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A COMPILATION OF DATA ON SOME SPECTRA OF THORIUM

G. W. Charles

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A COMPILATION OF DATA ON SOME SPECTRA OF THORIUM

G. W. Charles

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A COMPILATION OF DATA ON SOME SPECTRA OF THORIUM

G. W. Charles
Physics Division

ABSTRACT

A compilation of available data on the spectra of thorium is presented, including energy levels and classified lines with Zeeman effects and isotope shifts, as well as certain data on unclassified lines. The present status of knowledge of these spectra is discussed.

INTRODUCTION

Over a period of many years, much information has been amassed on the spectra of thorium. Most of this information has been published. It is the purpose of this report to present a compilation of the available data on thorium spectra exclusive of a list of unclassified lines.[1] The spectra will be considered in the order Th IV, III, II, and I.

Th IV

The first classifications in this one-electron spectrum were made by Lang (*1*). Lier reported Zeeman observations on one line in his dissertation (*2*); additional Zeeman work was done by de Bruin and Klinkenberg (*3*). Improved measurements and a more complete description were reported by Klinkenberg and Lang (*4*) and by Klinkenberg (*5*). Table 1 gives the known energy levels of Th IV in the form that has been adopted for the National Bureau of Standards compilation contained in NBS Circular 467. In the references to this and the similar tables (Tables 3, 5, and 8) the following notation is employed:

T = term,
CL = classified lines,
ZE = Zeeman effect observations,
GD = Grotrian diagram,
IS = isotope shift data,
Th = theory,
IP = ionization potential data.

[1]No list of unclassified lines has been included, partly because of considerations of space and partly because the list of C. C. Kiess of the National Bureau of Standards is more comprehensive.

Table 2 lists the classified lines of Th IV, taken from the reports of Klinkenberg and Lang (*4*) and Klinkenberg (*5*). The observed g values in Table 1 have been estimated by the author from published Zeeman data (*4,5*). In Table 2, an asterisk in the wave length column indicates that the wave length was measured at the Massachusetts Institute of Technology (MIT). $\Delta\sigma_{vac}$ is the difference between observed frequency and calculated frequency. In the column labelled "Zeeman patterns," the complete observed patterns are listed, with figures in parentheses giving π components and the other figures giving σ components (measured in Lorentz units – 1 Lorentz unit being 4.669×10^{-5} times the magnetic field strength, H, in oersteds). When more than one component of a given kind is listed, the strongest component is underlined.

Th III

The earliest work on this spectrum was also reported by Lang (*6*). Zeeman effects of several lines were reported by Lier (*2*). Extensions of the analysis were reported by de Bruin and Klinkenberg (*3*) and de Bruin, Klinkenberg, and Schuurmans (*7*). Later, Klinkenberg reported a revised and extended analysis (*8*). Racah has compared the experimental energy levels of Klinkenberg with the predictions of theory (*9*). The energy levels of Th III, taken from Klinkenberg (*8*), are listed in Table 3. The quantity X has not been definitely established; Klinkenberg has calculated it to be 810 cm^{-1} from two intercombination lines (*8*), while Racah has stated that it must be small (*9*).

Table 4 lists the classified lines of Th III, taken from the report of Klinkenberg (*5*) except for

some lines for which wave lengths and Zeeman data are taken from the MIT list. The complete observed Zeeman patterns are listed and the strongest components are underlined. The edge of an unresolved group of π components is denoted by E_π, while G_σ denotes the centroid of an unresolved σ group.

Th II

This spectrum has been analyzed by McNally, Harrison, and Park (*10*) and by de Bruin, Schuurmans, and Klinkenberg (*11,12*). Earlier work was done by Lier (*2*). Two sets of energy levels were found with no connection established between them. The connection between the two sets of levels was established by McNally in a study of the infrared spectrum of thorium (*13*). This confirmed the preliminary results of de Bruin *et al.* (*12*). A theoretical study of the low, even configurations $6d^27s$, $6d7s^2$, and $6d^3$ was made by Eisenberg (*14*). A study of the isotope shift between Th^{232} and Th^{230} lines was carried out by Stukenbroeker and McNally (*15*).

The energy levels of Th II are listed in Table 5. The assignment of levels to the configurations $6d^27s$, $6d7s^2$, and $6d^3$ is confirmed by the theoretical study of Eisenberg (*14*), while the assignment of levels to the configurations $5f7s^2$ and $5f6d7s$ is confirmed by unpublished theoretical work of Racah. Other levels and configuration assignments are taken from the papers of McNally (*13*) and of de Bruin *et al.* (*11,12*). The remainder of the configuration assignments are tentative suggestions of the author. Table 5 contains 45 energy levels not previously published. These have been communicated to the author by Schuurmans and Klinkenberg and by Klinkenberg. It also contains 43 previously unpublished g values, of which 24 were determined by the author. In addition, g values have been improved for 20 levels by the author from unpublished MIT Zeeman data.

The classified lines of Th II are listed in Table 6. The total number of lines listed here is more than 2850, compared with 1091 lines listed by McNally, Harrison, and Park (*10*) in the only published list of classified lines of Th II, and with 1931 lines in an unpublished list of Klinkenberg. The data for Table 6 were obtained in the following manner. A list of all known energy levels of Th II was submitted to the IBM group at the Oak Ridge Gaseous Diffusion Plant. This list contained 165 odd and 191 even levels. Wave lengths of approximately 9600 allowed lines of Th II were calculated from the levels. This list of lines was compared with a list of observed lines that included ones taken from the MIT card file on thorium (symbol M), from three University of Chicago MS theses (*16,17,18*) (symbol C), from the paper of McNally (*13*) (symbol Mc), from the Vatican wave length data (*19*) (symbol V), from Klinkenberg's list of unpublished Th II classified lines (symbol K), and a few from Schuurmans' dissertation (*20*) (symbol S). All coincidences between the two lists within 0.2 cm^{-1} were recorded.

As in Table 2, $\Delta\sigma_{vac}$ signifies the difference between observed frequency and frequency calculated from the energy levels. In order to save space, the shorthand notation taken from the paper of McNally, Harrison, and Park (*10*) for the description of Zeeman patterns has been used in Table 6. The data given are type of pattern, strongest π component (in parentheses), strongest σ component, and g values of the two levels in the same order in which the levels appear in the transition column. In the interest of uniformity and simplicity, the odd level is stated first, followed by the even level. Three types of patterns are distinguished by the numbers 4, 5, and 6. Types 4 and 5 are $J_1 \neq J_2$, shade out and shade in, respectively, while Type 6 is $J_1 \neq J_2$, symmetrical. Zeeman data are taken from the paper of McNally, Harrison, and Park and from unpublished MIT data (symbol M), from Klinkenberg's list (symbol K), and from Lier's dissertation (symbol L). A g value given in parentheses was assumed because the Zeeman data for the line were insufficient to calculate g values for both levels.

Table 7 gives Zeeman effect data for some unclassified lines of Th II taken from the MIT unpublished data.

Th I

The spectrum of Th I is by far the most poorly analyzed of all the thorium spectra. The only published works are Schuurmans' dissertation (*20*), which lists some energy levels, and Lier's dissertation (*2*), which gives some Zeeman data. The known energy levels are given in Table 8, which is taken from Schuurmans' dissertation and from an unpublished list of McNally. Where a g value is listed by McNally, it has been adopted. Data taken from Schuurmans are indicated by an (S).

Table 9 lists the classified lines of Th I. A list was calculated by the author from the energy levels and then compared with the data. The reference symbols are the same as those used in Table 6. Under Zeeman data, the three types here are designated 1, 2, and 3. Type 1 and Type 2 are $J_1 \neq J_2$, shade out and shade in, respectively, while Type 3 is $J_1 = J_2$, symmetrical. Table 10 gives Zeeman data for several unclassified lines of integral J, which are mostly Th I.

Miscellaneous Data

In Table 11 are collected isotope shift data of unclassified thorium lines, consisting of the unpublished data of Stukenbroeker and McNally. An attempt has been made to identify the emitter of the line as either Th I or Th II. The intensities are from the MIT list. Table 12 lists the remaining unclassified lines in the furnace spectrum. It will be observed that most of these appear to be Th I. The furnace spectrum is contained in Fred's list (*21*). Table 13 contains the unclassified absorption lines. The absorption spectrum, observed with the under-water spark and with the exploding wire, was reported by de Bruin and Lier (*22*). Five degrees of absorption were distinguished. Those lines showing the heaviest absorption are designated by the numeral 1 in Table 13. Again the intensities are from the MIT list. The notation "Zeeman Effect" in the column labelled "Probable Spectrum" signifies that Zeeman data are available on the line. An asterisk is placed in this column to denote that the line has been classified, but that the absorption seems too strong to be consistent with the classification.

DISCUSSION

An evaluation of the state of knowledge of the thorium spectra follows. Every line that has been ascribed to Th IV has been classified. Any extension of this spectrum therefore depends on improved observations, which is likely to be a fairly difficult task.

The energy level scheme of Th III is quite complete in so far as first series members are concerned. The agreement between theory and observation with regard to relative positions of levels and to g values is very good. The principal lines of endeavor to improve knowledge of this spectrum would seem to be the definite establishment of the connection between the two sets of energy levels and the finding of higher series members. All the lines that can be ascribed to Th III are listed in the paper by Klinkenberg (*5*); not many of them remain unclassified. An extension of the Th III spectrum would also require new observations.

Although there are about 350 energy levels of Th II known; knowledge of this spectrum is not complete. Theoretical studies are needed to establish the configurations of energy levels already known. In addition, there are many remaining unclassified lines of Th II and undoubtedly many more could be observed under suitable conditions.

Compared with the remainder of the thorium spectra, that of Th I is practically unknown, although it is expected to be the most complex of all. This is probably due to the difficulty of exciting this spectrum in the arc. More work is needed on every phase of this spectrum. A more intensive study of the furnace spectrum, especially at wave lengths greater than 5000 Å, should be profitable.

SUMMARY

A compilation of data on the known spectra of thorium is presented. Included are energy levels and classified lines with Zeeman effects and isotope shifts for Th IV, Th III, Th II, and Th I. Data are also included on unclassified lines embracing Zeeman effects, isotope shifts, appearance in furnace spectrum, and appearance in absorption spectrum. The principal results of this investigation are:

1. the assembling in one document of all the available data on classified thorium spectra,
2. a significant extension of the knowledge of g values of Th II,
3. the collection of some significant data for a further extension of classification of the thorium spectra.

The status of knowledge of each of these spectra is discussed. It is concluded that Th IV and Th III can only be extended by new observations; both these spectra are found to be in reasonably satisfactory condition. Some extension of Th II can be made with presently available data. A theoretical study is needed on configuration assignments of known Th II levels. The knowledge of Th I is concluded to be in a very unsatisfactory condition, with more work needed on all phases of this spectrum.

ACKNOWLEDGMENTS

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THORIUM

Th IV

87 Electrons **Z = 90**

Ground State: $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^{10}\ 4s^2\ 4p^6\ 4d^{10}\ 4f^{14}\ 5s^2\ 5p^6\ 5d^{10}\ 6s^2\ 6p^6\ 5f\ \ ^2F^\circ_{2\frac{1}{2}}$

$5f\ ^2F^\circ_{2\frac{1}{2}}$ = ***231900*** cm^{-1} I. P. = 28.6 volts

Twelve levels have been given by Klinkenberg and Lang, extending and revising the level scheme originally proposed by Lang and confirmed in part by the Zeeman effect of $7\ ^2S_{\frac{1}{2}} - 7\ ^2P_{\frac{1}{2}}$ observed by Lier. The major correction pertained to the position of $5\ ^2F$ which was found to be the ground state. The observed g values listed in the table have been calculated by G. W. Charles from published data on Zeeman patterns.

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P. F. A. Klinkenberg, *Physica* **16**, 185 (1950). (T) (CL) (ZE) (GD)

Table 1. Energy Levels of Th IV

Configuration	Designation	J	Level (cm^{-1})	Interval (cm^{-1})	Observed g Value
$5f$	$5f\ ^2F^\circ$	2½	*0.00*	4325.74	0.80 ?
		3½	*4325.74*		
$6d$	$6d\ ^2D$	1½	9192.84	5293.48	
		2½	14486.32		1.14 ?
$7s$	$7s\ ^2S$	½	23130.3		2.024
$7p$	$7p\ ^2P^\circ$	½	*60238.9*	12816.7	0.666
		1½	*73055.6*		
$8s$	$8s\ ^2S$	½	119621.2		2.03
$7d$	$7d\ ^2D$	1½	119684.3	1742.3	0.81
		2½	121426.6		1.23
$8p$	$8p\ ^2P^\circ$	½	*134516.1*	5354.3	0.66
		1½	*139870.4*		1.33

Table 2. Classified Lines of Th IV

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
10875.05	9192.8	0.0	$5\ ^2F^o_{2½} - 6\ ^2D_{1½}$	
9839.25	10160.59	+0.01	$5\ ^2F^o_{3½} - 6\ ^2D_{2½}$	
6901.16	14486.33	+0.01	$5\ ^2F^o_{2½} - 6\ ^2D_{2½}$	(0.47) (<u>0.85</u>) 0.60, <u>0.98</u>, 1.34
6740.37	14831.89	+0.1	$7\ ^2D_{1½} - 8\ ^2P^o_{½}$	(0) 0.87
6711.87	14894.87	0.0	$8\ ^2S_{½} - 8\ ^2P^o_{½}$	(0.70) 1.36
5420.38	18443.78	0.0	$7\ ^2D_{2½} - 8\ ^2P^o_{1½}$	(0) 1.08
4952.52	20186.12	0.0	$7\ ^2D_{1½} - 8\ ^2P^o_{1½}$	(0.79) 0.90
4937.09	20249.21	0.0	$8\ ^2S_{½} - 8\ ^2P^o_{1½}$	(0.34) <u>1.01</u>, 1.67
2693.995*	37108.57	0.0	$7\ ^2S_{½} - 7\ ^2P^o_{½}$	(0.679) 1.345*
2296.81	43525.2		$6\ ^2F^o_{3½} - 8\ ^2D_{2½}$?	
2261.26	44209.4		$6\ ^2F^o_{2½} - 8\ ^2D_{1½}$?	
2242.11	44586.9		$6\ ^2F^o_{2½} - 8\ ^2D_{2½}$?	
2146.81	46566.1	+0.5	$7\ ^2P^o_{1½} - 8\ ^2S_{½}$	
2143.91	46629.1	+0.4	$7\ ^2P^o_{1½} - 7\ ^2D_{1½}$	
2066.70	48371.0	0.0	$7\ ^2P^o_{1½} - 7\ ^2D_{2½}$	
2002.34	49925.3	0.0	$7\ ^2S_{½} - 7\ ^2P^o_{1½}$	
1959.02**	51045.9	−0.2	$6\ ^2D_{1½} - 7\ ^2P^o_{½}$	
1707.37	58569.7	−0.4	$6\ ^2D_{2½} - 7\ ^2P^o_{1½}$	
1684.01	59382.0	−0.3	$7\ ^2P^o_{½} - 8\ ^2S_{½}$	
1682.22	59445.3	−0.1	$7\ ^2P^o_{½} - 7\ ^2D_{1½}$	
1565.85	63863.0	+0.2	$6\ ^2D_{1½} - 7\ ^2P^o_{1½}$	
854.02	117093	−7.9	$5\ ^2F^o_{3½} - 7\ ^2D_{2½}$?	
835.55	119682	−2.3	$5\ ^2F^o_{2½} - 7\ ^2D_{1½}$	
797.53	125387	+2.9	$6\ ^2D_{2½} - 8\ ^2P^o_{1½}$	

*MIT measurement. Other data are from Klinkenberg and Lang (1949) and from Klinkenberg (1950).
**Wave lengths above 2000 Å are in air, while those below 2000 Å are *in vacuo*.

