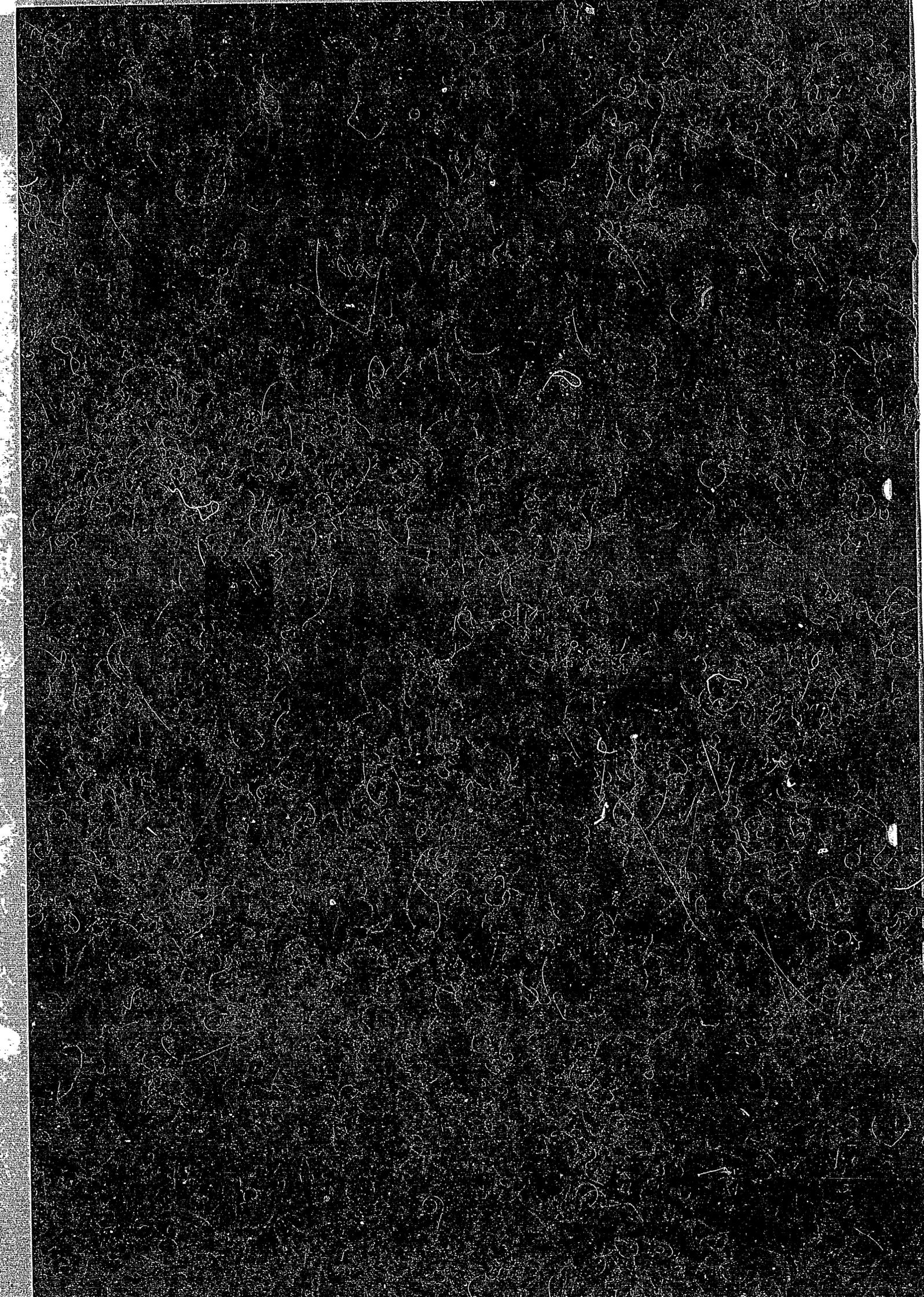


**WAVELENGTHS OF K X-RAYS
OF IRON IONS**

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IPPJ-AM-49

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March 1987

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§1. Introduction

K-X rays are useful for diagnostics of laboratory and astrophysical plasmas. Intensities of K-X rays in different ionization stages are usually used to know a plasma state. Electron temperatures are derived from dielectronic-satellite-line to resonance-line ratios. In this paper wavelengths of K-X rays are presented for all ions of Fe.

All the available data are tabulated without evaluating them in §3 for wavelengths and §5 for transition probabilities. The experimental data based on plasmas are few compared to the theoretical ones.

The detailed theoretical data including satellite lines have recently been produced for highly ionized ions such as Fe^{+25} , Fe^{+24} and Fe^{+23} .

But for low charge state ions, data are not sufficient.

Data obtained by experiments using the accelerator are included, although the electron configurations in the transitions may be different from those by plasma. These data also contain two electron transitions which are seldomly observed in high temperature plasmas.

Data by accelerator are listed separately from data by plasma in Tables.

Grotorian diagrams for iron ions¹ and spectroscopic data for iron² have been already published. These references mainly include the transitions between outer shells and/or the ground state but not those with vacancies in the inner-shells. Then our compilation can be complementary for the databooks mentioned above.

The selected wavelengths with four digits for 1s-2p and 1s-3p transitions which are considered to give prominent emissions in plasma for each ionization stage are listed in Tables I and II in this section, respectively. For more accurate values and detailed transitions see §3. The reference numbers in these tables are the same as those given in §6.

Acknowledgement

The authors wish to thank Professor T. Kagawa of Nara Women's University for his useful comments. They also acknowledge Dr. R. Ogasawara at KEK for making the computer program for tables and Miss M. Ohnishi for typing and preparing tables.

References for Introduction

1. K. Mori, M. Otsuka and T. Kato, Atomic Data and Nuclear Data Tables, 23, 195 (1979)
2. W.L. Wiese (Editor), ORNL-6089/V4 (1985)

Table I. 1s-2p transitions for Fe ions in various ionization stages

ionic charge	$\lambda(\text{\AA})$	Transition	Ref.	Key
1	1.936	$1s^2 2s^2 2p^2_{1/2} 2p^3_{3/2} 3s^2 3p^6 3d^6 4s - 1s 2s^2 2p^6 3s^2 3p^6 3d^6 4s$	1E	$K\alpha_1$
1	1.940	$1s^2 2s^2 2p_{1/2} 2p^4_{3/2} 3s^2 3p^6 3d^6 4s - 1s 2s^2 2p^6 3s^2 3p^6 3d^6 4s$	1E	$K\alpha_2$
2	1.936	$1s^2 2s^2 2p^2_{1/2} 2p^3_{3/2} 3s^2 3p^6 3d^6 - 1s 2s^2 2p^6 3s^2 3p^6 3d^6$	20T	
3	1.937	$1s^2 2s^2 2p^5 3s^2 3p^6 3d^6 - 1s 2s^2 2p^6 3s^2 3p^6 3d^6$	1T	
4	1.937	$1s^2 2s^2 2p^5 3s^2 3p^6 3d^5 - 1s 2s^2 2p^6 3s^2 3p^6 3d^5$	1T	
5	1.937	$1s^2 2s^2 2p^5 3s^2 3p^6 3d^4 - 1s 2s^2 2p^6 3s^2 3p^6 3d^4$	1T	
6	1.937	$1s^2 2s^2 2p^5 3s^2 3p^6 3d^3 - 1s 2s^2 2p^6 3s^2 3p^6 3d^3$	1T	
7	1.938	$1s^2 2s^2 2p^5 3s^2 3p^6 3d^2 - 1s 2s^2 2p^6 3s^2 3p^6 3d^2$	1T	
8	1.938	$1s^2 2s^2 2p^5 3s^2 3p^6 3d - 1s 2s^2 2p^6 3s^2 3p^6 3d$	1T	
9	1.938	$1s^2 2s^2 2p^5 3s^2 3p^6 - 1s 2s^2 2p^6 3s^2 3p^6$	1T	
10	1.937	$1s^2 2s^2 2p^5 3s^2 3p^5 - 1s 2s^2 2p^6 3s^2 3p^5$	1T	
11	1.936	$1s^2 2s^2 2p^2_{1/2} 3p^3_{3/2} - 1s 2s^2 2p^6$	1T	
12	1.934	$1s^2 2s^2 2p^5 3s^2 3p^3 - 1s 2s^2 2p^6 3s^2 3p^3$	1T	
13	1.933	$1s^2 2s^2 2p^5 3s^2 3p^2 - 1s 2s^2 2p^6 3s^2 3p^2$	1T	
14	1.931	$1s^2 2s^2 2p^5 3s^2 3p - 1s 2s^2 2p^6 3s^2 3p$	1T	
15	1.930	$1s^2 2s^2 2p^5 3s^2 - 1s 2s^2 2p^6 3s^2$	1T	
16	1.928	$1s^2 2s^2 2p^5 3s - 1s 2s^2 2p^6 3s$	1T	
17	1.927	$1s^2 2s^2 2p^5 - 1s 2s^2 2p^6$	1T	
18	1.913	$1s^2 2s^2 2p^4(^3P_2) - 1s 2s^2 2p^5(^3P_1)$	21T	
19	1.905	$1s^2 2s^2 2p^3(^4S_{3/2}) - 1s 2s^2 2p^4(^4P_{1/2})$	10E	
20	1.897	$1s^2 2s^2 2p^2(^3P_1) - 1s 2s^2 2p^3(^3D_2)$	10E	
21	1.882	$1s^2 2s^2 2p(^2P_{1/2}) - 1s 2s^2 2p^2(^2D_{3/2})$	10E	
22	1.871	$1s^2 2s^2(^1S_0) - 1s 2s^2 2p(^1P_1)$	9E	β
23	1.861	$1s^2 2s(^2S_{1/2}) - 1s 2p(^1P) 2s(^2P_{3/2})$	9E	q
24	1.850	$1s^2(^1S_0) - 1s 2p(^1P_1)$	13T	w
25	1.778	$1s(^2S_{1/2}) - 2p(^2P_{3/2})$	8T	
25	1.783	$1s(^2S_{1/2}) - 2p(^2P_{1/2})$	8T	

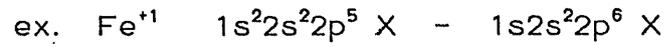
Table II. 1s-3p transitions for Fe ions in various ionization stages

ionic charge	$\lambda(\text{\AA})$	Transition	Ref.	Key
1	1.757	$1s^2 2s^2 2p^6 3s^2 3p_{1/2} 3p_{3/2}^4 3d^6 4s^2 - 1s 2s^2 2p^6 3s^2 3p^6 3d^6 4s^2$	1E	$K\beta_{1,3}$
2	1.757	$1s^2 2s^2 2p^6 3s^2 3p^5 3s^6 4s - 1s 2s^2 2p^6 3s^2 3p^6 3d^6 4s$	7E	
3	1.757	$1s^2 2s^2 2p^6 3s^2 3p^5 3d^6 - 1s 2s^2 2p^6 3s^2 3p^6 3d^6$	7E	
4	1.757	$1s^2 2s^2 2p^6 3s^2 3p^5 3d^5 - 1s 2s^2 2p^6 3s^2 3p^6 3d^5$	7E	
5	1.756	$1s^2 2s^2 2p^6 3s^2 3p^5 3d^4 - 1s 2s^2 2p^6 3s^2 3p^6 3d^4$	7E	
6	1.755	$1s^2 2s^2 2p^6 3s^2 3p^5 3d^3 - 1s 2s^2 2p^6 3s^2 3p^6 3d^3$	7E	
7	1.754	$1s^2 2s^2 2p^6 3s^2 3p^5 3d^2 - 1s 2s^2 2p^6 3s^2 3p^6 3d^2$	18E	
8	1.752	$1s^2 2s^2 2p^6 3s^2 3p^5 3d - 1s 2s^2 2p^6 3s^2 3p^6 3d$	18E	
9	1.750	$1s^2 2s^2 2p^6 3s^2 3p^5 - 1s 2s^2 2p^6 3s^2 3p^6$	18E	
10	1.747	$1s^2 2s^2 2p^6 3s^2 3p^4 - 1s 2s^2 2p^6 3s^2 3p^5$	18E	
11	1.744	$1s^2 2s^2 2p^6 3s^2 3p^3 - 1s 2s^2 2p^6 3s^2 3p^4$	18E	
12	1.741	$1s^2 2s^2 2p^6 3s^2 3p^2 - 1s 2s^2 2p^6 3s^2 3p^3$	18E	
13	1.737	$1s^2 2s^2 2p^6 3s^2 3p - 1s 2s^2 2p^6 3s^2 3p^2$	18E	
14	1.733	$1s^2 2s^2 2p^6 3s^2 - 1s 2s^2 2p^6 3s^2 3p$	18E	
15	1.728	$1s^2 2s^2 2p^6 3s - 1s 2s^2 2p^6 3s 3p$	18E	
16	1.723	$1s^2 2s^2 2p^6 - 1s 2s^2 2p^6 3p$	18E	
17	1.705	$1s^2 2s^2 2p^5 - 1s 2s^2 2p^5 3p$	7E	
18	1.685	$1s^2 2s^2 2p^4 - 1s 2s^2 2p^4 3p$	7E	
19	1.665	$1s^2 2s^2 2p^3 - 1s 2s^2 2p^3 3p$	7E	
20	1.645	$1s^2 2s^2 2p^2 - 1s 2s^2 2p^2 3p$	7E	
21	1.626	$1s^2 2s^2 2p - 1s 2s^2 2p 3p$	7E	
22	1.606	$1s^2 2s^2 - 1s 2s^2 3p$	7E	
23	1.585	$1s^2 2s(^2S_{1/2}) - 1s 2s(^1S) 3p(^2P_{3/2})$	15T	
24	1.574	$1s^2(^1S_0) - 1s 3p(^1P_1)$	15T	
25	1.502	$1s(^2S_{1/2}) - 3p(^2P_{3/2})$	8T	
25	1.503	$1s(^2S_{1/2}) - 3p(^2P_{3/2})$	8T	

§2. Explanation of Tables for Wavelengths

Fe +21	Ion species of iron
$(1s^2 2s^2 2p^2 P_{1/2})$	Electronic configuration of the ground state
$\lambda(\text{\AA})$	Wavelengths of listed spectral lines in Angstrom units (10^{-8}cm)
error	Error for wavelength in Angstrom units
E(keV)	Energy of listed spectral line in keV units
error	Error for energy in keV units
Method	E : Experimental data by plasma T : Theoretical data for plasma experiment EA: Experimental data by accelerator TA: Theoretical data for accelerator experiment (N): Wavelength indicated with (N) is used as a standard.
Ref.	Reference source for the data. The numbers are keyed to the bibliographic list following the Tables. T and E mean theory and experiment, respectively.
Key	Symbol for the identification of the transition
Transition	Configurations for lower (first) and upper levels of the spectral line. When the configuration outside L-shell does not change after the transition, only the configuration inside L-shell, which does change, is indicated. ex. $\text{Fe}^{+1} \quad 1s^2 2s^2 2p_{1/2} 2p_{3/2}^4 - 1s 2s^2 2p^6$

When the configuration in the outer region is not defined, it is indicated by X.



For the data from the reference TA, the configuration in the outer region is considered as that of the ground state.

§3. Tables for Wavelength

Fe +2 ($1s^2 2s^2 2p^6 3s^2 3p^6 3d^6 \ ^5D_4$)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.9360	1E-04	6.4042	2E-04	T	20T		$1s^2 2s^2 2p^2 \ ^1_{1/2} 2p^3$ $1s^2 2s^2 2p^6$
1.7573		7.0554		T	7E		$1s^2 2s^2 2p^6 3s^2 3p^5 3d^5 4s$ $1s^2 2s^2 2p^6 3s^2 3p^5 3d^5 4s$
1.916	2E-03	6.470	3E-03	EA	6E		$1s^2 2s^2 2p^4$ X $1s^2 2s^2 2p^5$ X
1.9264	6E-04	6.436	1E-03	EA	8E		$1s^2 2s^2 2p^4$ X $1s^2 2s^2 2p^5$ X
1.9276	6E-04	6.432	1E-03	EA	8E		$1s^2 2s^2 2p^4$ X $1s^2 2s^2 2p^5$ X
1.9261	6E-04	6.437	1E-03	EA	2T		$1s^2 2s^2 2p^4$ X $1s^2 2s^2 2p^5$ X
1.9274		6.4328		EA	20E		$1s^2 2s^2 2p^4$ X $1s^2 2s^2 2p^5$ X
1.928		6.430		TA	7T		$1s^2 2s^2 2p^4$ $1s^2 2s^2 2p^5$
0.961	1E-03	12.907	9E-03	EA	12E		$1s^2 2s^2 2p_{1/2} 2p^4$ X $2s^2 2p^6$ X
0.9587		12.932		TA	12E		$1s^2 2s^2 2p_{1/2} 2p^4$ $2s^2 2p^6$
0.957	1E-03	12.953	9E-03	EA	12E		$1s^2 2s^2 2p^2 \ ^1_{1/2} 2p^3$ $2s^2 2p^6$ X
0.9568		12.958		TA	12E		$1s^2 2s^2 2p^2 \ ^1_{1/2} 2p^3$ $2s^2 2p^6$
0.9552		12.98		TA	7T		$1s^2 2s^2 2p^5$ $2s^2 2p^6$
0.950	4E-03	13.048	2E-02	EA	4E		$1s^2 2s^2 2p^5$ X $2s^2 2p^6$ X
0.9654		12.843		TA	10T		$1s^2 2s^2 2p^5$ $2s^2 2p^6$
0.9633		12.871		TA	10T		$1s^2 2s^2 2p^5$ $2s^2 2p^6$
0.952	1E-03	13.025	1E-02	EA	22E		$1s^2 2s^2 2p^5$ X $2s^2 2p^6$ X
0.9070		13.67		TA	7T		$1s^2 2s^2 2p^6 3s^2 3p^5$ $2s^2 2p^6 3s^2 3p^6$
1.8621		6.6582		TA	26T		$1s^2 2s^2 2p_{1/2} 2p^4$ $2s^2 2p^6$

Fe +1 (1s²2s²2p⁶3s²3p⁶3d⁶4s⁰D_{9/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.93998	2E-05	6.39106	3E-05	E	1E	K α_2	1s ² 2s ² 2p _{1/2} 2p ⁴ _{3/2} 1s2s ² 2p ⁶
1.9400		6.3910		E	10E	K α_2	1s ² 2s ² 2p _{1/2} 2p ⁴ _{3/2} 1s2s ² 2p ⁶
1.93604	2E-05	6.40406	3E-05	E	1E	K α_1	1s ² 2s ² 2p ² _{1/2} 2p ³ _{3/2} 1s2s ² 2p ⁶
1.9360		6.4042		E	10E	K α_1	1s ² 2s ² 2p ² _{1/2} 2p ³ _{3/2} 1s2s ² 2p ⁶
1.75661	4E-05	7.05821	8E-05	E	1E	K $\beta_{1,3}$	1s ² 2s ² 2p ⁶ 3s ² 3p _{1/2} 3p ⁴ _{3/2} 1s2s ² 2p ⁶ 3s ² 3p ⁶
1.7574		7.0550		T	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 3d ⁶ 4s ² 1s2s ² 2p ⁶ 3s ² 3p ⁶ 3d ⁶ 4s ²
1.7442	2E-04	7.1084	4E-04	E	1E	K β_5	1s ² 2s ² 2p ⁶ 3s ² 3p ⁶ 3d ⁴ _{3/2} 3d ⁵ _{5/2} 1s2s ² 2p ⁶ 3s ² 3p ⁶ 3d ¹⁰
1.940		6.391		EA(N)	8E	K α_2	1s ² 2s ² 2p _{1/2} 2p ⁴ _{3/2} X 1s2s ² 2p ² _{1/2} 2p ⁴ _{3/2} X
1.936		6.404		EA(N)	8E	K α_1	1s ² 2s ² 2p ² _{1/2} 2p ³ _{3/2} X 1s2s ² 2p ² _{1/2} 2p ⁴ _{3/2} X
1.937		6.401		EA(N)	8E		1s ² 2s ² 2p ⁵ X 1s2s ² 2p ⁶ X
1.9358	6E-04	6.405	1E-03	EA	2T		1s ² 2s ² 2p ⁵ X 1s2s ² 2p ⁶ X
1.936	6E-03	6.406	1E-02	TA	7T		1s ² 2s ² 2p ⁵ X 1s2s ² 2p ⁶
1.756		7.060		TA	7T		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 1s2s ² 2p ⁶ 3s ² 3p ⁶

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.863	1E-03	6.655	2E-03	EA	12E		$1s2s^22p_{1/2}2p_{3/2}^4$ X $2s^22p^6$ X
1.862	1E-03	6.659	2E-03	EA	21E		$1s2s^22p_{1/2}2p_{3/2}^4$ X $2s^22p^6$ X
1.862		6.658		TA	24T		$1s2s^22p_{1/2}2p_{3/2}^4$ $2s^22p^6$
1.862	1E-03	6.659	2E-03	EA	23E		$1s2s^22p_{1/2}2p_{3/2}^4$ X $2s^22p^6$ X
1.862	1E-03	6.658	2E-03	EA	5E		$1s2s^22p_{1/2}2p_{3/2}^4$ X $2s^22p^53s^23p^63d^64s^2$ X
1.8566		6.6780		TA	26T		$1s2s^22p^2_{1/2}2p^3_{3/2}$ $2s^22p^6$
1.858	1E-03	6.675	2E-03	EA	12E		$1s2s^22p^2_{1/2}2p^3_{3/2}$ X $2s^22p^6$ X
1.856	2E-03	6.679	3E-03	EA	23E		$1s2s^22p^2_{1/2}2p^3_{3/2}$ X $2s^22p^6$ X
1.857		6.675		TA	24T		$1s2s^22p^2_{1/2}2p^3_{3/2}$ X $2s^22p^6$ X
1.879		6.597		TA	10T		$1s2s^22p^5$ $2s^22p^6$
1.676		7.397		TA	24T		$1s2s^22p^63s^23p^5$ $2s^22p^63s^23p^6$

Fe +3 (1s²2s²2p⁵3s²3p⁵3d⁵ ⁶S_{5/2})

λ (Å)	error	E(keV)	error	Method	Ref.	Key	Transition
1.937		6.400		T	1T		1s ² 2s ² 2p ⁵ 3s ² 3p ⁵ 3d ⁵ 1s2s ² 2p ⁵ 3s ² 3p ⁵ 3d ⁵
1.7573		7.0554		T	7E		1s ² 2s ² 2p ⁵ 3s ² 3p ⁵ 3d ⁵ 1s2s ² 2p ⁵ 3s ² 3p ⁵ 3d ⁵
1.9154	6E-04	6.473	1E-03	EA	8E		1s ² 2s ² 2p ³ X 1s2s ² 2p ⁴ X
1.9172	6E-04	6.467	1E-03	EA	8E		1s ² 2s ² 2p ³ X 1s2s ² 2p ⁴ X
1.9172	6E-04	6.467	1E-03	EA	2T		1s ² 2s ² 2p ³ X 1s2s ² 2p ⁴ X
1.920		6.459		TA	7T		1s ² 2s ² 2p ³ 1s2s ² 2p ⁴
0.9501		13.05		TA	7T		1s ² 2s2p ⁴ 2s ² 2p ⁵
0.947	2E-03	13.09	1E-02	EA	6E		1s ² 2s2p ⁴ X 2s ² 2p ⁵ X
0.9580		12.942		TA	10T		1s ² 2s2p ⁴ 2s ² 2p ⁵
0.9004		13.77		TA	7T		1s ² 2s2p ⁵ 3s ² 3p ⁵ 2s ² 2p ⁵ 3s ² 3p ⁵
1.868		6.639		TA	10T		1s2s ² 2p ⁴ 2s ² 2p ⁵

Fe +4 (1s²2s²2p⁶3s²3p⁵3d⁴ ⁵D₀)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.937		6.400		T	1T		1s ² 2s ² 2p ⁵ 3s ² 3p ⁵ 3d ⁵ 1s2s ² 2p ⁶ 3s ² 3p ⁵ 3d ⁵
1.7567		7.0578		T	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 3d ⁵ 1s2s ² 2p ⁶ 3s ² 3p ⁵ 3d ⁵
1.9037	6E-04	6.513	1E-03	EA	8E		1s ² 2s ² 2p ² X 1s2s ² 2p ³ X
1.9057	6E-04	6.506	1E-03	EA	8E		1s ² 2s ² 2p ² X 1s2s ² 2p ³ X
1.9075	6E-04	6.500	1E-03	EA	2T		1s ² 2s ² 2p ² X 1s2s ² 2p ³ X
1.928		6.430		TA	2T		1s ² 2s ² 2p ⁴ 1s2s ² 2p ⁵
0.9443		13.13		TA	7T		1s ² 2s2p ³ 2s ² 2p ⁴
0.8933		13.88		TA	7T		1s ² 2s2p ⁴ 3s ² 3p ⁵ 2s ² 2p ⁴ 3s ² 3p ⁵
1.931		6.422		TA	2T		1s ² 2s2p ⁵ 1s2s2p ⁶

Fe +5 ($1s^2 2s^2 2p^5 3s^2 3p^5 3d^4$)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.937		6.400		T	1T		$1s^2 2s^2 2p^5 3s^2 3p^5 3d^4$
1.7559		7.0611		T	7E		$1s 2s^2 2p^6 3s^2 3p^5 3d^4$
1.924		6.444		TA	2T		$1s^2 2p^6$
1.891	1E-03	6.556	2E-03	EA	8E		$1s^2 2s^2 2p^2$ X
1.8941	6E-04	6.546	1E-03	EA	8E		$1s^2 2s^2 2p^2$ X
1.919		6.460		TA	2T		$1s^2 2s^2 2p^4$
1.928		6.432		TA	2T		$1s^2 2s^2 2p^4 3s^2 3p^5$
1.922		6.452		TA	2T		$1s^2 2s^2 2p^5$

Fe +6 (1s²2s²2p⁶3s²3p⁶3d² ³F₂)

λ (Å)	error	E(keV)	error	Method	Ref.	Key	Transition
1.9366	1E-04	6.4023	2E-04	T	20T		1s ² 2s ² 2p ² _{1/2} 2p ³ _{3/2} 1s2s ² 2p ⁶
1.937		6.400		T	1T		1s ² 2s ² 2p ⁵ 3s ² 3p ⁶ 3d ³ 1s2s ² 2p ⁶ 3s ² 3p ⁵ 3d ³
1.754	1E-03	7.069	2E-03	T	20T		1s ² 2s ² 2p ⁶ 3s ² 3p ^{1/2} 3p ⁴ _{3/2} 1s2s ² 2p ⁶ 3s ² 3p ⁶
1.7553		7.0635		T	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 3d ³ 1s2s ² 2p ⁶ 3s ² 3p ⁵ 3d ³
1.915		6.476		TA	2T		1s ² 2p ⁴ 1s2p ⁵
1.876	2E-03	6.608	4E-03	EA	8E		1s ² 2s ² X 1s2s ² 2p X
1.881	1E-03	6.590	2E-03	EA	8E		1s ² 2s ² X 1s2s ² 2p X
1.910		6.492		TA	2T		1s ² 2s ² 2p ² 1s2s ² 2p ³
1.918		6.464		TA	2T		1s ² 2s ² 2p ⁹ 3s ² 3p ⁵ 1s2s ² 2p ⁴ 3s ² 3p ⁵
1.927		6.435		TA	2T		1s ² 2s ² 2p ⁴ 3s ² 3p ⁴ 1s2s ² 2p ⁵ 3s ² 3p ⁴
1.912		6.484		TA	2T		1s ² 2s2p ⁹ 1s2s2p ⁴

Fe +7 (1s²2s²2p⁵3s²3p⁶3d²D_{3/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.938		6.397		T	1T		1s ² 2s ² 2p ⁵ 3s ² 3p ⁵ 3d ² 1s2s ² 2p ⁵ 3s ² 3p ⁵ 3d ²
1.7533		7.0715		T	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 3d ² 1s2s ² 2p ⁶ 3s ² 3p ⁵ 3d ²
1.7540	5E-04	7.0687	1E-03	E	18E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 3d ² 1s2s ² 2p ⁶ 3s ² 3p ⁵ 3d ²
1.917		6.467		TA	2T		1s ² 2s ² 2p ³ 3s ² 3p ⁴ 1s2s ² 2p ⁴ 3s ² 3p ⁴
1.926		6.438		TA	2T		1s ² 2s ² 2p ⁴ 3s ² 3p ³ 1s2s ² 2p ⁵ 3s ² 3p ³

Fe +8 (1s²2s²2p⁵3s²3p⁶ 1S₀)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.938		6.397		T	1T		1s ² 2s ² 2p ⁵ 3s ² 3p ⁶ 3d
1.7517		7.0780		T	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 3d
1.752		7.077		E	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 3d
1.7524	4E-04	7.0752	8E-04	E	18E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 3d
1.916		6.470		TA	2T		1s ² 2s ² 2p ³ 3s ² 3p ³
1.925		6.442		TA	2T		1s ² 2s ² 2p ⁴ 3s ² 3p ²

Fe +9 (1s²2s²2p⁶3s²3p⁵ ²P_{3/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.938		6.397		T	1T		1s ² 2s ² 2p ⁵ 3s ² 3p ⁶ 1s2s ² 2p ⁶ 3s ² 3p ⁶
1.7498		7.0857		T	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 1s2s ² 2p ⁶ 3s ² 3p ⁶
1.750		7.085		E	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 1s2s ² 2p ⁶ 3s ² 3p ⁶
1.7498	5E-04	7.0857	1E-03	E	18E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵ 1s2s ² 2p ⁶ 3s ² 3p ⁶
1.915		6.474		TA	2T		1s ² 2s ² 2p ⁶ 3s ² 3p ² 1s2s ² 2p ⁴ 3s ² 3p ²
1.924		6.445		TA	2T		1s ² 2s ² 2p ⁴ 3s ² 3p 1s2s ² 2p ⁵ 3s ² 3p

