8538	6.73E-02	4.43E+00	1.38E-03	2.45E-02	26	3	LIS
I' 254-S' 212	1.8542	3.44E+00	1.72E-03	5.06E-01	3.49E-03	26	3	LIS
M' 212-P' 232	1.8550	3.56E+00	2.37E-01	1.29E-01	6.14E-02	26	3	LIS
J' 234-S' 212	1.8550	5.79E-02	4.87E+00	1.16E-02	2.26E-01	26	3	LIS
I' 234-D' 254	1.8553	1.94E+00	1.16E-04	2.81E-01	1.31E-04	26	3	LIS
I' 234-D' 256	1.8558	3.10E+00	1.16E-04	4.48E-01	2.08E-04	26	3	LIS
I' 278-D' 256	1.8559	7.97E+00	9.04E-04	1.00E+00	7.23E-03	26	3	LIS
I' 436-D' 254	1.8562	1.15E+00	6.10E-03	9.82E-01	3.59E-02	26	3	LIS
M' 212-P' 234	1.8563	1.64E+01	2.37E-01	5.97E-01	2.83E-01	26	3	LIS
I' 434-D' 254	1.8563	1.44E+00	2.61E-03	5.99E-01	6.26E-03	26	3	LIS
M' 256-P' 234	1.8565	1.70E+00	3.52E+00	1.09E-01	2.31E+00	26	3	LIS
I' 434-D' 256	1.8567	7.51E-01	2.61E-03	3.12E-01	3.26E-03	26	3	LIS
M' 414-P' 232	1.8571	1.65E-01	5.76E-01	1.95E-02	4.50E-02	26	3	LIS
I' 256-D' 254	1.8572	9.38E-01	5.87E-04	4.27E-01	1.50E-03	26	3	LIS
I' 458-D' 256	1.8575	7.28E-01	5.27E-02	9.33E-01	3.93E-01	26	3	LIS
I' 256-D' 256	1.8577	1.26E+00	5.87E-04	5.73E-01	2.02E-03	26	3	LIS
M' 434-P' 232	1.8581	7.47E-02	4.48E-01	2.15E-02	3.85E-02	26	3	LIS
M' 414-P' 234	1.8583	2.96E+00	5.76E-01	3.50E-01	8.05E-01	26	3	LIS
J' 232-S' 212	1.8587	8.36E+00	4.14E+00	6.60E-01	5.46E+00	26	3	LIS
C' 234-S' 212	1.8587	1.08E+00	5.36E-01	1.45E-01	3.12E-01	26	3	LIS
B' 232-D' 254	1.8587	3.20E-01	1.63E+00	7.43E-03	2.42E-02	26	3	LIS
G' 254-P' 232	1.8589	8.65E-01	7.25E-02	5.88E-01	1.71E-01	26	3	LIS
M' 436-P' 234	1.8589	7.56E-02	8.84E-01	4.58E-02	2.43E-01	26	3	LIS
M' 434-P' 234	1.8594	9.31E-01	4.48E-01	2.68E-01	4.80E-01	26	3	LIS
M' 254-P' 232	1.8598	3.81E+00	9.03E-01	2.28E-01	8.25E-01	26	3	LIS
G' 256-P' 234	1.8599	2.17E+00	7.03E-02	9.56E-01	4.03E-01	26	3	LIS
I' 276-D' 254	1.8600	1.54E+00	6.12E-03	1.87E-01	6.86E-03	26	3	LIS
I' 454-D' 254	1.8600	2.91E+00	5.18E-02	9.34E-01	1.93E-01	26	3	LIS
I' 452-D' 254	1.8601	2.74E+00	5.78E-03	8.71E-01	1.01E-02	26	3	LIS
I' 276-D' 256	1.8604	6.71E+00	6.12E-03	8.12E-01	2.98E-02	26	3	LIS
I' 456-D' 254	1.8610	2.47E+00	5.38E-04	1.00E+00	3.23E-03	26	3	LIS
M' 432-P' 232	1.8610	2.46E+00	1.05E-02	6.69E-01	1.41E-02	26	3	LIS
M' 254-P' 234	1.8611	3.59E+00	9.03E-01	2.15E-01	7.78E-01	26	3	LIS
I' 254-D' 256	1.8611	3.16E+00	1.72E-03	4.64E-01	3.20E-03	26	3	LIS
J' 234-D' 254	1.8615	4.05E-02	4.87E+00	8.11E-03	1.58E-01	26	3	LIS
I' 478-D' 256	1.8616	3.26E+00	1.60E-01	9.53E-01	1.22E+00	26	3	LIS
M' 234-P' 232	1.8616	4.71E-01	8.92E-02	1.32E-01	4.72E-02	26	3	LIS
M' 232-P' 234	1.8618	1.01E+00	5.22E-02	1.07E-01	1.12E-02	26	3	LIS
J' 234-D' 256	1.8619	2.34E-02	4.87E+00	4.68E-03	9.12E-02	26	3	LIS
J' 434-S' 212	1.8621	3.24E+00	1.41E-01	7.36E-01	4.15E-01	26	3	LIS
I' 476-D' 254	1.8625	4.69E+00	8.23E-02	9.62E-01	4.75E-01	26	3	LIS
J' 432-S' 212	1.8628	9.21E-01	1.67E-02	7.70E-01	2.56E-02	26	3	LIS
I' 476-D' 256	1.8629	1.04E-01	8.23E-02	2.13E-02	1.05E-02	26	3	LIS
M' 234-P' 234	1.8629	1.99E+00	8.92E-02	5.59E-01	1.99E-01	26	3	LIS
M' 456-P' 234	1.8630	3.81E+00	4.28E-01	8.95E-01	2.30E+00	26	3	LIS
M' 454-P' 232	1.8636	4.85E+00	1.77E-02	7.11E-01	5.04E-02	26	3	LIS
M' 452-P' 232	1.8640	1.12E+00	2.60E-03	5.39E-01	2.81E-03	26	3	LIS
M' 454-P' 234	1.8649	3.86E-01	1.77E-02	5.66E-02	4.02E-03	26	3	LIS
J' 232-D' 254	1.8652	4.97E-02	4.14E+00	3.92E-03	3.25E-02	26	3	LIS
C' 234-D' 254	1.8652	1.09E-01	5.36E-01	1.48E-02	3.17E-02	26	3	LIS
C' 234-D' 256	1.8656	1.15E+00	5.36E-01	1.55E-01	3.32E-01	26	3	LIS

Table II(a) - 3

N' 254-P' 232	1.8663	9.63E-02	4.32E-01	7.89E-02	1.36E-01	26	3	LIS
C' 232-D' 254	1.8667	1.08E+00	3.81E-02	1.56E-01	1.19E-02	26	3	LIS
K' 232-S' 212	1.8670	2.54E-01	2.20E-01	3.62E-02	1.60E-02	26	3	LIS
K' 234-S' 212	1.8671	1.14E+00	2.21E-01	1.70E-01	1.50E-01	26	3	LIS
E' 212-P' 232	1.8672	1.31E+00	2.68E+00	2.19E-01	1.17E+00	26	3	LIS
N' 254-P' 234	1.8676	4.09E-02	4.32E-01	3.35E-02	5.80E-02	26	3	LIS
N' 256-P' 234	1.8677	4.27E-03	3.72E-01	6.86E-03	1.53E-02	26	3	LIS
K' 434-S' 212	1.8685	1.62E-01	1.07E-01	7.04E-02	3.01E-02	26	3	LIS
E' 212-P' 234	1.8685	1.82E+00	2.68E+00	3.04E-01	1.63E+00	26	3	LIS
L' 212-P' 232	1.8737	1.50E-02	4.58E+00	2.94E-03	2.69E-02	26	3	LIS
L' 212-P' 234	1.8750	3.27E-03	4.58E+00	6.41E-04	5.88E-03	26	3	LIS
V' 256-U' 278	1.8502	4.71E+01	2.50E-03	9.76E-01	1.47E-02	26	4	LIS
V' 254-U' 276	1.8503	4.84E+01	2.80E-03	9.99E-01	1.12E-02	26	4	LIS
V' 298-U' 276	1.8503	4.23E+01	7.61E-02	8.92E-01	5.43E-01	26	4	LIS
V' 298-U' 278	1.8504	5.06E+00	7.61E-02	1.07E-01	6.49E-02	26	4	LIS
F' 212-P' 232	1.8504	2.60E+00	6.44E-01	5.52E-02	7.11E-02	26	4	LIS
V' 278-U' 276	1.8505	5.12E+00	1.18E-03	1.10E-01	1.04E-03	26	4	LIS
V' 278-U' 278	1.8506	4.16E+01	1.18E-03	8.90E-01	8.41E-03	26	4	LIS
F' 234-P' 232	1.8508	2.47E-01	4.75E-01	5.09E-03	9.68E-03	26	4	LIS
F' 212-P' 234	1.8509	4.36E+01	6.44E-01	9.24E-01	1.19E+00	26	4	LIS
F' 234-P' 234	1.8513	4.63E+01	4.75E-01	9.55E-01	1.82E+00	26	4	LIS
F' 254-P' 232	1.8514	4.63E+01	1.51E+00	9.42E-01	5.70E+00	26	4	LIS
F' 232-P' 232	1.8514	4.45E+01	1.87E-03	9.14E-01	3.41E-03	26	4	LIS
F' 256-P' 234	1.8515	4.74E+01	9.10E-01	9.49E-01	5.18E+00	26	4	LIS
F' 254-P' 234	1.8519	2.20E-01	1.51E+00	4.49E-03	2.72E-02	26	4	LIS
W' 254-P' 232	1.8537	3.88E-02	6.12E-04	5.16E-01	1.26E-03	26	4	LIS
M' 212-P' 232	1.8551	8.04E-01	3.23E-01	1.24E-01	8.00E-02	26	4	LIS
M' 212-P' 234	1.8557	2.23E+00	3.23E-01	3.44E-01	2.22E-01	26	4	LIS
M' 234-P' 232	1.8560	8.94E-03	2.85E-01	3.31E-03	3.76E-03	26	4	LIS
M' 256-P' 234	1.8560	3.43E-02	1.58E+00	7.27E-03	6.87E-02	26	4	LIS
M' 234-P' 234	1.8565	2.08E-01	2.85E-01	7.70E-02	8.76E-02	26	4	LIS
M' 434-P' 232	1.8566	7.58E-02	1.15E-01	7.56E-02	3.48E-02	26	4	LIS
M' 436-P' 234	1.8571	1.87E-01	3.78E-01	1.86E-01	4.22E-01	26	4	LIS
M' 434-P' 234	1.8571	1.79E-01	1.15E-01	1.79E-01	8.23E-02	26	4	LIS
G' 254-P' 232	1.8591	6.14E-02	2.18E-02	2.25E-01	1.96E-02	26	4	LIS
W' 496-P' 234	1.8593	3.11E-03	3.26E-03	1.84E-01	3.60E-03	26	4	LIS
G' 256-P' 234	1.8595	3.36E-02	1.68E-01	7.67E-02	7.75E-02	26	4	LIS
W' 256-U' 276	1.8596	4.60E+00	2.15E-03	9.14E-01	1.18E-02	26	4	LIS
W' 276-U' 278	1.8596	3.51E+00	3.16E-04	8.10E-01	1.54E-03	26	4	LIS
M' 254-P' 232	1.8596	7.65E-01	9.29E-01	7.95E-02	2.95E-01	26	4	LIS
G' 254-P' 234	1.8597	5.42E-03	2.18E-02	1.98E-02	1.73E-03	26	4	LIS
M' 232-P' 232	1.8597	2.63E-01	7.43E-02	3.39E-02	5.03E-03	26	4	LIS
W' 498-U' 276	1.8597	4.95E+00	5.20E-03	9.99E-01	4.16E-02	26	4	LIS
M' 432-P' 232	1.8601	2.85E+00	4.49E-02	8.92E-01	8.01E-02	26	4	LIS
M' 254-P' 234	1.8601	4.12E+00	9.29E-01	4.28E-01	1.59E+00	26	4	LIS
M' 232-P' 234	1.8603	3.17E+00	7.43E-02	4.09E-01	6.07E-02	26	4	LIS
G' 256-U' 278	1.8604	2.17E-01	1.68E-01	4.95E-01	5.00E-01	26	4	LIS
M' 414-P' 232	1.8605	4.85E-01	1.25E-01	2.09E-01	1.04E-01	26	4	LIS
M' 432-P' 234	1.8607	1.94E-01	4.49E-02	6.08E-02	5.46E-03	26	4	LIS
M' 456-P' 234	1.8608	4.60E+00	4.37E-01	9.04E-01	2.37E+00	26	4	LIS
M' 414-P' 234	1.8610	1.12E+00	1.25E-01	4.84E-01	2.41E-01	26	4	LIS
M' 454-P' 232	1.8611	4.34E+00	1.27E-02	8.68E-01	4.40E-02	26	4	LIS
M' 452-P' 232	1.8615	6.31E-01	6.93E-03	5.58E-01	7.74E-03	26	4	LIS
M' 454-P' 234	1.8616	1.28E-01	1.27E-02	2.57E-02	1.30E-03	26	4	LIS

Table II(a) - 4

M' 452-P' 234	1.8620	9.28E-02	6.93E-03	8.21E-02	1.14E-03	26	4	LIS
E' 212-P' 232	1.8625	7.13E-01	1.03E+00	2.59E-01	5.34E-01	26	4	LIS
E' 212-P' 234	1.8630	9.62E-01	1.03E+00	3.49E-01	7.21E-01	26	4	LIS
N' 254-P' 232	1.8674	5.03E-04	5.02E-02	5.50E-03	1.10E-03	26	4	LIS
N' 254-P' 234	1.8680	3.81E-03	5.02E-02	4.17E-02	8.37E-03	26	4	LIS
N' 256-P' 234	1.8680	4.88E-03	4.46E-02	7.09E-02	1.90E-02	26	4	LIS
N' 456-P' 234	1.8686	3.52E-03	2.10E-04	8.09E-01	1.02E-03	26	4	LIS
L' 212-P' 232	1.8704	1.04E-02	1.63E+00	6.11E-03	1.99E-02	26	4	LIS
L' 212-P' 234	1.8709	6.65E-04	1.63E+00	3.89E-04	1.27E-03	26	4	LIS
A' 234-D' 254	1.8503	1.27E+00	2.56E-02	2.66E-02	2.73E-03	26	4	LIS
A' 234-D' 256	1.8504	4.62E+01	2.56E-02	9.70E-01	9.95E-02	26	4	LIS
A' 232-D' 254	1.8506	4.82E+01	2.12E-02	9.97E-01	4.22E-02	26	4	LIS
A' 276-D' 254	1.8506	1.19E+01	5.69E-01	2.57E-01	8.76E-01	26	4	LIS
A' 276-D' 256	1.8508	3.39E+01	5.69E-01	7.31E-01	2.50E+00	26	4	LIS
A' 256-D' 254	1.8509	3.46E+01	4.32E-01	7.28E-01	1.88E+00	26	4	LIS
A' 254-D' 254	1.8510	4.56E+01	7.16E-04	9.76E-01	2.79E-03	26	4	LIS
A' 256-D' 256	1.8511	1.25E+01	4.32E-01	2.63E-01	6.82E-01	26	4	LIS
A' 278-D' 256	1.8511	4.75E+01	8.45E-01	9.83E-01	6.64E+00	26	4	LIS
B' 234-S' 212	1.8512	4.65E+01	2.13E-02	9.96E-01	8.50E-02	26	4	LIS
B' 232-S' 212	1.8512	4.46E+01	2.95E-01	9.91E-01	5.85E-01	26	4	LIS
I' 232-S' 212	1.8524	2.73E+00	3.02E-02	9.64E-01	5.82E-02	26	4	LIS
B' 232-D' 254	1.8539	1.03E-01	2.95E-01	2.29E-03	1.35E-03	26	4	LIS
I' 232-D' 254	1.8550	5.90E-02	3.02E-02	2.08E-02	1.25E-03	26	4	LIS
I' 278-D' 256	1.8556	4.52E-01	7.15E-02	8.63E-01	4.94E-01	26	4	LIS
J' 234-S' 212	1.8557	2.03E-01	1.18E+00	1.44E-01	6.83E-01	26	4	LIS
I' 436-D' 254	1.8558	1.60E-01	4.69E-03	9.35E-01	2.63E-02	26	4	LIS
I' 234-D' 254	1.8559	3.05E-01	4.36E-04	6.60E-01	1.15E-03	26	4	LIS
I' 436-D' 256	1.8559	6.46E-03	4.69E-03	3.78E-02	1.06E-03	26	4	LIS
I' 458-D' 256	1.8563	1.54E-01	1.61E-02	9.05E-01	1.17E-01	26	4	LIS
I' 256-D' 256	1.8563	1.81E-01	1.73E-02	9.12E-01	9.45E-02	26	4	LIS
J' 234-D' 254	1.8584	9.64E-04	1.18E+00	6.85E-04	3.25E-03	26	4	LIS
J' 234-D' 256	1.8586	1.80E-02	1.18E+00	1.28E-02	6.05E-02	26	4	LIS
C' 234-S' 212	1.8588	3.84E-02	8.63E-01	1.32E-02	4.56E-02	26	4	LIS
C' 232-S' 212	1.8593	2.23E+00	1.71E+00	4.42E-01	1.51E+00	26	4	LIS
H' 276-D' 254	1.8593	6.59E-02	5.53E-04	9.82E-01	3.26E-03	26	4	LIS
J' 436-D' 256	1.8594	1.15E+00	1.45E-04	9.69E-01	8.41E-04	26	4	LIS
H' 278-D' 256	1.8594	3.03E-02	2.88E-03	9.13E-01	2.10E-02	26	4	LIS
J' 232-S' 212	1.8597	1.94E+00	9.05E-02	6.46E-01	1.17E-01	26	4	LIS
I' 452-D' 254	1.8597	3.45E+00	1.28E-03	9.98E-01	2.56E-03	26	4	LIS
I' 276-D' 254	1.8598	4.90E-01	9.36E-03	1.04E-01	5.84E-03	26	4	LIS
I' 454-D' 254	1.8598	3.46E+00	3.41E-04	8.91E-01	1.21E-03	26	4	LIS
I' 276-D' 256	1.8600	4.21E+00	9.36E-03	8.94E-01	5.02E-02	26	4	LIS
I' 454-D' 256	1.8600	3.87E-01	3.41E-04	9.99E-02	1.36E-04	26	4	LIS
I' 478-D' 256	1.8602	4.26E+00	1.44E-01	9.67E-01	1.12E+00	26	4	LIS
I' 456-D' 254	1.8603	1.02E+00	2.89E-03	7.41E-01	1.29E-02	26	4	LIS
I' 456-D' 256	1.8605	3.54E-01	2.89E-03	2.57E-01	4.47E-03	26	4	LIS
J' 434-S' 212	1.8605	4.52E+00	5.14E-02	9.47E-01	1.95E-01	26	4	LIS
I' 476-D' 254	1.8606	4.12E+00	4.45E-02	9.83E-01	2.62E-01	26	4	LIS
I' 476-D' 256	1.8608	2.83E-02	4.45E-02	6.76E-03	1.81E-03	26	4	LIS
I' 474-D' 254	1.8609	6.99E-01	9.41E-04	9.70E-01	3.65E-03	26	4	LIS
J' 432-S' 212	1.8610	7.02E-01	2.66E-02	8.81E-01	4.69E-02	26	4	LIS
C' 234-D' 254	1.8615	6.66E-02	8.63E-01	2.29E-02	7.91E-02	26	4	LIS
C' 234-D' 256	1.8617	6.47E-01	8.63E-01	2.23E-01	7.69E-01	26	4	LIS
C' 232-D' 254	1.8620	3.06E-01	1.71E+00	6.08E-02	2.08E-01	26	4	LIS

Table II(a) - 5

J' 232-D' 254	1.8624	2.95E-01	9.05E-02	9.80E-02	1.77E-02	26	4	LIS
J' 434-D' 256	1.8634	3.17E-02	5.14E-02	6.63E-03	1.36E-03	26	4	LIS
J' 432-D' 254	1.8638	1.58E-02	2.66E-02	1.98E-02	1.05E-03	26	4	LIS
K' 232-S' 212	1.8673	8.60E-03	2.59E-01	2.24E-03	1.16E-03	26	4	LIS
K' 234-S' 212	1.8674	9.86E-02	2.50E-01	2.80E-02	2.80E-02	26	4	LIS
Q' 276-D' 254	1.8680	7.17E-03	3.28E-04	8.49E-01	1.67E-03	26	4	LIS
Q' 278-D' 256	1.8682	5.34E-03	3.26E-04	9.42E-01	2.46E-03	26	4	LIS
V' 298-U' 276	1.8503	4.18E+01	3.87E-02	8.81E-01	2.73E-01	26	5	LIS
V' 298-U' 278	1.8503	5.59E+00	3.87E-02	1.18E-01	3.64E-02	26	5	LIS
V' 256-U' 278	1.8503	4.75E+01	1.28E-03	9.85E-01	7.56E-03	26	5	LIS
V' 254-U' 276	1.8503	4.82E+01	1.86E-03	9.99E-01	7.45E-03	26	5	LIS
V' 278-U' 278	1.8504	4.14E+01	7.73E-04	8.80E-01	5.45E-03	26	5	LIS
F' 212-P' 232	1.8505	1.57E+00	3.29E-01	3.26E-02	2.15E-02	26	5	LIS
F' 234-P' 232	1.8506	5.08E-01	1.95E-01	1.06E-02	8.26E-03	26	5	LIS
F' 212-P' 234	1.8508	4.59E+01	3.29E-01	9.56E-01	6.30E-01	26	5	LIS
F' 234-P' 234	1.8509	4.67E+01	1.95E-01	9.72E-01	7.58E-01	26	5	LIS
F' 254-P' 232	1.8509	4.66E+01	7.51E-01	9.62E-01	2.89E+00	26	5	LIS
F' 232-P' 232	1.8509	4.60E+01	7.22E-03	9.52E-01	1.37E-02	26	5	LIS
F' 256-P' 234	1.8510	4.75E+01	4.30E-01	9.73E-01	2.51E+00	26	5	LIS
F' 254-P' 234	1.8512	5.03E-01	7.51E-01	1.04E-02	3.12E-02	26	5	LIS
M' 212-P' 232	1.8553	2.89E-01	2.09E-01	1.08E-01	4.50E-02	26	5	LIS
M' 212-P' 234	1.8556	6.16E-01	2.09E-01	2.30E-01	9.59E-02	26	5	LIS
M' 234-P' 232	1.8557	1.34E-02	1.51E-01	9.65E-03	5.84E-03	26	5	LIS
M' 256-P' 234	1.8557	2.61E-02	7.75E-01	1.15E-02	5.33E-02	26	5	LIS
M' 234-P' 234	1.8560	1.63E-02	1.51E-01	1.17E-02	7.08E-03	26	5	LIS
M' 434-P' 232	1.8560	7.56E-02	4.73E-02	1.60E-01	3.03E-02	26	5	LIS
M' 436-P' 234	1.8563	1.08E-01	1.82E-01	2.07E-01	2.27E-01	26	5	LIS
M' 434-P' 234	1.8563	5.96E-02	4.73E-02	1.26E-01	2.39E-02	26	5	LIS
G' 254-P' 232	1.8593	8.30E-04	3.39E-02	7.57E-03	1.03E-03	26	5	LIS
G' 256-P' 234	1.8594	7.65E-03	1.18E-01	2.40E-02	1.70E-02	26	5	LIS
W' 276-U' 278	1.8595	4.10E+00	2.25E-03	9.99E-01	1.35E-02	26	5	LIS
G' 254-P' 234	1.8595	8.79E-03	3.39E-02	8.02E-02	1.09E-02	26	5	LIS
M' 254-P' 232	1.8596	4.66E-01	4.93E-01	6.61E-02	1.30E-01	26	5	LIS
M' 232-P' 232	1.8596	1.32E-01	4.32E-02	2.19E-02	1.89E-03	26	5	LIS
W' 498-U' 276	1.8596	4.95E+00	2.69E-03	9.99E-01	2.15E-02	26	5	LIS
M' 432-P' 232	1.8598	3.65E+00	5.37E-02	9.30E-01	1.00E-01	26	5	LIS
M' 254-P' 234	1.8599	4.26E+00	4.93E-01	6.04E-01	1.19E+00	26	5	LIS
M' 232-P' 234	1.8599	3.89E+00	4.32E-02	6.43E-01	5.55E-02	26	5	LIS
G' 256-U' 278	1.8599	1.73E-01	1.18E-01	5.44E-01	3.86E-01	26	5	LIS
G' 254-U' 276	1.8600	3.61E-02	3.39E-02	3.30E-01	4.47E-02	26	5	LIS
W' 458-U' 278	1.8600	1.88E-01	1.50E-04	9.81E-01	1.18E-03	26	5	LIS
M' 432-P' 234	1.8601	3.86E-02	5.37E-02	9.85E-03	1.06E-03	26	5	LIS
M' 456-P' 234	1.8602	4.62E+00	2.79E-01	9.34E-01	1.56E+00	26	5	LIS
M' 414-P' 232	1.8602	1.93E+00	7.30E-02	5.63E-01	1.64E-01	26	5	LIS
M' 454-P' 232	1.8604	2.70E+00	4.76E-02	9.64E-01	1.84E-01	26	5	LIS
M' 414-P' 234	1.8605	8.40E-01	7.30E-02	2.45E-01	7.14E-02	26	5	LIS
M' 452-P' 232	1.8607	3.33E-01	1.21E-02	4.96E-01	1.20E-02	26	5	LIS
E' 212-P' 232	1.8609	4.29E-01	5.01E-01	3.00E-01	3.01E-01	26	5	LIS
M' 452-P' 234	1.8610	5.19E-02	1.21E-02	7.73E-02	1.87E-03	26	5	LIS
E' 212-P' 234	1.8612	4.79E-01	5.01E-01	3.36E-01	3.36E-01	26	5	LIS
N' 254-P' 234	1.8681	7.77E-04	1.23E-02	4.36E-02	2.14E-03	26	5	LIS
N' 256-P' 234	1.8681	1.40E-03	1.12E-02	8.99E-02	6.07E-03	26	5	LIS
L' 212-P' 232	1.8693	4.16E-03	7.68E-01	5.31E-03	8.16E-03	26	5	LIS
A' 234-D' 254	1.8504	6.63E-01	1.83E-02	1.38E-02	1.01E-03	26	5	LIS

Table II(a) - 6

A' 234-D' 256	1.8505	4.71E+01	1.83E-02	9.84E-01	7.20E-02	26	5 LIS
A' 256-D' 254	1.8505	7.24E+00	2.19E-01	1.54E-01	2.03E-01	26	5 LIS
A' 232-D' 254	1.8505	4.82E+01	1.58E-02	9.98E-01	3.16E-02	26	5 LIS
A' 256-D' 256	1.8506	3.95E+01	2.19E-01	8.41E-01	1.11E+00	26	5 LIS
A' 276-D' 254	1.8506	3.98E+01	2.82E-01	8.38E-01	1.42E+00	26	5 LIS
A' 254-D' 254	1.8506	4.65E+01	7.43E-04	9.87E-01	2.93E-03	26	5 LIS
A' 276-D' 256	1.8507	7.41E+00	2.82E-01	1.56E-01	2.64E-01	26	5 LIS
A' 278-D' 256	1.8507	4.76E+01	4.12E-01	9.91E-01	3.27E+00	26	5 LIS
B' 234-S' 212	1.8508	4.77E+01	7.74E-03	9.97E-01	3.09E-02	26	5 LIS
B' 232-S' 212	1.8509	4.78E+01	1.28E-01	9.96E-01	2.55E-01	26	5 LIS
I' 232-S' 212	1.8539	1.16E-01	7.85E-04	9.32E-01	1.46E-03	26	5 LIS
I' 278-D' 256	1.8555	1.46E-01	4.64E-02	7.59E-01	2.82E-01	26	5 LIS
J' 234-S' 212	1.8556	7.32E-02	4.80E-01	1.29E-01	2.48E-01	26	5 LIS
I' 436-D' 254	1.8556	3.85E-02	4.86E-03	6.03E-01	1.76E-02	26	5 LIS
I' 436-D' 256	1.8557	2.04E-02	4.86E-03	3.21E-01	9.34E-03	26	5 LIS
I' 256-D' 254	1.8558	2.08E-02	1.15E-02	2.70E-01	1.87E-02	26	5 LIS
I' 256-D' 256	1.8559	4.47E-02	1.15E-02	5.80E-01	4.01E-02	26	5 LIS
I' 458-D' 256	1.8559	1.02E-01	7.15E-03	9.34E-01	5.35E-02	26	5 LIS
J' 234-D' 254	1.8570	5.55E-04	4.80E-01	9.81E-04	1.88E-03	26	5 LIS
J' 234-D' 256	1.8571	1.19E-02	4.80E-01	2.11E-02	4.05E-02	26	5 LIS
I' 474-S' 212	1.8590	1.18E-02	2.14E-01	1.53E-02	1.31E-02	26	5 LIS
C' 234-S' 212	1.8591	8.21E-03	3.20E-01	7.41E-03	9.49E-03	26	5 LIS
C' 232-S' 212	1.8593	8.67E-01	7.90E-01	3.57E-01	5.65E-01	26	5 LIS
H' 278-D' 256	1.8594	4.43E-03	1.69E-03	7.23E-01	9.80E-03	26	5 LIS
I' 452-D' 254	1.8596	3.84E+00	6.22E-04	9.98E-01	1.24E-03	26	5 LIS
J' 232-S' 212	1.8596	3.22E+00	1.06E-01	9.09E-01	1.92E-01	26	5 LIS
I' 276-D' 254	1.8597	2.42E-01	8.57E-03	4.88E-02	2.51E-03	26	5 LIS
I' 254-D' 256	1.8597	3.86E+00	2.45E-03	9.66E-01	9.46E-03	26	5 LIS
I' 276-D' 256	1.8598	4.72E+00	8.57E-03	9.49E-01	4.88E-02	26	5 LIS
I' 234-D' 256	1.8598	1.91E-01	3.24E-07	4.03E-02	5.22E-08	26	5 LIS
I' 478-D' 256	1.8598	4.54E+00	8.56E-02	9.81E-01	6.72E-01	26	5 LIS
J' 434-S' 212	1.8600	4.42E+00	2.59E-02	9.76E-01	1.01E-01	26	5 LIS
I' 456-D' 254	1.8600	4.55E+00	6.21E-03	9.45E-01	3.52E-02	26	5 LIS
I' 456-D' 256	1.8601	2.57E-01	6.21E-03	5.34E-02	1.99E-03	26	5 LIS
I' 476-D' 254	1.8602	4.00E-01	2.05E-02	7.96E-01	9.80E-02	26	5 LIS
I' 476-D' 256	1.8603	8.20E-02	2.05E-02	1.63E-01	2.01E-02	26	5 LIS
I' 474-D' 254	1.8604	1.09E-01	2.14E-01	1.42E-01	1.21E-01	26	5 LIS
C' 234-D' 254	1.8604	2.18E-01	3.20E-01	1.97E-01	2.52E-01	26	5 LIS
I' 474-D' 256	1.8605	1.74E-01	2.14E-01	2.25E-01	1.93E-01	26	5 LIS
J' 432-S' 212	1.8605	3.54E-01	3.54E-02	8.52E-01	6.04E-02	26	5 LIS
C' 234-D' 256	1.8605	2.05E-01	3.20E-01	1.85E-01	2.37E-01	26	5 LIS
C' 232-D' 254	1.8607	2.20E-01	7.90E-01	9.07E-02	1.43E-01	26	5 LIS
J' 232-D' 254	1.8610	9.18E-02	1.06E-01	2.60E-02	5.49E-03	26	5 LIS
J' 432-D' 254	1.8619	1.19E-02	3.54E-02	2.87E-02	2.03E-03	26	5 LIS
K' 234-S' 212	1.8677	1.98E-02	1.58E-01	1.08E-02	6.82E-03	26	5 LIS
Q' 276-D' 254	1.8681	1.66E-03	2.49E-04	7.78E-01	1.16E-03	26	5 LIS
Q' 278-D' 256	1.8682	1.29E-03	2.40E-04	8.43E-01	1.62E-03	26	5 LIS
V' 298-U' 276	1.8503	4.06E+01	2.21E-02	8.57E-01	1.51E-01	26	6 LIS
V' 298-U' 278	1.8503	6.78E+00	2.21E-02	1.43E-01	2.52E-02	26	6 LIS
V' 256-U' 278	1.8504	4.68E+01	6.94E-04	9.75E-01	4.06E-03	26	6 LIS
V' 278-U' 278	1.8504	4.04E+01	7.09E-04	8.56E-01	4.85E-03	26	6 LIS
V' 254-U' 276	1.8504	4.81E+01	1.29E-03	9.98E-01	5.16E-03	26	6 LIS
F' 212-P' 232	1.8505	3.03E-01	1.85E-01	6.31E-03	2.33E-03	26	6 LIS
F' 234-P' 232	1.8505	7.71E-01	9.75E-02	1.61E-02	6.29E-03	26	6 LIS

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F' 212-P' 234	1.8506	4.74E+01	1.85E-01	9.87E-01	3.64E-01	26	6 LIS
F' 234-P' 234	1.8506	4.66E+01	9.75E-02	9.74E-01	3.80E-01	26	6 LIS
F' 254-P' 232	1.8507	4.66E+01	4.32E-01	9.68E-01	1.67E+00	26	6 LIS
F' 232-P' 232	1.8507	4.73E+01	1.37E-02	9.84E-01	2.70E-02	26	6 LIS
F' 256-P' 234	1.8507	4.75E+01	2.41E-01	9.83E-01	1.42E+00	26	6 LIS
F' 254-P' 234	1.8508	7.70E-01	4.32E-01	1.60E-02	2.77E-02	26	6 LIS
M' 212-P' 232	1.8554	1.57E-01	1.32E-01	1.10E-01	2.90E-02	26	6 LIS
M' 212-P' 234	1.8555	2.51E-01	1.32E-01	1.75E-01	4.64E-02	26	6 LIS
M' 234-P' 232	1.8556	1.29E-02	8.87E-02	1.57E-02	5.57E-03	26	6 LIS
M' 256-P' 234	1.8556	2.57E-02	4.40E-01	1.99E-02	5.25E-02	26	6 LIS
M' 434-P' 232	1.8558	7.00E-02	2.48E-02	2.47E-01	2.44E-02	26	6 LIS
M' 436-P' 234	1.8559	7.72E-02	1.01E-01	2.49E-01	1.50E-01	26	6 LIS
M' 434-P' 234	1.8559	3.10E-02	2.48E-02	1.09E-01	1.08E-02	26	6 LIS
G' 254-P' 232	1.8593	2.86E-03	2.79E-02	3.96E-02	4.43E-03	26	6 LIS
G' 256-P' 234	1.8594	3.04E-02	7.49E-02	7.95E-02	3.57E-02	26	6 LIS
W' 276-U' 278	1.8595	4.10E+00	1.68E-03	9.86E-01	9.96E-03	26	6 LIS
G' 254-P' 234	1.8595	8.53E-03	2.79E-02	1.18E-01	1.32E-02	26	6 LIS
W' 496-U' 276	1.8596	4.93E+00	1.44E-03	9.88E-01	8.53E-03	26	6 LIS
M' 254-P' 232	1.8596	3.92E-01	2.73E-01	6.52E-02	7.12E-02	26	6 LIS
W' 498-U' 276	1.8596	4.94E+00	1.57E-03	9.98E-01	1.25E-02	26	6 LIS
G' 256-U' 276	1.8597	9.27E-02	7.49E-02	2.43E-01	1.09E-01	26	6 LIS
M' 432-P' 232	1.8597	4.14E+00	5.02E-02	9.15E-01	9.19E-02	26	6 LIS
G' 256-U' 278	1.8597	1.83E-01	7.49E-02	4.78E-01	2.15E-01	26	6 LIS
M' 232-P' 234	1.8597	4.10E+00	1.42E-02	8.13E-01	2.30E-02	26	6 LIS
G' 254-U' 276	1.8597	2.12E-02	2.79E-02	2.94E-01	3.28E-02	26	6 LIS
M' 254-P' 234	1.8597	4.35E+00	2.73E-01	7.23E-01	7.91E-01	26	6 LIS
M' 432-P' 234	1.8599	6.57E-02	5.02E-02	1.45E-02	1.46E-03	26	6 LIS
M' 456-P' 234	1.8599	4.64E+00	1.79E-01	9.56E-01	1.03E+00	26	6 LIS
M' 414-P' 232	1.8600	4.34E+00	4.95E-03	8.42E-01	1.67E-02	26	6 LIS
M' 414-P' 234	1.8601	4.99E-01	4.95E-03	9.69E-02	1.92E-03	26	6 LIS
M' 454-P' 232	1.8602	2.05E-01	8.99E-02	3.82E-01	1.37E-01	26	6 LIS
E' 212-P' 232	1.8603	2.93E-01	2.87E-01	3.33E-01	1.91E-01	26	6 LIS
M' 454-P' 234	1.8603	1.42E-01	8.99E-02	2.65E-01	9.52E-02	26	6 LIS
M' 452-P' 232	1.8604	1.65E-01	8.33E-03	4.09E-01	6.81E-03	26	6 LIS
E' 212-P' 234	1.8604	2.94E-01	2.87E-01	3.34E-01	1.91E-01	26	6 LIS
N' 256-P' 234	1.8682	4.85E-04	4.34E-03	8.78E-02	2.28E-03	26	6 LIS
L' 212-P' 232	1.8688	1.68E-03	4.24E-01	3.93E-03	3.33E-03	26	6 LIS
A' 256-D' 254	1.8504	3.76E+00	9.27E-02	7.98E-02	4.44E-02	26	6 LIS
A' 234-D' 256	1.8505	4.78E+01	1.12E-02	9.98E-01	4.48E-02	26	6 LIS
A' 256-D' 256	1.8505	4.33E+01	9.27E-02	9.18E-01	5.10E-01	26	6 LIS
A' 276-D' 254	1.8505	4.35E+01	1.94E-01	9.16E-01	1.07E+00	26	6 LIS
A' 232-D' 254	1.8505	4.81E+01	1.08E-02	9.98E-01	2.16E-02	26	6 LIS
A' 254-D' 254	1.8505	4.72E+01	1.43E-03	9.98E-01	5.70E-03	26	6 LIS
A' 276-D' 256	1.8505	3.82E+00	1.94E-01	8.04E-02	9.36E-02	26	6 LIS
A' 278-D' 256	1.8506	4.76E+01	2.33E-01	9.95E-01	1.86E+00	26	6 LIS
B' 234-S' 212	1.8507	4.78E+01	3.86E-03	9.98E-01	1.54E-02	26	6 LIS
B' 232-S' 212	1.8507	4.79E+01	6.65E-02	9.97E-01	1.33E-01	26	6 LIS
I' 278-D' 256	1.8555	7.50E-02	2.90E-02	7.21E-01	1.67E-01	26	6 LIS
I' 436-D' 254	1.8555	1.16E-02	3.54E-03	2.44E-01	5.18E-03	26	6 LIS
J' 234-S' 212	1.8555	2.68E-02	2.51E-01	9.43E-02	9.46E-02	26	6 LIS
I' 436-D' 256	1.8556	3.24E-02	3.54E-03	6.82E-01	1.45E-02	26	6 LIS
I' 256-D' 254	1.8557	4.22E-02	7.32E-03	6.68E-01	2.94E-02	26	6 LIS
I' 256-D' 256	1.8557	1.36E-02	7.32E-03	2.16E-01	9.47E-03	26	6 LIS
I' 458-D' 256	1.8557	8.27E-02	3.74E-03	9.57E-01	2.86E-02	26	6 LIS

Table II(a) - 8

J' 234-D' 254	1.8563	3.44E-04	2.51E-01	1.21E-03	1.22E-03	26	6	LIS
J' 234-D' 256	1.8564	5.97E-03	2.51E-01	2.10E-02	2.11E-02	26	6	LIS
C' 234-S' 212	1.8592	7.00E-02	3.25E-01	6.84E-02	8.90E-02	26	6	LIS
C' 232-S' 212	1.8594	4.56E-01	4.25E-01	3.31E-01	2.82E-01	26	6	LIS
H' 278-D' 256	1.8594	8.22E-04	9.94E-04	4.53E-01	3.60E-03	26	6	LIS
J' 232-S' 212	1.8595	3.75E+00	7.48E-02	9.61E-01	1.44E-01	26	6	LIS
I' 254-D' 256	1.8596	3.87E+00	2.34E-03	9.51E-01	8.90E-03	26	6	LIS
I' 276-D' 254	1.8596	2.27E-01	5.66E-03	4.61E-02	1.57E-03	26	6	LIS
I' 276-D' 256	1.8597	4.69E+00	5.66E-03	9.53E-01	3.24E-02	26	6	LIS
I' 478-D' 256	1.8597	4.68E+00	5.29E-02	9.89E-01	4.19E-01	26	6	LIS
J' 434-S' 212	1.8598	4.33E+00	1.51E-02	9.85E-01	5.96E-02	26	6	LIS
I' 476-D' 254	1.8598	4.80E+00	7.49E-03	9.56E-01	4.30E-02	26	6	LIS
I' 476-D' 256	1.8599	2.11E-01	7.49E-03	4.20E-02	1.89E-03	26	6	LIS
C' 234-D' 254	1.8600	9.69E-03	3.25E-01	9.47E-03	1.23E-02	26	6	LIS
C' 234-D' 256	1.8600	2.68E-01	3.25E-01	2.62E-01	3.41E-01	26	6	LIS
I' 456-D' 254	1.8601	8.91E-03	9.04E-03	5.30E-02	2.87E-03	26	6	LIS
I' 456-D' 256	1.8602	1.50E-01	9.04E-03	8.93E-01	4.84E-02	26	6	LIS
C' 232-D' 254	1.8602	1.57E-01	4.25E-01	1.14E-01	9.68E-02	26	6	LIS
I' 474-D' 254	1.8602	8.14E-02	3.04E-04	8.74E-01	1.06E-03	26	6	LIS
J' 432-S' 212	1.8603	1.66E-01	3.54E-02	7.77E-01	5.50E-02	26	6	LIS
J' 232-D' 254	1.8603	4.01E-02	7.48E-02	1.03E-02	1.54E-03	26	6	LIS
J' 432-D' 254	1.8611	7.82E-03	3.54E-02	3.66E-02	2.59E-03	26	6	LIS
K' 234-S' 212	1.8679	5.87E-03	9.94E-02	5.48E-03	2.18E-03	26	6	LIS

Table II(b) - 1

Atomic data for dielectronic satellite lines of Li-like Fe ions
Cornille data

(See Table II(c) for the configuration of KU and KL levels)

n	Transition		W.L.	Qd	Ar	Br
	KU	KL				
2	23	2	1.8894	1.676E+00	9.508E-01	5.961E-02
2	23	3	1.8946	1.656E+00	9.394E-01	5.889E-02
2	25	1	1.8712	3.174E-01	1.471E+00	9.458E-01
2	27	1	1.8611	6.717E+00	2.884E+01	8.833E-01
2	30	1	1.8543	1.084E+01	2.033E+01	7.330E-01
2	31	3	1.8724	5.235E-01	8.229E-01	8.272E-01
2	32	1	1.8535	1.695E+00	4.411E-01	3.843E-02
2	33	3	1.8703	8.336E+00	3.374E+00	5.880E-01
2	34	2	1.8601	3.531E+01	3.146E+01	6.549E-01
2	34	3	1.8652	3.470E+00	3.092E+00	6.436E-02
2	35	2	1.8594	1.471E-01	5.389E+01	7.719E-01
2	36	3	1.8631	5.166E+01	2.109E+01	5.916E-01
2	37	2	1.8542	2.468E-01	1.247E+00	1.873E-02
2	37	3	1.8593	1.227E+01	6.201E+01	9.315E-01
2	38	2	1.8488	1.787E-01	8.889E-01	3.161E-02
2	38	3	1.8539	4.904E+00	2.439E+01	8.674E-01
3	40	2	1.6013	4.184E-01	2.429E-01	4.763E-02
3	40	3	1.6051	4.067E-01	2.361E-01	4.629E-02
3	42	1	1.5906	2.503E-01	1.672E+00	7.844E-01
3	44	1	1.5894	5.941E-01	5.901E+00	7.233E-01
3	44	4	1.8643	1.054E-01	1.047E+00	1.283E-01
3	45	1	1.5894	2.643E-01	6.556E+00	8.060E-01
3	50	5	1.8647	9.850E-01	1.152E+00	2.002E-01
3	50	6	1.8663	1.331E+00	1.557E+00	2.706E-01
3	52	3	1.5996	2.746E-01	3.129E-01	1.108E-01
3	53	2	1.5958	4.313E-01	7.560E-01	2.140E-01
3	54	1	1.5859	1.109E-01	9.898E-01	2.307E-01
3	54	4	1.8595	3.136E-01	2.799E+00	6.525E-01
3	56	1	1.5846	1.449E-01	5.971E+00	8.259E-01
3	58	4	1.8563	4.995E+00	7.588E+00	6.267E-01
3	59	1	1.5835	1.502E+00	4.578E+00	6.049E-01
3	59	4	1.8562	3.249E-01	9.900E-01	1.308E-01
3	59	8	1.8632	3.277E-01	9.988E-01	1.320E-01
3	61	2	1.5927	1.514E-01	1.217E+00	2.668E-01
3	61	6	1.8607	1.636E-01	1.315E+00	2.882E-01
3	62	6	1.8605	1.763E+00	3.017E+00	7.905E-01
3	66	7	1.8599	2.803E-01	3.066E+00	8.464E-01
3	67	2	1.5911	1.850E+00	8.405E+00	4.942E-01
3	67	5	1.8570	7.300E-01	3.316E+00	1.950E-01
3	67	6	1.8585	6.713E-01	3.049E+00	1.793E-01
3	68	5	1.8562	1.013E-01	8.005E-01	2.425E-01
3	69	7	1.8587	1.298E-01	3.640E-02	7.438E-03
3	70	6	1.8574	1.067E-01	1.845E+00	4.715E-01
3	72	8	1.8589	6.275E-01	2.408E+00	7.265E-01
3	74	2	1.5900	1.993E-01	5.741E-01	1.408E-01
3	74	3	1.5937	5.252E-01	1.513E+00	3.710E-01
3	74	6	1.8570	2.719E-01	7.832E-01	1.920E-01
3	76	3	1.5932	1.489E+00	8.953E-01	3.169E-01

Table II(b) - 2

3	80	2	1.5891	1.619E-01	7.911E-01	8.199E-02
3	80	3	1.5929	8.393E-01	4.101E+00	4.250E-01
3	80	6	1.8558	7.046E-01	3.443E+00	3.568E-01
3	81	4	1.8495	4.343E-01	4.167E+01	9.768E-01
3	82	4	1.8493	2.379E+00	4.091E+01	9.499E-01
3	84	3	1.5913	1.280E+01	1.006E+01	6.488E-01
3	84	6	1.8537	1.526E+00	1.199E+00	7.733E-02
3	86	6	1.8531	2.878E-01	1.480E+01	5.327E-01
3	92	3	1.5895	7.496E-01	2.330E+00	4.778E-02
3	92	5	1.8497	1.335E+01	4.151E+01	8.511E-01
3	95	3	1.5889	9.915E-01	2.545E+00	5.064E-02
3	95	6	1.8505	1.704E+01	4.373E+01	8.701E-01
3	97	3	1.5882	6.095E-01	4.486E+00	9.039E-02
3	97	6	1.8495	5.725E+00	4.213E+01	8.489E-01
3	98	5	1.8465	1.762E-01	2.171E+00	5.769E-02
3	98	6	1.8480	2.667E+00	3.287E+01	8.735E-01
3	100	7	1.8488	8.078E-01	2.078E+01	4.199E-01
3	100	8	1.8492	9.932E-01	2.555E+01	5.163E-01
3	101	8	1.8488	1.141E+01	3.933E+01	8.985E-01
3	102	7	1.8475	3.728E+00	1.992E+01	4.628E-01
3	102	8	1.8480	3.436E+00	1.836E+01	4.266E-01
3	104	8	1.8470	1.049E-01	4.203E+01	9.103E-01
4	108	1	1.5135	1.005E-01	4.801E-01	6.711E-01
4	110	1	1.5128	7.695E-01	3.594E+00	7.874E-01
4	111	1	1.5128	3.873E-01	3.979E+00	8.106E-01
4	125	10	1.8601	4.380E-01	6.050E-01	2.282E-01
4	125	11	1.8608	5.662E-01	7.821E-01	2.950E-01
4	126	9	1.8580	1.398E-01	3.888E+00	8.903E-01
4	129	10	1.8586	2.782E-01	2.005E+00	7.775E-01
4	130	1	1.5077	2.414E-01	3.829E-01	6.649E-02
4	130	9	1.8569	2.008E+00	3.185E+00	5.530E-01
4	131	2	1.5164	1.715E-01	1.305E+00	2.832E-01
4	131	10	1.8582	2.439E-01	1.856E+00	4.027E-01
4	132	1	1.5074	1.550E+00	1.404E+00	4.461E-01
4	132	14	1.8593	5.270E-01	4.773E-01	1.517E-01
4	135	11	1.8583	1.952E+00	3.618E+00	8.008E-01
4	138	2	1.5155	1.428E+00	3.666E+00	3.803E-01
4	138	10	1.8569	2.730E-01	7.005E-01	7.267E-02
4	138	11	1.8576	1.372E+00	3.521E+00	3.653E-01
4	144	14	1.8575	6.784E-01	3.093E+00	7.732E-01
4	158	9	1.8529	4.976E-01	1.713E-01	1.037E-01
4	159	3	1.5169	1.539E-01	6.652E-01	4.875E-01
4	160	3	1.5168	7.526E-01	5.090E-01	3.662E-01
4	162	3	1.5164	6.238E-01	2.455E+00	6.388E-01
4	162	11	1.8539	1.527E-01	6.010E-01	1.564E-01
4	163	3	1.5160	5.950E+00	3.299E+00	5.988E-01
4	167	3	1.5157	3.965E-01	3.635E+00	5.221E-01
4	167	11	1.8528	1.874E-01	1.718E+00	2.467E-01
4	176	14	1.8527	1.403E-01	5.488E-01	2.824E-01
4	184	9	1.8483	4.980E-01	4.351E+01	9.887E-01
4	186	3	1.5133	1.168E-01	1.014E+00	2.073E-02
4	186	10	1.8486	5.269E+00	4.573E+01	9.347E-01
4	188	3	1.5131	2.041E-01	1.896E+00	3.795E-02
4	188	11	1.8488	5.019E+00	4.662E+01	9.331E-01
4	189	11	1.8486	1.956E+00	4.573E+01	9.415E-01