THORIUM

Th III

88 Electrons **Z = 90**

Ground State: $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^{10}\ 4s^2\ 4p^6\ 4d^{10}\ 4f^{14}\ 5s^2\ 5p^6\ 5d^{10}\ 6s^2\ 6p^6\ 6d^2\ \ ^3F_2$

$6d^2\ ^3F_2$ = **161000** cm^{-1} I. P. = 19.9 volts

The energy levels are taken from the paper by Klinkenberg, who has revised and extended earlier analyses. Two groups of levels are known. The quantity X is found to be 810 cm^{-1} from two intercombination lines, but this has not been definitely established. The ionization potential is provisionally taken to be 19.9 volts. An obvious typographical error in the original paper in the value of $6d7s\ ^3D_1$ has been corrected.

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G. Racah, *Physica* **16,** 651 (1950).

Table 3. Energy Levels of Th III

Configuration	Designation	J	Level (cm^{-1})	Interval (cm^{-1})	Observed g Value
			Group B		
$6d^2$	$6d\ ^3F$	2	0.0		0.744
		3	3992.7	3992.7	1.083
		4	6474.9	2482.2	1.20_5
$6d^2$	$6d\ ^1D$	2	4613.3		1.020
$6d^2$	$6d\ ^3P$	0	5027.0		
		1	7812.5	2785.5	1.50_5
		2	10377.1	2564.6	1.367
$6d7s$	$7s\ ^3D$	1	5460.8		0.50_5
		2	7113.0	1652.2	1.180
		3	9890.6		1.339
$6d^2$	$6d\ ^1G$	4	10479.3		1.05
$7s^2$	$7s\ ^1S$	0	11897.9		
$6d7s$	$7s\ ^1D$	2	15974.4		1.00_0
$6d^2$	$6d\ ^1S$	0	18929.6		
$6d7p$	$7p(3/2,1/2)^\circ$	1	*39217.7*		0.900
		2	*37217.2*	*−2000.5*	0.795
$7s7p$	$7p\ ^3P^\circ$	0	*42196.3*		
		1	*45000.7*	*2804.4*	1.120
		2	*53088.3*	*8087.6*	1.36
$6d7p$	$7p(5/2,1/2)^\circ$	2	*44024.9*		1.200
		3	*44402.0*	*377.1*	1.125
$6d7p$	$7p(3/2,3/2)^\circ$	0	*51682.1*		
		1	*50929.3*	*−752.8*	1.22
		2	*47616.7*	*−3312.6*	1.02
		3	*49917.4*	*2300.7*	1.19
$6d7p$	$7p(5/2,3/2)^\circ$	1	*53876.0*		1.25
		2	*55335.8*	*1459.8*	~1.33
		3	*55489.1*	*153.3*	1.10
		4	*52989.2*	*−2499.9*	1.27
$7s7p$	$7p\ ^1P^\circ$	1	*68937.1*		
			Group A		
$5f6d$	$6d\ ^3H^\circ$	4	*0.00 + X*		0.88_5
		5	*4489.56 + X*	*4489.6*	1.04
		6	*8436.9 + X*	*3947.3*	1.16_7

Table 3 (continued)

Configuration	Designation	J	Level (cm^{-1})	Interval (cm^{-1})	Observed g Value
			Group A (continued)		
$5f6d$	$6d\ ^3F^\circ$	2	$510.69 + X$		0.739
		3	$4286.81 + X$	4316.12	1.003
		4	$8980.55 + X$	4153.74	1.188
$5f7s$	$7s\ ^3F^\circ$	2	$3181.40 + X$		0.725
		3	$2527.02 + X$	−654.38	1.071
		4	$6310.73 + X$	3783.71	1.21_8
$5f6d$	$6d\ ^1G^\circ$	4	$3188.26 + X$		0.976
$5f6d$	$6d\ ^3G^\circ$	3	$5060.62 + X$		0.869
		4	$8141.64 + X$	3081.02	1.103
		5	$11276.65 + X$	3135.01	1.186
$5f6d$	$6d\ ^1D^\circ$	2	$6288.21 + X$		0.908
$5f7s$	$7s\ ^1F^\circ$	3	$7500.48 + X$		1.027
$5f6d$	$6d\ ^3D^\circ$	1	$7921.01 + X$		0.622
		2	$10180.8 + X$	2259.8	1.19_3
		3	$10741.07 + X$	560.3	1.22_4
$5f6d$	$6d\ ^3P^\circ$	0	$11232.82 + X$		
		1	$11123.20 + X$	−109.62	1.352
		2	$13208.29 + X$	2085.09	1.432
$5f6d$	$6d\ ^1F^\circ$	3	$15453.44 + X$		1.07_0
$5f6d$	$6d\ ^1H^\circ$	5	$19009.83 + X$		1.01_5
$5f6d$	$6d\ ^1P^\circ$	1	$20225.2 + X$		1.009
$5f^2$	$5f\ ^3H$	4	$15148.5 + X$		0.81_0
		5	$17887.5 + X$	2739.0	1.01
		6	$20771.0 + X$	2883.5	1.16
$5f^2$	$5f\ ^3F$	2	$18863.82 + X$		0.694
		3	$20840.48 + X$	1976.66	1.096
		4	$21783.83 + X$	943.35	1.18_0
$5f^2$	$5f\ ^1G$	4	$25972.12 + X$		1.072
$5f^2$	$5f\ ^1D$	2	$28232.42 + X$		1.12_6
$5f^2$	$5f\ ^3P$	0	$29299.50 + X$		
		1	$30402.98 + X$	1103.5	1.494
		2	$32867.3 + X$	2464.3	1.344
$5f^2$	$5f\ ^1I$	6	$30220.0 + X$		

Table 3 (continued)

Configuration	Designation	J	Level (cm^{-1})	Interval (cm^{-1})	Observed g Value
			Group A (continued)		
$5f7p$	$7p(5/2,1/2)$	2	34996.07 + X		0.82_3
		3	33562.38 + X	−1433.69	0.849
$5f7p$	$7p(7/2,1/2)$	3	38431.66 + X		1.170
		4	38580.55 + X	148.89	1.105
$5f7p$	$7p(5/2,3/2)$	1	44603.10 + X		0.495
		2	43759.4 + X	−843.7	0.988
		3	42313.10 + X	−1446.3	0.971
		4	43701.56 + X	1388.5	1.069
$5f7p$	$7p(7/2,3/2)$	2	49805.5 + X		1.03_0
		3	47471.44 + X	−2334.1	1.207
		4	47260.9 + X	−210.5	1.14
		5	47421.8 + X	160.9	1.207
$5f^2$	$5f\ ^1S$	0	50666.0 + X		

Table 4. Classified Lines of Th III[a]

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
10702.62	9340.95	+0.5	$fd\ ^1H^o_5 - d^2\ ^1G_4$	
10529.18	9494.82	+0.4	$f^2\ ^3H_6 - fd\ ^3G^o_5$	
10257.59	9746.21	+0.3	$f^2\ ^3H_5 - fd\ ^3G^o_4$	
9909.50	10088.56	+0.7	$f^2\ ^3H_4 - fd\ ^3G^o_3$	
9685.1	10322.3	+0.6	$f^2\ ^3H_4 - fd\ ^3F^o_3$	
9514.6	10507.3	+0.2	$f^2\ ^3F_4 - fd\ ^3G^o_5$	
9504.11[b]	10518.88	+0.20	$f^2\ ^1G_4 - fd\ ^1F^o_3$	
9378.45[b]	10659.82	+0.1	$f^2\ ^3F_3 - fd\ ^3D^o_2$	
9135.8	10943.0	+0.2	$f^2\ ^3F_2 - fd\ ^3D^o_1$	
9053.0	11043.0	+0.2	$f^2\ ^3F_4 - fd\ ^3D^o_3$	
8917.64	11210.65	+0.5	$f^2\ ^1I_6 - fd\ ^1H^o_5$	
8429.01	11860.53	+0.60	$f^2\ ^3F_3 - fd\ ^3F^o_4$	
8358.50	11960.59	+0.4	$f^2\ ^3H_4 - fd\ ^1G^o_4$	
8342.51	11983.51	+0.4	$ds\ ^1D_2 - fs\ ^3F^o_2$	
8105.14	12334.46	+0.4	$f^2\ ^3H_6 - fd\ ^3H^o_6$	
7920.30	12622.32	+0.8	$f^2\ ^3H_4 - fs\ ^3F^o_3$?	
7872.26	12699.34	+0.50	$f^2\ ^3F_3 - fd\ ^3G^o_4$	
7822.90	12779.47	+0.49	$f^2\ ^1D_2 - fd\ ^1F^o_3$	
7808.04	12803.79	+0.51	$f^2\ ^3F_4 - fd\ ^3F^o_4$	
7493.67	13340.93	+0.93	$f^2\ ^3F_3 - fs\ ^1F^o_3$?	
7461.59	13398.29	+0.4	$f^2\ ^3H_5 - fd\ ^3H^o_5$	(0) 0.99
7328.27	13642.03	−0.16	$f^2\ ^3F_4 - fd\ ^3G^o_4$?	
7242.47	13803.65	+0.45	$f^2\ ^3F_2 - fd\ ^3G^o_3$	
7121.78	14037.57	+0.56	$f^2\ ^3F_2 - fd\ ^3F^o_3$	(0) 1.53
6998.88	14284.07	+0.72	$f^2\ ^3F_4 - fs\ ^1F^o_3$	(0) 1.54
6880.15	14530.57	+0.82	$f^2\ ^3F_3 - fs\ ^3F^o_4$	(0) 1.46

[a]Wavelengths and classifications from Klinkenberg (1950).

[b]Data from MIT measurements.

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
6869.54	14553.01	+0.74	$f^2\,{}^3F_3 - fd\,{}^1D^\circ_2$	(0) 1.33
6802.81	14695.76	+0.29	$f^2\,{}^1G_4 - fd\,{}^3G^\circ_5$?	(0) 1.44
6800.96	14699.76	+0.6	$f^2\,{}^3H_5 - fd\,{}^1G^\circ_4$	(0) 1.18
6654.00	15024.41	+0.28	$f^2\,{}^1D_2 - fd\,{}^3P^\circ_2$	(0.60) 1.06
6599.39	15148.74	+0.2	$f^2\,{}^3H_4 - fd\,{}^3H^\circ_4$	(0.23) 0.85
6460.72[c]	15473.88	+0.78	$f^2\,{}^3F_4 - fs\,{}^3F^\circ_4$	(0) 1.18
6374.839	15682.34	−0.08	$f^2\,{}^3F_2 - fs\,{}^3F^\circ_2$	(0.06) 0.71
6335.416	15779.93	+0.07	$f^2\,{}^3F_3 - fd\,{}^3G^\circ_3$	(0.226)[b] (0.440)[b] (0.661)[b] 0.642,[b] 0.869,[b] 1.096,[b] 1.323,[b] 1.550[b]
6242.946	16013.66	−0.01	$f^2\,{}^3F_3 - fd\,{}^3F^\circ_3$	(0.272) 1.07
6140.333	16281.26	−0.2	$f^2\,{}^3H_6 - fd\,{}^3H^\circ_5$	(0) 1.75, $E_\pi = 0.52$
6119.465	16336.78	−0.02	$f^2\,{}^3F_2 - fs\,{}^3F^\circ_3$	(0) (0.39) (0.72) 1.45, 1.78
5895.632	16957.02	0.00	$f^2\,{}^3F_4 - fd\,{}^3F^\circ_3$	
5883.643	16991.57	0.00	$f^2\,{}^1G_4 - fd\,{}^3F^\circ_4$	(0.34) (0.47) 1.23
5843.183	17109.23	+0.01	$f^2\,{}^1D_2 - fd\,{}^3P^\circ_1$	(0) (0.23) 0.94
5814.168	17194.61	−0.09	$f^2\,{}^3P_1 - fd\,{}^3P^\circ_2$	(0) 1.36, $E_\pi = 0.04$
5740.955	17413.89	0.0	$f^2\,{}^3P_2 - fd\,{}^1F^\circ_3$	(0) (0.26) 0.59
5715.522	17491.37	+0.02	$f^2\,{}^1D_2 - fd\,{}^3D^\circ_3$	(0) (0.10) 1.42, $E_\pi = 0.23$
5606.830	17830.45	−0.04	$f^2\,{}^1G_4 - fd\,{}^3G^\circ_4$	(0) 1.07
5538.106	18051.71	+0.1	$f^2\,{}^1D_2 - fd\,{}^3D^\circ_2$	(0.10) 1.15
5500.131	18176.35	+0.04	$f^2\,{}^3P_0 - fd\,{}^3P^\circ_1$	(0) 1.350, $E_\pi = 0.03$
5458.969	18313.40	−0.07	$f^2\,{}^3F_3 - fs\,{}^3F^\circ_3$	(0.067) 1.063
5447.182	18353.03	−0.11	$f^2\,{}^3F_2 - fd\,{}^3F^\circ_2$	(0.080) 0.711
5412.250	18471.48	−0.17	$f^2\,{}^1G_4 - fs\,{}^1F^\circ_3$	(0) 1.16
5376.132	18595.58	0.00	$f^2\,{}^3F_4 - fd\,{}^1G^\circ_4$	(0.80) 0.58, 0.76, 0.98, 1.20, 1.38, 1.58
5214.992	19170.16	−0.01	$f^2\,{}^3P_1 - fd\,{}^3P^\circ_0$	(0) 1.494, $E_\pi = 0.03$

[b] Data from MIT measurements.