Fe +10 (1s²2s²2p⁶3s²3p⁴ ³P₂)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.937		6.400		T	1T		1s ² 2s ² 2p ⁶ 3s ² 3p ⁵
1.747		7.097		E	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁴
1.7467	5E-04	7.0983	1E-03	E	18E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁴
1.7468		7.0978		T	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ⁴
1.914		6.478		TA	2T		1s ² 2s ² 2p ³ 3s ² 3p

Fe +11 ($1s^2 2s^2 2p^6 3s^2 3p^3 \ ^4S_{3/2}$)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.935	6E-04	6.408	1E-03	T	20T		$1s^2 2s^2 2p^2 \ ^1_2 2p^3$ $1s 2s^2 2p^5$
1.936		6.404		T	1T		$1s^2 2s^2 2p^5 3s^2 3p^4$ $1s 2s^2 2p^5 3s^2 3p^4$
1.741	3E-03	7.123	5E-03	T	20T		$1s^2 2s^2 2p^6 3s^2 3p_{1/2} 3p^2$ $1s 2s^2 2p^6 3s^2 3p^4$
1.7436	7E-04	7.1109	1E-03	E	18E		$1s^2 2s^2 2p^6 3s^2 3p^3$ $1s 2s^2 2p^6 3s^2 3p^4$
1.744		7.109		E	7E		$1s^2 2s^2 2p^6 3s^2 3p^3$ $1s 2s^2 2p^6 3s^2 3p^4$
1.7436		7.1109		T	7E		$1s^2 2s^2 2p^6 3s^2 3p^3$ $1s 2s^2 2p^6 3s^2 3p^4$
1.929		6.429		TA	2T		$1s^2 2s^2 2p^4 3s^2 3p^5$ $1s 2s^2 2p^5 3s^2 3p^5$

Fe +12 ($1s^2 2s^2 2p^6 3s^2 3p^2 \ ^3P_0$)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.934		6.410		T	1T		$1s^2 2s^2 2p^6 3s^2 3p^3$
1.7403		7.1244		T	7E		$1s^2 2s^2 2p^6 3s^2 3p^3$
1.741		7.122		E	7E		$1s^2 2s^2 2p^6 3s^2 3p^3$
1.741	1E-03	7.124	2E-03	E	18E		$1s^2 2s^2 2p^6 3s^2 3p^3$
1.919		6.461		TA	2T		$1s^2 2s^2 2p^6 3s^2 3p^4$
1.927		6.433		TA	2T		$1s^2 2s^2 2p^6 3s^2 3p^4$

Fe +13 (1s²2s²2p⁶3s²3p²P_{1/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.933		6.414		T	1T		1s ² 2s ² 2p ⁵ 3s ² 3p ²
1.7367		7.1391		T	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ²
1.737	1E-03	7.139	2E-03	E	18E		1s ² 2s ² 2p ⁶ 3s ² 3p ²
1.737		7.138		E	7E		1s ² 2s ² 2p ⁶ 3s ² 3p ²
1.918		6.465		TA	2T		1s ² 2s ² 2p ³ 3s ² 3p ⁴
1.926		6.437		TA	2T		1s ² 2s ² 2p ⁴ 3s ² 3p ³

Fe +14 (1s²2s²2p⁵3s² 1S₀)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.931		6.420		T	1T		1s ² 2s ² 2p ⁵ 3s ² 3p
1.733		7.154		E	7E		1s ² 2s ² 2p ⁶ 3s ²
1.7328		7.1552		T	7E		1s ² 2s ² 2p ⁶ 3s ² 3p
1.733	1E-03	7.155	2E-03	E	18E		1s ² 2s ² 2p ⁶ 3s ² 3p
1.916		6.470		TA	2T		1s ² 2s ² 2p ³ 3s ² 3p ³

Fe +15 (1s²2s²2p⁶3s²S_{1/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.930		6.424		T	1T		1s ² 2s ² 2p ⁵ 3s ² 1s2s ² 2p ⁶ 3s ²
1.729		7.171		E	7E		1s ² 2s ² 2p ⁶ 3s 1s2s ² 2p ⁵ 3s3p
1.728	1E-03	7.173	2E-03	E	18E		1s ² 2s ² 2p ⁶ 3s 1s2s ² 2p ⁶ 3s3p
1.7286		7.1726		T	7E		1s ² 2s ² 2p ⁶ 3s 1s2s ² 2p ⁵ 3s3p

Fe +16 (1s²2s²2p⁶ 1S₀)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.928		6.490		T	1T		1s ² 2s ² 2p ⁵ 3s
1.7233	7E-04	7.1946	1E-03	E	18E		1s2s ² 2p ⁶ 3p
1.724		7.192		E	7E		1s2s ² 2p ⁶ 3p
1.7243		7.1905		T	7E		1s2s ² 2p ⁶ 3p

Fe +17 ($1s^2 2s^2 2p^5 \ ^2P_{3/2}$)						
$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref. Key	Transition
1.7048		7.2727		T	7E	$1s^2 2s^2 2p^5$ $1s 2s^2 2p^5 3p$
1.927		6.434		T	1T	$1s^2 2s^2 2p^5$ $1s 2s^2 2p^6$

Fe +18 ($1s^2 2s^2 2p^4 \ ^3P_2$)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.6851		7.3577		T	7E		$1s^2 2s^2 2p^4$ $1s^2 s^2 2p^4 3p$
1.917		6.467		T	1T		$1s^2 2s^2 2p^4$ $1s^2 s^2 2p^5$
1.9135		6.4795		T	21T		$1s^2 2s^2 2p^4$ (1D_2) $1s^2 s^2 2p^5$ (1P_1)
1.9193		6.4599		T	21T		$1s^2 2s^2 2p^4$ (1S_0) $1s^2 s^2 2p^5$ (1P_1)
1.9163		6.4700		T	21T		$1s^2 2s^2 2p^4$ (3P_0) $1s^2 s^2 2p^5$ (3P_1)
1.9137		6.4788		T	21T		$1s^2 2s^2 2p^4$ (3P_1) $1s^2 s^2 2p^5$ (3P_0)
1.9185		6.4626		T	21T		$1s^2 2s^2 2p^4$ (3P_1) $1s^2 s^2 2p^5$ (3P_2)
1.9132		6.4805		T	21T		$1s^2 2s^2 2p^4$ (3P_2) $1s^2 s^2 2p^5$ (3P_1)
1.9153		6.4734		T	21T		$1s^2 2s^2 2p^4$ (3P_2) $1s^2 s^2 2p^5$ (3P_2)
1.985		6.246		TA	6T		$1s^2 2p^6$ (1S_0) $1s^2 s^2 2p^5$ (1P_1)
1.991		6.227		TA	6T		$1s^2 2p^6$ (1S_0) $1s^2 s^2 2p^5$ (3P_1)
1.910		6.491		TA	6T		$1s^2 2s^2 2p^4$ (1D_2) $1s^2 s^2 2p^5$ (1P_1)
1.915		6.474		TA	6T		$1s^2 2s^2 2p^4$ (1D_2) $1s^2 s^2 2p^5$ (3P_1)
1.917		6.468		TA	6T		$1s^2 2s^2 2p^4$ (1D_2) $1s^2 s^2 2p^5$ (3P_2)
0.939		13.2		TA	6T		$1s^2 2s^2 2p^4$ (1D_2) $2s^2 2p^5$ (1S_0)
1.915		6.474		TA	6T		$1s^2 2s^2 2p^4$ (1S_0) $1s^2 s^2 2p^5$ (1P_1)
1.920		6.458		TA	6T		$1s^2 2s^2 2p^4$ (1S_0) $1s^2 s^2 2p^5$ (3P_1)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.906		6.505		TA	6T		$1s^2 2s^2 2p^4 (^3P_0)$ $1s 2s^2 2p^5 (^1P_1)$
1.911		6.488		TA	6T		$1s^2 2s^2 2p^4 (^3P_0)$ $1s 2s^2 2p^5 (^3P_1)$
1.907		6.502		TA	6T		$1s^2 2s^2 2p^4 (^3P_1)$ $1s 2s^2 2p^5 (^1P_1)$
1.909		6.495		TA	6T		$1s^2 2s^2 2p^4 (^3P_1)$ $1s 2s^2 2p^5 (^3P_0)$
1.912		6.485		TA	6T		$1s^2 2s^2 2p^4 (^3P_1)$ $1s 2s^2 2p^5 (^3P_1)$
1.914		6.478		TA	6T		$1s^2 2s^2 2p^4 (^3P_1)$ $1s 2s^2 2p^5 (^3P_2)$
1.903		6.515		TA	6T		$1s^2 2s^2 2p^4 (^3P_2)$ $1s 2s^2 2p^5 (^1P_1)$
1.909		6.495		TA	6T		$1s^2 2s^2 2p^4 (^3P_2)$ $1s 2s^2 2p^5 (^3P_1)$
1.911		6.488		TA	6T		$1s^2 2s^2 2p^4 (^3P_2)$ $1s 2s^2 2p^5 (^3P_2)$
0.937		13.2		TA	6T		$1s^2 2s^2 2p^4 (^3P_2)$ $2s^2 2p^6 (^1S_0)$
1.924		6.444		TA	6T		$1s^2 2s 2p^5 (^1P_1)$ $1s 2s 2p^6 (^3S_1)$
0.948		13.1		TA	6T		$1s^2 2s 2p^5 (^1P_1)$ $2s^2 2p^6 (^1S_0)$
1.914		6.478		TA	6T		$1s^2 2s 2p^5 (^3P_0)$ $1s 2s 2p^6 (^3S_1)$
1.913		6.481		TA	6T		$1s^2 2s 2p^5 (^3P_1)$ $1s 2s 2p^6 (^3S_1)$
0.946		13.1		TA	6T		$1s^2 2s 2p^5 (^3P_1)$ $2s^2 2p^6 (^1S_0)$
1.911		6.488		TA	6T		$1s^2 2s 2p^5 (^3P_2)$ $1s 2s 2p^6 (^3S_1)$
1.846		6.716		TA	6T		$1s 2s^2 2p^5 (^1P_1)$ $2s^2 2p^6 (^1S_0)$
1.841		6.735		TA	6T		$1s 2s^2 2p^5 (^3P_1)$ $2s^2 2p^6 (^1S_0)$

Fe +19 ($1s^2 2s^2 2p^3 \ ^4S_{3/2}$)

λ (Å)	error	E(keV)	error	Method	Ref.	Key	Transition
1.6654		7.4448		T	7E		$1s^2 2s^2 2p^3$ $1s^2 2s^2 2p^3 3p$
1.907		6.501		T	1T		$1s^2 2s^2 2p^3$ $1s^2 2s^2 2p^4$
1.9075		6.4999		E	10E		$1s^2 2s^2 2p^3 \ (^2D_{3/2})$ $1s^2 2s^2 2p^4 \ (^2D_{3/2})$
1.9036		6.5132		T	21T		$1s^2 2s^2 2p^3 \ (^2D_{3/2})$ $1s^2 2s^2 2p^4 \ (^2D_{3/2})$
1.9013		6.5211		T	21T		$1s^2 2s^2 2p^3 \ (^2D_{3/2})$ $1s^2 2s^2 2p^4 \ (^2S_{1/2})$
1.9036		6.5132		T	21T		$1s^2 2s^2 2p^3 \ (^2D_{5/2})$ $1s^2 2s^2 2p^4 \ (^2D_{5/2})$
1.9075		6.4999		E	10E		$1s^2 2s^2 2p^3 \ (^2D_{5/2})$ $1s^2 2s^2 2p^4 \ (^2D_{5/2})$
1.9015		6.5204		T	21T		$1s^2 2s^2 2p^3 \ (^2D_{5/2})$ $1s^2 2s^2 2p^4 \ (^2P_{3/2})$
1.9051		6.5081		E	10E		$1s^2 2s^2 2p^3 \ (^2D_{5/2})$ $1s^2 2s^2 2p^4 \ (^2P_{3/2})$
1.9047		6.5094		T	21T		$1s^2 2s^2 2p^3 \ (^2P_{1/2})$ $1s^2 2s^2 2p^4 \ (^2P_{3/2})$
1.9059		6.5053		T	21T		$1s^2 2s^2 2p^3 \ (^2P_{1/2})$ $1s^2 2s^2 2p^4 \ (^2S_{1/2})$
1.9089		6.4951		T	21T		$1s^2 2s^2 2p^3 \ (^2P_{3/2})$ $1s^2 2s^2 2p^4 \ (^2D_{5/2})$
1.9027		6.5163		T	21T		$1s^2 2s^2 2p^3 \ (^2P_{3/2})$ $1s^2 2s^2 2p^4 \ (^2P_{1/2})$
1.9068		6.5023		T	21T		$1s^2 2s^2 2p^3 \ (^2P_{3/2})$ $1s^2 2s^2 2p^4 \ (^2P_{3/2})$
1.9051		6.5081		E	10E		$1s^2 2s^2 2p^3 \ (^2P_{3/2})$ $1s^2 2s^2 2p^4 \ (^2S_{1/2})$
1.9037		6.5129		T	21T		$1s^2 2s^2 2p^3 \ (^2S_{3/2})$ $1s^2 2s^2 2p^4 \ (^4P_{3/2})$
1.9051		6.5081		E	10E		$1s^2 2s^2 2p^3 \ (^4S_{3/2})$ $1s^2 2s^2 2p^4 \ (^4P_{1/2})$
1.9038		6.5125		T	21T		$1s^2 2s^2 2p^3 \ (^4S_{3/2})$ $1s^2 2s^2 2p^4 \ (^4P_{1/2})$
1.9075		6.4999		E	10E		$1s^2 2s^2 2p^3 \ (^4S_{3/2})$ $1s^2 2s^2 2p^4 \ (^4P_{3/2})$
1.9065		6.5033		T	21T		$1s^2 2s^2 2p^3 \ (^4S_{3/2})$ $1s^2 2s^2 2p^4 \ (^4P_{5/2})$

Fe +20 ($1s^22s^22p^2\ ^3P_0$)

λ (Å)	error	E(keV)	error	Method	Ref.	Key	Transition
1.6446		7.5389		T	7E		$1s^22s^22p^2$ $1s2s^22p^23p$
1.897		6.535		T	1T		$1s^22s^22p^2$ $1s2s^22p^3$
1.8926		6.5511		T	21T		$1s^22s^22p^2$ (1D_2) $1s2s^22p^3$ (1D_2)
1.8899		6.5604		T	21T		$1s^22s^22p^2$ (1D_2) $1s2s^22p^3$ (1P_1)
1.8916		6.5545		E	10E		$1s^22s^22p^2$ (1D_2) $1s2s^22p^3$ (1P_1)
1.8942		6.5455		E	10E		$1s^22s^22p^2$ (1D_2) $1s2s^22p^3$ (3P_2)
1.8942		6.5455		T	21T		$1s^22s^22p^2$ (1S_0) $1s2s^22p^3$ (1P_1)
1.8966		6.5372		E	10E		$1s^22s^22p^2$ (1S_0) $1s2s^22p^3$ (1P_1)
1.8936		6.5476		T	21T		$1s^22s^22p^2$ (3P_0) $1s2s^22p^3$ (3D_1)
1.8950		6.5428		T	21T		$1s^22s^22p^2$ (3P_1) $1s2s^22p^3$ (3D_2)
1.8966		6.5372		E	10E		$1s^22s^22p^2$ (3P_1) $1s2s^22p^3$ (3D_2)
1.8911		6.5562		T	21T		$1s^22s^22p^2$ (3P_1) $1s2s^22p^3$ (3P_0)
1.8916		6.5545		E	10E		$1s^22s^22p^2$ (3P_1) $1s2s^22p^3$ (3P_0)
1.8923		6.5521		T	21T		$1s^22s^22p^2$ (3P_1) $1s2s^22p^3$ (3P_1)
1.8942		6.5455		E	10E		$1s^22s^22p^2$ (3P_1) $1s2s^22p^3$ (3S_1)
1.8942		6.5455		E	10E		$1s^22s^22p^2$ (3P_2) $1s2s^22p^3$ (1D_2)
1.8952		6.5421		T	21T		$1s^22s^22p^2$ (3P_2) $1s2s^22p^3$ (3D_3)
1.8966		6.5372		E	10E		$1s^22s^22p^2$ (3P_2) $1s2s^22p^3$ (3D_3)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8916		6.5545		E	10E		$1s^2 2s^2 2p^3 (^3P_2)$ $1s 2s^2 2p^3 (^3P_1)$
1.8938		6.5469		T	21T		$1s^2 2s^2 2p^2 (^3P_2)$ $1s 2s^2 2p^3 (^3P_1)$
1.8919		6.5535		T	21T		$1s^2 2s^2 2p^2 (^3P_2)$ $1s 2s^2 2p^3 (^3P_2)$
1.8916		6.5545		T	21T		$1s^2 2s^2 2p^2 (^3P_2)$ $1s 2s^2 2p^3 (^3S_1)$

Fe +21 (1s²2s²2p ²P_{1/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.886		6.574		T	1T		1s ² 2s ² 2p ²
1.6256		7.6270		T	7E		1s ² 2s ² 2p3p
1.8811		6.5911		T	21T		1s ² 2s ² 2p (² P _{1/2})
1.8824		6.5865		E	10E		1s ² 2s ² 2p (² P _{1/2})
1.8824		6.5865		E	10E		1s ² 2s ² 2p (² P _{1/2})
1.8808		6.5922		T	21T		1s ² 2s ² 2p (² P _{1/2})
1.8834		6.5831		T	21T		1s ² 2s ² 2p (² P _{3/2})
1.8851		6.5771		E	10E		1s ² 2s ² 2p (² P _{3/2})
1.8786		6.5999		T	21T		1s ² 2s ² 2p (² P _{3/2})
1.8867		6.5715		E	10E		1s ² 2s ² 2p (² P _{3/2})
1.8801		6.5946		T	21T		1s ² 2s ² 2p (² P _{3/2})
1.8824		6.5865		E	10E		1s ² 2s ² 2p (² P _{3/2})
1.8794		6.5971		E	10E		1s ² 2s ² 2p (² P _{3/2})
1.8850		6.5775		T	21T		1s ² 2s ² 2p (² P _{3/2})

Fe +22 (1s²2s² 1S₀)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8779		6.6023		T	11T	25	1s ² 2p ² (1D ₂) 1s2p ³ (1D ₂)
1.8779		6.6023		T	12T		1s ² 2p ² (1D ₂) 1s2p ³ (1D ₂)
1.8696		6.6316		T	12T		1s ² 2p ² (1D ₂) 1s2p ³ (1P ₁)
1.8704		6.6288		T	11T	7	1s ² 2p ² (1D ₂) 1s2p ³ (1P ₁)
1.8836		6.5824		T	12T		1s ² 2p ² (1D ₂) 1s2p ³ (3D ₁)
1.8832		6.5838		T	12T		1s ² 2p ² (1D ₂) 1s2p ³ (3D ₂)
1.8826		6.5858		T	11T	33	1s ² 2p ² (1D ₂) 1s2p ³ (3D ₃)
1.8826		6.5858		T	12T		1s ² 2p ² (1D ₂) 1s2p ³ (3D ₃)
1.8758		6.6097		T	12T		1s ² 2p ² (1D ₂) 1s2p ³ (3P ₁)
1.8737		6.6171		T	12T		1s ² 2p ² (1D ₂) 1s2p ³ (3P ₂)
1.8802		6.5943		T	12T		1s ² 2p ² (1D ₂) 1s2p ³ (3S ₁)
1.8914		6.5552		T	12T		1s ² 2p ² (1D ₂) 1s2p ³ (5S ₂)
1.9133		6.4802		T	12T		1s ² 2p ² (1D ₂) 1s2s ² 2p (1P ₁)
1.9223		6.4498		T	12T		1s ² 2p ² (1D ₂) 1s2s ² 2p (3P ₁)
1.9185		6.4626		T	12T		1s ² 2p ² (1D ₂) 1s2s ² 2p (3P ₂)
1.8774		6.6041		T	12T		1s ² 2p ² (1S ₀) 1s2p ³ (1P ₁)
1.8781		6.6016		T	11T	32	1s ² 2p ² (1S ₀) 1s2p ³ (1P ₁)
1.8914		6.5552		T	12T		1s ² 2p ² (1S ₀) 1s2p ³ (3D ₁)
1.8835		6.5827		T	12T		1s ² 2p ² (1S ₀) 1s2p ³ (3P ₁)
1.8880		6.5670		T	12T		1s ² 2p ² (1S ₀) 1s2p ³ (3S ₁)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.9213		6.4532		T	12T		$1s^2 2p^2 ({}^1S_0)$ $1s2s^2 2p ({}^1P_1)$
1.9305		6.4224		T	12T		$1s^2 2p^2 ({}^1S_0)$ $1s2s^2 2p ({}^3P_1)$
1.8611		6.6619		T	12T		$1s^2 2p^2 ({}^3P_0)$ $1s2p^3 ({}^1P_1)$
1.8747		6.6136		T	11T	27	$1s^2 2p^2 ({}^3P_0)$ $1s2p^3 ({}^3D_1)$
1.8750		6.6125		T	12T		$1s^2 2p^2 ({}^3P_0)$ $1s2p^3 ({}^3D_1)$
1.8672		6.6402		T	12T		$1s^2 2p^2 ({}^3P_0)$ $1s2p^3 ({}^3P_1)$
1.8716		6.6246		T	12T		$1s^2 2p^2 ({}^3P_0)$ $1s2p^3 ({}^3S_1)$
1.9044		6.5105		T	12T		$1s^2 2p^2 ({}^3P_0)$ $1s2s^2 2p ({}^1P_1)$
1.9133		6.4802		T	12T		$1s^2 2p^2 ({}^3P_0)$ $1s2s^2 2p ({}^3P_1)$
1.8717		6.6242		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^1D_2)$
1.8635		6.6534		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^1P_1)$
1.8774		6.6041		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^3D_1)$
1.8770		6.6055		T	11T	30	$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^3D_2)$
1.8770		6.6055		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^3D_2)$
1.8764		6.6076		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^3D_3)$
1.8702		6.6295		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^3P_0)$
1.8693		6.6327		T	11T	10	$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^3P_1)$
1.8696		6.6316		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^3P_1)$
1.8676		6.6387		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^3P_2)$
1.8740		6.6161		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^3S_1)$
1.8851		6.5771		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2p^3 ({}^5S_2)$
1.9069		6.5019		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2s^2 2p ({}^1P_1)$
1.9164		6.4697		T	12T		$1s^2 2p^2 ({}^3P_1)$ $1s2s^2 2p ({}^3P_0)$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.9159		6.4714		T	12T		$1s^2p^2 (^3P_1)$ $1s2s^2p (^3P_1)$
1.9120		6.4846		T	12T		$1s^2p^2 (^3P_1)$ $1s2s^2p (^3P_2)$
1.8732		6.6189		T	12T		$1s^2p^2 (^3P_2)$ $1s2p^3 (^1D_2)$
1.8651		6.6476		T	12T		$1s^2p^2 (^3P_2)$ $1s2p^3 (^1P_1)$
1.8658		6.6451		T	11T	5	$1s^2p^2 (^3P_2)$ $1s2p^3 (^1P_1)$
1.8790		6.5985		T	12T		$1s^2p^2 (^3P_2)$ $1s2p^3 (^3D_1)$
1.8785		6.6002		T	12T		$1s^2p^2 (^3P_2)$ $1s2p^3 (^3D_2)$
1.8779		6.6023		T	11T	31	$1s^2p^2 (^3P_2)$ $1s2p^3 (^3D_3)$
1.8779		6.6023		T	12T		$1s^2p^2 (^3P_2)$ $1s2p^3 (^3D_3)$
1.8712		6.6260		T	12T		$1s^2p^2 (^3P_2)$ $1s2p^3 (^3P_1)$
1.8691		6.6334		T	11T	11	$1s^2p^2 (^3P_2)$ $1s2p^3 (^3P_2)$
1.8691		6.6334		T	12T		$1s^2p^2 (^3P_2)$ $1s2p^3 (^3P_2)$
1.8756		6.6104		T	12T		$1s^2p^2 (^3P_2)$ $1s2p^3 (^3S_1)$
1.8867		6.5715		T	12T		$1s^2p^2 (^3P_2)$ $1s2p^3 (^5S_2)$
1.9085		6.4965		T	12T		$1s^2p^2 (^3P_2)$ $1s2s^2p (^1P_1)$
1.9175		6.4660		T	12T		$1s^2p^2 (^3P_2)$ $1s2s^2p (^3P_1)$
1.9137		6.4788		T	12T		$1s^2p^2 (^3P_2)$ $1s2s^2p (^3P_2)$
1.6057		7.7216		T	7E		$1s^2s^2$ $1s2s^23p$
1.8283		6.7814		T	12T		$1s^2s^2 (^1S_0)$ $1s2p^3 (^1P_1)$
1.8416		6.7325		T	12T		$1s^2s^2 (^1S_0)$ $1s2p^3 (^3D_1)$
1.8341		6.7500		T	12T		$1s^2s^2 (^1S_0)$ $1s2p^3 (^3P_1)$
1.8383		6.7446		T	12T		$1s^2s^2 (^1S_0)$ $1s2p^3 (^3S_1)$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.875		6.612		T	1T		$1s^2 2s^2 ({}^1S_0) \rightarrow 1s 2s^2 2p$
1.8686		6.6352		T	21T		$1s^2 2s^2 ({}^1S_0) \rightarrow 1s 2s^2 2p ({}^1P_1)$
1.8700		6.6302		T	12T	β	$1s^2 2s^2 ({}^1S_0) \rightarrow 1s 2s^2 2p ({}^1P_1)$
1.8704		6.6288		E	10E	β	$1s^2 2s^2 ({}^1S_0) \rightarrow 1s 2s^2 2p ({}^1P_1)$
1.8705		6.6285		E	9E	β	$1s^2 2s^2 ({}^1S_0) \rightarrow 1s 2s^2 2p ({}^1P_1)$
1.8786		6.5999		T	12T		$1s^2 2s^2 ({}^1S_0) \rightarrow 1s 2s^2 2p ({}^3P_1)$
1.8771		6.6051		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^1D_2)$
1.8771		6.6051		T	11T	28	$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^1D_2)$
1.8714		6.6253		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^1P_1)$
1.8714		6.6253		T	11T	12	$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^1P_1)$
1.8693		6.6327		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^1S_0)$
1.8747		6.6136		T	11T	26	$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^3P_2)$
1.8850		6.5775		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^3D_1)$
1.8860		6.5740		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^3D_2)$
1.8851		6.5771		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^3D_3)$
1.8807		6.5925		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^3S_1)$
1.9007		6.5231		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^5P_1)$
1.8986		6.5303		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^5P_2)$
1.8968		6.5365		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 1s 2s 2p^2 ({}^5P_3)$
1.8794		6.5971		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 2p^2 s ({}^2P) 1s ({}^3P_0)$
1.8760		6.6090		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 2p^2 s ({}^2P) 1s ({}^3P_1)$
1.8747		6.6136		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 2p^2 s ({}^2P) 1s ({}^3P_2)$
1.8880		6.5670		T	12T		$1s^2 2s 2p ({}^1P_1) \rightarrow 2p^2 s ({}^4P) 1s ({}^3P_0)$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8863		6.5729		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s(^4P) 1s (^3P_1)$
1.8831		6.5841		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s(^4P) 1s (^3P_2)$
1.8577		6.6741		T	12T		$1s^2 2s 2p (^3P_0) \rightarrow 1s 2s 2p^2 (^1P_1)$
1.8724		6.6217		T	11T	15	$1s^2 2s 2p (^3P_0) \rightarrow 1s 2s 2p^2 (^3P_1)$
1.8711		6.6263		T	12T		$1s^2 2s 2p (^3P_0) \rightarrow 1s 2s 2p^2 (^3D_1)$
1.8668		6.6416		T	12T		$1s^2 2s 2p (^3P_0) \rightarrow 1s 2s 2p^2 (^3S_1)$
1.8866		6.5719		T	12T		$1s^2 2s 2p (^3P_0) \rightarrow 1s 2s 2p^2 (^5P_1)$
1.8622		6.6580		T	12T		$1s^2 2s 2p (^3P_0) \rightarrow 2p^2 2s(^2P) 1s (^3P_1)$
1.8724		6.6217		T	12T		$1s^2 2s 2p (^3P_0) \rightarrow 2p^2 2s(^4P) 1s (^3P_1)$
1.8644		6.6501		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^1D_2)$
1.8587		6.6705		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^1P_1)$
1.8566		5.6781		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^1S_0)$
1.8721		6.6228		T	11T	21	$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^3D_1)$
1.8721		6.6228		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^3D_1)$
1.8731		6.6193		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^3D_2)$
1.8731		6.6193		T	11T	22	$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^3D_2)$
1.8722		6.6224		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^3D_3)$
1.8679		6.6377		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^3S_1)$
1.8876		6.5684		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^5P_1)$
1.8855		6.5757		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^5P_2)$
1.8838		6.5817		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 1s 2s 2p^2 (^5P_3)$
1.8666		6.6423		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s(^2P) 1s (^3P_0)$
1.8532		6.6544		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s(^2P) 1s (^3P_1)$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8619		6.6591		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s (^4P) 1s (^3P_2)$
1.8750		6.6125		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s (^4P) 1s (^3P_0)$
1.8735		6.6178		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s (^4P) 1s (^3P_1)$
1.8702		6.6295		T	12T		$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s (^4P) 1s (^3P_2)$
1.8675		6.6391		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^1D_2)$
1.8675		6.6391		T	11T	4	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^1D_2)$
1.8619		6.6591		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^1P_0)$
1.8598		6.6666		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^1S_0)$
1.8734		6.6182		T	11T	17	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3P_2)$
1.8664		6.6430		T	11T	2	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3P_2)$
1.8753		6.6115		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3D_1)$
1.8763		6.6080		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3D_2)$
1.8754		6.6111		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3D_3)$
1.8754		6.6111		T	11T	23	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3D_3)$
1.8711		6.6263		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3S_1)$
1.8909		6.5569		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^5P_1)$
1.8888		6.5642		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^5P_2)$
1.8870		6.5705		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^5P_3)$
1.8698		6.6309		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^4P) 1s (^3P_0)$
1.8664		6.6430		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^4P) 1s (^3P_1)$
1.8651		6.6476		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^4P) 1s (^3P_2)$
1.8782		6.5013		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^4P) 1s (^3P_0)$
1.8767		6.6066		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^4P) 1s (^3P_1)$
1.8734		6.6182		T	12T		$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^4P) 1s (^3P_2)$