Table II(b) - 3

4	190	10	1.8475	1.011E-01	3.900E+00	8.245E-02
4	190	11	1.8482	1.084E+00	4.181E+01	8.840E-01
4	192	12	1.8481	1.103E+00	2.934E+01	6.092E-01
4	192	14	1.8483	6.546E-01	1.741E+01	3.615E-01
4	193	14	1.8483	6.208E+00	4.681E+01	9.685E-01
4	194	12	1.8477	1.303E+00	1.614E+01	3.464E-01
4	194	14	1.8480	2.307E+00	2.858E+01	6.133E-01
4	198	13	1.8475	4.387E-01	4.203E+01	8.920E-01
4	199	14	1.8475	1.434E-01	4.454E+01	9.363E-01
4	200	15	1.8475	5.740E-01	4.690E+01	9.889E-01
5	208	1	1.4802	5.832E-01	2.240E+00	7.696E-01
5	209	1	1.4801	3.100E-01	2.493E+00	7.818E-01
5	224	17	1.8586	2.651E-01	4.107E-01	2.552E-01
5	224	18	1.8591	2.870E-01	4.447E-01	2.763E-01
5	226	2	1.4838	1.512E-01	2.209E-01	2.077E-01
5	226	17	1.8582	2.149E-01	3.140E-01	2.952E-01
5	227	1	1.4752	1.594E-01	7.274E-01	4.474E-01
5	229	16	1.8570	1.320E+00	3.483E+00	7.504E-01
5	231	1	1.4749	1.013E+00	7.671E-01	3.912E-01
5	231	22	1.8583	3.477E-01	2.632E-01	1.342E-01
5	235	18	1.8577	1.379E+00	3.559E+00	8.430E-01
5	238	2	1.4830	2.929E-01	6.333E-01	1.909E-01
5	238	18	1.8574	6.106E-01	1.320E+00	3.978E-01
5	239	2	1.4829	3.231E-01	1.620E+00	3.514E-01
5	239	18	1.8573	4.597E-01	2.305E+00	5.000E-01
5	244	22	1.8573	5.403E-01	2.734E+00	8.177E-01
5	256	16	1.8528	2.163E-01	8.207E-02	8.953E-02
5	258	3	1.4839	4.180E-01	3.135E-01	3.683E-01
5	260	3	1.4837	4.202E-01	1.619E+00	6.770E-01
5	261	3	1.4834	3.371E+00	1.874E+00	5.791E-01
5	265	3	1.4832	3.479E-01	2.363E+00	6.389E-01
5	282	16	1.8481	2.735E-01	4.663E+01	9.924E-01
5	285	17	1.8482	3.085E+00	4.623E+01	9.568E-01
5	286	18	1.8483	2.916E+00	4.667E+01	9.549E-01
5	287	18	1.8482	1.090E+00	4.638E+01	9.615E-01
5	288	18	1.8480	6.689E-01	4.281E+01	8.947E-01
5	290	22	1.8480	4.088E+00	4.698E+01	9.801E-01
5	291	19	1.8479	8.830E-01	3.133E+01	6.562E-01
5	291	22	1.8480	4.374E-01	1.552E+01	3.251E-01
5	293	19	1.8477	7.613E-01	1.482E+01	3.155E-01
5	293	22	1.8478	1.592E+00	3.099E+01	6.597E-01
5	296	20	1.8475	4.185E-01	4.107E+01	8.734E-01
5	297	21	1.8475	5.671E-01	4.692E+01	9.928E-01
5	298	22	1.8476	1.194E-01	4.512E+01	9.461E-01

Table II(c)-1

Information for the transition No. of KU and KL in Table II(b)

No. for CF (Configuration)

1	1s1s2s	2	1s1s2p	3	1s1s3s
4	1s1s3p	5	1s1s3d	6	1s1s4s
7	1s1s4p	8	1s1s4d	9	1s1s4f
10	1s1s5s	11	1s1s5p	12	1s1s5d
13	1s1s5f	14	1s2s2p	15	1s2s3p
16	1s2p3s	17	1s2p3d	18	1s2s4p
19	1s2s4f	20	1s2p4s	21	1s2p4d
22	1s2s5p	23	1s2s5f	24	1s2p5s
25	1s2p5d	26	1s2s2s	27	1s2p2p
28	1s2s3s	29	1s2s3d	30	1s2p3p
31	1s2s4s	32	1s2s4d	33	1s2p4p
34	1s2p4f	35	1s2s5s	36	1s2s5d
37	1s2p5p	38	1s2p5f		

K	CF	2S+1	L	2J	K	CF	2S+1	L	2J	K	CF	2S+1	L	2J
1	1	2	0	1	35	27	2	2	5	69	17	4	3	5
2	2	2	1	1	36	27	2	1	1	70	30	4	1	5
3	2	2	1	3	37	27	2	1	3	71	17	4	3	7
4	3	2	0	1	38	27	2	0	1	72	16	2	1	3
5	4	2	1	1	39	28	4	0	3	73	17	2	2	3
6	4	2	1	3	40	28	2	0	1	74	17	2	2	5
7	5	2	2	3	41	15	4	1	1	75	17	4	3	9
8	5	2	2	5	42	15	4	1	3	76	30	2	2	3
16	6	2	0	1	43	15	4	1	5	77	29	2	2	5
10	7	2	1	1	44	15	2	1	3	78	29	2	2	3
11	7	2	1	3	45	15	2	1	1	79	30	2	2	5
12	9	2	3	5	46	29	4	2	1	80	17	4	2	1
13	9	2	3	7	47	29	4	2	3	81	17	4	2	3
14	8	2	2	3	48	29	4	2	5	82	17	4	2	5
15	8	2	2	5	49	29	4	2	7	83	17	4	2	7
16	10	2	0	1	50	29	2	2	5	84	16	2	1	3
17	13	2	3	5	51	29	2	2	3	85	17	2	3	5
18	13	2	3	7	52	16	4	1	1	86	16	2	1	1
19	11	2	1	1	53	28	2	0	1	87	17	4	1	5
20	11	2	1	3	54	16	4	1	3	88	17	4	1	3
21	12	2	2	3	55	16	4	1	5	89	17	4	1	1
22	12	2	2	5	56	30	4	2	1	90	17	2	3	7
23	26	2	0	1	57	30	4	2	3	91	30	2	0	1
24	14	4	1	1	58	15	2	1	1	92	17	2	1	3
25	14	4	1	3	59	30	4	2	5	93	17	2	1	1
26	14	4	1	5	60	15	2	1	3	94	30	2	2	3
27	14	2	1	1	61	30	2	1	3	95	30	2	1	1
28	14	2	1	3	62	30	2	1	1	96	30	2	2	5
29	27	4	1	1	63	30	4	2	7	97	30	2	1	3
30	27	4	1	3	64	30	4	0	3	98	17	2	2	3
31	27	4	1	5	65	30	4	1	1	99	17	2	2	5
32	14	2	1	1	66	16	2	1	1	100	30	2	0	1
33	14	2	1	3	67	17	4	3	3	101	17	2	3	7
34	27	2	2	3	68	30	4	1	3	102	17	2	3	5

Table II(c)-2

K	CF	2S+1	L	2J	K	CF	2S+1	L	2J	K	CF	2S+1	L	2J
103	17	2	1	1	156	21	4	2	5	209	22	2	1	1
104	17	2	1	3	157	34	4	3	9	210	36	4	2	1
105	31	4	0	3	158	34	4	4	5	211	36	4	2	3
106	31	2	0	1	159	34	2	4	7	212	36	4	2	5
107	18	4	1	1	160	33	2	2	5	213	36	4	2	7
108	18	4	1	3	161	32	2	2	3	214	23	4	3	3
109	18	4	1	5	162	21	4	2	7	215	23	4	3	5
110	18	2	1	3	163	32	2	2	5	216	23	4	3	7
111	18	2	1	1	164	21	2	3	5	217	23	4	3	9
112	32	4	2	1	165	21	4	1	5	218	36	2	2	5
113	32	4	2	3	166	21	4	1	3	219	36	2	2	3
114	32	4	2	5	167	21	4	1	1	220	23	2	3	7
115	32	4	2	7	168	34	4	4	9	221	23	2	3	5
116	32	2	2	5	169	34	4	4	7	222	24	4	1	1
117	32	2	2	3	170	34	4	2	7	223	24	4	1	3
118	19	4	3	3	171	19	2	3	7	224	37	4	2	1
119	19	4	3	5	172	34	4	4	11	225	37	4	2	3
120	19	4	3	7	173	34	2	2	5	226	37	4	2	5
121	19	4	3	9	174	34	2	4	9	227	37	4	0	3
122	19	2	3	7	175	33	2	0	1	228	37	4	1	1
123	19	2	3	5	176	34	4	2	3	229	25	4	3	3
124	20	4	1	1	177	34	4	2	5	230	24	2	1	1
125	20	4	1	3	178	21	2	1	3	231	24	4	1	5
126	31	2	0	1	179	34	4	2	1	232	35	2	0	1
127	33	4	2	1	180	19	2	3	5	233	25	4	3	5
128	20	4	1	5	181	34	2	2	3	234	37	2	1	1
129	33	4	2	3	182	21	2	3	7	235	38	4	4	5
130	20	2	1	1	183	21	2	1	1	236	37	2	1	3
131	33	4	2	5	184	20	2	1	1	237	38	4	3	7
132	33	4	1	3	185	20	2	1	3	238	25	4	3	7
133	33	2	1	1	186	33	2	2	3	239	25	2	2	5
134	20	2	1	3	187	33	2	2	5	240	37	4	2	7
135	33	4	1	1	188	33	2	1	1	241	22	2	1	3
136	21	4	3	3	189	33	2	1	3	242	25	2	2	3
137	33	4	2	7	190	33	2	0	1	243	38	4	3	5
138	33	2	1	3	191	21	2	2	3	244	38	4	3	3
139	21	4	3	5	192	21	2	2	5	245	38	2	3	7
140	18	2	1	1	193	21	2	3	7	246	38	4	3	9
141	33	4	0	3	194	21	2	3	5	247	25	4	2	1
142	33	4	1	5	195	34	2	3	5	248	37	4	1	5
143	21	4	3	7	196	34	2	3	7	249	37	4	1	3
144	21	2	2	5	197	34	2	4	7	250	25	4	2	3
145	21	2	2	3	198	34	2	4	9	251	38	2	3	5
146	34	2	3	5	199	21	2	1	1	252	22	2	1	1
147	33	2	2	3	200	21	2	1	3	253	38	2	4	7
148	18	2	1	3	201	34	2	2	3	254	25	4	2	5
149	34	4	3	7	202	34	2	2	5	255	37	2	2	3
150	21	4	2	1	203	35	4	0	3	256	25	4	3	9
151	21	4	2	3	204	22	4	1	1	257	24	2	1	3
152	34	4	3	5	205	22	4	1	3	258	25	4	2	7
153	21	4	3	9	206	22	4	1	5	259	37	2	2	5
154	34	4	3	3	207	35	2	0	1	260	25	2	3	5
155	34	2	3	7	208	22	2	1	3	261	36	2	2	3

Table II(c)-3

K	CF	2S+1	L	2J
262	36	2	2	5
263	38	4	4	9
264	38	4	4	7
265	25	4	1	5
266	25	4	1	3
267	38	4	2	7
268	38	4	4	11
269	25	4	1	1
270	38	4	2	5
271	23	2	3	7
272	38	4	2	3
273	38	2	4	9
274	38	4	2	1
275	38	2	2	5
276	23	2	3	5
277	38	2	2	3
278	25	2	1	3
279	37	2	0	1
280	25	2	3	7
281	25	2	1	1
282	24	2	1	1
283	24	2	1	3
284	37	2	2	3
285	37	2	2	5
286	37	2	1	1
287	37	2	1	3
288	37	2	0	1
289	25	2	2	3
290	25	2	2	5
291	38	2	3	5
292	38	2	3	7
293	25	2	3	7
294	25	2	3	5
295	38	2	4	9
296	38	2	4	7
297	38	2	2	3
298	25	2	1	1
299	38	2	2	5
300	25	2	1	3

Table III(a) - 1

Atomic data for dielectronic satellite lines of Be-like Fe ions
Safronova data

I= $1s^2s^22p$, A= $1s^22s^2$, C= $1s^22s2p$,

K = $2p^2(^3P)2s(^2P)1s$, Q= $2p^2(^3P)2s(^4P)1s$, K = $2p^2(^1S)2s(^2S)1s$, K = $2p^2(^1D)2s(^2D)1s$
Numbers after letter mean (2S+1)(2L+1)(2J+1)

Transition	W.L.	Ar	SumAa	Br	Qd	Z	n	
K 335-C 333	1.8619	4.20E-01	2.52E+01	1.16E-02	4.10E-01	26	2	BES
K 335-C 335	1.8651	2.20E+00	2.52E+01	6.08E-02	2.15E+00	26	2	BES
K 333-C 335	1.8664	2.22E+01	1.22E+01	6.23E-01	6.79E+00	26	2	BES
K 331-C 333	1.8666	2.13E+01	1.31E+01	5.77E-01	1.34E-01	26	2	BES
K 313-C 331	1.8668	1.73E+00	1.45E+01	5.52E-02	6.39E-01	26	2	BES
K 155-C 335	1.8675	1.41E+01	2.34E+01	2.68E-01	1.43E+01	26	2	BES
K 313-C 333	1.8679	8.85E+00	1.45E+01	2.82E-01	3.27E+00	26	2	BES
K 111-C 133	1.8693	2.30E+01	2.35E+01	4.94E-01	3.51E+00	26	2	BES
I 133-A 111	1.8700	4.39E+01	8.60E+00	8.12E-01	2.00E+00	26	2	BES B
Q 335-C 333	1.8702	3.25E+00	1.12E+01	5.54E-02	1.16E+00	26	2	BES
K 313-C 335	1.8711	3.67E+00	1.45E+01	1.17E-01	1.36E+00	26	2	BES
K 133-C 133	1.8714	6.79E+01	8.74E+00	8.79E-01	1.34E+00	26	2	BES
K 353-C 333	1.8721	2.42E+01	1.70E+01	4.85E-01	1.73E+01	26	2	BES
Q 333-C 331	1.8724	3.76E+01	9.21E+00	6.23E-01	1.19E+01	26	2	BES
K 355-C 333	1.8731	3.17E+01	1.77E+01	6.28E-01	4.81E+01	26	2	BES
Q 335-C 335	1.8734	4.31E+01	1.12E+01	7.34E-01	1.54E+01	26	2	BES
Q 333-C 333	1.8735	3.55E+00	9.21E+00	5.88E-02	1.12E+00	26	2	BES
K 335-C 133	1.8747	8.40E+00	2.52E+01	2.32E-01	8.20E+00	26	2	BES
Q 331-C 333	1.8750	4.99E+01	8.78E+00	8.50E-01	3.69E-01	26	2	BES
K 353-C 335	1.8753	8.21E+00	1.70E+01	1.65E-01	5.87E+00	26	2	BES
K 357-C 335	1.8754	2.30E+01	2.05E+01	5.29E-01	6.64E+01	26	2	BES
K 355-C 335	1.8763	8.17E-01	1.77E+01	1.62E-02	1.24E+00	26	2	BES
Q 333-C 335	1.8767	9.98E+00	9.21E+00	1.65E-01	3.15E+00	26	2	BES
K 155-C 133	1.8771	1.45E+01	2.34E+01	2.76E-01	1.48E+01	26	2	BES
I 333-A 111	1.8786	3.78E+00	1.47E+01	1.97E-01	4.21E+00	26	2	BES I3
K 313-C 133	1.8807	2.59E+00	1.45E+01	8.27E-02	9.56E-01	26	2	BES
K 537-C 335	1.8870	1.01E+00	9.14E-01	5.24E-01	2.92E+00	26	2	BES

Table III(b) - 1

Atomic data for dielectronic satellite lines of Be-like Fe ions
Cornille data

(See Table III(c) for the configuration of KU and KL levels)

n	Transition		W.L.	Qd	E(cm ⁻¹)
	KU	KL			
2	11	7	1.9135	2.764E-01	5.329E+07
2	12	1	1.8756	2.670E+00	5.332E+07
2	12	6	1.9095	3.160E-01	5.332E+07
2	12	8	1.9144	2.914E-01	5.332E+07
2	13	7	1.9085	5.538E-01	5.343E+07
2	13	8	1.9105	9.670E-01	5.343E+07
2	13	9	1.9159	2.178E-01	5.343E+07
2	14	3	1.8847	2.976E-01	5.343E+07
2	15	4	1.8863	3.452E-01	5.350E+07
2	16	4	1.8841	2.450E+00	5.356E+07
2	17	1	1.8668	1.284E+00	5.357E+07
2	18	3	1.8717	3.098E-01	5.380E+07
2	19	2	1.8693	8.494E+00	5.384E+07
2	19	3	1.8705	1.236E+00	5.384E+07
2	19	4	1.8742	2.480E+00	5.384E+07
2	20	3	1.8698	3.816E+01	5.386E+07
2	20	4	1.8735	3.074E+00	5.386E+07
2	20	5	1.8838	4.876E-01	5.386E+07
2	21	3	1.8686	1.757E+01	5.389E+07
2	21	4	1.8724	5.132E+00	5.389E+07
2	22	4	1.8721	5.862E+01	5.390E+07
2	23	3	1.8666	9.578E-01	5.395E+07
2	23	4	1.8703	1.802E+01	5.395E+07
2	23	5	1.8805	4.398E-01	5.395E+07
2	24	3	1.8641	1.355E+00	5.402E+07
2	24	4	1.8678	2.548E+00	5.402E+07
2	24	5	1.8780	6.334E-01	5.402E+07
2	26	4	1.8650	9.414E+00	5.410E+07
2	26	5	1.8751	1.644E+01	5.410E+07
2	27	4	1.8636	5.094E+00	5.414E+07
2	29	4	1.8617	2.790E-01	5.420E+07
2	29	5	1.8718	5.802E+00	5.420E+07
2	30	5	1.8684	1.074E+00	5.429E+07
2	31	5	1.8671	3.052E+00	5.433E+07
2	38	8	1.8683	2.812E-01	5.461E+07
2	39	9	1.8710	4.110E-01	5.468E+07

Table III(c)-1

Information for the transition No. of KU and KL in Table III(b)

No. for CF (Configuration)					
1	1s1s2s2s	2	1s1s2s2p	3	1s1s2p2p
4	1s2s2s2p	5	1s2s2p2p	6	1s2p2p2p

K	CF	2S+1	L	2J
1	1	1	0	0
2	2	3	1	0
3	2	3	1	2
4	2	3	1	4
5	2	1	1	2
6	3	3	1	0
7	3	3	1	2
8	3	3	1	4
9	3	1	2	4
10	3	1	0	0
11	4	3	1	0
12	4	3	1	2
13	4	3	1	4
14	5	5	1	2
15	5	5	1	4
16	5	5	1	6
17	4	1	1	2
18	5	3	1	0
19	5	3	1	2
20	5	3	2	4
21	5	3	2	2
22	5	3	2	6
23	5	3	1	4
24	5	3	0	2
25	5	3	1	0
26	5	1	2	4
27	5	3	1	2
28	6	5	0	4
29	5	3	1	4
30	5	1	1	2
31	5	1	0	0
32	6	3	2	2
33	6	3	2	4
34	6	3	2	6
35	6	3	0	2
36	6	1	2	4
37	6	3	1	0
38	6	3	1	2
39	6	3	1	4
40	6	1	1	2

Table IV(a) - 1

Atomic data for dielectronic satellite lines of B-like Fe ions
Safronova data

$I = 1s2s^22p^2$, $J = 1s2p^4$, $A = 1s^22s^22p$, $B = 1s^22p^3$,
Numbers after letter mean $(2S+1)(2L+1)(2J+1)$

Transition	W.L.	Ar	SumAa	Br	Qd	Z	n	
J 212-B 414	1.8703	6.93E+00	4.27E+01	7.31E-02	4.81E-02	26	2	BOS
J 212-B 254	1.8763	7.00E+00	4.27E+01	7.39E-02	4.86E-02	26	2	BOS
I 234-A 232	1.8773	7.57E-01	1.97E+01	9.52E-03	1.58E-01	26	2	BOS
J 234-B 414	1.8778	1.13E+00	4.25E+01	9.72E-03	3.92E-03	26	2	BOS
I 212-A 234	1.8795	2.88E+01	1.50E+01	6.46E-01	7.90E+00	26	2	BOS
J 256-B 414	1.8804	1.52E+00	5.33E+01	1.52E-02	2.61E-02	26	2	BOS
J 212-B 232	1.8812	2.48E+00	4.27E+01	2.61E-02	1.72E-02	26	2	BOS
I 234-A 234	1.8814	5.79E+01	1.97E+01	7.28E-01	1.21E+01	26	2	BOS
J 254-B 414	1.8814	4.91E+00	4.53E+01	4.51E-02	3.37E-01	26	2	BOS
J 212-B 234	1.8820	3.57E+01	4.27E+01	3.76E-01	2.47E-01	26	2	BOS
I 254-A 232	1.8822	3.07E+01	3.39E+01	4.44E-01	2.51E+01	26	2	BOS I4
I 232-A 232	1.8822	5.20E+01	1.44E+01	6.67E-01	9.21E-01	26	2	BOS I2
J 232-B 254	1.8834	4.83E+01	3.60E+01	3.94E-01	5.36E-02	26	2	BOS
J 234-B 256	1.8837	4.48E+01	4.25E+01	3.85E-01	1.55E-01	26	2	BOS
J 234-B 254	1.8838	2.73E+00	4.25E+01	2.34E-02	9.48E-03	26	2	BOS
I 256-A 234	1.8849	2.05E+01	3.81E+01	3.46E-01	3.35E+01	26	2	BOS
J 432-B 414	1.8850	1.75E+01	3.54E+01	2.91E-01	2.46E-02	26	2	BOS
J 434-B 414	1.8858	1.80E+01	3.51E+01	2.92E-01	1.16E-02	26	2	BOS
I 254-A 234	1.8863	3.79E+00	3.39E+01	5.49E-02	3.10E+00	26	2	BOS
J 256-B 256	1.8863	3.23E+01	5.53E+01	3.23E-01	5.53E-01	26	2	BOS
I 232-A 234	1.8864	1.05E+01	1.44E+01	1.35E-01	1.87E-01	26	2	BOS
J 256-B 254	1.8864	1.79E+00	5.33E+01	1.79E-02	3.07E-02	26	2	BOS
J 254-B 256	1.8874	9.49E+00	4.53E+01	8.70E-02	6.50E-02	26	2	BOS
J 254-B 254	1.8875	3.46E+01	4.53E+01	3.17E-01	2.37E-01	26	2	BOS
J 436-B 414	1.8883	2.10E+01	3.50E+01	3.60E-01	1.79E-02	26	2	BOS
J 232-B 232	1.8885	3.56E+01	3.60E+01	2.90E-01	3.94E-02	26	2	BOS
J 234-B 232	1.8888	1.54E+01	4.25E+01	1.32E-01	5.39E-02	26	2	BOS
J 232-B 234	1.8893	2.67E+00	3.60E+01	2.18E-02	2.96E-03	26	2	BOS
J 234-B 234	1.8897	9.99E+00	4.25E+01	8.57E-02	3.47E-02	26	2	BOS
I 432-A 232	1.8916	2.89E+00	2.43E+01	1.05E-01	1.09E-01	26	2	BOS
I 436-A 234	1.8916	2.89E+00	2.70E+01	9.57E-02	1.31E+00	26	2	BOS
J 434-B 256	1.8917	1.34E+00	3.51E+01	2.19E-02	8.65E-04	26	2	BOS
J 434-B 254	1.8918	1.92E+00	3.51E+01	3.12E-02	1.23E-03	26	2	BOS
J 256-B 234	1.8923	1.12E+01	5.33E+01	1.12E-01	1.92E-02	26	2	BOS
J 254-B 232	1.8925	7.23E-01	4.53E+01	6.64E-03	4.95E-03	26	2	BOS

Table IV(a) - 2

I 434-A 234	1.8932	8.92E-01	2.52E+01	3.38E-02	1.24E-02	26	2	BOS
J 254-B 234	1.8933	1.40E+01	4.53E+01	1.28E-01	9.58E-02	26	2	BOS
J 436-B 256	1.8942	2.40E-01	3.50E+01	4.12E-03	2.05E-04	26	2	BOS
J 432-B 232	1.8962	1.01E+00	3.54E+01	1.68E-02	1.42E-03	26	2	BOS
J 432-B 234	1.8970	6.22E+00	3.54E+01	1.03E-01	8.71E-03	26	2	BOS
J 434-B 234	1.8977	5.10E+00	3.51E+01	8.30E-02	3.30E-03	26	2	BOS
J 436-B 234	1.9002	2.05E+00	3.50E+01	3.51E-02	1.75E-03	26	2	BOS
I 256-B 414	1.9266	1.37E-01	3.81E+01	2.31E-03	2.23E-01	26	2	BOS
I 234-B 256	1.9292	5.20E-01	1.97E+01	6.53E-03	1.09E-01	26	2	BOS
I 234-B 254	1.9293	4.06E-01	1.97E+01	5.11E-03	8.49E-01	26	2	BOS
I 256-B 256	1.9329	4.40E-01	3.81E+01	7.42E-03	7.18E-01	26	2	BOS
I 436-B 414	1.9337	2.52E-01	2.70E+01	8.34E-03	1.15E-01	26	2	BOS
I 254-B 256	1.9344	3.20E-01	3.39E+01	4.64E-03	2.64E-01	26	2	BOS
I 254-B 254	1.9345	2.05E-01	3.39E+01	2.97E-03	1.68E-01	26	2	BOS
I 434-B 414	1.9354	2.53E-01	2.52E+01	9.61E-03	3.52E-03	26	2	BOS

Table IV(b) - 1

Atomic data for dielectronic satellite lines of B-like Fe ions

Cornille data

(See Table IV(c) for the configuration of KU and KL levels)

n	Transition		W.L.	Qd	E(cm ⁻¹)
	KU	KL			
2	16	1	1.8883	1.506E-01	5.296E+07
2	18	2	1.8880	9.289E-01	5.309E+07
2	18	11	1.9293	1.418E-01	5.309E+07
2	20	1	1.8787	1.995E+01	5.323E+07
2	20	2	1.8830	2.115E+00	5.323E+07
2	20	12	1.9297	1.631E-01	5.323E+07
2	20	13	1.9312	2.232E-01	5.323E+07
2	21	1	1.8786	1.370E+00	5.323E+07
2	21	2	1.8829	2.470E-01	5.323E+07
2	22	2	1.8812	2.678E+01	5.328E+07
2	22	12	1.9278	2.016E-01	5.328E+07
2	22	13	1.9293	6.663E-01	5.328E+07
2	23	1	1.8736	1.543E-01	5.337E+07
2	23	2	1.8778	8.207E+00	5.337E+07
2	24	2	1.8763	8.036E+00	5.342E+07
2	24	14	1.9295	1.322E-01	5.342E+07
2	40	8	1.8785	1.616E-01	5.409E+07
2	41	10	1.8810	3.821E-01	5.418E+07
2	42	10	1.8794	1.285E-01	5.422E+07

Information for the transition No. of KU and KL in Table IV(b)

No. for CF (Configuration)

1	1s1s2s2s2p	2	1s1s2s2p2p	3	1s1s2p2p2p
4	1s2s2s2p2p	5	1s2s2p2p2p	6	1s2p2p2p2p

K	CF	2S+1	L	2J	K	CF	2S+1	L	2J
1	1	2	1	1	46	6	2	2	3
2	1	2	1	3	47	6	2	2	5
3	2	4	1	1	48	6	2	1	3
4	2	4	1	3	49	6	2	1	1
5	2	4	1	5	50	6	2	0	1
6	2	2	2	3					
7	2	2	2	5					
8	2	2	1	1					
9	2	2	0	1					
10	2	2	1	3					
11	3	4	0	3					
12	3	2	2	3					
13	3	2	2	5					
14	3	2	1	1					
15	3	2	1	3					
16	4	4	1	1					
17	4	4	1	3					
18	4	4	1	5					
19	5	6	0	5					
20	4	2	2	3					
21	4	2	1	1					
22	4	2	2	5					
23	4	2	1	3					
24	4	2	0	1					
25	5	4	2	3					
26	5	4	2	5					
27	5	4	2	1					
28	5	4	2	7					
29	5	4	0	3					
30	5	4	1	1					
31	5	4	1	3					
32	5	4	1	5					
33	5	2	2	3					
34	5	2	2	5					
35	5	4	0	3					
36	5	2	2	3					
37	5	2	1	1					
38	5	2	2	5					
39	5	2	1	3					
40	5	2	1	1					
41	5	2	1	3					
42	5	2	0	1					
43	6	4	1	5					
44	6	4	1	3					
45	6	4	1	1					

Table V(a)-1

Atomic data for dielectronic satellite lines of C-like Fe ions
Safronova data

Designations: A=1s2s²2p³, S=1s²2s²2p²,
Numbers after letter mean (2S+1)(2L+1)(2J+1)

Transition	W.L.	Ar	Aa	SumAa	Br	Qd1
A 155-S 335	1.8896	4.70E-01	2.05E+00	5.20E+01	4.57E-03	4.68E-02
A 313-S 331	1.8908	2.35E+00	1.94E+00	3.24E+01	2.33E-02	1.36E-01
A 133-S 155	1.8908	3.91E+01	2.17E+00	4.50E+01	3.52E-01	2.30E+00
A 335-S 333	1.8916	4.79E-01	6.42E+00	5.34E+01	5.16E-03	1.66E-01
A 331-S 333	1.8921	2.14E+01	5.06E+00	5.23E+01	2.82E-01	1.43E+00
A 333-S 335	1.8925	3.27E+01	4.01E+01	4.80E+01	3.76E-01	4.51E+00
A 335-S 335	1.8932	3.09E+01	6.42E+00	5.34E+01	3.33E-01	1.07E+01
A 313-S 333	1.8933	4.53E+01	1.94E+00	3.24E+01	4.49E-01	2.62E+00
A 155-S 155	1.8941	4.86E+01	2.05E+00	5.20E+01	4.73E-01	4.84E+00
A 353-S 331	1.8944	2.78E+01	1.86E+01	5.19E+01	3.19E-01	1.79E+01
A 313-S 335	1.8949	1.65E+01	1.94E+00	3.24E+01	1.64E-01	9.54E-01
A 133-S 111	1.8957	2.61E+01	2.17E+00	4.50E+01	2.35E-01	1.53E+00
A 355-S 333	1.8965	2.09E+01	1.82E+01	5.62E+01	2.62E-01	2.39E+01
A 357-S 335	1.8969	1.75E+01	6.21E+00	5.85E+01	2.14E-01	9.31E+00
A 335-S 155	1.8977	6.89E+00	6.42E+00	5.34E+01	7.43E-02	2.39E+00
A 355-S 335	1.8981	3.45E-01	1.82E+01	5.62E+01	4.33E-03	3.94E-01
A 353-S 335	1.8986	6.13E+00	1.86E+01	5.19E+01	7.03E-02	3.93E+00
A 313-S 155	1.8994	3.50E+00	1.94E+00	3.24E+01	3.47E-02	2.02E-01
A 357-S 155	1.9014	5.29E+00	6.21E+00	5.85E+01	6.50E-02	2.82E+00
A 333-S 111	1.9019	4.04E+00	4.01E+01	4.80E+01	4.64E-02	5.59E-01
A 355-S 155	1.9026	1.66E+00	1.82E+01	5.62E+01	2.08E-02	1.89E+00
A 353-S 155	1.9031	6.47E-01	1.86E+01	5.19E+01	7.41E-03	4.14E-01
A 515-S 333	1.9044	7.72E-01	1.02E+00	3.58E+01	2.05E-02	1.05E-01
A 515-S 335	1.9060	8.68E-01	1.02E+00	3.58E+01	2.31E-02	1.17E-01

Transition	W.L.	Ar	Aa	SumAa	Br	Qd2
A 155-S 335	1.8896	4.70E-01	2.29E+01	5.20E+01	4.57E-03	5.24E-01
A 313-S 331	1.8908	2.35E+00	7.31E+00	3.24E+01	2.33E-02	5.11E-01
A 133-S 155	1.8908	3.91E+01	1.67E+01	4.50E+01	3.52E-01	1.77E+01
A 335-S 333	1.8916	4.79E-01	1.81E+01	5.34E+01	5.16E-03	4.67E-01
A 331-S 333	1.8921	2.14E+01	1.52E+01	5.23E+01	2.82E-01	4.31E+00
A 333-S 335	1.8925	3.27E+01	1.35E+01	4.80E+01	3.76E-01	1.52E+01
A 335-S 335	1.8932	3.09E+01	1.81E+01	5.34E+01	3.33E-01	3.02E+01
A 313-S 333	1.8933	4.53E+01	7.31E+00	3.24E+01	4.49E-01	9.88E+00
A 155-S 155	1.8941	4.86E+01	2.29E+01	5.20E+01	4.73E-01	5.40E+01
A 353-S 331	1.8944	2.78E+01	4.17E+00	5.19E+01	3.19E-01	4.01E+00
A 313-S 335	1.8949	1.65E+01	7.31E+00	3.24E+01	1.64E-01	3.60E+00
A 133-S 111	1.8957	2.61E+01	1.67E+01	4.50E+01	2.35E-01	1.18E+01
A 355-S 333	1.8965	2.09E+01	7.01E+00	5.62E+01	2.62E-01	9.21E+00
A 357-S 335	1.8969	1.75E+01	2.18E+01	5.85E+01	2.14E-01	3.27E+01
A 335-S 155	1.8977	6.89E+00	1.81E+01	5.34E+01	7.43E-02	6.73E+00
A 355-S 335	1.8981	3.45E-01	7.01E+00	5.62E+01	4.33E-03	1.52E-01
A 353-S 335	1.8986	6.13E+00	4.17E+00	5.19E+01	7.03E-02	8.82E-01
A 313-S 155	1.8994	3.50E+00	7.31E+00	3.24E+01	3.47E-02	7.61E-01
A 357-S 155	1.9014	5.29E+00	2.18E+01	5.85E+01	6.50E-02	9.89E+00
A 333-S 111	1.9019	4.04E+00	1.35E+01	4.80E+01	4.64E-02	1.88E+00

Table V(a)-2

A 355-S 155	1.9026	1.66E+00	7.01E+00	5.62E+01	2.08E-02	7.29E-01
A 353-S 155	1.9031	6.47E-01	4.17E+00	5.19E+01	7.41E-03	9.29E-02
A 515-S 333	1.9044	7.72E-01	5.58E-01	3.58E+01	2.05E-02	5.72E-02
A 515-S 335	1.9060	8.68E-01	5.58E-01	3.58E+01	2.31E-02	6.43E-02

Table V(b) - 1

Atomic data for dielectronic satellite lines of C-like Fe ions
Cornille data

(See Table V(c) for the configuration of KU and KL levels)

n Transition			W.L.	Qd1	Ar	SumAa	SumAr	Aa
KU	KL							
2	22	1	1.8905	1.472E+01	2.644E+01	3.843E+01	3.211E+01	1.309E+01
2	22	3	1.8948	2.466E+00	4.430E+00	3.843E+01	3.211E+01	1.309E+01
2	22	4	1.8995	4.344E-01	7.801E-01	3.843E+01	3.211E+01	1.309E+01
2	23	2	1.8925	1.987E+01	2.010E+01	4.098E+01	2.168E+01	1.239E+01
2	23	3	1.8941	3.142E-01	3.178E-01	4.098E+01	2.168E+01	1.239E+01
2	23	4	1.8988	1.020E+00	1.032E+00	4.098E+01	2.168E+01	1.239E+01
2	24	3	1.8926	7.576E+00	1.633E+01	4.260E+01	2.141E+01	4.243E+00
2	24	4	1.8973	2.242E+00	4.834E+00	4.260E+01	2.141E+01	4.243E+00
2	25	2	1.8893	2.066E+00	4.336E+01	2.558E+01	6.203E+01	1.391E+00
2	25	3	1.8909	6.338E-01	1.330E+01	2.558E+01	6.203E+01	1.391E+00
2	26	2	1.8884	2.008E+00	2.232E+01	3.917E+01	2.260E+01	5.559E+00
2	27	3	1.8892	9.112E+00	3.045E+01	3.906E+01	3.694E+01	4.549E+00
2	27	4	1.8939	1.743E+00	5.823E+00	3.906E+01	3.694E+01	4.549E+00
2	28	3	1.8886	6.076E+00	3.637E+01	3.385E+01	4.109E+01	4.173E+00
2	28	5	1.8976	5.814E-01	3.480E+00	3.385E+01	4.109E+01	4.173E+00
2	29	4	1.8900	4.246E+00	4.847E+01	3.807E+01	4.973E+01	1.538E+00
2	30	4	1.8872	2.330E+00	3.931E+01	3.268E+01	6.544E+01	1.938E+00
2	30	5	1.8915	1.477E+00	2.493E+01	3.268E+01	6.544E+01	1.938E+00

n Transition			W.L.	Qd2	Ar	SumAa	SumAr	Aa
KU	KL							
2	22	1	1.8905	3.828E+00	2.644E+01	3.843E+01	3.211E+01	3.404E+00
2	22	3	1.8948	6.412E-01	4.430E+00	3.843E+01	3.211E+01	3.404E+00
2	23	2	1.8925	8.484E+00	2.010E+01	4.098E+01	2.168E+01	5.290E+00
2	23	4	1.8988	4.356E-01	1.032E+00	4.098E+01	2.168E+01	5.290E+00
2	24	3	1.8926	2.652E+01	1.633E+01	4.260E+01	2.141E+01	1.485E+01
2	24	4	1.8973	7.848E+00	4.834E+00	4.260E+01	2.141E+01	1.485E+01
2	25	1	1.8866	5.196E-01	2.506E+00	2.558E+01	6.203E+01	6.055E+00
2	25	2	1.8893	8.992E+00	4.336E+01	2.558E+01	6.203E+01	6.055E+00
2	25	3	1.8909	2.758E+00	1.330E+01	2.558E+01	6.203E+01	6.055E+00
2	25	4	1.8956	4.572E-01	2.204E+00	2.558E+01	6.203E+01	6.055E+00
2	26	2	1.8884	3.947E+00	2.232E+01	3.917E+01	2.260E+01	1.092E+01
2	27	3	1.8892	2.620E+01	3.045E+01	3.906E+01	3.694E+01	1.308E+01
2	27	4	1.8939	5.008E+00	5.823E+00	3.906E+01	3.694E+01	1.308E+01
2	28	3	1.8886	1.336E+01	3.637E+01	3.385E+01	4.109E+01	9.179E+00
2	28	5	1.8976	1.279E+00	3.480E+00	3.385E+01	4.109E+01	9.179E+00
2	29	3	1.8854	4.024E-01	4.271E-01	3.807E+01	4.973E+01	1.655E+01
2	29	4	1.8900	4.568E+01	4.847E+01	3.807E+01	4.973E+01	1.655E+01
2	29	19	1.9490	4.756E-01	5.047E-01	3.807E+01	4.973E+01	1.655E+01
2	30	4	1.8872	1.552E+01	3.931E+01	3.268E+01	6.544E+01	1.291E+01
2	30	5	1.8915	9.840E+00	2.493E+01	3.268E+01	6.544E+01	1.291E+01

Table V(c)-1

Information for the transition No. of KU and KL in Table V(b)

No. for CF (Configuration)

1	1s1s2s2s2p2p	2	1s1s2s2p2p2p	3	1s1s2p2p2p2p
4	1s2s2s2p2p2p	5	1s2s2p2p2p2p	5	1s2s2p2p2p2p
6	1s2p2p2p2p2p				

K	CF	2S+1	L	2J	K	CF	2S+1	L	2J
1	1	3	1	0	46	5	1	0	0
2	1	3	1	2	47	6	3	1	4
3	1	3	1	4	48	6	3	1	2
4	1	1	2	4	49	6	3	1	0
5	1	1	0	0	50	6	1	1	2
6	2	5	0	4					
7	2	3	2	2					
8	2	3	2	4					
9	2	3	2	6					
10	2	3	1	0					
11	2	3	1	2					
12	2	3	1	4					
13	2	3	0	2					
14	2	1	2	4					
15	2	1	1	2					
16	3	3	1	4					
17	3	3	1	0					
18	3	3	1	2					
19	3	1	2	4					
20	3	1	0	0					
21	4	5	0	4					
22	4	3	2	2					
23	4	3	2	4					
24	4	3	2	6					
25	4	3	0	2					
26	4	3	1	0					
27	4	3	1	4					
28	4	3	1	2					
29	4	1	2	4					
30	4	1	1	2					
31	5	5	1	6					
32	5	5	1	4					
33	5	5	1	2					
34	5	3	1	4					
35	5	3	2	2					
36	5	3	2	6					
37	5	3	2	4					
38	5	3	1	2					
39	5	3	1	0					
40	5	3	0	2					
41	5	3	1	4					
42	5	3	1	0					
43	5	1	2	4					
44	5	3	1	2					
45	5	1	1	2					

Table VI-1

Fit parameters for the collision strength for the inner-shell excitation
(eq.(1), $A_4 = 0$) by Safronova.

key	DE (eV)	A1	A2	A3	A5	BR Safronova.Dubau	
LI-like (Fe XXIV)							
q	6660	9.988E-4	1.713E-3	-1.158E-4	7.264E-3	1.0	1.0
Be-like (Fe XXIII)							
β	6627	-9.777E-5	1.772E-3	-3.668E-5	5.276E-3	0.81	0.7544
I3	6597	-5.084E-5	3.015E-4	9.988E-5	4.707E-4	.20	0.1486
B-like (Fe XXII)							
I4	6584	-3.181E-4	1.992E-3	4.019E-4	5.500E-3	0.44	
I2	6584	-5.406E-4	2.195E-3	0.0	4.761E-3	0.67	
C-like (Fe XXI)							
A1	6555	-3.099E-4	8.444E-4	-7.363E-5	4.333E-4	.023	
A5	6543	-7.908E-4	1.730E-3	2.407E-4	4.251E-3	.32	

key	transition	Wavelength (Å)	
		Safronova	Dubau
q	$1s^2 2s^2 2S_{1/2} - 1s 2s 2p^2 2P_{3/2}$	1.8610	1.8581
β	$1s^2 2s^2 1S - 1s 2s 2p^2 1P$	1.8700	1.8668
I3	$1s^2 2s^2 1S - 1s 2s 2p^2 3P_1$	1.8786	1.8756
I4	$1s^2 2s^2 2p^2 2P_{1/2} - 1s 2s^2 2p^2 2D_{3/2}$	1.8822	1.8787
I2	$1s^2 2s^2 2p^2 2P_{1/2} - 1s 2s^2 2p^2 2P_{1/2}$	1.8822	1.8786
A1	$1s^2 2s^2 2p^2 3P_0 - 1s 2s^2 2p^3 3S_1$	1.8908	1.8866
A5	$1s^2 2s^2 2p^2 3P_0 - 1s 2s^2 2p^3 3D_1$	1.8944	1.8905

Table VI-2

Wavelengths and branching ratios for the inner shell satellite lines of Li-like ions.

Dubau (Fe)		Safro (Fe)			
	λ	Br		λ	Br
q	1.8581	1.0		1.8606	1.0
r	1.8611	.885		1.8631	.885
t	1.8543	.72		1.8562	.72
u	1.8712	.948		1.8732	.948
o	1.8966	.062		1.8966	.062
p	1.8913	.063		1.8913	.063
s	1.8535	.037		1.8558	.037
v	1.8727	.96		1.8742	.96

Dubau (Ca)		Safro (Ca)			
	λ	Br		λ	Br
q	3.1991	1.0		3.2006	1.0
r	3.2015	.885		3.2027	.889
t	3.1898	.46		3.1915	.25
u	3.2248	.91		3.2256	.874
s	3.1892	.06		3.1906	.0363
v	3.2259	.96		3.2267	.936

Dubau (S)		Safro(S)			
	λ	Br		λ	Br
q	5.0841	.944		5.0855	0.968
r	5.0862	.809		5.0875	.846
t	5.0654	.09106		5.0666	0.0787
u	5.1335	.758		5.1324	.751
s	5.0640	.03068		5.0658	0.028
v	5.1352	.7667		5.1334	.869

Table VII

Comparison of the wavelengths of the main lines of He-like ions

Ion	w($1^1S - 2^1P$)	x($1^1S - 2^3P_2$)	y($1^1S - 2^3P_1$)	z($1^1S - 2^3S$)
Fe XXV(D)	1.8480	1.8531	1.8573	1.8655
(S')	1.8500	1.8550	1.8591	1.8678
(S)	1.8504	1.8555	1.8595	1.8683
Ca XIX (D)	3.1743	3.1864	3.1897	3.2085
(S')	3.1771	3.1891	3.1927	3.2110
(S)	3.1773	3.1893	3.1929	3.2112
S XV (D)	5.0367	5.0620	5.0657	5.1005
(S')	5.0387	5.0631	5.0665	5.1015
(S)	5.0390	5.0635	5.0668	5.1018

(D) .. Dubau's data

(S') .. Safronova's data with 2nd order calculation, these data are used to make spectra with satellite lines

(S) .. Safronova's data with 3rd order calculation

Table VIII(a) - 1

Atomic data for dielectronic satellite lines of Li-like Ca ions
Safronova data

Transition	W.L.	A	SumAa	Br	QD	Z	n	
R 133-Y 111	3.1773	1.68E+01	0.00E+00	1.00E+00	0.00E+00	20	2	RES
F 212-P 232	3.1855	1.06E+00	2.92E+00	9.88E-02	5.77E-01	20	2	LIS
R 335-Y 111	3.1893	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20	2	RES
F 212-P 234	3.1897	6.73E+00	2.92E+00	6.28E-01	3.67E+00	20	2	LIS
C 234-S 212	3.1906	4.56E-01	1.21E+01	3.63E-02	1.76E+00	20	2	LIS
C 232-S 212	3.1915	3.52E+00	1.06E+01	2.50E-01	5.28E+00	20	2	LIS
R 333-Y 111	3.1929	4.6E-01	0.00E+00	1.00E+00	0.00E+00	20	2	RES
M 234-P 232	3.1996	1.08E+00	2.06E+00	4.34E-02	3.58E-01	20	2	LIS
K 234-S 212	3.2006	1.60E+01	5.15E-02	9.97E-01	2.06E-01	20	2	LIS
K 232-S 212	3.2027	1.30E+01	1.62E+00	8.89E-01	2.88E+00	20	2	LIS
M 234-P 234	3.2038	2.18E+01	2.06E+00	8.74E-01	7.21E+00	20	2	LIS
M 232-P 232	3.2039	1.78E+01	3.02E-02	7.29E-01	4.40E-02	20	2	LIS
F 254-P 232	3.2064	9.98E+00	1.66E+01	3.73E-01	2.48E+01	20	2	LIS
M 232-P 234	3.2081	6.61E+00	3.02E-02	2.70E-01	1.63E-02	20	2	LIS
F 256-P 234	3.2102	8.03E+00	1.81E+01	3.07E-01	3.34E+01	20	2	LIS
F 254-P 234	3.2106	1.67E-01	1.66E+01	6.26E-03	4.15E-01	20	2	LIS
T 313-Y 111	3.2112	0.00E+00	0.00E+00	0.00E+00	0.00E+00	20	2	RES
M 434-P 232	3.2215	2.21E-04	3.14E-02	1.65E-03	2.07E-04	20	2	LIS
M 432-P 232	3.2234	1.23E-01	4.34E-03	9.48E-01	8.23E-03	20	2	LIS
M 436-P 234	3.2238	2.50E-01	5.70E-01	3.04E-01	1.04E+00	20	2	LIS
K 434-S 212	3.2256	1.26E-01	1.81E-02	8.74E-01	6.33E-02	20	2	LIS
M 434-P 234	3.2257	1.02E-01	3.14E-02	7.64E-01	9.59E-02	20	2	LIS
K 432-S 212	3.2267	4.35E-02	2.98E-03	9.36E-01	5.58E-03	20	2	LIS
M 432-P 234	3.2276	2.40E-03	4.34E-03	1.85E-02	1.60E-04	20	2	LIS
E 212-P 232	3.2651	2.75E-01	1.51E+01	1.74E-02	5.26E-01	20	2	LIS
E 212-P 234	3.2695	4.02E-01	1.51E+01	2.54E-02	7.69E-01	20	2	LIS
I' 234-S' 212	3.1753	1.23E+00	1.15E-03	4.39E-01	2.03E-03	20	3	LIS
A' 234-D' 254	3.1756	9.12E-01	5.68E-03	5.76E-02	1.31E-03	20	3	LIS
F' 212-P' 232	3.1756	1.77E+00	1.54E+00	1.31E-01	4.03E-01	20	3	LIS
A' 234-D' 256	3.1760	1.48E+01	5.68E-03	9.34E-01	2.12E-02	20	3	LIS
A' 232-D' 254	3.1764	1.62E+01	4.06E-03	9.91E-01	8.05E-03	20	3	LIS
F' 212-P' 234	3.1769	1.02E+01	1.54E+00	7.52E-01	2.32E+00	20	3	LIS
I' 432-S' 212	3.1774	1.15E-02	2.12E-03	7.21E-01	3.06E-03	20	3	LIS
A' 276-D' 254	3.1784	9.92E+00	1.93E+00	6.37E-01	7.35E+00	20	3	LIS
A' 276-D' 256	3.1787	3.74E+00	1.93E+00	2.40E-01	2.77E+00	20	3	LIS
A' 278-D' 256	3.1798	1.42E+01	2.04E+00	8.74E-01	1.43E+01	20	3	LIS
A' 256-D' 254	3.1804	4.31E+00	1.36E-01	2.58E-01	2.11E-01	20	3	LIS
F' 234-P' 232	3.1806	3.60E-02	1.40E+00	1.97E-03	1.11E-02	20	3	LIS
A' 254-D' 254	3.1806	1.54E+01	3.15E-04	9.56E-01	1.21E-03	20	3	LIS
A' 256-D' 256	3.1808	1.22E+01	1.36E-01	7.34E-01	6.01E-01	20	3	LIS
B' 232-S' 212	3.1811	1.35E+01	1.64E+00	8.75E-01	2.88E+00	20	3	LIS
B' 234-S' 212	3.1816	1.36E+01	6.77E-01	9.26E-01	2.51E+00	20	3	LIS
F' 234-P' 234	3.1818	1.51E+01	1.40E+00	8.25E-01	4.62E+00	20	3	LIS
F' 254-P' 232	3.1820	1.40E+01	4.65E+00	7.26E-01	1.35E+01	20	3	LIS
I' 454-S' 212	3.1821	3.45E-02	2.57E-03	1.56E-01	1.60E-03	20	3	LIS
F' 232-P' 232	3.1822	1.43E+01	8.24E-04	7.97E-01	1.31E-03	20	3	LIS
I' 452-S' 212	3.1823	2.65E-01	1.61E-02	4.82E-01	1.56E-02	20	3	LIS
F' 256-P' 234	3.1829	1.46E+01	4.57E+00	7.46E-01	2.04E+01	20	3	LIS