[c] Wavelengths greater than 6460.72 Å have not been corrected for Stark shift.

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
5191.519	19256.84	+0.03	$f^2\,{}^3F_4 - fs\,{}^3F^\circ_3$	(0) 1.40
5185.363	19279.70	−0.08	$f^2\,{}^3P_1 - fd\,{}^3P^\circ_1$	(0.142) 1.490
5115.76	19542.01	−0.62[d]	$fp(5/2,1/2)_2 - fd\,{}^1F^\circ_3$	
5108.262	19570.69	−0.05	$fp(7/2,1/2)_4 - fd\,{}^1H^\circ_5$	(0) 0.63
5085.297	19659.07	+0.1	$f^2\,{}^3P_2 - fd\,{}^3P^\circ_2$	(0.15) 1.37
5084.704	19661.36	−0.03	$f^2\,{}^1G_4 - fs\,{}^3F^\circ_4$	(0.51) 1.21
4943.702	20222.13	−0.1	$f^2\,{}^3P_1 - fd\,{}^3D^\circ_2$	(0) (0.32) 0.89, 1.21
4927.65	20288.0	−0.1	$dp(3/2,1/2)^\circ_1 - d^2\,{}^1S_0$	
4917.501	20329.87	0.06	$f^2\,{}^3F_3 - fd\,{}^3F^\circ_2$	
4822.021	20732.42	0.48	$f^2\,{}^1D_2 - fs\,{}^1F^\circ_3$?	(0) 0.91
4780.734	20911.46	−0.06	$f^2\,{}^1G_4 - fd\,{}^3G^\circ_3$	(0) 1.58
4727.850	21145.37	0.06	$f^2\,{}^1G_4 - fd\,{}^3F^\circ_3$	(0) 1.18
4676.307	21378.43	−0.08	$f^2\,{}^3P_0 - fd\,{}^3D^\circ_1$	(0) 0.615, $E_\pi = 0.02$
4597.669	21744.08	0.0	$f^2\,{}^3P_2 - fd\,{}^3P^\circ_1$	(0) 1.340, $E_\pi = 0.02$
4589.280	21783.82	0.0	$f^2\,{}^3F_4 - fd\,{}^3H^\circ_4$	(0.31) (0.59) 0, 0.32, 0.59, (0.88) (1.18) 0.89, 1.18, 1.48, 1.77, 2.07
4555.734	21944.23	+0.02	$f^2\,{}^1D_2 - fd\,{}^1D^\circ_2$	(0.22) (0.46) 0.65, 0.89, 1.14, 1.38
4518.294	22126.06	−0.2	$f^2\,{}^3D_2 - fd\,{}^3D^\circ_3$	(0) (0.11) (0.22) 1.00
4446.817	22481.71	−0.26	$f^2\,{}^3P_1 - fd\,{}^3D^\circ_1$	(0.84) 0.63, 1.47
4406.66	22686.6	+0.1	$f^2\,{}^3P_2 - fd\,{}^3D^\circ_2$	(0.30) 1.42
4387.840	22783.88	+0.02	$f^2\,{}^1G_4 - fd\,{}^1G^\circ_4$	(0.29) (0.38) 1.02
4350.818	22977.75	−0.47	$fp(7/2,1/2)_3 - fd\,{}^1F^\circ_3$?	
4322.724	23127.08	−0.05	$fp(7/2,1/2)_4 - fd\,{}^1F^\circ_3$	(0) 1.20
4314.319	23172.13	0.33	$f^2\,{}^1D_2 - fd\,{}^3G^\circ_3$?	
4048.795	24691.76	0.00	$fp(5/2,3/2)_4 - fd\,{}^1H^\circ_5$	(0) 0.76, $E_\pi = 0.25$
4028.707	24814.87	−0.4	$fp(5/2,1/2)_2 - fd\,{}^3D^\circ_2$?	
3990.730	25051.01	−0.04	$f^2\,{}^1D_2 - fs\,{}^3F^\circ_2$	(0.39) (0.81) 0.34, 0.71, 1.14, 1.53

[d]Uncorrected for Stark shift.

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
3963.460	25223.37	−0.03	$fp(7/2,1/2)_3 - fd\ ^3P^\circ_2$	(0) (0.26) (0.51) 0.61, 0.87, 1.15, 1.42
3889.153	25705.28	−0.12	$f^2\ ^1D_2 - fs\ ^3F^\circ_3$	
3849.190	25972.15	+0.03	$f^2\ ^1G_4 - fd\ ^3H^\circ_4$	$g_1 = 1.076$, $g_2 = 0.987$
3834.60	26071.0	−0.1	$sp\ ^3P^\circ_1 - d^2\ ^1S_0$	
3692.392	27075.06	−0.03	$fp(5/2,1/2)_2 - fd\ ^3D^\circ_1$	(0) (0.21) 0.62, 0.82, 1.03
3665.427	27274.21	0.01	$fp(5/2,1/2)_3 - fd\ ^1D^\circ_2$	(0) 0.77
3661.440	27303.91	+0.01	$fp(7/2,1/2)_4 - fd\ ^3G^\circ_5$	(0) 1.50, $E_\pi = 0.32$, $G_\sigma = 1.33$
3610.325	27690.47	−0.15	$fp(7/2,1/2)_3 - fd\ ^3D^\circ_3$	(0.21) 1.22
3606.255	27721.72	−0.04	$f^2\ ^1D_2 - fd\ ^3F^\circ_2$	(0.36) (0.76) 0.38, 0.75, 1.12, 1.50
3595.253	27806.55	−0.1	$f^2\ ^3P_2 - fd\ ^3G^\circ_3$	
3591.003	27839.46	−0.05	$fp(7/2,1/2)_4 - fd\ ^3D^\circ_3$	(0) 0.97
3565.251	28040.54	0.0	$f^2\ ^3P_2 - fd\ ^3F^\circ_3$	(0) 0.29
3563.968	28050.63	+0.1	$dp(5/2,1/2)^\circ_2 - ds\ ^1D_2$	(0.18) (0.40) 0.80, 1.01, 1.21, 1.40
3538.72	28250.8	−0.1	$fp(7/2,1/2)_3 - fd\ ^3D^\circ_2$	(0) 1.13
3538.69	28251.0	−0.1	$fp(7/2,3/2)_4 - fd\ ^1H^\circ_5$	
3531.861	28305.62	−0.4	$fp(5/2,3/2)_2 - fd\ ^1F^\circ_3$	(0) 0.94
3518.68	28411.7	−0.3	$fp(7/2,3/2)_5 - fd\ ^1H^\circ_5$?	
3516.724	28427.46	−0.1	$dp(5/2,1/2)^\circ_3 - ds\ ^1D_2$	(0) (0.13) (0.25) 1.34
3507.537	28501.91	+0.12	$fp(5/2,1/2)_3 - fd\ ^3G^\circ_3$	(0.063) 0.857
3482.381	28707.80	−0.06	$fp(5/2,1/2)_2 - fd\ ^1D^\circ_2$	
3479.049	28735.29	−0.28	$fp(5/2,1/2)_3 - fd\ ^3F^\circ_3$	(0.49) 0.88
3444.192	29026.10	−0.2	$sp\ ^3P^\circ_1 - ds\ ^1D_2$	(0) 0.97
3399.796	29405.13	+0.4	$dp(3/2,1/2)^\circ_2 - d^2\ ^3P_1$?	
3394.493	29451.06	−0.05	$fp(7/2,1/2)_3 - fd\ ^3F^\circ_4$	(0) 1.215
3379.666	29580.26	0.0	$fp(7/2,3/2)_2 - fd\ ^1P^\circ_1$	(0) 1.033
3377.405	29600.06	+0.03	$fp(7/2,1/2)_4 - fd\ ^3F^\circ_4$	(0.285) 1.13
3367.672	29685.61	−0.3	$f^2\ ^3P_2 - fs\ ^3F^\circ_2$?	
3339.543	29935.64	+0.16	$fp(5/2,1/2)_2 - fd\ ^3G^\circ_3$	(0) 0.899

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
3320.843	30104.20	0.0	$dp(3/2,1/2)^{\circ}_{2} - ds\ ^{3}D_{2}$	(0.36) (0.72) 0.86, 1.22
3313.680	30169.28	+0.02	$fp(5/2,1/2)_{2} - fd\ ^{3}F^{\circ}_{3}$	(0)[b] (0.175)[b] (0.341)[b] 1.366,[b] 1.013[b]
3300.472	30290.00	−0.02	$fp(7/2,1/2)_{3} - fd\ ^{3}G^{\circ}_{4}$	(0) $E_{\pi} = 0.21$, 1.005
3290.587	30381.00	−0.01	$fp(5/2,1/2)_{3} - fs\ ^{3}F^{\circ}_{2}$	(0) (0.125) (0.25) 0.935, 1.06
3284.320	30438.96	+0.05	$fp(7/2,1/2)_{4} - fd\ ^{3}G^{\circ}_{4}$	
3284.125	30440.77	0.0	$f^{2}\ ^{1}S_{0} - fd\ ^{1}P^{\circ}_{1}$	(0) 1.009
3272.279	30550.97	−0.1	$fp(5/2,3/2)_{2} - fd\ ^{3}P^{\circ}_{2}$	$g_1 = 1.445$, $g_2 = 0.995$
3232.061	30931.11	−0.07	$fp(7/2,1/2)_{3} - fs\ ^{1}F^{\circ}_{3}$	(0.14) (0.28) (0.427) 1.105
3221.206	31035.34	−0.05	$fp(5/2,1/2)_{3} - fs\ ^{3}F^{\circ}_{3}$	(0.22) (0.439)[b] (0.655) 0.436,[b] 0.627,[b] 0.839,[b] 1.075,[b] 1.299[b]
3216.571	31080.06	−0.01	$fp(7/2,1/2)_{4} - fs\ ^{1}F^{\circ}_{3}$	(0) 1.256, $E_{\pi} = 0.30$
3166.446	31572.04	+0.01	$fp(5/2,3/2)_{3} - fd\ ^{3}D^{\circ}_{3}$	(0.71) 1.19
3159.400	31642.45	+0.2	$dp(3/2,3/2)^{\circ}_{2} - ds\ ^{1}D_{2}$	(0) 1.08
3148.077[b]	31756.23	−0.2	$dp(3/2,1/2)^{\circ}_{2} - ds\ ^{3}D_{1}$	(0)[b] (0.273)[b] 0.498,[b] 0.779,[b] 1.060[b]
3142.985	31807.71	+0.2	$fp(7/2,3/2)_{4} - fd\ ^{1}F^{\circ}_{3}$	(0) 1.22
3142.304	31814.60	−0.07	$fp(5/2,1/2)_{2} - fs\ ^{3}F^{\circ}_{2}$	(0.176) 0.78
3122.341	32018.00	0.00	$fp(7/2,3/2)_{3} - fd\ ^{1}F^{\circ}_{3}$	(0.36) 1.09
3113.897	32104.81	+0.1	$dp(3/2,1/2)^{\circ}_{1} - ds\ ^{3}D_{2}$	(0) (0.280) 0.90, 1.18, 1.455
3112.338	32120.90	−0.03	$fp(7/2,1/2)_{3} - fs\ ^{3}F^{\circ}_{4}$	(0) 1.306, $E_{\pi} = 0.20$
3110.152	32143.48	+0.03	$fp(7/2,1/2)_{3} - fd\ ^{1}D^{\circ}_{2}$	
3097.977	32269.79	−0.03	$fp(7/2,1/2)_{4} - fs\ ^{3}F^{\circ}_{4}$	(0.43) 1.24
3089.642	32356.84	+0.2	$f^{2}\ ^{3}P_{2} - fd\ ^{3}F^{\circ}_{2}$	
3083.157	32424.90	−0.01	$fp(5/2,3/2)_{4} - fd\ ^{3}G^{\circ}_{5}$	(0) 1.64, $E_{\pi} = 0.50$, $G_{\sigma} = 1.41$
3078.964	32469.05	0.00	$fp(5/2,1/2)_{2} - fs\ ^{3}F^{\circ}_{3}$	(0) (0.24) (0.49) 1.27, 1.53
3066.230	32603.89	0.0	$dp(3/2,1/2)^{\circ}_{2} - d^{2}\ ^{1}D_{2}$	(0.23) (0.46) 0.55, 0.78, 1.01, 1.23
3063.194	32636.20	0.0	$fp(5/2,3/2)_{2} - fd\ ^{3}P^{\circ}_{1}$	$g_1 = 1.31$, $g_2 = 0.95$
3033.053	32960.51	+0.02	$fp(5/2,3/2)_{4} - fd\ ^{3}D^{\circ}_{3}$	(0) 0.76, $E_{\pi} = 0.46$

[b]Data from MIT measurements.