Fe +23 (1s²2s²S_{1/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.5968		7.7646		T	7E		1s ² 2p (² P _{1/2}) 1s2p _{1/2} 3p _{1/2} (0,1/2)
1.5953		7.7719		T	7E		1s ² 2p (² P _{1/2}) 1s2p _{1/2} 3p _{1/2} (1,1/2)
1.5968		7.7646		T	7E		1s ² 2p (² P _{1/2}) 1s2p _{1/2} 3p _{1/2} (1,3/2)
1.5955		7.7709		T	7E		1s ² 2p (² P _{1/2}) 1s2p _{1/2} 3p _{3/2} (0,3/2)
1.5945		7.7758		T	7E		1s ² 2p (² P _{1/2}) 1s2p _{1/2} 3p _{3/2} (1,1/2)
1.5942		7.7773		T	7E		1s ² 2p (² P _{1/2}) 1s2p _{1/2} 3p _{3/2} (1,3/2)
1.5930		7.7831		T	15T		1s2p(³ P)3p (² D _{3/2})
1.5937		7.7797		T	15T		1s2p(³ P)3p (² P _{1/2})
1.8622		6.6580		T	13T	k	1s2p ² (² D _{3/2})
1.8625		6.6569		T	9T		1s2p ² (² D _{3/2})
1.8626		6.6566		T	22T		1s2p ² (² D _{3/2})
1.863	1E-03	6.655	2E-03	E	13E		1s2p ² (² D _{3/2})
1.8631		6.6548		E	10E	k	1s2p ² (² D _{3/2})
1.8632		6.6544		E	9E	k	1s2p ² (² D _{3/2})
1.8638		6.6523		T	19T	k	1s2p ² (² D _{3/2})
1.8616		6.6601		T	13T	d	1s2p ² (² P _{1/2})
1.862	1E-03	6.659	2E-03	E	13E		1s2p ² (² P _{1/2})
1.8623		6.6576		T	9T		1s2p ² (² P _{1/2})
1.8624		6.657		T	22T		1s2p ² (² P _{1/2})
1.8636		6.6530		T	19T	d	1s2p ² (² P _{1/2})
1.8564		6.6788		T	13T	b	1s2p ² (² P _{3/2})
1.8573		6.6756		T	9T		1s2p ² (² P _{3/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.857		6.675		T	22T		$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^2P_{3/2})$
1.8585		6.6713		T	19T	b	$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^2P_{3/2})$
1.8511		6.6979		T	13T	n	$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^2S_{1/2})$
1.852		6.695		T	22T		$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^2S_{1/2})$
1.8519		6.6950		T	9T		$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^2S_{1/2})$
1.852	1E-03	6.695	2E-03	E	13E		$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^2S_{1/2})$
1.8528		6.6979		T	19T	n	$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^2S_{1/2})$
1.872		6.624		T	22T		$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^4P_{1/2})$
1.8717		6.6242		T	9T		$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^4P_{1/2})$
1.8719		6.6235		T	13T	i	$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^4P_{1/2})$
1.872		6.623		E	13E		$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^4P_{1/2})$
1.8733		6.6185		T	19T	i	$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^4P_{1/2})$
1.8694		6.6324		T	9T		$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^4P_{3/2})$
1.8695		6.6320		T	13T	g	$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^4P_{3/2})$
1.870		6.632		T	22T		$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^4P_{3/2})$
1.8709		6.6270		T	19T	g	$1s^2 2p (^2P_{1/2}) \rightarrow 1s 2p^2 (^4P_{3/2})$
1.5979		7.7593		T	15T		$1s 2s(^3S)3d (^2D_{3/2})$
1.8913		6.5556		T	13T	p	$1s 2s^2 (^2S_{1/2})$
1.8918		6.5538		T	9T		$1s 2s^2 (^2S_{1/2})$
1.8932		6.5490		T	19T	p	$1s 2s^2 (^2S_{1/2})$
1.5919		7.7885		T	7E		$1s 2p_{3/2} 3p_{1/2}(1, 1/2)$
1.5918		7.7890		T	7E		$1s 2p_{3/2} 3p_{1/2}(1, 3/2)$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.5960		7.7685		T	7E	$1s^2 2p (^2P_{3/2})$	$1s 2p_{3/2} 3p_{1/2}(2,3/2)$
1.5960		7.7685		E	7E	$1s^2 2p (^2P_{3/2})$	$1s 2p_{3/2} 3p_{1/2}(2,3/2)$
1.5958		7.7695		T	7E	$1s^2 2p (^2P_{3/2})$	$1s 2p_{3/2} 3p_{1/2}(2,5/2)$
1.5902		7.7968		T	7E	$1s^2 2p (^2P_{3/2})$	$1s 2p_{3/2} 3p_{3/2}(1,1/2)$
1.5910		7.7929		T	7E	$1s^2 2p (^2P_{3/2})$	$1s 2p_{3/2} 3p_{3/2}(1,3/2)$
1.5914		7.7910		T	7E	$1s^2 2p (^2P_{3/2})$	$1s 2p_{3/2} 3p_{3/2}(1,5/2)$
1.5928		7.7841		T	7E	$1s^2 2p (^2P_{3/2})$	$1s 2p_{3/2} 3p_{3/2}(2,1/2)$
1.5951		7.7729		T	7E	$1s^2 2p (^2P_{3/2})$	$1s 2p_{3/2} 3p_{3/2}(2,3/2)$
1.5937		7.7797		T	7E	$1s^2 2p (^2P_{3/2})$	$1s 2p_{3/2} 3p_{3/2}(2,5/2)$
1.5911		7.7924		T	15T	$1s^2 2p (^2P_{3/2})$	$1s 2p(^1P)3p (^2D_{3/2})$
1.5906		7.7949		T	15T	$1s^2 2p (^2P_{3/2})$	$1s 2p(^1P)3p (^2D_{5/2})$
1.5929		7.7836		T	15T	$1s^2 2p (^2P_{3/2})$	$1s 2p(^3P)3p (^2D_{5/2})$
1.5945		7.7758		T	15T	$1s^2 2p (^2P_{3/2})$	$1s 2p(^3P)3p (^2P_{3/2})$
1.5952		7.7724		T	15T	$1s^2 2p (^2P_{3/2})$	$1s 2p(^3P)3p (^4P_{3/2})$
1.5948		7.7743		T	15T	$1s^2 2p (^2P_{3/2})$	$1s 2p(^3P)3p (^4P_{5/2})$
1.8669		6.6412		T	9T	$1s^2 2p (^2P_{3/2})$	$1s 2p^2 (^2D_{3/2})$
1.867		6.641		T	22T	$1s^2 2p (^2P_{3/2})$	$1s 2p^2 (^2D_{3/2})$
1.8674		6.6395		T	13T	$1s^2 2p (^2P_{3/2})$	$1s 2p^2 (^2D_{3/2})$
1.8682		6.6366		T	19T	$1s^2 2p (^2P_{3/2})$	$1s 2p^2 (^2D_{3/2})$
1.8653		6.6469		T	13T	$1s^2 2p (^2P_{3/2})$	$1s 2p^2 (^2D_{5/2})$
1.865		6.646		T	22T	$1s^2 2p (^2P_{3/2})$	$1s 2p^2 (^2D_{5/2})$
1.8654		6.6466		T	9T	$1s^2 2p (^2P_{3/2})$	$1s 2p^2 (^2D_{5/2})$
1.866	1E-03	6.646	2E-03	E	13E	$1s^2 2p (^2P_{3/2})$	$1s 2p^2 (^2D_{5/2})$
1.8657		6.6455		E	9E	$1s^2 2p (^2P_{3/2})$	$1s 2p^2 (^2D_{5/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8660		6.6444		E	10E	j	$1s^22p\ (^2P_{3/2})$ $1s2p^2\ (^2D_{5/2})$
1.8666		6.6423		T	19T	j	$1s^22p\ (^2P_{3/2})$ $1s2p^2\ (^2D_{5/2})$
1.867		6.642		T	22T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{1/2})$
1.8667		6.6419		T	13T	c	$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{1/2})$
1.8667		6.6419		T	9T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{1/2})$
1.8680		6.6373		T	19T	c	$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{1/2})$
1.8615		6.6605		T	13T	a	$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{3/2})$
1.862		6.659		T	22T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{3/2})$
1.8617		6.6598		T	9T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{3/2})$
1.8618		6.6594		E	9E	a	$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{3/2})$
1.862	1E-03	6.659	2E-03	E	13E		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{3/2})$
1.8629		6.6555		T	19T	a	$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2P_{3/2})$
1.856		6.679		T	22T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2S_{1/2})$
1.8561		6.6799		T	13T	m	$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2S_{1/2})$
1.8562		6.6795		T	9T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2S_{1/2})$
1.8572		6.6759		T	19T	m	$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^2S_{1/2})$
1.874		6.616		E	13E		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^4P_{1/2})$
1.876		6.609		T	22T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^4P_{1/2})$
1.8761		6.6087		T	9T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^4P_{1/2})$
1.8771		6.6051		T	13T	h	$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^4P_{1/2})$
1.8778		6.6027		T	19T	h	$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^4P_{1/2})$
1.874		6.617		T	22T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^4P_{3/2})$
1.8738		6.6168		T	9T		$1s2p\ (^2P_{3/2})$ $1s2p^2\ (^4P_{3/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.874		6.616		E	13E		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{3/2})$
1.8747		6.6136		T	13T	f	$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{3/2})$
1.8754		6.6111		T	19T	f	$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{3/2})$
1.872		6.623		E	13E		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{5/2})$
1.8721		6.6228		T	9T		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{5/2})$
1.872		6.622		T	22T		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{5/2})$
1.8725		6.6214		T	13T	e	$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{5/2})$
1.8737		6.6171		T	19T	e	$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{5/2})$
1.6011		7.7438		T	15T		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2s(^3S)3d \ (^2D_{5/2})$
1.8963		6.5383		T	9T		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2s^2 \ (^2S_{1/2})$
1.8966		6.5372		T	13T	o	$1s^2p \ (^2P_{3/2}) \rightarrow 1s2s^2 \ (^2S_{1/2})$
1.8978		6.5331		T	19T	o	$1s^2p \ (^2P_{3/2}) \rightarrow 1s2s^2 \ (^2S_{1/2})$
1.8565		6.6784		T	9T		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^1P) \ (^2P_{1/2})$
1.8557		6.6813		T	9T		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^1P) \ (^2P_{3/2})$
1.8630		6.6551		T	9T		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^2P_{1/2})$
1.8605		6.6641		T	9T		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^2P_{3/2})$
1.8743		6.6150		T	9T		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^4P_{1/2})$
1.8732		6.6189		T	9T		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^4P_{3/2})$
1.8701		6.6299		T	9T		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^4P_{5/2})$
1.8631		6.6548		E	10E	r	$1s^2s \ (^2S_{1/2}) \rightarrow 1s2p(^1P)2s \ (^2P_{1/2})$
1.8631		6.6548		T	13T	r	$1s^2s \ (^2S_{1/2}) \rightarrow 1s2p(^1P)2s \ (^2P_{1/2})$
1.8632		6.6544		E	9E	r	$1s^2s \ (^2S_{1/2}) \rightarrow 1s2p2s \ (^2P_{1/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8643		6.6505		T	19T	r	$1s^2s\ (^2S_{1/2})$ $1s2p(^1P)2s\ (^2P_{1/2})$
1.8601		6.6655		T	13T	q	$1s^2s\ (^2S_{1/2})$ $1s2p(^1P)2s\ (^2P_{3/2})$
1.8610		6.6623		E	10E	q	$1s^2s\ (^2S_{1/2})$ $1s2p(^1P)2s\ (^2P_{3/2})$
1.8617		6.6598		T	19T	q	$1s^2s\ (^2S_{1/2})$ $1s2p(^1P)2s\ (^2P_{3/2})$
1.8562		6.6795		T	13T	t	$1s^2s\ (^2S_{1/2})$ $1s2p(^3P)2s\ (^2P_{1/2})$
1.8568		6.6774		E	10E	t	$1s^2s\ (^2S_{1/2})$ $1s2p(^3P)2s\ (^2P_{1/2})$
1.8575		6.6748		T	19T	t	$1s^2s\ (^2S_{1/2})$ $1s2p(^3P)2s\ (^2P_{1/2})$
1.8567		6.6777		E	9E	t	$1s^2s\ (^2S_{1/2})$ $1s2p2s\ (^2P_{1/2})$
1.8558		6.6810		T	13T	s	$1s^2s\ (^2S_{1/2})$ $1s2p(^3P)2s\ (^2P_{3/2})$
1.8567		6.6777		T	19T	s	$1s^2s\ (^2S_{1/2})$ $1s2p(^3P)2s\ (^2P_{3/2})$
1.8608		6.6630		E	9E	q	$1s^2s\ (^2S_{1/2})$ $1s2p2s\ (^2P_{3/2})$
1.8742		6.6154		T	13T	v	$1s^2s\ (^2S_{1/2})$ $1s2p2s\ (^4P_{1/2})$
1.8758		6.6097		T	19T	v	$1s^2s\ (^2S_{1/2})$ $1s2p2s\ (^4P_{1/2})$
1.8732		6.6189		T	13T	u	$1s^2s\ (^2S_{1/2})$ $1s2p2s\ (^4P_{3/2})$
1.8748		6.6132		T	19T	u	$1s^2s\ (^2S_{1/2})$ $1s2p2s\ (^4P_{3/2})$
1.856		6.681		T	22T		$1s2s(^1S)2p\ (^2P_{1/2})$
1.857		6.678		T	22T		$1s2s(^1S)2p\ (^2P_{3/2})$
1.5861		7.8170		T	15T		$1s2s(^1S)3p\ (^2P_{1/2})$
1.5851		7.8219		T	15T		$1s2s(^1S)3p\ (^2P_{3/2})$
1.863		6.655		T	22T		$1s2s(^3S)2p\ (^2P_{1/2})$
1.861		6.664		T	22T		$1s2s(^3S)2p\ (^2P_{3/2})$
1.5911		7.7924		T	15T		$1s2s(^3S)3p\ (^2P_{1/2})$
1.5912		7.7919		T	15T		$1s2s(^3S)3p\ (^2P_{3/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.5923		7.7865		T	15T		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s(^3S)3p\ (^4P_{1/2})$
1.5922		7.7870		T	15T		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s(^3S)3p\ (^4P_{3/2})$
1.865		6.648		T	1T		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s2p$
1.874		6.615		T	22T		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s2p\ (^4P_{1/2})$
1.864		6.650		T	22T		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s2p\ (^4P_{3/2})$
1.5856		7.8145		T	7E		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s3p_{1/2}(0,1/2)$
1.588		7.808		E	7E		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s3p_{1/2}(0,1/2)$
1.5856		7.8195		T	7E		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s3p_{1/2}(0,3/2)$
1.5914		7.7910		T	7E		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s3p_{1/2}(1,1/2)$
1.5926		7.7851		E	7E		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s3p_{1/2}(1,1/2)$
1.5929		7.7836		T	7E		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s3p_{1/2}(1,1/2)$
1.5927		7.7846		T	7E		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s3p_{1/2}(1,3/2)$
1.5915		7.7905		T	7E		$1s^22s\ (^2S_{1/2}) \rightarrow 1s2s3p_{3/2}(1,3/2)$
1.858	1E-03	6.673	2E-03	E	13E		$1s^22s\ (^2S_{1/2}) \rightarrow 2s2p(^1P)1s\ (^2P_{1/2})$
1.851	1E-03	6.699	2E-03	E	13E		$1s^22s\ (^2S_{1/2}) \rightarrow 2s2p(^3P)1s\ (^2P_{1/2})$
1.859	1E-03	6.670	2E-03	E	13E		$1s^22s\ (^2S_{1/2}) \rightarrow 2s2p(^3P)1s\ (^2P_{3/2})$
1.876	1E-03	6.608	2E-03	E	13E		$1s^22s\ (^2S_{1/2}) \rightarrow 2s2p(^3P)1s\ (^4P_{1/2})$
1.8511		6.6979		T	13T	h10	$1s^23d\ (^2D_{3/2}) \rightarrow 1s2p(^1P)3d\ (^2D_{3/2})$
1.8511		6.6979		T	15T		$1s^23d\ (^2D_{3/2}) \rightarrow 1s2p(^1P)3d\ (^2D_{3/2})$
1.8509		6.6986		T	13T	h 9	$1s^23d\ (^2D_{3/2}) \rightarrow 1s2p(^1P)3d\ (^2D_{5/2})$
1.8509		6.6986		T	15T		$1s^23d\ (^2D_{3/2}) \rightarrow 1s2p(^1P)3d\ (^2D_{5/2})$
1.8495		6.7037		T	15T		$1s^23d\ (^2D_{3/2}) \rightarrow 1s2p(^1P)3d\ (^2F_{5/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key		Transition
1.8497		6.7030		T	13T	h17	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^1P)3d$ ($^2F_{5/2}$)
1.8495		6.7037		T	13T	h 3	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^1P)3d$ ($^2P_{1/2}$)
1.8495		6.7037		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^1P)3d$ ($^2P_{1/2}$)
1.8487		6.7066		T	13T	h 2	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^1P)3d$ ($^2P_{3/2}$)
1.8579		6.6734		T	13T	g 3	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^1P)3s$ ($^2P_{1/2}$)
1.8581		6.6727		T	13T	g 2	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^1P)3s$ ($^2P_{3/2}$)
1.8601		6.6655		T	13T	h14	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^2D_{3/2}$)
1.8603		6.6648		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^2D_{3/2}$)
1.8566		6.6781		T	13T	h13	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^2D_{5/2}$)
1.8601		6.6655		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^2D_{5/2}$)
1.8566		6.6781		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^2F_{5/2}$)
1.8607		6.6634		T	13T	h20	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^2F_{5/2}$)
1.8530		6.5911		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^2P_{1/2}$)
1.8531		6.5907		T	13T	h 6	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^2P_{1/2}$)
1.8546		6.6853		T	13T	h 5	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^2P_{3/2}$)
1.8592		6.6687		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^4D_{1/2}$)
1.8591		6.6691		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^4D_{3/2}$)
1.8622		6.6580		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^4F_{3/2}$)
1.8617		6.6598		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^4F_{5/2}$)
1.8553		6.6828		T	15T		$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3d$ ($^4P_{5/2}$)
1.8648		6.6487		T	13T	g 6	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3s$ ($^2P_{1/2}$)
1.8609		6.6627		T	13T	g 5	$1s^23d$ ($^2D_{3/2}$)	$1s2p(^3P)3s$ ($^2P_{3/2}$)
1.8554		6.6824		T	13T	h25	$1s^23d$ ($^2D_{3/2}$)	$1s2p3d$ ($^2D_{1/2}$)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8594		6.6680		T	13T	h31	$1s^23d (^2D_{3/2})$ $1s2p3d (^4D_{1/2})$
1.8594		6.6680		T	13T	h30	$1s^23d (^2D_{3/2})$ $1s2p3d (^4D_{3/2})$
1.8555		6.6820		T	13T	h29	$1s^23d (^2D_{3/2})$ $1s2p3d (^4D_{5/2})$
1.8627		6.6562		T	13T	h36	$1s^23d (^2D_{3/2})$ $1s2p3d (^4F_{3/2})$
1.8619		6.6591		T	13T	h35	$1s^23d (^2D_{3/2})$ $1s2p3d (^4F_{5/2})$
1.8555		6.6820		T	13T	h24	$1s^23d (^2D_{3/2})$ $1s2p3d (^4P_{3/2})$
1.8592		6.6687		T	13T	h23	$1s^23d (^2D_{3/2})$ $1s2p3d (^4P_{5/2})$
1.8690		6.6338		T	13T	g11	$1s^23d (^2D_{3/2})$ $1s2p3s (^4P_{1/2})$
1.8680		6.6373		T	13T	g10	$1s^23d (^2D_{3/2})$ $1s2p3s (^4P_{3/2})$
1.8644		6.6501		T	13T	g 9	$1s^23d (^2D_{3/2})$ $1s2p3s (^4P_{5/2})$
1.8663		6.6434		T	13T	i 3	$1s^23d (^2D_{3/2})$ $1s2s(^1S)3p (^2P_{1/2})$
1.8648		6.6487		T	13T	i 2	$1s^23d (^2D_{3/2})$ $1s2s(^1S)3p (^2P_{3/2})$
1.8727		6.6207		T	13T	i 6	$1s^23d (^2D_{3/2})$ $1s2s(^3S)3p (^2P_{1/2})$
1.8727		6.6207		T	13T	i 5	$1s^23d (^2D_{3/2})$ $1s2s(^3S)3p (^2P_{3/2})$
1.8745		6.6143		T	13T	i11	$1s^23d (^2D_{3/2})$ $1s2s3p (^4P_{1/2})$
1.8742		6.6154		T	13T	i10	$1s^23d (^2D_{3/2})$ $1s2s3p (^4P_{3/2})$
1.8731		6.6193		T	13T	i 9	$1s^23d (^2D_{3/2})$ $1s2s3p (^4P_{5/2})$
1.8516		6.6961		T	13T	h 8	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2D_{3/2})$
1.8513		6.6972		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2D_{5/2})$
1.8514		6.6968		T	13T	h 7	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2D_{5/2})$
1.8499		6.7023		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2F_{5/2})$
1.8501		6.7015		T	13T	h16	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2F_{5/2})$
1.8508		6.6990		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2F_{7/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8509		6.6986		T	13T	h15	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2F_{7/2})$
1.8491		6.7052		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2P_{3/2})$
1.8491		6.7052		T	13T	h 1	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2P_{3/2})$
1.8585		6.6713		T	13T	g 1	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3s (^2P_{3/2})$
1.8606		6.6637		T	13T	h12	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2D_{3/2})$
1.8571		6.6763		T	13T	h11	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2D_{5/2})$
1.8571		6.6763		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2F_{5/2})$
1.8611		6.6619		T	13T	h19	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2F_{5/2})$
1.8551		6.6835		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2F_{7/2})$
1.8552		6.6831		T	13T	h18	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2F_{7/2})$
1.8549		6.6842		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2P_{3/2})$
1.8550		6.6838		T	13T	h 4	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2P_{3/2})$
1.8593		6.6684		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^4D_{5/2})$
1.8566		6.6781		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^4D_{7/2})$
1.8607		6.6634		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^4F_{7/2})$
1.8613		6.6612		T	13T	g 4	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3s (^2P_{3/2})$
1.8650		6.6480		T	15T		$1s^23d (^2D_{5/2})$ $1s2p(^3P)3s (^4P_{5/2})$
1.8598		6.6666		T	13T	h28	$1s^23d (^2D_{5/2})$ $1s2p3d (^4D_{3/2})$
1.8559		6.6806		T	13T	h27	$1s^23d (^2D_{5/2})$ $1s2p3d (^4D_{5/2})$
1.8567		6.6777		T	13T	h26	$1s^23d (^2D_{5/2})$ $1s2p3d (^4D_{7/2})$
1.8631		6.6548		T	13T	h34	$1s^23d (^2D_{5/2})$ $1s2p3d (^4F_{3/2})$
1.8623		6.6576		T	13T	h33	$1s^23d (^2D_{5/2})$ $1s2p3d (^4F_{5/2})$
1.8609		6.6626		T	13T	h32	$1s^23d (^2D_{5/2})$ $1s2p3d (^4F_{7/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8560		6.6802		T	13T	h22	$1s^23d\ (^2D_{5/2}) \rightarrow 1s2p3d\ (^4P_{3/2})$
1.8596		6.6673		T	13T	h21	$1s^23d\ (^2D_{5/2}) \rightarrow 1s2p3d\ (^4P_{5/2})$
1.8684		6.6359		T	13T	g 8	$1s^23d\ (^2D_{5/2}) \rightarrow 1s2p3s\ (^4P_{3/2})$
1.8648		6.6487		T	13T	g 7	$1s^23d\ (^2D_{5/2}) \rightarrow 1s2p3s\ (^4P_{5/2})$
1.8649		6.6484		T	15T		$1s^23d\ (^2D_{5/2}) \rightarrow 1s2s(^1S)3p\ (^2P_{3/2})$
1.8652		6.6473		T	13T	i 1	$1s^23d\ (^2D_{5/2}) \rightarrow 1s2s(^1S)3p\ (^2P_{3/2})$
1.8732		6.6189		T	13T	i 4	$1s^23d\ (^2D_{5/2}) \rightarrow 1s2s(^3S)3p\ (^2P_{3/2})$
1.8737		6.6171		T	15T		$1s^23d\ (^2D_{5/2}) \rightarrow 1s2s(^3S)3p\ (^4P_{5/2})$
1.8747		6.6136		T	13T	i 8	$1s^23d\ (^2D_{5/2}) \rightarrow 1s2s3p\ (^4P_{3/2})$
1.8736		6.6175		T	13T	i 7	$1s^23d\ (^2D_{5/2}) \rightarrow 1s2s3p\ (^4P_{5/2})$
1.8518		6.6954		T	13T	d15	$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^1P)3p\ (^2D_{3/2})$
1.8520		6.6947		T	15T		$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^1P)3p\ (^2D_{3/2})$
1.8517		6.6957		T	13T	d 8	$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^1P)3p\ (^2P_{1/2})$
1.8520		6.6947		T	15T		$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^1P)3p\ (^2P_{1/2})$
1.8501		6.7015		T	13T	d 7	$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^1P)3p\ (^2P_{3/2})$
1.8486		6.7070		T	13T	d 2	$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^1P)3p\ (^2S_{1/2})$
1.8590		6.6695		T	13T	d18	$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^3P)3p\ (^2D_{3/2})$
1.8598		6.6666		T	13T	d12	$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^3P)3p\ (^2P_{1/2})$
1.8564		6.6788		T	13T	d11	$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^3P)3p\ (^2P_{3/2})$
1.8537		6.6885		T	13T	d 4	$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^3P)3p\ (^2S_{1/2})$
1.8636		6.6530		T	15T		$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^3P)3p\ (^4D_{1/2})$
1.8631		6.6548		T	15T		$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^3P)3p\ (^4D_{3/2})$
1.8603		6.6648		T	15T		$1s^23p\ (^2P_{1/2}) \rightarrow 1s2p(^3P)3p\ (^4P_{1/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8637		6.6526		T	13T	d30	$1s^23p (^2P_{1/2})$ $1s2p3p (^4D_{1/2})$
1.8629		6.6555		T	13T	d29	$1s^23p (^2P_{1/2})$ $1s2p3p (^4D_{3/2})$
1.8604		6.6644		T	13T	d25	$1s^23p (^2P_{1/2})$ $1s2p3p (^4P_{1/2})$
1.8574		6.6752		T	13T	d24	$1s^23p (^2P_{1/2})$ $1s2p3p (^4P_{3/2})$
1.8612		6.6616		T	13T	d20	$1s^23p (^2P_{1/2})$ $1s2p3p (^4S_{3/2})$
1.8581		6.6727		T	15T		$1s2s(^1S)3d (^2D_{3/2})$
1.8583		6.6720		T	13T	f 3	$1s^23p (^2P_{1/2})$ $1s2s(^1S)3d (^2D_{3/2})$
1.8667		6.6419		T	15T		$1s^23p (^2P_{1/2})$ $1s2s(^1S)3p (^2S_{1/2})$
1.8666		6.6423		T	13T	e 2	$1s^23p (^2P_{1/2})$ $1s2s(^1S)3s (^2S_{1/2})$
1.8652		6.6473		T	13T	f 6	$1s^23p (^2P_{1/2})$ $1s2s(^3S)3d (^2D_{3/2})$
1.8679		6.6377		T	15T		$1s^23p (^2P_{1/2})$ $1s2s(^3S)3d (^4D_{1/2})$
1.8678		6.6380		T	15T		$1s^23p (^2P_{1/2})$ $1s2s(^3S)3d (^4D_{3/2})$
1.8726		6.6210		T	13T	e 4	$1s^23p (^2P_{1/2})$ $1s2s(^3S)3s (^2S_{1/2})$
1.8675		6.6391		T	13T	f11	$1s^23p (^2P_{1/2})$ $1s2s3d (^1D_{1/2})$
1.8673		6.6398		T	13T	f10	$1s^23p (^2P_{1/2})$ $1s2s3d (^1D_{3/2})$
1.8760		6.6090		T	13T	e 6	$1s^23p (^2P_{1/2})$ $1s2s3s (^4S_{3/2})$
1.8533		6.6900		T	13T	d14	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2D_{3/2})$
1.8526		6.6925		T	13T	d13	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2D_{5/2})$
1.8527		6.6921		T	15T		$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2D_{5/2})$
1.8532		6.6903		T	13T	d 6	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2P_{1/2})$
1.8516		6.6961		T	13T	d 5	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2P_{3/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8517		6.6957		T	15T		$1s^23p(^2P_{3/2})$ $1s2p(^1P)3p(^2P_{3/2})$
1.8500		6.7019		T	15T		$1s^23p(^2P_{3/2})$ $1s2p(^1P)3p(^2S_{1/2})$
1.8501		6.7015		T	13T	d 1	$1s^23p(^2P_{3/2})$ $1s2p(^1P)3p(^2S_{1/2})$
1.8605		6.6641		T	13T	d17	$1s^23p(^2P_{3/2})$ $1s2p(^3P)3p(^2D_{3/2})$
1.8558		6.6810		T	13T	d16	$1s^23p(^2P_{3/2})$ $1s2p(^3P)3p(^2D_{5/2})$
1.8613		6.6612		T	13T	d10	$1s^23p(^2P_{3/2})$ $1s2p(^3P)3p(^2P_{1/2})$
1.8579		6.6734		T	13T	d 9	$1s^23p(^2P_{3/2})$ $1s2p(^3P)3p(^2P_{3/2})$
1.8579		6.6734		T	15T		$1s^23p(^2P_{3/2})$ $1s2p(^3P)3p(^2P_{3/2})$
1.8552		6.6831		T	13T	d 3	$1s^23p(^2P_{3/2})$ $1s2p(^3P)3p(^2S_{1/2})$
1.8553		6.6828		T	15T		$1s^23p(^2P_{3/2})$ $1s2p(^3P)3p(^2S_{1/2})$
1.8624		6.6573		T	15T		$1s^23p(^2P_{3/2})$ $1s2p(^3P)3p(^4D_{5/2})$
1.8623		6.6576		T	15T		$1s^23p(^2P_{3/2})$ $1s2p(^3P)3p(^4S_{3/2})$
1.8652		6.6473		T	13T	d28	$1s^23p(^2P_{3/2})$ $1s2p3p(^4D_{1/2})$
1.8644		6.6501		T	13T	d27	$1s^23p(^2P_{3/2})$ $1s2p3p(^4D_{3/2})$
1.8625		6.6569		T	13T	d26	$1s^23p(^2P_{3/2})$ $1s2p3p(^4D_{5/2})$
1.8619		6.6591		T	13T	d23	$1s^23p(^2P_{3/2})$ $1s2p3p(^4P_{1/2})$
1.8589		6.6698		T	13T	d22	$1s^23p(^2P_{3/2})$ $1s2p3p(^4P_{3/2})$
1.8583		6.6720		T	13T	d21	$1s^23p(^2P_{3/2})$ $1s2p3p(^4P_{5/2})$
1.8627		6.6562		T	13T	d19	$1s^23p(^2P_{3/2})$ $1s2p3p(^4S_{3/2})$
1.8598		6.6666		T	13T	f 2	$1s2s(^1S)3d(^2D_{3/2})$
1.8591		6.6691		T	15T		$1s2s(^1S)3d(^2D_{5/2})$
1.8594		6.6680		T	13T	f 1	$1s2s(^1S)3d(^2D_{5/2})$
1.8680		6.6373		T	15T		$1s2s(^1S)3s(^2S_{1/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8682		6.6366		T	13T	e 1	$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s(^1S)3s\ (^2S_{1/2})$
1.8667		6.6419		T	13T	f 5	$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s(^3S)3d\ (^2D_{3/2})$
1.8667		6.6419		T	13T	f 4	$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s(^3S)3d\ (^2D_{5/2})$
1.8689		6.6341		T	15T		$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s(^3S)3d\ (^4D_{5/2})$
1.8741		6.6157		T	13T	e 3	$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s(^3S)3s\ (^2S_{1/2})$
1.8779		6.6023		T	15T		$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s(^3S)3s\ (^4S_{3/2})$
1.8690		6.6338		T	13T	f 9	$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s3d\ (^1D_{1/2})$
1.8688		6.6345		T	13T	f 8	$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s3d\ (^1D_{3/2})$
1.8686		6.6352		T	13T	f 7	$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s3d\ (^4D_{5/2})$
1.8776		6.6034		T	13T	e 5	$1s^23p\ (^2P_{3/2}) \rightarrow 1s2s3s\ (^4S_{3/2})$
1.8446		6.7215		T	13T	b 5	$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^1P)3d\ (^2D_{3/2})$
1.8430		6.7274		T	13T	b 2	$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^1P)3d\ (^2P_{1/2})$
1.8516		6.6961		T	15T		$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^1P)3d\ (^2P_{1/2})$
1.8422		6.7303		T	13T	b 1	$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^1P)3d\ (^2P_{3/2})$
1.8513		6.6972		T	13T	a 2	$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^1P)3s\ (^2P_{1/2})$
1.8515		6.6965		T	13T	a 1	$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^1P)3s\ (^2P_{3/2})$
1.8518		6.6954		T	15T		$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^1P)3s\ (^2P_{3/2})$
1.8534		6.6896		T	15T		$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^3P)3d\ (^2D_{3/2})$
1.8536		6.6889		T	13T	b 6	$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^3P)3d\ (^2D_{3/2})$
1.8466		6.7142		T	13T	b 4	$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^3P)3d\ (^2P_{1/2})$
1.8481		6.7088		T	13T	b 3	$1s^23s\ (^2S_{1/2}) \rightarrow 1s2p(^3P)3d\ (^2P_{3/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8527		6.6921		T	15T		$1s^23s\ (^2S_{1/2})\ 1s2p(^3P)3d\ (^4D_{3/2})$
1.8488		6.7063		T	15T		$1s^23s\ (^2S_{1/2})\ 1s2p(^3P)3d\ (^4P_{1/2})$
1.8580		6.6730		T	15T		$1s^23s\ (^2S_{1/2})\ 1s2p(^3P)3s\ (^2P_{1/2})$
1.8582		6.6723		T	13T	a 4	$1s^23s\ (^2S_{1/2})\ 1s2p(^3P)3s\ (^2P_{1/2})$
1.8543		6.6864		T	13T	a 3	$1s^23s\ (^2S_{1/2})\ 1s2p(^3P)3s\ (^2P_{3/2})$
1.8622		6.6580		T	15T		$1s^23s\ (^2S_{1/2})\ 1s2p(^3P)3s\ (^4P_{1/2})$
1.8615		6.6605		T	15T		$1s^23s\ (^2S_{1/2})\ 1s2p(^3P)3s\ (^4P_{3/2})$
1.8528		6.6918		T	13T	b 10	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4D_{1/2})$
1.8528		6.6918		T	13T	b 9	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4D_{3/2})$
1.8561		6.6799		T	13T	b 11	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4F_{3/2})$
1.8488		6.7063		T	13T	b 8	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4P_{1/2})$
1.8490		6.7055		T	13T	b 7	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4P_{3/2})$
1.8625		6.6569		T	13T	a 6	$1s^23s\ (^2S_{1/2})\ 1s2p3s\ (^4P_{1/2})$
1.8613		6.6612		T	13T	a 5	$1s^23s\ (^2S_{1/2})\ 1s2p3s\ (^4P_{3/2})$
1.8597		6.6669		T	13T	c 2	$1s^23s\ (^2S_{1/2})\ 1s2s(^1S)3p\ (^2P_{1/2})$
1.8580		6.6730		T	15T		$1s^23s\ (^2S_{1/2})\ 1s2s(^1S)3p\ (^2P_{3/2})$
1.8582		6.6723		T	13T	c 1	$1s^23s\ (^2S_{1/2})\ 1s2s(^1S)3p\ (^2P_{3/2})$
1.8660		6.6444		T	13T	c 4	$1s^23s\ (^2S_{1/2})\ 1s2s(^3S)3p\ (^2P_{1/2})$
1.8661		6.6441		T	13T	c 3	$1s^23s\ (^2S_{1/2})\ 1s2s(^3S)3p\ (^2P_{3/2})$
1.8678		6.6380		T	13T	c 6	$1s^23s\ (^2S_{1/2})\ 1s2s3p\ (^4P_{1/2})$
1.8676		6.6387		T	13T	c 5	$1s^23s\ (^2S_{1/2})\ 1s2s3p\ (^4P_{3/2})$
1.8502		6.7012		T	14T		$1s^24d\ (^2D_{3/2})\ 1s2p(^1P)4d\ (^2D_{5/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8499		6.7023		T	14T		$1s^2 4d ({}^2D_{3/2}) \rightarrow 1s 2p ({}^1P) 4d ({}^2F_{5/2})$
1.8616		6.6601		T	14T		$1s^2 4d ({}^2D_{3/2}) \rightarrow 1s 2s ({}^1S) 4p ({}^2P_{1/2})$
1.8504		6.7005		T	14T		$1s^2 4d ({}^2D_{5/2}) \rightarrow 1s 2p ({}^1P) 4d ({}^2D_{5/2})$
1.8501		6.7015		T	14T		$1s^2 4d ({}^2D_{5/2}) \rightarrow 1s 2p ({}^1P) 4d ({}^2F_{5/2})$
1.8504		6.7005		T	14T		$1s^2 4d ({}^2D_{5/2}) \rightarrow 1s 2p ({}^1P) 4d ({}^2F_{7/2})$
1.8548		6.6846		T	14T		$1s^2 4d ({}^2D_{5/2}) \rightarrow 1s 2p ({}^3P) 4d ({}^2F_{7/2})$
1.8595		6.6677		T	14T		$1s^2 4d ({}^2D_{5/2}) \rightarrow 1s 2p ({}^3P) 4d ({}^4F_{7/2})$
1.8613		6.6612		T	14T		$1s^2 4d ({}^2D_{5/2}) \rightarrow 1s 2s ({}^1S) 4p ({}^2P_{3/2})$
1.8496		6.7034		T	14T		$1s^2 4f ({}^2F_{5/2}) \rightarrow 1s 2p ({}^1P) 4f ({}^2G_{7/2})$
1.8497		6.7030		T	14T		$1s^2 4f ({}^2F_{7/2}) \rightarrow 1s 2p ({}^1P) 4f ({}^2G_{9/2})$
1.8506		6.6997		T	14T		$1s^2 4p ({}^2P_{1/2}) \rightarrow 1s 2p ({}^1P) 4p ({}^2D_{3/2})$
1.8589		6.6698		T	14T		$1s^2 4p ({}^2P_{1/2}) \rightarrow 1s 2p ({}^3P) 4p ({}^2D_{3/2})$
1.8605		6.6641		T	14T		$1s^2 4p ({}^2P_{1/2}) \rightarrow 1s 2p 4p ({}^4D_{3/2})$
1.8601		6.6655		T	14T		$1s^2 4p ({}^2P_{1/2}) \rightarrow 1s 2p 4p ({}^4S_{3/2})$
1.8620		6.6587		T	14T		$1s^2 4p ({}^2P_{1/2}) \rightarrow 1s 2s ({}^1S) 4s ({}^2S_{1/2})$
1.8509		6.6986		T	14T		$1s^2 4p ({}^2P_{3/2}) \rightarrow 1s 2p ({}^1P) 4p ({}^2D_{5/2})$
1.8507		6.6994		T	14T		$1s^2 4p ({}^2P_{3/2}) \rightarrow 1s 2p ({}^1P) 4p ({}^2P_{3/2})$
1.8502		6.7012		T	14T		$1s^2 4p ({}^2P_{3/2}) \rightarrow 1s 2p ({}^1P) 4p ({}^2S_{1/2})$
1.8595		6.6677		T	14T		$1s^2 4p ({}^2P_{3/2}) \rightarrow 1s 2p ({}^3P) 4p ({}^2D_{3/2})$
1.8559		6.6806		T	14T		$1s^2 4p ({}^2P_{3/2}) \rightarrow 1s 2p ({}^3P) 4p ({}^2P_{3/2})$
1.8548		6.6846		T	14T		$1s^2 4p ({}^2P_{3/2}) \rightarrow 1s 2p ({}^3P) 4p ({}^2S_{1/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8602		6.6652		T	14T	$1s^24p (^2P_{3/2})$	$1s2p4p (^4D_{5/2})$
1.8626		6.6566		T	14T	$1s^24p (^2P_{3/2})$	$1s2s(^1S)4s (^2S_{1/2})$
1.8504		6.7005		T	14T	$1s^24s (^2S_{1/2})$	$1s2p(^1P)4s (^2P_{1/2})$
1.8550		6.6838		T	14T	$1s^24s (^2S_{1/2})$	$1s2p(^3P)4s (^2P_{3/2})$
1.8599		6.6662		T	14T	$1s^24s (^2S_{1/2})$	$1s2p4s (^4P_{3/2})$
1.8588		6.6702		T	14T	$1s^24s (^2S_{1/2})$	$1s2s(^1S)4p (^2P_{1/2})$
1.859		6.669		TA	6T	$1s^22p (^2P_{1/2})$	$1s2p^2 (^2D_{3/2})$
1.859		6.669		TA	6T	$1s^22p (^2P_{1/2})$	$1s2p^2 (^2P_{1/2})$
1.855		6.684		TA	6T	$1s^22p (^2P_{1/2})$	$1s2p^2 (^2P_{3/2})$
1.849		6.706		TA	6T	$1s^22p (^2P_{1/2})$	$1s2p^2 (^2S_{1/2})$
1.869		6.634		TA	6T	$1s^22p (^2P_{1/2})$	$1s2p^2 (^4P_{1/2})$
1.867		6.641		TA	6T	$1s^22p (^2P_{1/2})$	$1s2p^2 (^4P_{3/2})$
1.889		6.564		TA	6T	$1s^22p (^2P_{1/2})$	$1s2s^2 (^2S_{1/2})$
0.920		13.5		TA	6T	$1s^22p (^2P_{1/2})$	$2s^22p (^2P_{3/2})$
1.864		6.652		TA	6T	$1s^22p (^2P_{3/2})$	$1s2p^2 (^2D_{3/2})$
1.863		6.655		TA	6T	$1s^22p (^2P_{3/2})$	$1s2p^2 (^2D_{5/2})$
1.864		6.652		TA	6T	$1s^22p (^2P_{3/2})$	$1s2p^2 (^2P_{1/2})$
1.859		6.669		TA	6T	$1s^22p (^2P_{3/2})$	$1s2p^2 (^2P_{3/2})$
1.853		6.691		TA	6T	$1s^22p (^2P_{3/2})$	$1s2p^2 (^2S_{1/2})$
1.873		6.620		TA	6T	$1s^22p (^2P_{3/2})$	$1s2p^2 (^4P_{1/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.871		6.627		TA	6T		$1s^2 2p \ (^2P_{3/2}) \rightarrow 1s^2 2p^2 \ (^4P_{3/2})$
1.869		6.634		TA	6T		$1s^2 2p \ (^2P_{3/2}) \rightarrow 1s^2 2p^2 \ (^4P_{5/2})$
1.893		6.550		TA	6T		$1s^2 2p \ (^2P_{3/2}) \rightarrow 1s^2 s^2 \ (^2S_{1/2})$
0.922		13.5		TA	6T		$1s^2 2p \ (^2P_{3/2}) \rightarrow 2s^2 2p \ (^2P_{1/2})$
0.921		13.5		TA	6T		$1s^2 2p \ (^2P_{3/2}) \rightarrow 2s^2 2p \ (^2P_{3/2})$
1.853		6.691		TA	6T		$1s^2 2s \ (^2S_{1/2}) \rightarrow 1s^2 s 2p \ (^2P_{1/2})$
1.861		6.662		TA	6T		$1s^2 2s \ (^2S_{1/2}) \rightarrow 1s^2 s 2p \ (^2P_{1/2})$
1.853		6.691		TA	6T		$1s^2 2s \ (^2S_{1/2}) \rightarrow 1s^2 s 2p \ (^2P_{3/2})$
1.858		6.673		TA	6T		$1s^2 2s \ (^2S_{1/2}) \rightarrow 1s^2 s 2p \ (^2P_{3/2})$
1.871		6.627		TA	6T		$1s^2 2s \ (^2S_{1/2}) \rightarrow 1s^2 s 2p \ (^4P_{1/2})$
1.870		6.630		TA	6T		$1s^2 2s \ (^2S_{1/2}) \rightarrow 1s^2 s 2p \ (^4P_{3/2})$
0.918		13.5		TA	6T		$1s^2 2s \ (^2S_{1/2}) \rightarrow 2s^2 2p \ (^2P_{1/2})$
0.917		13.5		TA	6T		$1s^2 2s \ (^2S_{1/2}) \rightarrow 2s^2 2p \ (^2P_{3/2})$
1.825		6.794		TA	6T		$1s^2 2p^2 \ (^2D_{3/2}) \rightarrow 2s^2 2p \ (^2P_{1/2})$
1.821		6.809		TA	6T		$1s^2 2p^2 \ (^2D_{3/2}) \rightarrow 2s^2 2p \ (^2P_{3/2})$
1.822		6.805		TA	6T		$1s^2 2p^2 \ (^2D_{5/2}) \rightarrow 2s^2 2p \ (^2P_{3/2})$
1.826		6.790		TA	6T		$1s^2 2p^2 \ (^2P_{1/2}) \rightarrow 2s^2 2p \ (^2P_{1/2})$
1.821		6.809		TA	6T		$1s^2 2p^2 \ (^2P_{1/2}) \rightarrow 2s^2 2p \ (^2P_{3/2})$
1.830		6.774		TA	6T		$1s^2 2p^2 \ (^2P_{3/2}) \rightarrow 2s^2 2p \ (^2P_{1/2})$
1.826		6.790		TA	6T		$1s^2 2p^2 \ (^2P_{3/2}) \rightarrow 2s^2 2p \ (^2P_{3/2})$
1.836		6.753		TA	6T		$1s^2 2p^2 \ (^2S_{1/2}) \rightarrow 2s^2 2p \ (^2P_{1/2})$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.831		6.771		TA	6T		$1s2p^2 (^2S_{1/2}) \rightarrow 2s^22p (^2P_{3/2})$
1.817		6.824		TA	6T		$1s2p^2 (^4P_{1/2}) \rightarrow 2s^22p (^2P_{1/2})$
1.813		6.839		TA	6T		$1s2p^2 (^4P_{1/2}) \rightarrow 2s^22p (^2P_{3/2})$
1.819		6.816		TA	6T		$1s2p^2 (^4P_{3/2}) \rightarrow 2s^22p (^2P_{1/2})$
1.815		6.831		TA	6T		$1s2p^2 (^4P_{3/2}) \rightarrow 2s^22p (^2P_{3/2})$
1.816		6.827		TA	6T		$1s2p^2 (^4P_{5/2}) \rightarrow 2s^22p (^2P_{3/2})$
1.798		6.896		TA	6T		$1s2s^2 (^2S_{1/2}) \rightarrow 2s^22p (^2P_{1/2})$
1.794		6.911		TA	6T		$1s2s^2 (^2S_{1/2}) \rightarrow 2s^22p (^2P_{3/2})$