Table VIII(a) - 2

F' 254-P' 234	3. 1832	4. 26E-03	4. 65E+00	2. 21E-04	4. 11E-03	20	3 LIS
I' 254-S' 212	3. 1842	6. 50E-01	4. 95E-02	6. 25E-01	1. 24E-01	20	3 LIS
I' 232-D' 254	3. 1858	3. 05E-01	5. 65E-04	2. 93E-01	3. 32E-04	20	3 LIS
J' 234-S' 212	3. 1870	4. 66E-01	4. 96E+00	8. 55E-02	1. 69E+00	20	3 LIS
I' 234-D' 256	3. 1882	9. 26E-01	1. 15E-03	3. 32E-01	1. 53E-03	20	3 LIS
M' 212-P' 234	3. 1887	4. 91E+00	2. 57E-01	5. 61E-01	2. 89E-01	20	3 LIS
I' 278-D' 256	3. 1902	2. 86E+00	2. 72E-03	9. 99E-01	2. 18E-02	20	3 LIS
I' 434-D' 254	3. 1903	1. 35E-01	1. 99E-03	7. 88E-01	6. 25E-03	20	3 LIS
J' 232-S' 212	3. 1906	2. 60E+00	4. 18E+00	3. 79E-01	3. 17E+00	20	3 LIS
I' 436-D' 254	3. 1907	2. 48E-01	2. 63E-03	8. 92E-01	1. 41E-02	20	3 LIS
M' 256-P' 234	3. 1909	9. 21E-01	3. 46E+00	1. 13E-01	2. 35E+00	20	3 LIS
I' 436-D' 256	3. 1911	2. 74E-02	2. 63E-03	9. 85E-02	1. 56E-03	20	3 LIS
I' 276-D' 254	3. 1925	1. 26E+00	1. 78E-03	6. 70E-01	7. 15E-03	20	3 LIS
M' 254-P' 232	3. 1926	1. 78E-01	2. 06E+00	3. 01E-02	2. 48E-01	20	3 LIS
I' 276-D' 256	3. 1929	6. 19E-01	1. 78E-03	3. 29E-01	3. 51E-03	20	3 LIS
I' 458-D' 256	3. 1929	1. 71E-01	2. 62E-02	8. 67E-01	1. 82E-01	20	3 LIS
C' 234-S' 212	3. 1932	6. 33E-01	7. 93E-02	2. 16E-01	6. 86E-02	20	3 LIS
G' 254-P' 232	3. 1932	1. 80E+00	9. 77E-02	5. 37E-01	2. 10E-01	20	3 LIS
B' 232-D' 254	3. 1936	2. 82E-01	1. 64E+00	1. 83E-02	6. 02E-02	20	3 LIS
M' 254-P' 234	3. 1938	7. 84E-01	2. 06E+00	1. 33E-01	1. 09E+00	20	3 LIS
G' 256-P' 234	3. 1939	1. 10E+00	2. 26E-02	9. 72E-01	1. 32E-01	20	3 LIS
I' 456-D' 254	3. 1943	5. 37E-01	8. 39E-03	4. 11E-01	2. 07E-02	20	3 LIS
G' 254-P' 234	3. 1945	7. 88E-01	9. 77E-02	2. 34E-01	9. 17E-02	20	3 LIS
B' 234-D' 256	3. 1945	4. 16E-01	6. 77E-01	2. 83E-02	7. 66E-02	20	3 LIS
M' 434-P' 232	3. 1945	2. 03E-02	1. 07E-01	7. 16E-02	3. 05E-02	20	3 LIS
I' 454-D' 254	3. 1946	1. 70E-01	2. 57E-03	7. 70E-01	7. 91E-03	20	3 LIS
I' 456-D' 256	3. 1947	7. 62E-01	8. 39E-03	5. 83E-01	2. 93E-02	20	3 LIS
I' 452-D' 254	3. 1948	2. 69E-01	1. 61E-02	4. 88E-01	1. 58E-02	20	3 LIS
M' 436-P' 234	3. 1956	4. 46E-01	3. 29E-01	5. 53E-01	1. 09E+00	20	3 LIS
M' 414-P' 232	3. 1961	4. 29E-01	7. 58E-02	2. 62E-01	7. 96E-02	20	3 LIS
I' 254-D' 254	3. 1968	8. 74E-02	4. 95E-02	8. 39E-02	1. 66E-02	20	3 LIS
I' 256-D' 254	3. 1968	7. 45E-01	4. 34E-03	9. 61E-01	2. 50E-02	20	3 LIS
M' 432-P' 232	3. 1968	3. 50E-02	8. 59E-03	1. 20E-01	2. 07E-03	20	3 LIS
I' 254-D' 256	3. 1971	2. 38E-01	4. 95E-02	2. 29E-01	4. 53E-02	20	3 LIS
M' 414-P' 234	3. 1973	2. 93E-02	7. 58E-02	1. 79E-02	5. 43E-03	20	3 LIS
M' 232-P' 232	3. 1984	5. 68E-01	4. 10E-03	2. 13E-01	1. 75E-03	20	3 LIS
I' 478-D' 256	3. 1985	2. 61E-01	3. 61E-02	8. 79E-01	2. 54E-01	20	3 LIS
M' 234-P' 232	3. 1990	3. 14E-01	3. 35E-02	1. 67E-01	2. 24E-02	20	3 LIS
J' 434-S' 212	3. 1991	3. 17E-01	4. 04E-02	6. 74E-01	1. 09E-01	20	3 LIS
I' 476-D' 254	3. 1994	4. 29E-01	2. 36E-02	8. 79E-01	1. 25E-01	20	3 LIS
J' 234-D' 254	3. 1995	4. 63E-03	4. 96E+00	8. 49E-04	1. 68E-02	20	3 LIS
I' 476-D' 256	3. 1998	3. 57E-02	2. 36E-02	7. 31E-02	1. 04E-02	20	3 LIS
J' 234-D' 256	3. 1999	9. 38E-03	4. 96E+00	1. 72E-03	3. 41E-02	20	3 LIS
J' 432-S' 212	3. 2000	9. 69E-02	5. 50E-03	7. 60E-01	8. 36E-03	20	3 LIS
M' 234-P' 234	3. 2003	6. 23E-01	3. 35E-02	3. 32E-01	4. 45E-02	20	3 LIS
M' 456-P' 234	3. 2011	3. 36E-01	8. 96E-02	7. 80E-01	4. 20E-01	20	3 LIS
M' 454-P' 232	3. 2018	6. 05E-01	8. 54E-03	5. 62E-01	1. 92E-02	20	3 LIS
M' 454-P' 234	3. 2030	1. 26E-01	8. 54E-03	1. 17E-01	4. 00E-03	20	3 LIS
J' 232-D' 254	3. 2031	2. 02E-02	4. 18E+00	2. 95E-03	2. 47E-02	20	3 LIS
C' 234-D' 254	3. 2058	4. 21E-02	7. 93E-02	1. 44E-02	4. 56E-03	20	3 LIS
C' 234-D' 256	3. 2062	4. 22E-01	7. 93E-02	1. 44E-01	4. 57E-02	20	3 LIS
C' 232-D' 254	3. 2071	4. 50E-01	3. 74E-03	1. 87E-01	1. 40E-03	20	3 LIS
N' 254-P' 232	3. 2092	1. 82E-02	4. 84E-01	2. 55E-02	4. 94E-02	20	3 LIS
E' 212-P' 232	3. 2095	4. 99E-01	2. 79E+00	1. 19E-01	6. 65E-01	20	3 LIS

Table VIII(a) - 3

N' 254-P' 234	3. 2105	6. 77E-03	4. 84E-01	9. 47E-03	1. 83E-02	20	3	LIS
K' 232-S' 212	3. 2105	1. 73E-01	2. 14E-01	6. 71E-02	2. 88E-02	20	3	LIS
N' 256-P' 234	3. 2105	1. 18E-03	4. 46E-01	2. 03E-03	5. 44E-03	20	3	LIS
K' 234-S' 212	3. 2106	3. 13E-01	2. 14E-01	1. 28E-01	1. 09E-01	20	3	LIS
E' 212-P' 234	3. 2107	8. 20E-01	2. 79E+00	1. 96E-01	1. 09E+00	20	3	LIS
K' 434-S' 212	3. 2122	4. 03E-02	5. 61E-02	7. 68E-02	1. 72E-02	20	3	LIS
V' 256-U' 278	3. 1768	1. 64E+01	1. 94E-03	9. 62E-01	1. 12E-02	20	4	LIS
V' 254-U' 276	3. 1768	1. 71E+01	1. 91E-03	9. 98E-01	7. 62E-03	20	4	LIS
F' 212-P' 232	3. 1776	2. 63E+00	5. 59E-01	1. 55E-01	1. 73E-01	20	4	LIS
F' 212-P' 234	3. 1781	1. 36E+01	5. 59E-01	8. 01E-01	8. 96E-01	20	4	LIS
F' 234-P' 232	3. 1790	3. 25E-01	2. 61E-01	1. 86E-02	1. 94E-02	20	4	LIS
F' 234-P' 234	3. 1795	1. 63E+01	2. 61E-01	9. 36E-01	9. 77E-01	20	4	LIS
F' 254-P' 232	3. 1795	1. 62E+01	1. 57E+00	8. 79E-01	5. 52E+00	20	4	LIS
F' 256-P' 234	3. 1798	1. 67E+01	1. 15E+00	9. 11E-01	6. 29E+00	20	4	LIS
F' 254-P' 234	3. 1801	3. 11E-01	1. 57E+00	1. 69E-02	1. 06E-01	20	4	LIS
F' 256-U' 278	3. 1813	2. 21E-02	1. 15E+00	1. 20E-03	8. 29E-03	20	4	LIS
F' 254-U' 276	3. 1816	1. 55E-02	1. 57E+00	8. 42E-04	5. 28E-03	20	4	LIS
W' 254-P' 232	3. 1865	1. 31E-02	1. 69E-03	4. 59E-01	3. 10E-03	20	4	LIS
W' 254-P' 234	3. 1870	8. 69E-03	1. 69E-03	3. 03E-01	2. 05E-03	20	4	LIS
W' 456-P' 234	3. 1875	1. 58E-03	9. 80E-03	3. 53E-02	2. 08E-03	20	4	LIS
W' 476-P' 234	3. 1879	2. 74E-03	1. 36E-02	3. 73E-02	3. 04E-03	20	4	LIS
M' 212-P' 232	3. 1886	7. 97E-02	4. 44E-01	3. 30E-02	2. 93E-02	20	4	LIS
W' 456-U' 276	3. 1890	9. 85E-04	9. 80E-03	2. 20E-02	1. 30E-03	20	4	LIS
W' 454-U' 276	3. 1890	1. 14E-02	4. 19E-04	6. 06E-01	1. 02E-03	20	4	LIS
W' 456-U' 278	3. 1890	2. 64E-02	9. 80E-03	5. 92E-01	3. 48E-02	20	4	LIS
M' 212-P' 234	3. 1891	6. 60E-01	4. 44E-01	2. 73E-01	2. 42E-01	20	4	LIS
W' 476-U' 276	3. 1894	4. 46E-02	1. 36E-02	6. 07E-01	4. 95E-02	20	4	LIS
W' 476-U' 278	3. 1895	3. 58E-03	1. 36E-02	4. 86E-02	3. 96E-03	20	4	LIS
M' 256-P' 234	3. 1902	9. 67E-03	2. 04E+00	3. 03E-03	3. 71E-02	20	4	LIS
M' 234-P' 232	3. 1909	1. 67E-03	5. 19E-01	1. 20E-03	2. 49E-03	20	4	LIS
M' 234-P' 234	3. 1914	1. 15E-01	5. 19E-01	8. 26E-02	1. 71E-01	20	4	LIS
M' 434-P' 232	3. 1916	2. 15E-03	2. 49E-01	3. 60E-03	3. 59E-03	20	4	LIS
M' 256-U' 276	3. 1917	1. 57E-02	2. 04E+00	4. 91E-03	6. 01E-02	20	4	LIS
M' 256-U' 278	3. 1918	5. 58E-03	2. 04E+00	1. 75E-03	2. 14E-02	20	4	LIS
M' 436-P' 234	3. 1921	1. 45E-02	1. 86E-01	5. 64E-02	6. 29E-02	20	4	LIS
M' 434-P' 234	3. 1921	8. 66E-02	2. 49E-01	1. 45E-01	1. 45E-01	20	4	LIS
W' 256-P' 234	3. 1923	1. 33E-02	3. 05E-02	2. 30E-01	4. 22E-02	20	4	LIS
G' 254-P' 232	3. 1924	1. 47E-01	9. 13E-03	7. 11E-01	2. 60E-02	20	4	LIS
G' 256-P' 234	3. 1928	1. 82E-01	1. 46E-02	7. 10E-01	6. 23E-02	20	4	LIS
W' 496-U' 276	3. 1928	5. 69E-01	4. 38E-02	8. 24E-01	2. 17E-01	20	4	LIS
W' 496-U' 278	3. 1929	4. 84E-02	4. 38E-02	7. 01E-02	1. 84E-02	20	4	LIS
G' 254-P' 234	3. 1929	1. 95E-02	9. 13E-03	9. 45E-02	3. 45E-03	20	4	LIS
M' 234-U' 276	3. 1929	1. 87E-02	5. 19E-01	1. 34E-02	2. 78E-02	20	4	LIS
W' 474-U' 276	3. 1932	3. 69E-01	9. 99E-03	9. 16E-01	3. 66E-02	20	4	LIS
M' 436-U' 276	3. 1936	5. 13E-03	1. 86E-01	2. 00E-02	2. 23E-02	20	4	LIS
M' 434-U' 276	3. 1936	4. 76E-03	2. 49E-01	7. 97E-03	7. 95E-03	20	4	LIS
M' 254-P' 232	3. 1936	2. 18E-01	9. 86E-01	8. 01E-02	3. 16E-01	20	4	LIS
M' 436-U' 278	3. 1937	4. 22E-03	1. 86E-01	1. 64E-02	1. 83E-02	20	4	LIS
W' 256-U' 278	3. 1939	5. 15E-05	3. 05E-02	8. 94E-04	1. 64E-04	20	4	LIS
M' 254-P' 234	3. 1941	3. 50E-01	9. 86E-01	1. 28E-01	5. 06E-01	20	4	LIS
M' 232-P' 232	3. 1942	3. 23E-02	6. 70E-02	2. 58E-02	3. 45E-03	20	4	LIS
G' 256-U' 278	3. 1944	5. 95E-02	1. 46E-02	2. 32E-01	2. 04E-02	20	4	LIS
G' 254-U' 276	3. 1944	2. 77E-02	9. 13E-03	1. 34E-01	4. 90E-03	20	4	LIS
M' 232-P' 234	3. 1947	1. 29E-01	6. 70E-02	1. 03E-01	1. 38E-02	20	4	LIS

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M' 414-P' 232	3. 1953	1. 59E-01	8. 01E-02	2. 16E-01	6. 91E-02	20	4	LIS
M' 456-P' 234	3. 1958	4. 83E-01	2. 15E-01	6. 78E-01	8. 74E-01	20	4	LIS
M' 414-P' 234	3. 1958	2. 44E-01	8. 01E-02	3. 31E-01	1. 06E-01	20	4	LIS
M' 454-P' 232	3. 1963	4. 31E-01	1. 43E-02	7. 86E-01	4. 49E-02	20	4	LIS
M' 454-P' 234	3. 1968	2. 12E-02	1. 43E-02	3. 86E-02	2. 21E-03	20	4	LIS
M' 452-P' 232	3. 1968	1. 08E-01	2. 57E-03	4. 53E-01	2. 33E-03	20	4	LIS
E' 212-P' 232	3. 1989	2. 44E-01	1. 01E+00	1. 46E-01	2. 94E-01	20	4	LIS
E' 212-P' 234	3. 1994	4. 02E-01	1. 01E+00	2. 40E-01	4. 84E-01	20	4	LIS
N' 254-P' 234	3. 2109	3. 47E-04	6. 05E-02	4. 66E-03	1. 13E-03	20	4	LIS
N' 256-P' 234	3. 2109	5. 10E-04	5. 62E-02	7. 65E-03	2. 58E-03	20	4	LIS
N' 254-U' 276	3. 2124	1. 23E-03	6. 05E-02	1. 66E-02	4. 01E-03	20	4	LIS
N' 256-U' 278	3. 2125	1. 44E-03	5. 62E-02	2. 16E-02	7. 30E-03	20	4	LIS
L' 212-P' 232	3. 2161	1. 32E-03	1. 83E+00	7. 10E-04	2. 60E-03	20	4	LIS
V' 256-U' 278	3. 1768	1. 64E+01	1. 94E-03	9. 62E-01	1. 12E-02	20	4	LIS
V' 254-U' 276	3. 1768	1. 71E+01	1. 91E-03	9. 98E-01	7. 62E-03	20	4	LIS
F' 212-P' 232	3. 1776	2. 63E+00	5. 59E-01	1. 55E-01	1. 73E-01	20	4	LIS
F' 212-P' 234	3. 1781	1. 36E+01	5. 59E-01	8. 01E-01	8. 96E-01	20	4	LIS
F' 234-P' 232	3. 1790	3. 25E-01	2. 61E-01	1. 86E-02	1. 94E-02	20	4	LIS
F' 234-P' 234	3. 1795	1. 63E+01	2. 61E-01	9. 36E-01	9. 77E-01	20	4	LIS
F' 254-P' 232	3. 1795	1. 62E+01	1. 57E+00	8. 79E-01	5. 52E+00	20	4	LIS
F' 256-P' 234	3. 1798	1. 67E+01	1. 15E+00	9. 11E-01	6. 29E+00	20	4	LIS
F' 254-P' 234	3. 1801	3. 11E-01	1. 57E+00	1. 69E-02	1. 06E-01	20	4	LIS
F' 256-U' 278	3. 1813	2. 21E-02	1. 15E+00	1. 20E-03	8. 29E-03	20	4	LIS
F' 254-U' 276	3. 1816	1. 55E-02	1. 57E+00	8. 42E-04	5. 28E-03	20	4	LIS
W' 254-P' 232	3. 1865	1. 31E-02	1. 69E-03	4. 59E-01	3. 10E-03	20	4	LIS
W' 254-P' 234	3. 1870	8. 69E-03	1. 69E-03	3. 03E-01	2. 05E-03	20	4	LIS
W' 456-P' 234	3. 1875	1. 58E-03	9. 80E-03	3. 53E-02	2. 08E-03	20	4	LIS
W' 476-P' 234	3. 1879	2. 74E-03	1. 36E-02	3. 73E-02	3. 04E-03	20	4	LIS
M' 212-P' 232	3. 1886	7. 97E-02	4. 44E-01	3. 30E-02	2. 93E-02	20	4	LIS
W' 456-U' 276	3. 1890	9. 85E-04	9. 80E-03	2. 20E-02	1. 30E-03	20	4	LIS
W' 454-U' 276	3. 1890	1. 14E-02	4. 19E-04	6. 06E-01	1. 02E-03	20	4	LIS
W' 456-U' 278	3. 1890	2. 64E-02	9. 80E-03	5. 92E-01	3. 48E-02	20	4	LIS
M' 212-P' 234	3. 1891	6. 60E-01	4. 44E-01	2. 73E-01	2. 42E-01	20	4	LIS
W' 476-U' 276	3. 1894	4. 46E-02	1. 36E-02	6. 07E-01	4. 95E-02	20	4	LIS
W' 476-U' 278	3. 1895	3. 58E-03	1. 36E-02	4. 86E-02	3. 96E-03	20	4	LIS
M' 256-P' 234	3. 1902	9. 67E-03	2. 04E+00	3. 03E-03	3. 71E-02	20	4	LIS
M' 234-P' 232	3. 1909	1. 67E-03	5. 19E-01	1. 20E-03	2. 49E-03	20	4	LIS
M' 234-P' 234	3. 1914	1. 15E-01	5. 19E-01	8. 26E-02	1. 71E-01	20	4	LIS
M' 434-P' 232	3. 1916	2. 15E-03	2. 49E-01	3. 60E-03	3. 59E-03	20	4	LIS
W' 474-P' 234	3. 1917	4. 62E-04	9. 99E-03	1. 15E-03	4. 59E-05	20	4	LIS
M' 256-U' 278	3. 1918	5. 58E-03	2. 04E+00	1. 75E-03	2. 14E-02	20	4	LIS
M' 436-P' 234	3. 1921	1. 45E-02	1. 86E-01	5. 64E-02	6. 29E-02	20	4	LIS
M' 434-P' 234	3. 1921	8. 66E-02	2. 49E-01	1. 45E-01	1. 45E-01	20	4	LIS
W' 256-P' 234	3. 1923	1. 33E-02	3. 05E-02	2. 30E-01	4. 22E-02	20	4	LIS
G' 254-P' 232	3. 1924	1. 47E-01	9. 13E-03	7. 11E-01	2. 60E-02	20	4	LIS
G' 256-P' 234	3. 1928	1. 82E-01	1. 46E-02	7. 10E-01	6. 23E-02	20	4	LIS
W' 496-U' 276	3. 1928	5. 69E-01	4. 38E-02	8. 24E-01	2. 17E-01	20	4	LIS
W' 496-U' 278	3. 1929	4. 84E-02	4. 38E-02	7. 01E-02	1. 84E-02	20	4	LIS
G' 254-P' 234	3. 1929	1. 95E-02	9. 13E-03	9. 45E-02	3. 45E-03	20	4	LIS
M' 234-U' 276	3. 1929	1. 87E-02	5. 19E-01	1. 34E-02	2. 78E-02	20	4	LIS
W' 474-U' 276	3. 1932	3. 69E-01	9. 99E-03	9. 16E-01	3. 66E-02	20	4	LIS
W' 276-U' 278	3. 1933	3. 37E-01	1. 17E-08	8. 64E-01	6. 07E-08	20	4	LIS
M' 436-U' 276	3. 1936	5. 13E-03	1. 86E-01	2. 00E-02	2. 23E-02	20	4	LIS
M' 434-U' 276	3. 1936	4. 76E-03	2. 49E-01	7. 97E-03	7. 95E-03	20	4	LIS

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M' 254-P' 232	3. 1936	2. 18E-01	9. 86E-01	8. 01E-02	3. 16E-01	20	4	LIS
M' 436-U' 278	3. 1937	4. 22E-03	1. 86E-01	1. 64E-02	1. 83E-02	20	4	LIS
M' 254-P' 234	3. 1941	3. 50E-01	9. 86E-01	1. 28E-01	5. 06E-01	20	4	LIS
M' 232-P' 232	3. 1942	3. 23E-02	6. 70E-02	2. 58E-02	3. 45E-03	20	4	LIS
G' 256-U' 278	3. 1944	5. 95E-02	1. 46E-02	2. 32E-01	2. 04E-02	20	4	LIS
G' 254-U' 276	3. 1944	2. 77E-02	9. 13E-03	1. 34E-01	4. 90E-03	20	4	LIS
M' 232-P' 234	3. 1947	1. 29E-01	6. 70E-02	1. 03E-01	1. 38E-02	20	4	LIS
M' 414-P' 232	3. 1953	1. 59E-01	8. 01E-02	2. 16E-01	6. 91E-02	20	4	LIS
M' 456-P' 234	3. 1958	4. 83E-01	2. 15E-01	6. 78E-01	8. 74E-01	20	4	LIS
M' 414-P' 234	3. 1958	2. 44E-01	8. 01E-02	3. 31E-01	1. 06E-01	20	4	LIS
M' 454-P' 232	3. 1963	4. 31E-01	1. 43E-02	7. 86E-01	4. 49E-02	20	4	LIS
M' 454-P' 234	3. 1968	2. 12E-02	1. 43E-02	3. 86E-02	2. 21E-03	20	4	LIS
M' 452-P' 232	3. 1968	1. 08E-01	2. 57E-03	4. 53E-01	2. 33E-03	20	4	LIS
E' 212-P' 232	3. 1989	2. 44E-01	1. 01E+00	1. 46E-01	2. 94E-01	20	4	LIS
E' 212-P' 234	3. 1994	4. 02E-01	1. 01E+00	2. 40E-01	4. 84E-01	20	4	LIS
N' 254-P' 234	3. 2109	3. 47E-04	6. 05E-02	4. 66E-03	1. 13E-03	20	4	LIS
N' 256-P' 234	3. 2109	5. 10E-04	5. 62E-02	7. 65E-03	2. 58E-03	20	4	LIS
N' 254-U' 276	3. 2124	1. 23E-03	6. 05E-02	1. 66E-02	4. 01E-03	20	4	LIS
N' 256-U' 278	3. 2125	1. 44E-03	5. 62E-02	2. 16E-02	7. 30E-03	20	4	LIS
L' 212-P' 232	3. 2161	1. 32E-03	1. 83E+00	7. 10E-04	2. 60E-03	20	4	LIS
V' 256-U' 278	3. 1771	1. 64E+01	1. 07E-03	9. 63E-01	6. 20E-03	20	5	LIS
V' 254-U' 276	3. 1771	1. 71E+01	1. 31E-03	9. 98E-01	5. 23E-03	20	5	LIS
F' 212-P' 232	3. 1777	2. 41E+00	3. 01E-01	1. 40E-01	8. 44E-02	20	5	LIS
F' 212-P' 234	3. 1779	1. 44E+01	3. 01E-01	8. 35E-01	5. 03E-01	20	5	LIS
F' 234-P' 232	3. 1782	5. 77E-01	9. 27E-02	3. 36E-02	1. 25E-02	20	5	LIS
F' 234-P' 234	3. 1784	1. 63E+01	9. 27E-02	9. 47E-01	3. 51E-01	20	5	LIS
F' 254-P' 232	3. 1785	1. 62E+01	7. 67E-01	9. 13E-01	2. 80E+00	20	5	LIS
F' 256-P' 234	3. 1786	1. 69E+01	5. 37E-01	9. 54E-01	3. 07E+00	20	5	LIS
F' 254-P' 234	3. 1787	5. 78E-01	7. 67E-01	3. 26E-02	9. 99E-02	20	5	LIS
W' 254-P' 232	3. 1878	1. 42E-03	1. 19E-03	2. 64E-01	1. 26E-03	20	5	LIS
W' 254-P' 234	3. 1881	1. 60E-03	1. 19E-03	2. 97E-01	1. 41E-03	20	5	LIS
M' 212-P' 232	3. 1891	4. 55E-02	2. 72E-01	4. 26E-02	2. 31E-02	20	5	LIS
M' 212-P' 234	3. 1893	1. 86E-01	2. 72E-01	1. 74E-01	9. 45E-02	20	5	LIS
M' 256-P' 234	3. 1898	1. 98E-03	1. 03E+00	1. 26E-03	7. 76E-03	20	5	LIS
M' 234-P' 232	3. 1901	8. 63E-04	2. 07E-01	1. 39E-03	1. 15E-03	20	5	LIS
M' 234-P' 234	3. 1904	1. 75E-02	2. 07E-01	2. 81E-02	2. 33E-02	20	5	LIS
M' 434-P' 232	3. 1905	1. 02E-02	6. 89E-02	4. 93E-02	1. 36E-02	20	5	LIS
M' 434-P' 234	3. 1907	2. 00E-02	6. 89E-02	9. 70E-02	2. 67E-02	20	5	LIS
M' 436-P' 234	3. 1907	2. 37E-02	1. 02E-01	1. 48E-01	9. 04E-02	20	5	LIS
G' 254-P' 232	3. 1922	3. 05E-02	3. 20E-02	3. 94E-01	5. 05E-02	20	5	LIS
G' 256-P' 234	3. 1924	2. 58E-02	4. 33E-02	1. 47E-01	3. 83E-02	20	5	LIS
G' 254-P' 234	3. 1925	5. 77E-03	3. 20E-02	7. 47E-02	9. 56E-03	20	5	LIS
W' 276-U' 276	3. 1929	1. 35E-01	4. 58E-03	3. 27E-01	8. 98E-03	20	5	LIS
W' 276-U' 278	3. 1930	2. 73E-01	4. 58E-03	6. 60E-01	1. 81E-02	20	5	LIS
G' 256-U' 278	3. 1932	1. 00E-01	4. 33E-02	5. 73E-01	1. 49E-01	20	5	LIS
M' 254-P' 232	3. 1933	1. 17E-01	6. 48E-01	6. 53E-02	1. 69E-01	20	5	LIS
M' 232-P' 232	3. 1935	1. 20E-01	8. 26E-02	1. 21E-01	1. 99E-02	20	5	LIS
M' 254-P' 234	3. 1935	4. 29E-01	6. 48E-01	2. 39E-01	6. 20E-01	20	5	LIS
M' 232-P' 234	3. 1937	2. 30E-01	8. 26E-02	2. 33E-01	3. 84E-02	20	5	LIS
M' 456-P' 234	3. 1943	5. 09E-01	1. 84E-01	7. 11E-01	7. 87E-01	20	5	LIS
M' 414-P' 232	3. 1943	2. 84E-01	5. 31E-02	4. 19E-01	8. 90E-02	20	5	LIS
M' 414-P' 234	3. 1946	1. 74E-01	5. 31E-02	2. 56E-01	5. 44E-02	20	5	LIS
M' 454-P' 232	3. 1948	2. 48E-01	4. 06E-02	8. 26E-01	1. 34E-01	20	5	LIS
M' 452-P' 232	3. 1952	6. 07E-02	7. 72E-03	4. 00E-01	6. 17E-03	20	5	LIS

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M' 452-P' 234	3. 1955	1. 62E-02	7. 72E-03	1. 07E-01	1. 64E-03	20	5	LIS
E' 212-P' 232	3. 1955	1. 24E-01	4. 82E-01	1. 58E-01	1. 52E-01	20	5	LIS
E' 212-P' 234	3. 1957	1. 72E-01	4. 82E-01	2. 20E-01	2. 12E-01	20	5	LIS
N' 256-P' 234	3. 2110	1. 96E-04	1. 35E-02	1. 30E-02	1. 05E-03	20	5	LIS
L' 212-P' 232	3. 2136	6. 13E-04	8. 57E-01	7. 11E-04	1. 22E-03	20	5	LIS
A' 254-S' 212	3. 1753	6. 67E-03	5. 56E-05	3. 95E-04	8. 79E-08	20	5	LIS
A' 234-D' 254	3. 1772	9. 73E-01	1. 20E-02	5. 73E-02	2. 76E-03	20	5	LIS
A' 234-D' 256	3. 1773	1. 59E+01	1. 20E-02	9. 38E-01	4. 52E-02	20	5	LIS
A' 232-D' 254	3. 1774	1. 70E+01	1. 03E-02	9. 96E-01	2. 04E-02	20	5	LIS
A' 276-D' 254	3. 1778	5. 29E+00	2. 54E-01	3. 12E-01	4. 75E-01	20	5	LIS
A' 276-D' 256	3. 1779	1. 14E+01	2. 54E-01	6. 73E-01	1. 03E+00	20	5	LIS
A' 256-D' 254	3. 1779	1. 15E+01	1. 65E-01	6. 75E-01	6. 67E-01	20	5	LIS
A' 256-D' 256	3. 1780	5. 38E+00	1. 65E-01	3. 16E-01	3. 12E-01	20	5	LIS
A' 278-D' 256	3. 1781	1. 70E+01	3. 76E-01	9. 78E-01	2. 94E+00	20	5	LIS
B' 234-S' 212	3. 1782	1. 69E+01	1. 67E-02	9. 95E-01	6. 66E-02	20	5	LIS
B' 232-S' 212	3. 1783	1. 69E+01	8. 63E-02	9. 91E-01	1. 71E-01	20	5	LIS
I' 278-D' 256	3. 1893	3. 19E-02	4. 44E-02	4. 18E-01	1. 49E-01	20	5	LIS
I' 436-D' 254	3. 1896	1. 46E-02	3. 78E-03	7. 00E-01	1. 58E-02	20	5	LIS
I' 436-D' 256	3. 1897	2. 49E-03	3. 78E-03	1. 19E-01	2. 70E-03	20	5	LIS
I' 256-D' 256	3. 1901	1. 84E-02	1. 10E-02	6. 26E-01	4. 13E-02	20	5	LIS
I' 458-D' 256	3. 1901	2. 14E-02	3. 49E-03	8. 60E-01	2. 40E-02	20	5	LIS
C' 234-S' 212	3. 1918	2. 57E-02	3. 41E-01	3. 76E-02	5. 12E-02	20	5	LIS
C' 232-S' 212	3. 1920	1. 68E-01	7. 79E-01	1. 38E-01	2. 14E-01	20	5	LIS
J' 234-D' 256	3. 1922	2. 66E-03	7. 10E-01	3. 66E-03	1. 04E-02	20	5	LIS
H' 276-D' 256	3. 1922	1. 46E-02	7. 78E-04	8. 94E-01	4. 17E-03	20	5	LIS
J' 436-D' 254	3. 1929	1. 69E-02	3. 56E-03	4. 94E-02	1. 06E-03	20	5	LIS
J' 436-D' 256	3. 1930	3. 22E-01	3. 56E-03	9. 40E-01	2. 01E-02	20	5	LIS
J' 232-S' 212	3. 1932	2. 78E-01	2. 31E-01	4. 90E-01	2. 26E-01	20	5	LIS
I' 452-D' 254	3. 1932	3. 64E-01	2. 50E-03	9. 89E-01	4. 94E-03	20	5	LIS
I' 454-D' 254	3. 1932	4. 51E-01	5. 88E-04	9. 02E-01	2. 12E-03	20	5	LIS
I' 276-D' 254	3. 1933	1. 37E-01	6. 13E-03	3. 47E-01	1. 28E-02	20	5	LIS
I' 276-D' 256	3. 1934	2. 51E-01	6. 13E-03	6. 37E-01	2. 34E-02	20	5	LIS
I' 254-D' 256	3. 1935	3. 68E-01	1. 31E-09	8. 94E-01	4. 67E-09	20	5	LIS
I' 478-D' 256	3. 1937	4. 69E-01	3. 06E-02	9. 39E-01	2. 30E-01	20	5	LIS
J' 434-S' 212	3. 1940	5. 11E-01	3. 33E-02	9. 14E-01	1. 22E-01	20	5	LIS
I' 476-D' 254	3. 1942	1. 25E-01	1. 01E-02	9. 23E-01	5. 62E-02	20	5	LIS
C' 234-D' 254	3. 1945	2. 14E-03	3. 41E-01	3. 14E-03	4. 27E-03	20	5	LIS
I' 474-D' 254	3. 1946	7. 14E-02	1. 55E-02	7. 40E-01	4. 58E-02	20	5	LIS
C' 234-D' 256	3. 1946	1. 10E-01	3. 41E-01	1. 61E-01	2. 20E-01	20	5	LIS
C' 232-D' 254	3. 1946	8. 37E-02	7. 79E-01	6. 86E-02	1. 07E-01	20	5	LIS
I' 474-D' 256	3. 1946	1. 64E-03	1. 55E-02	1. 70E-02	1. 05E-03	20	5	LIS
J' 432-S' 212	3. 1947	6. 41E-02	2. 57E-02	6. 78E-01	3. 48E-02	20	5	LIS
J' 232-D' 254	3. 1958	2. 49E-02	2. 31E-01	4. 39E-02	2. 02E-02	20	5	LIS
J' 432-D' 254	3. 1974	2. 24E-03	2. 57E-02	2. 37E-02	1. 22E-03	20	5	LIS
K' 234-S' 212	3. 2105	5. 78E-03	1. 76E-01	7. 40E-03	5. 23E-03	20	5	LIS
V' 256-U' 278	3. 1772	1. 65E+01	6. 63E-04	9. 65E-01	3. 84E-03	20	6	LIS
V' 254-U' 276	3. 1772	1. 70E+01	8. 95E-04	9. 98E-01	3. 57E-03	20	6	LIS
F' 212-P' 232	3. 1776	2. 02E+00	1. 80E-01	1. 17E-01	4. 22E-02	20	6	LIS
F' 212-P' 234	3. 1777	1. 49E+01	1. 80E-01	8. 67E-01	3. 13E-01	20	6	LIS
F' 234-P' 232	3. 1778	7. 24E-01	4. 44E-02	4. 24E-02	7. 54E-03	20	6	LIS
F' 234-P' 234	3. 1779	1. 62E+01	4. 44E-02	9. 47E-01	1. 68E-01	20	6	LIS
F' 232-P' 232	3. 1779	1. 50E+01	1. 44E-03	8. 75E-01	2. 52E-03	20	6	LIS
F' 254-P' 232	3. 1780	1. 61E+01	4. 35E-01	9. 26E-01	1. 61E+00	20	6	LIS
F' 256-P' 234	3. 1780	1. 69E+01	2. 99E-01	9. 73E-01	1. 74E+00	20	6	LIS

Table VIII(a) - 7

F' 254-P' 234	3. 1781	7. 25E-01	4. 35E-01	4. 16E-02	7. 24E-02	20	6 LIS
M' 212-P' 232	3. 1892	2. 74E-02	1. 64E-01	4. 80E-02	1. 57E-02	20	6 LIS
M' 212-P' 234	3. 1893	7. 09E-02	1. 64E-01	1. 24E-01	4. 06E-02	20	6 LIS
M' 256-P' 234	3. 1895	1. 66E-03	5. 74E-01	1. 90E-03	6. 55E-03	20	6 LIS
M' 234-P' 232	3. 1897	1. 59E-03	1. 08E-01	4. 58E-03	1. 98E-03	20	6 LIS
M' 234-P' 234	3. 1899	1. 67E-03	1. 08E-01	4. 82E-03	2. 08E-03	20	6 LIS
M' 434-P' 232	3. 1899	1. 02E-02	3. 00E-02	9. 78E-02	1. 17E-02	20	6 LIS
M' 434-P' 234	3. 1901	7. 99E-03	3. 00E-02	7. 70E-02	9. 25E-03	20	6 LIS
M' 436-P' 234	3. 1901	1. 63E-02	5. 81E-02	1. 70E-01	5. 93E-02	20	6 LIS
G' 254-P' 232	3. 1922	8. 18E-03	2. 75E-02	2. 03E-01	2. 23E-02	20	6 LIS
G' 256-P' 234	3. 1922	4. 68E-03	2. 97E-02	4. 03E-02	7. 18E-03	20	6 LIS
G' 254-P' 234	3. 1923	1. 93E-03	2. 75E-02	4. 78E-02	5. 25E-03	20	6 LIS
G' 256-U' 276	3. 1927	4. 32E-02	2. 97E-02	3. 72E-01	6. 63E-02	20	6 LIS
G' 256-U' 278	3. 1927	3. 85E-02	2. 97E-02	3. 32E-01	5. 91E-02	20	6 LIS
W' 496-U' 276	3. 1929	5. 64E-01	4. 07E-03	9. 91E-01	2. 42E-02	20	6 LIS
W' 474-U' 276	3. 1929	4. 50E-01	4. 30E-04	9. 94E-01	1. 71E-03	20	6 LIS
W' 276-U' 278	3. 1929	4. 32E-01	4. 24E-03	9. 84E-01	2. 51E-02	20	6 LIS
M' 254-P' 232	3. 1931	8. 71E-02	3. 79E-01	6. 95E-02	1. 05E-01	20	6 LIS
M' 232-P' 232	3. 1932	1. 55E-01	6. 59E-02	1. 84E-01	2. 42E-02	20	6 LIS
M' 254-P' 234	3. 1933	4. 58E-01	3. 79E-01	3. 65E-01	5. 55E-01	20	6 LIS
M' 232-P' 234	3. 1934	2. 93E-01	6. 59E-02	3. 47E-01	4. 58E-02	20	6 LIS
M' 456-P' 234	3. 1937	5. 20E-01	1. 36E-01	7. 71E-01	6. 28E-01	20	6 LIS
M' 414-P' 232	3. 1938	4. 52E-01	1. 47E-02	6. 62E-01	3. 91E-02	20	6 LIS
M' 414-P' 234	3. 1939	1. 19E-01	1. 47E-02	1. 74E-01	1. 03E-02	20	6 LIS
E' 212-P' 232	3. 1940	8. 38E-02	2. 73E-01	1. 82E-01	9. 92E-02	20	6 LIS
M' 454-P' 232	3. 1942	5. 87E-02	6. 91E-02	3. 69E-01	1. 02E-01	20	6 LIS
E' 212-P' 234	3. 1942	1. 01E-01	2. 73E-01	2. 19E-01	1. 19E-01	20	6 LIS
M' 454-P' 234	3. 1943	1. 01E-02	6. 91E-02	6. 36E-02	1. 76E-02	20	6 LIS
M' 452-P' 232	3. 1945	3. 83E-02	4. 93E-03	3. 74E-01	3. 68E-03	20	6 LIS
V' 256-U' 278	3. 1772	1. 65E+01	6. 63E-04	9. 65E-01	3. 84E-03	20	6 LIS
V' 254-U' 276	3. 1772	1. 70E+01	8. 95E-04	9. 98E-01	3. 57E-03	20	6 LIS
F' 212-P' 232	3. 1776	2. 02E+00	1. 80E-01	1. 17E-01	4. 22E-02	20	6 LIS
F' 212-P' 234	3. 1777	1. 49E+01	1. 80E-01	8. 67E-01	3. 13E-01	20	6 LIS
F' 234-P' 232	3. 1778	7. 24E-01	4. 44E-02	4. 24E-02	7. 54E-03	20	6 LIS
F' 234-P' 234	3. 1779	1. 62E+01	4. 44E-02	9. 47E-01	1. 68E-01	20	6 LIS
F' 232-P' 232	3. 1779	1. 50E+01	1. 44E-03	8. 75E-01	2. 52E-03	20	6 LIS
F' 254-P' 232	3. 1780	1. 61E+01	4. 35E-01	9. 26E-01	1. 61E+00	20	6 LIS
F' 256-P' 234	3. 1780	1. 69E+01	2. 99E-01	9. 73E-01	1. 74E+00	20	6 LIS
F' 232-P' 234	3. 1781	2. 00E+00	1. 44E-03	1. 17E-01	3. 36E-04	20	6 LIS
F' 254-P' 234	3. 1781	7. 25E-01	4. 35E-01	4. 16E-02	7. 24E-02	20	6 LIS
M' 212-P' 232	3. 1892	2. 74E-02	1. 64E-01	4. 80E-02	1. 57E-02	20	6 LIS
M' 212-P' 234	3. 1893	7. 09E-02	1. 64E-01	1. 24E-01	4. 06E-02	20	6 LIS
M' 256-P' 234	3. 1895	1. 66E-03	5. 74E-01	1. 90E-03	6. 55E-03	20	6 LIS
M' 234-P' 232	3. 1897	1. 59E-03	1. 08E-01	4. 58E-03	1. 98E-03	20	6 LIS
M' 234-P' 234	3. 1899	1. 67E-03	1. 08E-01	4. 82E-03	2. 08E-03	20	6 LIS
M' 434-P' 232	3. 1899	1. 02E-02	3. 00E-02	9. 78E-02	1. 17E-02	20	6 LIS
M' 434-P' 234	3. 1901	7. 99E-03	3. 00E-02	7. 70E-02	9. 25E-03	20	6 LIS
M' 436-P' 234	3. 1901	1. 63E-02	5. 81E-02	1. 70E-01	5. 93E-02	20	6 LIS
G' 254-P' 232	3. 1922	8. 18E-03	2. 75E-02	2. 03E-01	2. 23E-02	20	6 LIS
G' 256-P' 234	3. 1922	4. 68E-03	2. 97E-02	4. 03E-02	7. 18E-03	20	6 LIS
G' 254-P' 234	3. 1923	1. 93E-03	2. 75E-02	4. 78E-02	5. 25E-03	20	6 LIS
G' 256-U' 276	3. 1927	4. 32E-02	2. 97E-02	3. 72E-01	6. 63E-02	20	6 LIS
G' 256-U' 278	3. 1927	3. 85E-02	2. 97E-02	3. 32E-01	5. 91E-02	20	6 LIS
W' 496-U' 276	3. 1929	5. 64E-01	4. 07E-03	9. 91E-01	2. 42E-02	20	6 LIS

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W' 474-U' 276	3. 1929	4. 50E-01	4. 30E-04	9. 94E-01	1. 71E-03	20	6	LIS
W' 276-U' 278	3. 1929	4. 32E-01	4. 24E-03	9. 84E-01	2. 51E-02	20	6	LIS
M' 254-P' 232	3. 1931	8. 71E-02	3. 79E-01	6. 95E-02	1. 05E-01	20	6	LIS
M' 232-P' 232	3. 1932	1. 55E-01	6. 59E-02	1. 84E-01	2. 42E-02	20	6	LIS
M' 254-P' 234	3. 1933	4. 58E-01	3. 79E-01	3. 65E-01	5. 55E-01	20	6	LIS
M' 232-P' 234	3. 1934	2. 93E-01	6. 59E-02	3. 47E-01	4. 58E-02	20	6	LIS
M' 456-P' 234	3. 1937	5. 20E-01	1. 36E-01	7. 71E-01	6. 28E-01	20	6	LIS
M' 414-P' 232	3. 1938	4. 52E-01	1. 47E-02	6. 62E-01	3. 91E-02	20	6	LIS
M' 414-P' 234	3. 1939	1. 19E-01	1. 47E-02	1. 74E-01	1. 03E-02	20	6	LIS
E' 212-P' 232	3. 1940	8. 38E-02	2. 73E-01	1. 82E-01	9. 92E-02	20	6	LIS
M' 454-P' 232	3. 1942	5. 87E-02	6. 91E-02	3. 69E-01	1. 02E-01	20	6	LIS
E' 212-P' 234	3. 1942	1. 01E-01	2. 73E-01	2. 19E-01	1. 19E-01	20	6	LIS
M' 454-P' 234	3. 1943	1. 01E-02	6. 91E-02	6. 36E-02	1. 76E-02	20	6	LIS
M' 452-P' 232	3. 1945	3. 83E-02	4. 93E-03	3. 74E-01	3. 68E-03	20	6	LIS

Table VIII(b) -1

Atomic data for dielectronic satellite lines of Li-like Ca ions
Cornille data

(See Table II(c) for the configuration of KU and KL levels)

n	Transition	W.L.	Qd	Ar	Br
	KU KL				
2	23 2	3.2621	5.869E-01	3.084E-01	1.998E-02
2	23 3	3.2673	8.315E-01	4.369E-01	2.831E-02
2	27 1	3.2001	3.661E+00	1.269E+01	8.553E-01
2	28 1	3.1977	7.602E-01	1.600E+01	9.877E-01
2	30 3	3.2244	1.225E-01	8.835E-02	6.414E-01
2	31 1	3.1889	5.534E+00	3.993E+00	3.066E-01
2	32 1	3.1877	2.271E+00	5.993E-01	5.211E-02
2	33 3	3.2218	9.917E-01	2.477E-01	3.321E-01
2	34 2	3.2034	2.329E+01	9.755E+00	3.984E-01
2	34 3	3.2085	2.643E-01	1.107E-01	4.521E-03
2	35 3	3.2073	3.171E+01	7.964E+00	3.361E-01
2	37 2	3.1957	3.150E-01	1.245E+00	5.013E-02
2	37 3	3.2008	5.569E+00	2.201E+01	8.862E-01
2	38 2	3.1815	4.611E-01	9.976E-01	9.790E-02
2	38 3	3.1865	3.157E+00	6.829E+00	6.702E-01
3	40 2	2.7698	1.693E-01	8.971E-02	1.781E-02
3	40 3	2.7735	2.328E-01	1.234E-01	2.450E-02
3	44 1	2.7449	5.288E-01	2.294E+00	7.302E-01
3	45 1	2.7448	2.369E-01	2.422E+00	7.720E-01
3	50 5	3.2066	6.314E-01	4.888E-01	1.150E-01
3	50 6	3.2082	1.004E+00	7.773E-01	1.828E-01
3	52 3	2.7630	3.824E-01	1.746E-01	1.303E-01
3	53 2	2.7592	3.522E-01	2.444E-01	1.614E-01
3	59 1	2.7320	1.958E-01	1.811E+00	5.915E-01
3	60 6	3.1992	2.813E-01	2.560E-01	6.105E-01
3	63 1	2.7302	1.172E-01	9.611E-02	1.359E-02
3	63 4	3.1880	3.047E+00	2.498E+00	3.532E-01
3	67 2	2.7500	1.325E-01	7.997E-01	4.118E-01
3	69 2	2.7489	1.404E-01	1.820E-01	3.173E-01
3	70 1	2.7273	1.087E-01	3.112E-02	5.571E-03
3	70 4	3.1841	1.805E+00	5.167E-01	9.249E-02
3	71 3	2.7521	1.302E-01	5.942E-02	8.265E-02
3	71 6	3.1932	3.265E-01	1.490E-01	2.072E-01
3	72 8	3.1960	1.150E-01	1.891E-01	6.226E-01
3	73 2	2.7476	1.003E+00	1.914E+00	2.431E-01
3	73 3	2.7513	5.463E-01	1.042E+00	1.323E-01
3	73 5	3.1905	8.881E-01	1.694E+00	2.151E-01
3	73 6	3.1920	7.733E-01	1.475E+00	1.873E-01
3	76 2	2.7469	1.174E+00	7.062E-01	2.721E-01
3	76 3	2.7506	3.407E-01	2.049E-01	7.895E-02
3	76 5	3.1896	4.410E-01	2.652E-01	1.022E-01
3	77 6	3.1909	1.263E-01	1.555E+00	6.418E-01
3	82 3	2.7485	9.378E+00	3.914E+00	4.843E-01
3	82 6	3.1884	1.526E+00	6.369E-01	7.880E-02
3	83 4	3.1787	1.811E+00	1.400E+01	9.180E-01
3	84 4	3.1782	2.178E+00	1.377E+01	8.845E-01
3	88 3	2.7462	1.569E-01	2.475E+00	2.815E-01
3	88 6	3.1852	2.682E-01	4.229E+00	4.809E-01

Table VIII(b) -2

3	93	3	2.7428	5.209E-01	6.069E-01	3.179E-02
3	93	5	3.1791	1.203E+01	1.402E+01	7.343E-01
3	95	3	2.7425	7.914E-01	6.412E-01	3.321E-02
3	95	6	3.1802	1.780E+01	1.442E+01	7.469E-01
3	97	3	2.7414	3.366E-01	1.488E+00	7.958E-02
3	97	6	3.1787	3.502E+00	1.548E+01	8.279E-01
3	98	5	3.1732	3.394E-01	1.878E+00	1.336E-01
3	98	6	3.1748	1.918E+00	1.061E+01	7.548E-01
3	100	7	3.1771	1.831E-01	4.501E+00	2.520E-01
3	100	8	3.1775	4.984E-01	1.225E+01	6.859E-01
3	101	8	3.1764	1.086E+01	1.408E+01	8.461E-01
3	102	7	3.1750	5.409E+00	9.756E+00	6.023E-01
3	102	8	3.1754	2.163E+00	3.901E+00	2.408E-01
4	110	1	2.6150	7.008E-01	1.426E+00	7.398E-01
4	111	1	2.6149	3.382E-01	1.470E+00	7.558E-01
4	125	9	3.1932	1.137E-01	4.447E-01	7.492E-01
4	126	10	3.1961	3.047E-01	2.584E-01	1.393E-01
4	126	11	3.1969	4.498E-01	3.815E-01	2.057E-01
4	129	1	2.6040	1.487E-01	2.644E-01	3.517E-01
4	131	11	3.1938	5.514E-01	3.490E-01	5.134E-01
4	134	1	2.6029	4.561E-01	5.270E-01	3.929E-01
4	134	9	3.1894	1.693E-01	1.956E-01	1.458E-01
4	134	15	3.1945	1.720E-01	1.988E-01	1.482E-01
4	135	1	2.6028	4.176E-01	3.262E-01	1.084E-01
4	135	9	3.1893	6.980E-01	5.453E-01	1.811E-01
4	135	13	3.1942	1.388E-01	1.084E-01	3.601E-02
4	139	2	2.6214	1.717E+00	1.380E+00	4.715E-01
4	139	10	3.1912	2.411E-01	1.937E-01	6.618E-02
4	139	11	3.1919	3.027E-01	2.432E-01	8.309E-02
4	142	15	3.1922	1.489E-01	2.647E-01	5.351E-01
4	144	15	3.1920	1.858E-01	2.984E-01	3.847E-01
4	146	1	2.6009	1.244E-01	3.370E-02	1.678E-02
4	151	3	2.6235	1.864E-01	1.974E-01	3.129E-01
4	153	3	2.6233	1.263E-01	6.650E-02	1.383E-01
4	153	14	3.1908	1.710E-01	9.005E-02	1.872E-01
4	159	2	2.6195	1.235E-01	1.177E-01	5.755E-02
4	159	3	2.6229	9.880E-01	9.416E-01	4.604E-01
4	159	11	3.1892	2.727E-01	2.599E-01	1.271E-01
4	164	3	2.6218	4.533E+00	1.384E+00	3.904E-01
4	170	3	2.6208	4.294E-01	1.384E+00	4.907E-01
4	170	11	3.1861	1.633E-01	5.264E-01	1.867E-01
4	180	15	3.1863	1.463E-01	2.185E-01	3.050E-01
4	184	9	3.1761	3.748E-01	1.631E+01	9.791E-01
4	185	9	3.1761	1.530E-01	1.648E+01	9.873E-01
4	186	10	3.1767	5.250E+00	1.619E+01	8.728E-01
4	188	3	2.6147	2.265E-01	5.999E-01	3.216E-02
4	188	11	3.1771	6.294E+00	1.667E+01	8.936E-01
4	189	11	3.1766	9.905E-01	1.646E+01	9.211E-01
4	190	10	3.1746	1.807E-01	2.826E+00	1.639E-01
4	190	11	3.1754	8.594E-01	1.344E+01	7.797E-01
4	192	13	3.1756	4.259E-01	7.427E+00	4.239E-01
4	192	15	3.1758	5.465E-01	9.530E+00	5.439E-01
4	193	15	3.1757	6.525E+00	1.680E+01	9.366E-01
4	194	13	3.1751	2.377E+00	8.987E+00	5.171E-01
4	194	15	3.1753	1.920E+00	7.258E+00	4.176E-01