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
3027.753	33018.21	−0.1	$fp(5/2,3/2)_2 - fd\ ^3D^\circ_3$	(0) (0.252) (0.50) 1.25, 1.50, 1.750
3020.039	33102.54	−0.3	$sp\ ^3P^\circ_1 - s^2\ ^1S_0$	(0) 1.10
2999.200	33332.53	−0.02	$fp(5/2,3/2)_3 - fd\ ^3F^\circ_4$	(0) 1.77
2995.837[b]	33370.07	−0.21	$fp(5/2,3/2)_1 - fd\ ^3P^\circ_0$	(0) 0.53
2995.75[b]	33370.9	−0.14	$fp(7/2,1/2)_3 - fd\ ^3G^\circ_3$	(0.57) (0.880)
2985.998	33479.90	0.00	$fp(5/2,3/2)_1 - fd\ ^3P^\circ_1$	(0.874) 0.48, 1.36
2982.398	33520.32	+0.39	$fp(7/2,1/2)_4 - fd\ ^2G^\circ_3$	(0) 1.35
2978.662	33562.35	−0.03	$fp(5/2,1/2)_3 - fd\ ^3H^\circ_4$	(0) 0.941, $E_\pi = 0.14$
2977.225	33578.52	−0.1	$fp(5/2,3/2)_2 - fd\ ^3D^\circ_2$	(0.21) (0.42) 0.98, 1.19
2974.896	33604.84	−0.01	$fp(7/2,1/2)_3 - fd\ ^3F^\circ_3$	(0.451)[b] 0.687,[b] 0.832,[b] 0.982,[b] 1.138,[b] 1.280,[b] 1.427[b]
2971.08	33648.0	+0.2	$dp(5/2,1/2)^\circ_2 - d^2\ ^3P_2$	(0.36)
2961.768	33753.78	+0.04	$fp(7/2,1/2)_4 - fd\ ^3F^\circ_3$	(0) 1.39, $E_\pi = 0.30$
2961.485	33757.01	+0.1	$dp(3/2,1/2)^\circ_1 - ds\ ^3D_1$	(0.412)[b] 0.494,[b] 0.896[b]
2946.94	33923.6	+0.9	$dp(5/2,1/2)^\circ_3 - d^2\ ^1G_4$?	
2945.32	33942.3	−0.7	$dp(3/2,3/2)^\circ_3 - ds\ ^1D_2$?	(0) 1.23
2938.178	34024.77	−0.1	$dp(5/2,1/2)^\circ_3 - d^2\ ^3P_2$	(0) (0.24) (0.48) 0.66, 0.90
2932.470	34091.00	+0.01	$fp(7/2,1/2)_4 - fd\ ^3H^\circ_5$	(0) 0.86, $E_\pi = 0.25$
2928.73	34134.5	+0.2	$dp(5/2,1/2)^\circ_2 - ds\ ^3D_3$	(0) (0.16) (0.32) 1.24, 1.40, 1.56
2925.58[b]	34171.3	−0.16	$fp(5/2,3/2)_3 - fd\ ^3G^\circ_4$	(0)[b] (0.128)[b] (0.277)[b] 1.405,[b] 1.507[b]
2923.91	34190.8	+0.1	$dp(3/2,1/2)^\circ_1 - d^2\ ^3P_0$	(0) 0.900, $E_\pi = 0.07$
2917.75[b]	34263.0	−0.15	$fp(7/2,3/2)_3 - fd\ ^3P^\circ_2$	(0) (0.25) (0.50) 0.76, 1.01, 1.26
2910.19[b]	34352.0	−0.1	$fp(7/2,3/2)_2 - fd\ ^1F^\circ_3$	(0) 1.121, $E_\pi \doteq 0.09$
2907.51	34383.7	−0.1	$sp\ ^3P^\circ_0 - d^2\ ^3P_1$	(0) 1.516, $E_\pi = 0.04$
2904.254[b]	34422.16	−0.1	$fp(5/2,3/2)_1 - fd\ ^3D^\circ_2$	(0) 1.87
2898.93[b]	34485.4	0.0	$fp(5/2,1/2)_2 - fd\ ^3F^\circ_2$	(0.110)[b] 0.792[b]
2896.74	34511.5	+0.1	$dp(5/2,1/2)^\circ_3 - ds\ ^3D_3$	(0.21) (0.43) (0.643)[b] 0.92, 1.130,[b] 1.344,[b] 1.56

[b]Data from MIT measurements.

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
2888.96	34604.4	0.0	$dp(3/2,1/2)^{\circ}_{1} - d^2\ {}^1D_2$	(0) $E_\pi = 0.11$, 1.087
2887.36	34623.6	0.0	$sp\ {}^3P^{\circ}_{1} - d^2\ {}^3P_2$	
2871.69[b]	34812.5	−0.1	$fp(5/2,3/2)_3 - fs\ {}^1F^{\circ}_3$	(0.142) 0.999
2860.02	34954.6	−0.3	$dp(3/2,3/2)^{\circ}_{1} - ds\ {}^1D_2$?	
2836.58	35243.4	0.0	$fp(7/2,1/2)_3 - fd\ {}^1G^{\circ}_4$	(0) 1.36
2824.66	35392.1	−0.2	$fp(7/2,1/2)_4 - fd\ {}^1G^{\circ}_4$	(0.521) 1.07
2811.32	35560.0	+0.1	$fp(5/2,3/2)_4 - fd\ {}^3G^{\circ}_4$	(0.113) 1.084
2789.47	35838.6	+0.2	$fp(5/2,3/2)_2 - fd\ {}^3D^{\circ}_1$	(0) (0.356) 1.014, 1.370
2784.35	35904.5	−0.1	$fp(7/2,1/2)_3 - fs\ {}^3F^{\circ}_3$	(0.286) 1.12
2778.20	35983.9	−0.3	$fp(7/2,3/2)_4 - fd\ {}^3G^{\circ}_5$	(0) 1.35, $E_\pi = 0.27$
2776.80	36002.1	−0.3	$fp(5/2,3/2)_3 - fs\ {}^3F^{\circ}_4$	(0) (0.26) (0.51) (0.76) 1.70, 1.96
2775.06	36024.6	−0.3	$fp(5/2,3/2)_3 - fd\ {}^1D^{\circ}_2$	(0) 1.037, $E_\pi = 0.12$
2772.82	36053.7	+0.2	$fp(7/2,1/2)_4 - fs\ {}^2F^{\circ}_3$	
2765.81	36145.1	0.0	$fp(7/2,3/2)_5 - fd\ {}^3G^{\circ}_5$	(0) 1.198, $E_\pi = 0.09$
2761.55[b]	36200.9	−0.2	$fp(5/2,3/2)_4 - fs\ {}^1F^{\circ}_3$	(0) 1.134, $E_\pi = 0.07$
2760.66	36212.5	+0.1	$dp(5/2,1/2)^{\circ}_{2} - d^2\ {}^3P_1$	(0)[b] (0.302)[b] 0.892,[b] 1.191,[b] $g_2 =$ 1.192,[b] $g_1 = 1.494$[b]
2757.12	36258.8	−0.1	$fp(5/2,3/2)_2 - fs\ {}^1F^{\circ}_3$	(0) 1.07, $E_\pi = 0.09$
2731.61	36597.6	+0.4	$fp(7/2,3/2)_2 - fd\ {}^3P^{\circ}_2$	(0.74) 1.045, 1.415
2725.32	36682.1	0.0	$fp(5/2,3/2)_1 - fd\ {}^3D^{\circ}_1$	(0.130) 0.562
2721.82[b]	36729.3	−1.1	$fp(7/2,3/2)_3 - fd\ {}^3D^{\circ}_3$?	(0) 1.25, $E_\pi = 0.11$
2721.35	36735.6	+0.1	$sp\ {}^3P^{\circ}_0 - ds\ {}^3D_1$	(0) 0.51, $E_\pi = 0.04$
2708.33	36912.2	+0.3	$dp(5/2,1/2)^{\circ}_{2} - ds\ {}^3D_2$	(0) 1.19, $E_\pi = 0.10$
2688.30	37187.2	−1.0	$sp\ {}^3P^{\circ}_1 - d^2\ {}^3P_1$	(0.378) 1.14, 1.53
2686.13	37217.2	0.0	$dp(3/2,1/2)^{\circ}_{2} - d^2\ {}^3F_2$	(0) 0.771, $E_\pi = 0.11$
2680.965[b]	37288.92	−0.1	$dp(5/2,1/2)^{\circ}_{3} - ds\ {}^3D_2$	(0) 1.075, $E_\pi = 0.11$
2680.90	37289.8	−0.8	$fp(7/2,3/2)_3 - fd\ {}^3D^{\circ}_2$?	

[b]Data from MIT measurements.

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
2673.677[b]	37390.56	−0.27	$fp(5/2,3/2)_4 - fs\ ^3F^\circ_4$	(0.41) (0.55) 1.15
2667.92	37471.3	+0.1	$fp(5/2,3/2)_2 - fd\ ^1D^\circ_2$	(0.132) 0.96
2666.84	37486.4	+0.1	$fp(5/2,3/2)_3 - fd\ ^3F^\circ_3$	(0.080) 0.987
2638.59	37887.8	+0.1	$sp\ ^3P^\circ_1 - ds\ ^3D_2$	(0) 1.211, $E_\pi = 0.07$
2637.63	37901.5	−0.1	$dp(5/2,3/2)^\circ_1 - ds\ ^1D_2$	(0)[b] (0.236)[b] 0.764,[b] 1.001[b]
2636.25	37921.4	+0.4	$fp(7/2,1/2)_3 - fd\ ^3F^\circ_2$	
2635.865[b]	37926.90	−0.2	$dp(5/2,1/2)^\circ_3 - d^2\ ^3F_4$	(0) 1.325, $E_\pi = 0.21$
2609.16	38315.1	+0.2	$fp(5/2,3/2)_1 - fd\ ^1D^\circ_2$	(0)[b] (0.403)[b] 0.512,[b] 0.936,[b] 1.315[b]
2601.24	38431.7	0.0	$fp(7/2,1/2)_3 - fd\ ^3H^\circ_4$	
2600.59	38441.3	+0.1	$fp(7/2,3/2)_5 - fd\ ^3F^\circ_4$	(0) 1.244, $E_\pi = 0.07$
2597.26	38490.6	−0.3	$fp(7/2,3/2)_3 - fd\ ^3F^\circ_4$	(0) 1.159, $E_\pi = 0.07$
2592.29	38564.4	+0.3	$dp(5/2,1/2)^\circ_2 - ds\ ^3D_1$	
2591.20	38580.6	0.0	$fp(7/2,1/2)_4 - fd\ ^3H^\circ_4$	(0.95) 1.00
2587.25	38639.5	−1.4	$fp(5/2,3/2)_4 - fd\ ^3G^\circ_3$?	
2584.40	38682.1	−0.2	$fp(7/2,3/2)_2 - fd\ ^3P^\circ_1$	
2583.31	38698.5	−0.3	$fp(5/2,3/2)_2 - fd\ ^3G^\circ_3$	(0) 0.64, $E_\pi = 0.33$, $G_\sigma = 0.73$
2571.612[b]	38874.47	−0.28	$fp(5/2,3/2)_4 - fd\ ^3F^\circ_3$	(0) 1.22
2567.80	38932.2	−0.4	$fp(5/2,3/2)_2 - fd\ ^3F^\circ_3$	(0) 1.018, $E_\pi = 0.10$
2564.33	38984.9	0.0	$fp(7/2,3/2)_5 - fd\ ^3H^\circ_6$	(0) 1.067
2561.25	39031.7	+0.3	$dp(3/2,3/2)^\circ_1 - s^2\ ^1S_0$	(0) 1.24
2559.11	39064.4	0.0	$fp(7/2,3/2)_2 - fd\ ^3D^\circ_3$	(0)[b] (0.175)[b] (0.370)[b] 1.576,[b]
2555.17	39124.6	−0.2	$fp(5/2,3/2)_3 - fd\ ^1G^\circ_4$	(0) 0.983, $E_\pi = 0.05$
2554.73	39131.4	−0.3	$fp(5/2,3/2)_3 - fs\ ^3F^\circ_2$	(0)[b] (0.249)[b] (0.477)[b] 0.494,[b] 0.732,[b] 0.979,[b] 1.218,[b] 1.448[b]
2549.47	39212.1	+0.1	$fp(5/2,3/2)_4 - fd\ ^3H^\circ_5$	(0) 0.95, $E_\pi = 0.10$
2549.11	39217.6	−0.1	$dp(3/2,1/2)^\circ_1 - d^2\ ^3F_2$	(0) 0.651, $E_\pi = 0.21$

[b]Data from MIT measurements.

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
2545.06	39280.0	−0.2	$fp(7/2,3/2)_5 - fd\ ^3G^\circ_4$	(0) 1.51, $E_\pi = 0.45$
2541.86	39329.5	−0.3	$fp(7/2,3/2)_5 - fd\ ^3G^\circ_4$	(0) 0.89, $E_\pi = 0.34$
2539.80	39361.4	0.0	$dp(5/2,3/2)^\circ_2 - ds\ ^1D_2$	
2536.57	39411.5	−0.1	$dp(5/2,1/2)^\circ_2 - d^2\ ^1D_2$	(0.372)[b] 0.840,[b] 1.014,[b] 1.194,[b] 1.371[b]
2534.89	39437.6	−0.5	$dp(3/2,3/2)^\circ_3 - d^2\ ^1G_4$	
2529.95	39514.6	−0.1	$dp(5/2,3/2)^\circ_3 - ds\ ^1D_2$	(0) 1.238, $E_\pi = 0.20$
2528.33	39539.9	0.0	$sp\ ^3P^\circ_1 - ds\ ^3D_1$	(0.620)[b] 0.547,[b] 1.110[b]
2528.31[b]	39540.2	0.0	$dp(3/2,3/2)^\circ_3 - d^2\ ^3P_2$	
2522.86	39625.6	+0.9	$fp(7/2,3/2)_2 - fd\ ^3D^\circ_2$?	
2514.31	39760.4	0.0	$fp(7/2,3/2)_4 - fs\ ^1F^\circ_3$	(0) 1.50, $E_\pi = 0.40$, $G_\sigma = 1.40$
2512.69	39786.0	−0.1	$fp(5/2,3/2)_3 - fs\ ^3F^\circ_3$	(0.256) 1.000
2512.54	39788.4	−0.3	$dp(5/2,1/2)^\circ_3 - d^2\ ^1D_2$	(0) 1.30, $E_\pi = 0.13$
2511.55	39804.1	−0.1	$dp(3/2,3/2)^\circ_2 - d^2\ ^3P_1$	
2501.08	39970.7	−0.3	$fp(7/2,3/2)_3 - fs\ ^1F^\circ_3$	(0.18) (0.36) (0.540) 0.84, 0.989[b], 1.180[b], 1.346[b]
2497.56	40027.0	+0.2	$dp(3/2,3/2)^\circ_3 - ds\ ^3D_3$	(0.36) 1.25
2497.24	40032.1	−0.1	$dp(5/2,1/2)^\circ_2 - d^2\ ^3F_3$	(0) 0.96, $E_\pi = 0.26$
2475.27	40387.4	0.0	$sp\ ^3P^\circ_1 - d^2\ ^1D_2$	(0) 0.95, $E_\pi = 0.05$
2473.93	40409.3	0.0	$dp(5/2,1/2)^\circ_3 - d^2\ ^3F_3$	(0.106) 1.103
2468.19	40503.3	−0.4	$dp(3/2,3/2)^\circ_2 - ds\ ^3D_2$	
2467.57	40513.5	+0.2	$fp(5/2,3/2)_4 - fd\ ^1G^\circ_4$	(0.321) 0.97
2465.18	40552.7	+0.5	$dp(3/2,3/2)^\circ_1 - d^2\ ^3P_2$?	
2463.66	40577.8	−0.2	$fp(5/2,3/2)_2 - fs\ ^3F^\circ_2$	(0.290)[b] (0.523)[b] 0.479,[b] 0.725,[b] 0.975,[b] 1.223[b]
2441.24	40950.3	+0.1	$fp(7/2,3/2)_4 - fs\ ^3F^\circ_4$	(0.39) 1.18
2431.68	41111.3	+0.2	$fp(7/2,3/2)_5 - fs\ ^3F^\circ_4$	(0) 1.21
2428.79[b]	41160.3	−0.4	$fp(7/2,3/2)_3 - fs\ ^3F^\circ_4$	(0) 1.24

[b]Data from MIT measurements.