Fe +24 ($1s^2 \ ^1S_0$)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8493		6.7044		T	27T		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.84935		6.70426		T	28T		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8498		6.7026		T	9T		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8499		6.7023		T	15T		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8499		6.7023		T	5T		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.84992		6.70219		E(N)	10E	w	$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.84992		6.70219		T	4T		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.850	1E-03	6.702	2E-03	E(N)	13E		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8500	5E-04	6.7019	4E-03	E	3E		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8500		6.7019		E(N)	9E	w	$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8500		6.7019		T	13T	w	$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8504	4E-04	6.7005	3E-03	E	15E		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8504	4E-04	6.7005	3E-03	E	14E		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8505		6.7002		T	16T		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.8509		6.6986		T	19T	w	$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.855		6.683		T	1T		$1s^2 \ (^1S_0)$ $1s2p \ (^1P_1)$
1.856	1E-03	6.680	2E-03	E	13E		$1s^2 \ (^1S_0)$ $1s2p \ (^3P_1)$
1.85844		6.67147		T	28T		$1s^2 \ (^1S_0)$ $1s2p \ (^3P_1)$
1.8585		6.6713		T	27T		$1s^2 \ (^1S_0)$ $1s2p \ (^3P_1)$
1.8588		6.6702		T	9T		$1s^2 \ (^1S_0)$ $1s2p \ (^3P_1)$
1.8589		6.6698		T	15T		$1s^2 \ (^1S_0)$ $1s2p \ (^3P_1)$
1.8589		6.6698		T	5T		$1s^2 \ (^1S_0)$ $1s2p \ (^3P_1)$
1.8591		6.6691		T	13T	y	$1s^2 \ (^1S_0)$ $1s2p \ (^3P_1)$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8592		6.6687		E	9E	y	$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_1)$
1.8594		6.6679		T	16T		$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_1)$
1.8595		6.6678		T	4T		$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_1)$
1.8595		6.6678		E	10E	y	$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_1)$
1.8602		6.6652		T	19T	y	$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_1)$
1.8545		6.6846		T	27T		$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_2)$
1.8548		6.6846		T	9T		$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_2)$
1.8550		6.6838		T	13T	x	$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_2)$
1.8552		6.6832		T	4T		$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_2)$
1.8552		6.6832		E	10E	x	$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_2)$
1.8552		6.6831		E	9E	x	$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_2)$
1.8554		6.6824		T	16T		$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_2)$
1.8561		6.6799		T	19T	x	$1s^2 ({}^1S_0) \rightarrow 1s2p ({}^3P_2)$
1.8674		6.6395		T	27T		$1s^2 ({}^1S_0) \rightarrow 1s2s ({}^3S_1)$
1.8676		6.6387		T	9T		$1s^2 ({}^1S_0) \rightarrow 1s2s ({}^3S_1)$
1.8678		6.6380		T	13T	z	$1s^2 ({}^1S_0) \rightarrow 1s2s ({}^3S_1)$
1.8680		6.6373		E	10E	z	$1s^2 ({}^1S_0) \rightarrow 1s2s ({}^3S_1)$
1.8680		6.6373		T	4T		$1s^2 ({}^1S_0) \rightarrow 1s2s ({}^3S_1)$
1.8681		6.6370		E	9E	z	$1s^2 ({}^1S_0) \rightarrow 1s2s ({}^3S_1)$
1.8682		6.6366		T	16T		$1s^2 ({}^1S_0) \rightarrow 1s2s ({}^3S_1)$
1.8689		6.6341		T	19T	z	$1s^2 ({}^1S_0) \rightarrow 1s2s ({}^3S_1)$
1.5728		7.8831		T	15T		$1s^2 ({}^1S_0) \rightarrow 1s3p ({}^1P_1)$
1.5732		7.8812		T	4T		$1s^2 ({}^1S_0) \rightarrow 1s3p ({}^1P_1)$
1.573		7.881		T	23T		$1s^2 ({}^1S_0) \rightarrow 1s3p ({}^1P_1)$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.5738	6E-04	7.8781	6E-03	E	14E		$1s^2 ({}^1S_0)$ $1s3p ({}^1P_1)$
1.5747		7.8736		T	15T		$1s^2 ({}^1S_0)$ $1s3p ({}^3P_1)$
1.5751		7.8716		T	7E		$1s^2 ({}^1S_0)$ $1s3p_{1/2} ({}^3P_1)$
1.5755		7.8696		E	7E		$1s^2 ({}^1S_0)$ $1s3p_{1/2} ({}^3P_1)$
1.5732		7.8811		T	7E		$1s^2 ({}^1S_0)$ $1s3p_{3/2} ({}^1P_1)$
1.5738		7.8781		E	7E		$1s^2 ({}^1S_0)$ $1s3p_{3/2} ({}^1P_1)$
1.4942		8.2978		E	7E		$1s^2 ({}^1S_0)$ $1s4p$
1.4946		8.2955		T	7E		$1s^2 ({}^1S_0)$ $1s4p$
1.509		8.216		E	2E		$1s^2 ({}^1S_0)$ $1s4p$
1.4946		8.2955		T	4T		$1s^2 ({}^1S_0)$ $1s4p ({}^1P_1)$
1.495		8.295		T	23T		$1s^2 ({}^1S_0)$ $1s4p ({}^1P_1)$
1.4948	6E-04	8.2944	7E-03	E	14E		$1s^2 ({}^1S_0)$ $1s4p ({}^1P_1)$
1.456		8.515		E	2E		$1s^2 ({}^1S_0)$ $1s5p$
1.4605	6E-04	8.4892	7E-03	E	14E		$1s^2 ({}^1S_0)$ $1s5p ({}^1P_1)$
1.4607		8.4881		T	4T		$1s^2 ({}^1S_0)$ $1s5p ({}^1P_1)$
1.4433	6E-04	8.5904	7E-03	E	14E		$1s^2 ({}^1S_0)$ $1s6p ({}^1P_1)$
1.7913		6.9215		T	9T		$1s2p ({}^1P_1)$ $2p^2 ({}^1D_2)$
1.7917		6.9200		T	18T	9	$1s2p ({}^1P_1)$ $2p^2 ({}^1D_2)$
1.7823		6.9565		T	9T		$1s2p ({}^1P_1)$ $2p^2 ({}^1S_0)$
1.7826		6.9553		T	18T	18	$1s2p ({}^1P_1)$ $2p^2 ({}^1S_0)$
1.8008		6.8850		T	9T		$1s2p ({}^1P_1)$ $2p^2 ({}^3P_0)$

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.8010		6.8842		T	18T	20	1s2p (1P_1) 2p ² (3P_0)
1.7982		6.8950		T	9T		1s2p (1P_1) 2p ² (3P_1)
1.7986		6.8984		T	18T	16	1s2p (1P_1) 2p ² (3P_1)
1.7966		6.9011		T	9T		1s2p (1P_1) 2p ² (3P_2)
1.7968		6.9003		T	18T	12	1s2p (1P_1) 2p ² (3P_2)
1.5212		8.1505		T	15T		1s2p (1P_1) 2p3p (1D_2)
1.5191		8.1618		T	15T		1s2p (1P_1) 2p3p (1S_0)
1.8104		6.8485		T	9T		1s2p (1P_1) 2s ² (1S_0)
1.8109		6.8466		T	18T	22	1s2p (1P_1) 2s ² (1S_0)
1.5243		8.1389		T	15T		1s2p (1P_1) 2s3d (1D_2)
1.5292		8.1078		T	15T		1s2p (1P_1) 2s3s (1S_0)
1.7890		6.9304		T	18T	13	1s2p (3P_0) 2p ² (3P_1)
1.7893		6.9293		T	9T		1s2p (3P_0) 2p ² (3P_1)
1.7829		6.9541		T	9T		1s2p (3P_1) 2p ² (1D_2)
1.7832		6.9530		T	18T	7	1s2p (3P_1) 2p ² (1D_2)
1.7741		6.9886		T	9T		1s2p (3P_1) 2p ² (1S_0)
1.7742		6.9882		T	18T	17	1s2p (3P_1) 2p ² (1S_0)
1.7924		6.9173		T	18T	19	1s2p (3P_1) 2p ² (3P_0)
1.7924		6.9173		T	9T		1s2p (3P_1) 2p ² (3P_0)
1.7898		6.9273		T	9T		1s2p (3P_1) 2p ² (3P_1)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.7900		6.9265		T	18T	14	1s2p (3P_1) 2p ² (3P_1)
1.7882		6.9335		T	9T		1s2p (3P_1) 2p ² (3P_2)
1.7882		6.9335		T	18T	10	1s2p (3P_1) 2p ² (3P_2)
1.8018		6.8812		T	9T		1s2p (3P_1) 2s ² (1S_0)
1.8022		6.8797		T	18T	21	1s2p (3P_1) 2s ² (1S_0)
1.5212		8.1505		T	15T		1s2p (3P_1) 2p3p (3D_2)
1.5196		8.1591		T	15T		1s2p (3P_1) 2s3d (3D_2)
1.5231		8.1403		T	15T		1s2p (3P_1) 2s3s (1S_0)
1.7866		6.9397		T	9T		1s2p (3P_2) 2p ² (1D_2)
1.7870		6.9382		T	18T	8	1s2p (3P_2) 2p ² (1D_2)
1.7935		6.9130		T	9T		1s2p (3P_2) 2p ² (3P_1)
1.7939		6.9115		T	18T	15	1s2p (3P_2) 2p ² (3P_1)
1.7919		6.9192		T	9T		1s2p (3P_2) 2p ² (3P_2)
1.7921		6.9184		T	18T	11	1s2p (3P_2) 2p ² (3P_2)
1.5178		8.1687		T	15T		1s2p (3P_2) 2p3p (1D_2)
1.5196		8.1591		T	15T		1s2p (3P_2) 2p3p (3P_2)
1.5199		8.1575		T	15T		1s2p (3P_2) 2p3p (3D_3)
1.5226		8.1430		T	15T		1s2p (3P_2) 2s3d (3D_3)
1.5177		8.1693		T	15T		1s2s (1S_0) 2p3s (1P_1)
1.7861		6.9417		T	18T	3	1s2s (1S_0) 2s2p (1P_1)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.7865		6.9401		T	9T		$1s2s (^1S_0) \rightarrow 2s2p (^1P_1)$
1.7992		6.8911		T	18T	5	$1s2s (^1S_0) \rightarrow 2s2p (^3P_1)$
1.7996		6.8896		T	9T		$1s2s (^1S_0) \rightarrow 2s2p (^3P_1)$
1.5219		8.1467		T	15T		$1s2s (^1S_0) \rightarrow 2s3p (^1P_1)$
1.7784		6.9717		T	9T		$1s2s (^3S_1) \rightarrow 2s2p (^1P_1)$
1.7787		6.9706		T	18T	2	$1s2s (^3S_1) \rightarrow 2s2p (^1P_1)$
1.7926		6.9165		T	9T		$1s2s (^3S_1) \rightarrow 2s2p (^3P_0)$
1.7930		6.9150		T	18T	6	$1s2s (^3S_1) \rightarrow 2s2p (^3P_0)$
1.7914		6.9211		T	9T		$1s2s (^3S_1) \rightarrow 2s2p (^3P_1)$
1.7918		6.9196		T	18T	4	$1s2s (^3S_1) \rightarrow 2s2p (^3P_1)$
1.7875		6.9362		T	9T		$1s2s (^3S_1) \rightarrow 2s2p (^3P_2)$
1.7881		6.9339		T	18T	1	$1s2s (^3S_1) \rightarrow 2s2p (^3P_2)$
1.5160		8.1784		T	15T		$1s2s (^3S_1) \rightarrow 2s3p (^1P_1)$
1.5163		8.1768		T	15T		$1s2s (^3S_1) \rightarrow 2s3p (^3P_1)$
1.5157		8.1801		T	15T		$1s2s (^3S_1) \rightarrow 2s3p (^3P_2)$
1.7765		6.9792		T	15T		$1s3d (^1D_2) \rightarrow 2p3d (^1F_3)$
1.7769		6.9776		T	18T	26	$1s3d (^1D_2) \rightarrow 2p3d (^1F_3)$
1.7760		6.9811		T	15T		$1s3d (^1D_2) \rightarrow 2p3d (^1P_1)$
1.7835		6.9518		T	15T		$1s3d (^1D_2) \rightarrow 2p3d (^3D_2)$
1.7844		6.9483		T	15T		$1s3d (^1D_2) \rightarrow 2p3d (^3F_3)$
1.7845		6.9479		T	18T	31	$1s3d (^1D_2) \rightarrow 2p3d (^3F_3)$