Table VIII (b) -3

4	198	12	3.1741	4.594E-01	1.593E+01	9.322E-01
4	199	14	3.1741	5.877E-01	1.695E+01	9.878E-01
4	200	15	3.1741	1.166E-01	1.558E+01	9.110E-01
5	208	1	2.5596	6.079E-01	1.058E+00	7.163E-01
5	209	1	2.5595	3.040E-01	1.095E+00	7.241E-01
5	224	16	3.1922	1.105E-01	4.455E-01	7.841E-01
5	225	17	3.1933	1.038E-01	9.356E-02	2.810E-01
5	226	17	3.1930	2.155E-01	2.009E-01	1.686E-01
5	226	18	3.1935	2.612E-01	2.435E-01	2.044E-01
5	228	16	3.1910	1.133E-01	1.780E-01	2.871E-01
5	230	18	3.1926	5.935E-01	3.719E-01	5.214E-01
5	235	1	2.5478	3.295E-01	2.578E-01	1.359E-01
5	235	16	3.1898	3.364E-01	2.632E-01	1.388E-01
5	237	1	2.5477	5.648E-01	3.486E-01	3.172E-01
5	237	22	3.1921	2.427E-01	1.498E-01	1.363E-01
5	239	2	2.5662	1.314E+00	1.022E+00	4.307E-01
5	239	17	3.1909	1.409E-01	1.096E-01	4.619E-02
5	239	18	3.1914	4.059E-01	3.158E-01	1.331E-01
5	240	22	3.1915	1.789E-01	3.005E-01	5.934E-01
5	249	19	3.1903	1.076E-01	3.635E-01	6.737E-01
5	258	3	2.5677	1.140E-01	5.494E-02	1.925E-01
5	260	3	2.5674	6.258E-01	7.363E-01	5.672E-01
5	262	3	2.5668	2.958E+00	9.218E-01	3.947E-01
5	273	3	2.5661	3.674E-01	1.081E+00	5.690E-01
5	282	16	3.1756	2.094E-01	1.686E+01	9.862E-01
5	284	17	3.1759	3.353E+00	1.634E+01	9.012E-01
5	286	3	2.5595	1.020E-01	4.345E-01	2.389E-02
5	286	18	3.1761	3.935E+00	1.677E+01	9.220E-01
5	287	18	3.1758	5.614E-01	1.659E+01	9.334E-01
5	288	17	3.1746	1.225E-01	2.870E+00	1.644E-01
5	288	18	3.1751	5.937E-01	1.391E+01	7.966E-01
5	290	21	3.1751	3.673E-01	7.920E+00	4.549E-01
5	290	22	3.1753	4.215E-01	9.090E+00	5.222E-01
5	291	22	3.1752	4.762E+00	1.693E+01	9.548E-01
5	294	21	3.1748	1.661E+00	8.748E+00	5.033E-01
5	294	22	3.1750	1.487E+00	7.836E+00	4.508E-01
5	295	20	3.1742	6.241E-01	1.698E+01	9.908E-01
5	296	19	3.1741	4.832E-01	1.584E+01	9.277E-01
5	299	22	3.1742	1.177E-01	1.587E+01	9.194E-01

Table IX(a) - 1

Atomic data for dielectronic satellite lines of Li-like S ions
Safronova data

Transition	W.L.	A	SumAa	Br QD	Z	n	
R 133-Y 111	5.0390	6.68E+00	0.00E+00	1.00E+00	0.00E+00	16	2 RES
F 212-P 232	5.0581	6.34E-01	2.75E+00	1.12E-01	6.16E-01	16	2 LIS
F 212-P 234	5.0619	2.27E+00	2.75E+00	4.02E-01	2.21E+00	16	2 LIS
R 335-Y 111	5.0635	0.00E+00	0.00E+00	0.00E+00	0.00E+00	16	2 RES
C 234-S 212	5.0658	3.45E-01	1.20E+01	2.80E-02	1.34E+00	16	2 LIS
C 232-S 212	5.0666	9.55E-01	1.12E+01	7.87E-02	1.76E+00	16	2 LIS
R 333-Y 111	5.0668	5.57E-02	0.00E+00	1.00E+00	0.00E+00	16	2 RES
K 234-S 212	5.0855	6.06E+00	2.01E-01	9.68E-01	7.79E-01	16	2 LIS
K 232-S 212	5.0875	5.46E+00	9.90E-01	8.46E-01	1.68E+00	16	2 LIS
M 234-P 232	5.0879	8.19E-01	7.72E-01	8.12E-02	2.51E-01	16	2 LIS
M 232-P 232	5.0917	6.69E+00	8.31E-03	7.01E-01	1.17E-02	16	2 LIS
M 234-P 234	5.0918	8.50E+00	7.72E-01	8.42E-01	2.60E+00	16	2 LIS
M 232-P 234	5.0956	2.85E+00	8.31E-03	2.98E-01	4.96E-03	16	2 LIS
F 254-P 232	5.0983	3.45E+00	1.79E+01	1.62E-01	1.16E+01	16	2 LIS
F 256-P 232	5.0986	0.00E+00	1.85E+01	0.00E+00	0.00E+00	16	2 LIS
T 313-Y 111	5.1018	0.00E+00	0.00E+00	1.00E+00	0.00E+00	16	2 RES
F 254-P 234	5.1022	1.97E-02	1.79E+01	9.22E-04	6.60E-02	16	2 LIS
F 256-P 234	5.1025	3.18E+00	1.85E+01	1.46E-01	1.63E+01	16	2 LIS
M 436-P 232	5.1253	0.00E+00	1.40E-01	0.00E+00	0.00E+00	16	2 LIS
M 434-P 232	5.1273	4.74E-05	9.13E-03	2.19E-03	8.01E-05	16	2 LIS
M 432-P 232	5.1290	1.09E-02	7.93E-04	9.07E-01	1.44E-03	16	2 LIS
M 436-P 234	5.1293	2.35E-02	1.40E-01	1.44E-01	1.21E-01	16	2 LIS
M 434-P 234	5.1312	1.24E-02	9.13E-03	5.75E-01	2.10E-02	16	2 LIS
K 434-S 212	5.1324	1.32E-02	4.38E-03	7.51E-01	1.32E-02	16	2 LIS
M 432-P 234	5.1330	3.24E-04	7.93E-04	2.70E-02	4.29E-05	16	2 LIS
K 432-S 212	5.1334	4.87E-03	7.31E-04	8.69E-01	1.27E-03	16	2 LIS
E 212-P 232	5.2090	1.04E-01	1.53E+01	6.64E-03	2.03E-01	16	2 LIS
E 212-P 234	5.2131	1.77E-01	1.53E+01	1.13E-02	3.47E-01	16	2 LIS
F' 212-P' 232	5.0363	1.05E+00	1.46E+00	1.71E-01	4.97E-01	16	3 LIS
A' 232-D' 254	5.0367	6.34E+00	1.47E-03	9.89E-01	2.91E-03	16	3 LIS
F' 212-P' 234	5.0374	3.67E+00	1.46E+00	5.93E-01	1.73E+00	16	3 LIS
I' 432-S' 212	5.0412	2.69E-03	1.40E-03	6.00E-01	1.68E-03	16	3 LIS
A' 276-D' 254	5.0422	4.53E+00	2.03E+00	6.02E-01	7.35E+00	16	3 LIS
A' 276-D' 256	5.0426	9.56E-01	2.03E+00	1.27E-01	1.55E+00	16	3 LIS
A' 278-D' 256	5.0437	5.63E+00	2.08E+00	7.30E-01	1.22E+01	16	3 LIS
A' 256-D' 254	5.0456	1.11E+00	4.84E-02	1.66E-01	4.83E-02	16	3 LIS
A' 256-D' 256	5.0459	5.54E+00	4.84E-02	8.26E-01	2.40E-01	16	3 LIS
B' 232-S' 212	5.0467	5.21E+00	1.62E+00	7.43E-01	2.40E+00	16	3 LIS
F' 234-P' 232	5.0471	5.05E-02	9.48E-01	6.49E-03	2.46E-02	16	3 LIS
F' 234-P' 234	5.0482	6.06E+00	9.48E-01	7.78E-01	2.95E+00	16	3 LIS
F' 254-P' 232	5.0484	5.44E+00	4.77E+00	5.22E-01	9.97E+00	16	3 LIS
I' 452-S' 212	5.0484	5.15E-02	7.76E-03	5.63E-01	8.74E-03	16	3 LIS
F' 256-P' 234	5.0495	5.55E+00	4.91E+00	5.24E-01	1.54E+01	16	3 LIS
F' 254-P' 234	5.0496	4.63E-03	4.77E+00	4.45E-04	8.49E-03	16	3 LIS
I' 232-D' 254	5.0566	1.01E-01	2.92E-03	1.90E-01	1.11E-03	16	3 LIS
I' 234-D' 254	5.0586	7.91E-02	4.17E-03	2.49E-01	4.16E-03	16	3 LIS
I' 234-D' 256	5.0589	2.34E-01	4.17E-03	7.38E-01	1.23E-02	16	3 LIS
M' 212-P' 232	5.0593	8.95E-02	2.54E-01	2.66E-02	1.35E-02	16	3 LIS

Table IX(a) - 2

M' 212-P' 234	5.0604	1.53E+00	2.54E-01	4.54E-01	2.31E-01	16	3 LIS
J' 232-S' 212	5.0616	9.50E-01	4.24E+00	1.82E-01	1.54E+00	16	3 LIS
I' 434-D' 254	5.0646	1.59E-02	2.04E-03	8.46E-01	6.89E-03	16	3 LIS
I' 278-D' 256	5.0652	1.14E+00	3.37E-03	9.97E-01	2.69E-02	16	3 LIS
I' 436-D' 254	5.0654	3.99E-02	6.01E-04	6.83E-01	2.47E-03	16	3 LIS
I' 436-D' 256	5.0657	1.79E-02	6.01E-04	3.06E-01	1.11E-03	16	3 LIS
M' 256-P' 234	5.0660	4.65E-01	3.22E+00	9.02E-02	1.74E+00	16	3 LIS
M' 254-P' 232	5.0679	6.41E-02	2.55E+00	1.65E-02	1.68E-01	16	3 LIS
I' 276-D' 254	5.0681	9.24E-01	6.88E-03	7.91E-01	3.26E-02	16	3 LIS
I' 276-D' 256	5.0685	2.38E-01	6.88E-03	2.04E-01	8.40E-03	16	3 LIS
G' 254-P' 232	5.0688	1.00E+00	1.23E-01	5.62E-01	2.77E-01	16	3 LIS
M' 254-P' 234	5.0690	1.19E-01	2.55E+00	3.06E-02	3.12E-01	16	3 LIS
G' 256-P' 234	5.0694	7.03E-01	1.92E-01	7.85E-01	9.03E-01	16	3 LIS
B' 232-D' 254	5.0696	1.81E-01	1.62E+00	2.58E-02	8.33E-02	16	3 LIS
I' 458-D' 256	5.0698	3.43E-02	1.08E-02	7.60E-01	6.59E-02	16	3 LIS
G' 254-P' 234	5.0699	3.07E-01	1.23E-01	1.73E-01	8.50E-02	16	3 LIS
B' 234-D' 254	5.0703	5.02E-02	1.07E+00	2.77E-03	1.19E-02	16	3 LIS
I' 456-D' 254	5.0705	4.55E-02	3.19E-03	4.91E-01	9.39E-03	16	3 LIS
B' 234-D' 256	5.0707	2.21E-01	1.07E+00	1.71E-01	7.32E-01	16	3 LIS
I' 456-D' 256	5.0708	4.39E-02	3.19E-03	4.74E-01	9.07E-03	16	3 LIS
I' 454-D' 254	5.0710	1.32E-02	9.57E-03	3.60E-01	1.38E-02	16	3 LIS
I' 452-D' 254	5.0713	3.22E-02	7.76E-03	3.52E-01	5.46E-03	16	3 LIS
I' 454-D' 256	5.0714	1.39E-02	9.57E-03	3.79E-01	1.45E-02	16	3 LIS
M' 436-P' 234	5.0743	5.30E-02	9.77E-02	3.46E-01	2.03E-01	16	3 LIS
M' 434-P' 234	5.0748	3.68E-03	7.87E-03	2.37E-01	7.46E-03	16	3 LIS
I' 256-D' 254	5.0754	1.34E-01	2.86E-03	7.91E-01	1.36E-02	16	3 LIS
I' 254-D' 254	5.0756	5.10E-02	1.99E-02	6.25E-01	4.98E-02	16	3 LIS
M' 414-P' 232	5.0757	2.57E-02	2.79E-03	1.53E-01	1.71E-03	16	3 LIS
I' 256-D' 256	5.0758	3.26E-02	2.86E-03	1.92E-01	3.29E-03	16	3 LIS
I' 254-D' 256	5.0760	1.07E-02	1.99E-02	1.31E-01	1.04E-02	16	3 LIS
I' 478-D' 256	5.0787	2.56E-02	8.61E-03	7.48E-01	5.15E-02	16	3 LIS
I' 476-D' 254	5.0797	4.28E-02	6.33E-03	7.61E-01	2.89E-02	16	3 LIS
I' 476-D' 256	5.0800	7.13E-03	6.33E-03	1.27E-01	4.81E-03	16	3 LIS
J' 432-S' 212	5.0804	1.23E-02	1.51E-03	7.39E-01	2.23E-03	16	3 LIS
M' 234-P' 232	5.0804	1.35E-01	7.85E-03	1.31E-01	4.11E-03	16	3 LIS
J' 234-D' 254	5.0811	1.32E-03	4.71E+00	2.80E-04	5.28E-03	16	3 LIS
J' 234-D' 256	5.0815	5.53E-03	4.71E+00	1.17E-03	2.21E-02	16	3 LIS
M' 234-P' 234	5.0816	2.86E-01	7.85E-03	2.79E-01	8.75E-03	16	3 LIS
M' 456-P' 234	5.0835	3.54E-02	2.00E-02	6.29E-01	7.56E-02	16	3 LIS
M' 454-P' 232	5.0841	8.83E-02	3.56E-03	4.07E-01	5.79E-03	16	3 LIS
J' 232-D' 254	5.0846	8.51E-03	4.24E+00	1.63E-03	1.38E-02	16	3 LIS
M' 454-P' 234	5.0853	3.75E-02	3.56E-03	1.73E-01	2.46E-03	16	3 LIS
C' 234-D' 254	5.0921	1.85E-02	9.80E-03	8.97E-02	3.51E-03	16	3 LIS
C' 234-D' 256	5.0925	1.78E-01	9.80E-03	8.63E-01	3.38E-02	16	3 LIS
E' 212-P' 232	5.0990	2.10E-01	2.87E+00	6.02E-02	3.45E-01	16	3 LIS
N' 254-P' 232	5.0997	5.81E-03	5.09E-01	9.76E-03	1.99E-02	16	3 LIS
J' 436-D' 254	5.0999	2.58E-05	3.50E-08	6.43E-02	1.35E-08	16	3 LIS
E' 212-P' 234	5.1001	3.77E-01	2.87E+00	1.08E-01	6.19E-01	16	3 LIS
N' 254-P' 234	5.1009	1.74E-03	5.09E-01	2.92E-03	5.94E-03	16	3 LIS
N' 256-P' 234	5.1009	2.14E-03	4.88E-01	3.87E-03	1.13E-02	16	3 LIS
K' 232-S' 212	5.1022	8.94E-02	2.10E-01	7.81E-02	3.28E-02	16	3 LIS
J' 434-D' 256	5.1029	5.07E-04	1.12E-02	4.25E-02	1.90E-03	16	3 LIS
K' 234-D' 254	5.1258	3.21E-04	2.06E-01	1.55E-03	1.28E-03	16	3 LIS
K' 234-D' 256	5.1262	9.05E-04	2.06E-01	4.37E-03	3.60E-03	16	3 LIS

Table IX(a) - 3

L' 212-P' 234	5.1274	6.81E-04	4.69E+00	1.42E-04	1.33E-03	16	3	LIS
V' 256-U' 278	5.0381	6.51E+00	2.09E-03	9.56E-01	1.20E-02	16	4	LIS
V' 254-U' 276	5.0381	6.80E+00	2.09E-03	9.98E-01	8.33E-03	16	4	LIS
F' 212-P' 232	5.0399	1.49E+00	5.30E-01	2.13E-01	2.25E-01	16	4	LIS
F' 212-P' 234	5.0404	4.92E+00	5.30E-01	7.00E-01	7.42E-01	16	4	LIS
F' 234-P' 232	5.0431	2.84E-01	1.25E-01	4.04E-02	2.02E-02	16	4	LIS
F' 234-P' 234	5.0435	6.39E+00	1.25E-01	9.11E-01	4.55E-01	16	4	LIS
F' 254-P' 232	5.0436	6.30E+00	1.55E+00	7.63E-01	4.73E+00	16	4	LIS
F' 256-P' 234	5.0438	6.65E+00	1.29E+00	8.20E-01	6.36E+00	16	4	LIS
F' 254-P' 234	5.0441	2.76E-01	1.55E+00	3.34E-02	2.07E-01	16	4	LIS
F' 256-U' 278	5.0466	9.14E-03	1.29E+00	1.13E-03	8.74E-03	16	4	LIS
F' 254-U' 276	5.0468	7.64E-03	1.55E+00	9.25E-04	5.73E-03	16	4	LIS
W' 254-P' 232	5.0588	7.13E-03	8.02E-03	3.13E-01	1.01E-02	16	4	LIS
W' 254-P' 234	5.0593	3.36E-03	8.02E-03	1.48E-01	4.74E-03	16	4	LIS
W' 454-P' 232	5.0596	1.42E-03	1.58E-03	1.88E-01	1.18E-03	16	4	LIS
W' 456-P' 234	5.0600	2.60E-03	1.89E-02	7.30E-02	8.27E-03	16	4	LIS
W' 256-P' 234	5.0608	2.93E-03	2.33E-02	5.83E-02	8.14E-03	16	4	LIS
M' 212-P' 232	5.0618	1.46E-03	4.83E-01	1.21E-03	1.17E-03	16	4	LIS
W' 254-U' 276	5.0620	7.87E-05	8.02E-03	3.46E-03	1.11E-04	16	4	LIS
M' 212-P' 234	5.0623	2.01E-01	4.83E-01	1.67E-01	1.61E-01	16	4	LIS
W' 456-U' 276	5.0627	9.34E-04	1.89E-02	2.63E-02	2.98E-03	16	4	LIS
W' 454-U' 276	5.0628	3.16E-03	1.58E-03	4.19E-01	2.64E-03	16	4	LIS
W' 456-U' 278	5.0628	8.45E-03	1.89E-02	2.37E-01	2.69E-02	16	4	LIS
W' 256-U' 276	5.0635	1.71E-02	2.33E-02	3.40E-01	4.76E-02	16	4	LIS
W' 256-U' 278	5.0636	9.26E-04	2.33E-02	1.84E-02	2.58E-03	16	4	LIS
W' 496-P' 234	5.0637	4.67E-03	1.49E-01	1.85E-02	1.65E-02	16	4	LIS
W' 276-P' 234	5.0649	7.05E-03	5.24E-01	1.05E-02	3.31E-02	16	4	LIS
M' 256-P' 234	5.0650	4.06E-03	1.00E+00	3.28E-03	1.98E-02	16	4	LIS
G' 254-P' 232	5.0659	9.85E-02	9.87E-02	3.93E-01	1.55E-01	16	4	LIS
G' 256-P' 234	5.0663	9.29E-02	7.09E-04	7.88E-01	3.35E-03	16	4	LIS
G' 254-P' 234	5.0664	2.97E-02	9.87E-02	1.18E-01	4.68E-02	16	4	LIS
W' 496-U' 276	5.0664	6.34E-02	1.49E-01	2.51E-01	2.24E-01	16	4	LIS
W' 496-U' 278	5.0665	4.21E-03	1.49E-01	1.67E-02	1.49E-02	16	4	LIS
M' 254-P' 232	5.0666	2.48E-03	1.35E+00	1.35E-03	7.31E-03	16	4	LIS
M' 254-P' 234	5.0671	5.25E-02	1.35E+00	2.86E-02	1.55E-01	16	4	LIS
W' 276-U' 276	5.0676	1.05E-02	5.24E-01	1.56E-02	4.91E-02	16	4	LIS
W' 474-U' 276	5.0676	4.39E-02	8.27E-03	7.78E-01	2.57E-02	16	4	LIS
W' 276-U' 278	5.0677	2.21E-02	5.24E-01	3.31E-02	1.04E-01	16	4	LIS
M' 256-U' 276	5.0677	7.31E-04	1.00E+00	5.91E-04	3.56E-03	16	4	LIS
M' 256-U' 278	5.0678	1.46E-02	1.00E+00	1.18E-02	7.12E-02	16	4	LIS
M' 414-P' 234	5.0682	1.06E-02	1.82E-01	4.45E-02	3.24E-02	16	4	LIS
W' 476-U' 276	5.0682	4.25E-04	5.36E-01	6.51E-04	2.09E-03	16	4	LIS
W' 476-U' 278	5.0682	7.59E-04	5.36E-01	1.16E-03	3.74E-03	16	4	LIS
M' 436-P' 234	5.0685	1.83E-02	7.78E-02	1.74E-01	8.12E-02	16	4	LIS
G' 254-U' 276	5.0691	1.03E-02	9.87E-02	4.09E-02	1.62E-02	16	4	LIS
M' 234-P' 232	5.0693	4.58E-02	3.24E-01	6.64E-02	8.61E-02	16	4	LIS
M' 234-P' 234	5.0698	5.63E-03	3.24E-01	8.17E-03	1.06E-02	16	4	LIS
M' 254-U' 276	5.0698	1.94E-03	1.35E+00	1.06E-03	5.71E-03	16	4	LIS
M' 434-P' 232	5.0714	3.61E-02	4.17E-02	1.33E-01	2.22E-02	16	4	LIS
M' 434-P' 234	5.0719	6.33E-02	4.17E-02	2.34E-01	3.90E-02	16	4	LIS
M' 456-P' 234	5.0727	5.26E-02	7.33E-02	4.09E-01	1.80E-01	16	4	LIS
M' 454-P' 232	5.0734	5.45E-02	7.17E-03	6.12E-01	1.75E-02	16	4	LIS
M' 454-P' 234	5.0739	5.29E-03	7.17E-03	5.94E-02	1.70E-03	16	4	LIS
E' 212-P' 232	5.0780	1.01E-01	1.02E+00	7.68E-02	1.57E-01	16	4	LIS

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E' 212-P' 234	5.0784	1.81E-01	1.02E+00	1.38E-01	2.82E-01	16	4	LIS
N' 452-P' 232	5.1035	3.23E-05	2.50E-08	6.64E-01	3.31E-08	16	4	LIS
N' 452-P' 234	5.1040	1.57E-05	2.50E-08	3.23E-01	1.61E-08	16	4	LIS
N' 254-U' 276	5.1041	5.74E-04	6.40E-02	8.25E-03	2.11E-03	16	4	LIS
N' 256-U' 278	5.1043	6.12E-04	6.16E-02	9.23E-03	3.41E-03	16	4	LIS
A' 234-D' 254	5.0386	5.25E-01	9.25E-03	7.87E-02	2.91E-03	16	4	LIS
A' 234-D' 256	5.0388	6.10E+00	9.25E-03	9.14E-01	3.38E-02	16	4	LIS
A' 232-D' 254	5.0389	6.66E+00	7.90E-03	9.93E-01	1.57E-02	16	4	LIS
A' 276-D' 254	5.0415	4.33E+00	7.39E-01	5.89E-01	2.61E+00	16	4	LIS
A' 276-D' 256	5.0416	2.28E+00	7.39E-01	3.10E-01	1.38E+00	16	4	LIS
A' 256-D' 254	5.0419	2.31E+00	9.64E-02	3.37E-01	1.95E-01	16	4	LIS
A' 256-D' 256	5.0420	4.44E+00	9.64E-02	6.49E-01	3.75E-01	16	4	LIS
B' 234-S' 212	5.0423	6.53E+00	8.70E-02	9.79E-01	3.41E-01	16	4	LIS
B' 232-S' 212	5.0424	6.52E+00	1.89E-01	9.64E-01	3.65E-01	16	4	LIS
B' 232-D' 254	5.0518	5.27E-02	1.89E-01	7.79E-03	2.95E-03	16	4	LIS
B' 234-D' 256	5.0518	3.89E-02	8.70E-02	5.82E-03	2.03E-03	16	4	LIS
I' 232-S' 212	5.0524	8.81E-02	8.93E-03	7.91E-01	1.41E-02	16	4	LIS
I' 234-S' 212	5.0537	6.54E-02	1.44E-03	4.46E-01	2.57E-03	16	4	LIS
I' 254-S' 212	5.0599	6.13E-03	7.02E-03	1.21E-01	3.40E-03	16	4	LIS
I' 232-D' 254	5.0619	1.06E-02	8.93E-03	9.50E-02	1.70E-03	16	4	LIS
J' 234-S' 212	5.0624	2.10E-02	2.15E+00	9.37E-03	8.05E-02	16	4	LIS
I' 234-D' 256	5.0633	6.07E-02	1.44E-03	4.14E-01	2.39E-03	16	4	LIS
C' 232-S' 212	5.0642	1.80E-01	1.81E+00	8.35E-02	3.03E-01	16	4	LIS
H' 276-D' 254	5.0642	1.03E-02	2.33E-02	2.61E-01	3.66E-02	16	4	LIS
H' 276-D' 256	5.0644	5.68E-03	2.33E-02	1.45E-01	2.03E-02	16	4	LIS
I' 434-D' 254	5.0645	1.22E-02	3.32E-04	8.07E-01	1.07E-03	16	4	LIS
I' 436-D' 254	5.0650	6.42E-03	6.14E-04	3.40E-01	1.25E-03	16	4	LIS
I' 436-D' 256	5.0651	1.19E-02	6.14E-04	6.28E-01	2.31E-03	16	4	LIS
I' 276-D' 254	5.0661	3.83E-02	1.56E-02	4.78E-01	4.47E-02	16	4	LIS
I' 276-D' 256	5.0663	2.63E-02	1.56E-02	3.28E-01	3.06E-02	16	4	LIS
I' 456-D' 254	5.0679	3.89E-02	4.23E-03	3.28E-01	8.34E-03	16	4	LIS
I' 456-D' 256	5.0681	7.54E-02	4.23E-03	6.36E-01	1.62E-02	16	4	LIS
I' 454-D' 254	5.0683	2.94E-02	7.13E-04	9.60E-01	2.74E-03	16	4	LIS
I' 452-D' 254	5.0686	3.09E-02	1.86E-03	9.38E-01	3.48E-03	16	4	LIS
I' 254-D' 254	5.0694	2.32E-03	7.02E-03	4.58E-02	1.29E-03	16	4	LIS
I' 256-D' 254	5.0694	7.00E-02	3.10E-03	9.21E-01	1.72E-02	16	4	LIS
I' 254-D' 256	5.0695	3.31E-02	7.02E-03	6.53E-01	1.83E-02	16	4	LIS
I' 476-D' 254	5.0712	4.53E-02	4.49E-03	8.53E-01	2.30E-02	16	4	LIS
I' 476-D' 256	5.0713	3.30E-03	4.49E-03	6.21E-02	1.67E-03	16	4	LIS
J' 434-S' 212	5.0714	6.72E-02	2.38E-02	6.87E-01	6.53E-02	16	4	LIS
I' 474-D' 254	5.0717	1.77E-02	1.79E-02	4.61E-01	3.30E-02	16	4	LIS
I' 474-D' 256	5.0718	1.65E-03	1.79E-02	4.29E-02	3.08E-03	16	4	LIS
J' 234-D' 254	5.0719	4.44E-03	2.15E+00	1.98E-03	1.70E-02	16	4	LIS
J' 234-D' 256	5.0720	2.73E-02	2.15E+00	1.22E-02	1.04E-01	16	4	LIS
J' 432-S' 212	5.0722	1.64E-02	5.69E-03	6.93E-01	7.88E-03	16	4	LIS
C' 232-D' 254	5.0737	6.00E-02	1.81E+00	2.78E-02	1.01E-01	16	4	LIS
J' 232-D' 254	5.0774	4.39E-02	2.80E-01	1.07E-01	5.99E-02	16	4	LIS
J' 434-D' 256	5.0811	1.48E-03	2.38E-02	1.52E-02	1.44E-03	16	4	LIS
K' 232-S' 212	5.1000	5.98E-03	2.58E-01	8.31E-03	4.29E-03	16	4	LIS
K' 234-S' 212	5.1001	1.01E-02	2.64E-01	1.40E-02	1.48E-02	16	4	LIS
V' 256-U' 278	5.0385	6.51E+00	1.25E-03	9.56E-01	7.17E-03	16	5	LIS
V' 254-U' 276	5.0386	6.80E+00	1.41E-03	9.98E-01	5.63E-03	16	5	LIS
F' 212-P' 232	5.0399	1.48E+00	2.92E-01	2.10E-01	1.23E-01	16	5	LIS
F' 212-P' 234	5.0402	5.20E+00	2.92E-01	7.40E-01	4.33E-01	16	5	LIS

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F' 234-P' 232	5.0411	4.64E-01	3.55E-02	6.74E-02	9.57E-03	16	5 LIS
F' 234-P' 234	5.0414	6.29E+00	3.55E-02	9.13E-01	1.30E-01	16	5 LIS
F' 254-P' 232	5.0415	6.26E+00	7.49E-01	8.29E-01	2.48E+00	16	5 LIS
F' 256-P' 234	5.0416	6.75E+00	6.03E-01	9.06E-01	3.28E+00	16	5 LIS
F' 254-P' 234	5.0417	4.64E-01	7.49E-01	6.15E-02	1.84E-01	16	5 LIS
W' 254-P' 232	5.0610	9.55E-04	4.36E-03	1.35E-01	2.36E-03	16	5 LIS
W' 254-P' 234	5.0612	6.84E-04	4.36E-03	9.68E-02	1.69E-03	16	5 LIS
W' 476-P' 234	5.0621	3.04E-04	1.16E-02	1.45E-02	1.01E-03	16	5 LIS
M' 212-P' 232	5.0630	5.15E-03	3.11E-01	8.35E-03	5.19E-03	16	5 LIS
M' 212-P' 234	5.0632	6.32E-02	3.11E-01	1.03E-01	6.38E-02	16	5 LIS
M' 256-P' 234	5.0642	1.54E-03	1.08E+00	1.20E-03	7.75E-03	16	5 LIS
W' 256-P' 234	5.0651	3.96E-03	3.31E-02	3.67E-02	7.30E-03	16	5 LIS
G' 254-P' 232	5.0652	1.17E-02	2.90E-01	2.88E-02	3.34E-02	16	5 LIS
M' 234-P' 232	5.0653	8.64E-03	6.94E-02	5.80E-02	1.61E-02	16	5 LIS
G' 254-P' 234	5.0654	1.58E-02	2.90E-01	3.90E-02	4.52E-02	16	5 LIS
G' 256-P' 234	5.0654	1.33E-02	2.55E-02	2.25E-01	3.44E-02	16	5 LIS
M' 234-P' 234	5.0655	8.06E-04	6.94E-02	5.41E-03	1.50E-03	16	5 LIS
W' 474-P' 234	5.0657	1.04E-03	4.24E-02	9.73E-03	1.65E-03	16	5 LIS
W' 276-P' 234	5.0657	1.84E-03	1.06E-02	2.68E-02	1.70E-03	16	5 LIS
M' 434-P' 232	5.0657	2.36E-03	8.53E-02	1.79E-02	6.10E-03	16	5 LIS
M' 434-P' 234	5.0660	5.96E-03	8.53E-02	4.51E-02	1.54E-02	16	5 LIS
M' 436-P' 234	5.0660	1.08E-02	4.27E-02	1.75E-01	4.49E-02	16	5 LIS
W' 256-U' 276	5.0665	5.45E-02	3.31E-02	5.05E-01	1.00E-01	16	5 LIS
G' 254-U' 276	5.0668	1.20E-02	2.90E-01	2.98E-02	3.45E-02	16	5 LIS
G' 256-U' 276	5.0668	2.02E-02	2.55E-02	3.42E-01	5.23E-02	16	5 LIS
W' 474-U' 276	5.0671	4.02E-02	4.24E-02	3.75E-01	6.36E-02	16	5 LIS
W' 276-U' 278	5.0671	5.47E-02	1.06E-02	7.97E-01	5.06E-02	16	5 LIS
M' 254-P' 232	5.0677	2.78E-02	5.84E-01	3.22E-02	7.52E-02	16	5 LIS
M' 254-P' 234	5.0680	3.67E-02	5.84E-01	4.25E-02	9.92E-02	16	5 LIS
M' 232-P' 232	5.0683	9.16E-03	4.05E-02	4.56E-02	3.69E-03	16	5 LIS
M' 232-P' 234	5.0685	1.08E-02	4.05E-02	5.36E-02	4.34E-03	16	5 LIS
M' 432-P' 232	5.0688	2.18E-02	4.49E-03	1.56E-01	1.40E-03	16	5 LIS
M' 432-P' 234	5.0690	1.58E-02	4.49E-03	1.14E-01	1.02E-03	16	5 LIS
M' 414-P' 232	5.0693	3.18E-02	3.43E-02	1.99E-01	2.73E-02	16	5 LIS
M' 414-P' 234	5.0696	3.83E-02	3.43E-02	2.40E-01	3.29E-02	16	5 LIS
M' 456-P' 234	5.0696	5.93E-02	9.02E-02	3.81E-01	2.06E-01	16	5 LIS
M' 454-P' 232	5.0702	3.98E-02	1.52E-02	6.34E-01	3.85E-02	16	5 LIS
M' 452-P' 232	5.0707	1.25E-02	2.68E-03	3.35E-01	1.80E-03	16	5 LIS
E' 212-P' 232	5.0712	4.43E-02	4.86E-01	7.33E-02	7.13E-02	16	5 LIS
E' 212-P' 234	5.0715	7.11E-02	4.86E-01	1.18E-01	1.15E-01	16	5 LIS
A' 234-D' 254	5.0390	5.24E-01	1.04E-02	7.74E-02	3.23E-03	16	5 LIS
A' 234-D' 256	5.0391	6.20E+00	1.04E-02	9.16E-01	3.82E-02	16	5 LIS
A' 232-D' 254	5.0391	6.75E+00	9.39E-03	9.94E-01	1.87E-02	16	5 LIS
A' 276-D' 254	5.0403	2.96E+00	2.97E-01	4.21E-01	7.51E-01	16	5 LIS
A' 276-D' 256	5.0404	3.77E+00	2.97E-01	5.36E-01	9.56E-01	16	5 LIS
A' 256-D' 254	5.0405	3.78E+00	1.19E-01	5.48E-01	3.93E-01	16	5 LIS
A' 256-D' 256	5.0405	2.99E+00	1.19E-01	4.34E-01	3.11E-01	16	5 LIS
A' 278-D' 256	5.0406	6.78E+00	3.92E-01	9.45E-01	2.96E+00	16	5 LIS
B' 234-S' 212	5.0408	6.72E+00	2.67E-02	9.91E-01	1.06E-01	16	5 LIS
B' 232-S' 212	5.0409	6.73E+00	6.53E-02	9.86E-01	1.29E-01	16	5 LIS
I' 254-S' 212	5.0630	2.79E-03	2.78E-01	8.93E-03	9.93E-03	16	5 LIS
I' 278-D' 256	5.0633	7.20E-03	4.56E-02	1.36E-01	4.98E-02	16	5 LIS
I' 234-D' 256	5.0636	1.74E-02	5.37E-04	5.59E-01	1.20E-03	16	5 LIS
I' 436-D' 254	5.0641	5.16E-03	7.60E-03	4.03E-01	1.84E-02	16	5 LIS

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C' 232-S' 212	5.0644	5.26E-02	7.77E-01	5.61E-02	8.73E-02	16	5 LIS
I' 456-D' 256	5.0646	8.64E-03	9.54E-03	4.75E-01	2.72E-02	16	5 LIS
I' 458-D' 256	5.0650	1.23E-02	5.67E-04	9.56E-01	4.33E-03	16	5 LIS
H' 276-D' 254	5.0650	2.64E-03	3.20E-03	3.66E-01	7.04E-03	16	5 LIS
C' 234-S' 212	5.0650	2.94E-02	1.00E-02	2.21E-01	8.89E-03	16	5 LIS
H' 278-D' 256	5.0651	2.82E-03	3.58E-03	4.41E-01	1.26E-02	16	5 LIS
H' 276-D' 256	5.0651	1.37E-03	3.20E-03	1.90E-01	3.64E-03	16	5 LIS
I' 276-D' 254	5.0672	2.48E-02	1.03E-02	2.15E-01	1.32E-02	16	5 LIS
I' 276-D' 256	5.0672	8.04E-02	1.03E-02	6.96E-01	4.28E-02	16	5 LIS
J' 232-S' 212	5.0674	1.85E-02	2.70E-01	5.93E-02	3.21E-02	16	5 LIS
I' 454-D' 254	5.0674	4.68E-02	3.72E-03	8.78E-01	1.31E-02	16	5 LIS
I' 452-D' 254	5.0675	3.77E-02	2.84E-03	9.21E-01	5.22E-03	16	5 LIS
I' 254-D' 254	5.0678	1.46E-03	2.78E-01	4.67E-03	5.20E-03	16	5 LIS
I' 254-D' 256	5.0679	1.99E-02	2.78E-01	6.38E-02	7.09E-02	16	5 LIS
I' 256-D' 254	5.0682	5.39E-02	3.37E-03	8.65E-01	1.75E-02	16	5 LIS
J' 234-D' 254	5.0682	1.08E-03	7.78E-01	1.30E-03	4.05E-03	16	5 LIS
I' 256-D' 256	5.0682	5.04E-03	3.37E-03	8.08E-02	1.63E-03	16	5 LIS
J' 234-D' 256	5.0682	3.54E-02	7.78E-01	4.27E-02	1.33E-01	16	5 LIS
I' 478-D' 256	5.0684	5.22E-02	1.25E-02	8.07E-01	8.07E-02	16	5 LIS
J' 434-S' 212	5.0690	6.55E-02	2.56E-02	6.97E-01	7.15E-02	16	5 LIS
I' 476-D' 254	5.0691	3.43E-02	3.90E-03	8.64E-01	2.02E-02	16	5 LIS
C' 232-D' 254	5.0693	3.36E-02	7.77E-01	3.58E-02	5.57E-02	16	5 LIS
J' 432-S' 212	5.0698	1.24E-02	1.11E-02	5.10E-01	1.13E-02	16	5 LIS
C' 234-D' 254	5.0699	3.68E-03	1.00E-02	2.76E-02	1.11E-03	16	5 LIS
C' 234-D' 256	5.0700	2.90E-02	1.00E-02	2.18E-01	8.75E-03	16	5 LIS
J' 232-D' 254	5.0722	9.76E-03	2.70E-01	3.13E-02	1.69E-02	16	5 LIS
K' 232-S' 212	5.1005	1.19E-03	1.77E-01	2.86E-03	1.01E-03	16	5 LIS
K' 234-S' 212	5.1006	2.08E-03	1.78E-01	5.01E-03	3.56E-03	16	5 LIS
V' 256-U' 278	5.0388	6.51E+00	7.90E-04	9.56E-01	4.53E-03	16	6 LIS
V' 254-U' 276	5.0388	6.79E+00	9.42E-04	9.98E-01	3.76E-03	16	6 LIS
F' 212-P' 232	5.0397	1.41E+00	1.78E-01	2.02E-01	7.19E-02	16	6 LIS
F' 212-P' 234	5.0398	5.35E+00	1.78E-01	7.67E-01	2.73E-01	16	6 LIS
F' 234-P' 232	5.0402	5.32E-01	1.62E-02	7.78E-02	5.04E-03	16	6 LIS
F' 234-P' 234	5.0404	6.24E+00	1.62E-02	9.12E-01	5.90E-02	16	6 LIS
F' 254-P' 232	5.0405	6.22E+00	4.20E-01	8.61E-01	1.45E+00	16	6 LIS
F' 256-P' 234	5.0405	6.77E+00	3.35E-01	9.44E-01	1.90E+00	16	6 LIS
F' 254-P' 234	5.0406	5.32E-01	4.20E-01	7.36E-02	1.24E-01	16	6 LIS
M' 212-P' 232	5.0633	4.95E-03	1.85E-01	1.45E-02	5.37E-03	16	6 LIS
M' 212-P' 234	5.0634	2.50E-02	1.85E-01	7.32E-02	2.71E-02	16	6 LIS
M' 256-P' 234	5.0639	2.94E-04	6.29E-01	3.93E-04	1.48E-03	16	6 LIS
M' 234-P' 234	5.0646	2.51E-03	1.52E-01	1.01E-02	6.11E-03	16	6 LIS
M' 434-P' 232	5.0647	1.29E-03	3.74E-02	2.15E-02	3.21E-03	16	6 LIS
M' 434-P' 234	5.0649	2.80E-03	3.74E-02	4.64E-02	6.94E-03	16	6 LIS
M' 436-P' 234	5.0649	2.05E-03	4.03E-02	4.42E-02	1.07E-02	16	6 LIS
G' 254-P' 232	5.0650	7.23E-03	1.88E-02	2.46E-01	1.85E-02	16	6 LIS
G' 256-P' 234	5.0651	9.09E-03	6.32E-03	5.10E-01	1.93E-02	16	6 LIS
G' 254-P' 234	5.0651	9.76E-04	1.88E-02	3.33E-02	2.50E-03	16	6 LIS
W' 496-U' 276	5.0666	7.42E-02	6.17E-03	8.58E-01	3.18E-02	16	6 LIS
W' 276-U' 278	5.0669	5.29E-02	2.40E-04	9.26E-01	1.33E-03	16	6 LIS
M' 254-P' 232	5.0673	1.84E-02	4.12E-01	3.04E-02	5.01E-02	16	6 LIS
M' 254-P' 234	5.0674	4.88E-02	4.12E-01	8.08E-02	1.33E-01	16	6 LIS
M' 232-P' 232	5.0675	2.05E-02	3.57E-02	1.27E-01	9.11E-03	16	6 LIS
M' 232-P' 234	5.0677	1.92E-02	3.57E-02	1.19E-01	8.51E-03	16	6 LIS
M' 432-P' 232	5.0678	1.02E-02	2.36E-02	1.00E-01	4.73E-03	16	6 LIS

Table IX(a) - 7

M' 432-P' 234	5.0679	1.61E-02	2.36E-02	1.59E-01	7.48E-03	16	6	LIS
M' 456-P' 234	5.0683	6.31E-02	8.19E-02	4.16E-01	2.04E-01	16	6	LIS
M' 414-P' 232	5.0683	4.50E-02	2.10E-02	3.48E-01	2.92E-02	16	6	LIS
E' 212-P' 232	5.0684	2.86E-02	2.61E-01	8.63E-02	4.51E-02	16	6	LIS
M' 414-P' 234	5.0685	2.79E-02	2.10E-02	2.16E-01	1.82E-02	16	6	LIS
E' 212-P' 234	5.0686	3.85E-02	2.61E-01	1.16E-01	6.08E-02	16	6	LIS
M' 454-P' 232	5.0689	2.11E-02	2.92E-02	3.94E-01	4.61E-02	16	6	LIS
A' 234-D' 254	5.0390	5.16E-01	8.23E-03	7.59E-02	2.50E-03	16	6	LIS
R 133-Y 111	5.0391	6.68E+00	0.00E+00	1.00E+00	0.00E+00	16	6	LIS
A' 234-D' 256	5.0391	6.25E+00	8.23E-03	9.19E-01	3.03E-02	16	6	LIS
A' 232-D' 254	5.0391	6.78E+00	7.59E-03	9.95E-01	1.51E-02	16	6	LIS
A' 276-D' 254	5.0398	1.71E+00	1.24E-01	2.49E-01	1.85E-01	16	6	LIS
A' 276-D' 256	5.0398	5.05E+00	1.24E-01	7.33E-01	5.46E-01	16	6	LIS
A' 256-D' 254	5.0398	5.05E+00	1.13E-01	7.33E-01	4.99E-01	16	6	LIS
A' 256-D' 256	5.0399	1.72E+00	1.13E-01	2.50E-01	1.70E-01	16	6	LIS
A' 278-D' 256	5.0399	6.79E+00	2.23E-01	9.68E-01	1.73E+00	16	6	LIS
B' 234-S' 212	5.0401	6.76E+00	1.21E-02	9.94E-01	4.80E-02	16	6	LIS
B' 232-S' 212	5.0402	6.77E+00	3.11E-02	9.92E-01	6.18E-02	16	6	LIS
I' 278-D' 256	5.0633	3.17E-03	2.86E-02	9.98E-02	2.28E-02	16	6	LIS
I' 234-D' 256	5.0635	6.07E-03	8.21E-04	5.43E-01	1.78E-03	16	6	LIS
I' 436-D' 254	5.0638	1.87E-03	2.95E-03	3.40E-01	6.02E-03	16	6	LIS
I' 436-D' 256	5.0639	6.78E-04	2.95E-03	1.23E-01	2.18E-03	16	6	LIS
I' 256-D' 256	5.0642	2.63E-03	7.55E-03	2.56E-01	1.16E-02	16	6	LIS
I' 452-S' 212	5.0643	1.35E-03	3.90E-02	1.81E-02	1.41E-03	16	6	LIS
I' 458-D' 256	5.0643	3.93E-03	1.23E-03	7.61E-01	7.52E-03	16	6	LIS
C' 232-S' 212	5.0646	1.74E-02	3.61E-01	3.87E-02	2.80E-02	16	6	LIS
C' 234-S' 212	5.0647	7.22E-03	6.65E-02	4.97E-02	1.32E-02	16	6	LIS
H' 278-D' 256	5.0649	2.49E-03	4.46E-04	8.48E-01	3.03E-03	16	6	LIS
I' 276-D' 254	5.0669	1.15E-02	7.90E-03	1.25E-01	5.94E-03	16	6	LIS
I' 276-D' 256	5.0669	7.20E-02	7.90E-03	7.88E-01	3.74E-02	16	6	LIS
I' 452-D' 254	5.0671	2.90E-02	3.90E-02	3.90E-01	3.04E-02	16	6	LIS
J' 232-S' 212	5.0671	3.49E-02	1.91E-01	1.51E-01	5.76E-02	16	6	LIS
I' 454-D' 254	5.0671	5.73E-02	2.72E-03	8.80E-01	9.58E-03	16	6	LIS
C' 232-D' 254	5.0674	3.18E-02	3.61E-01	7.05E-02	5.09E-02	16	6	LIS
J' 436-D' 254	5.0674	3.58E-02	2.96E-03	9.14E-01	1.63E-02	16	6	LIS
C' 234-D' 254	5.0675	3.96E-03	6.65E-02	2.73E-02	7.25E-03	16	6	LIS
C' 234-D' 256	5.0676	3.17E-02	6.65E-02	2.18E-01	5.79E-02	16	6	LIS
I' 478-D' 256	5.0676	5.93E-02	9.89E-03	8.57E-01	6.78E-02	16	6	LIS
J' 434-S' 212	5.0680	6.27E-02	2.27E-02	7.23E-01	6.56E-02	16	6	LIS
I' 476-D' 254	5.0682	1.10E-02	3.86E-03	7.34E-01	1.70E-02	16	6	LIS
J' 432-S' 212	5.0687	8.33E-03	1.56E-02	3.41E-01	1.06E-02	16	6	LIS
J' 232-D' 254	5.0699	2.86E-03	1.91E-01	1.24E-02	4.72E-03	16	6	LIS
K' 234-S' 212	5.1011	6.17E-04	1.14E-01	2.46E-03	1.12E-03	16	6	LIS

Table IX(b) - 1

Atomic data for dielectronic satellite lines of Li-like S ions
Cornille data

(See Table II(c) for the configuration of KU and KL levels)

n	Transition	W.L.	Qd	Ar	Br
	KU KL				
2	23 2	5.2071	2.342E-01	1.196E-01	7.836E-03
2	23 3	5.2122	3.908E-01	1.996E-01	1.308E-02
2	27 1	5.0862	2.111E+00	5.572E+00	8.099E-01
2	28 1	5.0841	1.372E+00	6.199E+00	9.440E-01
2	31 3	5.1296	1.187E-01	2.384E-02	1.684E-01
2	32 1	5.0654	1.762E+00	9.695E-01	9.106E-02
2	33 1	5.0640	1.297E+00	3.346E-01	3.068E-02
2	34 2	5.0966	1.112E+01	3.426E+00	1.874E-01
2	35 3	5.1009	1.578E+01	3.175E+00	1.717E-01
2	37 2	5.0849	2.009E-01	8.673E-01	8.577E-02
2	37 3	5.0898	2.004E+00	8.652E+00	8.556E-01
2	38 2	5.0541	5.065E-01	6.249E-01	1.261E-01
2	38 3	5.0590	1.878E+00	2.317E+00	4.676E-01
3	40 3	4.4333	1.179E-01	6.042E-02	1.188E-02
3	44 1	4.3819	4.355E-01	9.779E-01	7.006E-01
3	45 1	4.3818	2.002E-01	9.987E-01	7.258E-01
3	50 3	4.4138	3.227E-01	8.859E-02	1.013E-01
3	51 2	4.4101	2.333E-01	9.657E-02	1.033E-01
3	53 5	5.0962	3.541E-01	2.201E-01	6.040E-02
3	53 6	5.0978	6.161E-01	3.830E-01	1.051E-01
3	66 1	4.3508	1.027E-01	6.511E-02	1.167E-02
3	66 4	5.0598	1.655E+00	1.049E+00	1.881E-01
3	72 1	4.3480	1.371E-01	3.908E-02	7.145E-03
3	72 4	5.0560	2.007E+00	5.720E-01	1.046E-01
3	76 2	4.3874	1.942E+00	1.266E+00	2.732E-01
3	76 3	4.3911	5.263E-01	3.432E-01	7.405E-02
3	76 5	5.0679	1.047E+00	6.829E-01	1.474E-01
3	76 6	5.0695	5.578E-01	3.637E-01	7.848E-02
3	77 3	4.3887	2.462E-01	5.411E-01	2.274E-01
3	77 6	5.0663	5.897E-01	1.296E+00	5.447E-01
3	78 2	4.3850	1.489E-01	6.997E-02	4.335E-02
3	78 5	5.0646	9.591E-01	4.508E-01	2.793E-01
3	79 3	4.3880	4.798E+00	1.101E+00	2.638E-01
3	84 4	5.0460	2.539E+00	5.251E+00	8.155E-01
3	84 8	5.0678	1.330E-01	2.750E-01	4.271E-02
3	86 4	5.0453	1.836E+00	5.247E+00	7.758E-01
3	91 2	4.3785	1.012E-01	6.454E-01	1.869E-01
3	91 3	4.3822	1.760E-01	1.122E+00	3.249E-01
3	91 6	5.0576	1.986E-01	1.266E+00	3.665E-01
3	94 3	4.3753	3.005E-01	1.811E-01	1.852E-02
3	94 5	5.0468	8.851E+00	5.334E+00	5.455E-01
3	96 3	4.3751	5.686E-01	2.295E-01	2.345E-02
3	96 6	5.0481	1.338E+01	5.402E+00	5.519E-01
3	97 3	4.3737	1.712E-01	5.752E-01	7.305E-02
3	97 6	5.0463	1.879E+00	6.312E+00	8.017E-01
3	99 8	5.0433	2.002E-01	5.603E+00	7.761E-01
3	100 5	5.0361	3.914E-01	1.105E+00	1.790E-01
3	100 6	5.0377	1.370E+00	3.868E+00	6.266E-01

Table IX(b) - 2

3	101	8	5.0409	9.177E+00	5.687E+00	7.512E-01
3	102	7	5.0394	5.451E+00	4.544E+00	6.116E-01
3	102	8	5.0399	1.232E+00	1.027E+00	1.382E-01
4	110	1	4.1790	5.724E-01	6.092E-01	6.491E-01
4	111	1	4.1789	2.779E-01	6.145E-01	6.610E-01
4	126	10	5.0753	1.760E-01	1.258E-01	1.283E-01
4	126	11	5.0760	1.177E-01	8.416E-02	8.583E-02
4	127	11	5.0760	1.662E-01	1.138E-01	1.618E-01
4	130	1	4.1571	1.260E-01	9.253E-02	1.692E-01
4	138	2	4.1925	3.941E-01	2.985E-01	3.651E-01
4	138	3	4.1959	1.788E-01	1.354E-01	1.656E-01
4	140	1	4.1535	2.507E-01	1.538E-01	6.348E-02
4	140	9	5.0620	3.124E-01	1.916E-01	7.909E-02
4	147	2	4.1904	7.663E-01	2.991E-01	1.337E-01
4	147	3	4.1938	8.212E-01	3.205E-01	1.432E-01
4	147	11	5.0668	2.414E-01	9.421E-02	4.210E-02
4	148	1	4.1522	3.296E-01	8.954E-02	3.675E-02
4	148	9	5.0601	1.580E-01	4.292E-02	1.762E-02
4	158	3	4.1923	6.222E-01	1.538E-01	1.917E-01
4	158	12	5.0659	1.566E-01	3.871E-02	4.824E-02
4	160	3	4.1919	1.666E+00	3.824E-01	2.374E-01
4	163	3	4.1913	1.882E-01	6.863E-02	1.063E-01
4	163	11	5.0633	3.283E-01	1.197E-01	1.855E-01
4	175	2	4.1861	1.134E-01	1.749E-01	1.219E-01
4	175	3	4.1894	3.635E-01	5.606E-01	3.909E-01
4	175	11	5.0605	1.063E-01	1.639E-01	1.143E-01
4	184	9	5.0410	2.764E-01	6.595E+00	9.657E-01
4	185	9	5.0409	2.202E-01	6.626E+00	9.777E-01
4	186	10	5.0423	4.601E+00	6.307E+00	7.507E-01
4	186	11	5.0431	2.130E-01	2.920E-01	3.476E-02
4	187	3	4.1773	2.186E-01	2.298E-01	2.767E-02
4	187	11	5.0428	6.338E+00	6.663E+00	8.023E-01
4	189	11	5.0419	4.053E-01	6.503E+00	8.895E-01
4	190	10	5.0384	2.171E-01	1.534E+00	2.139E-01
4	190	11	5.0392	7.002E-01	4.947E+00	6.897E-01
4	192	14	5.0398	1.532E-01	2.117E+00	2.969E-01
4	192	15	5.0400	3.451E-01	4.767E+00	6.685E-01
4	193	15	5.0398	6.084E+00	6.754E+00	8.734E-01
4	194	14	5.0392	2.941E+00	4.541E+00	6.005E-01
4	194	15	5.0394	1.344E+00	2.076E+00	2.745E-01
4	197	12	5.0367	4.340E-01	6.535E+00	9.397E-01
4	198	13	5.0368	5.571E-01	6.860E+00	9.840E-01
4	200	15	5.0367	1.001E-01	6.176E+00	8.937E-01
5	208	1	4.0923	5.590E-01	5.268E-01	6.164E-01
5	209	1	4.0922	2.771E-01	5.338E-01	6.225E-01
5	226	20	5.0712	1.072E-01	3.927E-02	2.215E-01
5	232	2	4.1065	2.285E-01	1.933E-01	2.450E-01
5	236	2	4.1058	8.515E-01	4.139E-01	3.548E-01
5	252	1	4.0678	2.119E-01	1.278E-01	8.086E-02
5	252	16	5.0633	1.313E-01	7.918E-02	5.009E-02
5	255	2	4.1040	2.337E-01	1.040E-01	7.772E-02
5	255	3	4.1073	7.963E-01	3.544E-01	2.649E-01
5	255	20	5.0659	1.145E-01	5.095E-02	3.808E-02
5	257	1	4.0668	2.128E-01	5.669E-02	2.960E-02
5	259	3	4.1061	1.733E+00	4.025E-01	2.506E-01

Table IX(b) - 3

5	270	3	4.1053	1.194E-01	3.371E-02	1.477E-01
5	275	3	4.1049	3.233E-01	8.296E-02	1.737E-01
5	279	3	4.1040	3.182E-01	5.319E-01	4.489E-01
5	282	16	5.0402	1.664E-01	6.804E+00	9.762E-01
5	283	16	5.0401	1.165E-01	6.794E+00	9.828E-01
5	284	19	5.0410	3.307E+00	6.320E+00	7.872E-01
5	284	20	5.0416	1.955E-01	3.736E-01	4.653E-02
5	285	3	4.0911	1.258E-01	1.883E-01	2.369E-02
5	285	20	5.0413	4.491E+00	6.722E+00	8.456E-01
5	287	20	5.0407	2.286E-01	6.501E+00	8.888E-01
5	288	19	5.0382	1.618E-01	1.561E+00	2.159E-01
5	288	20	5.0388	5.341E-01	5.154E+00	7.130E-01
5	290	21	5.0391	1.166E-01	2.080E+00	2.930E-01
5	290	22	5.0392	2.709E-01	4.833E+00	6.809E-01
5	293	22	5.0391	5.092E+00	6.813E+00	8.956E-01
5	294	21	5.0386	2.536E+00	4.662E+00	6.221E-01
5	294	22	5.0388	1.117E+00	2.054E+00	2.741E-01
5	295	18	5.0370	6.598E-01	6.875E+00	9.851E-01
5	296	17	5.0369	5.116E-01	6.528E+00	9.374E-01
5	299	18	5.0361	1.141E-01	6.598E+00	9.395E-01
5	300	22	5.0370	1.211E-01	6.307E+00	8.990E-01

Figure Cations

Fig.1. The comparison of the satellite line spectra of He-like Fe ions of the data by Cornille (solid lines) and Safronova (dashed lines). The voigt profile is assumed for the convoluted spectra with FWHM = .00056 and the Lorentz factor $g = 0.00005$.