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
2427.94	41174.6	+0.1	$fp(5/2,3/2)_4 - fs\ ^3F^\circ_3$	(0) 1.091[b]
2424.54	41232.4	0.0	$fp(5/2,3/2)_2 - fs\ ^3F^\circ_3$	(0) 1.06
2413.49[b]	41421.2	−0.5	$fp(5/2,3/2)_1 - fs\ ^3F^\circ_2$	(0) 0.94
2391.48	41802.4	0.0	$fp(5/2,3/2)_3 - fd\ ^3F^\circ_2$	(0)[b] (0.209)[b] (0.419)[b] 1.002,[b] 1.196,[b] 1.384[b]
2386.81	41884.2	−0.3	$fp(7/2,3/2)_2 - fd\ ^3D^\circ_1$?	
2381.47	41978.0	−0.1	$dp(5/2,3/2)^\circ_1 - s^2\ ^1S_0$	(0) 1.24
2371.42	42155.9	0.0	$dp(3/2,3/2)^\circ_2 - ds\ ^3D_1$	(0)[b] (0.515)[b] 0.507,[b] 1.019,[b] 1.525[b]
2368.91	42200.6	+0.3	$fp(7/2,3/2)_4 - fd\ ^3G^\circ_3$	(0) 1.44
2363.06	42305.0	0.0	$fp(7/2,3/2)_2 - fs\ ^1F^\circ_3$	(0) 1.00
2362.61	42313.1	0.0	$fp(5/2,3/2)_3 - fd\ ^3H^\circ_4$	
2357.17	42410.7	−0.1	$fp(7/2,3/2)_3 - fd\ ^3G^\circ_3$	(0.92) 1.06
2355.86	42434.4	+0.3	$fp(7/2,3/2)_4 - fd\ ^3F^\circ_3$	(0) 1.24
2351.68	42509.8	−0.1	$dp(5/2,3/2)^\circ_4 - d^2\ ^1G_4$	(0.71) 1.07
2344.26	42644.3	−0.3	$fp(7/2,3/2)_3 - fd\ ^3F^\circ_3$?	(0) 1.11
2340.58	42711.3	+0.1	$sp\ ^3P^\circ_2 - d^2\ ^3P_2$	(0) 1.36
2337.29	42771.5	+0.2	$fp(7/2,3/2)_4 - fd\ ^3H^\circ_5$	
2335.50	42804.3	−0.1	$dp(3/2,3/2)^\circ_3 - ds\ ^3D_2$	(0) 1.22
2328.54	42932.2	0.0	$fp(7/2,3/2)_5 - fd\ ^3H^\circ_5$	(0.60)
2324.68	43003.4	0.0	$dp(3/2,3/2)^\circ_2 - d^2\ ^1D_2$	(0) 1.03
2319.52	43099.1	+0.5	$dp(5/2,3/2)^\circ_4 - ds\ ^3D_3$	(0) 1.16
2318.57	43116.8	0.0	$dp(3/2,3/2)^\circ_1 - d^2\ ^3P_1$	
2314.19	43198.3	+0.6	$sp\ ^3P^\circ_2 - ds\ ^3D_3$	
2311.51	43248.5	−0.2	$fp(5/2,3/2)_2 - fd\ ^3F^\circ_2$	(0.480)[b] 0.81
2301.18	43442.6	+0.1	$dp(3/2,3/2)^\circ_3 - d^2\ ^3F_4$	(0) 1.180[b]
2298.21	43498.7	−0.2	$dp(5/2,3/2)^\circ_1 - d^2\ ^3P_2$	(0) 1.21
2297.23	43517.3	0.0	$fp(7/2,3/2)_2 - fd\ ^1D^\circ_2$	Does not fit? (0) 0.96

[b]Data from MIT measurements.

Table 4 (continued)

$\lambda(\mathring{A})$	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
2291.59	43624.4	+0.4	$dp(3/2,3/2)^{\circ}_{2} - d^2\ {}^3F_3$	(0)[b] 1.177[b]
2287.53	43701.8	+0.2	$fp(5/2,3/2)_4 - fd\ {}^3H^{\circ}_4$	(0.85) 0.95
2281.53	43816.7	+0.4	$dp(3/2,3/2)^{\circ}_{1} - ds\ {}^3D_2$	(0)[b] 1.147[b]
2278.78	43869.5	−0.1	$dp(3/2,3/2)^{\circ}_{0} - d^2\ {}^3P_1$	(0) 1.31
2270.66	44026.4	+1.5	$dp(5/2,1/2)^{\circ}_{2} - d^2\ {}^3F_2$?	
2267.26	44092.4	0.0	$fp(5/2,3/2)_1 - fd\ {}^3F^{\circ}_2$	
2257.51	44282.9	−0.3	$fp(7/2,3/2)_3 - fd\ {}^1G^{\circ}_4$	
2257.17	44289.5	−0.5	$fp(7/2,3/2)_3 - fs\ {}^3F^{\circ}_2$	
2251.46	44401.8	−0.2	$dp(5/2,1/2)^{\circ}_{3} - d^2\ {}^3F_2$	
2234.76	44733.6	−0.3	$fp(7/2,3/2)_4 - fs\ {}^3F^{\circ}_3$	
2234.21	44744.6	−0.3	$fp(7/2,3/2)_2 - fd\ {}^3G^{\circ}_3$	
2224.30	44943.9	−0.5	$fp(7/2,3/2)_3 - fs\ {}^3F^{\circ}_3$	
2223.59	44958.3	−0.4	$dp(5/2,3/2)^{\circ}_{2} - d^2\ {}^3P_2$	(0) 1.30
2222.53	44979.7	+1.0	$fp(7/2,3/2)_2 - fd\ {}^3F^{\circ}_3$?	
2221.51	45000.4	−0.3	$sp\ {}^3P^{\circ}_1 - d^2\ {}^3F_2$	(0) 0.70
2221.06	45009.5	−0.3	$dp(5/2,3/2)^{\circ}_{3} - d^2\ {}^1G_4$	(0) 0.95
2216.02	45111.9	−0.1	$dp(5/2,3/2)^{\circ}_{3} - d^2\ {}^3P_2$	
2208.02	45275.3	−0.5	$sp\ {}^3P^{\circ}_2 - d^2\ {}^3P_1$	
2206.62	45303.9	−0.2	$dp(3/2,3/2)^{\circ}_{3} - d^2\ {}^1D_2$	(0) 1.25
2199.74	45445.6	+0.4	$dp(5/2,3/2)^{\circ}_{2} - ds\ {}^3D_3$	
2198.64[b]	45468.4	−0.1	$dp(3/2,3/2)^{\circ}_{1} - ds\ {}^3D_1$	(0.78) 0.85
2192.38[b]	45698.2	−0.3	$dp(5/2,3/2)^{\circ}_{3} - ds\ {}^3D_3$	
2177.87	45902.0	−0.3	$dp(3/2,3/2)^{\circ}_{1} - d^2\ {}^3P_0$	(0) 1.14
2176.82	45924.1	−0.6	$dp(3/2,3/2)^{\circ}_{3} - d^2\ {}^3F_3$	
2174.41	45975.0	−0.3	$sp\ {}^3P^{\circ}_2 - ds\ {}^3D_2$	
2170.27	46062.8	−0.7	$dp(5/2,3/2)^{\circ}_{1} - d^2\ {}^3P_1$?	

[b]Data from MIT measurements.

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
2162.82	46221.4	+0.1	$dp(3/2,3/2)^{\circ}_{0} - ds\ ^3D_1$	
2149.18	46514.6	+0.3	$dp(5/2,3/2)^{\circ}_{4} - d^2\ ^3F_4$	
2144.14	46624.0	−0.1	$fp(7/2,3/2)_2 - fs\ ^3F^{\circ}_2$	
2137.76	46763.1	+0.1	$dp(5/2,3/2)^{\circ}_{1} - ds\ ^3D_2$	
2115.26	47260.6	−0.3	$fp(7/2,3/2)_4 - fd\ ^3H^{\circ}_4$	
2114.45	47278.5	0.0	$fp(7/2,3/2)_2 - fs\ ^3F^{\circ}_3$	
2108.03	47422.5	+0.7	$fp(7/2,3/2)_5 - fd\ ^3H^{\circ}_4$	
2105.86	47471.4	0.0	$fp(7/2,3/2)_3 - fd\ ^3H^{\circ}_4$	
2103.59	47522.6	−0.7	$dp(5/2,3/2)^{\circ}_{2} - d^2\ ^3P_1$	
2099.44	47616.6	−0.1	$dp(3/2,3/2)^{\circ}_{2} - d^2\ ^3F_2$	
2073.04	48223.0	+0.2	$dp(5/2,3/2)^{\circ}_{2} - ds\ ^3D_2$	
2064.80	48415.2	0.0	$dp(5/2,3/2)^{\circ}_{1} - ds\ ^3D_1$	
2062.26	48475.0	0.0	$sp\ ^3P^{\circ}_2 - d^2\ ^1D_2$	
2046.47	48849.0	0.0	$dp(5/2,3/2)^{\circ}_{1} - d^2\ ^3P_0$	
2040.31	48996.3	−0.2	$dp(5/2,3/2)^{\circ}_{4} - d^2\ ^3F_3$	
2039.55	49014.5	+0.3	$dp(5/2,3/2)^{\circ}_{3} - d^2\ ^3F_4$	
2036.21	49095.1	−0.5	$sp\ ^3P^{\circ}_2 - d^2\ ^3F_3$	
2029.29	49262.5	−0.2	$dp(5/2,3/2)^{\circ}_{1} - d^2\ ^1D_2$	
2027.96	49294.7	−0.1	$fp(7/2,3/2)_2 - fd\ ^3F^{\circ}_2$	
2004.36	49875.1	+0.1	$dp(5/2,3/2)^{\circ}_{2} - ds\ ^3D_1$	
1999.97	50007.4	−0.1	$sp\ ^1P^{\circ}_1 - d^2\ ^1S_0$	
1971.45	50724.1	+1.6	$dp(5/2,3/2)^{\circ}_{2} - d^2\ ^1D_2$?	
1965.58	50875.6	−0.2	$dp(5/2,3/2)^{\circ}_{3} - d^2\ ^1D_2$	
1963.52	50929.1	−0.2	$dp(3/2,3/2)^{\circ}_{1} - d^2\ ^3F_2$	
1947.70	51342.7	−0.4	$dp(5/2,3/2)^{\circ}_{2} - d^2\ ^3F_3$	
1941.88	51496.5	+0.1	$dp(5/2,3/2)^{\circ}_{3} - d^2\ ^3F_3$	
1888.12	52962.6	−0.1	$sp\ ^1P^{\circ}_1 - ds\ ^1D_2$	
1802.15	55489.3	+0.2	$dp(5/2,3/2)^{\circ}_{3} - d^2\ ^3F_2$	

Table 4 (continued)

λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Classification	Observed Zeeman Pattern
1753.17	57039.6	+0.4	$sp\ ^1P^\circ_1 - s^2\ ^1S_0$	
1707.88	58552.1	−7.9	$sp\ ^1P^\circ_1 - d^2\ ^3P_2$?	
1636.06	61122.5	−2.1	$sp\ ^1P^\circ_1 - d^2\ ^3P_1$?	
1617.48	61824.7	+0.6	$sp\ ^1P^\circ_1 - ds\ ^3D_2$	
1564.71	63909.8	−0.3	$sp\ ^1P^\circ_1 - d^2\ ^3P_0$	
1554.64	64323.5	−0.3	$sp\ ^1P^\circ_1 - d^2\ ^1D_2$	
1450.60	68937.2	+0.1	$sp\ ^1P^\circ_1 - d^2\ ^3F_2$	

THORIUM

Th II

89 Electrons **Z = 90**

Ground State: $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^{10}\ 4s^2\ 4p^6\ 4d^{10}\ 4f^{14}\ 5s^2\ 5p^6\ 5d^{10}\ 6s^2\ 6p^6\ 6d7s^2\ \ ^2D_{1\frac{1}{2}}$

This spectrum has been analyzed by McNally, Harrison, and Park and de Bruin, Klinkenberg, and Schuurmans. The levels are taken mostly from McNally's 1945 paper with a few additions from the papers of de Bruin, Klinkenberg, and Schuurmans and several unpublished levels from Klinkenberg and Schuurmans.

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Table 5. Energy Levels of Th II

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Even Levels		
$6d7s^2\ ^2D$	13	1½	0.00[a]	0.639	0.76
	50	2½	4113.36	1.163	0.78
$6d^2\ 7s\ ^4F$	14	1½	1859.94[b]	0.586	0.74
	49	2½	1521.91	1.076	0.66
	91	3½	4146.57	1.232	0.64
	133	4½	6213.55	1.312	0.65
$6d^2\ 7s\ ^4P$	1	½	6244.30	2.112	0.00
	16	1½	8018.19	1.608	0.61
	52	2½	9061.08	1.419	0.63
$6d^3\ ^4F$	15	1½	7001.42	0.800	0.00
	53	2½	9400.94[c]	1.034	0.71
	93	3½	10855.34	1.166	0.00
	135	4½	13248.68	1.242	0.00
$6d^2\ 7s\ ^2P$	2	½	7828.61	1.254	
	17	1½	8460.39[d]	0.968	0.00
$6d^2\ 7s\ ^2F$	51	2½	8605.85[e]	0.986	0.57
	94	3½	12570.58	1.131	0.00
$6d^2\ 7s\ ^2G$	92	3½	9711.95	0.953	0.00
	134	4½	10379.12	1.153	0.00
$6d^2\ 7s\ ^2D$	18	1½	12219.95[f]	0.977	0.00
	54	2½	13250.50	1.245	0.43
$6d^3\ ^4P$	3	½	14349.49	2.555	0.00
	19	1½	15236.64	1.592	0.00
	55	2½	15787.02	1.571	0.00
$6d^3\ ^2H$	136	4½	15305.06	1.006	0.00
$5f^2\ 7s\ ^4H$?	164	5½	16198.02[g]	1.090	
$6d^3\ ^2G$	95	3½	16818.15	0.916	0.00

[a]De Bruin *et al.*, give this level as $6d^27s\ ^4F_{1½}$.

[b]De Bruin gives this as $6d\ 7s^2\ ^2D_{1½}$.

[c]De Bruin gives this as $6d^27s\ ^2F_{2½}$.

[d]$6d^27s\ ^2D_{1½}$ according to de Bruin.

[e]$6d^3\ ^4F_{2½}$ according to de Bruin.

[f]$6d^2\ 7s\ ^2P_{1½}$ according to de Bruin.