λ (Å)	error	E(keV)	error	Method	Ref.	Key	Transition
1.7784		6.9717		T	15T		1s3d (1D_2) 2p3d (3P_2)
1.7827		6.9549		T	15T		1s3d (1D_2) 2p3s (1P_1)
1.7873		6.9370		T	18T	47	1s3d (1D_2) 2s3p (1P_1)
1.7797		6.9666		T	15T		1s3d (3D_1) 2p3d (1D_2)
1.7829		6.9541		T	18T	44	1s3d (3D_1) 2p3d (3D_1)
1.7857		6.9432		T	15T		1s3d (3D_1) 2p3d (3F_2)
1.7857		6.9432		T	18T	36	1s3d (3D_1) 2p3d (3F_2)
1.7779		6.9737		T	15T		1s3d (3D_1) 2p3d (3P_0)
1.7780		6.9733		T	15T		1s3d (3D_1) 2p3d (3P_1)
1.7801		6.9651		T	18T	32	1s3d (3D_1) 2p3d (3P_2)
1.7815		6.9596		T	18T	42	1s3d (3D_1) 2p3s (1P_1)
1.7886		6.9320		T	15T		1s3d (3D_1) 2s3p (3P_0)
1.7797		6.9666		T	15T		1s3d (3D_2) 2p3d (1D_2)
1.7760		6.9811		T	15T		1s3d (3D_2) 2p3d (1F_3)
1.7764		6.9796		T	18T	24	1s3d (3D_2) 2p3d (1F_3)
1.7828		6.9545		T	15T		1s3d (3D_2) 2p3d (3D_1)
1.7829		6.9541		T	18T	45	1s3d (3D_2) 2p3d (3D_1)
1.7789		6.9698		T	15T		1s3d (3D_2) 2p3d (3D_3)
1.7792		6.9686		T	18T	27	1s3d (3D_2) 2p3d (3D_3)
1.7857		6.9432		T	15T		1s3d (3D_2) 2p3d (3F_2)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.7857		6.9432		T	18T	37	1s3d (3D_2) 2p3d (3F_2)
1.7839		6.9502		T	15T		1s3d (3D_2) 2p3d (3F_3)
1.7840		6.9498		T	18T	29	1s3d (3D_2) 2p3d (3F_3)
1.7801		6.9651		T	18T	33	1s3d (3D_2) 2p3d (3P_2)
1.7815		6.9596		T	18T	43	1s3d (3D_2) 2p3s (1P_1)
1.7883		6.9331		T	15T		1s3d (3D_2) 2s3p (3P_1)
1.7889		6.9308		T	18T	49	1s3d (3D_2) 2s3p (3P_1)
1.7764		6.9796		T	15T		1s3d (3D_3) 2p3d (1F_3)
1.7768		6.9780		T	18T	25	1s3d (3D_3) 2p3d (1F_3)
1.7793		6.9682		T	15T		1s3d (3D_3) 2p3d (3D_3)
1.7797		6.9666		T	18T	28	1s3d (3D_3) 2p3d (3D_3)
1.7843		6.9487		T	15T		1s3d (3D_3) 2p3d (3F_3)
1.7845		6.9479		T	18T	30	1s3d (3D_3) 2p3d (3F_3)
1.7804		6.9639		T	15T		1s3d (3D_3) 2p3d (3F_4)
1.7809		6.9619		T	18T	23	1s3d (3D_3) 2p3d (3F_4)
1.7849		6.9463		T	18T	35	1s3d (3D_3) 2p3s (3P_2)
1.7883		6.9331		T	18T	39	1s3d (3D_3) 2s3p (3P_2)
1.7789		6.9698		T	15T		1s3p (1P_1) 2p3p (1D_2)
1.7793		6.9682		T	18T	56	1s3p (1P_1) 2p3p (1D_2)
1.7861		6.9417		T	15T		1s3p (1P_1) 2p3p (1P_1)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.7760		6.9811		T	15T		1s3p (¹ P ₁) 2p3p (¹ S ₀)
1.7765		6.9792		T	18T	68	1s3p (¹ P ₁) 2p3p (¹ S ₀)
1.7852		6.9452		T	18T	63	1s3p (¹ P ₁) 2p3p (³ D ₂)
1.7872		6.9374		T	15T		1s3p (¹ P ₁) 2p3p (³ D ₂)
1.7832		6.9530		T	15T		1s3p (¹ P ₁) 2s3d (¹ D ₂)
1.7836		6.9514		T	18T	61	1s3p (¹ P ₁) 2s3d (¹ D ₂)
1.7849		6.9463		T	15T		1s3p (¹ P ₁) 2s3d (³ D ₂)
1.7873		6.9370		T	18T	66	1s3p (¹ P ₁) 2s3d (³ D ₂)
1.7899		6.9269		T	15T		1s3p (¹ P ₁) 2s3s (¹ S ₀)
1.7901		6.9262		T	18T	71	1s3p (¹ P ₁) 2s3s (¹ S ₀)
1.7799		6.9659		T	15T		1s3p (³ P ₀) 2p3p (³ P ₁)
1.7770		6.9772		T	18T	54	1s3p (³ P ₁) 2p3p (¹ D ₂)
1.7869		6.9386		T	15T		1s3p (³ P ₁) 2p3p (³ D ₁)
1.7848		6.9467		T	15T		1s3p (³ P ₁) 2p3p (³ D ₂)
1.7830		6.9537		T	15T		1s3p (³ P ₁) 2p3p (³ P ₀)
1.7831		6.9534		T	18T	69	1s3p (³ P ₁) 2p3p (³ P ₀)
1.7790		6.9694		T	15T		1s3p (³ P ₁) 2p3p (³ P ₂)
1.7793		6.9682		T	18T	57	1s3p (³ P ₁) 2p3p (³ P ₂)
1.7808		6.9623		T	15T		1s3p (³ P ₁) 2s3d (¹ D ₂)
1.7813		6.9604		T	18T	59	1s3p (³ P ₁) 2s3d (¹ D ₂)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.7849		6.9463		T	18T	64	1s3p (3P_1) 2s3d (3D_2)
1.7875		6.9362		T	15T		1s3p (3P_1) 2s3s (1S_0)
1.7877		6.9355		T	18T	70	1s3p (3P_1) 2s3s (1S_0)
1.7776		6.9749		T	15T		1s3p (3P_2) 2p3p (1D_2)
1.7781		6.9729		T	18T	55	1s3p (3P_2) 2p3p (1D_2)
1.7849		6.9463		T	15T		1s3p (3P_2) 2p3p (1P_1)
1.7840		6.9498		T	18T	62	1s3p (3P_2) 2p3p (3D_2)
1.7859		6.9424		T	15T		1s3p (3P_2) 2p3p (3D_2)
1.7804		6.9639		T	15T		1s3p (3P_2) 2p3p (3D_3)
1.7806		6.9631		T	18T	52	1s3p (3P_2) 2p3p (3D_3)
1.7801		6.9651		T	15T		1s3p (3P_2) 2p3p (3P_2)
1.7804		6.9639		T	18T	58	1s3p (3P_2) 2p3p (3P_2)
1.7819		6.9580		T	15T		1s3p (3P_2) 2s3d (1D_2)
1.7824		6.9561		T	18T	60	1s3p (3P_2) 2s3d (1D_2)
1.7838		6.9506		T	15T		1s3p (3P_2) 2s3d (3D_1)
1.7840		6.9498		T	18T	67	1s3p (3P_2) 2s3d (3D_1)
1.7837		6.9510		T	15T		1s3p (3P_2) 2s3d (3D_2)
1.7860		6.9421		T	18T	65	1s3p (3P_2) 2s3d (3D_2)
1.7842		6.9491		T	15T		1s3p (3P_2) 2s3d (3D_3)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.7847		6.9471		T	18T	53	1s3p (3P_2) 2s3d (3D_3)
1.7906		6.9242		T	15T		1s3p (3P_2) 2s3s (3S_1)
1.7790		6.9694		T	18T	41	1s3s (1S_0) 2p3s (1P_1)
1.7799		6.9659		T	15T		1s3s (1S_0) 2p3s (1P_1)
1.7878		6.9351		T	18T	50	1s3s (1S_0) 2p3s (3P_1)
1.7892		6.9296		T	15T		1s3s (1S_0) 2p3s (3P_1)
1.7857		6.9432		T	15T		1s3s (1S_0) 2s3p (1S_1)
1.7813		6.9604		T	15T		1s3s (3S_1) 2p3d (3F_2)
1.7771		6.9768		T	18T	40	1s3s (3S_1) 2p3s (1P_1)
1.7778		6.9741		T	15T		1s3s (3S_1) 2p3s (1P_1)
1.7852		6.9452		T	18T	51	1s3s (3S_1) 2p3s (3P_0)
1.7870		6.9382		T	15T		1s3s (3S_1) 2p3s (3P_1)
1.7801		6.9651		T	18T	34	1s3s (3S_1) 2p3s (3P_2)
1.7810		6.9615		T	15T		1s3s (3S_1) 2p3s (3P_2)
1.7824		6.9561		T	18T	46	1s3s (3S_1) 2s3p (1P_1)
1.7835		6.9518		T	15T		1s3s (3S_1) 2s3p (1P_1)
1.7839		6.9502		T	15T		1s3s (3S_1) 2s3p (3P_1)
1.7845		6.9479		T	18T	48	1s3s (3S_1) 2s3p (3P_1)
1.7835		6.9518		T	18T	38	1s3s (3S_1) 2s3p (3P_2)
1.7774		5.9756		T	18T	75	1s4d (1D_2) 2p4d (1F_3)
1.7826		6.9553		T	18T	79	1s4d (1D_2) 2p4d (3F_3)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.7832		6.9530		T	18T	81	1s4d (1D_2) 2s4f (3F_3)
1.7834		6.9522		T	18T	83	1s4d (3D_1) 2s4f (3F_2)
1.7772		6.9764		T	18T	73	1s4d (3D_2) 2p4d (1F_3)
1.7782		6.9725		T	18T	76	1s4d (3D_2) 2p4d (3D_3)
1.7835		6.9518		T	18T	84	1s4d (3D_2) 2s4f (3F_2)
1.7851		6.9456		T	18T	91	1s4d (3D_2) 2s4p (3P_1)
1.7774		6.9756		T	18T	74	1s4d (3D_3) 2p4d (1F_3)
1.7783		6.9721		T	18T	77	1s4d (3D_3) 2p4d (3D_3)
1.7826		6.9553		T	18T	78	1s4d (3D_3) 2p4d (3F_3)
1.7786		6.9709		T	18T	72	1s4d (3D_3) 2p4d (3F_4)
1.7832		6.9530		T	18T	80	1s4d (3D_3) 2s4f (3F_3)
1.7849		6.9463		T	18T	85	1s4d (3D_3) 2s4p (3P_2)
1.7772		6.9764		T	18T	99	1s4f (1F_3) 2p4f (1D_2)
1.7823		6.9565		T	18T	97	1s4f (1F_3) 2p4f (3G_4)
1.7785		6.9713		T	18T	102	1s4f (1F_3) 2p4p (1D_2)
1.7774		6.9756		T	18T	96	1s4f (3F_3) 2p4f (1G_4)
1.7776		6.9749		T	18T	95	1s4f (3F_4) 2p4f (3G_5)
1.7783		6.9721		T	18T	101	1s4p (1P_1) 2p4p (1D_2)
1.7773		6.9760		T	18T	113	1s4p (1P_1) 2p4p (1S_0)
1.7836		6.9514		T	18T	109	1s4p (1P_1) 2p4p (3D_2)
1.7782		6.9725		T	18T	103	1s4p (1P_1) 2p4p (3P_2)
1.7828		6.9545		T	18T	107	1s4p (1P_1) 2s4d (1D_2)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.7842		6.9491		T	18T	112	1s4p (1P_1) 2s4d (3D_2)
1.7856		6.9436		T	18T	115	1s4p (1P_1) 2s4s (1S_0)
1.7787		6.9706		T	18T	104	1s4p (1P_2) 2p4p (3P_2)
1.7818		6.9584		T	18T	105	1s4p (3P_1) 2s4d (1D_2)
1.7833		6.9526		T	18T	110	1s4p (3P_1) 2s4d (3D_2)
1.7847		6.9471		T	18T	114	1s4p (3P_1) 2s4s (1S_0)
1.7778		6.9741		T	18T	100	1s4p (3P_2) 2p4p (1D_2)
1.7831		6.9534		T	18T	108	1s4p (3P_2) 2p4p (3D_2)
1.7786		6.9709		T	18T	98	1s4p (3P_2) 2p4p (3D_3)
1.7823		6.9565		T	18T	106	1s4p (3P_2) 2s4d (1D_2)
1.7837		6.9510		T	18T	111	1s4p (3P_2) 2s4d (3D_2)
1.7784		6.9717		T	18T	87	1s4s (1S_0) 2p4s (1P_1)
1.7827		6.9549		T	18T	89	1s4s (1S_0) 2p4s (3P_1)
1.7844		6.9483		T	18T	93	1s4s (1S_0) 2s4p (1P_1)
1.7777		6.9745		T	18T	86	1s4s (3S_1) 2p4s (1P_1)
1.7819		6.9580		T	18T	88	1s4s (3S_1) 2p4s (3P_1)
1.7781		6.9729		T	18T	82	1s4s (3S_1) 2p4s (3P_2)
1.7836		6.9514		T	18T	92	1s4s (3S_1) 2s4p (1P_1)
1.7835		6.9518		T	18T	94	1s4s (3S_1) 2s4p (3P_0)
1.7833		6.9526		T	18T	90	1s4s (3S_1) 2s4p (3P_1)
1.850	3E-03	6.702	1E-02	EA	19E		1s 2 (1S_0) 1s2p (1P_1)
1.8503	2E-04	6.7009	3E-04	EA	17E		1s 2 (1S_0) 1s2p (1P_1)

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.85033		6.70070		TA	17E		$1s^2 ({}^1S_0)$ $1s2p ({}^1P_1)$
1.85946		6.66779		TA	17E		$1s^2 ({}^1S_0)$ $1s2p ({}^3P_1)$
1.8596	2E-04	6.6675	3E-04	EA	17E		$1s^2 ({}^1S_0)$ $1s2p ({}^3P_1)$
1.8553	2E-04	6.6827	3E-04	EA	17E		$1s^2 ({}^1S_0)$ $1s2p ({}^3P_2)$
1.85538		6.68248		TA	17E		$1s^2 ({}^1S_0)$ $1s2p ({}^3P_2)$
1.5724	4E-03	7.885	1E-02	EA	19E		$1s^2 ({}^1S_0)$ $1s3p ({}^1P_1)$
1.496	7E-03	8.290	2E-02	EA	19E		$1s^2 ({}^1S_0)$ $1s4p ({}^1P_1)$

Fe +25 (1s ²S_{1/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.782	1E-03	6.9596	8E-03	E	3E		1s (² S _{1/2}) 2p (² P _{1/2})
1.7826		6.9553		T	9T		1s (² S _{1/2}) 2p (² P _{1/2})
1.7827	6E-04	6.9549	5E-03	E	14E		1s (² S _{1/2}) 2p (² P _{1/2})
1.7827		6.9549		T	15T		1s (² S _{1/2}) 2p (² P _{1/2})
1.7834		6.9522		T	7E		1s (² S _{1/2}) 2p (² P _{1/2})
1.783442		6.952017		T	25T		1s (² S _{1/2}) 2p (² P _{1/2})
1.78347		6.95191		T	8T		1s (² S _{1/2}) 2p (² P _{1/2})
1.7840		6.9498		E	7E		1s (² S _{1/2}) 2p (² P _{1/2})
1.777	1E-03	6.9772	8E-03	E	3E		1s (² S _{1/2}) 2p (² P _{3/2})
1.7773		6.9760		T	9T		1s (² S _{1/2}) 2p (² P _{3/2})
1.7774		6.9756		T	15T		1s (² S _{1/2}) 2p (² P _{3/2})
1.7776	6E-04	6.9749	5E-03	E	14E		1s (² S _{1/2}) 2p (² P _{3/2})
1.7780		6.9733		T	7E		1s (² S _{1/2}) 2p (² P _{3/2})
1.778016		6.973232		T	25T		1s (² S _{1/2}) 2p (² P _{3/2})
1.77804		6.97314		T	8T		1s (² S _{1/2}) 2p (² P _{3/2})
1.7783		6.9721		E	7E		1s (² S _{1/2}) 2p (² P _{3/2})
1.5030		8.2492		T	15T		1s (² S _{1/2}) 3p (² P _{1/2})
1.5034		8.2470		T	7E		1s (² S _{1/2}) 3p (² P _{1/2})
1.50352		8.24633		T	8T		1s (² S _{1/2}) 3p (² P _{1/2})
1.5019		8.2552		T	15T		1s (² S _{1/2}) 3p (² P _{3/2})
1.5023		8.2530		T	7E		1s (² S _{1/2}) 3p (² P _{3/2})
1.50237		8.25264		T	8T		1s (² S _{1/2}) 3p (² P _{3/2})

$\lambda(\text{\AA})$	error	E(keV)	error	Method	Ref.	Key	Transition
1.4253		8.6989		T	7E		1s ($^2S_{1/2}$) 4p ($^2P_{1/2}$)
1.42536		8.69852		T	8T		1s ($^2S_{1/2}$) 4p ($^2P_{1/2}$)
1.4249		8.7013		T	7E		1s ($^2S_{1/2}$) 4p ($^2P_{3/2}$)
1.42492		8.70120		T	8T		1s ($^2S_{1/2}$) 4p ($^2P_{3/2}$)
1.39192		8.90750		T	8T		1s ($^2S_{1/2}$) 5p ($^2P_{1/2}$)
1.39171		8.90884		T	8T		1s ($^2S_{1/2}$) 5p ($^2P_{3/2}$)
1.37444		9.02078		T	8T		1s ($^2S_{1/2}$) 6p ($^2P_{1/2}$)
1.36411		9.08909		T	8T		1s ($^2S_{1/2}$) 7p ($^2P_{1/2}$)
1.35750		9.13335		T	8T		1s ($^2S_{1/2}$) 8p ($^2P_{1/2}$)
1.35301		9.16366		T	8T		1s ($^2S_{1/2}$) 9p ($^2P_{1/2}$)
1.34981		9.18538		T	8T		1s ($^2S_{1/2}$) 10p ($^2P_{1/2}$)
1.34746		9.20140		T	8T		1s ($^2S_{1/2}$) 11p ($^2P_{1/2}$)
1.34568		9.21357		T	8T		1s ($^2S_{1/2}$) 12p ($^2P_{1/2}$)
1.34429		9.22303		T	8T		1s ($^2S_{1/2}$) 13p ($^2P_{1/2}$)
1.7835	4E-04	6.9519	7E-04	EA	16E		1s ($^2S_{1/2}$) 2p ($^2P_{1/2}$)
1.7779	3E-04	6.9738	6E-04	EA	16E		1s ($^2S_{1/2}$) 2p ($^2P_{3/2}$)

§4. Explanation for Tables of Transition Probabilities

$\lambda(\text{\AA})$	Wavelengths of listed spectral lines in Angstrom units (10^{-8}cm)
Key	Symbol for the identification of the transition
Ref.	Reference source for the data. The numbers are keyed to the bibliographic list following the Tables. T and E mean theory and experiment, respectively.
A_r	Radiative transition probability in s^{-1} 6.12(14) means $6.12 \times 10^{14} \text{ s}^{-1}$
A_a	Autoionization probability from the upper level in s^{-1}
FS	Parameter for the intensity of the satellite line from the level u to the level l .

$$FS(u \rightarrow l) = \frac{g_u A_a(u) A_r(u \rightarrow l)}{\sum_{l'} A_r(u \rightarrow l') + A_a(u)},$$

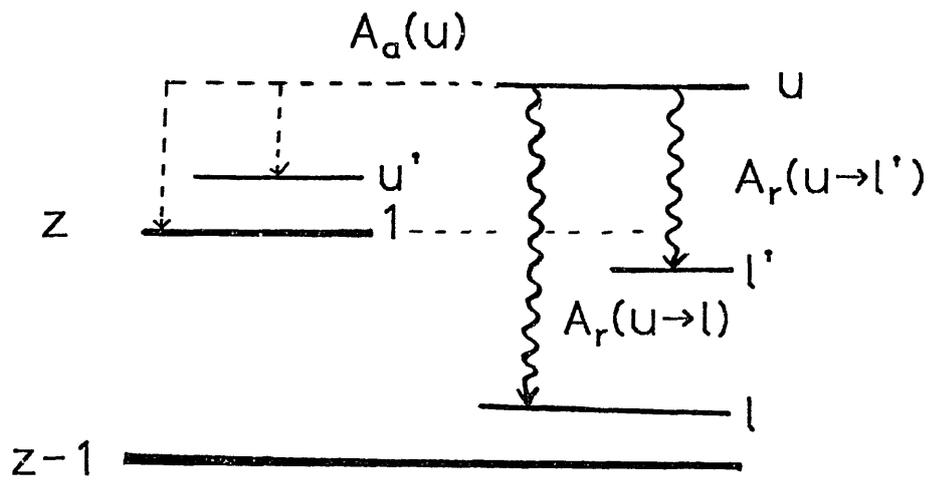
$$A_a(u) = \sum_{u'} A_a(u \rightarrow u')$$

where $A_a(u)$ is the total autoionization probability of the level u , g_u is the statistical weight of the upper level u , u' is the state of the ion after the autoionization decay and l' is the state after the radiative transition. The intensity of the satellite line at the temperature T_e is given

$$I_s(u \rightarrow l) = 3.3(-24)n_z n_e \left(\frac{I_H}{kT_e} \right)^{3/2} \frac{FS}{g_1} \exp(-E_s/kT_e) \text{ cm}^3 \text{ s}^{-1},$$

where n_z and n_e are the ion and the electron densities, E_s the energy difference between the upper level of the satellite state and the ground state in the recombining ion with charge z , and g_1 the statistical weight of the ground state of ion z (see Fig.1).

Fig.1



§5. Tables for Transition Probabilities

Fe +18 ($1s^2 2s^2 2p^4 \ ^3P_2$)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_o	FS	Transition
1.9135		21T	6.12(14)			$1s^2 2s^2 2p^4 \ (^1D_2)$ \rightarrow $1s 2s^2 2p^5 \ (^1P_1)$
1.9193		21T	1.29(14)			$1s^2 2s^2 2p^4 \ (^1S_0)$ \rightarrow $1s 2s^2 2p^5 \ (^1P_1)$
1.9163		21T	1.30(14)			$1s^2 2s^2 2p^4 \ (^3P_0)$ \rightarrow $1s 2s^2 2p^5 \ (^3P_1)$
1.9137		21T	4.16(14)			$1s^2 2s^2 2p^4 \ (^3P_1)$ \rightarrow $1s 2s^2 2p^5 \ (^3P_0)$
1.9185		21T	1.05(14)			$1s^2 2s^2 2p^4 \ (^3P_1)$ \rightarrow $1s 2s^2 2p^5 \ (^3P_2)$
1.9132		21T	2.16(14)			$1s^2 2s^2 2p^4 \ (^3P_2)$ \rightarrow $1s 2s^2 2p^5 \ (^3P_1)$
1.9153		21T	2.82(14)			$1s^2 2s^2 2p^4 \ (^3P_2)$ \rightarrow $1s 2s^2 2p^5 \ (^3P_2)$

Fe +19 ($1s^2 2s^2 2p^3 \ ^4S_{3/2}$)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.9036		21T	4.39(14)			$1s^2 2s^2 2p^3 \ (^2D_{3/2})$ \rightarrow $1s2s^2 2p^4 \ (^2D_{3/2})$
1.9013		21T	2.87(14)			$1s^2 2s^2 2p^3 \ (^2D_{3/2})$ \rightarrow $1s2s^2 2p^4 \ (^2S_{1/2})$
1.9036		21T	2.87(14)			$1s^2 2s^2 2p^3 \ (^2D_{5/2})$ \rightarrow $1s2s^2 2p^4 \ (^2D_{5/2})$
1.9015		21T	4.39(14)			$1s^2 2s^2 2p^3 \ (^2D_{5/2})$ \rightarrow $1s2s^2 2p^4 \ (^2P_{3/2})$
1.9047		21T	1.26(14)			$1s^2 2s^2 2p^3 \ (^2P_{1/2})$ \rightarrow $1s2s^2 2p^4 \ (^2P_{3/2})$
1.9059		21T	3.25(14)			$1s^2 2s^2 2p^3 \ (^2P_{1/2})$ \rightarrow $1s2s^2 2p^4 \ (^2S_{1/2})$
1.9089		21T	1.24(14)			$1s^2 2s^2 2p^3 \ (^2P_{3/2})$ \rightarrow $1s2s^2 2p^4 \ (^2D_{5/2})$
1.9027		21T	5.38(14)			$1s^2 2s^2 2p^3 \ (^2P_{3/2})$ \rightarrow $1s2s^2 2p^4 \ (^2P_{1/2})$
1.9068		21T	1.19(14)			$1s^2 2s^2 2p^3 \ (^2P_{3/2})$ \rightarrow $1s2s^2 2p^4 \ (^2P_{3/2})$
1.9037		21T	2.21(14)			$1s^2 2s^2 2p^3 \ (^2S_{3/2})$ \rightarrow $1s2s^2 2p^4 \ (^4P_{3/2})$
1.9038		21T	2.07(14)			$1s^2 2s^2 2p^3 \ (^2S_{3/2})$ \rightarrow $1s2s^2 2p^4 \ (^4P_{1/2})$
1.9065		21T	1.86(14)			$1s^2 2s^2 2p^3 \ (^2S_{3/2})$ \rightarrow $1s2s^2 2p^4 \ (^4P_{5/2})$

Fe +20 ($1s^2 2s^2 2p^2 \ ^3P_0$)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_g	FS	Transition
1.8926		21T	4.85(14)			$1s^2 2s^2 2p^2 \ (^1D_2)$ - $1s 2s^2 2p^3 \ (^1D_2)$
1.8899		21T	3.74(14)			$1s^2 2s^2 2p^2 \ (^1D_2)$ - $1s 2s^2 2p^3 \ (^1P_1)$
1.8942		21T	2.47(14)			$1s^2 2s^2 2p^2 \ (^1S_0)$ - $1s 2s^2 2p^3 \ (^1P_1)$
1.8936		21T	2.54(14)			$1s^2 2s^2 2p^2 \ (^3P_0)$ - $1s 2s^2 2p^3 \ (^3D_1)$
1.8950		21T	2.03(14)			$1s^2 2s^2 2p^2 \ (^3P_1)$ - $1s 2s^2 2p^3 \ (^3D_2)$
1.8911		21T	2.16(14)			$1s^2 2s^2 2p^2 \ (^3P_1)$ - $1s 2s^2 2p^3 \ (^3P_0)$
1.8923		21T	4.19(14)			$1s^2 2s^2 2p^2 \ (^3P_1)$ - $1s 2s^2 2p^3 \ (^3P_1)$
1.8952		21T	1.63(14)			$1s^2 2s^2 2p^2 \ (^3P_2)$ - $1s 2s^2 2p^3 \ (^3D_3)$
1.8938		21T	1.23(14)			$1s^2 2s^2 2p^2 \ (^3P_2)$ - $1s 2s^2 2p^3 \ (^3P_1)$
1.8919		21T	3.02(14)			$1s^2 2s^2 2p^2 \ (^3P_2)$ - $1s 2s^2 2p^3 \ (^3P_2)$
1.8916		21T	3.57(14)			$1s^2 2s^2 2p^2 \ (^3P_2)$ - $1s 2s^2 2p^3 \ (^3S_1)$

Fe +21 (1s²2s²2p ²P_{1/2})