(a) only satellite lines.

(b) satellite lines with the resonance lines.

i) Te = 1.5 keV, ii) 2.0 keV, iii) 3 keV

Fig.2 The comparison of the satellite line spectra of Li-like Fe ions of the data by Cornille (solid lines) and Safronova (dashed lines). The voigt profile is assumed for the convoluted spectra with FWHM = .00056 and the Lorentz factor $g = 0.00005$.

i) Te = 0.8 keV, ii) 1.5 keV, iii) 2.5 keV

Fig.3 The comparison of the satellite line spectra of Be-like Fe ions of the data by Cornille (solid lines) and Safronova (dashed lines).

i) Te = 0.8 keV, ii) 1.5 keV, iii) 2.5 keV

Fig.4 The comparison of the satellite line spectra of B-like Fe ions of the data by Cornille (solid lines) and Safronova (dashed lines).

i) Te = 0.8 keV, ii) 1.5 keV, iii) 2.5 keV

Fig.5 The comparison of the satellite line spectra of C-like Fe ions of the data by Cornille (solid lines) and Safronova (dashed lines).

i) Te = 0.8 keV, ii) 1.5 keV, iii) 2.5 keV

Fig.6 Comparison of the rate coefficients of the inner shell excitation of Li-like Fe ions. The notation E2, E3... and q, s are by Sampson et al(1985) and Bely- Cornille (1982a, b) respectively.

a) $E2(q)..1s^2 2s - 1s(2s2p \ ^3P) \ ^2P_{3/2}$, $E3(s)..1s^2 2s - 1s(2s2p \ ^1P) \ ^2P_{3/2}$,

b) $D3(t)..1s^2 2s - 1s(2s2p^1P) 2P_{1/2}$, $E1(u).1s^2 2s - 1s2s2p^4P_{3/2}$.
 c) $D1(v)..1s^2 2s - 1s2s2p^4P_{1/2}$, $D2(r) 1s^2 2s - 1s(2s2p^3P) 2P_{1/2}$

Fig.7 Inner shell excitation rate coefficients of a) Be-, b) B- and c) C- like ions by Safronova.

Fig.8 Convolved total spectra of He-like Fe ions including the inner shell excitation satellite lines. The voigt profile is assumed for the convolved spectra with $FWHM = .00056$ and the Lorentz factor $g = 0.00005$. The ion densities $n(He)$, $n(Li)$, $n(Be)$, $n(B)$ and $n(C)$ are assumed to be 1. i) $Te = 0.8$ keV, ii) 1.5 keV, iii) 2.5 keV.

Fig. 9 Convolved total spectra of He-like Fe ions including all the processes; the excitation lines, dielectronic and the inner shell satellite lines. i) $Te = 0.8$ keV, ii) 1.5 keV, iii) 2.5 keV

Fig.10 Convolved spectra of He-like Fe ions without the inner shell excitation satellite lines including the excitation and dielectronic satellite lines. i) $Te = 0.8$ keV, ii) 1.5 keV, iii) 2.5 keV

Fig.11 The comparison of the satellite line spectra of Li-like Ca ions of the data by Cornille (solid lines) and Safronova (dashed lines). The voigt profile is assumed for the convolved spectra with $Ti = Te$ and the Lorentz factor $g = 0.0003$.

(a) only the dielectronic satellite lines.
 (b) including the excitation lines of He-like ions.
 i) $Te = 1$ keV, ii) 1.5 keV, iii) 2 keV

Fig.12 The comparison of the satellite line spectra of Li-like S ions of the data by Cornille (solid lines) and Safronova (dashed lines). The voigt profile is assumed for the convolved spectra with $Ti = Te$ and the Lorentz factor $g = 0.0003$.

(a) only the dielectronic satellite lines.

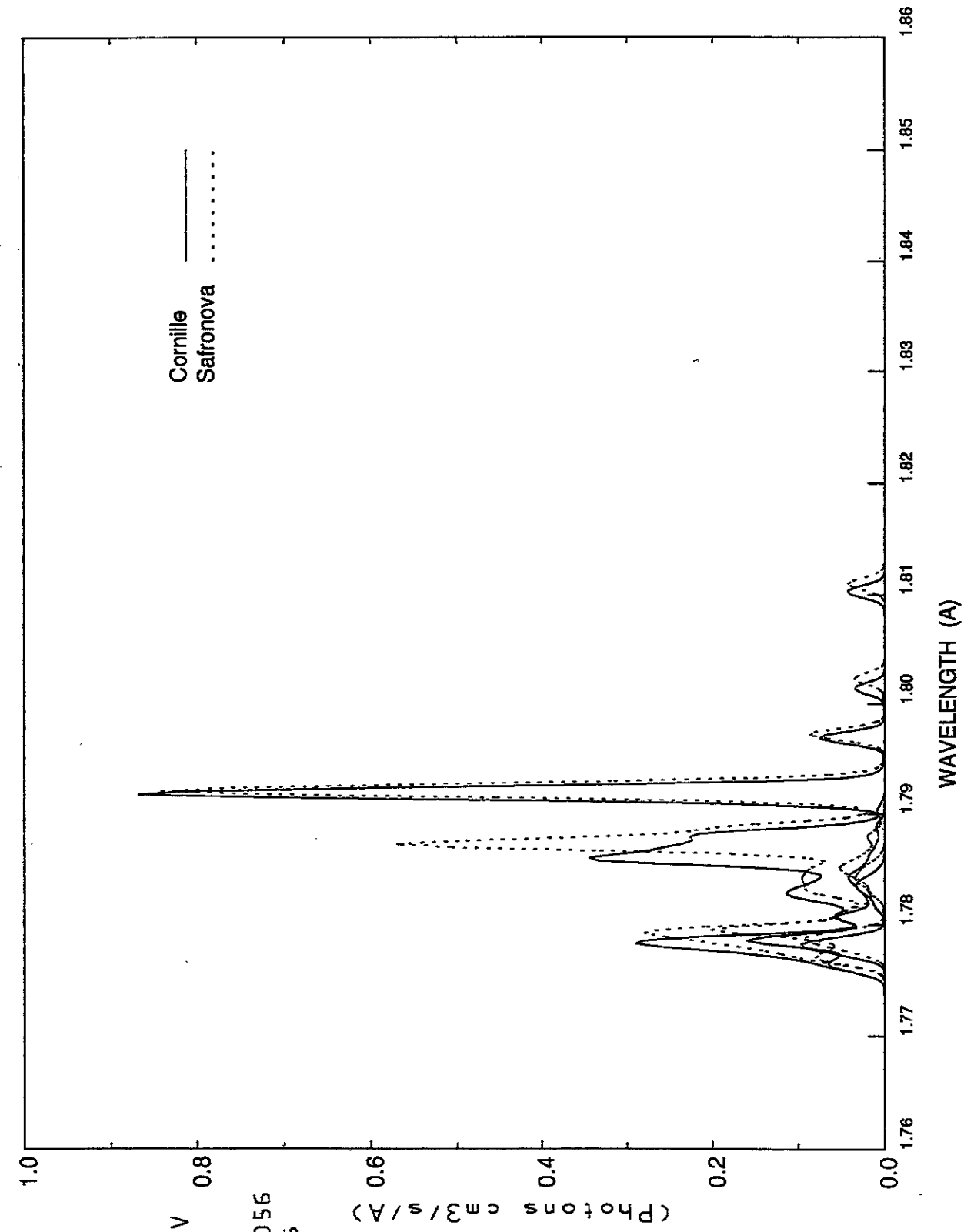
(b) including the resonance line of He-like ions.

i) $T_e = 1$ keV, ii) 1.5 keV, iii) 2 keV

Fig.13 The observed spectrum in the rising phase from the solar flare of Sep. 6, 1992 with the synthetic spectra calculated with the data by (a) Safronova and (b) Cornille.

Fig.14 The observed spectrum in the decay phase from the solar flare of Sep. 6, 1992 with the synthetic spectra calculated with the data by (a) Safronova and (b) Cornille.

4.7×10^{-11}



$T_e = 1.50 \text{ keV}$

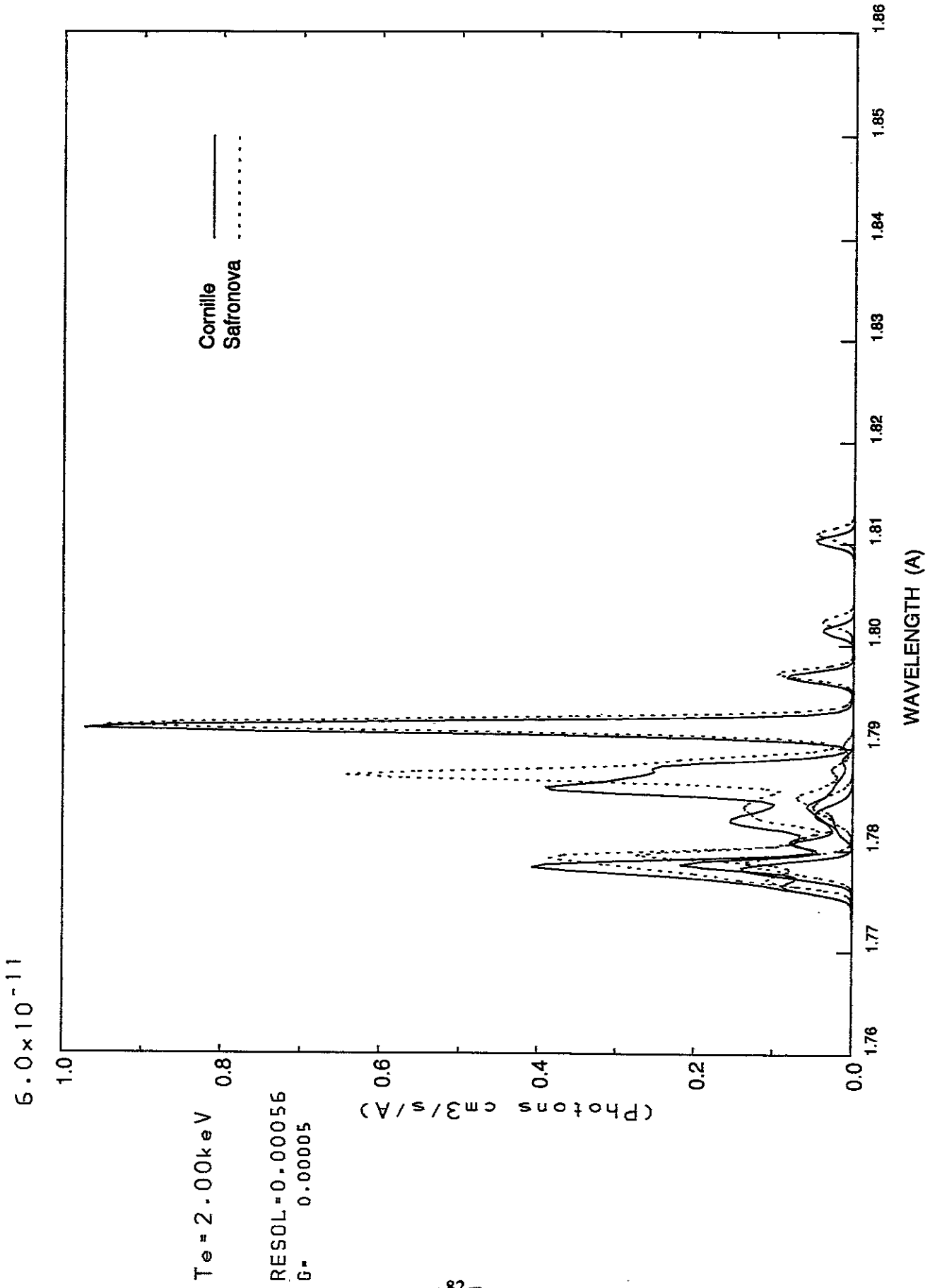
RESOL = 0.00056

G = 0.00005

(Photons $\text{cm}^{-3}/\text{s}/\text{A}$)

Fig.1 (a)
(i)

Fig.1 (a)
(ii)



7.3×10^{-11}

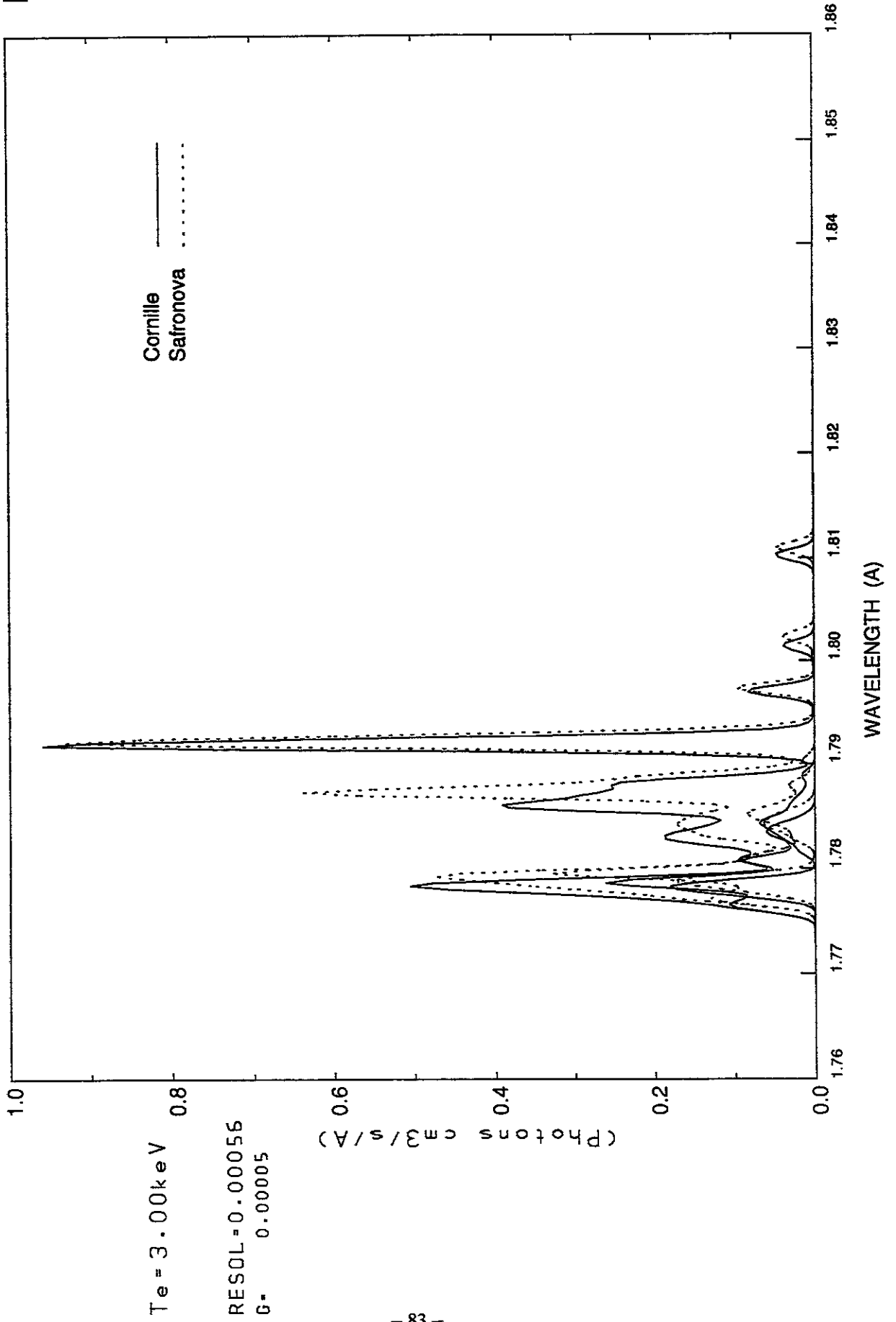
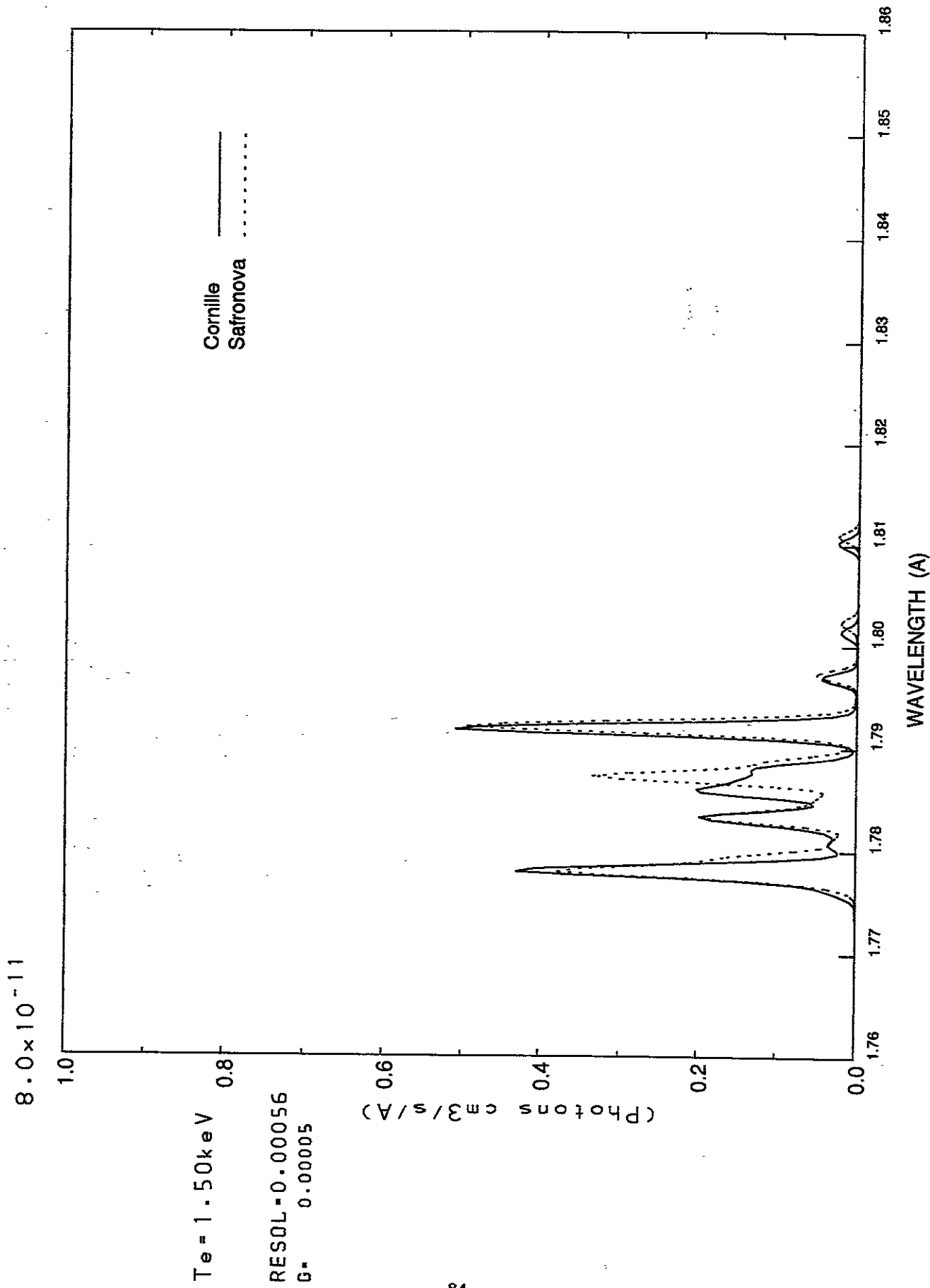


Fig.1 (a)
(iii)

Fig.1(b)
(i)



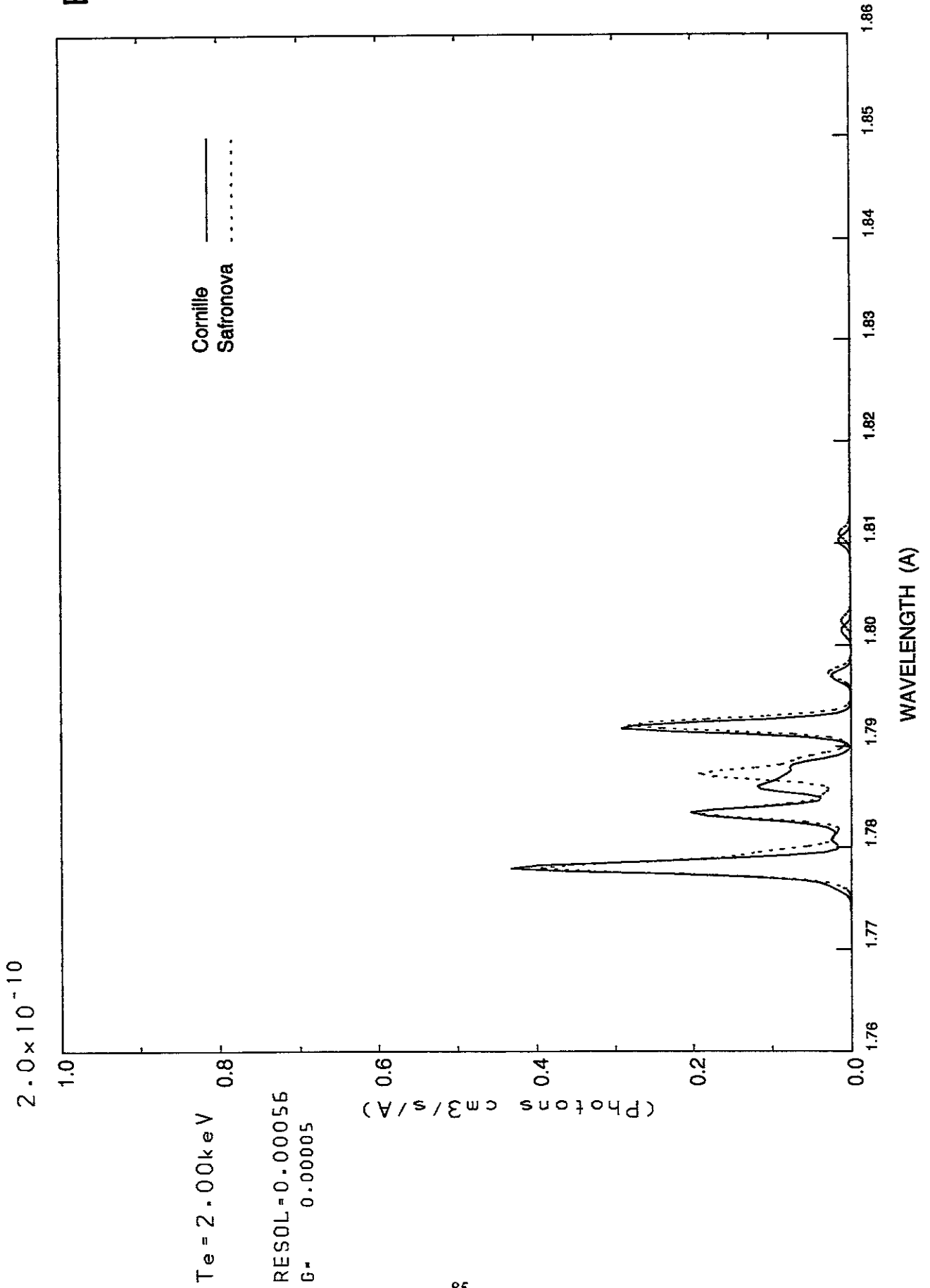
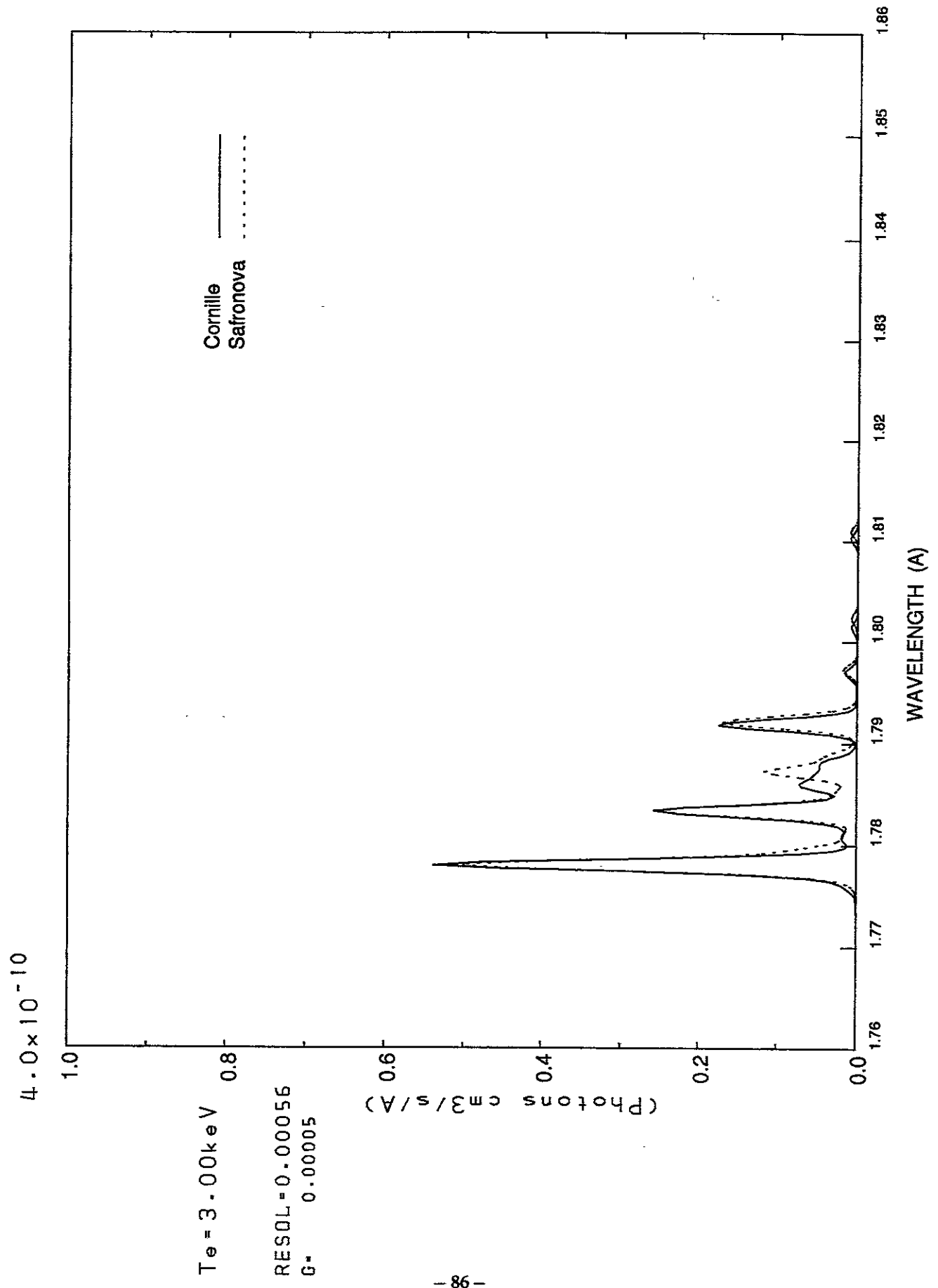


Fig.1 (b)
(ii)

Fig.1(b)
(iii)



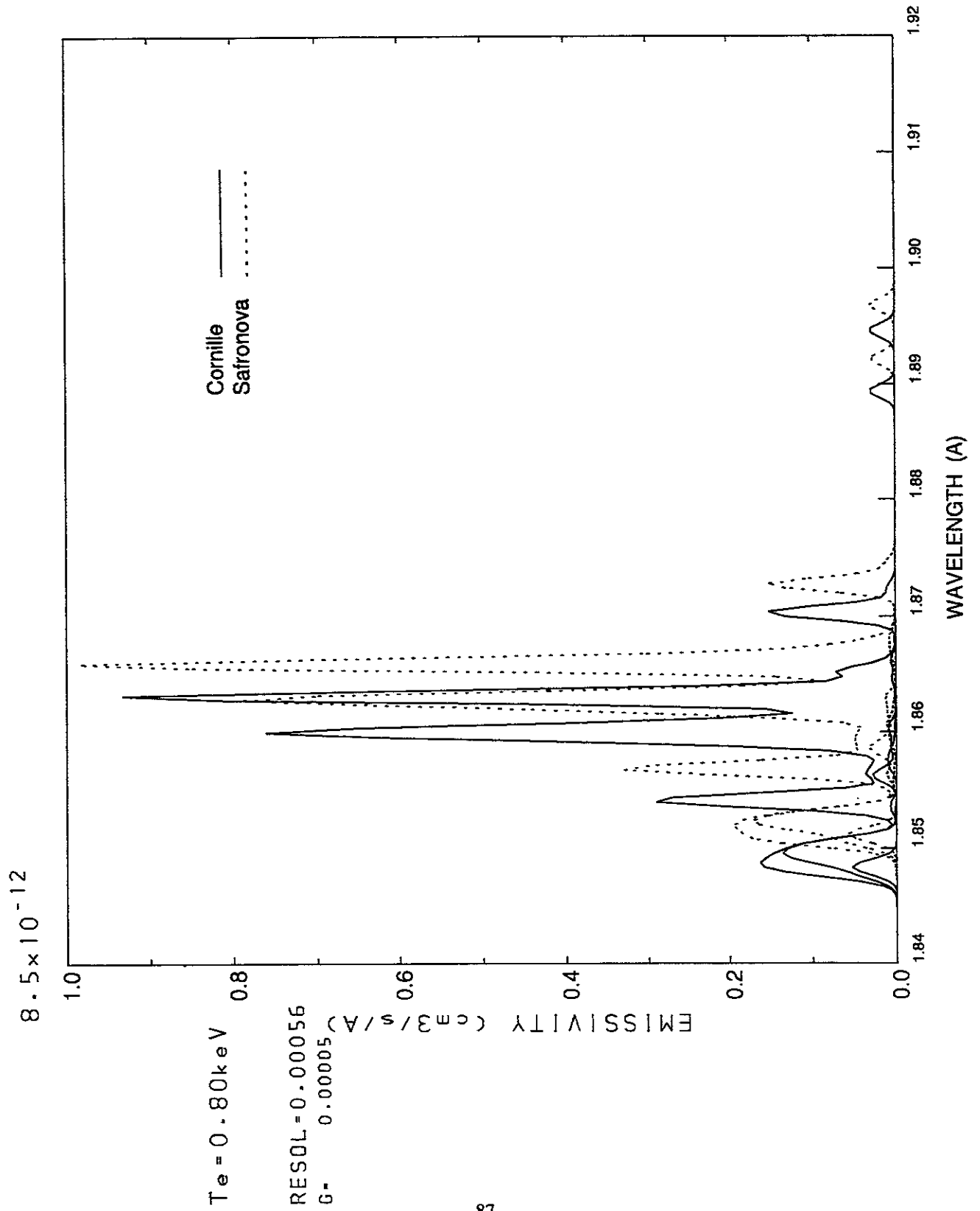


Fig.2(i)

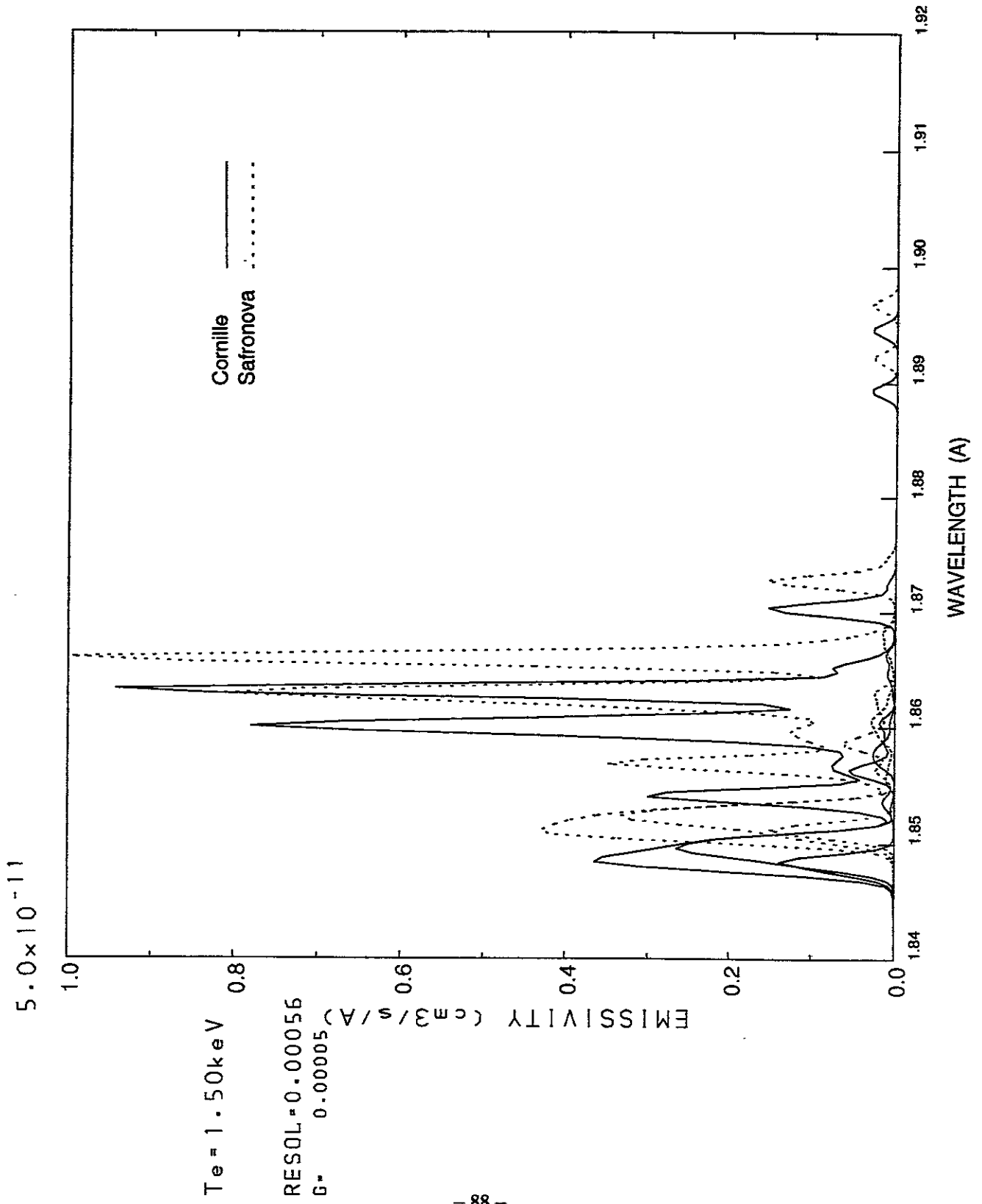


Fig.2(ii)

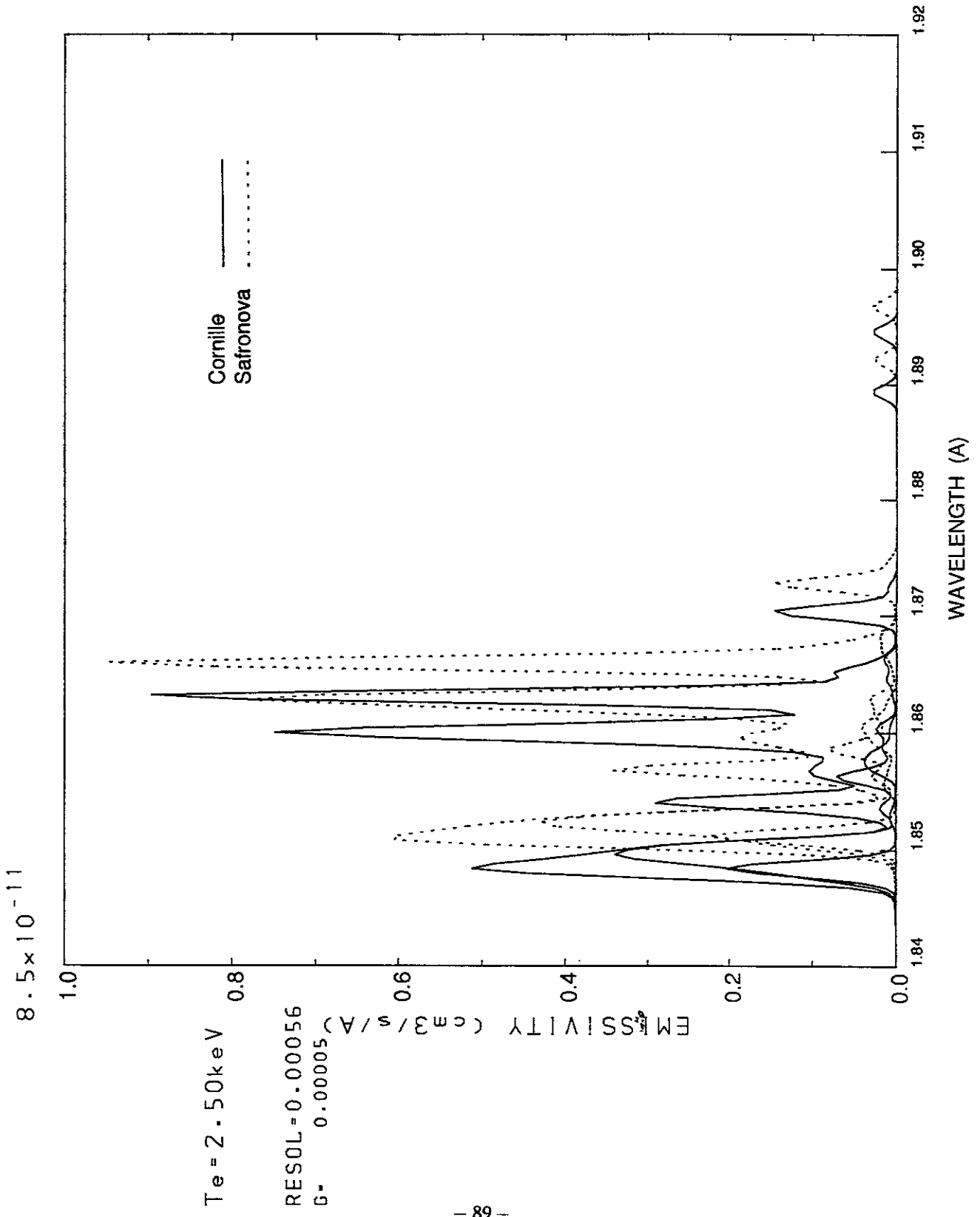
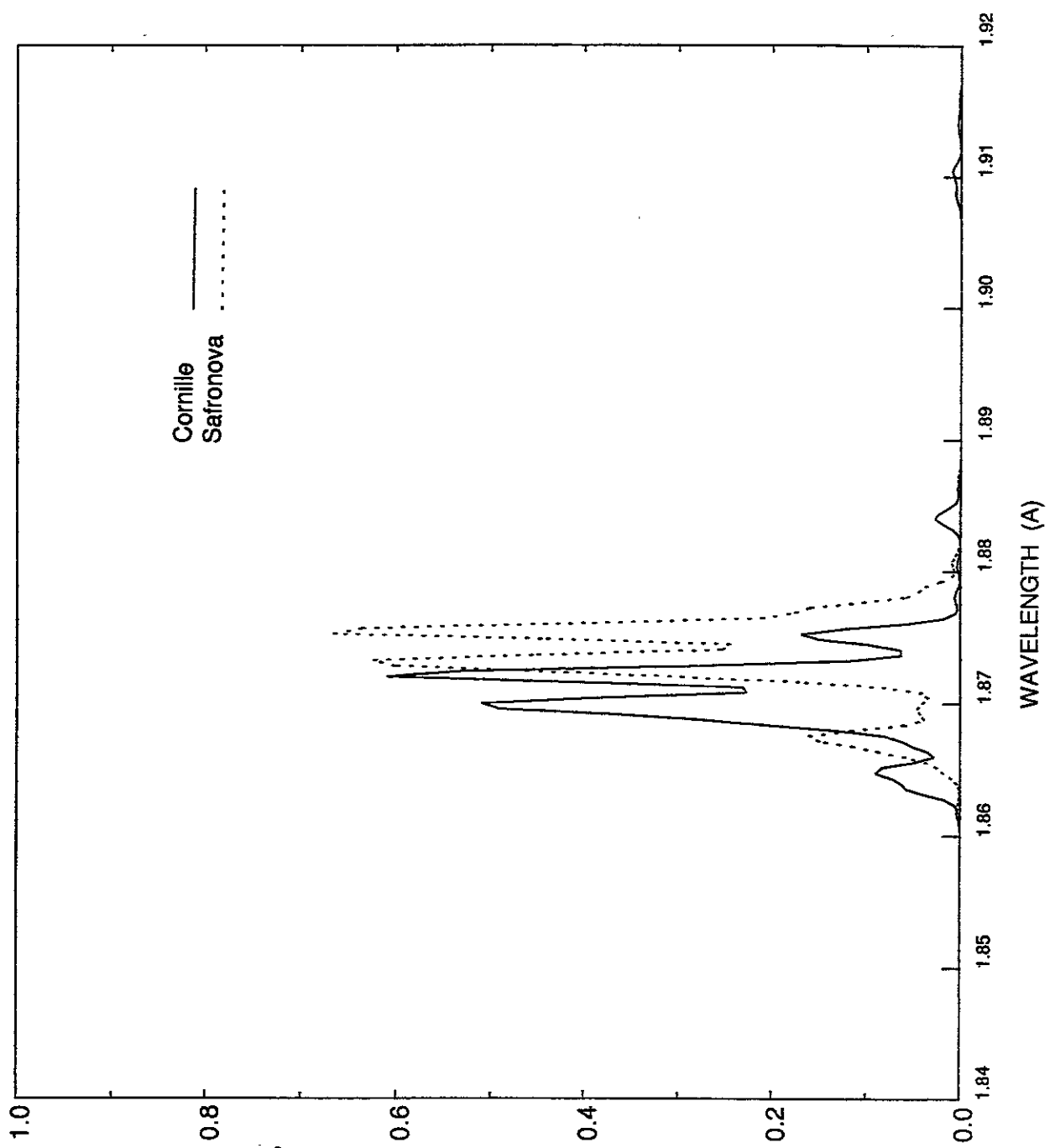


Fig.2(iii)

8.5×10^{-12}



Te = 0.80 keV

RESOL = 0.00056

G = 0.00005

EMISSIVITY (cm³/s/Å)

WAVELENGTH (Å)

Fig.3(i)

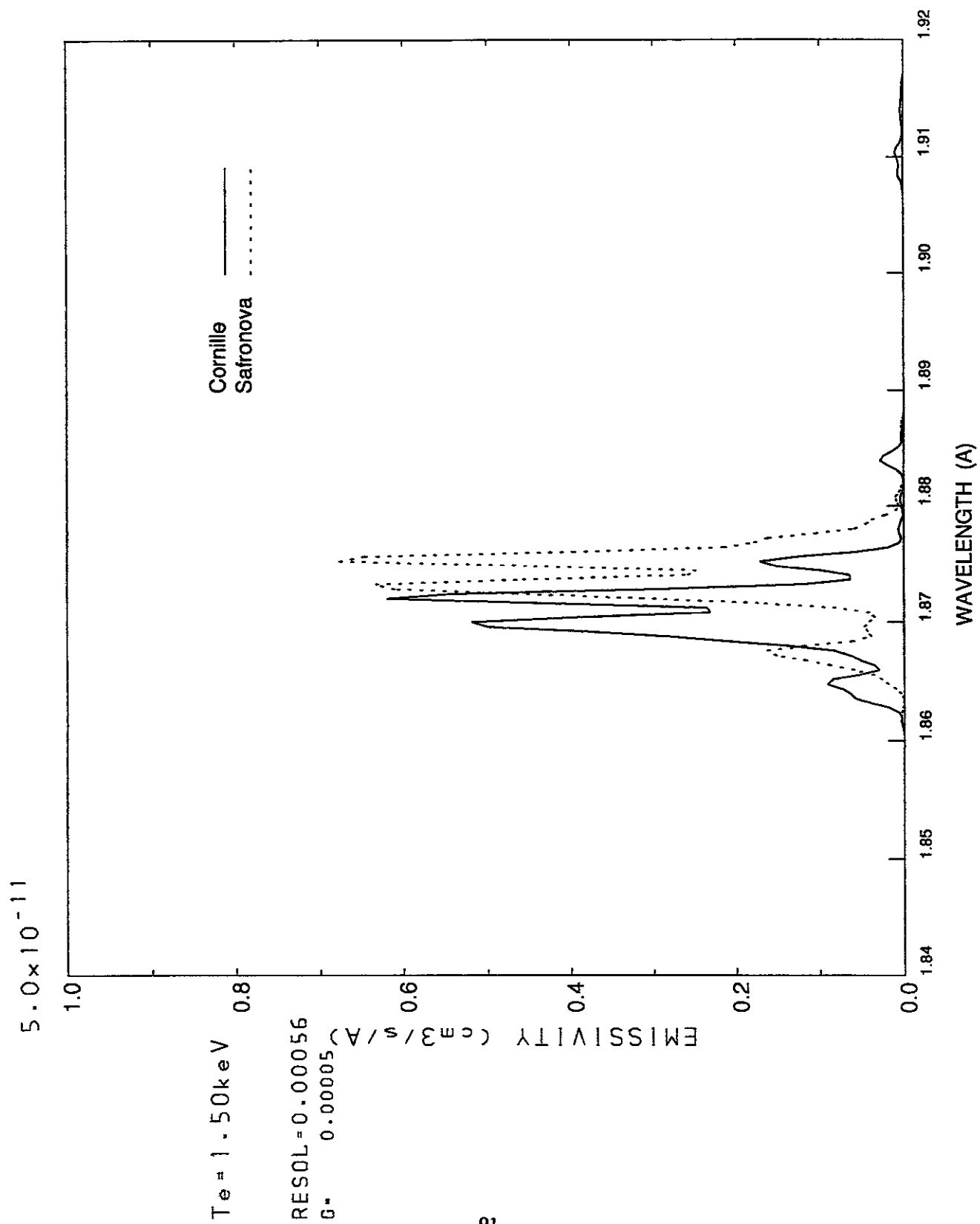
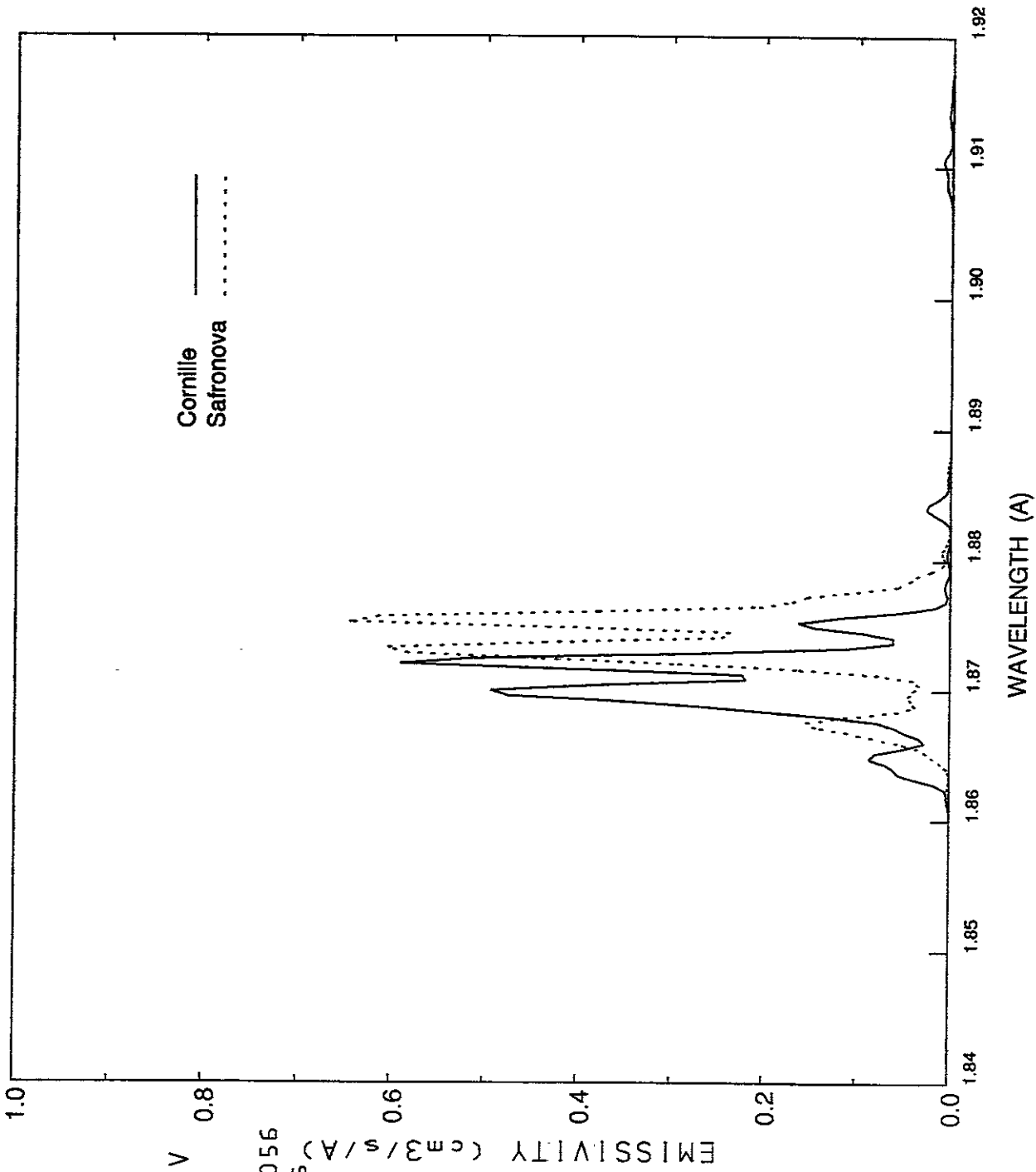