[g]$6d^3\ ^2H_{5½}$ according to McNally.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Even Levels (continued)		
$5f^2\,6d?\ ^4H?$	137	4½	25246.34	0.96	
	165	5½	25629.44	1.182	
	96	3½	26072.04		
$5f7s7p\ ^4G?$	56	2½	26488.64	0.776	
	97	3½	27257.19	1.032	0.55
	138	4½	27527.00[b]	0.93	
$^4F?$	20	1½	26762.28	0.47	
	57	2½	27594.02	0.963	
	99	3½	30879.55[i]	1.213	
	141	4½	31773.09[j]	1.222	0.57
$5f7s7p\ ^4F?$	21	1½	27631.32	0.625	0.44
	59	2½	28823.68	0.987	0.53
	22	1½	28011.24[k]	0.717	0.44
	58	2½	28026.38[l]	1.13	0.28
	60	2½	28963.53	0.855	0.00
	61	2½	29345.93	0.935	
	139	4½	29515.19	1.030	0.30
	98	3½	29873.97	1.10	
	140	4½	30452.77	1.035	0.22
	62	2½	31259.33	0.781	0.17
$5f7s7p\ ^4G?$	102	3½	33209.43	1.051	0.35
	145	4½	35456.20	1.054	
	171	5½	37679.73		
	63	2½	31754.25	0.948	0.17
	100	3½	32576.77	1.024	
	166	5½	32620.90	0.826	0.05

[b] $5f^26d\ ^4G_{4½}$ according to McNally.

[i] $5f7p7s\ ^4F_{3½}$ according to de Bruin.

[j] $5f7p7s\ ^4F_{4½}$ according to de Bruin.

[k] $5f7p7s\ ^4F_{1½}$ according to de Bruin.

[l] $5f^27s\ ^2D_{2½}$ according to McNally.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Even Levels (continued)		
$5f7s7p\ ^2G^a$?	101	3½	32736.20	0.904	0.32
	142	4½	33384.46	1.14	
$5f7s7p\ ^2D$?	23	1½	32959.61	0.874	0.12
	66	2½	34543.63	1.003	
$5f6d7p\ ^4H$	103	3½	33637.26	0.830	0.19
	147	4½	36125.43	1.035	0.22
	173	5½	38862.87[m]	1.083	0.19
	186	6½	40724.89	1.129	0.21
	64	2½	33730.94	1.031	
$5f7s7p\ ^4F$?	24	1½	34019.27	0.823	0.28
	69	2½	37465.48	1.048	0.20
	114	3½	39068.75	1.114	0.25
	153	4½	40367.45	1.176	0.27
	65	2½	34174.54	0.986	
$5f6d7p\ ^2H$	143	4½	34270.29	0.938	0.13
	168	5½	35525.19	1.024	0.11
	104	3½	34279.34	1.047	
	144	4½	34554.37	1.069	
	167	5½	34661.76	0.998	0.19
	105	3½	34726.60	0.950	0.17
	4	½	34782.80[n]	1.67	
	25	1½	35021.39	1.042	
$5f7s7p\ ^4D$	5	½	35425.70	0.265	
	28	1½	37822.06	1.15	
$5f6d7p\ ^4I$	146	4½	35545.64	0.826	0.11
	170	5½	37562.31	1.008	0.12
	184	6½	38518.10	1.111	0.17
	191	7½	41099.08	1.17	
$5f6d7p\ ^4G$?	67	2½	35741.36	0.954	0.09
	107	3½	36809.29	1.022	0.21
	151	4½	39552.29[o]	1.100	0.18
	176	5½	40574.81	1.140	0.22

[m] $5f7s7p\ ^4G_{5½}$ according to McNally

[n] $5f^26d\ ^4P_{½}$ according to McNally.

[o] $5f7s7p\ ^2G_{4½}$ according to McNally.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Even Levels (continued)		
$5fd6d7p$ ^2I	169	5½	36310.11	0.890	
	185	6½	39085.56[b]	1.10	
$5f6d7p$ ^2G	106	3½	35878.89[a]	0.983	0.23
	149	4½	37840.91	1.07	0.11
	6	½	36040.90	1.210	
$5f6d7p$ ^2F	68	2½	36065.76	0.887	0.19
	112	3½	38389.43	1.088	0.34
	26	1½	36328.69[r]	1.615	
	7	½	36812.53	0.737	
$5f6d7p$ ^2H?	148	4½	37063.36[s]	0.999	0.22
	177	5½	41223.26	1.11	0.25
$5f7s7p$ $^2G^b$?	108	3½	37277.39	0.881	0.15
	152	4½	39895.47	1.024	0.17
$5f7s7p$ ^2D?	27	1½	37542.20	1.003	
	74	2½	39366.90	1.140	
	183	6½	37575.44	1.088	
	109	3½	37787.90	1.062	0.13
$5f7s7p$ ^2F	70	2½	37945.09	0.893	0.25
	116	3½	40411.52	1.106	0.23
^2D?	71	2½	38105.11	1.172	0.28 or 0.04
$5f6d7p$ ^2G?	110	3½	38165.40	0.981	0.27
	156	4½	41909.34	1.097	0.24
$5f6d7p$ ^2H?	150	4½	38179.97	0.979	0.23
	175	5½	39939.14	1.12	0.18
$5f6d7p$ ^2G?	111	3½	38291.81	0.949	0.18
	157	4½	42200.27	1.08	0.19
	29	1½	38372.19	1.200	0.15
	72	2½	38728.71	1.255	0.34

[b] $5f^26d$ $^2I_{6½}$ according to McNally.

[a] $5f7s7p$ $^2G_{3½}$ according to McNally.

[r] $5f^26d$ $^4P_{1½}$ according to McNally.

[s] $5f6d7p$ $^4H_{4½}$ according to de Bruin.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Even Levels (continued)		
	172	5½	38740.46	1.188	
	30	1½	38757.50	0.935	0.22
$5f7s7p$ ^2D?	31	1½	38836.24	1.013	0.23
	73	2½	38863.87	0.967	
	8	½	38867.21	0.947	0.11
$5f7s7p$ ^2D	32	1½	39150.71	0.739	0.24
	82	2½	43227.90	1.153	0.19
	174	5½	39352.30	1.05	0.13
$5f6d7p$ ^4G?	115	3½	39458.36	0.979	0.13
	155	4½	41398.58	0.983	0.12
	180	5½	44177.33	1.12	0.15
	75	2½	39700.59	1.090	0.15
	9	½	39948.52	1.542	
	76	2½	40216.41	1.024 or 0.412	0.26?
	33	1½	40222.94	0.738	
	34	1½	40278.15	0.705	0.00
	10	½	40523.77	0.50	
$5f6d7p$ ^4G?	77	2½	40644.34	0.856	0.22
	117	3½	41488.20	1.010	0.20
	159	4½	43809.23	1.102	0.25
	181	5½	45735.11	1.141	0.20
$5f6d7p$ ^4F?	78	2½	40923.59	0.988	0.14
	121	3½	42751.40	1.09	0.16
	160	4½	45126.29	1.21	0.12
$5f6d7p$ ^2D?	35	1½	40991.58	1.036	
	83	2½	44388.70	1.158	0.05
$5f6d7p$ ^2G?	154	4½	41047.20	1.112	0.22
	79	2½	41328.38	1.101	0.31
	36	1½	41676.90	1.220	0.36
$5f6d7p$ ^2G?	118	3½	41688.48	0.940	0.14
	158	4½	42955.87	1.141	0.19

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Even Levels (continued)		
	37	1½	41936.60	1.095	
	178	5½	42146.57	1.158	0.18
	119	3½	42222.39	0.935	
	80	2½	42352.18	1.126	0.15
	120	3½	42518.91	1.080	0.20
	187	6½	42644.94	1.10	0.22
	188	6½	43014.18	0.976	
$5f6d7p$ ^4F?	81	2½	43096.56	0.982	0.13
or ^2F?	127	3½	45395.10	1.216	
	179	5½	43127.24	1.037	0.23
	122	3½	43246.88	1.033	0.13
	123	3½	43803.94	1.026	0.27
$5f6d7p$ ^4D?	38	1½	43807.65	1.211	
	84	2½	44552.68	1.182	
	128	3½	46352.29		
	11	½	43965.63	1.555?	
	39	1½	44300.21	1.342	
	124	3½	44503.82	1.058	
	125	3½	44807.95	1.078	
	40	1½	44889.87	1.346	
	126	3½	44898.78	1.181	
$5f6d7p$ ^2F?	85	2½	45189.70	0.674	
	129	3½	46706.20	1.081	
$5f6d7p$ ^4F?	86	2½	45610.54	1.075	0.05
	130	3½	47871.40	1.194	
	163	4½	50470.20	1.18	
	161	4½	45904.41[t]	1.02	
	182	5½	46216.65[u]	1.16	

[t] $5f6d7p$ $^2G_{4½}$ according to McNally.

[u] $5f6d7p$ $^4G_{5½}$ according to McNally.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Even Levels (continued)		
$5f6d7p$ ^2D?	41	1½	46264.18	0.891	0.08
	90	2½	47324.50	1.189	
	189	6½	46378.89	1.13	
	87	2½	46581.50	1.018	
	88	2½	46603.19	1.112	
	89	2½	46902.54	1.143	
	190	6½	46910.85	1.18	0.17
	42	1½	46935.64	0.956	
$5f6d7p$ ^2P?	12	½	47145.90		
	48	1½	51024.73	1.270	
	43	1½	47148.76		
$5f6d7p$ ^2F?	131	3½	48298.65	1.07	
	44	1½	48689.70	0.922	
	45	1½	48817.59	0.956	
	162	4½	48854.07[v]	1.11?	
	46	1½	49414.54	1.003	
	132	3½	49960.54	1.248	
	47	1½	50735.65		
			Odd Levels		
$5f7s^2$ $^2F^\circ$	51°	2½	*4490.29*	0.856	0.93
	94°	3½	*8378.85*	1.132	0.95
$5f6d7s$ $^4H^\circ$	93°	3½	*6168.38*	0.718	0.59
	130°	4½	*6700.19*	1.018	0.59
	151°	5½	*10189.10*	1.128	0.65
	162°	6½	*13406.51*	1.231	0.65
$5f6d7s$ $^4F^\circ$	15°	1½	*6691.44*	0.492	0.54
	52°	2½	*7331.51*	1.061	0.56
	96°	3½	*9720.30*	1.173	0.59
	133°	4½	*12488.34*	1.245	0.65

[v] $5f6d7p$ $^4G_{4½}$ according to McNally.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Odd Levels (continued)		
$5f6d7s\ ^2G^o$	95°	3½	*9202.29*	0.911	0.62
	131°	4½	*9238.04*	1.086	0.60
$5f6d7s\ ^4G^o$	53°	2½	*9585.41*	0.601	0.60
	97°	3½	*11116.61*	0.983	0.55
	134°	4½	*13469.00*	1.185	0.62
	153°	5½	*15349.93*	1.267	0.67
$5f6d7s\ ^2H^o$	132°	4½	*10572.09*	0.931	0.52
	152°	5½	*14484.37*	1.09	0.57
$5f6d7s\ ^2F^o$	54°	2½	*10673.16*[w]	1.088	0.60
	100°	3½	*14791.06*[x]	0.862	
$5f6d7s\ ^2D^o$	16°	1½	*11576.43*	0.832	0.55
	55°	2½	*12472.18*[y]	0.982	0.69?
$5f6d7s\ ^4D^o$	1°	½	*11725.55*	0.255	
	17°	1½	*12902.42*	1.167	0.55
	56°	2½	*14545.59*	1.339	
	101°	3½	*15453.06*	1.296	
$5f6d^2\ ^4H^o$	98°	3½	*12485.71*	0.855	
	136°	4½	*15242.90*	1.00	
	155°	5½	*17771.10*	1.10	
	164°	6½	*19912.37*	1.16	
$5f6d7s\ ^2G^o$	99°	3½	*13818.37*[z]	1.153	0.54
	137°	4½	*17272.34*	1.083	
$5f6d^2?\ ^4D^o?$	2°	½	*14101.88*	0.523	
$5f6d^2\ ^4I^o$	135°	4½	*14275.61*	0.791	
	154°	5½	*16564.63*	0.98	
	163°	6½	*18816.93*	1.10	
	165°	7½	*22027.95*	1.18	
$5f6d7s\ ^2P^o$	18°	1½	*15144.78*	1.366	
$5f6d^2?$	57°	2½	*15173.75*[aa]	1.211?	

[w] $5f6d7s\ ^2D^o_{2½}$ according to McNally.

[x] $5f6d7s\ ^2G^o_{3½}$ according to McNally.

[y] $5f6d7s\ ^2F^o_{2½}$ according to McNally.

[z] $5f6d7s\ ^2F^o_{3½}$ according to McNally and de Bruin.

[aa] $5f6d7s\ ^4P^o_{2½}$ according to McNally.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Odd Levels (continued)		
$5f6d7s\ ^4P^\circ$	3°	½	*15324.30*[bb]	2.565	
	60°	2½	*17460.70*[cc]	1.51	0.55
$5f6d7s\ ^2D^\circ$	19°	1½	*15710.92*	0.643?	
	58°	2½	*16033.05*	1.07	
$5f6d^2\ ^4G^\circ$	59°	2½	*16136.09?*		
	102°	3½	*16906.72*	0.950	
$5f6d^2\ ^4D^\circ$?	20°	1½	*17121.64*[dd]	1.277	
$5f6d^2$?	61°	2½	*17983.41*	0.995	
$5f6d^2\ ^4F^\circ$	21°	1½	*18214.47*	0.876	
	62°	2½	*19248.32*	0.931	
	108°	3½	*21682.70*	1.248	
	142°	4½	*23749.76*	1.34	
$5f6d7s\ ^2F^\circ$?	103°	3½	*18973.80*	1.12	
$5f6d^2\ ^2D^\circ$?	22°	1½	*19050.87*	0.888	
	104°	3½	*19929.15*		
$5f6d^2\ ^2G^\circ$?	105°	3½	*20080.68*[ee]	1.142	
$5f6d^2\ ^4G^\circ$[b]	63°	2½	*20120.14*	0.743	
	109°	3½	*22685.50*	0.981	0.00
	144°	4½	*24757.59*	1.13	0.00
	158°	5½	*26770.52*	1.250	
	64°	2½	*20686.23*	0.945	
$5f6d^2\ ^2G^\circ$?	106°	3½	*20852.71*		
$5f6d7s\ ^2H^\circ$	138°	4½	*20989.85*	0.953	
	156°	5½	*22014.94*	1.10	
$5f6d^2\ ^2G^\circ$?	107°	3½	*21207.61*[ff]		
	65°	2½	*21297.45*	0.767	0.00
$5f6d^2\ ^2G^\circ$?	139°	4½	*22139.64*	1.090	

[bb] $5f6d^2\ ^4P^\circ_{1/2}$ according to McNally.