$\lambda(\text{\AA})$	Key	Ref.	A _r	A _a	FS	Transition
1.8811		21T	2.84(14)			1s ² 2s ² 2p (² P _{1/2})
1.8808		21T	4.95(14)			1s ² 2s ² 2p (² P _{1/2})
1.8834		21T	1.98(14)			1s ² 2s ² 2p (² P _{3/2})
1.8786		21T	2.84(14)			1s ² 2s ² 2p (² P _{3/2})
1.8801		21T	5.64(14)			1s ² 2s ² 2p (² P _{3/2})
1.8850		21T	9.0(13)			1s ² 2s ² 2p (² P _{3/2})
						1s ² 2s ² 2p ² (² D _{3/2})
						1s ² 2s ² 2p ² (² S _{1/2})
						1s ² 2s ² 2p ² (² D _{5/2})
						1s ² 2s ² 2p ² (² P _{1/2})
						1s ² 2s ² 2p ² (² P _{3/2})
						1s ² 2s ² 2p ² (² S _{1/2})

Fe +22 ($1s^2 2s^2 \ ^1S_0$)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_e	FS	Transition
1.8779	12T	12T	2.05(14)	2.67(14)	3.33(14)	$1s^2 2p^2 \ (^1D_2)$ $1s 2p^3 \ (^1D_2)$
1.8696	12T	12T	3.90(14)	2.17(14)	2.77(14)	$1s^2 2p^2 \ (^1D_2)$ $1s 2p^3 \ (^1P_1)$
1.8836	12T	12T	1.51(12)	2.49(14)	1.94(12)	$1s^2 2p^2 \ (^1D_2)$ $1s 2p^3 \ (^0D_1)$
1.8832	12T	12T	2.11(13)	2.69(14)	5.53(13)	$1s^2 2p^2 \ (^1D_2)$ $1s 2p^3 \ (^0D_2)$
1.8826	12T	12T	6.30(13)	2.80(14)	2.37(14)	$1s^2 2p^2 \ (^1D_2)$ $1s 2p^3 \ (^0D_3)$
1.8758	12T	12T	1.40(13)	2.18(14)	1.70(13)	$1s^2 2p^2 \ (^1D_2)$ $1s 2p^3 \ (^0P_1)$
1.8737	12T	12T	3.67(14)	2.46(14)	7.20(14)	$1s^2 2p^2 \ (^1D_2)$ $1s 2p^3 \ (^0P_2)$
1.8802	12T	12T	4.67(13)	6.15(13)	9.99(12)	$1s^2 2p^2 \ (^1D_2)$ $1s 2p^3 \ (^0S_1)$
1.8914	12T	12T	2.10(11)	1.37(13)	5.54(11)	$1s^2 2p^2 \ (^1D_2)$ $1s 2p^3 \ (^5S_2)$
1.9133	12T	12T	7.30(12)	8.64(13)	3.53(12)	$1s^2 2p^2 \ (^1D_2)$ $1s 2s^2 2p \ (^1P_1)$
1.9223	12T	12T	2.29(12)	1.51(14)	5.30(12)	$1s^2 2p^2 \ (^1D_2)$ $1s 2s^2 2p \ (^0P_1)$
1.9185	12T	12T	1.11(12)	1.55(14)	5.22(12)	$1s^2 2p^2 \ (^1D_2)$ $1s 2s^2 2p \ (^0P_2)$
1.8774	12T	12T	2.49(14)	2.17(14)	1.77(14)	$1s^2 2p^2 \ (^1S_0)$ $1s 2p^3 \ (^1P_1)$
1.8914	12T	12T	1.30(9)	2.49(14)	1.68(9)	$1s^2 2p^2 \ (^1S_0)$ $1s 2p^3 \ (^0D_1)$
1.8835	12T	12T	2.25(13)	2.18(14)	2.75(13)	$1s^2 2p^2 \ (^1S_0)$ $1s 2p^3 \ (^0P_1)$
1.8880	12T	12T	7.18(10)	6.15(13)	1.54(10)	$1s^2 2p^2 \ (^1S_0)$ $1s 2p^3 \ (^0S_1)$
1.9213	12T	12T	4.96(13)	8.64(13)	2.39(13)	$1s^2 2p^2 \ (^1S_0)$ $1s 2s^2 2p \ (^1P_1)$
1.9305	12T	12T	2.09(12)	1.51(14)	4.84(12)	$1s^2 2p^2 \ (^1S_0)$ $1s 2s^2 2p \ (^0P_1)$
1.8611	12T	12T	2.10(11)	2.17(14)	1.49(11)	$1s^2 2p^2 \ (^3P_0)$ $1s 2p^3 \ (^1P_1)$
1.8750	12T	12T	2.66(14)	2.49(14)	3.42(14)	$1s^2 2p^2 \ (^3P_0)$ $1s 2p^3 \ (^0D_1)$
1.8672	12T	12T	4.23(12)	2.18(14)	5.17(12)	$1s^2 2p^2 \ (^3P_0)$ $1s 2p^3 \ (^0P_1)$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_o	FS	Transition
1.8716		12T	4.13(13)	6.15(13)	8.85(12)	$1s^2p^2 (^3P_o) \rightarrow 1s2p^3 (^3S_1)$
1.9044		12T	4.04(12)	8.64(13)	1.96(12)	$1s^2p^2 (^3P_o) \rightarrow 1s2s^2p (^1P_1)$
1.9133		12T	5.52(12)	1.51(14)	1.28(13)	$1s^2p^2 (^3P_o) \rightarrow 1s2s^2p (^3P_1)$
1.8717		12T	1.03(12)	2.67(14)	1.67(12)	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^1D_2)$
1.8635		12T	1.79(12)	2.17(14)	1.27(12)	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^1P_1)$
1.8774		12T	9.55(11)	2.49(14)	1.23(12)	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^3D_1)$
1.8770		12T	2.23(14)	2.69(14)	5.85(14)	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^3D_2)$
1.8764		12T	0.0	2.80(14)	0.0	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^3D_3)$
1.8702		12T	2.32(14)	2.33(14)	1.16(14)	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^3P_o)$
1.8696		12T	1.47(13)	2.18(14)	1.80(13)	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^3P_1)$
1.8676		12T	7.14(12)	2.46(14)	1.40(13)	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^3P_2)$
1.8740		12T	4.61(14)	6.15(13)	9.88(13)	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^3S_1)$
1.8851		12T	5.74(12)	1.37(13)	1.51(13)	$1s^2p^2 (^3P_1) \rightarrow 1s2p^3 (^5S_2)$
1.9069		12T	1.70(11)	8.64(13)	8.21(10)	$1s^2p^2 (^3P_1) \rightarrow 1s2s^2p (^1P_1)$
1.9164		12T	7.30(12)	1.58(14)	6.98(12)	$1s^2p^2 (^3P_1) \rightarrow 1s2s^2p (^3P_o)$
1.9159		12T	1.92(12)	1.51(14)	4.45(12)	$1s^2p^2 (^3P_1) \rightarrow 1s2s^2p (^3P_1)$
1.9120		12T	2.99(12)	1.55(14)	1.41(10)	$1s^2p^2 (^3P_1) \rightarrow 1s2s^2p (^3P_2)$
1.8732		12T	3.48(14)	2.67(14)	5.66(14)	$1s^2p^2 (^3P_2) \rightarrow 1s2p^3 (^1D_2)$
1.8651		12T	5.32(12)	2.17(14)	3.78(12)	$1s^2p^2 (^3P_2) \rightarrow 1s2p^3 (^1P_1)$
1.8790		12T	5.55(13)	2.49(14)	7.14(13)	$1s^2p^2 (^3P_2) \rightarrow 1s2p^3 (^3D_1)$
1.8785		12T	1.37(7)	2.69(14)	3.58(7)	$1s^2p^2 (^3P_2) \rightarrow 1s2p^3 (^3D_2)$
1.8779		12T	1.77(14)	2.80(14)	6.68(14)	$1s^2p^2 (^3P_2) \rightarrow 1s2p^3 (^3D_3)$
1.8712		12T	2.57(14)	2.18(14)	3.13(14)	$1s^2p^2 (^3P_2) \rightarrow 1s2p^3 (^3P_1)$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.8691		12T	7.13(12)	2.46(14)	1.40(13)	$1s^2 2p^2 (^3P_2) \rightarrow 1s 2p^3 (^3P_2)$
1.8756		12T	2.50(14)	6.15(13)	5.36(13)	$1s^2 2p^2 (^3P_2) \rightarrow 1s 2p^3 (^3S_1)$
1.8867		12T	6.31(12)	1.37(13)	1.67(13)	$1s^2 2p^2 (^3P_2) \rightarrow 1s 2p^3 (^5S_2)$
1.9085		12T	7.22(12)	8.64(13)	3.49(12)	$1s^2 2p^2 (^3P_2) \rightarrow 1s 2s^2 2p (^1P_1)$
1.9175		12T	6.06(11)	1.51(14)	1.40(12)	$1s^2 2p^2 (^3P_2) \rightarrow 1s 2s^2 2p (^3P_1)$
1.9137		12T	5.38(12)	1.55(14)	2.53(13)	$1s^2 2p^2 (^3P_2) \rightarrow 1s 2s^2 2p (^3P_2)$
1.8283		12T	5.21(13)	2.17(14)	3.71(13)	$1s^2 2s^2 (^1S_0) \rightarrow 1s 2p^3 (^1P_1)$
1.8416		12T	7.44(12)	2.49(14)	9.57(12)	$1s^2 2s^2 (^1S_0) \rightarrow 1s 2p^3 (^3D_1)$
1.8341		12T	5.71(12)	2.18(14)	6.97(12)	$1s^2 2s^2 (^1S_0) \rightarrow 1s 2p^3 (^3P_1)$
1.8383		12T	1.31(12)	6.15(13)	2.81(11)	$1s^2 2s^2 (^1S_0) \rightarrow 1s 2p^3 (^3S_1)$
1.8686		21T	4.31(14)			$1s^2 2s^2 (^1S_0) \rightarrow 1s 2s^2 2p (^1P_1)$
1.8700	β	12T	3.81(14)	8.64(13)	1.84(14)	$1s^2 2s^2 (^1S_0) \rightarrow 1s 2s^2 2p (^1P_1)$
1.8786		12T	3.26(13)	1.51(14)	7.53(13)	$1s^2 2s^2 (^1S_0) \rightarrow 1s 2s^2 2p (^3P_1)$
1.8771		12T	1.45(14)	2.34(14)	3.23(14)	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^1D_2)$
1.8714		12T	6.77(14)	8.74(13)	2.30(14)	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^1P_1)$
1.8693		12T	2.29(14)	2.35(14)	1.16(14)	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^1S_0)$
1.8850		12T	2.24(12)	1.70(14)	2.30(12)	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^3D_1)$
1.8860		12T	2.49(12)	1.77(14)	4.38(12)	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^3D_2)$
1.8851		12T	0.0	2.05(14)	0.0	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^3D_3)$
1.8807		12T	2.58(13)	1.45(14)	3.59(13)	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^3S_1)$
1.9007		12T	8.30(7)	3.22(12)	6.16(7)	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^5P_1)$
1.8986		12T	5.73(9)	1.21(12)	7.35(9)	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^5P_2)$
1.8968		12T	0.0	9.14(12)	0.0	$1s^2 2s 2p (^1P_1) \rightarrow 1s 2s 2p^2 (^5P_3)$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_d	FS	Transition
1.8794		12T	2.57(13)	1.31(14)	9.11(12)	$1s^2 2s 2p \ (^1P_1)$ \rightarrow $2p^2 s(^2P) 1s \ (^3P_0)$
1.8760		12T	9.51(12)	1.22(14)	9.76(12)	$1s^2 2s 2p \ (^1P_1)$ \rightarrow $2p^2 s(^2P) 1s \ (^3P_1)$
1.8747		12T	8.37(13)	2.52(14)	2.92(14)	$1s^2 2s 2p \ (^1P_1)$ \rightarrow $2p^2 s(^2P) 1s \ (^3P_2)$
1.8880		12T	1.88(9)	8.78(13)	2.82(8)	$1s^2 2s 2p \ (^1P_1)$ \rightarrow $2p^2 s(^4P) 1s \ (^3P_0)$
1.8863		12T	2.24(11)	9.20(13)	1.02(11)	$1s^2 2s 2p \ (^1P_1)$ \rightarrow $2p^2 s(^4P) 1s \ (^3P_1)$
1.8831		12T	1.14(13)	1.12(14)	1.09(13)	$1s^2 2s 2p \ (^1P_1)$ \rightarrow $2p^2 s(^4P) 1s \ (^3P_2)$
1.8577		12T	2.07(12)	8.74(13)	7.05(11)	$1s^2 2s 2p \ (^3P_0)$ \rightarrow $1s 2s 2p^2 \ (^1P_1)$
1.8711		12T	2.19(12)	1.70(14)	2.24(12)	$1s^2 2s 2p \ (^3P_0)$ \rightarrow $1s 2s 2p^2 \ (^3D_1)$
1.8668		12T	1.73(13)	1.45(14)	2.40(13)	$1s^2 2s 2p \ (^3P_0)$ \rightarrow $1s 2s 2p^2 \ (^3S_1)$
1.8866		12T	2.86(12)	3.22(12)	2.12(12)	$1s^2 2s 2p \ (^3P_0)$ \rightarrow $1s 2s 2p^2 \ (^5P_1)$
1.8622		12T	2.43(12)	1.22(14)	2.49(12)	$1s^2 2s 2p \ (^3P_0)$ \rightarrow $2p^2 s(^2P) 1s \ (^3P_1)$
1.8724		12T	3.75(14)	9.20(13)	1.72(14)	$1s^2 2s 2p \ (^3P_0)$ \rightarrow $2p^2 s(^4P) 1s \ (^3P_1)$
1.8644		12T	5.76(12)	2.34(14)	1.28(13)	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^1D_2)$
1.8587		12T	2.54(11)	8.74(13)	8.65(10)	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^1P_1)$
1.8566		12T	7.31(10)	2.35(14)	3.70(10)	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^1S_0)$
1.8721		12T	2.41(14)	1.70(14)	2.47(14)	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^3D_1)$
1.8731		12T	3.16(14)	1.77(14)	5.55(14)	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^3D_2)$
1.8722		12T	0.0	2.05(14)	0.0	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^3D_3)$
1.8679		12T	8.82(13)	1.45(14)	1.23(14)	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^3S_1)$
1.8876		12T	6.38(12)	3.22(12)	4.74(12)	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^5P_1)$
1.8855		12T	2.34(10)	1.21(12)	3.00(10)	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^5P_2)$
1.8838		12T	0.0	9.14(12)	0.0	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $1s 2s 2p^2 \ (^5P_3)$
1.8666		12T	2.13(14)	1.31(14)	7.54(13)	$1s^2 2s 2p \ (^3P_1)$ \rightarrow $2p^2 s(^2P) 1s \ (^3P_0)$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.8632		12T	5.43(11)	1.22(14)	5.57(11)	$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s (^2P) 1s (^3P_1)$
1.8619		12T	4.19(12)	2.52(14)	1.46(13)	$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s (^2P) 1s (^3P_2)$
1.8750		12T	4.98(14)	8.78(13)	7.46(13)	$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s (^4P) 1s (^3P_0)$
1.8735		12T	3.54(13)	9.20(13)	1.62(13)	$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s (^4P) 1s (^3P_1)$
1.8702		12T	3.24(13)	1.12(14)	3.10(13)	$1s^2 2s 2p (^3P_1) \rightarrow 2p^2 2s (^4P) 1s (^3P_2)$
1.8675		12T	1.40(14)	2.34(14)	3.13(14)	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^1D_2)$
1.8619		12T	3.61(12)	8.74(13)	1.23(12)	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^1P_0)$
1.8598		12T	0.0	2.35(14)	0.0	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^1S_0)$
1.8753		12T	8.19(13)	1.70(14)	8.38(13)	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3D_1)$
1.8763		12T	8.15(12)	1.77(14)	1.43(13)	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3D_2)$
1.8754		12T	2.30(14)	2.05(14)	7.59(14)	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3D_3)$
1.8711		12T	3.66(13)	1.45(14)	5.09(13)	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^3S_1)$
1.8909		12T	5.56(11)	3.22(12)	4.13(11)	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^5P_1)$
1.8888		12T	3.48(12)	1.21(12)	4.46(12)	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^5P_2)$
1.8870		12T	1.00(13)	9.14(12)	3.35(13)	$1s^2 2s 2p (^3P_2) \rightarrow 1s 2s 2p^2 (^5P_3)$
1.8698		12T	0.0	1.31(14)	0.0	$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^2P) 1s (^3P_0)$
1.8664		12T	2.21(14)	1.22(14)	2.27(14)	$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^2P) 1s (^3P_1)$
1.8651		12T	2.20(13)	2.52(14)	7.65(13)	$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^2P) 1s (^3P_2)$
1.8782		12T	0.0	8.78(13)	0.0	$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^4P) 1s (^3P_0)$
1.8767		12T	9.95(13)	9.20(13)	4.56(13)	$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^4P) 1s (^3P_1)$
1.8734		12T	4.29(14)	1.12(14)	4.11(14)	$1s^2 2s 2p (^3P_2) \rightarrow 2p^2 2s (^4P) 1s (^3P_2)$

Fe +23 (1s²2s ²S_{1/2})

$\lambda(\text{\AA})$	Key	Ref.	A _r	A _a	FS	Transition
1.5930		15T	8.33(13)	2.50(12)	5.48(12)	1s ² 2p (² P _{1/2}) 1s2p(³ P)3p (² D _{3/2})
1.5937		15T	7.41(13)	1.42(11)	2.48(11)	1s ² 2p (² P _{1/2}) 1s2p(³ P)3p (² P _{1/2})
1.8622	k	13T	3.130(14)	1.33(14)		1s ² 2p (² P _{1/2}) 1s2p ² (² D _{3/2})
1.8625		9T	3.25(14)	1.44(14)		1s ² 2p (² P _{1/2}) 1s2p ² (² D _{3/2})
1.8638	k	19T	3.16(14)			1s ² 2p (² P _{1/2}) 1s2p ² (² D _{3/2})
1.8616	d	13T	5.374(14)	9.15(11)		1s ² 2p (² P _{1/2}) 1s2p ² (² P _{1/2})
1.8623		9T	5.41(14)	9.00(11)		1s ² 2p (² P _{1/2}) 1s2p ² (² P _{1/2})
1.8636	d	19T	5.47(14)			1s ² 2p (² P _{1/2}) 1s2p ² (² P _{1/2})
1.8564	b	13T	1.274(13)	3.26(13)		1s ² 2p (² P _{1/2}) 1s2p ² (² P _{3/2})
1.8573		9T	8.72(12)	4.14(13)		1s ² 2p (² P _{1/2}) 1s2p ² (² P _{3/2})
1.8585	b	19T	1.18(13)			1s ² 2p (² P _{1/2}) 1s2p ² (² P _{3/2})
1.8511	n	13T	8.817(12)	2.79(13)		1s ² 2p (² P _{1/2}) 1s2p ² (² S _{1/2})
1.8519		9T	1.08(13)	3.25(13)		1s ² 2p (² P _{1/2}) 1s2p ² (² S _{1/2})
1.8528	n	19T	1.03(13)			1s ² 2p (² P _{1/2}) 1s2p ² (² S _{1/2})
1.8717		9T	2.10(13)	3.43(11)		1s ² 2p (² P _{1/2}) 1s2p ² (⁴ P _{1/2})
1.8719	i	13T	1.924(13)	1.95(11)		1s ² 2p (² P _{1/2}) 1s2p ² (⁴ P _{1/2})
1.8733	i	19T	1.98(13)			1s ² 2p (² P _{1/2}) 1s2p ² (⁴ F _{1/2})
1.8694		9T	2.32(10)	1.01(12)		1s ² 2p (² P _{1/2}) 1s2p ² (⁴ P _{3/2})
1.8695	g	13T	1.254(11)	1.52(12)		1s ² 2p (² P _{1/2}) 1s2p ² (⁴ P _{3/2})
1.8709	g	19T	1.00(11)			1s ² 2p (² P _{1/2}) 1s2p ² (⁴ P _{3/2})
1.5979		15T	6.27(12)	2.97(6)	9.39(8)	1s ² 2p (² P _{1/2}) 1s2s(³ S)3d (² D _{3/2})