Fig.3(ii)

8.5×10^{-11}



$T_e = 2.50 \text{ keV}$

RESOL = 0.00056

$G = 0.00005$

Fig.3(iii)

8.5×10^{-12}

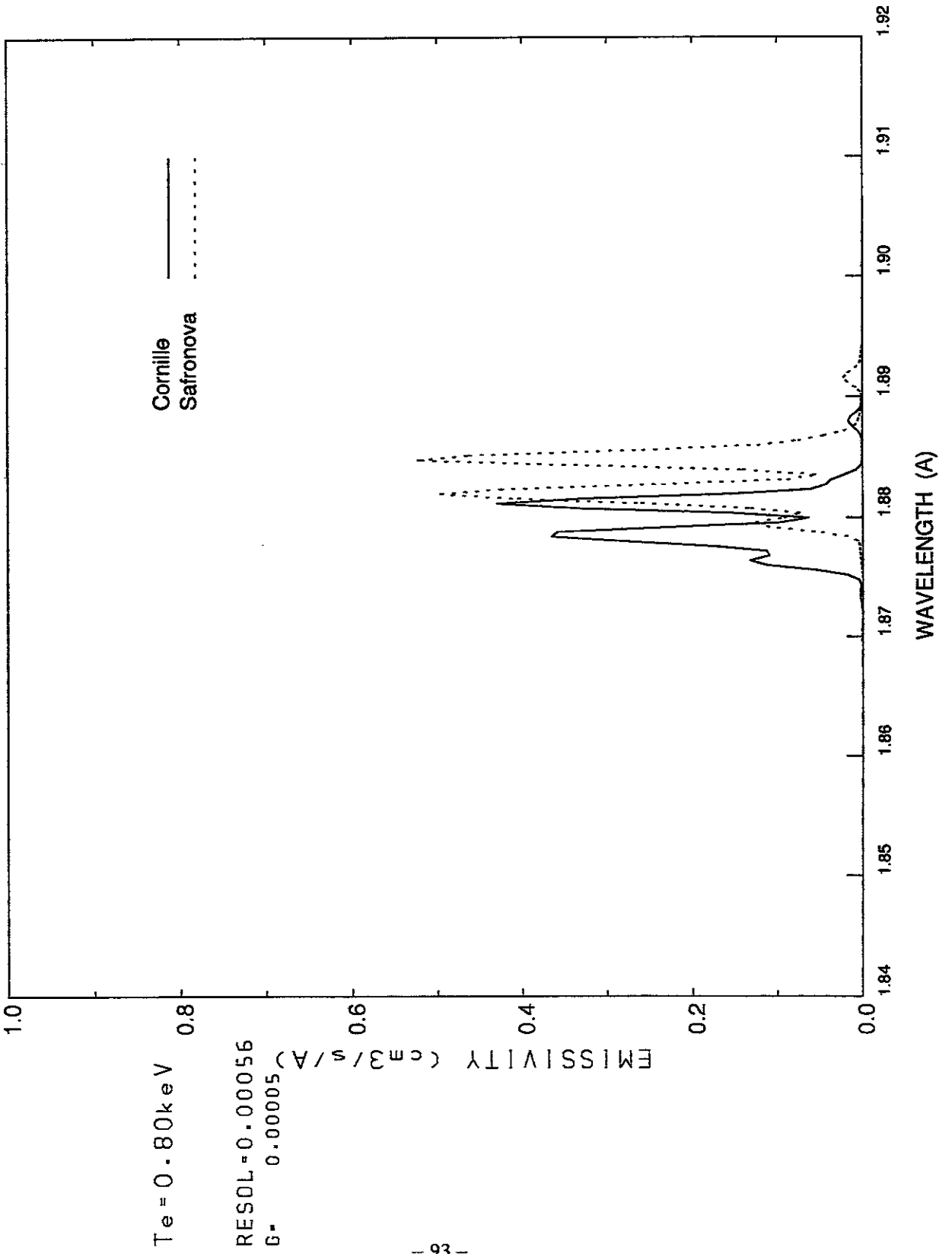


Fig.4(i)

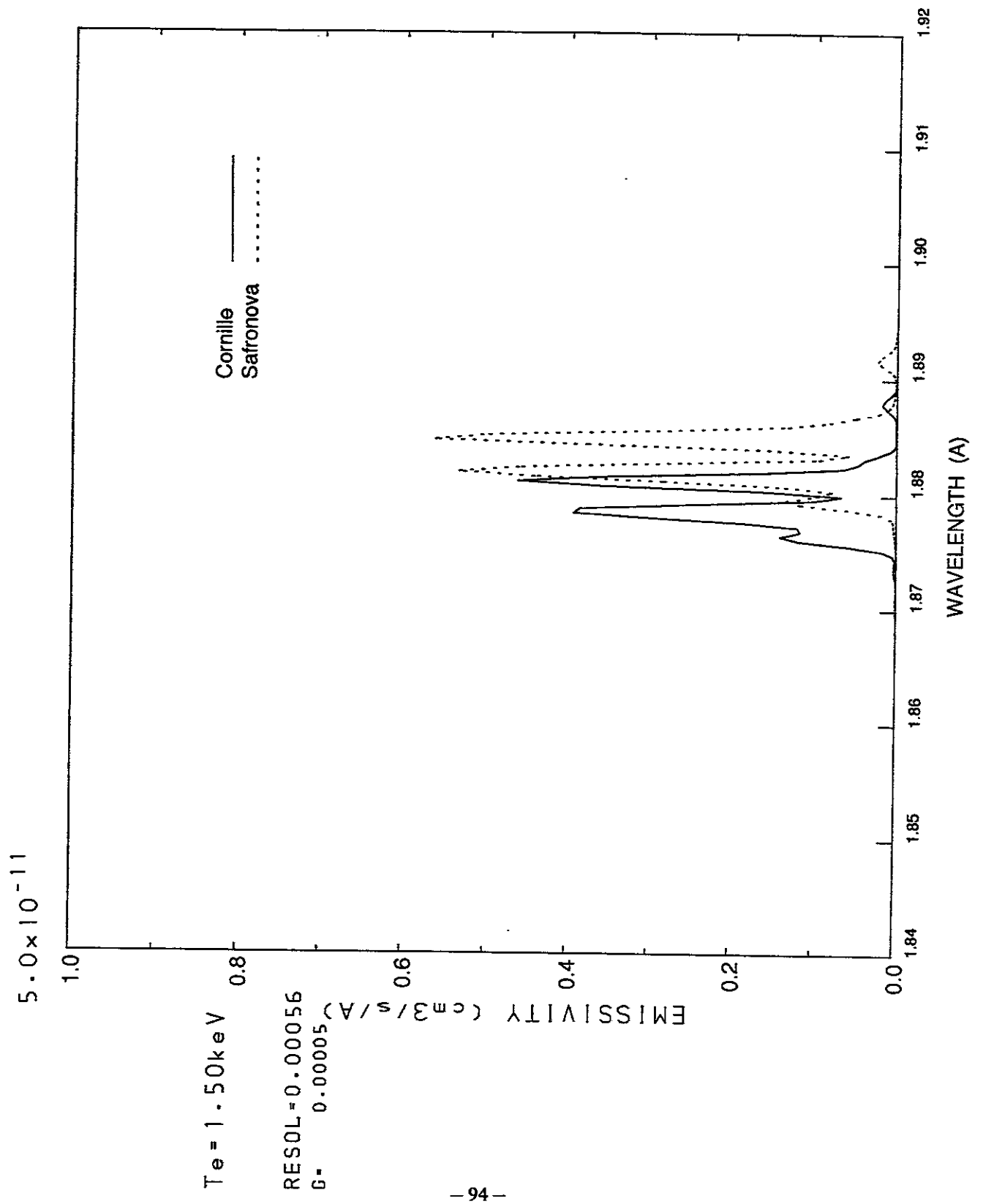


Fig.4(ii)

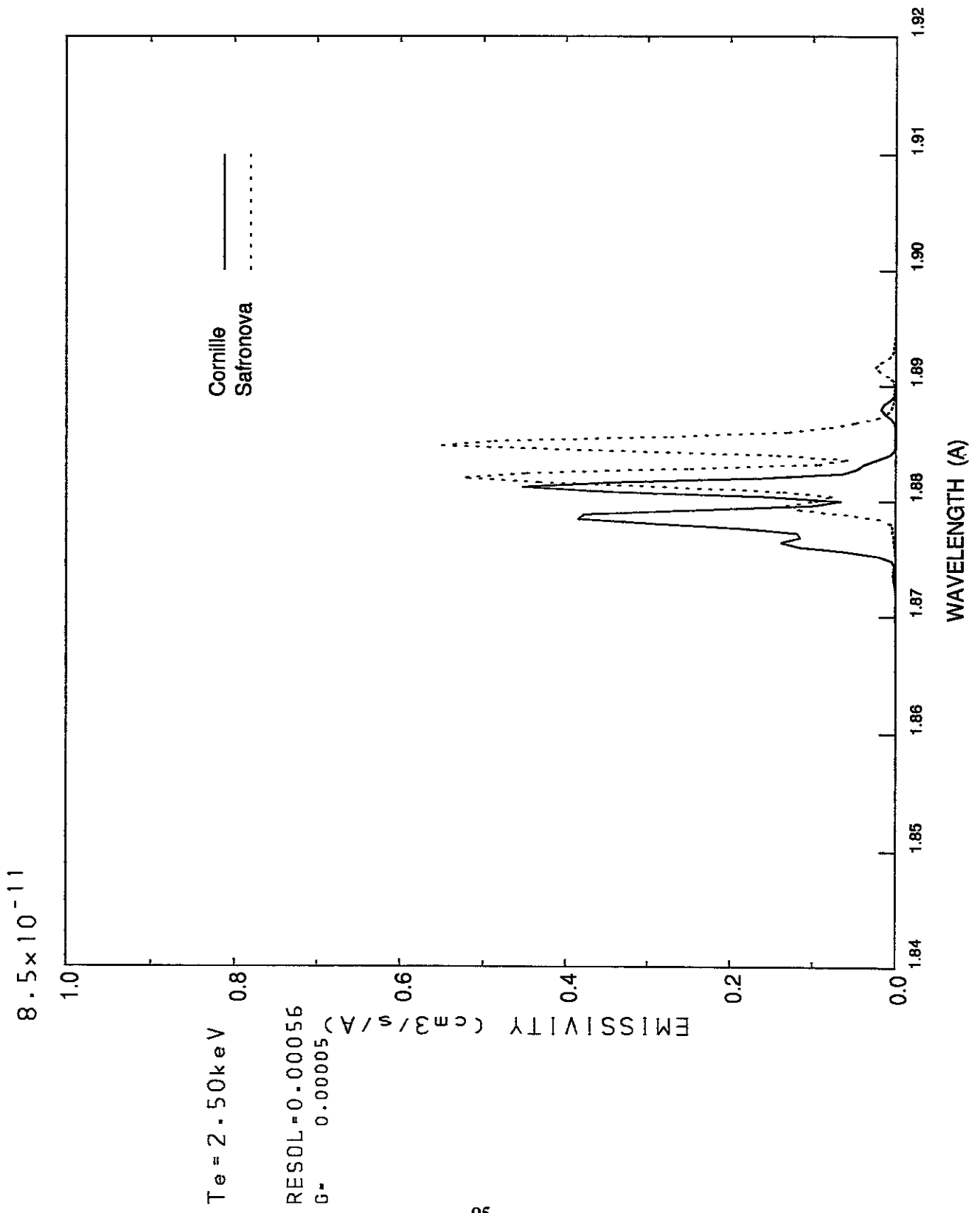


Fig.4(iii)

8.5×10^{-12}

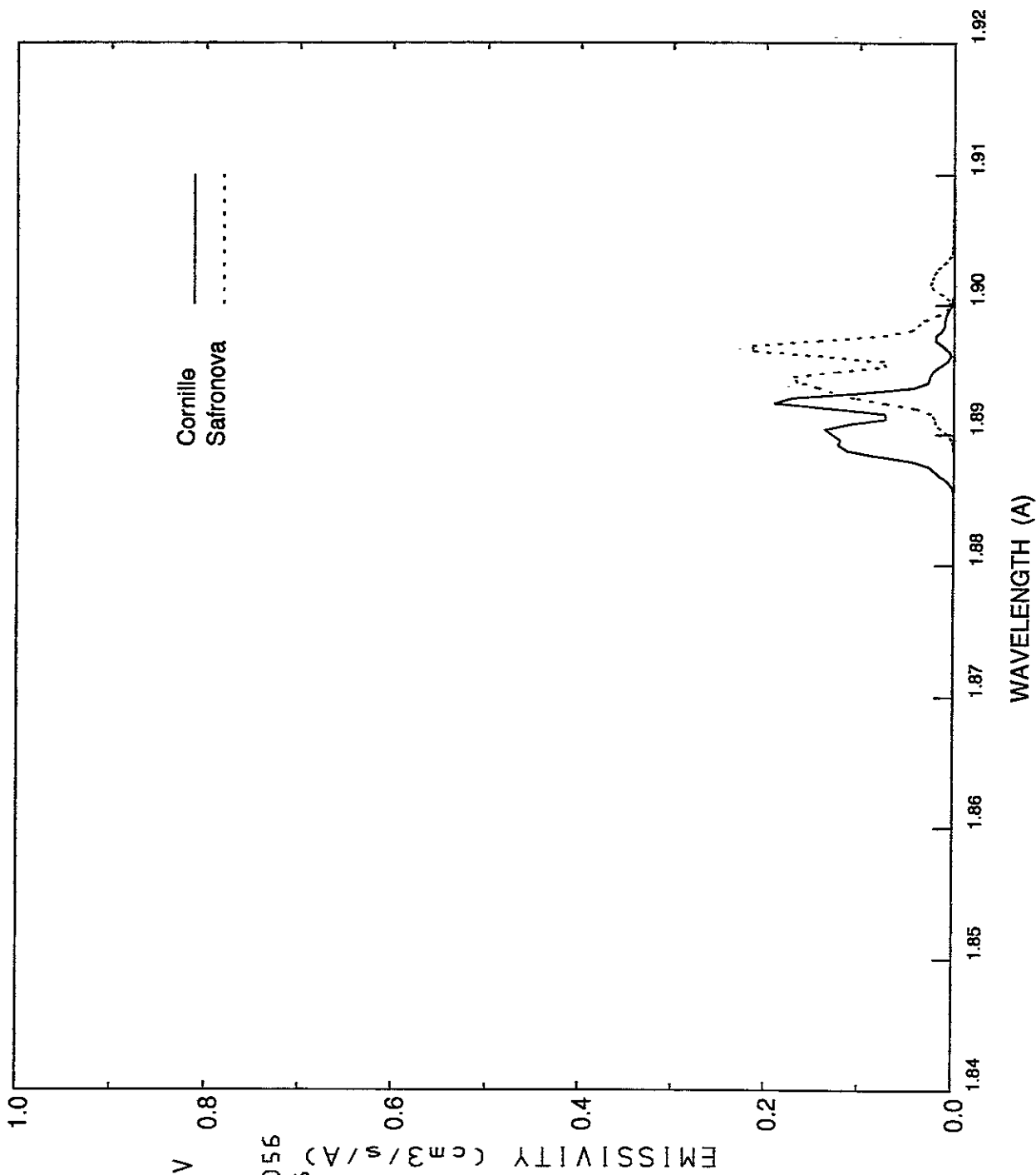


Fig.5(i)

$T_e = 0.80 \text{ keV}$

RESOL = 0.00056

$G = 0.00005$

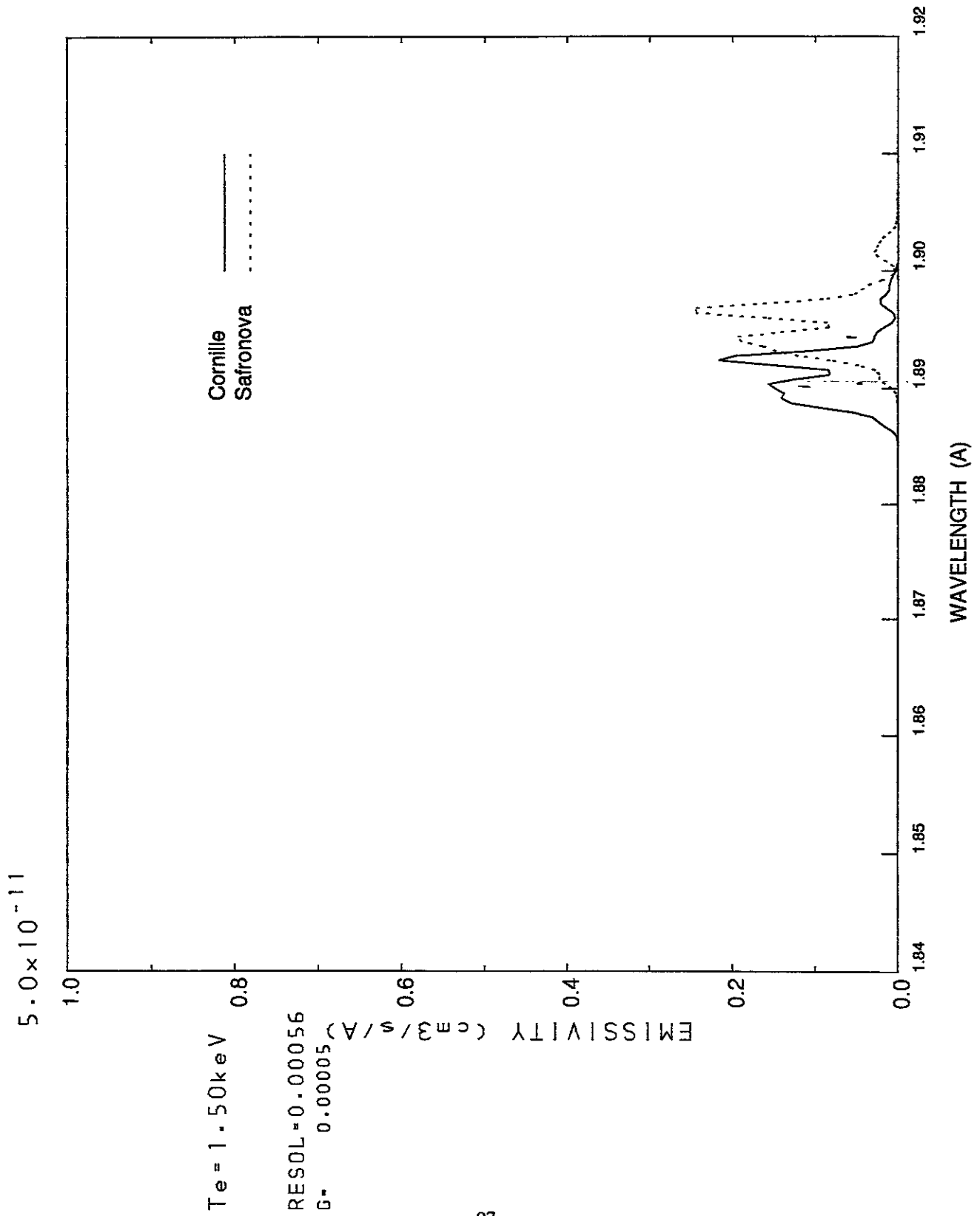


Fig.5(ii)

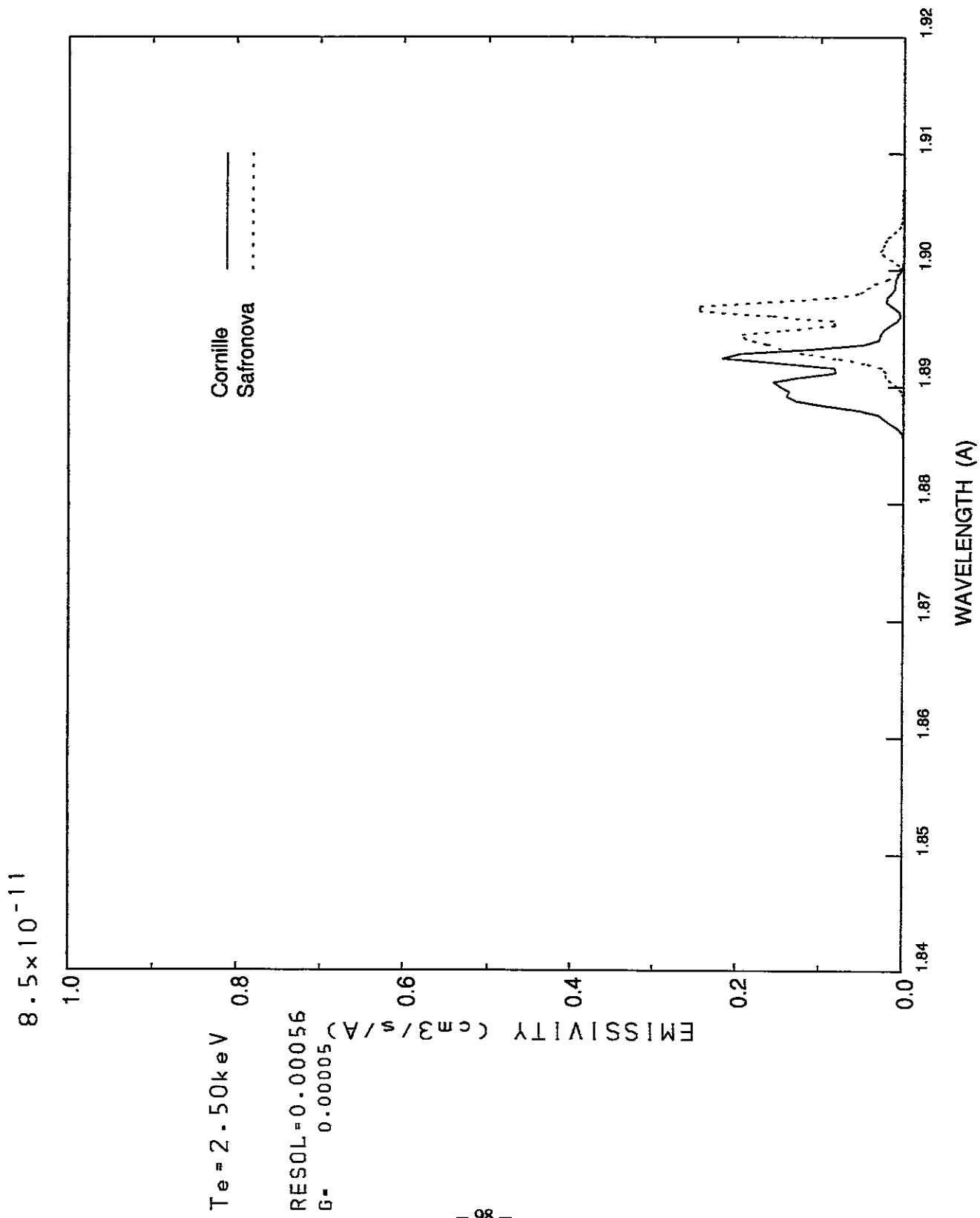


Fig.5(iii)

Fig.6(a)

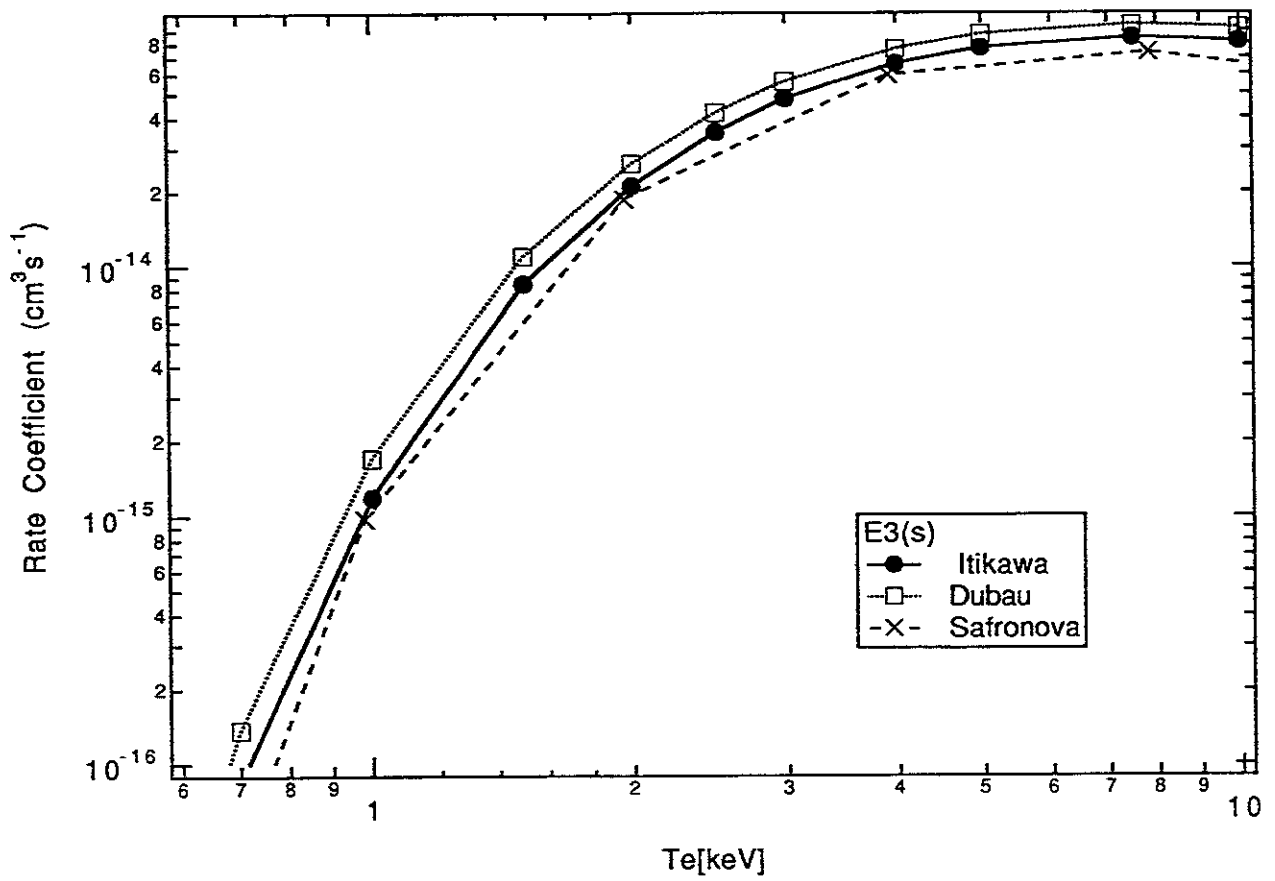
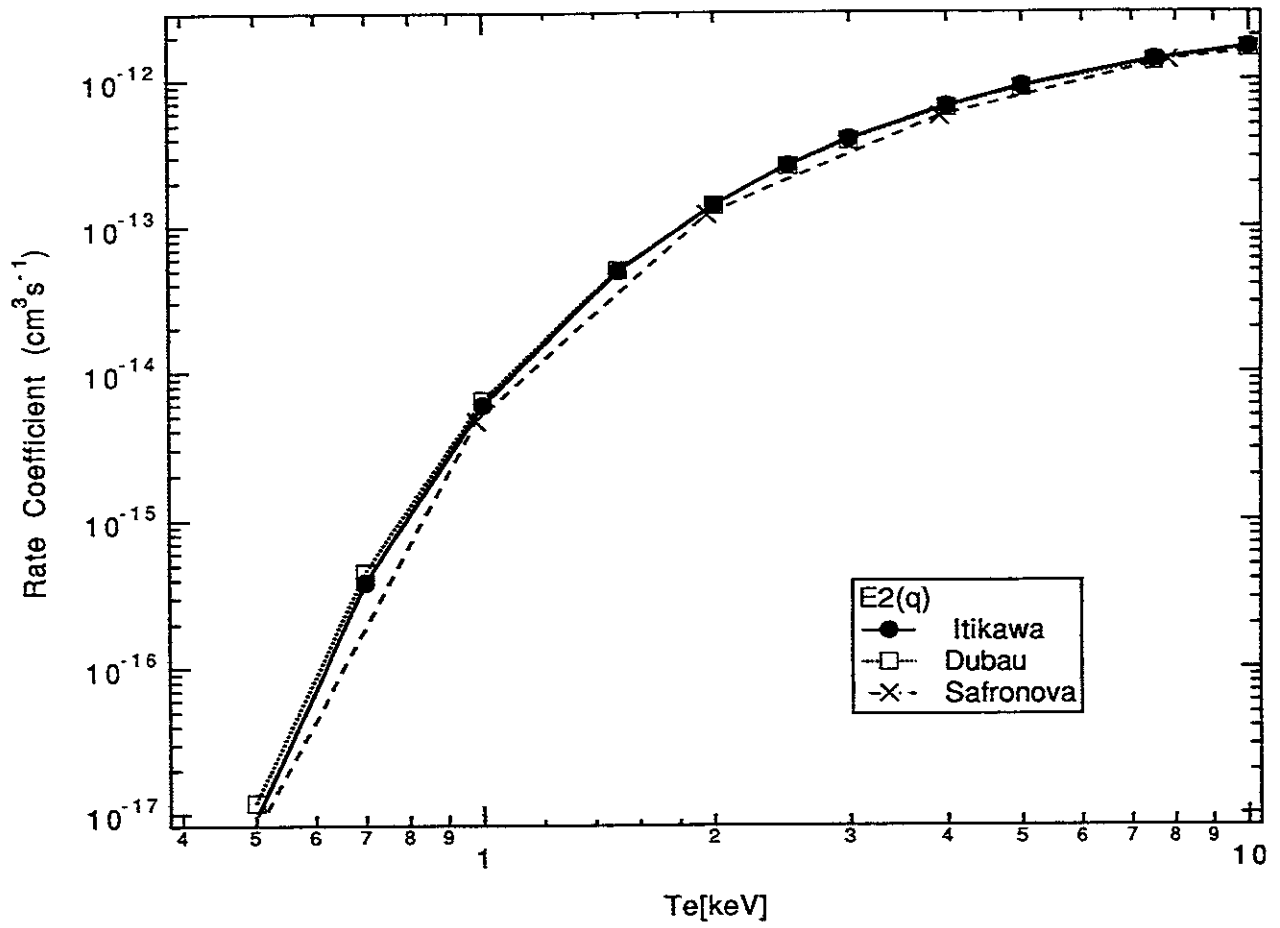


Fig.6(b)

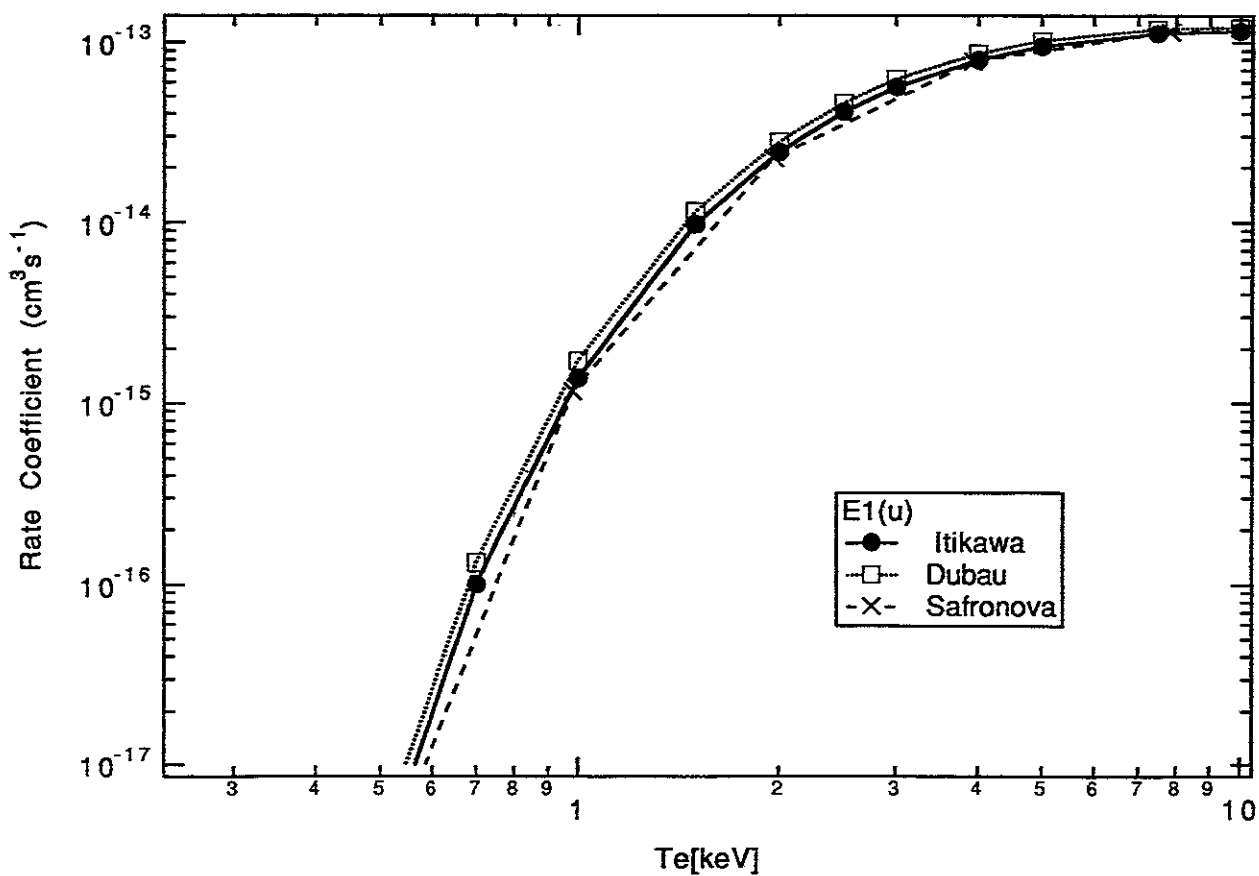
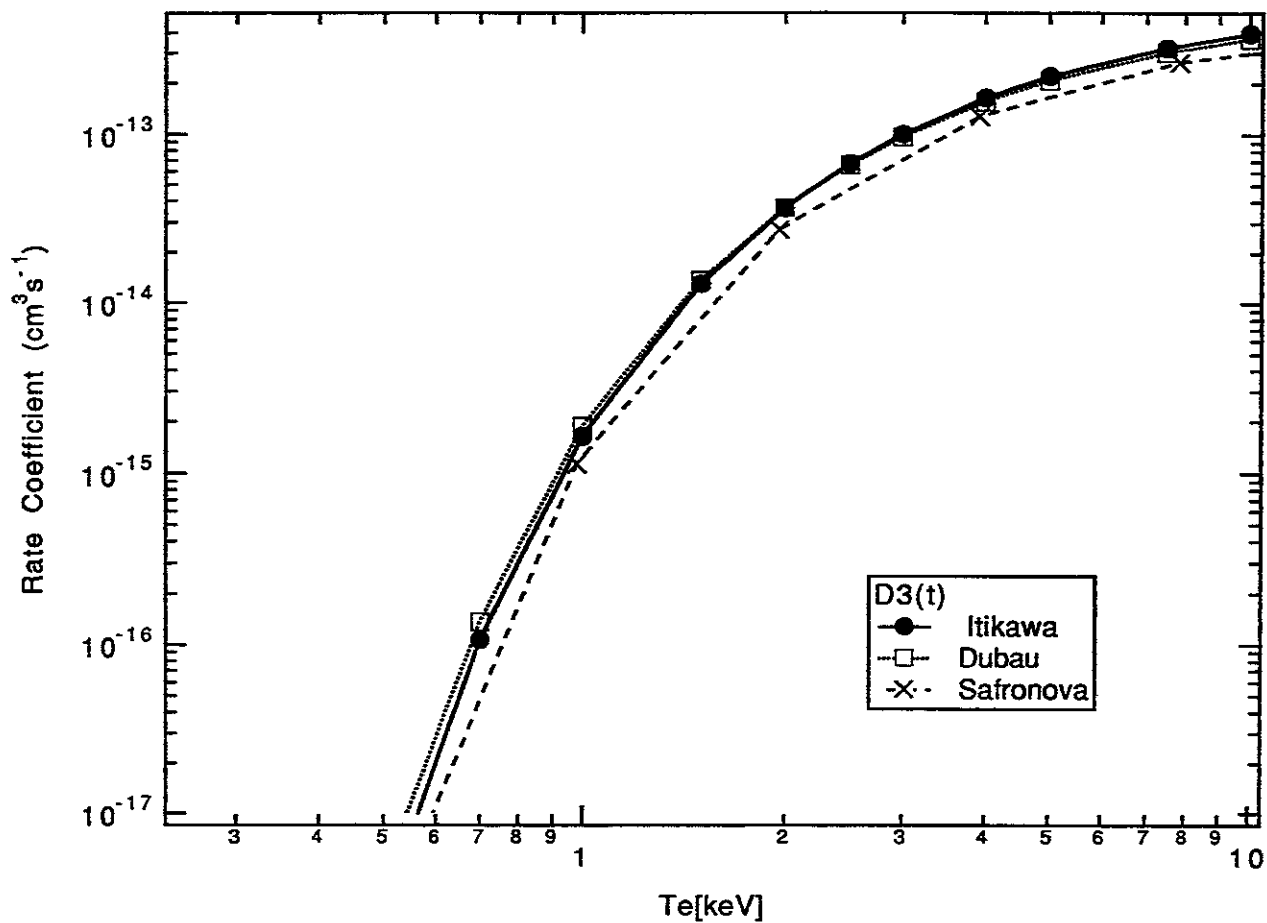


Fig.6(c)

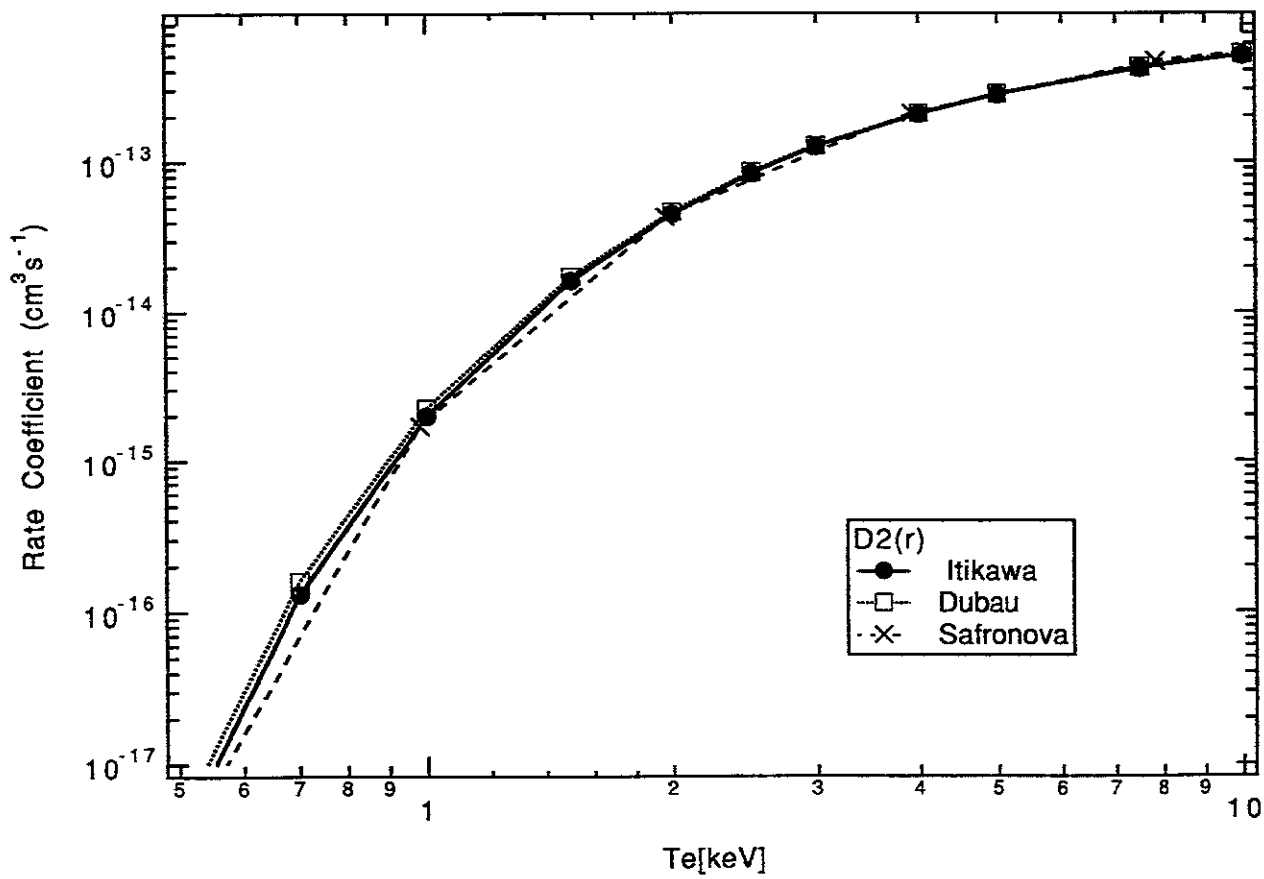
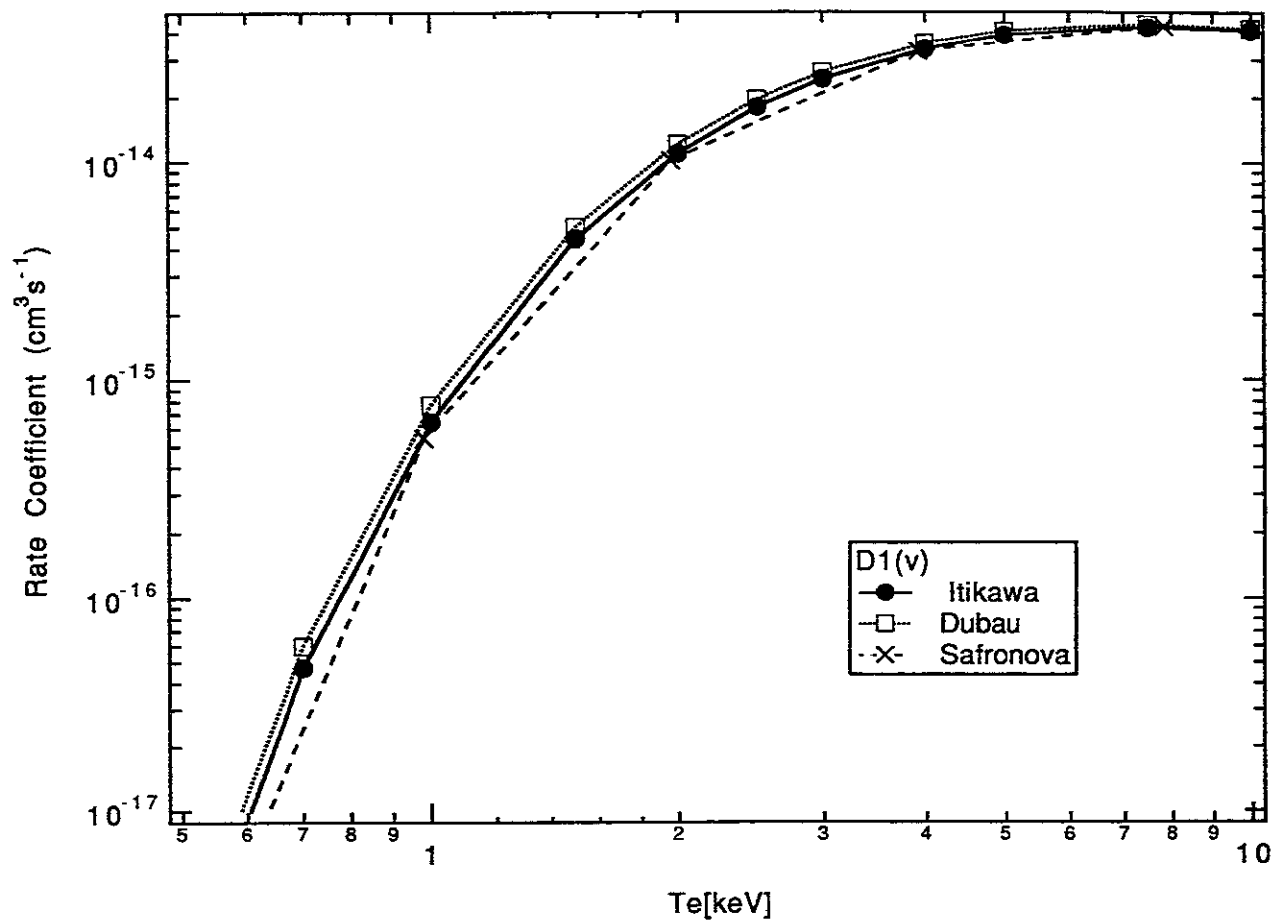


Fig.7(a)

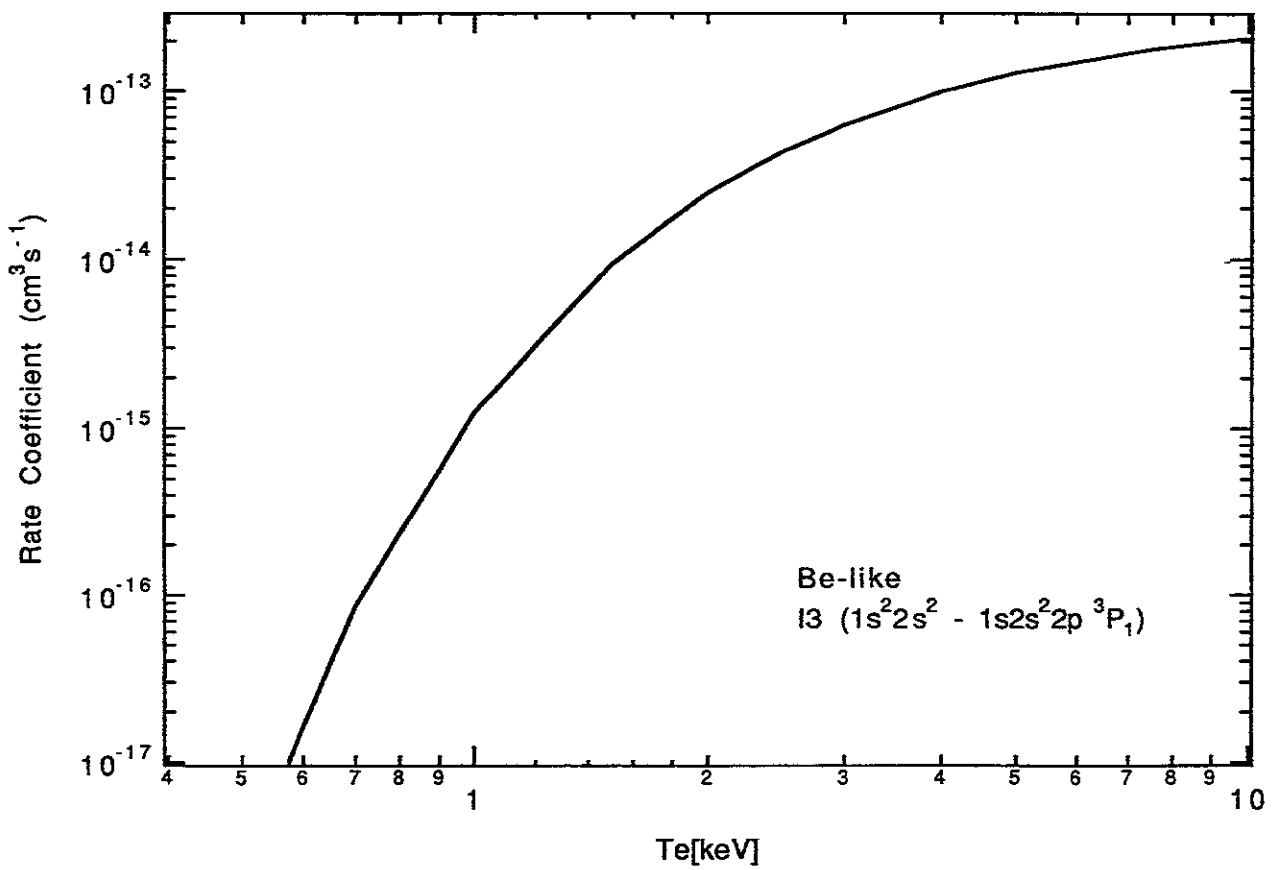
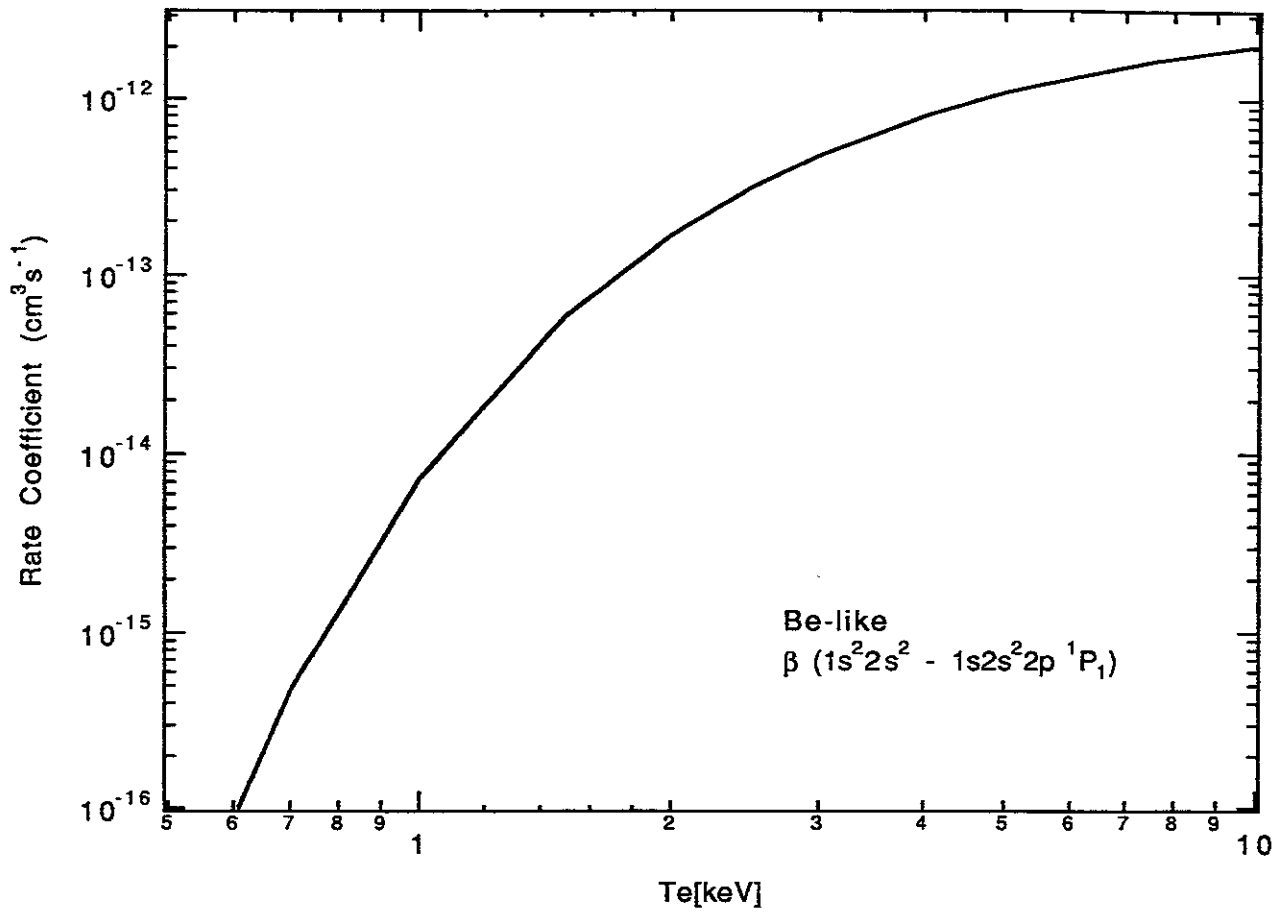