[cc] $5f6d^2\ ^4P^\circ_{2\frac{1}{2}}$ according to McNally.

[dd] $5f6d7s\ ^2P^\circ_{1\frac{1}{2}}$ according to McNally.

[ee] $5f6d^2\ ^4F^\circ_{3\frac{1}{2}}$ according to McNally.

[ff] $5f6d^2\ ^4D^\circ_{3\frac{1}{2}}$ qccording to McNally

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Odd Levels (continued)		
	66°	2½	*22513.32*		
$5f6d^2\ ^2H^{\circ}$?	140°	4½	*22642.20*	1.043	
	159°	5½	*27378.53*	1.15	
	23°	1½	*23012.03*	1.017	0.10
$5f6d^2\ ^4D^{\circ}$	24°	1½	*23372.57*	1.067	0.21
	67°	2½	*24463.86*	1.396	0.07
	111°	3½	*27249.56*	1.382	0.05
$5f6d^2\ ^2G^{\circ}$?	157°	5½	*23624.03*		
	141°	4½	*23730.81*[gg]	1.186	
	25°	1½	*24132.05*	1.429	0.10
	26°	1½	*24414.60*	1.105	0.29
$5f6d^2\ ^4F^{\circ}$?	143°	4½	*24604.68*		
$6d7s7p$?	68°	2½	*24873.99*	1.081	0.33
	110°	3½	*24982.42*	0.990	0.00
	27°	1½	*25188.08*	0.937	0.12
$^2P^{\circ}$?	4°	½	*25266.58*[bb]	0.725	
	69°	2½	*25440.26*	1.138	0.05
	70°	2½	*26424.53*[ii]	1.169	0.03
$5f6d^2\ ^4D^{\circ}$?	5°	½	*26626.45*	0.645	0.18
	32°	1½	*28720.86*	1.162	
	73°	2½	*30972.18*	1.217	
	113°	3½	*31800.21*	1.168	0.14
	30°	1½	*26965.21*	1.384	0.08
	31°	1½	*27403.17*	1.002	
$5f6d^2\ ^2F^{\circ}$?	71°	2½	*28243.84*[jj]	0.922	0.31
	112°	3½	*30994.30*	1.199	

[gg] $5f6d^2\ ^4G^{\circ}_{4\frac{1}{2}}$ according to McNally.

[bb] $7p\ 7s^2\ ^2P^{\circ}_{\frac{1}{2}}$ according to McNally.

[ii] $5f6d^2\ ^4D^{\circ}_{2\frac{1}{2}}$ according to McNally.

[jj] $6d^2 7p\ ^4G^{\circ}_{2\frac{1}{2}}$ according to de Bruin.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
		Odd Levels (continued)			
	72°	2½	*29095.46*	0.998	0.06
$5f6d^2\ ^2D^{\circ}$?	33°	1½	*29720.42*	0.990	0.23
	74°	2½	*31810.57*	1.118	0.34
$5f6d^2\ ^2P^{\circ}$?	6°	½	*30564.59*	0.553	
	37°	1½	*34986.59*[kk]	1.298	
$6d7s7p\ ^4F^{\circ}$	34°	1½	*31353.12*	0.863	0.19
	79°	2½	*35156.97*	1.079	0.04
	116°	3½	*36583.83*	1.140	0.34
	145°	4½	*36193.70*	1.149	0.21
$6d7s7p\ ^4D^{\circ}$	7°	½	*31625.75*	0.344	
	36°	1½	*33215.78*	1.036	0.12
	78°	2½ ?	*34212.03*[ll]	1.148	
	115°	3½	*35593.53*	1.253	0.07
$5f6d^2\ ^2D^{\circ}$?	74°	2½	*31810.57*	1.118	0.34
$6d7s7p\ ^2D^{\circ}$?	35°	1½	*31928.77*[mm]	0.891	0.33
(or $5f6d^2\ ^2D^{\circ}$?)	78°	2½ ?	*34212.03*[nn]	1.148	
	75°	2½	*32850.04*	1.093	
	76°	2½	*32933.45*	1.113	0.15
	114°	3½	*32957.41*[oo]	1.072	0.27
$6d7s7p\ ^2F^{\circ}$	77°	2½	*33355.22*	0.952	0.02
	117°	3½	*37757.29*	1.118	
$6d7s7p\ ^4P^{\circ}$?	8°	½	*34330.47*	1.503	0.35
	42°	1½	*38436.16*	1.419	
	84°	2½	*39861.63*	1.172	
$6d7s7p\ ^2P^{\circ}$?	9°	½	*35199.03*	0.972	
	39°	1½	*36444.81*	1.182	0.23
$6d^2\ 7p\ ^4F^{\circ}$	38°	1½	*36390.49*	0.829	0.16
	83°	2½	*38581.62*	1.105	
	121°	3½	*40184.11*	1.230	0.15
	148°	4½	*42318.99*	1.165	0.20

[kk] $7p7s^2\ ^2P^{\circ}_{1½}$ according to McNally.

[ll] $6d7s7p\ ^2D^{\circ}_{2½}$ according to McNally.

[mm] $6d7s7p\ ^2D^{\circ}_{1½}$ according to McNally.

[nn] $6d7s7p\ ^4D^{\circ}_{2½}$ according to de Bruin.

[oo] $6d^27p\ ^4G^{\circ}_{3½}$ according to de Bruin.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Odd Levels (continued)		
$6d7s7p\ ^2D^o$?	40°	1½	*36581.57*	1.107	0.15
	81°	2½	*37846.15*[pp]	1.165	
$6d\ ^27p\ ^4G^o$	80°	2½	*36687.99*[qq]	1.049	0.21
	118°	3½	*38764.61*	1.098	0.22
	147°	4½	*39443.02*	1.145	0.22
	161°	5½	*41448.00*	1.267	0.32
$6d^2\ 7p\ ^4D^{oa}$	10°	½	*37130.35*	0.521	0.28
	43°	1½	*40472.42*	1.249	0.20
	86°	2½	*42219.77*	1.168	0.00
	126°	3½	*44650.52*	1.234	
$^4F^o$?	146°	4½	*37569.79*	1.29	
	41°	1½	*37601.71*[rr]	1.267	0.06
$^2S^o$?	11°	½	*37608.01*[ss]	2.238	
$^2P^o$?	12°	½	*37716.37*[tt]	0.690	0.19
	82°	2½	*38493.72*[uu]	1.217	
$^2F^o$?	119°	3½	*39396.54*	1.131	0.00
	120°	3½	*39585.43*	1.219?	
$^4G^o$?	160°	5½	*39606.17*	1.259	0.23
$6d7s7p\ ^2F^o$	85°	2½	*40654.54*	0.943	
	122°	3½	*40707.40*[vv]	1.073	0.13
$6d^2\ 7p\ ^4D^{ob}$	13°	½	*40825.58*	0.261	
	45°	1½	*42418.19*	1.304	
	87°	2½	*43382.76*	1.203	0.10
	127°	3½	*45689.25*	1.261	
$6d^2\ 7p\ ^4S^o$	44°	1½	*42112.93*	1.467	

[pp] $6d^27p\ ^4F^o_{2½}$ according to McNally.

[qq] $6d^27p\ ^4F^o_{2½}$ according to de Bruin.

[rr] $6d7s7p\ ^4D^o_{1½}$ according to McNally.

[ss] $6d^27p\ ^2S^o_{½}$ according to McNally.

[tt] $6d^27p\ ^2P^o_{½}$ according to McNally.

[uu] $6d7s7p\ ^4D_{2½}$ according to McNally.

[vv] $6d^27p\ ^4F^o_{3½}$ according to McNally.

Table 5 (continued)

Configuration Term	Designation	J	Value (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
			Odd Levels (continued)		
	123°	3½	*42944.46*[ww]	1.246	0.13
$6d^2\,7p\ {}^4P^\circ$	14°	½	*43744.06*	2.219	
	46°	1½	*43287.63*	1.564	
	89°	2½	*45221.48*	1.347	
	124°	3½	*43773.66*	1.046?	
	125°	3½	*43774.06?*		
$6d^2\,7p\ {}^2F^\circ$?	88°	2½	*44821.86*	0.999	
${}^2G^\circ$?	149°	4½	*45489.12*	1.089	
	47°	1½	*45697.84*	1.18	
	90°	2½	*46155.67*	1.152	
${}^2G^\circ$?	150°	4½	*46368.03*	1.088	
${}^2P^\circ$?	48°	1½	*46423.77*	1.118	
	91°	2½	*49289.44*	1.208	
	49°	1½	*51528.60*	0.925	
$5f^2 7p\ {}^2F^\circ$?	92°	2½	*51946.85*	0.937	
	129°	3½	*54497.50*	1.126	
	50°	1½	*53949.20*		

[ww] $6d7s7p\ {}^4P^\circ_{1\frac{1}{2}}$ according to McNally.

The data in Table 6 are taken from the following sources:

C M. Fred, MS Thesis, M. Ference, Jr., MS Thesis, and R. B. Bowersox, MS Thesis, University of Chicago (1934).

E,V J. M. Eder and E. Valenta, *Atlas typischer Spektren*, Vienna, A. Holder, 1911.

K P. F. A. Klinkenberg, unpublished wavelength list and unpublished Zeeman data.

L J. N. Lier, Doctoral Dissertation, Amsterdam (1939).

Mc J. R. McNally, Jr., *J. Opt. Soc. Am.* **35**, 390 (1945).

M MIT data are taken from either MIT wavelength tables or MIT card files on thorium. MIT Zeeman data are also taken from J. R. McNally, Jr., G. R. Harrison, and H. B. Park, *J. Opt. Soc. Am.* **32**, 334 (1942).

S Ph. Schuurmans, Doctoral Dissertation, Amsterdam (1946).

V Vatican data from A. Gatterer and J. Junkes, *Spektren der Seltenen Erden*, p 329–347, Specola Vaticana, Vatican City, 1945.

Table 6. Classified Lines of Th II

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
Mc	10942.14	9136.47	+0.07	36°-80?							
			+0.06	146°-129?							
			+0.09	153°-133?							
Mc	10723.73	9322.56	+0.13	134°-91							
Mc	10419.50	9594.76	+0.04	27°-4							
			+0.09	92°-80?							
Mc	10301.08	9705.06	−0.07	12°-22?							
			+0.05	99°-50							
Mc	10247.47	9755.83	−0.07	155°-138?							
Mc	10133.40	9865.65	+0.04	1°-14							
Mc	9943.03	10054.54	+0.02	16°-49							
Mc	9864.54	10134.55	+0.04	138°-93							
Mc	9642.45	10367.96	−0.11	10°-20?							
			+0.01	103°-51							
Mc	9613.68	10398.99	−0.03	56°-91							
Mc	9595.38	10418.82	−0.07	31°-28							
Mc	9583.05	10432.23	0.00	56°-50							
Mc	9483.81	10541.40	+0.01	103°-139							
			+0.04	117°-131							
Mc	9455.93	10572.47	−0.03	158°-164							
Mc	9413.57	10620.05	+0.02	71°-73							
Mc	9390.56	10646.08	+0.04	32°-74							
Mc	9362.77	10677.67	−0.03	100°-50							
Mc	9362.62	10677.84	0.00	78°-40							
			−0.01	89°-66							
Mc	9360.95	10679.75	+0.01	105°-53							
Mc	9349.20	10693.17	0.00	102°-133							
Mc	9307.89	10740.63	−0.04	116°-90							
Mc	9267.03	10787.99	+0.06	62°-17							
Mc	9252.80	10804.58	−0.03	142°-144							
Mc	9157.38	10917.16	+0.07	4°-3							
Mc	9119.59	10962.39	+0.02	154°-138							
Mc	9112.72	10970.67	−0.06	135°-137?							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
Mc	9107.56	10976.88	+0.04	142°-105							
Mc	9119.59	10962.39	+0.02	154°-138							
Mc	9105.20	10979.72	−0.01	32°-75							
Mc	9072.23	11019.63	+0.03	105°-52							
Mc	9066.07	11027.11	−0.07	57°-91?							
Mc	9062.57	11031.38	−0.04	18°-50							
Mc	9053.46	11042.47	−0.01	17°-14							
Mc	9040.10	11058.79	0.00	137°-133							
Mc	8957.92	11160.23	0.00	141°-94							
Mc	8949.03	11171.33	−0.04	123°-141							
Mc	8842.04	11306.51	+0.02	101°-91							
C	8816.15	11339.71	+0.01	101°-50							
Mc	8784.53	11380.53	+0.02	17°-49							
Mc	8748.03	11428.01	+0.04	99°-137?							
Mc	8709.21	11478.95	−0.02	103°-140							
Mc	8668.10	11533.39	+0.01	46°-63							
C	8629.1	11585.5	0.0	65°-92							
C	8591.83	11635.77	−0.05	156°-134							
C	8573.10	11661.19	−0.06	66°-65							
C	8450.65	11830.16	0.00	109°-93							
C	8413.0	11883.1	0.0	19°-57							
C	8403.79	11896.11	−0.01	72°-35							
M	8275.63	12080.35	−0.03	64°-51							
C	8252.38	12114.39	0.00	81°-132							
C	8203.19	12187.03	+0.02	144°-94							
C	8166.41	12241.92	+0.02	2°-14							
			−0.01	82°-47							
C	8163.11	12246.87	−0.03	62°-15							
			+0.01	106°-51							
M	8143.15	12276.89	−0.07	5°-3?							
C	8139.88	12281.82	+0.06	108°-53							
C	8048.26	12421.65	−0.03	82°-96							
C	8036.87	12439.23	+0.02	102°-61							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	8032.48	12446.04	0.00	43°-58							
C	8015.64	12472.18	0.00	55°-13							
C	8015.65	12472.14	±0.04	50°-13							
C	7941.77	12588.21	+0.05	129°-156							
C	7928.97	12608.52	+0.05	102°-139							
C	7900.35	12654.21	+0.17	68°-18?							
C	7896.46	12660.42	+0.02	2°-20							
C	7893.66	12664.91	+0.06	69°-71							
C	7849.60	12736.02	+0.08	100°-138							
C	7834.45	12760.63	0.00	98°-137							
K	7808.04	12803.79	−0.01	148°-139							
M	7798.33	12819.74	−0.03	31°-33							
C	7787.78	12837.20	+0.14	65°-17?							
C	7676.19	13023.74	+0.06	56°-49							
C	7632.14	13098.88	−0.04	129°-155							
C	7624.27	13112.41	−0.03	66°-53							
			−0.06	78°-90?							
C	7528.46	13279.28	+0.02	65°-16							
S	7525.52	13284.46	−0.10	109°-53	S		(0)	0.88			
C	7490.09	13347.28	−0.06	60°-50							
C	7449.80	13419.49	+0.02	90°-101							
M	7447.84	13423.02	0.00	41°-48							
C	7437.72	13441.29	+0.03	156°-145							
M	7430.27	13454.76	+0.10	45°-60							
C	7411.75	13488.40	+0.06	64°-65							
M	7393.433	13521.80	−0.04	158°-135							
C	7380.20	13546.04	−0.01	102°-140							
C	7358.37	13586.23	+0.01	17°-56							
C	7338.60	13622.82	−0.05	18°-49							
C	7323.87	13650.22	−0.04	105°-64							
C	7296.35	13701.71	+0.05	106°-144							
C	7292.70	13708.56	−0.07	99°-138							
M	7288.98	13715.57	−0.03	104°-133							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	7250.61	13788.15	−0.04	134°-97							
M	7242.09	13804.37	+0.08	158°-176?							
C	7201.86	13881.49	+0.04	110°-73							
S	7191.05	13902.35	+0.10	144°-93	S		(0)	1.15			
C	7187.43	13909.35	−0.01	2°-22							
C	7179.06	13925.56	−0.01	67°-112							
C	7176.78	13929.99	+0.02	142°-171							
M	7159.98	13962.68	+0.07	27°-32							
K	7155.42	13971.58	−0.05	24°-53							
C	7140.52	14000.73	+0.05	50°-9							
K	7139.89	14001.97	−0.02	155°-141							
K	7131.39	14018.65	0.00	68°-93							
K	7109.40	14062.02	−0.11	101°-139?							
K	7100.55	14079.54	−0.11	109°-51	S		(0)	1.01			
C	7089.33	14101.82	−0.06	2°-13	S		(0)	0.69			
M	7084.177	14112.08	+0.01	121°-96							
M	7075.30	14129.78	−0.07	159°-135							
			+0.05	97°-137	S		(0)	0.90			
M	7064.48	14151.43	+0.01	72°-122							
M	7060.71	14158.99	+0.04	92°-109							
V	7053.68	14173.10	−0.01	58°-14							
M	7045.80	14288.94	+0.11	19°-49?	S		(0)	1.06			
M	7036.30	14208.10	+0.09	99°-58?							
M	6993.02	14296.04	+0.01	65°-15	S		(0)	0.76			
			+0.07	66°-107							
K	6985.45	14311.53	+0.04	24°-52							
S	6952.99	14378.35	−0.12	144°-134	S		(0)	1.19			
C	6873.06	14545.56	−0.03	56°-13							
C	6855.73	14582.32	+0.02	50°-74							
C	6846.48	14602.02	−0.01	129°-152							
K	6832.92	14631.00	−0.07	136°-98							
C	6812.77	14674.27	+0.02	132°-137							
C	6810.55	14679.06	+0.17	111°-94?	S		(0.94)				