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.8913	p	13T	9.547(12)	1.43(14)		$1s^2p(^2P_{1/2})$ $1s2s^2(^2S_{1/2})$
1.8918		9T	8.70(12)	1.46(14)		$1s^2p(^2P_{1/2})$ $1s2s^2(^2S_{1/2})$
1.8932	p	19T	9.65(12)			$1s^2p(^2P_{1/2})$ $1s2s^2(^2S_{1/2})$
1.5911		15T	2.48(13)	2.06(13)	4.36(12)	$1s^2p(^2P_{3/2})$ $1s2p(^1P)3p(^2D_{3/2})$
1.5906		15T	1.85(13)	2.90(13)	6.48(12)	$1s^2p(^2P_{3/2})$ $1s2p(^1P)3p(^2D_{5/2})$
1.5929		15T	1.03(14)	7.97(11)	4.09(12)	$1s^2p(^2P_{3/2})$ $1s2p(^3P)3p(^2D_{5/2})$
1.5945		15T	3.59(13)	1.24(12)	2.04(12)	$1s^2p(^2P_{3/2})$ $1s2p(^3P)3p(^2P_{3/2})$
1.5952		15T	1.57(13)	4.74(11)	8.01(12)	$1s^2p(^2P_{3/2})$ $1s2p(^3P)3p(^4P_{3/2})$
1.5948		15T	7.55(12)	4.16(11)	2.36(12)	$1s^2p(^2P_{3/2})$ $1s2p(^3P)3p(^4P_{5/2})$
1.8669		9T	3.85(14)	1.44(14)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2D_{3/2})$
1.8674	l	13T	3.017(13)	1.33(14)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2D_{3/2})$
1.8682	l	19T	3.49(13)			$1s^2p(^2P_{3/2})$ $1s2p^2(^2D_{3/2})$
1.8653	j	13T	2.102(14)	1.44(14)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2D_{5/2})$
1.8654		9T	2.14(14)	1.60(14)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2D_{5/2})$
1.8666	j	19T	2.14(14)			$1s^2p(^2P_{3/2})$ $1s2p^2(^2D_{5/2})$
1.8667	c	13T	1.568(14)	9.15(11)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2P_{1/2})$
1.8667		9T	1.63(14)	9.00(11)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2P_{1/2})$
1.8680	c	19T	1.63(14)			$1s^2p(^2P_{3/2})$ $1s2p^2(^2P_{1/2})$
1.8615	a	13T	6.186(14)	3.26(13)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2P_{3/2})$
1.8617		9T	6.19(14)	4.14(13)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2P_{3/2})$
1.8629	a	19T	6.24(14)			$1s^2p(^2P_{3/2})$ $1s2p^2(^2P_{3/2})$
1.8561	m	13T	2.437(14)	2.79(13)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2S_{1/2})$
1.8562		9T	2.43(14)	3.25(13)		$1s^2p(^2P_{3/2})$ $1s2p^2(^2S_{1/2})$
1.8572	m	19T	2.48(14)			$1s^2p(^2P_{3/2})$ $1s2p^2(^2S_{1/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.8761		9T	1.03(11)	3.43(11)		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{1/2})$
1.8771	h	13T	2.027(11)	1.95(11)		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{1/2})$
1.8777	h	19T	2.52(11)			$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{1/2})$
1.8738		9T	1.01(13)	1.01(12)		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{3/2})$
1.8747	f	13T	8.063(12)	1.52(12)		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{3/2})$
1.8754	f	19T	8.25(12)			$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{3/2})$
1.8721		9T	3.49(13)	2.63(13)		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{5/2})$
1.8725	e	13T	3.290(13)	2.26(13)		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{5/2})$
1.8737	e	19T	3.16(13)			$1s^2p \ (^2P_{3/2}) \rightarrow 1s2p^2 \ (^4P_{5/2})$
1.6011		15T	2.42(12)	9.60(10)	5.41(11)	$1s2s(^3S)3d \ (^2D_{5/2}) \rightarrow 1s^2p \ (^2P_{3/2})$
1.8963		9T	8.67(12)	1.46(14)		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2s^2 \ (^2S_{1/2})$
1.8966	o	13T	9.444(12)	1.43(14)		$1s^2p \ (^2P_{3/2}) \rightarrow 1s2s^2 \ (^2S_{1/2})$
1.8978	o	19T	9.83(12)			$1s^2p \ (^2P_{3/2}) \rightarrow 1s2s^2 \ (^2S_{1/2})$
1.8565		9T	1.78(14)	8.92(13)		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^1P) \ (^2P_{1/2})$
1.8557		9T	7.14(11)	1.20(14)		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^1P) \ (^2P_{3/2})$
1.8630		9T	3.18(14)	3.20(13)		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^2P_{1/2})$
1.8605		9T	4.85(14)	5.29(11)		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^2P_{3/2})$
1.8743		9T	4.78(12)	2.46(11)		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^4P_{1/2})$
1.8732		9T	1.57(13)	8.16(11)		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^4P_{3/2})$
1.8701		9T	0.0	0.0		$1s^2s \ (^2S_{1/2}) \rightarrow 1s(2s2p^3P) \ (^4P_{5/2})$
1.8631	r	13T	2.930(14)	3.80(13)		$1s^2s \ (^2S_{1/2}) \rightarrow 1s2p(^1P)2s \ (^2P_{1/2})$
1.8643	r	19T	3.06(14)			$1s^2s \ (^2S_{1/2}) \rightarrow 1s2p(^1P)2s \ (^2P_{1/2})$
1.8601	q	13T	4.740(14)	7.71(10)		$1s^2s \ (^2S_{1/2}) \rightarrow 1s2p(^1P)2s \ (^2P_{3/2})$
1.8617	q	19T	4.82(14)			$1s^2s \ (^2S_{1/2}) \rightarrow 1s2p(^1P)2s \ (^2P_{3/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_g	FS	Transition
1.8562	t	13T	1.960(14)	7.58(13)		$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2p(^3P) 2s (^2P_{1/2})$
1.8575	t	19T	1.91(14)			$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2p(^3P) 2s (^2P_{1/2})$
1.8558	s	13T	4.379(12)	1.13(14)		$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2p(^3P) 2s (^2P_{3/2})$
1.8567	s	19T	4.43(12)			$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2p(^3P) 2s (^2P_{3/2})$
1.8742	v	13T	4.882(12)	2.02(11)		$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2p 2s (^4P_{1/2})$
1.8758	v	19T	4.19(12)			$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2p 2s (^4P_{1/2})$
1.8732	u	13T	1.537(13)	8.49(11)		$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2p 2s (^4P_{3/2})$
1.8748	u	19T	1.45(13)			$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2p 2s (^4P_{3/2})$
1.5861		15T	5.73(13)	1.35(13)	1.87(13)	$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2s(^1S) 3p (^2P_{1/2})$
1.5851		15T	4.62(13)	1.55(13)	3.28(13)	$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2s(^1S) 3p (^2P_{3/2})$
1.5911		15T	6.54(13)	2.15(11)	4.10(11)	$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2s(^3S) 3p (^2P_{1/2})$
1.5912		15T	5.53(13)	8.81(10)	2.88(11)	$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2s(^3S) 3p (^2P_{3/2})$
1.5923		15T	3.67(12)	2.06(9)	4.10(9)	$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2s(^3S) 3p (^4P_{1/2})$
1.5922		15T	1.81(13)	1.10(10)	4.08(10)	$1s^2 2s (^2S_{1/2}) \rightarrow 1s 2s(^3S) 3p (^4P_{3/2})$
1.8511	h10	13T	42.620(13)	0.0004(13)	1.35(10)	$1s^2 3d (^2D_{3/2}) \rightarrow 1s 2p(^1P) 3d (^2D_{3/2})$
1.8511		15T	4.40(14)	1.51(11)	5.89(11)	$1s^2 3d (^2D_{3/2}) \rightarrow 1s 2p(^1P) 3d (^2D_{3/2})$
1.8509	h 9	13T	19.710(13)	0.2470(13)	6.03(12)	$1s^2 3d (^2D_{3/2}) \rightarrow 1s 2p(^1P) 3d (^2D_{5/2})$
1.8509		15T	1.98(14)	2.98(12)	7.41(12)	$1s^2 3d (^2D_{3/2}) \rightarrow 1s 2p(^1P) 3d (^2D_{5/2})$
1.8495		15T	2.13(14)	1.05(13)	3.41(13)	$1s^2 3d (^2D_{3/2}) \rightarrow 1s 2p(^1P) 3d (^2F_{5/2})$
1.8497	h17	13T	20.030(13)	1.2610(13)	4.16(13)	$1s^2 3d (^2D_{3/2}) \rightarrow 1s 2p(^1P) 3d (^2F_{5/2})$
1.8495	h 3	13T	44.510(13)	0.0133(13)	2.51(11)	$1s^2 3d (^2D_{3/2}) \rightarrow 1s 2p(^1P) 3d (^2P_{1/2})$
1.8495		15T	4.67(14)	2.92(12)	5.75(12)	$1s^2 3d (^2D_{3/2}) \rightarrow 1s 2p(^1P) 3d (^2P_{1/2})$
1.8487	h 2	13T	1.630(13)	0.0201(13)	2.89(10)	$1s^2 3d (^2D_{3/2}) \rightarrow 1s 2p(^1P) 3d (^2P_{3/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.8579	g 3	13T	0.299(13)	1.354(13)	1.93(11)	$1s^23d (^2D_{3/2})$ $1s2p(^1P)3s (^2P_{1/2})$
1.8581	g 2	13T	0.006(13)	0.162(13)	8.97(08)	$1s^23d (^2D_{3/2})$ $1s2p(^1P)3s (^2P_{3/2})$
1.8601	h14	13T	0.181(13)	0.0123(13)	1.32(10)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^2D_{3/2})$
1.8603		15T	2.89(13)	5.59(10)	1.08(11)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^2D_{3/2})$
1.8566	h13	13T	1.422(13)	0.003(13)	6.41(09)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^2D_{5/2})$
1.8601		15T	2.68(13)	8.89(11)	5.16(12)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^2D_{5/2})$
1.8566		15T	1.51(13)	7.57(11)	2.43(12)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^2F_{5/2})$
1.8607	h20	13T	2.499(13)	0.0002(13)	7.59(09)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^2F_{5/2})$
1.8530		15T	1.63(13)	3.07(11)	3.65(11)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^2P_{1/2})$
1.8531	h 6	13T	1.694(13)	0.0010(13)	7.29(09)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^2P_{1/2})$
1.8546	h 5	13T	1.652(13)	7.16(08)	5.63(08)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^2P_{3/2})$
1.8592		15T	2.60(13)	2.60(11)	4.91(11)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^4D_{1/2})$
1.8591		15T	2.24(13)	4.82(11)	8.50(11)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^4D_{3/2})$
1.8622		15T	1.15(13)	1.68(10)	6.41(10)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^4F_{3/2})$
1.8617		15T	4.08(13)	1.21(12)	6.86(12)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^4F_{5/2})$
1.8553		15T	9.82(12)	3.44(11)	1.95(12)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3d (^4P_{5/2})$
1.8648	g 6	13T	0.061(13)	3.942(13)	4.45(11)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3s (^2P_{1/2})$
1.8609	g 5	13T	0.055(13)	4.391(13)	1.98(12)	$1s^23d (^2D_{3/2})$ $1s2p(^3P)3s (^2P_{3/2})$
1.8554	h25	13T	0.001(13)	0.0017(13)	2.19(07)	$1s^23d (^2D_{3/2})$ $1s2p3d (^2D_{1/2})$
1.8594	h31	13T	2.327(13)	0.0069(13)	5.28(10)	$1s^23d (^2D_{3/2})$ $1s2p3d (^4D_{1/2})$
1.8594	h30	13T	1.991(13)	0.0617(13)	1.01(12)	$1s^23d (^2D_{3/2})$ $1s2p3d (^4D_{3/2})$
1.8555	h29	13T	0.697(13)	0.0040(13)	5.38(10)	$1s^23d (^2D_{3/2})$ $1s2p3d (^4D_{5/2})$
1.8627	h36	13T	0.905(13)	0.0014(13)	3.98(10)	$1s^23d (^2D_{3/2})$ $1s2p3d (^4F_{3/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_T	A_a	FS	Transition
1.8619	h35	13T	2.941(13)	0.0460(13)	2.33(12)	$1s^23d (^2D_{3/2})$ $1s2p3d (^4F_{5/2})$
1.8555	h24	13T	0.472(13)	0.0016(13)	9.30(09)	$1s^23d (^2D_{3/2})$ $1s2p3d (^4P_{3/2})$
1.8592	h23	13T	1.974(13)	0.0028(13)	3.68(10)	$1s^23d (^2D_{3/2})$ $1s2p3d (^4P_{5/2})$
1.8690	g11	13T	0.004(13)	0.042(13)	2.25(09)	$1s^23d (^2D_{3/2})$ $1s2p3s (^4P_{1/2})$
1.8680	g10	13T	0.006(13)	0.135(13)	7.41(09)	$1s^23d (^2D_{3/2})$ $1s2p3s (^4P_{3/2})$
1.8644	g 9	13T	0.006(13)	4.50(06)	3.41(05)	$1s^23d (^2D_{3/2})$ $1s2p3s (^4P_{5/2})$
1.8663	i 3	13T	0.886(13)	0.0430(13)	9.06(10)	$1s^23d (^2D_{3/2})$ $1s2s(^1S)3p (^2P_{1/2})$
1.8648	i 2	13T	0.107(13)	0.5400(13)	3.23(11)	$1s^23d (^2D_{3/2})$ $1s2s(^1S)3p (^2P_{3/2})$
1.8727	i 6	13T	0.024(13)	0.1536(13)	9.57(09)	$1s^23d (^2D_{3/2})$ $1s2s(^3S)3p (^2P_{1/2})$
1.8727	i 5	13T	0.002(13)	0.2024(13)	2.40(09)	$1s^23d (^2D_{3/2})$ $1s2s(^3S)3p (^2P_{3/2})$
1.8745	i1	13T	0.003(13)	0.0145(13)	1.69(09)	$1s^23d (^2D_{3/2})$ $1s2s3p (^4P_{1/2})$
1.8742	i10	13T	0.004(13)	0.0789(13)	6.56(09)	$1s^23d (^2D_{3/2})$ $1s2s3p (^4P_{3/2})$
1.8731	i 9	13T	5.19(09)	0.0	0.0	$1s^23d (^2D_{3/2})$ $1s2s3p (^4P_{5/2})$
1.8516	h 8	13T	0.847(13)	0.0004(13)	2.68(08)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2D_{3/2})$
1.8513		15T	2.77(14)	2.98(12)	1.04(13)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2D_{5/2})$
1.8514	h 7	13T	25.670(13)	0.2470(13)	7.86(12)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2D_{5/2})$
1.8499		15T	1.70(14)	1.05(13)	2.72(13)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2F_{5/2})$
1.8501	h16	13T	17.320(13)	1.2610(13)	3.60(13)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2F_{5/2})$
1.8508		15T	4.01(14)	1.38(13)	1.07(14)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2F_{7/2})$
1.8509	h15	13T	38.360(13)	1.4420(13)	1.04(14)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2F_{7/2})$
1.8491		15T	4.31(14)	2.79(12)	1.06(13)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2P_{3/2})$
1.8491	h 1	13T	41.150(13)	0.0201(13)	7.27(11)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3d (^2P_{3/2})$
1.8585	g 1	13T	0.301(13)	0.162(13)	4.64(10)	$1s^23d (^2D_{5/2})$ $1s2p(^1P)3s (^2P_{3/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_g	FS	Transition
1.8606	h12	13T	2.516(13)	0.0123(13)	1.83(11)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2D_{3/2})$
1.8571	h11	13T	1.348(13)	0.0003(13)	6.07(09)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2D_{5/2})$
1.8571		15T	1.24(13)	7.57(11)	1.99(12)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2F_{5/2})$
1.8611	h19	13T	0.025(13)	0.0002(13)	7.46(07)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2F_{5/2})$
1.8551		15T	9.17(13)	3.18(12)	2.46(13)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2F_{7/2})$
1.8552	h18	13T	8.480(13)	0.0020(13)	1.37(11)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2F_{7/2})$
1.8549		15T	3.87(13)	4.49(11)	9.40(11)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2P_{3/2})$
1.8550	h 4	13T	3.524(13)	7.16(08)	1.20(09)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^2P_{3/2})$
1.8593		15T	6.24(13)	1.40(12)	6.29(12)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^4D_{5/2})$
1.8566		15T	2.57(12)	8.95(10)	6.92(11)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^4D_{7/2})$
1.8607		15T	2.85(13)	9.97(11)	7.71(12)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3d (^4F_{7/2})$
1.8613	g 4	13T	0.003(13)	4.391(13)	1.17(11)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3s (^2P_{3/2})$
1.8650		15T	3.40(11)	2.52(8)	1.28(9)	$1s^23d (^2D_{5/2})$ $1s2p(^3P)3s (^4P_{5/2})$
1.8598	h28	13T	0.031(13)	0.0617(13)	1.55(10)	$1s^23d (^2D_{5/2})$ $1s2p3d (^4D_{3/2})$
1.8559	h27	13T	0.025(13)	0.0040(13)	1.93(09)	$1s^23d (^2D_{5/2})$ $1s2p3d (^4D_{5/2})$
1.8567	h26	13T	0.114(13)	0.0205(13)	6.34(10)	$1s^23d (^2D_{5/2})$ $1s2p3d (^4D_{7/2})$
1.8631	h34	13T	0.013(13)	0.0014(13)	4.95(08)	$1s^23d (^2D_{5/2})$ $1s2p3d (^4F_{3/2})$
1.8623	h33	13T	0.132(13)	0.0460(13)	1.05(11)	$1s^23d (^2D_{5/2})$ $1s2p3d (^4F_{5/2})$
1.8609	h32	13T	2.308(13)	0.0968(13)	5.66(12)	$1s^23d (^2D_{5/2})$ $1s2p3d (^4F_{7/2})$
1.8560	h22	13T	0.394(13)	0.0016(13)	7.77(09)	$1s^23d (^2D_{5/2})$ $1s2p3d (^4P_{3/2})$
1.8596	h21	13T	5.030(13)	0.0028(13)	9.37(10)	$1s^23d (^2D_{5/2})$ $1s2p3d (^4P_{5/2})$
1.8684	g 8	13T	0.027(13)	0.135(13)	3.47(10)	$1s^23d (^2D_{5/2})$ $1s2p3s (^4P_{3/2})$
1.8648	g 7	13T	0.031(13)	4.50(06)	1.79(06)	$1s^23d (^2D_{5/2})$ $1s2p3s (^4P_{5/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.8649		15T	1.19(13)	1.55(13)	8.40(12)	$1s^23d (^2D_{5/2})$ $1s2s(^1S)3p (^2P_{3/2})$
1.8652	i 1	13T	0.982(13)	0.5400(13)	2.97(12)	$1s^23d (^2D_{5/2})$ $1s2s(^1S)3p (^2P_{3/2})$
1.8732	i 4	13T	4.34(08)	0.2024(13)	4.53(07)	$1s^23d (^2D_{5/2})$ $1s2s(^3S)3p (^2P_{3/2})$
1.8737		15T	6.15(10)	1.73(6)	9.54(6)	$1s^23d (^2D_{5/2})$ $1s2s(^3S)3p (^4P_{5/2})$
1.8747	i 8	13T	0.001(13)	0.0789(13)	1.49(09)	$1s^23d (^2D_{5/2})$ $1s2s3p (^4P_{3/2})$
1.8736	i 7	13T	0.006(13)	0.0	0.0	$1s^23d (^2D_{5/2})$ $1s2s3p (^4P_{5/2})$
1.8518	d15	13T	40.340(13)	3.590(13)	1.22(14)	$1s^23p (^2P_{1/2})$ $1s2p(^1P)3p (^2D_{3/2})$
1.8520		15T	4.18(14)	2.06(13)	7.35(13)	$1s^23p (^2P_{1/2})$ $1s2p(^1P)3p (^2D_{3/2})$
1.8517	d 8	13T	39.290(13)	0.001(13)	1.78(10)	$1s^23p (^2P_{1/2})$ $1s2p(^1P)3p (^2P_{1/2})$
1.8520		15T	4.14(14)	1.96(12)	3.23(12)	$1s^23p (^2P_{1/2})$ $1s2p(^1P)3p (^2P_{1/2})$
1.8501	d 7	13T	0.002(13)	1.750(13)	2.87(09)	$1s^23p (^2P_{1/2})$ $1s2p(^1P)3p (^2P_{3/2})$
1.8486	d 2	13T	2.315(13)	1.440(13)	1.82(12)	$1s^23p (^2P_{1/2})$ $1s2p(^1P)3p (^2S_{1/2})$
1.8590	d18	13T	3.346(13)	0.845(13)	6.92(12)	$1s^23p (^2P_{1/2})$ $1s2p(^3P)3p (^2D_{3/2})$
1.8598	d12	13T	0.007(13)	0.040(13)	5.99(08)	$1s^23p (^2P_{1/2})$ $1s2p(^3P)3p (^2P_{1/2})$
1.8564	d11	13T	0.155(13)	0.478(13)	3.11(11)	$1s^23p (^2P_{1/2})$ $1s2p(^3P)3p (^2P_{3/2})$
1.8537	d 4	13T	3.877(13)	0.268(13)	7.65(11)	$1s^23p (^2P_{1/2})$ $1s2p(^3P)3p (^2S_{1/2})$
1.8636		15T	1.19(13)	4.64(8)	4.37(8)	$1s^23p (^2P_{1/2})$ $1s2p(^3P)3p (^4D_{1/2})$
1.8631		15T	4.36(13)	1.32(12)	3.50(12)	$1s^23p (^2P_{1/2})$ $1s2p(^3P)3p (^4D_{3/2})$
1.8603		15T	2.36(13)	2.53(10)	3.42(10)	$1s^23p (^2P_{1/2})$ $1s2p(^3P)3p (^4P_{1/2})$
1.8637	d30	13T	0.880(13)	0.003(13)	2.20(10)	$1s^23p (^2P_{1/2})$ $1s2p3p (^4D_{1/2})$
1.8629	d29	13T	3.462(13)	0.003(13)	6.43(11)	$1s^23p (^2P_{1/2})$ $1s2p3p (^4D_{3/2})$
1.8604	d25	13T	2.180(13)	0.008(13)	9.27(10)	$1s^23p (^2P_{1/2})$ $1s2p3p (^4P_{1/2})$
1.8574	d24	13T	0.115(13)	0.326(13)	3.72(11)	$1s^23p (^2P_{1/2})$ $1s2p3p (^4P_{3/2})$
1.8612	d20	13T	0.688(13)	0.129(13)	7.97(11)	$1s^23p (^2P_{1/2})$ $1s2p3p (^4S_{3/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.8581		15T	1.37(13)	6.42(11)	1.93(12)	$1s^23p (^2P_{1/2})$ $1s2s(^1S)3d (^2D_{3/2})$
1.8583	f 3	13T	0.998(13)	0.1610(13)	1.88(12)	$1s^23p (^2P_{1/2})$ $1s2s(^1S)3d (^2D_{3/2})$
1.8667		15T	1.28(13)	2.51(13)	1.16(13)	$1s^23p (^2P_{1/2})$ $1s2s(^1S)3p (^2S_{1/2})$
1.8666	e 2	13T	1.1090(13)	2.320(13)	9.37(12)	$1s^23p (^2P_{1/2})$ $1s2s(^1S)3s (^2S_{1/2})$
1.8652	f 6	13T	0.077(13)	0.4980(13)	4.32(11)	$1s^23p (^2P_{1/2})$ $1s2s(^3S)3d (^2D_{3/2})$
1.8679		15T	5.75(11)	8.27(9)	1.12(10)	$1s^23p (^2P_{1/2})$ $1s2s(^3S)3d (^4D_{1/2})$
1.8678		15T	1.03(12)	2.96(10)	8.90(10)	$1s^23p (^2P_{1/2})$ $1s2s(^3S)3d (^4D_{3/2})$
1.8726	e 4	13T	0.0209(13)	4.060(13)	3.56(11)	$1s^23p (^2P_{1/2})$ $1s2s(^3S)3s (^2S_{1/2})$
1.8675	f11	13T	0.079(13)	0.0018(13)	9.04(08)	$1s^23p (^2P_{1/2})$ $1s2s3d (^1D_{1/2})$
1.8673	f10	13T	0.106(13)	6.36(08)	8.73(07)	$1s^23p (^2P_{1/2})$ $1s2s3d (^1D_{3/2})$
1.8760	e 6	13T	0.0020(13)	2.89(07)	4.90(05)	$1s^23p (^2P_{1/2})$ $1s2s3s (^4S_{3/2})$
1.8533	d14	13T	0.148(13)	3.590(13)	4.48(11)	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2D_{3/2})$
1.8526	d13	13T	42.680(13)	3.200(13)	1.68(14)	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2D_{5/2})$
1.8527		15T	4.49(14)	2.90(13)	1.57(14)	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2D_{5/2})$
1.8532	d 6	13T	0.227(13)	0.001(13)	1.03(08)	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2P_{1/2})$
1.8516	d 5	13T	40.820(13)	1.750(13)	5.95(13)	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2P_{3/2})$
1.8517		15T	4.17(14)	5.13(12)	1.82(13)	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2P_{3/2})$
1.8500		15T	3.18(14)	4.87(12)	8.82(12)	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2S_{1/2})$
1.8501	d 1	13T	31.980(13)	1.440(13)	2.51(13)	$1s^23p (^2P_{3/2})$ $1s2p(^1P)3p (^2S_{1/2})$
1.8605	d17	13T	2.910(13)	0.845(13)	6.01(12)	$1s^23p (^2P_{3/2})$ $1s2p(^3P)3p (^2D_{3/2})$
1.8558	d16	13T	1.486(13)	3.100(13)	1.80(13)	$1s^23p (^2P_{3/2})$ $1s2p(^3P)3p (^2D_{5/2})$
1.8613	d10	13T	0.717(13)	0.040(13)	5.86(10)	$1s^23p (^2P_{3/2})$ $1s2p(^3P)3p (^2P_{1/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.8579	d 9	13T	3.476(13)	0.478(13)	6.96(12)	$1s^23p (^2P_{3/2})$ $1s2p(^3P)3p (^2P_{3/2})$
1.8579		15T	3.57(13)	1.24(12)	2.02(12)	$1s^23p (^2P_{3/2})$ $1s2p(^3P)3p (^2P_{3/2})$
1.8552	d 3	13T	14.800(13)	0.268(13)	2.92(12)	$1s^23p (^2P_{3/2})$ $1s2p(^3P)3p (^2S_{1/2})$
1.8553		15T	1.72(14)	1.26(12)	1.53(12)	$1s^23p (^2P_{3/2})$ $1s2p(^3P)3p (^2S_{1/2})$
1.8624		15T	3.49(13)	1.36(12)	7.83(12)	$1s^23p (^2P_{3/2})$ $1s2p(^3P)3p (^4D_{5/2})$
1.8623		15T	1.74(13)	1.58(9)	3.52(9)	$1s^23p (^2P_{3/2})$ $1s2p(^3P)3p (^4S_{3/2})$
1.8652	d28	13T	0.122(13)	0.003(13)	3.04(09)	$1s^23p (^2P_{3/2})$ $1s2p3p (^4D_{1/2})$
1.8644	d27	13T	0.278(13)	0.024(13)	5.19(10)	$1s^23p (^2P_{3/2})$ $1s2p3p (^4D_{3/2})$
1.8625	d26	13T	2.902(13)	0.367(13)	1.74(13)	$1s^23p (^2P_{3/2})$ $1s2p3p (^4D_{5/2})$
1.8619	d23	13T	0.276(13)	0.008(13)	1.18(10)	$1s^23p (^2P_{3/2})$ $1s2p3p (^4P_{1/2})$
1.8589	d22	13T	0.802(13)	0.326(13)	2.58(12)	$1s^23p (^2P_{3/2})$ $1s2p3p (^4P_{3/2})$
1.8583	d21	13T	0.018(13)	0.609(13)	2.71(11)	$1s^23p (^2P_{3/2})$ $1s2p3p (^4P_{5/2})$
1.8627	d19	13T	1.315(13)	0.129(13)	1.52(12)	$1s^23p (^2P_{3/2})$ $1s2p3p (^4S_{3/2})$
1.8598	f 2	13T	0.037(13)	0.1610(13)	7.02(10)	$1s^23p (^2P_{3/2})$ $1s2s(^1S)3d (^2D_{3/2})$
1.8591		15T	2.18(13)	2.40(11)	1.39(12)	$1s^23p (^2P_{3/2})$ $1s2s(^1S)3d (^2D_{5/2})$
1.8594	f 1	13T	1.880(13)	0.1090(13)	3.12(12)	$1s^23p (^2P_{3/2})$ $1s2s(^1S)3d (^2D_{5/2})$
1.8680		15T	1.67(13)	2.51(13)	1.51(13)	$1s^23p (^2P_{3/2})$ $1s2s(^1S)3s (^2S_{1/2})$
1.8682	e 1	13T	1.5070(13)	2.320(13)	1.27(13)	$1s^23p (^2P_{3/2})$ $1s2s(^1S)3s (^2S_{1/2})$
1.8667	f 5	13T	0.034(13)	0.4980(13)	1.90(11)	$1s^23p (^2P_{3/2})$ $1s2s(^3S)3d (^2D_{3/2})$
1.8667	f 4	13T	0.009(13)	0.4010(13)	8.07(10)	$1s^23p (^2P_{3/2})$ $1s2s(^3S)3d (^2D_{5/2})$
1.8689		15T	3.61(11)	1.22(10)	6.25(10)	$1s^23p (^2P_{3/2})$ $1s2s(^3S)3d (^4D_{5/2})$
1.8741	e 3	13T	0.007(13)	4.060(13)	1.19(10)	$1s^23p (^2P_{3/2})$ $1s2s(^3S)3s (^2S_{1/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.3779		15T	7.38(10)	2.19(7)	6.50(7)	$1s^23p(^2P_{3/2}) \rightarrow 1s2s(^3S)3s(^4S_{3/2})$
1.8690	f 9	13T	0.009(13)	0.0018(13)	1.06(08)	$1s^23p(^2P_{3/2}) \rightarrow 1s2s3d(^1D_{1/2})$
1.8688	f 8	13T	0.004(13)	6.36(08)	3.14(06)	$1s^23p(^2P_{3/2}) \rightarrow 1s2s3d(^1D_{3/2})$
1.8686	f 7	13T	0.037(13)	0.0001(13)	1.00(08)	$1s^23p(^2P_{3/2}) \rightarrow 1s2s3d(^4D_{5/2})$
1.8776	e 5	13T	0.0067(13)	2.89(07)	1.66(06)	$1s^23p(^2P_{3/2}) \rightarrow 1s2s3s(^4S_{3/2})$
1.8446	b 5	13T	0.074(13)	0.0004(13)	2.35(07)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^1P)3d(^2D_{3/2})$
1.8430	b 2	13T	0.209(13)	0.0133(13)	1.18(09)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^1P)3d(^2P_{1/2})$
1.8516		15T	4.11(14)	3.36(12)	6.60(12)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^1P)3d(^2P_{1/2})$
1.8422	b 1	13T	0.176(13)	0.0201(13)	3.11(09)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^1P)3d(^2P_{3/2})$
1.8513	a 2	13T	39.890(13)	1.354(13)	2.58(13)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^1P)3s(^2P_{1/2})$
1.8515	a 1	13T	41.160(13)	0.162(13)	6.33(12)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^1P)3s(^2P_{3/2})$
1.8518		15T	3.86(14)	2.35(12)	9.21(12)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^1P)3s(^2P_{3/2})$
1.8534		15T	2.88(13)	5.59(10)	1.08(11)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3d(^2D_{3/2})$
1.8536	b 6	13T	2.007(13)	0.0123(13)	1.46(11)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3d(^2D_{3/2})$
1.8466	b 4	13T	0.656(13)	0.0010(13)	2.82(09)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3d(^2P_{1/2})$
1.8481	b 3	13T	1.408(13)	7.16(08)	4.80(08)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3d(^2P_{3/2})$
1.8527		15T	2.77(13)	4.82(11)	1.06(12)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3d(^4D_{3/2})$
1.8488		15T	1.01(12)	2.09(9)	3.49(9)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3d(^4P_{1/2})$
1.8580		15T	8.49(13)	5.66(12)	1.03(13)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3s(^2P_{1/2})$
1.8582	a 4	13T	7.564(13)	3.942(13)	5.52(13)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3s(^2P_{1/2})$
1.8543	a 3	13T	0.003(13)	4.391(13)	1.11(11)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3s(^2P_{3/2})$
1.8622		15T	9.23(12)	1.58(10)	2.51(10)	$1s^23s(^2S_{1/2}) \rightarrow 1s2p(^3P)3s(^4P_{1/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_d	FS	Transition
1.8615		15T	3.23(13)	1.05(11)	3.24(11)	$1s^23s\ (^2S_{1/2})\ 1s2p(^3P)3s\ (^4P_{3/2})$
1.8528	b10	13T	0.459(13)	0.0069(13)	1.04(10)	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4D_{1/2})$
1.8528	b 9	13T	0.006(13)	0.0617(13)	3.09(09)	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4D_{3/2})$
1.8561	b11	13T	0.018(13)	0.0014(13)	7.72(08)	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4F_{3/2})$
1.8488	b 8	13T	0.034(13)	0.0017(13)	7.13(08)	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4P_{1/2})$
1.8490	b 7	13T	0.031(13)	0.0016(13)	6.16(08)	$1s^23s\ (^2S_{1/2})\ 1s2p3d\ (^4P_{3/2})$
1.8625	a 6	13T	0.610(13)	0.042(13)	4.45(11)	$1s^23s\ (^2S_{1/2})\ 1s2p3s\ (^4P_{1/2})$
1.8613	a 5	13T	2.661(13)	0.135(13)	3.45(12)	$1s^23s\ (^2S_{1/2})\ 1s2p3s\ (^4P_{3/2})$
1.8597	c 2	13T	0.028(13)	0.043(13)	3.55(09)	$1s^23s\ (^2S_{1/2})\ 1s2s(^1S)3p\ (^2P_{1/2})$
1.8580		15T	1.24(13)	1.55(13)	8.76(12)	$1s^23s\ (^2S_{1/2})\ 1s2s(^1S)3p\ (^2P_{3/2})$
1.8582	c 1	13T	0.917(13)	0.540(13)	2.77(12)	$1s^23s\ (^2S_{1/2})\ 1s2s(^1S)3p\ (^2P_{3/2})$
1.8660	c 4	13T	0.209(13)	0.154(13)	8.33(10)	$1s^23s\ (^2S_{1/2})\ 1s2s(^3S)3p\ (^2P_{1/2})$
1.8661	c 3	13T	1.083(13)	0.202(13)	1.13(12)	$1s^23s\ (^2S_{1/2})\ 1s2s(^3S)3p\ (^2P_{3/2})$
1.8678	c 6	13T	0.0016(13)	0.014(13)	1.03(9)	$1s^23s\ (^2S_{1/2})\ 1s2s3p\ (^4P_{1/2})$
1.8676	c 5	13T	0.127(13)	0.079(13)	1.85(11)	$1s^23s\ (^2S_{1/2})\ 1s2s3p\ (^4P_{3/2})$
1.8502		14T	26.87(13)	0.236(13)	8.08(12)	$1s^24d\ (^2D_{3/2})\ 1s2p(^1P)4d\ (^2D_{5/2})$
1.8499		14T	17.72(13)	0.532(13)	1.24(13)	$1s^24d\ (^2D_{3/2})\ 1s2p(^1P)4d\ (^2F_{5/2})$
1.8616		14T	0.195(13)	1.67(13)	1.26(12)	$1s^24d\ (^2D_{3/2})\ 1s2s(^1S)4p\ (^2P_{1/2})$
1.8504		14T	18.95(13)	0.236(13)	5.70(12)	$1s^24d\ (^2D_{5/2})\ 1s2p(^1P)4d\ (^2D_{5/2})$
1.8501		14T	26.19(13)	0.532(13)	1.83(13)	$1s^24d\ (^2D_{5/2})\ 1s2p(^1P)4d\ (^2F_{5/2})$
1.8504		14T	45.79(13)	0.658(13)	5.12(13)	$1s^24d\ (^2D_{5/2})\ 1s2p(^1P)4d\ (^2F_{7/2})$
1.8548		14T	0.417(13)	0.056(13)	1.08(12)	$1s^24d\ (^2D_{5/2})\ 1s2p(^3P)4d\ (^2F_{7/2})$
1.8595		14T	3.03(13)	0.091(13)	5.66(12)	$1s^24d\ (^2D_{5/2})\ 1s2p(^3P)4d\ (^4F_{7/2})$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_d	FS	Transition
1.8613		14T	0.487(13)	0.796(13)	5.55(12)	$1s^24d (^2D_{5/2})$ $1s2s(^1S)4p (^2P_{3/2})$
1.8496		14T	41.28(13)	0.509(13)	3.65(12)	$1s^24f (^2F_{5/2})$ $1s2p(^1P)4f (^2G_{7/2})$
1.8497		14T	45.90(13)	0.048(13)	4.79(12)	$1s^24f (^2F_{7/2})$ $1s2p(^1P)4f (^2G_{9/2})$
1.8506		14T	44.90(13)	1.25(13)	4.71(13)	$1s^24p (^2P_{1/2})$ $1s2p(^1P)4p (^2D_{3/2})$
1.8589		14T	0.634(13)	0.81(13)	2.30(12)	$1s^24p (^2P_{1/2})$ $1s2p(^3P)4p (^2D_{3/2})$
1.8605		14T	1.62(13)	0.088(13)	2.74(12)	$1s^24p (^2P_{1/2})$ $1s2p4p (^4D_{3/2})$
1.8601		14T	2.12(13)	0.151(13)	2.43(12)	$1s^24p (^2P_{1/2})$ $1s2p4p (^4S_{3/2})$
1.8620		14T	0.54(13)	0.89(13)	4.01(12)	$1s^24p (^2P_{1/2})$ $1s2s(^1S)4s (^2S_{1/2})$
1.8509		14T	45.71(13)	0.78(13)	4.41(13)	$1s^24p (^2P_{3/2})$ $1s2p(^1P)4p (^2D_{5/2})$
1.8507		14T	44.93(13)	0.458(13)	1.74(13)	$1s^24p (^2P_{3/2})$ $1s2p(^1P)4p (^2P_{3/2})$
1.8502		14T	40.78(13)	0.517(13)	9.12(12)	$1s^24p (^2P_{3/2})$ $1s2p(^1P)4p (^2S_{1/2})$
1.8595		14T	3.53(13)	0.81(13)	1.28(13)	$1s^24p (^2P_{3/2})$ $1s2p(^3P)4p (^2D_{3/2})$
1.8559		14T	0.494(13)	0.021(13)	1.25(12)	$1s^24p (^2P_{3/2})$ $1s2p(^3P)4p (^2P_{3/2})$
1.8548		14T	1.50(13)	0.331(13)	1.62(12)	$1s^24p (^2P_{3/2})$ $1s2p(^3P)4p (^2S_{1/2})$
1.8602		14T	3.52(13)	0.35(13)	1.70(13)	$1s^24p (^2P_{3/2})$ $1s2p4p (^4D_{5/2})$
1.8626		14T	0.73(13)	0.89(13)	5.38(12)	$1s^24p (^2P_{3/2})$ $1s2s(^1S)4s (^2S_{1/2})$
1.8504		14T	43.75(13)	0.232(13)	4.59(12)	$1s^24s (^2S_{1/2})$ $1s2p(^1P)4s (^2P_{1/2})$
1.8550		14T	0.114(13)	1.08(13)	3.43(12)	$1s^24s (^2S_{1/2})$ $1s2p(^3P)4s (^2P_{3/2})$
1.8599		14T	3.76(13)	0.036(13)	1.29(12)	$1s^24s (^2S_{1/2})$ $1s2p4s (^4P_{3/2})$
1.8588		14T	2.55(13)	1.67(13)	1.65(13)	$1s^24s (^2S_{1/2})$ $1s2s(^1S)4p (^2P_{1/2})$