Fig.7(b)

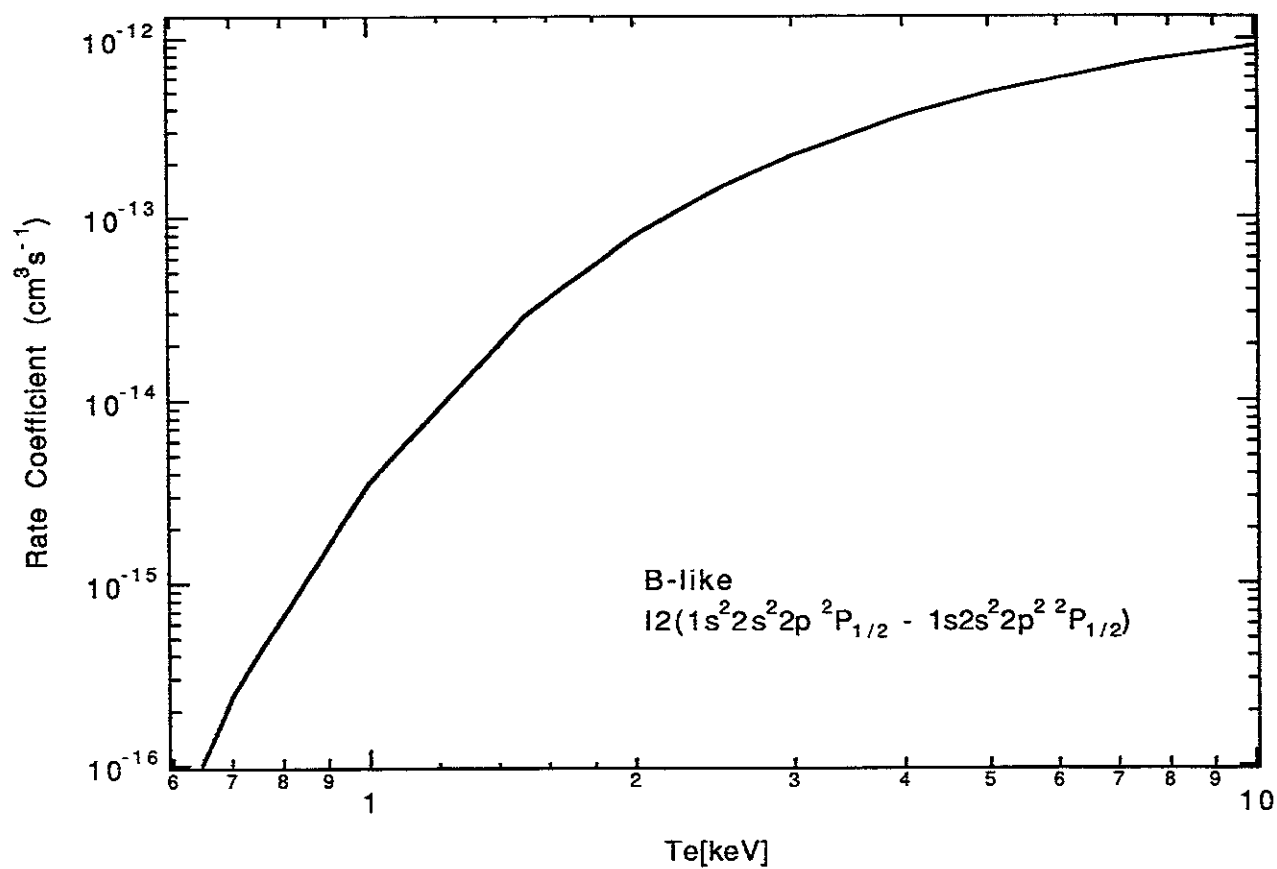
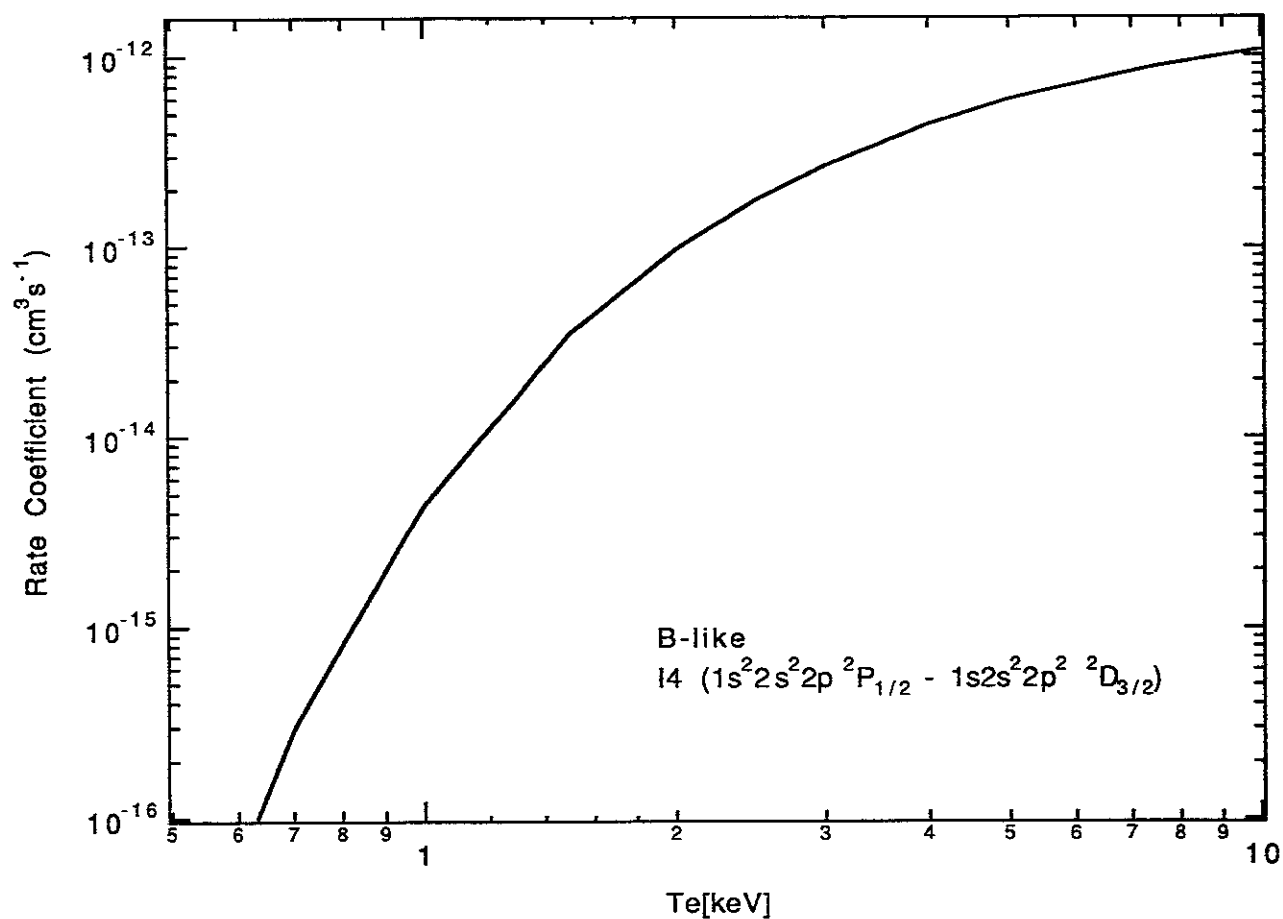
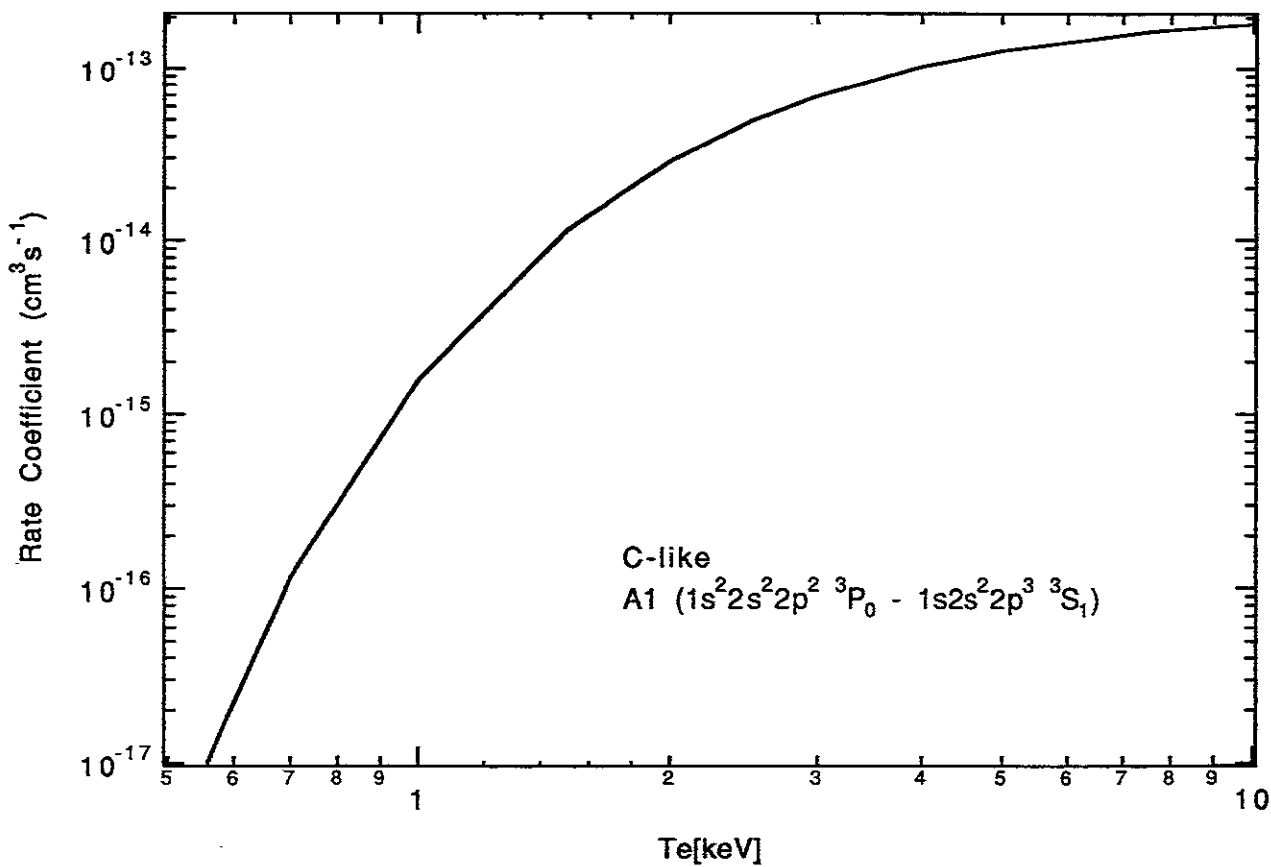
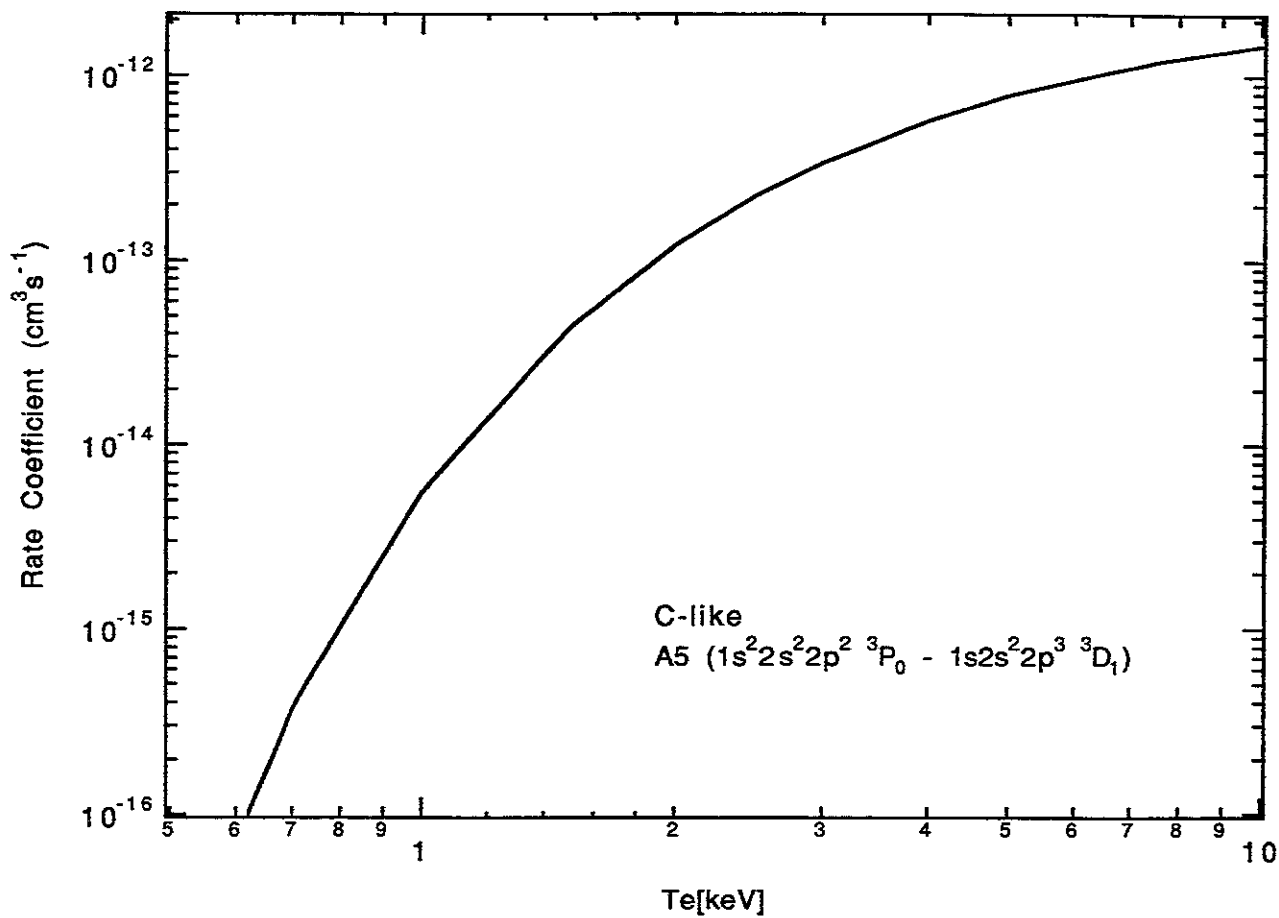


Fig.7(c)



1.5×10^{-12}

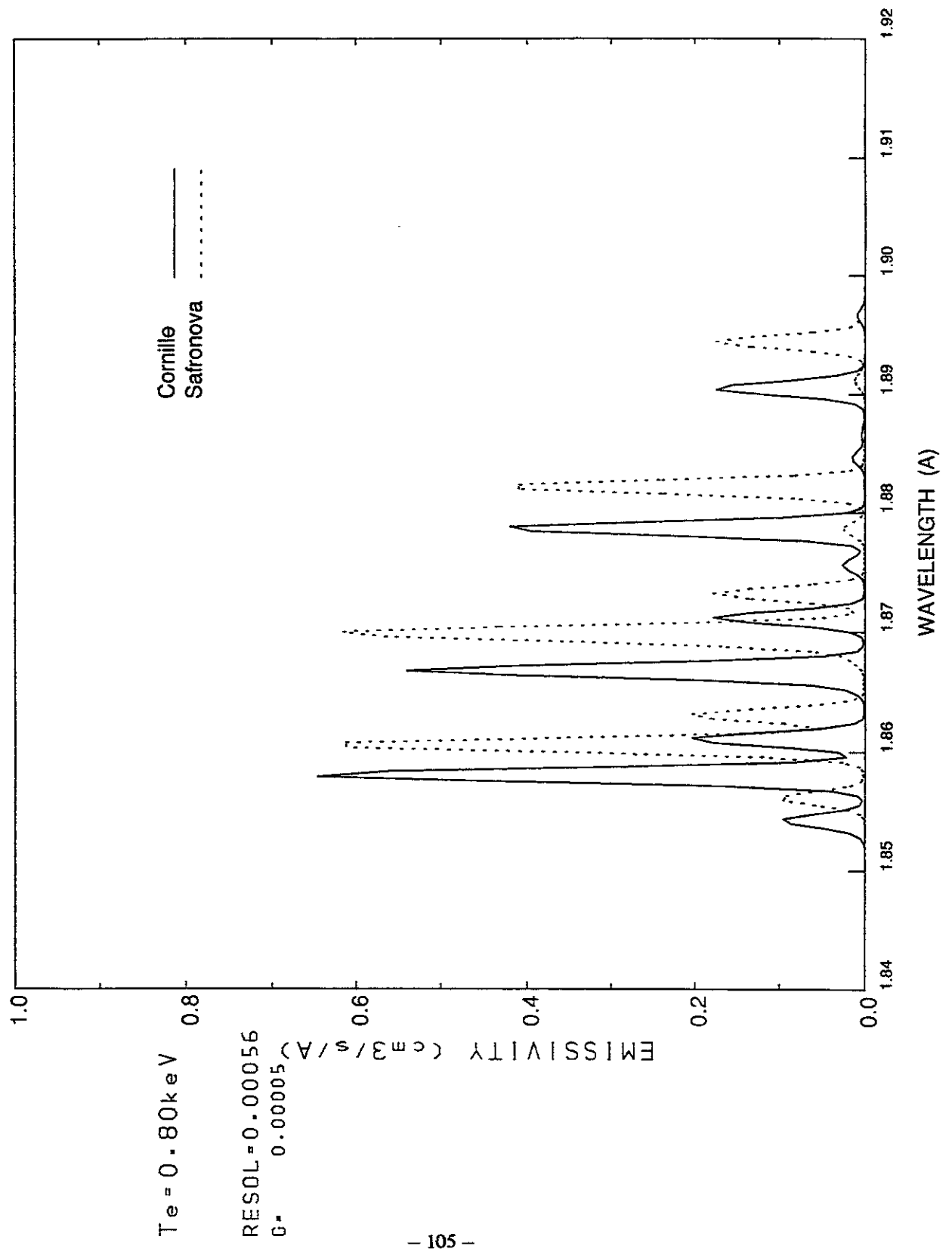


Fig.8(i)

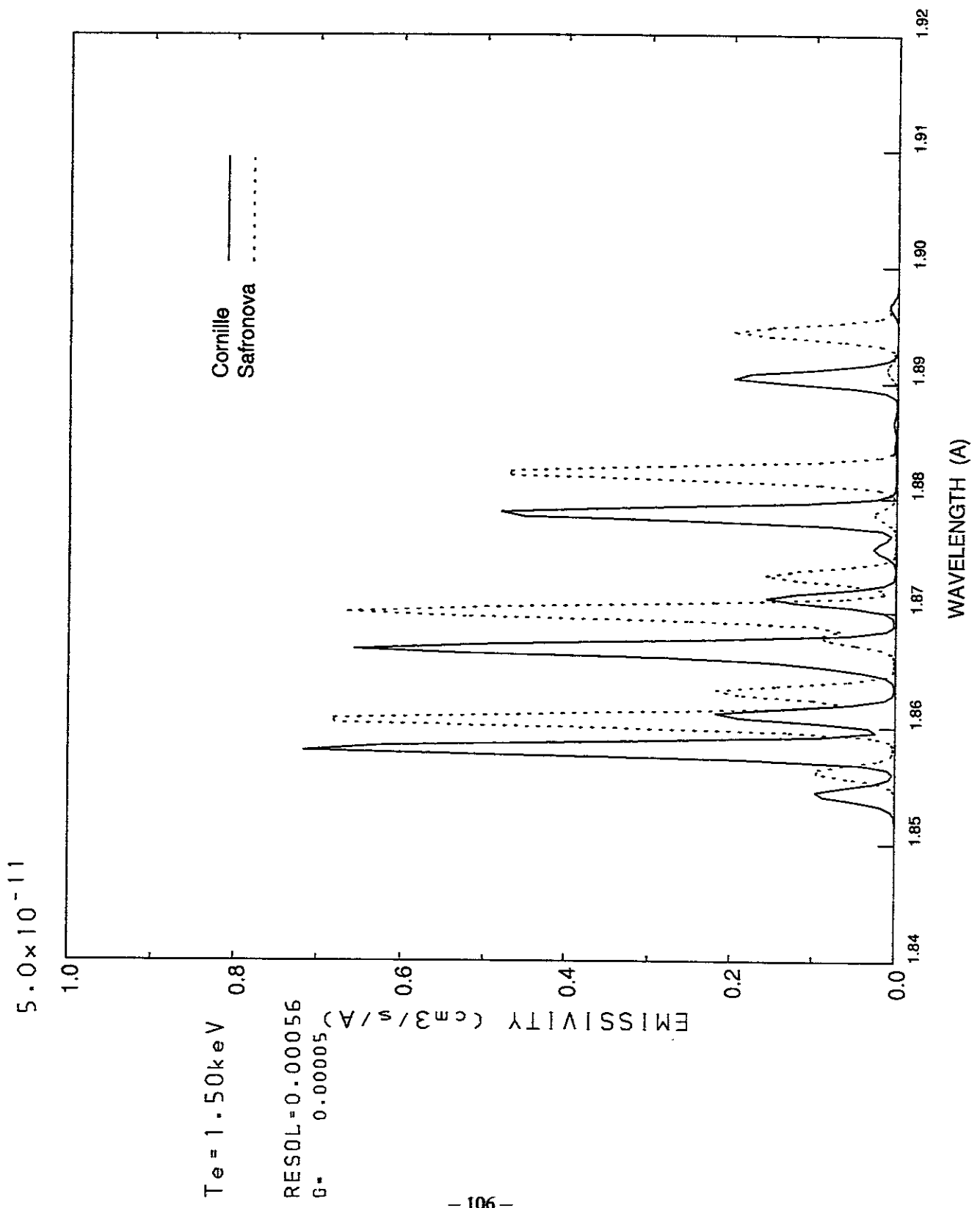


Fig.8(ii)

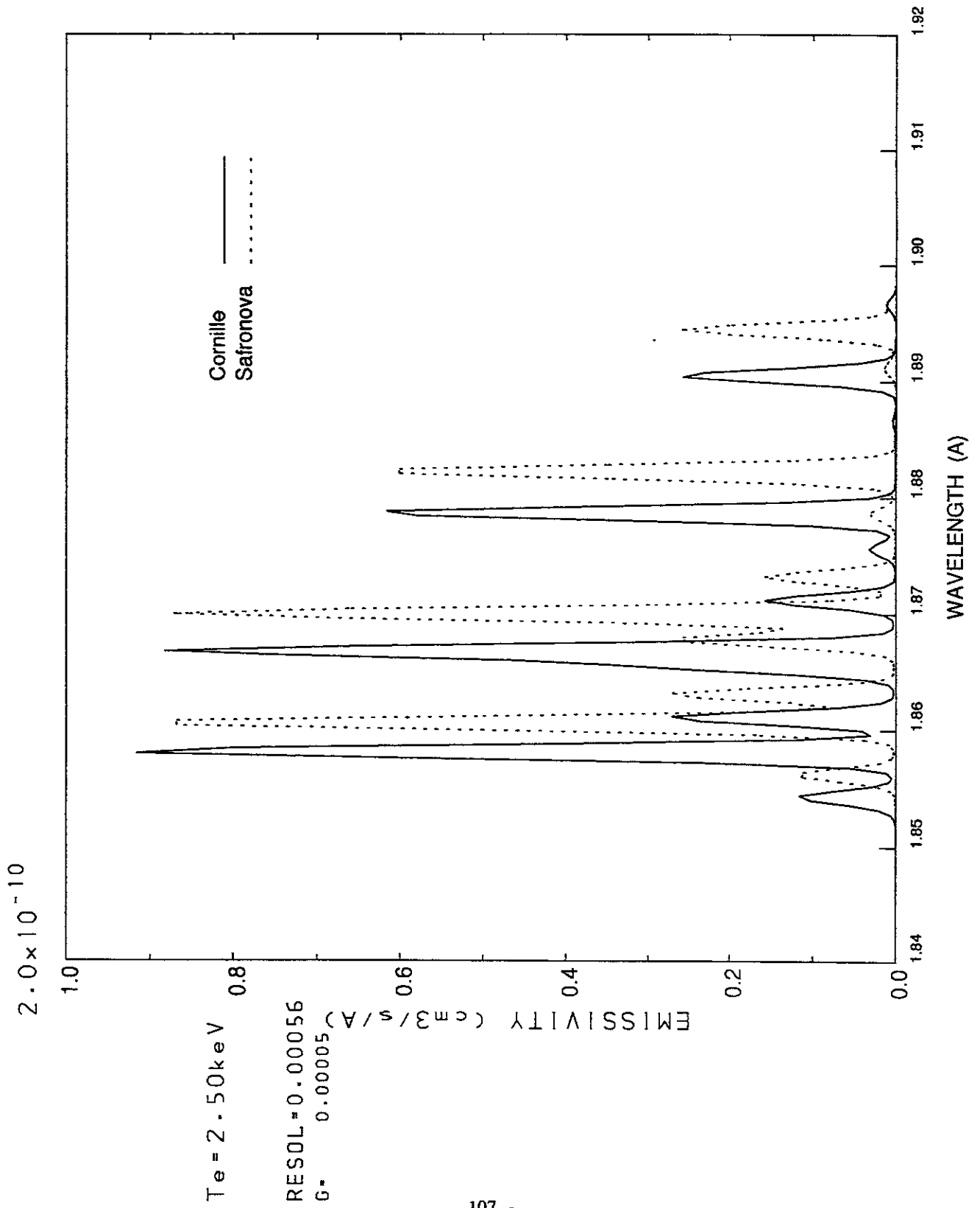


Fig.8(iii)

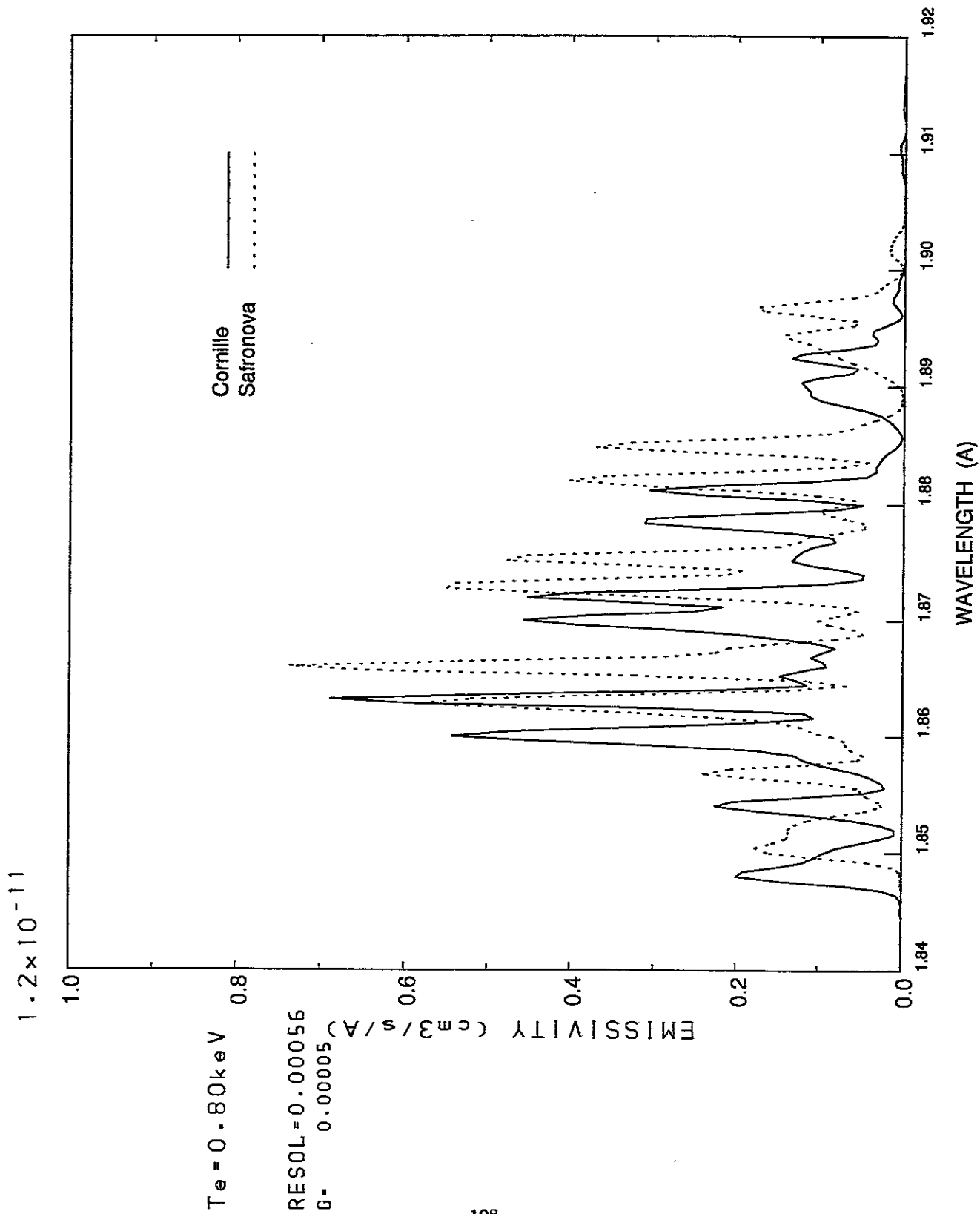


Fig.9(i)

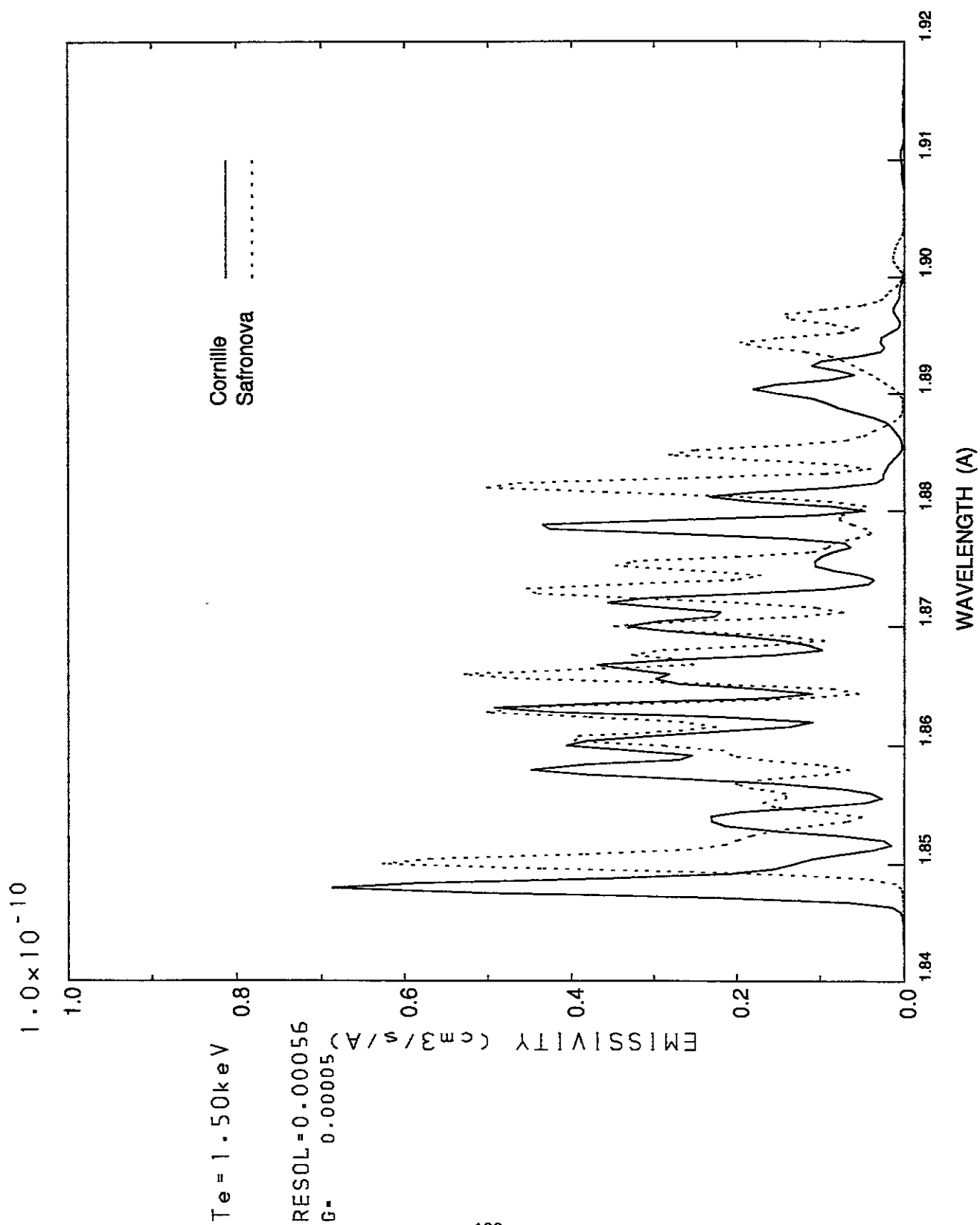


Fig.9(ii)

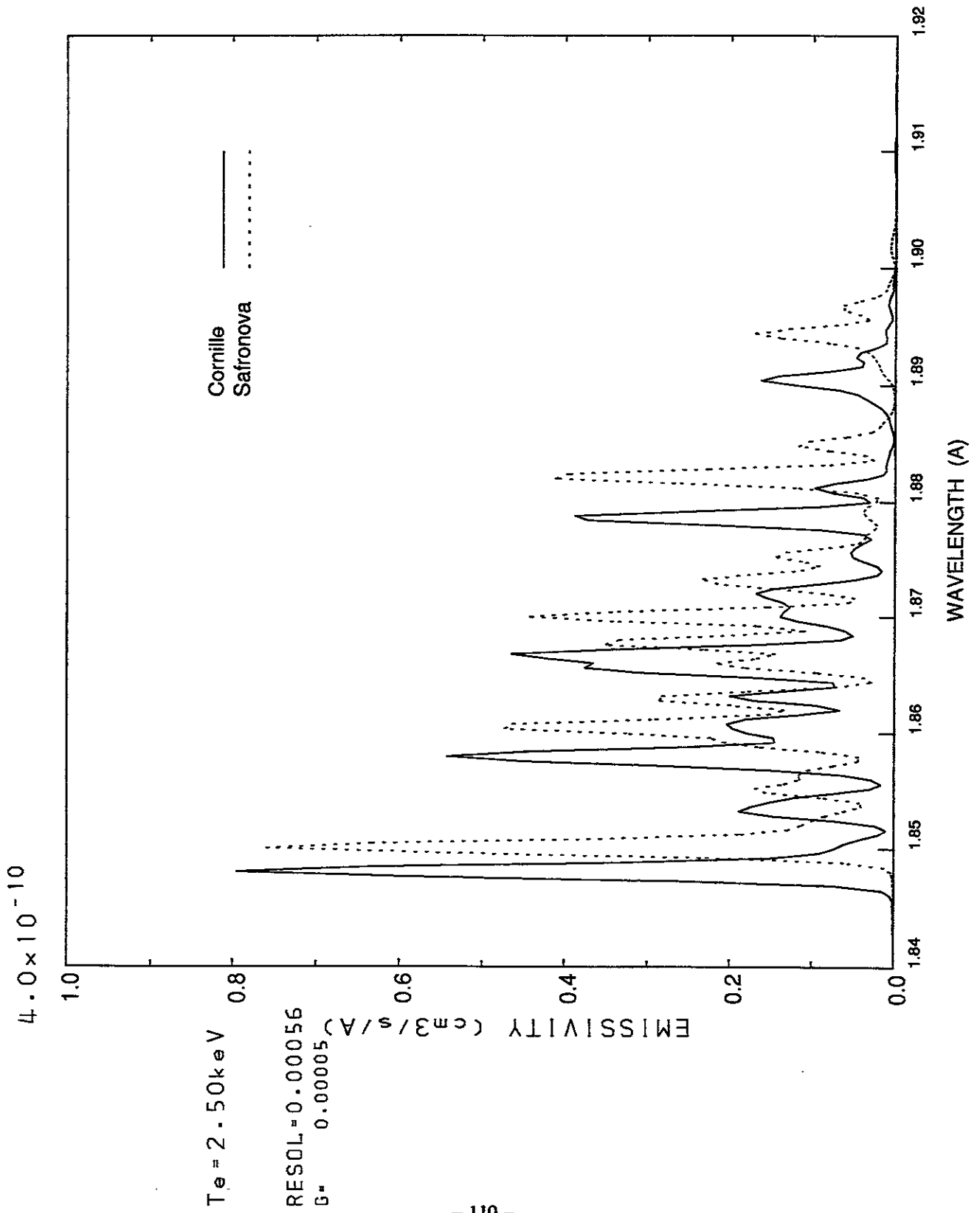


Fig.9(iii)

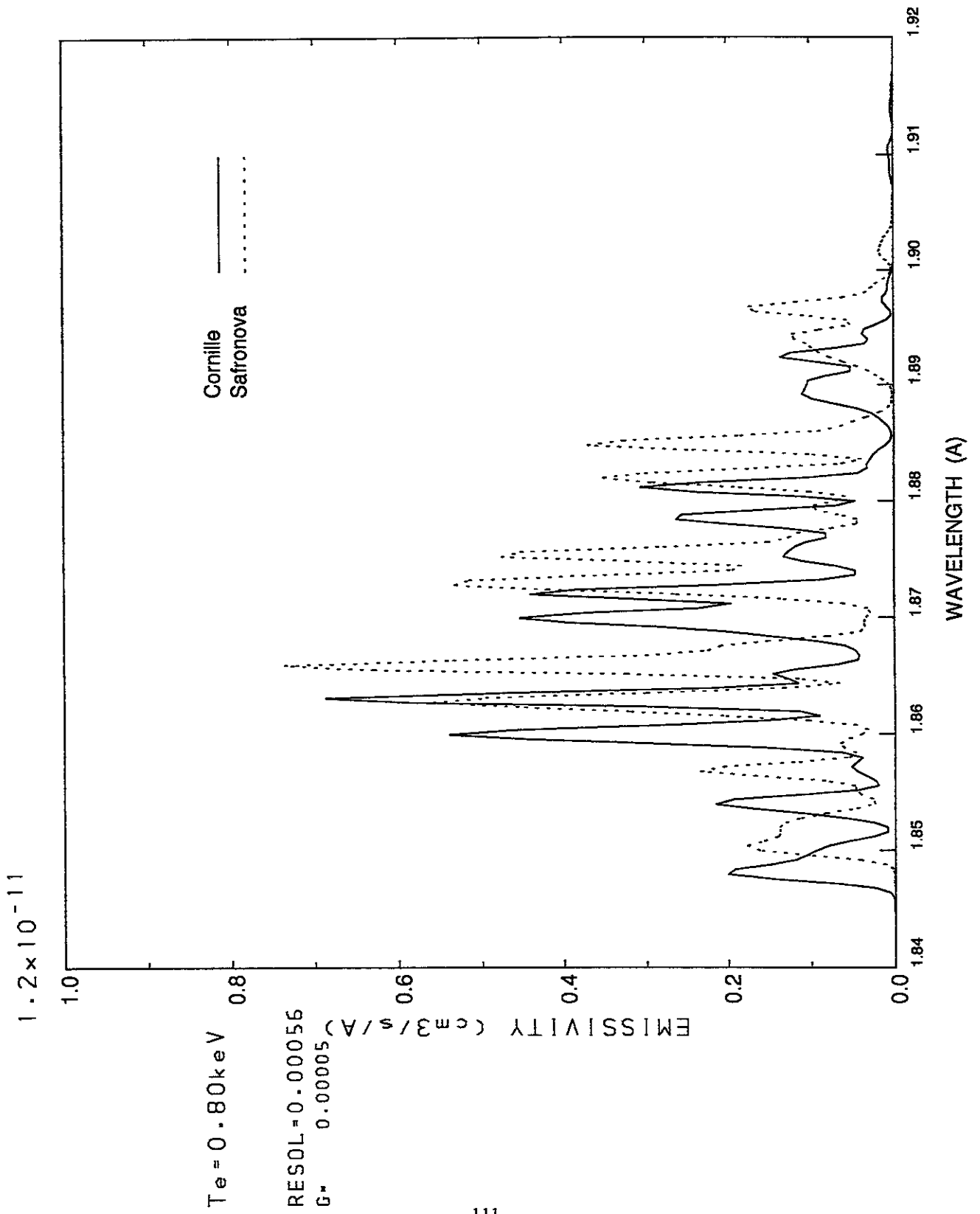


Fig. 10(i)

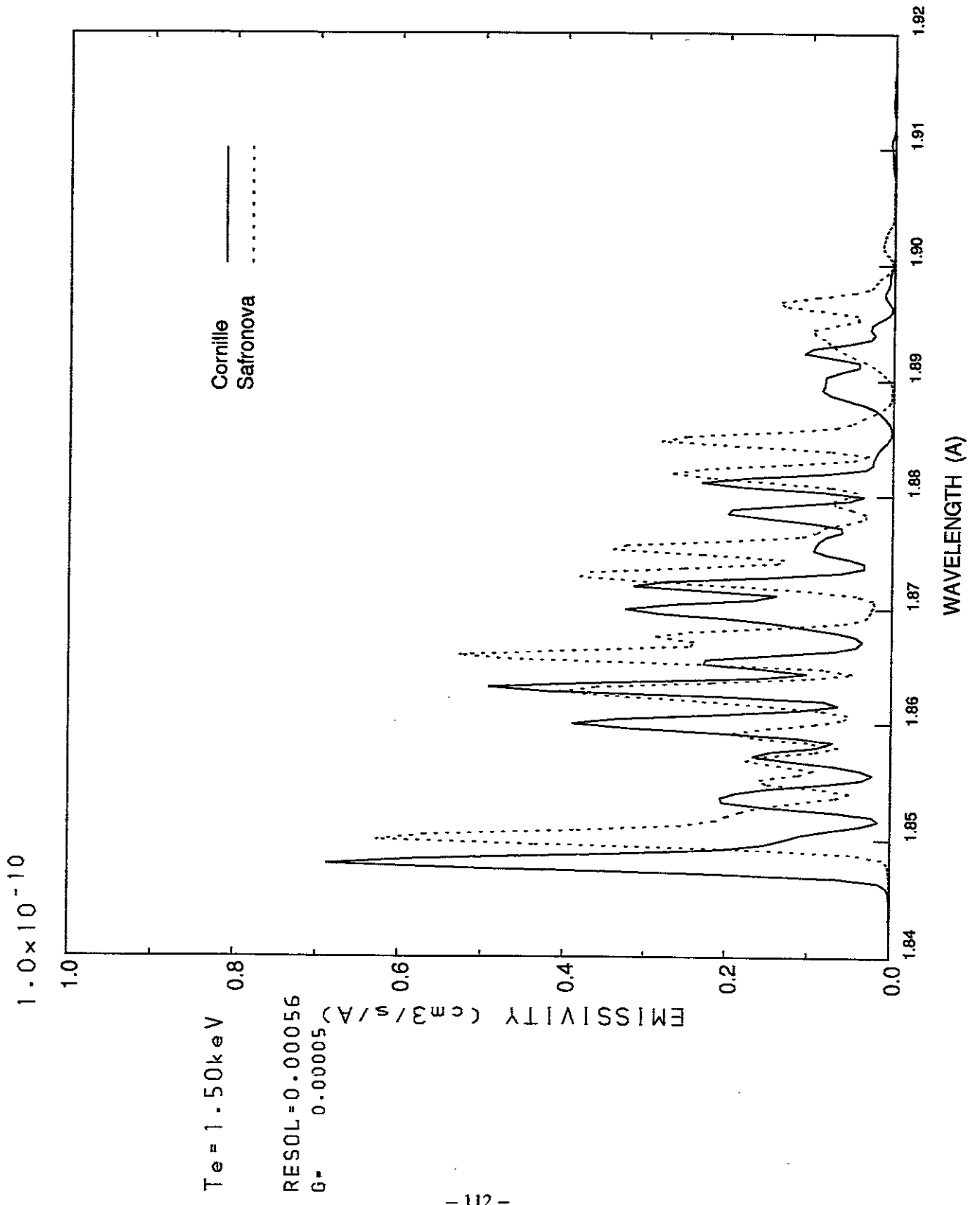


Fig.10(ii)

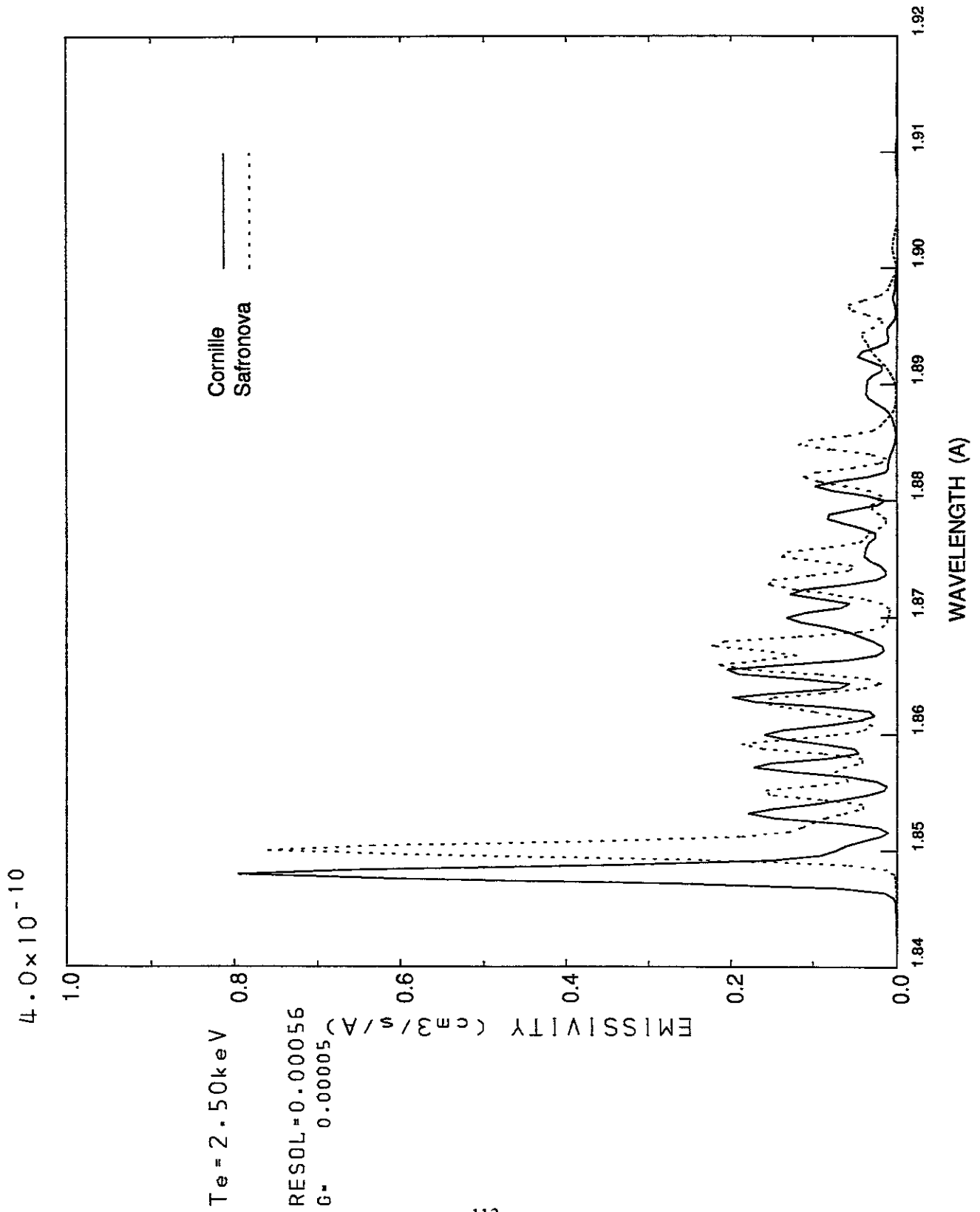


Fig. 10(iii)