Fe +24 ($1s^2 \ ^1S_0$)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.84935	28T	28T	4.570(14)			$1s^2 \ ^1S_0$ $1s2p \ (^1P_1)$
1.8498	9T	9T	4.83(14)			$1s^2 \ ^1S_0$ $1s2p \ (^1P_1)$
1.8499	15T	15T	4.75(14)			$1s^2 \ ^1S_0$ $1s2p \ (^1P_1)$
1.85844	28T	28T	4.425(13)			$1s^2 \ ^1S_0$ $1s2p \ (^3P_1)$
1.8588	9T	9T	4.32(13)			$1s^2 \ ^1S_0$ $1s2p \ (^3P_1)$
1.8589	15T	15T	4.34(13)			$1s^2 \ ^1S_0$ $1s2p \ (^3P_1)$
1.8545	27T	27T	6.56(9)			$1s^2 \ ^1S_0$ $1s2p \ (^3P_2)$
1.8548	9T	9T	0.0			$1s^2 \ ^1S_0$ $1s2p \ (^3P_2)$
1.8674	27T	27T	2.08(8)			$1s^2 \ ^1S_0$ $1s2s \ (^3S_1)$
1.8676	9T	9T	0.0			$1s^2 \ ^1S_0$ $1s2s \ (^3S_1)$
1.5728	15T	15T	7.99(14)			$1s^2 \ ^1S_0$ $1s3p \ (^1P_1)$
1.5747	15T	15T	7.98(13)			$1s^2 \ ^1S_0$ $1s3p \ (^3P_1)$
1.7913	9T	9T	4.32(14)	2.52(13)		$1s2p \ (^1P_1)$ $2p^2 \ (^1D_2)$
1.7917	9	8T	4.096(14)	2.346(14)	6.288(14)	$1s2p \ (^1P_1)$ $2p^2 \ (^1D_2)$
1.7823	9T	9T	5.00(14)	3.88(13)		$1s2p \ (^1P_1)$ $2p^2 \ (^1S_0)$
1.7826	18	18T	4.688(14)	3.565(13)	3.311(13)	$1s2p \ (^1P_1)$ $2p^2 \ (^1S_0)$
1.8008	9T	9T	8.84(12)	3.59(12)		$1s2p \ (^1P_1)$ $2p^2 \ (^3P_0)$
1.8010	20	18T	7.346(12)	2.475(12)	3.623(10)	$1s2p \ (^1P_1)$ $2p^2 \ (^3P_0)$
1.7982	9T	9T	1.19(13)	0.0		$1s2p \ (^1P_1)$ $2p^2 \ (^3P_1)$
1.7986	16	18T	1.015(13)	2.623(7)	1.497(6)	$1s2p \ (^1P_1)$ $2p^2 \ (^3P_1)$
1.7966	9T	9T	1.02(14)	1.21(14)		$1s2p \ (^1P_1)$ $2p^2 \ (^3P_2)$

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.7968	12	18T	8.767(13)	1.004(14)	6.961(13)	1s2p (1P_1) 2p ² (3P_2)
1.5212		15T	5.52(13)	1.10(14)	7.01(13)	1s2p (1P_1) 2p3p (1D_2)
1.5191		15T	6.85(13)	2.29(13)	4.35(12)	1s2p (1P_1) 2p3p (1S_0)
1.8104		9T	5.87(13)	3.19(14)		1s2p (1P_1) 2s ² (1S_0)
1.8109	22	18T	5.949(13)	2.880(14)	4.403(13)	1s2p (1P_1) 2s ² (1S_0)
1.5243		15T	1.25(13)	1.31(13)	7.02(12)	1s2p (1P_1) 2s3d (1D_2)
1.5292		15T	7.25(12)	1.58(14)	4.86(12)	1s2p (1P_1) 2s3s (1S_0)
1.7890	13	18T	1.780(14)	2.623(7)	6.245(7)	1s2p (3P_0) 2p ² (3P_1)
1.7893		9T	1.90(14)	0.0		1s2p (3P_0) 2p ² (3P_1)
1.7829		9T	6.11(11)	2.52(14)		1s2p (3P_1) 2p ² (1D_2)
1.7832	7	18T	5.539(11)	2.346(14)	8.504(11)	1s2p (3P_1) 2p ² (1D_2)
1.7741		9T	2.61(11)	3.88(13)		1s2p (3P_1) 2p ² (1S_0)
1.7742	17	18T	2.541(11)	3.565(13)	1.795(10)	1s2p (3P_1) 2p ² (1S_0)
1.7924	19	18T	4.918(14)	2.475(12)	2.425(12)	1s2p (3P_0) 2p ² (3P_0)
1.7924		9T	5.17(14)	3.59(12)		1s2p (3P_0) 2p ² (3P_0)
1.7898		9T	1.30(14)	0.0		1s2p (3P_1) 2p ² (3P_1)
1.7900	14	18T	1.233(14)	2.623(7)	1.819(7)	1s2p (3P_1) 2p ² (3P_1)
1.7882	10	18T	1.630(14)	1.004(14)	1.294(14)	1s2p (3P_1) 2p ² (3P_2)
1.7882		9T	1.79(14)	1.21(14)		1s2p (3P_1) 2p ² (3P_2)
1.5212		15T	5.25(13)	1.16(13)	1.08(13)	1s2p (3P_1) 2p3p (3D_2)
1.8018		9T	4.89(13)	3.19(14)		1s2p (3P_1) 2s ² (1S_0)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_d	FS	Transition
1.8022	21	18T	4.140(13)	2.880(14)	3.064(13)	1s2p (3P_1) 2s ² (1S_0)
1.5196		15T	1.57(13)	1.92(13)	1.31(13)	1s2p (3P_1) 2s3d (3D_2)
1.5231		15T	8.64(12)	1.58(14)	5.79(12)	1s2p (3P_1) 2s3s (1S_0)
1.7866		9T	1.39(14)	2.52(14)		1s2p (3P_2) 2p ² (1D_2)
1.7870	8	18T	1.192(14)	2.346(14)	1.830(14)	1s2p (3P_2) 2p ² (1D_2)
1.7935		9T	2.36(14)	0.0		1s2p (3P_2) 2p ² (3P_1)
1.7939	15	18T	2.222(14)	2.623(7)	3.277(7)	1s2p (3P_2) 2p ² (3P_1)
1.7919		9T	2.88(14)	1.21(14)		1s2p (3P_2) 2p ² (3P_2)
1.7921	11	18T	2.811(14)	1.004(14)	2.232(14)	1s2p (3P_2) 2p ² (3P_2)
1.5178		15T	1.03(13)	1.10(14)	1.31(13)	1s2p (3P_2) 2p3p (1D_2)
1.5199		15T	6.67(13)	1.35(12)	1.93(12)	1s2p (3P_2) 2p3p (3D_3)
1.5196		15T	5.79(13)	1.57(13)	1.36(13)	1s2p (3P_2) 2p3p (3P_2)
1.5226		15T	9.28(12)	1.20(12)	1.67(12)	1s2p (3P_2) 2s3d (3D_3)
1.5177		15T	2.66(13)	8.83(13)	2.30(13)	1s2s (1S_0) 2p3s (1P_1)
1.7861	3	18T	2.574(14)	1.708(14)	3.018(14)	1s2s (1S_0) 2s2p (1P_1)
1.7855		9T	2.78(14)	1.95(14)		1s2s (1S_0) 2s2p (1P_1)
1.7932	5	18T	8.555(12)	1.915(13)	1.715(12)	1s2s (1S_0) 2s2p (3P_1)
1.7996		9T	1.05(13)	2.06(13)		1s2s (1S_0) 2s2p (3P_1)
1.5219		15T	1.86(13)	7.65(12)	2.76(12)	1s2s (1S_0) 2s3p (1P_1)
1.7784		9T	1.07(13)	1.95(14)		1s2s (3S_1) 2s2p (1P_1)
1.7787	2	18T	8.65(12)	1.708(14)	1.014(13)	1s2s (3S_1) 2s2p (1P_1)
1.7926		9T	2.83(14)	1.35(13)		1s2s (3S_1) 2s2p (3P_0)
1.7930	6	18T	2.673(14)	1.381(13)	1.312(13)	1s2s (3S_1) 2s2p (3P_0)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.7914		9T	2.73(14)	2.06(13)		1s2s (3S_1) 2s2p (3P_1)
1.7918	4	18T	2.587(14)	1.915(13)	5.186(13)	1s2s (3S_1) 2s2p (3P_1)
1.7875		9T	2.85(14)	1.35(13)		1s2s (3S_1) 2s2p (3P_2)
1.7881	1	18T	2.676(14)	1.363(13)	6.482(13)	1s2s (3S_1) 2s2p (3P_2)
1.5160		15T	3.25(13)	7.65(12)	4.81(12)	1s2s (3S_1) 2s3p (1P_1)
1.5163		15T	3.62(13)	9.30(12)	5.99(12)	1s2s (3S_1) 2s3p (3P_1)
1.5157		15T	6.71(13)	5.95(12)	2.35(13)	1s2s (3S_1) 2s3p (3P_2)
1.7765		15T	1.55(14)	2.23(13)	7.60(13)	1s3d (1D_2) 2p3d (1F_3)
1.7769	26	18T	1.445(14)	1.832(13)	5.507(13)	1s3d (1D_2) 2p3d (1F_3)
1.7760		15T	2.72(14)	3.63(11)	1.02(12)	1s3d (1D_2) 2p3d (1P_1)
1.7835		15T	1.28(14)	2.23(11)	9.01(11)	1s3d (1D_2) 2p3d (3D_2)
1.7844		15T	1.23(14)	6.44(12)	1.86(13)	1s3d (1D_2) 2p3d (3F_3)
1.7845	31	18T	1.092(14)	5.183(12)	1.408(13)	1s3d (1D_2) 2p3d (3F_3)
1.7784		15T	1.21(14)	1.10(11)	3.10(11)	1s3d (1D_2) 2p3d (3P_2)
1.7827		15T	5.24(12)	8.83(13)	4.53(12)	1s3d (1D_2) 2p3s (1P_1)
1.7873	47	18T	7.681(12)	9.959(12)	1.174(12)	1s3d (1D_2) 2s3p (1P_1)
1.7797		15T	1.01(14)	8.78(11)	1.79(12)	1s3d (3D_1) 2p3d (1D_2)
1.7829	44	18T	7.368(13)	3.370(12)	2.481(12)	1s3d (3D_1) 2p3d (3D_1)
1.7857	36	18T	1.452(14)	3.438(12)	9.108(12)	1s3d (3D_1) 2p3d (3F_2)
1.7857		15T	1.32(14)	3.61(12)	8.08(12)	1s3d (3D_1) 2p3d (3F_2)
1.7779		15T	2.83(14)	1.56(11)	1.56(11)	1s3d (3D_1) 2p3d (3P_0)
1.7780		15T	2.03(14)	2.49(11)	5.26(11)	1s3d (3D_1) 2p3d (3P_1)
1.7801	32	18T	8.933(13)	6.969(11)	1.075(12)	1s3d (3D_1) 2p3d (3P_2)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_d	FS	Transition
1.7815	42	18T	9.685(12)	6.390(13)	6.426(12)	1s3d (3D_1) 2p3s (1P_1)
1.7886		15T	1.26(13)	3.70(12)	2.86(12)	1s3d (3D_1) 2s3p (3P_0)
1.7797		15T	1.05(14)	8.78(11)	1.86(12)	1s3d (3D_2) 2p3d (1D_2)
1.7760		15T	9.75(13)	2.23(13)	4.77(13)	1s3d (3D_2) 2p3d (1F_3)
1.7764	24	18T	8.900(13)	1.832(13)	3.392(13)	1s3d (3D_2) 2p3d (1F_3)
1.7828		15T	1.87(14)	3.12(11)	6.05(11)	1s3d (3D_2) 2p3d (3D_1)
1.7829	45	18T	1.717(14)	3.370(12)	5.782(12)	1s3d (3D_2) 2p3d (3D_1)
1.7789		15T	1.57(14)	2.64(12)	9.76(12)	1s3d (3D_2) 2p3d (3D_3)
1.7792	27	18T	1.353(14)	1.943(12)	6.072(12)	1s3d (3D_2) 2p3d (3D_3)
1.7857	37	18T	1.157(14)	3.438(12)	7.315(12)	1s3d (3D_2) 2p3d (3F_2)
1.7857		15T	1.13(14)	3.61(12)	6.92(12)	1s3d (3D_2) 2p3d (3F_2)
1.7839		15T	4.09(13)	6.44(12)	6.17(12)	1s3d (3D_2) 2p3d (3F_3)
1.7840	29	18T	4.304(13)	5.183(12)	5.548(12)	1s3d (3D_2) 2p3d (3F_3)
1.7801	35	18T	9.109(13)	8.969(11)	1.096(12)	1s3d (3D_2) 2p3d (3P_2)
1.7815	43	18T	2.787(12)	6.390(13)	1.849(12)	1s3d (3D_2) 2p3s (1P_1)
1.7888		15T	2.08(13)	9.30(12)	3.45(12)	1s3d (3D_2) 2s3p (3P_1)
1.7889	49	18T	7.127(12)	8.888(12)	1.620(12)	1s3d (3D_2) 2s3p (3P_1)
1.7764		15T	4.39(13)	2.23(13)	2.15(13)	1s3d (3D_3) 2p3d (1F_3)
1.7768	25	18T	3.543(13)	1.832(13)	1.350(13)	1s3d (3D_3) 2p3d (1F_3)
1.7798		15T	1.22(14)	2.64(12)	7.56(12)	1s3d (3D_3) 2p3d (3D_3)
1.7797	28	18T	1.192(14)	1.943(12)	5.349(12)	1s3d (3D_3) 2p3d (3D_3)
1.7843		15T	1.29(14)	6.44(12)	1.94(13)	1s3d (3D_3) 2p3d (3F_3)
1.7845	30	18T	1.139(14)	5.183(12)	1.468(13)	1s3d (3D_3) 2p3d (3F_3)
1.7804		15T	2.95(14)	5.34(12)	4.72(13)	1s3d (3D_3) 2p3d (3F_4)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.7809	23	18T	2.662(14)	4.391(12)	3.888(13)	1s2d (3D_3) 2p3d (3F_4)
1.7849	35	18T	6.512(13)	9.599(11)	1.109(12)	1s3d (3D_3) 2p3s (3P_2)
1.7883	39	18T	2.344(13)	5.218(12)	6.374(12)	1s3d (3D_3) 2s3p (3P_2)
1.7789		15T	1.89(14)	1.10(14)	2.41(14)	1s3p (1P_1) 2p3p (1D_2)
1.7793	56	18T	1.766(14)	9.247(13)	2.062(14)	1s3p (1P_1) 2p3p (1D_2)
1.7861		15T	1.11(14)	1.95(11)	2.29(11)	1s3p (1P_1) 2p3p (1P_1)
1.7760		15T	2.68(14)	2.29(13)	1.70(13)	1s3p (1P_1) 2p3p (1S_0)
1.7765	68	18T	2.513(14)	1.958(13)	1.460(13)	1s3p (1P_1) 2p3p (1S_0)
1.7852	63	18T	4.964(13)	2.261(13)	3.864(13)	1s3p (1P_1) 2p3p (3D_2)
1.7872		15T	5.38(13)	1.16(13)	1.10(13)	1s3p (1P_1) 2p3p (3D_2)
1.7832		15T	1.06(13)	1.31(13)	5.91(12)	1s3p (1P_1) 2s3d (1D_2)
1.7836	61	18T	5.852(12)	8.834(12)	2.311(12)	1s3p (1P_1) 2s3d (1D_2)
1.7849		15T	3.97(13)	1.92(13)	3.31(13)	1s3p (1P_1) 2s3d (3D_2)
1.7873	66	18T	3.997(13)	8.460(12)	6.857(12)	1s3p (1P_1) 2s3d (3D_2)
1.7899		15T	2.73(13)	1.58(14)	1.83(13)	1s3p (1P_1) 2s3s (1S_0)
1.7901	71	18T	2.740(13)	1.290(14)	1.795(13)	1s3p (1P_1) 2s3s (1S_0)
1.7799		15T	1.31(14)	2.25(11)	2.46(11)	1s3p (3P_1) 2p3p (3P_1)
1.7770	54	18T	3.358(12)	9.247(13)	3.920(12)	1s3p (3P_1) 2p3p (1D_2)
1.7869		15T	1.44(14)	4.03(10)	5.23(10)	1s3p (3P_1) 2p3p (3D_1)
1.7848		15T	6.27(13)	1.16(13)	1.28(13)	1s3p (3P_1) 2p3p (3D_2)
1.7830		15T	2.58(14)	2.13(12)	1.67(12)	1s3p (3P_1) 2p3p (3P_0)
1.7831	69	18T	2.450(14)	1.034(12)	1.034(12)	1s3p (3P_1) 2p3p (3P_0)
1.7790		15T	1.67(14)	1.57(13)	3.92(13)	1s3p (3P_1) 2p3p (3P_2)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_a	FS	Transition
1.7793	57	18T	1.615(14)	1.052(13)	2.676(13)	1s3p (3P_1) 2p3p (3P_2)
1.7808		15T	6.26(13)	1.31(13)	3.51(13)	1s3p (3P_1) 2s3d (1D_2)
1.7813	59	18T	5.059(13)	8.834(12)	1.998(13)	1s3p (3P_1) 2s3d (1D_2)
1.7849	64	18T	5.075(13)	8.460(12)	8.706(12)	1s3p (3P_1) 2s3d (3D_2)
1.7875		15T	3.42(13)	1.58(14)	2.29(13)	1s3p (3P_1) 2s3s (1S_0)
1.7877	70	18T	2.815(13)	1.290(14)	1.844(13)	1s3p (3P_1) 2s3s (1S_0)
1.7776		15T	6.52(13)	1.10(14)	8.28(13)	1s3p (3P_2) 2p3p (1D_2)
1.7781	55	18T	5.579(13)	9.247(13)	6.513(13)	1s3p (3P_2) 2p3p (1D_2)
1.7849		15T	1.14(14)	1.95(12)	2.35(11)	1s3p (3P_2) 2p3p (1P_1)
1.7840	62	18T	4.180(13)	2.261(13)	3.254(13)	1s3p (3P_2) 2p3p (3D_2)
1.7859		15T	9.83(13)	1.16(13)	2.01(13)	1s3p (3P_2) 2p3p (3D_2)
1.7804		15T	2.59(14)	1.35(12)	7.48(12)	1s3p (3P_2) 2p3p (3D_3)
1.7806	52	18T	2.315(14)	1.094(12)	6.043(12)	1s3p (3P_2) 2p3p (3D_3)
1.7801		15T	8.51(13)	1.57(13)	2.00(13)	1s3p (3P_2) 2p3p (3P_2)
1.7804	58	18T	7.985(13)	1.052(13)	1.323(13)	1s3p (3P_2) 2p3p (3P_2)
1.7819		15T	9.32(12)	1.31(13)	5.22(12)	1s3p (3P_2) 2s3d (1D_2)
1.7824	60	18T	1.725(13)	8.834(12)	6.813(12)	1s3p (3P_2) 2s3d (1D_2)
1.7838		15T	4.97(13)	2.11(12)	3.31(12)	1s3p (3P_2) 2s3d (3D_1)
1.7840	67	18T	7.008(13)	1.591(12)	2.329(12)	1s3p (3P_2) 2s3d (3D_1)
1.7837		15T	3.61(13)	1.92(13)	3.02(13)	1s3p (3P_2) 2s3d (3D_2)
1.7860	65	18T	7.631(13)	8.460(12)	1.309(13)	1s3p (3P_2) 2s3d (3D_2)
1.7842		15T	3.59(13)	1.20(12)	6.49(12)	1s3p (3P_2) 2s3d (3D_3)
1.7847	53	18T	3.151(13)	1.060(12)	3.068(12)	1s3p (3P_2) 2s3d (3D_3)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_c	FS	Transition
1.7906		15T	2.86(13)	6.78(11)	9.79(11)	1s3p (3P_2) 2s3s (3S_1)
1.7790	41	18T	1.631(14)	6.390(13)	1.082(14)	1s3s (1S_0) 2p3s (1P_1)
1.7799		15T	1.62(14)	8.83(13)	1.40(14)	1s3s (1S_0) 2p3s (1P_1)
1.7878	50	18T	8.830(13)	9.543(11)	1.310(12)	1s3s (1S_0) 2p3s (3P_1)
1.7892		15T	1.02(14)	1.67(12)	2.17(12)	1s3s (1S_0) 2p3s (3P_1)
1.7857		15T	2.52(13)	7.65(12)	3.73(12)	1s3s (1S_0) 2s3p (1S_1)
1.7813		15T	4.42(13)	3.61(12)	2.70(12)	1s3s (3S_1) 2p3d (3F_2)
1.7771	40	18T	2.650(13)	6.390(13)	1.758(13)	1s3s (3S_1) 2p3s (1P_1)
1.7778		15T	2.20(13)	8.83(13)	1.90(13)	1s3s (3S_1) 2p3s (1P_1)
1.7852	51	18T	1.498(14)	5.596(12)	4.571(12)	1s3s (3S_1) 2p3s (3P_0)
1.7870		15T	1.07(14)	1.67(12)	2.29(12)	1s3s (3S_1) 2p3s (3P_1)
1.7801	34	18T	1.826(14)	9.599(11)	3.108(12)	1s3s (3S_1) 2p3s (3P_2)
1.7810		15T	2.51(14)	1.50(12)	6.13(12)	1s3s (3S_1) 2p3s (3P_2)
1.7824	46	18T	1.344(14)	9.959(12)	2.054(13)	1s3s (3S_1) 2s3p (1P_1)
1.7835		15T	6.62(13)	7.65(12)	9.78(12)	1s3s (3S_1) 2s3p (1P_1)
1.7839		15T	9.01(13)	9.30(12)	1.49(13)	1s3s (3S_1) 2s3p (3P_1)
1.7845	48	18T	4.989(13)	8.888(12)	1.134(13)	1s3s (3S_1) 2s3p (3P_1)
1.7835	38	18T	4.897(12)	5.218(12)	1.331(12)	1s3s (3S_1) 2s3p (3P_2)
1.7774	75	18T	1.143(14)	8.040(12)	2.255(13)	1s4d (1D_2) 2p4d (1F_3)
1.7826	79	18T	9.049(13)	2.727(12)	8.559(12)	1s4d (1D_2) 2p4d (3F_3)
1.7832	81	18T	3.220(13)	7.250(11)	2.222(12)	1s4d (1D_2) 2s4f (3F_3)
1.7834	83	18T	1.036(14)	1.107(12)	2.868(12)	1s4d (3D_1) 2s4f (3F_2)
1.7772	73	18T	7.878(13)	8.040(12)	1.554(13)	1s4d (3D_2) 2p4d (1F_3)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_d	FS	Transition
1.7782	76	18T	1.696(14)	1.277(12)	5.589(12)	1s4d (3D_2) 2p4d (3D_3)
1.7835	84	18T	8.932(13)	1.107(12)	2.473(12)	1s4d (3D_2) 2s4f (3F_2)
1.7851	91	18T	8.097(12)	3.427(12)	1.450(12)	1s4d (3D_2) 2s4p (3P_1)
1.7774	74	18T	6.634(13)	8.040(12)	1.309(13)	1s4d (3D_3) 2p4d (1F_3)
1.7783	77	18T	6.880(13)	1.277(12)	2.267(12)	1s4d (3D_3) 2p4d (3D_3)
1.7826	78	18T	9.454(13)	2.727(12)	8.942(12)	1s4d (3D_3) 2p4d (3F_3)
1.7786	72	18T	2.570(14)	2.061(12)	1.820(13)	1s4d (3D_3) 2p4d (3F_4)
1.7832	80	18T	2.937(13)	7.250(11)	2.026(12)	1s4d (3D_3) 2s4t (3F_3)
1.7849	85	18T	1.872(13)	1.935(12)	3.529(12)	1s4d (3D_3) 2s4p (3P_2)
1.7772	99	18T	2.571(14)	3.083(11)	1.482(12)	1s4f (1F_3) 2p4f (1D_2)
1.7823	97	18T	1.386(14)	2.409(11)	1.143(12)	1s4f (1F_3) 2p4f (3G_4)
1.7785	102	18T	1.944(12)	2.920(13)	9.153(11)	1s4f (1F_3) 2p4p (1D_2)
1.7774	96	18T	1.919(14)	3.736(11)	2.441(12)	1s4f (3F_3) 2p4f (1G_4)
1.7776	95	18T	2.586(14)	2.543(11)	2.713(12)	1s4f (3F_4) 2p4f (3G_5)
1.7783	101	18T	1.524(14)	2.920(13)	7.175(13)	1s4p (1P_1) 2p4p (1D_2)
1.7773	113	18T	2.436(14)	1.055(13)	8.884(12)	1s4p (1P_1) 2p4p (1S_0)
1.7836	109	18T	4.335(13)	6.226(12)	1.317(13)	1s4p (1P_1) 2p4p (3D_2)
1.7782	103	18T	2.291(14)	8.999(12)	3.557(13)	1s4p (1P_1) 2p4p (3P_2)
1.7828	107	18T	2.206(13)	3.564(12)	3.197(12)	1s4p (1P_1) 2s4d (1D_2)
1.7842	112	18T	3.160(13)	3.805(12)	5.027(12)	1s4p (1P_1) 2s4d (3D_2)
1.7856	115	18T	1.686(13)	4.323(13)	7.753(12)	1s4p (1P_1) 2s4s (1S_0)
1.7787	104	18T	2.116(13)	8.999(12)	3.285(12)	1s4p (1P_2) 2p4p (3P_2)
1.7818	105	18T	1.426(13)	3.564(12)	2.066(12)	1s4p (3P_1) 2s4d (1D_2)

$\lambda(\text{\AA})$	Key	Ref.	A_r	A_d	FS	Transition
1.7833	110	18T	1.404(13)	3.805(12)	2.233(12)	1s4p (3P_1) 2s4d (3D_2)
1.7847	114	18T	2.600(13)	4.323(13)	1.196(12)	1s4p (3P_1) 2s4s (1S_0)
1.7778	100	18T	9.905(13)	2.920(13)	4.664(13)	1s4p (3P_2) 2p4p (1D_2)
1.7831	108	18T	3.271(13)	6.226(12)	9.936(12)	1s4p (3P_2) 2p4p (3D_2)
1.7786	98	18T	2.556(14)	3.616(11)	2.308(12)	1s4p (3P_2) 2p4p (3D_2)
1.7823	106	18T	6.105(13)	3.564(12)	8.846(12)	1s4p (3P_2) 2s4d (1D_2)
1.7837	111	18T	4.405(13)	3.805(12)	7.007(12)	1s4p (3P_2) 2s4d (3D_2)
1.7784	87	18T	1.768(14)	1.611(13)	3.239(13)	1s4s (1S_0) 2p4s (1P_1)
1.7827	89	18T	1.481(13)	1.208(13)	3.389(12)	1s4s (1S_0) 2p4s (3P_1)
1.7844	93	18T	6.191(13)	1.486(12)	1.830(12)	1s4s (1S_0) 2s4p (1P_1)
1.7777	86	18T	6.552(13)	1.611(13)	1.200(13)	1s4s (3S_1) 2p4s (1P_1)
1.7819	88	18T	1.107(14)	1.208(13)	2.553(13)	1s4s (3S_1) 2p4s (3P_1)
1.7781	82	18T	2.525(14)	3.043(11)	1.475(12)	1s4s (3S_1) 2p4s (3P_2)
1.7836	92	18T	6.184(13)	1.486(1)	1.828(12)	1s4s (3S_1) 2s4p (1P_1)
1.7835	94	18T	8.130(13)	2.133(12)	1.678(12)	1s4s (3S_1) 2s4p (3P_0)
1.7833	90	18T	1.992(13)	3.427(12)	3.567(12)	1s4s (3S_1) 2s4p (3P_1)

Fe +25 (1s ²S_{1/2})

$\lambda(\text{\AA})$	Key	Ref.	A_T	A_a	FS	Transition
1.7826		9T	2.92(14)			1s (² S _{1/2}) 2p (² P _{1/2})
1.7827		15T	2.94(14)			1s (² S _{1/2}) 2p (² P _{1/2})
1.7773		9T	2.95(14)			1s (² S _{1/2}) 2p (² P _{3/2})
1.7774		15T	2.96(14)			1s (² S _{1/2}) 2p (² P _{3/2})
1.5030		15T	7.86(13)			1s (² S _{1/2}) 3p (² P _{1/2})
1.5019		15T	7.87(13)			1s (² S _{1/2}) 3p (² P _{3/2})

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