7.5×10^{-11}

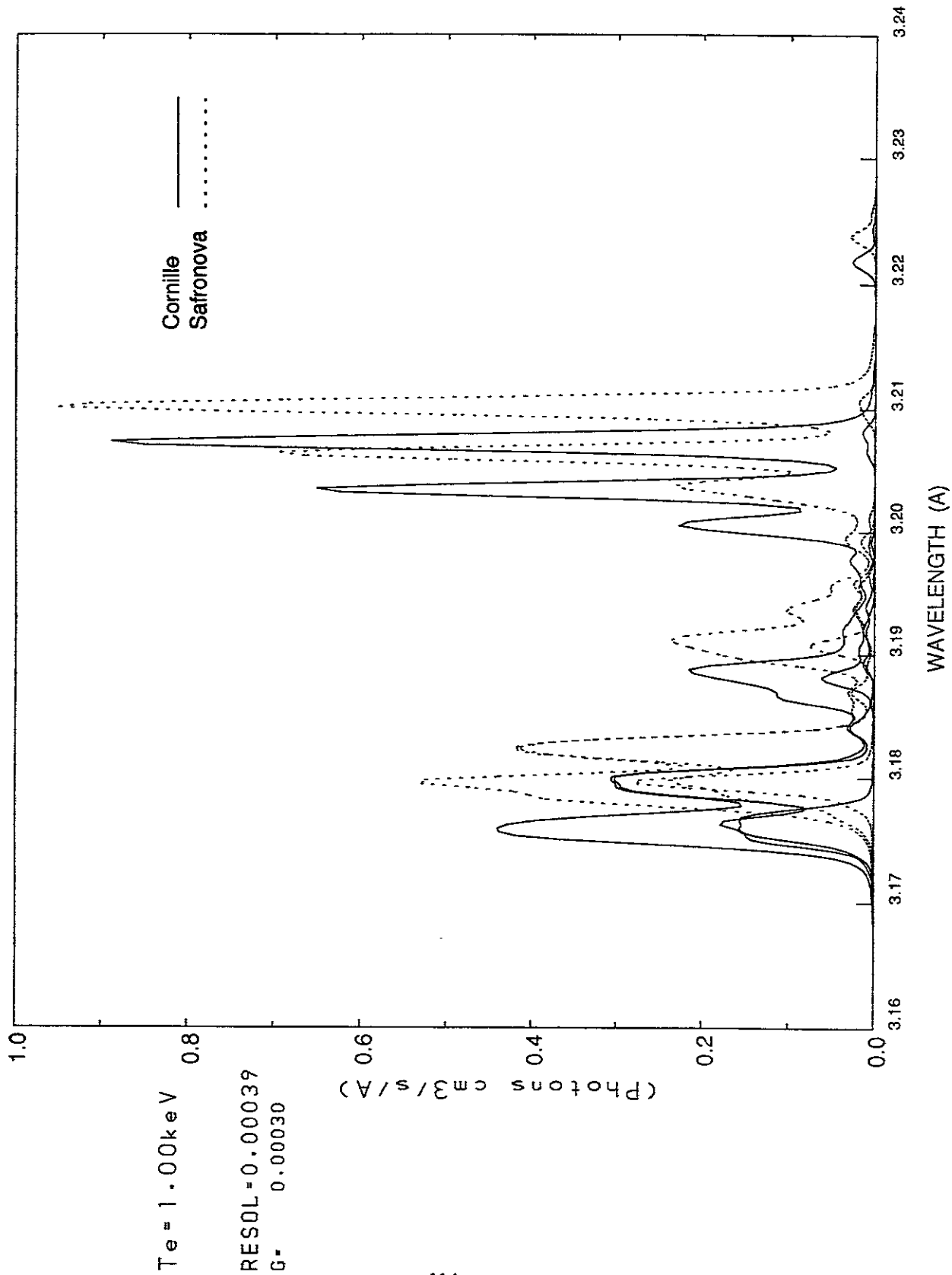


Fig.11 (a)
(i)

Fig.1.1(a)
(ii)

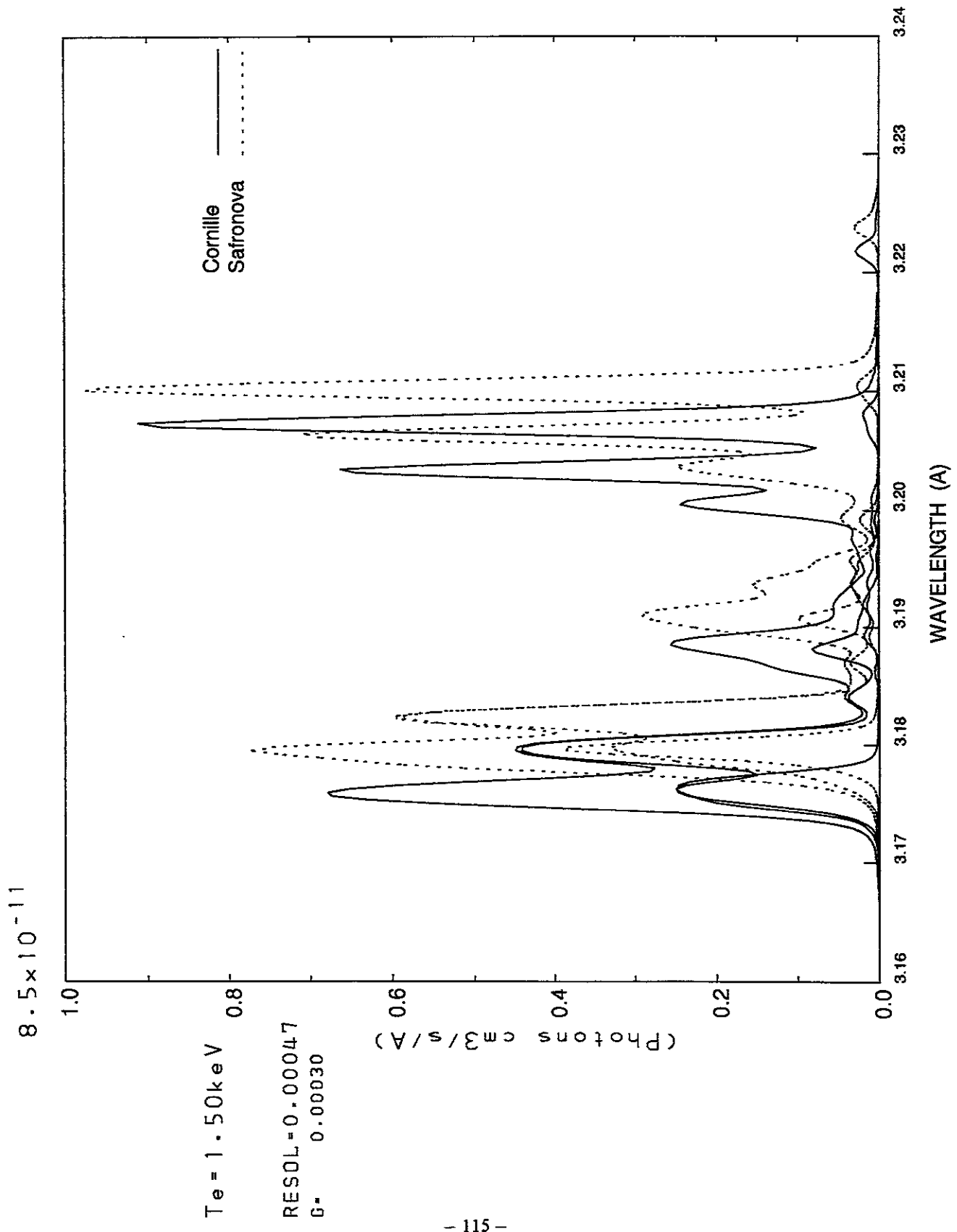
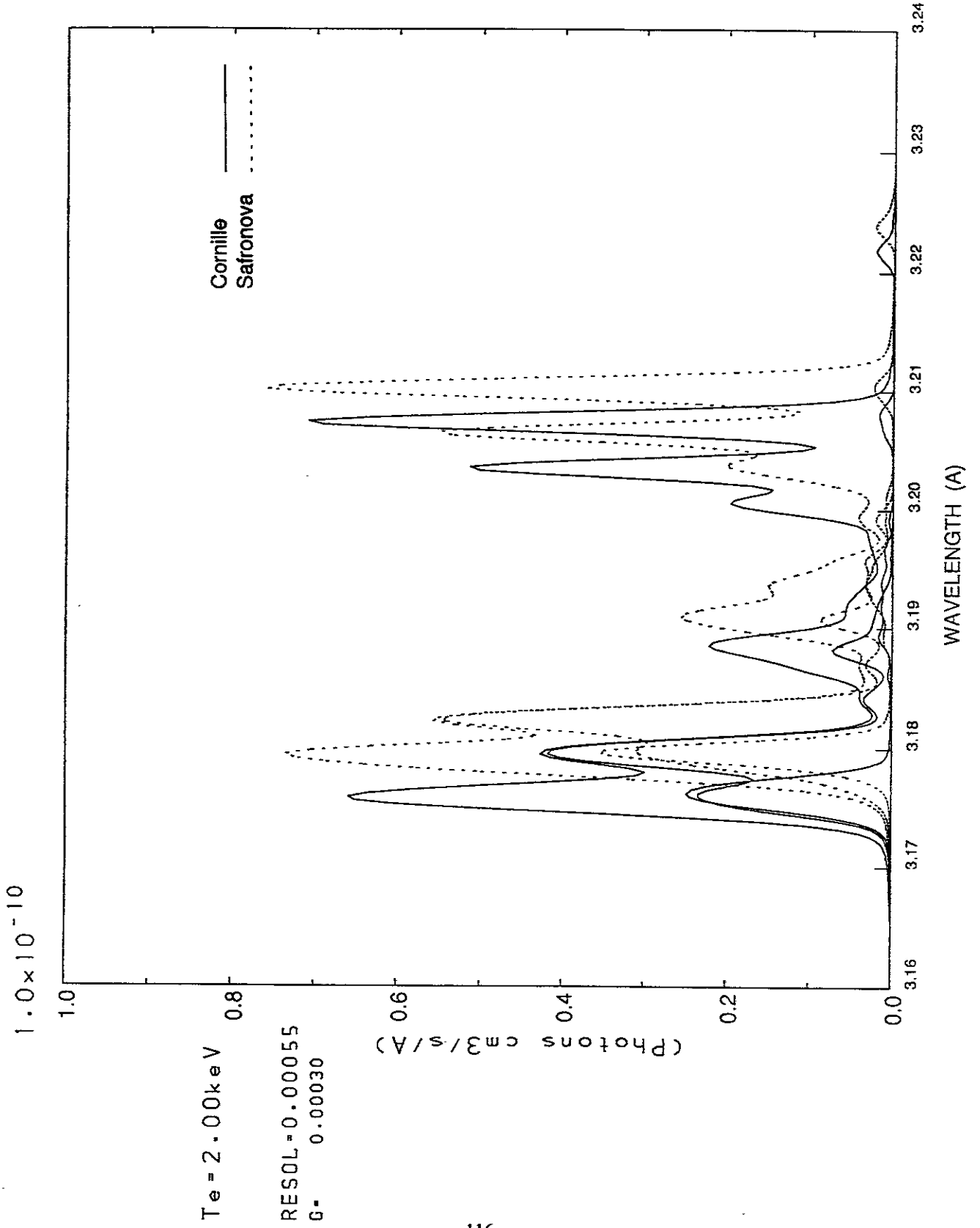


Fig.11(a)
(iii)



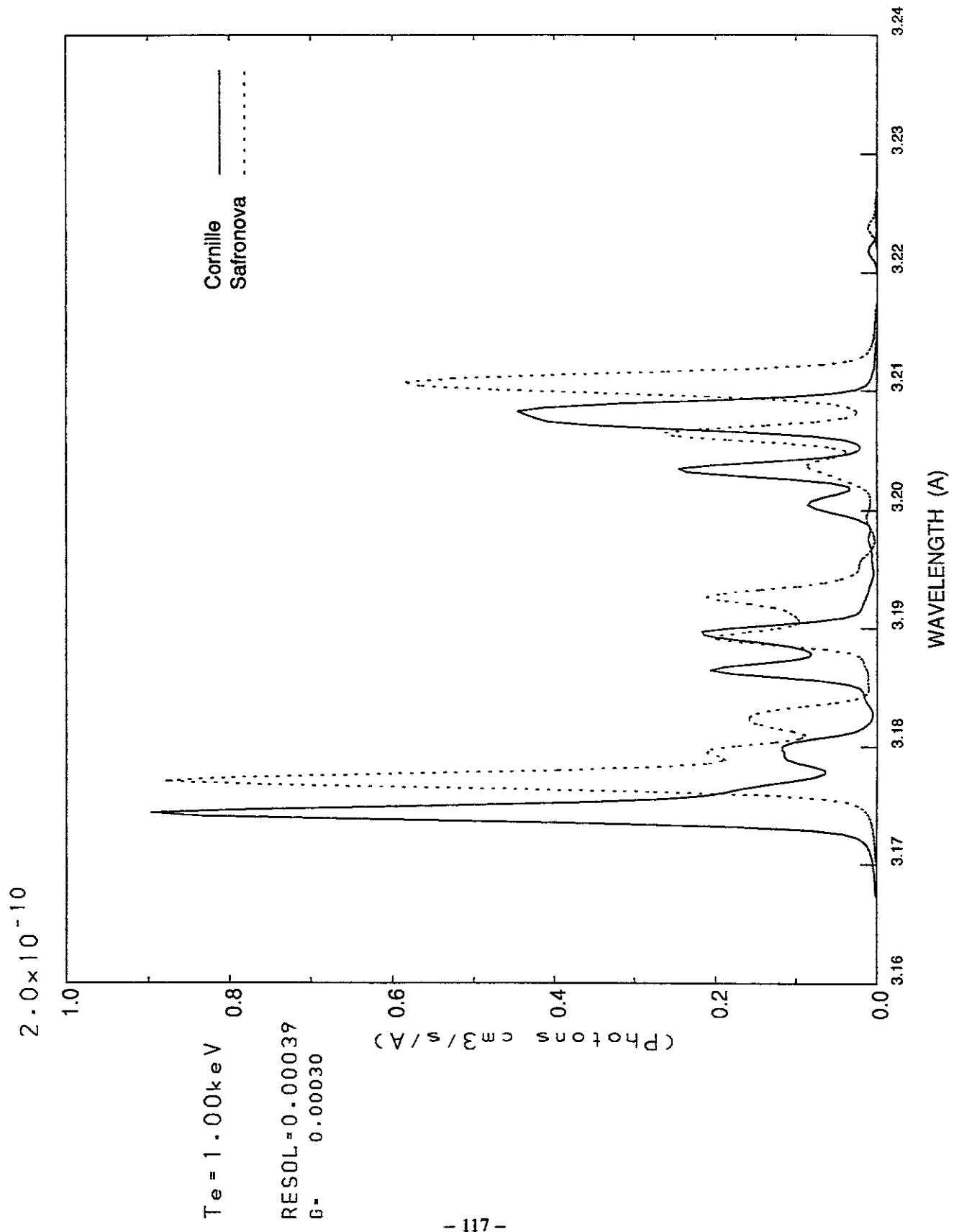
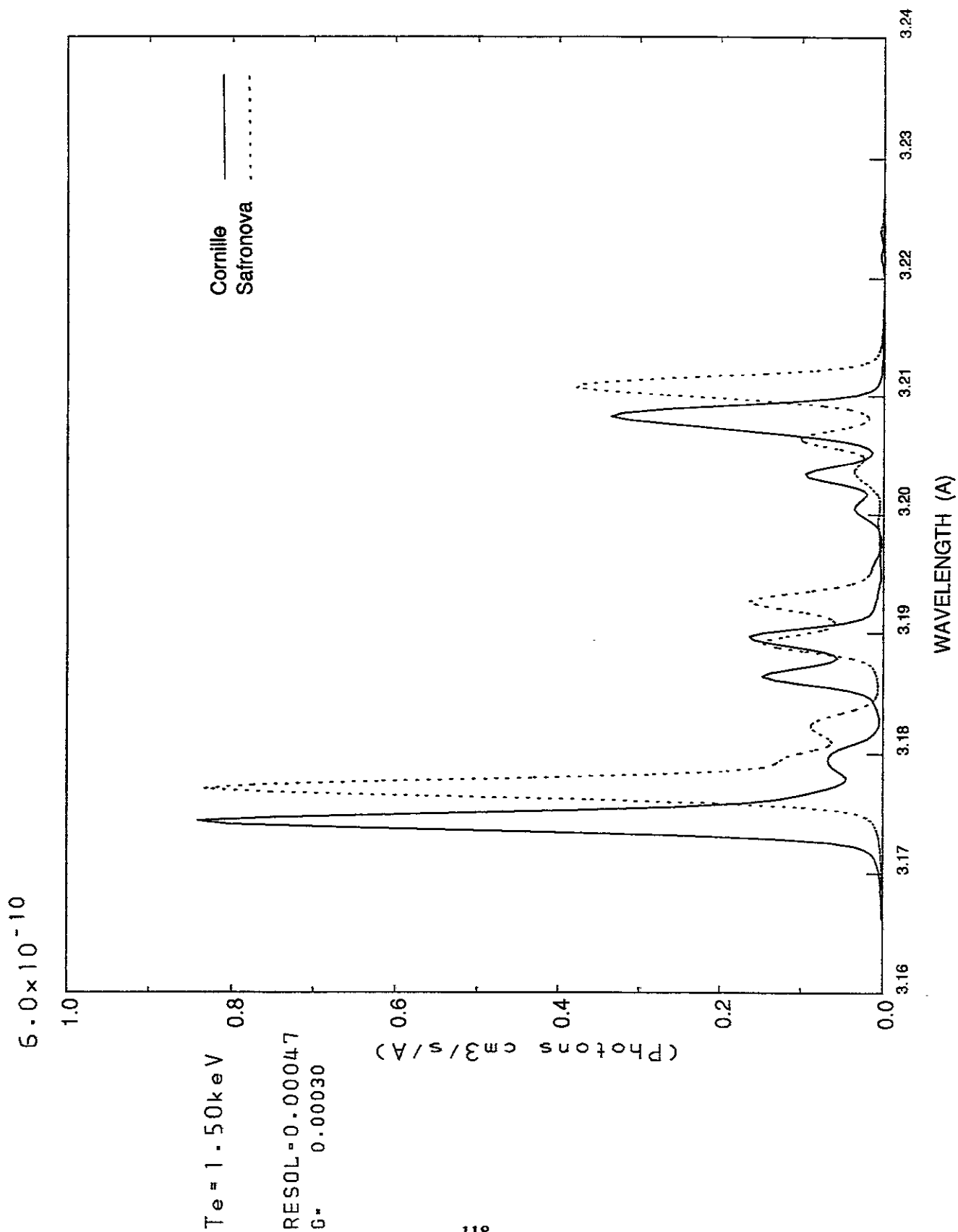


Fig.1.1(b)
(i)

Fig.11(b)
(ii)



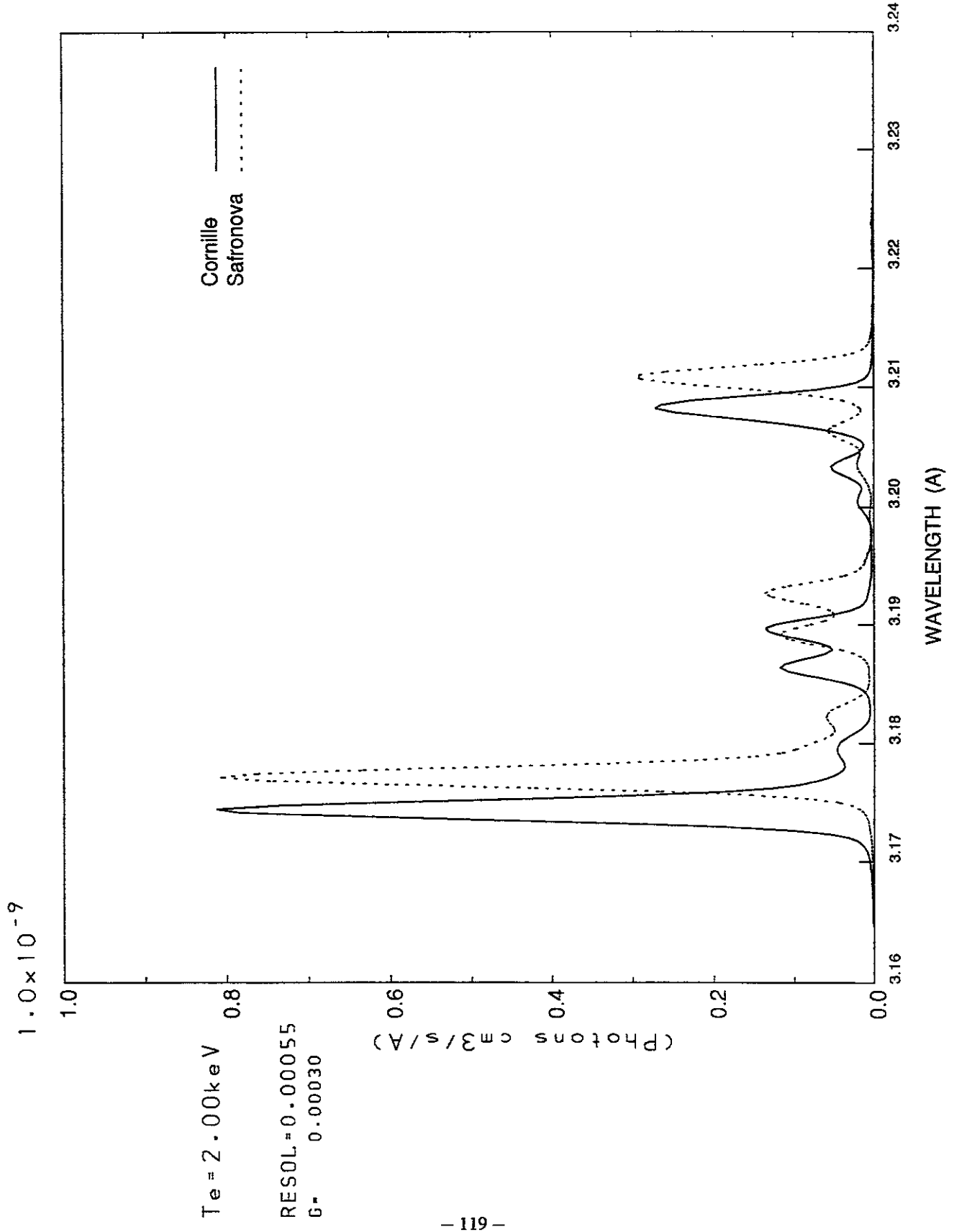
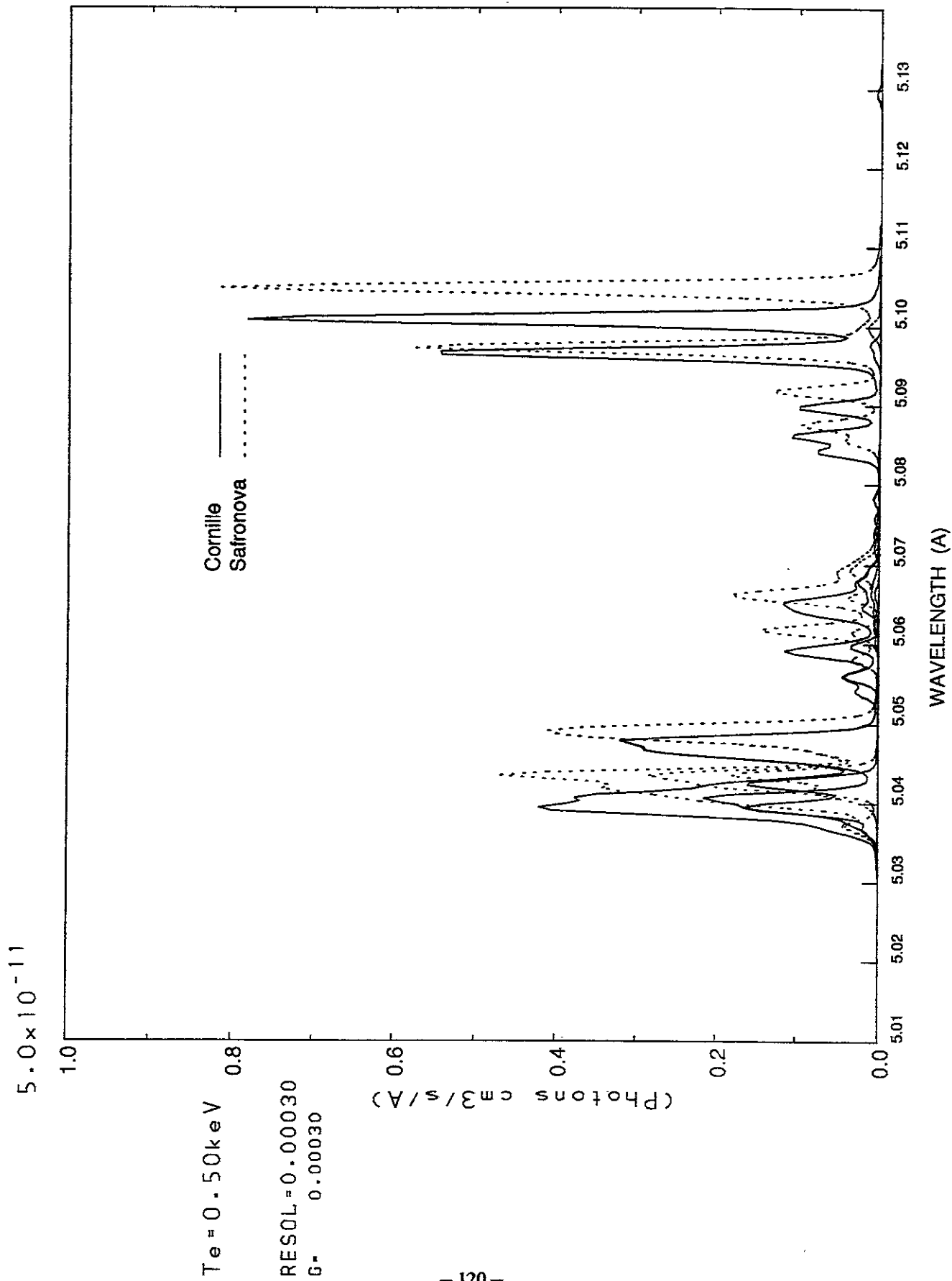


Fig.11(b)
(iii)

Fig.12(a)
(i)



9.0×10^{-11}

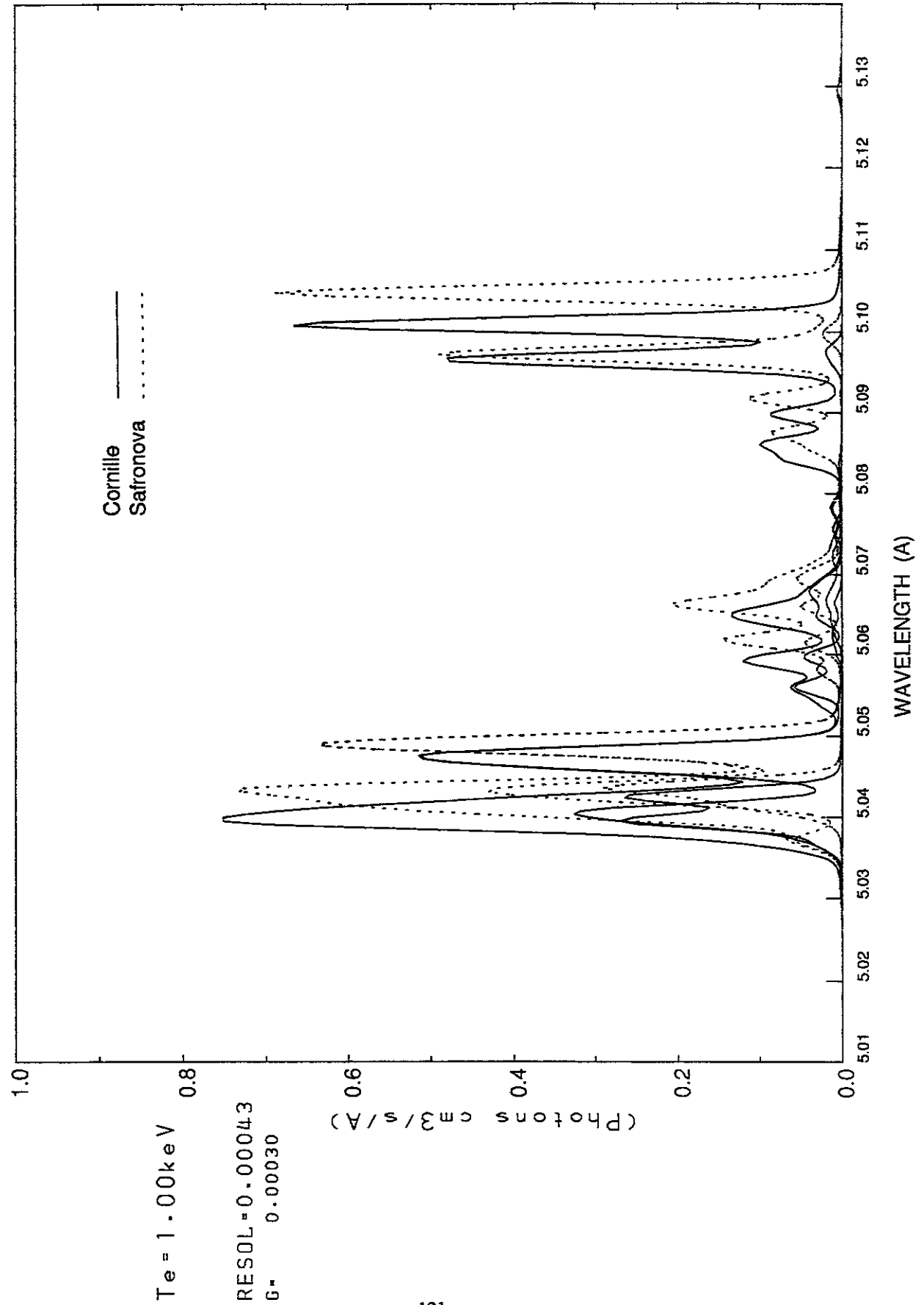
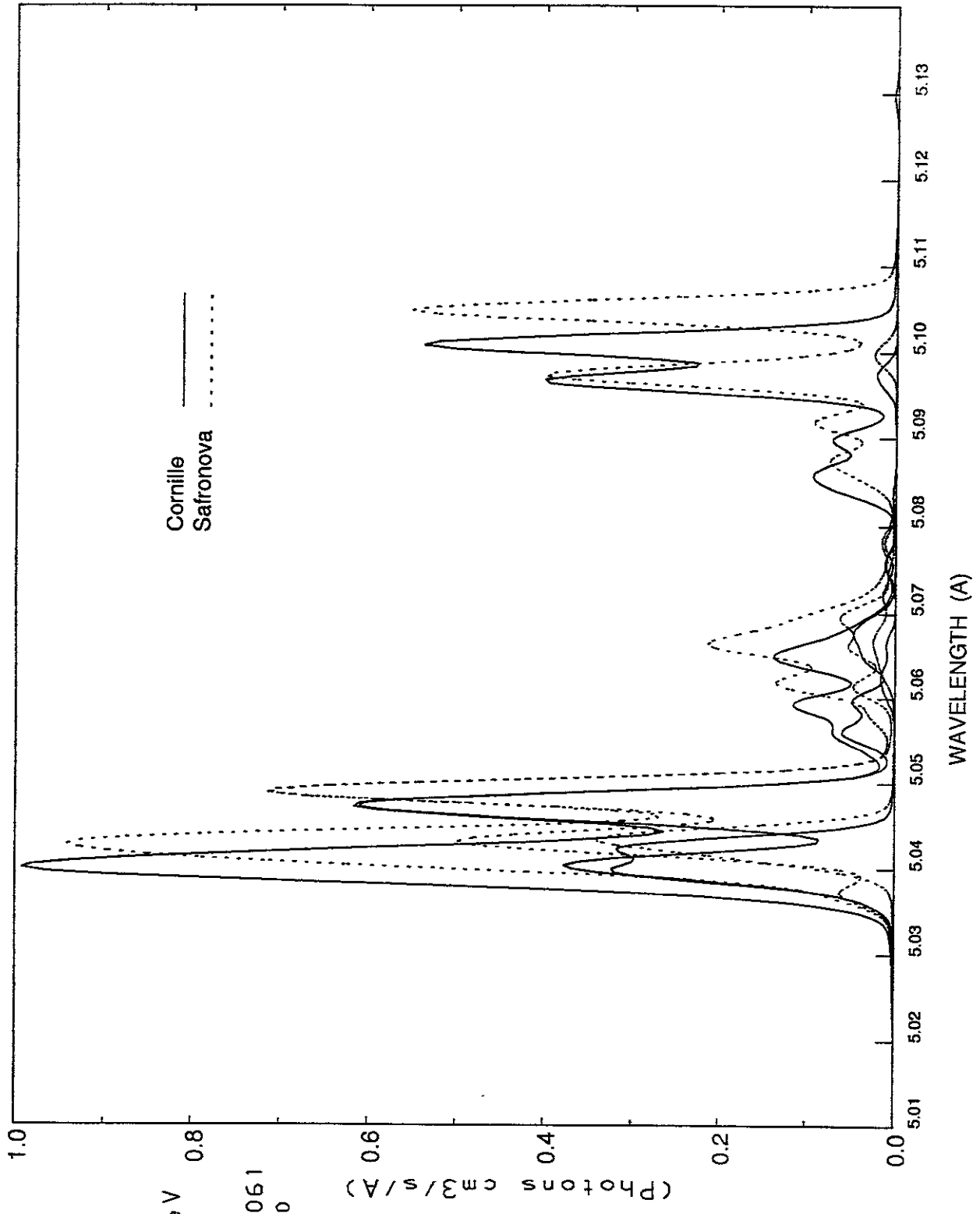


Fig.12(a)
(ii)

7.0×10^{-11}



$T_e = 2.00 \text{ keV}$
 $\text{RESOL} = 0.00061$
 $G = 0.00030$

Fig.12(a)
(iii)

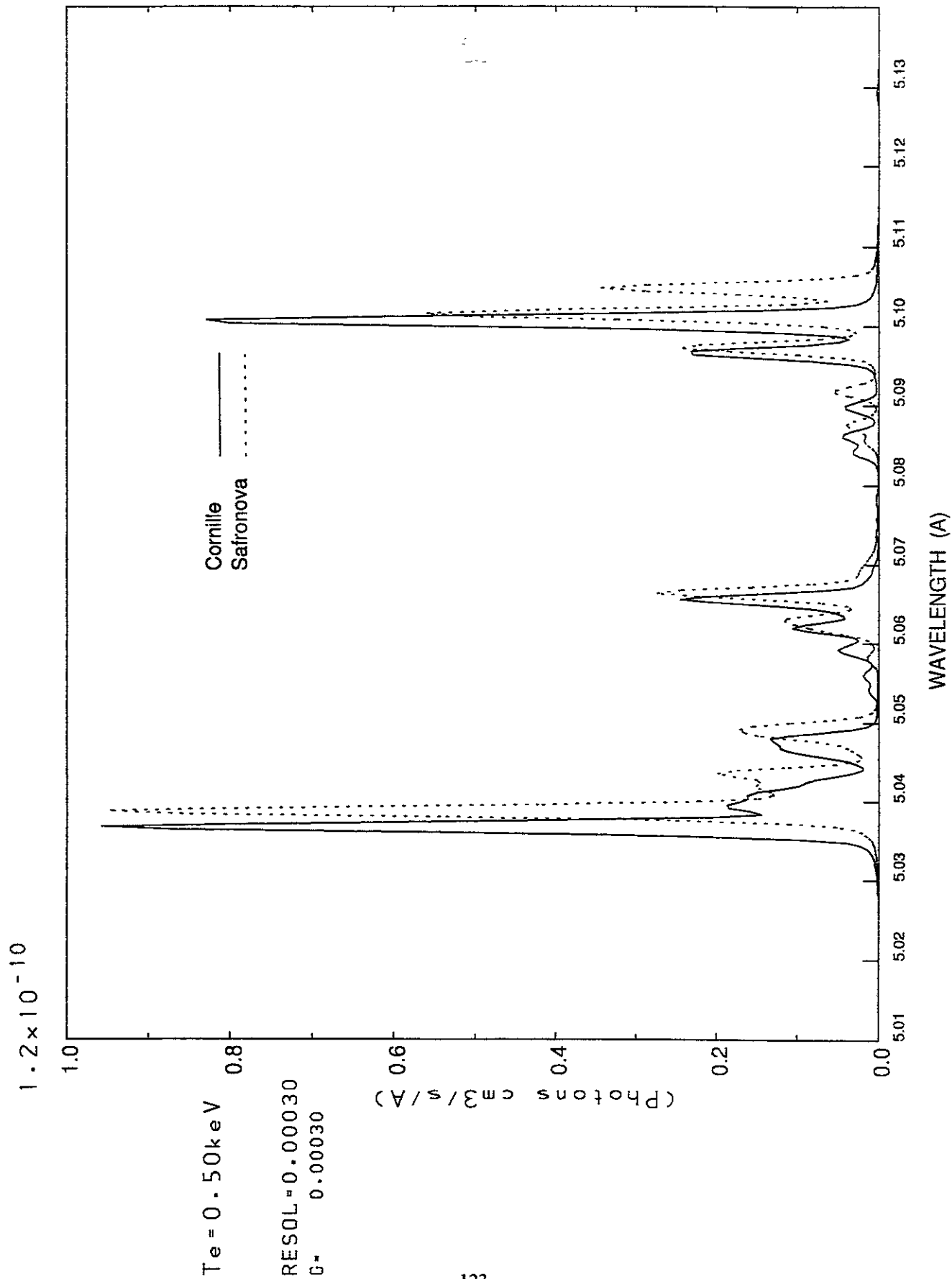
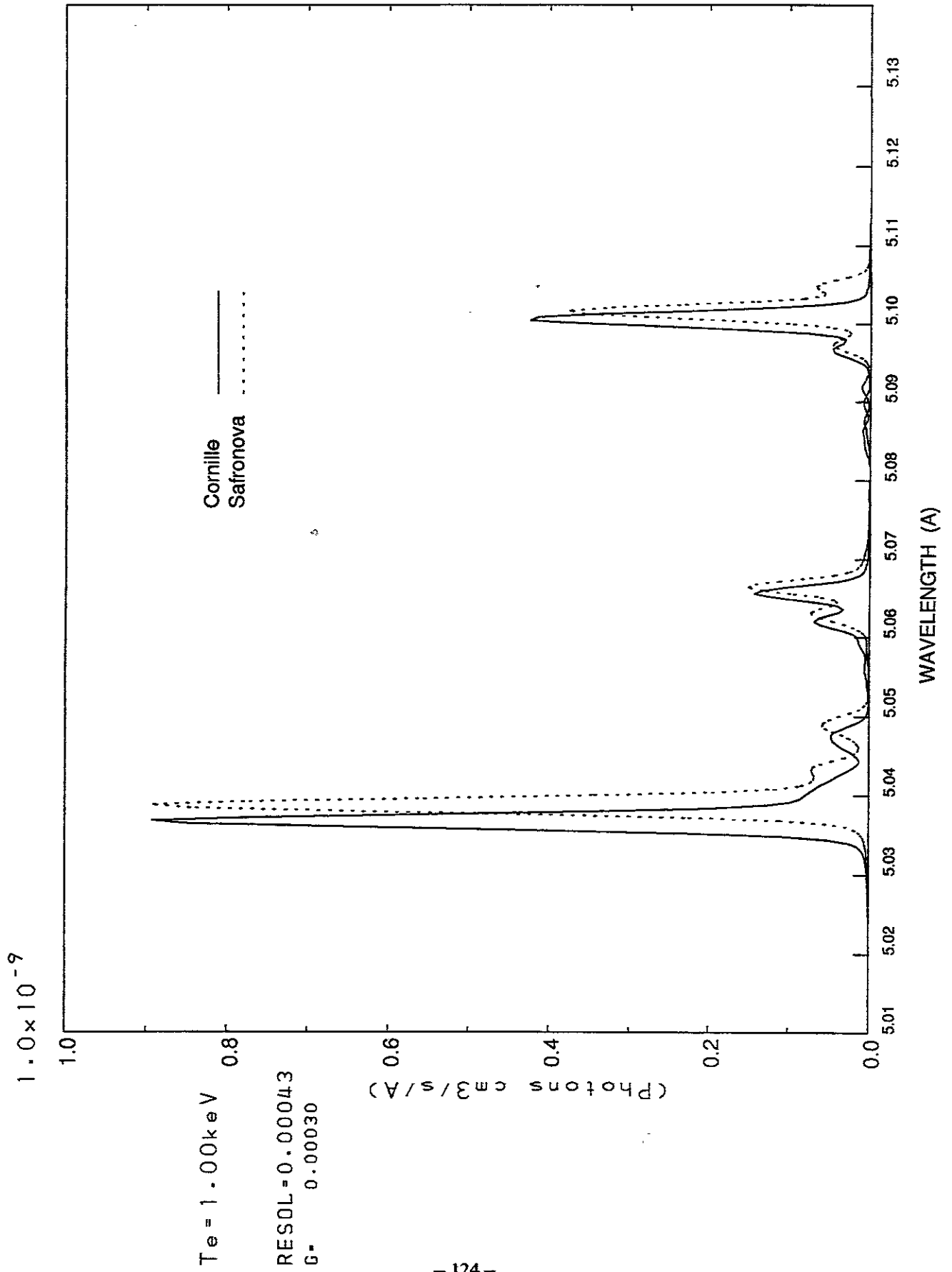


Fig.12(b)
(i)

Fig.12(b)
(ii)



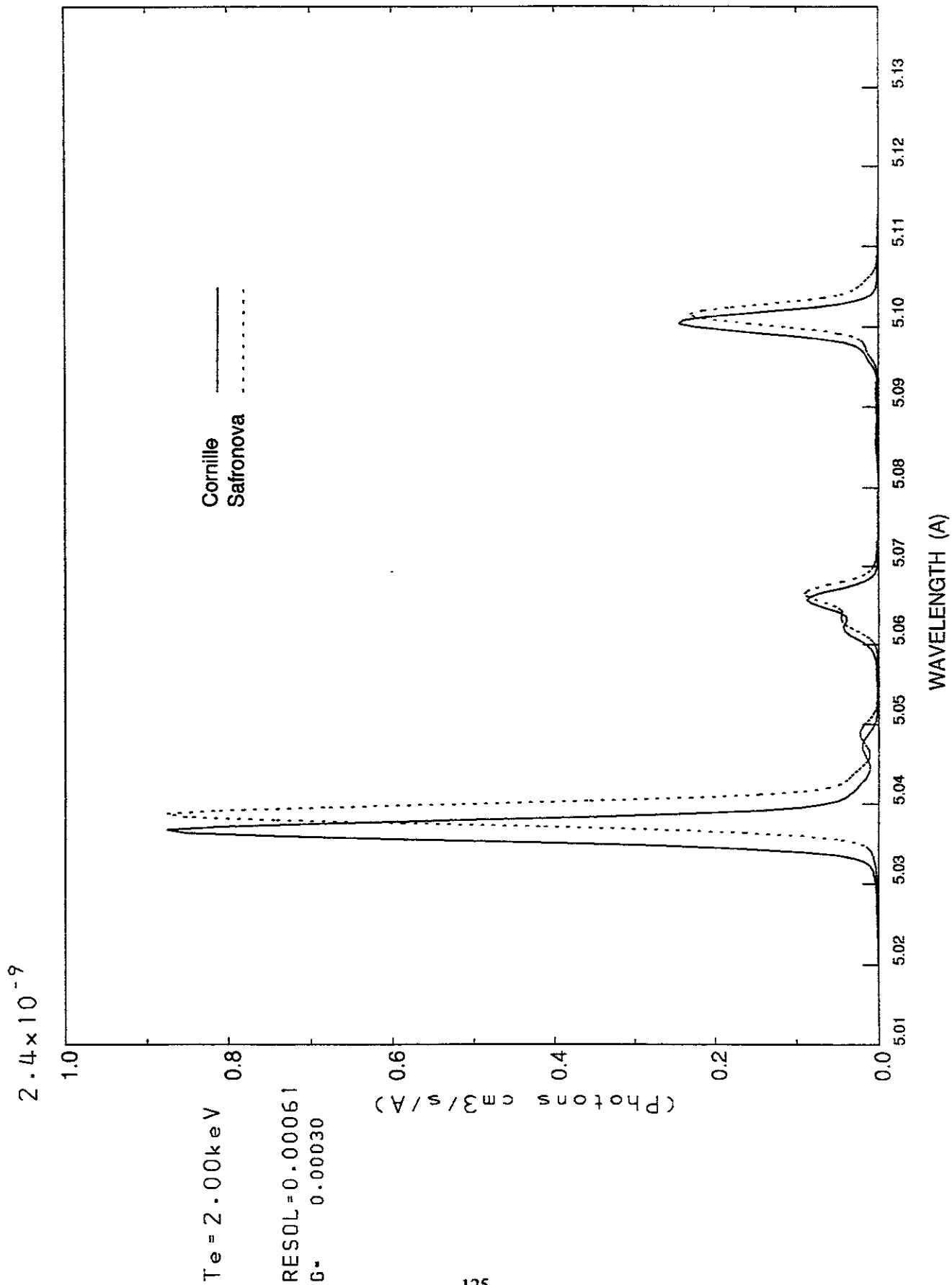


Fig.12(b)
(iii)

Fig.13(a)

FeXXV Spectra

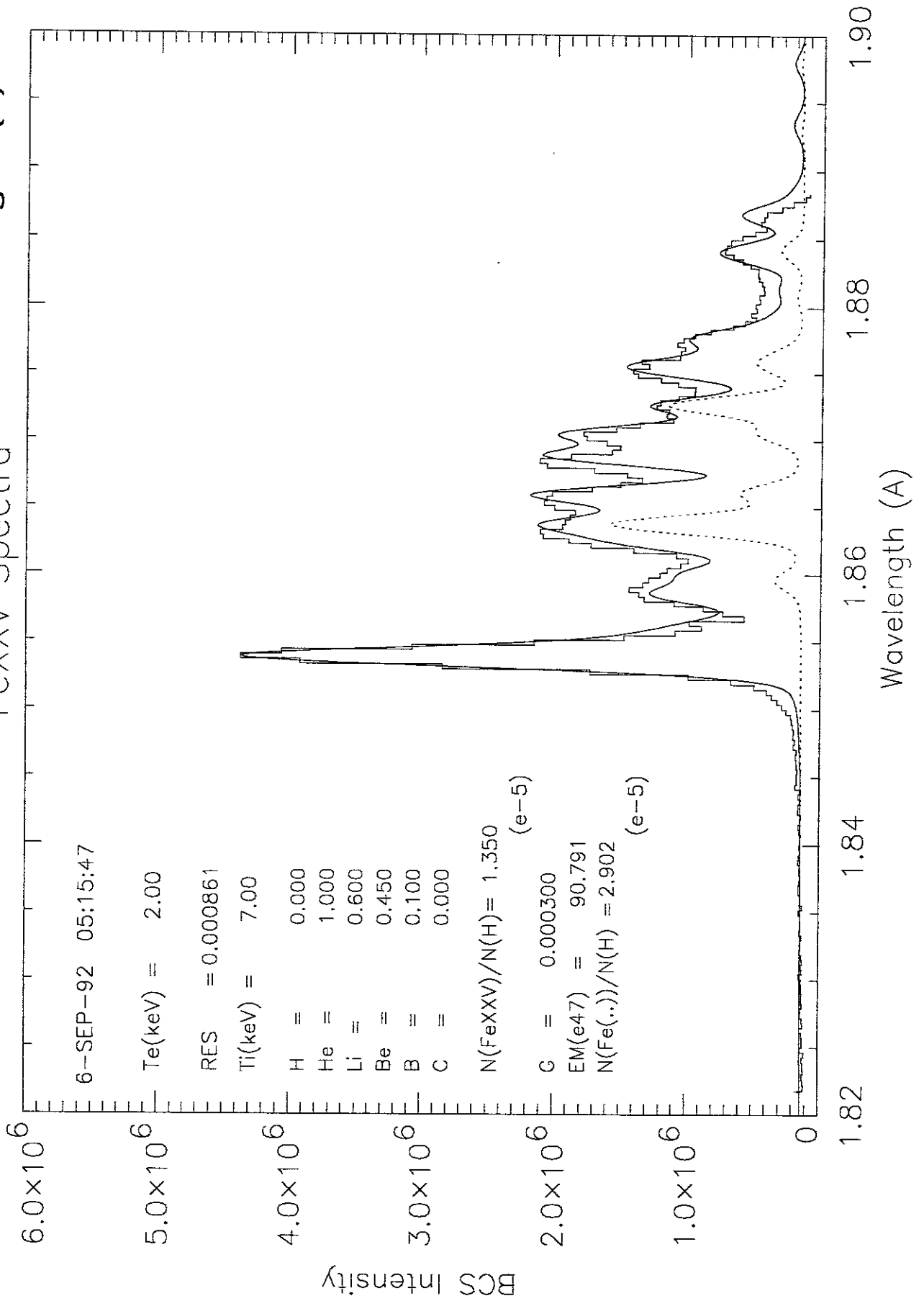
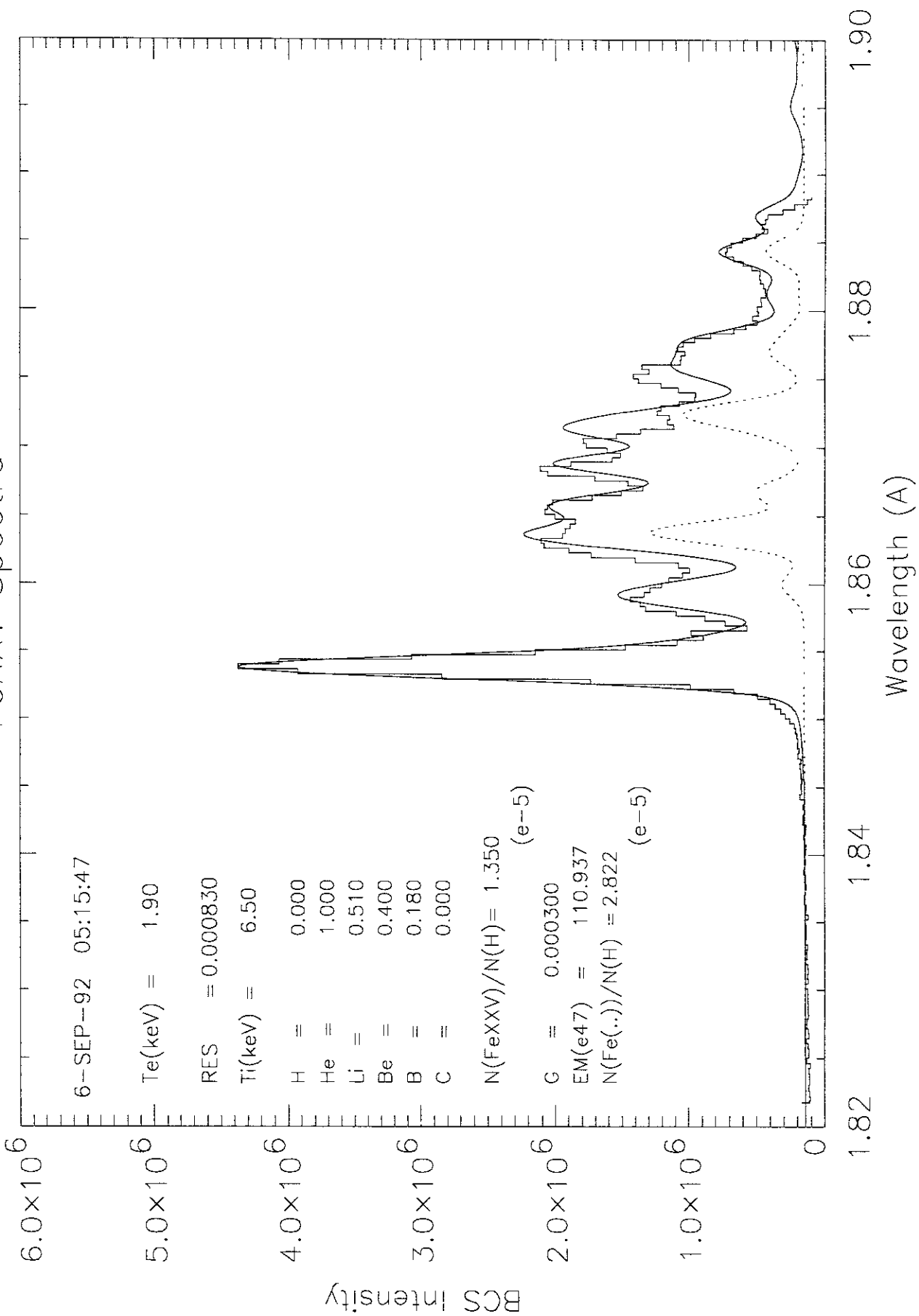


Fig.13(b)

FeXXV Spectra



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*Energy Dependence of Ion-Induced Sputtering Yields from
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