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	6804.75	14691.57	−0.03	17°-57							
K	6770.13	14766.70	−0.02	24°-51							
C	6765.70	14776.37	+0.07	138°-133							
C	6760.87	14786.92	+0.05	45°-21							
C	6758.26	14792.63	+0.01	74°-88							
C	6733.78	14846.41	−0.09	58°-99							
C	6730.52	14853.60	−0.08	143°-115							
C	6727.44	14860.40	−0.04	103°-50							
C	6706.86	14906.00	+0.01	113°-129							
KC	6704.07	14912.20	+0.02	24°-17							
			−0.01	16°-56							
C	6700.51	14920.13	+0.02	140°-170							
C	6697.75	14926.27	+0.02	62°-65							
C	6692.69	14937.56	+0.05	22°-50							
C	6687.58	14948.97	−0.04	31°-80							
M	6658.681	15013.85	+0.19	26°-53?							
C,K	6648.51	15036.82	+0.09	1°-20							
M	6646.52	15041.32	+0.02	98°-138							
M,S	6644.645	15045.57	−0.07	144°-92	S		(0)	1.57			
K	6637.48	15061.81	+0.01	148°-97							
K	6633.42	15071.03	+0.06	25°-52							
K	6619.88	15101.85	+0.10	62°-91?	S		(0)	1.85			
K	6616.99	15108.45	+0.14	98°-57?							
M	6616.89	15108.68	−0.14	17°-22?							
M	6605.432	15134.89	−0.07	62°-50	S		(0.55)	0.93			
K	6593.58	15162.09	+0.05	68°-92							
M	6577.73	15198.60	−0.11	140°-149?							
K	6572.86	15209.89	+0.02	136°-140							
M	6560.02	15239.66	+0.08	135°-139	M	6	(1.063)	0.913	0.795	1.032	
K	6544.58	15275.61	+0.11	60°-101							
C	6540.11	15286.05	+0.06	26°-75							
K	6532.23	15304.49	+0.06	137°-100							
K	6522.04	15328.40	+0.02	56°-98							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	6511.38	15353.49	−0.03	26°-52							
M	6511.00	15354.39	+0.02	24°-16							
M	6503.57	15371.93	−0.10	97°-56	M	5	(0.104)	1.501	0.985	0.778	
C	6502.04	15375.55	+0.03	105°-145							
M	6474.73	15440.38	+0.04	151°-165							
C	6471.28	15448.63	+0.02	75°-131							
M	6465.85	15461.59	+0.05	157°-185							
K	6462.65	15469.26	+0.11	108°-133							
K	6461.04	15473.12	+0.07	68°-53	S		(0)	1.17			
C	6452.12	15494.51	+0.04	109°-150							
K	6439.01	15526.05	+0.01	96°-137							
			−0.15	25°-51?							
M	6425.60	15558.46	−0.04	91°-64							
M	6416.101	15581.49	+0.01	110°-53	M	4	(0)	0.885	0.990	(1.034)	
M	6411.893	15591.70	−0.09	66°-71?							
M	6408.598	15599.73	0.00	20°-49	M	4	(0.103)	0.766	1.276	1.072	
K	6403.02	15613.32	−0.04	155°-142							
C	6402.27	15615.16	+0.01	149°-98							
M	6386.46	15653.81	−0.04	61°-103							
K	6383.32	15661.51	−0.20	100°-140?							
M	6381.98	15664.79	0.00	156°-171							
M	6379.87	15669.98	−0.08	102°-100	S		(0.22)				
K	6379.17	15671.69	+0.03	25°-17							
M	6372.81	15687.34	+0.07	123°-97?							
M	6359.10	15721.16	−0.04	58°-63							
M	6348.559	15747.25	−0.03	124°-58							
			+0.02	140°-112	S		(0)	0.99			
C	6348.08	15748.45	−0.06	78°-132							
M	6334.37	15782.53	−0.05	104°-91							
K	6332.487	15787.23	+0.09	27°-53	M	5	(0.050)	1.199	0.950	1.040	
			−0.01	49°-67							
M	6326.358	15802.51	−0.02	142°-151							
K	6323.87	15808.74	−0.01	26°-51	M	4	(0.060)	0.713	0.996	0.880	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	6321.175	15815.48	0.00	54°-56	M	6	(0.781)		(1.088)	0.775	
M	6318.79	15821.44	−0.04	141°-151							
M	6309.48	15844.79	−0.04	163°-167							
			−0.18	72°-54?							
M	6305.35	15855.17	−0.01	23°-8?							
M	6304.240	15857.96	−0.05	67°-51	M	6	(1.027)	1.187	1.397	0.986	
M	6285.281	15905.80	+0.03	1°-21	M	5	(0.186)	0.816	0.254	0.628	
M	6279.170	15921.28	+0.02	17°-59	M	4	(0.090)	0.719	1.165	0.987	
M	6277.249	15926.15	+0.06	139°-133	M	6	(0.994)	1.205	1.093	1.315	
M	6274.109	15934.12	+0.01	105°-91	M	6	(0.320)	1.188	1.143	1.235	
M	6269.555	15945.68	+0.06	63°-68	M	6	(0.352)		0.746	(0.887)	
M	6266.169	15954.31	+0.10	26°-17	M	6	(0.206)	1.038	1.107	0.970	
M	6261.063	15967.32	0.00	105°-50	M	5	(0)	1.115	1.149	(1.163)	
M	6258.621	15973.55	−0.02	63°-91	M	5	(0.245)	2.462	0.739	1.231	
K	6246.93	16003.45	−0.02	67°-17							
C	6245.04	16008.29	−0.01	131°-137							
M	6239.071	16023.60	+0.05	74°-55							
M	6232.970	16039.29	−0.03	69°-53	M	6		1.090	1.140	1.038	
M	6231.39	16043.35	+0.03	19°-63	S		(0)	0.80			
C	6231.10	16044.10	+0.05	95°-137							
C	6226.32	16056.42	+0.05	71°-39							
C	6224.49	16061.14	+0.03	17°-60							
M	6211.66	16094.31	+0.07	72°-85							
			−0.07	70°-120							
C	6204.12	16113.87	+0.01	25°-16							
M	6200.424	16123.47	0.00	61°-14							
K	6193.86	16140.57	−0.01	97°-97	L		(0)	1.02			
					S		(0.14)	1.00			
M	6191.895	16145.67	−0.04	142°-152							
M	6179.852	16177.15	−0.01	135°-140	S		(1.12)				
M	6174.53	16191.10	−0.06	61°-65							
E,V	6171.58	16198.83	+0.07	36°-46							
M	6154.15	16244.71	−0.04	65°-27							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	6145.271	16268.17	+0.03	68°-51	S		(0.21)				
C,K	6138.64	16285.75	+0.06	1°-22	S		(0.22)	0.98			
S	6137.94	16287.60	+0.06	138°-108	S		(0)	1.23			
C	6132.81	16301.24	+0.05	101°-63							
K	6125.74	16320.05	+0.02	101°-141	L		(0)	1.08			
K	6120.57	16333.84	−0.12	56°-99?	L		(0)	0.98			
M	6112.822	16354.54	+0.01	21°-14	M	6	(0.435)	0.729	0.874	0.584	
M	6104.569	16376.65	+0.08	110°-51	M	7b	(0)	0.982	0.982	0.982	
K	6103.62	16379.20	+0.02	69°-52							
C	6099.94	16389.08	−0.03	7°-19							
M	6099.076	16391.39	−0.01	158°-134	M	5	(0.049)	1.696	1.255	1.157	
			−0.01	131°-165	M	5	(0.049)	1.696	(1.086)	1.184?	
C	6097.19	16396.47	+0.06	26°-16	S		(0.76)				
C	6092.0	16410.4	0.0	97°-138							
K	6087.27	16423.19	+0.03	153°-141	L		(0)	1.40			
M	6085.248	16428.65	0.00	140°-133	M	6	(1.207)	1.172	1.039	1.308	
K	6077.36	16449.97	+0.05	16°-58							
M	6073.104	16461.51	+0.01	61°-49	M	6	(0.204)	1.036	0.995	1.077	
M	6067.07	16477.87	+0.13	102°-142?	M	5		1.786	0.939	1.127	
			+0.05	98°-60							
M	6061.48	16493.06	+0.02	62°-67	M	6	(0.042)	0.939	0.930	0.948	
M	6058.55	16501.04	+0.13	32°-18	M	6	(0.262)	1.070	1.160	0.977	
M	6053.379	16515.12	+0.04	72°-86							
M	6049.76	16525.02	+0.04	72°-94	M	5	(0.067)	1.466	0.997	1.131	
M	6044.425	16539.60	−0.06	64°-91	M	5	(0.144)	1.928	0.945	1.235	
M	6042.95	16543.64	−0.08	58°-100							
C	6038.66	16555.39	−0.04	66°-114							
M	6032.26	16572.96	+0.09	64°-50							
K	6031.90	16573.95	+0.07	74°-19							
C	6028.85	16582.33	+0.10	27°-51?							
M	6028.21	16584.09	−0.07	6°-43							
			+0.06	54°-97							
M	6025.65	16591.13	−0.03	64°-108							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	6021.035	16603.84	−0.10	135°-99?							
M	6018.99	16609.49	+0.02	18°-63	M	4	(0.209)	0.329	1.370	0.952	
C	6017.8	16612.8	0.0	106°-69?							
S	6011.35	16630.60	+0.03	62°-106	S		(0)	1.04			
C	6005.16	16647.75	+0.11	65°-70							
K	5991.74	16685.03	−0.07	132°-97							
C	5989.8	16690.4	−0.1	22°-67							
M	5989.035	16692.57	+0.01	21°-49	M	5	(0.100)	1.374	0.876	1.075	
S	5983.99	16706.64	−0.09	108°-112	M	6	(0.558)	1.162	1.242	1.083	
K	5983.42	16708.23	−0.06	163°-168							
K	5981.91	16712.45	−0.08	70°-92							
M	5981.79	16712.78	+0.11	91°-100?							
K	5981.39	16713.90	+0.16	56°-62?							
			+0.03	60°-65							
M	5976.439	16727.74	+0.05	27°-17							
M	5961.973	16768.34	0.00	96°-56	M	5	(0.199)	0.961	1.170	0.771	
M	5960.376	16772.82	−0.04	109°-115							
V	5958.1	16779.2	−0.1	64°-69							
M	5948.59	16806.06	−0.13	4°-17?							
M	5944.58	16817.40	−0.04	62°-68							
K	5943.75	16819.74	−0.09	154°-142							
M	5938.582	16834.38	−0.03	69°-51	M	6	(0.382)	1.063	1.141	0.988	
K	5931.02	16855.85	+0.05	68°-16							
M	5929.487	16860.19	−0.03	98°-61	S		(0)	0.63			
M	5927.97	16864.51	−0.01	67°-79							
M	5925.894	16870.42	−0.02	111°-134	M	4	(0.114)	0.350	1.382	1.153	
C	5922.82	16879.18	+0.05	74°-44							
M	5914.395	16903.23	0.00	53°-56	M	6	(0.438)	0.689	0.600	0.775	
M	5906.271	16926.48	−0.08	58°-23	M	5	(0.101)	1.385	1.066	0.856	
C	5895.25	16958.12	−0.04	54°-21							
M	5893.498	16963.15	−0.04	100°-63	S		(0)	0.77			
M	5886.32	16983.83	+0.06	134°-140							
M	5885.714	16985.60	+0.07	31°-83							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	5881.44	16997.93	−0.02	137°-143							
K	5879.48	17003.61	−0.02	34°-3							
M	5872.559	17023.63	+0.04	70°-53	M	6	(0.349)	1.177	1.107	1.247	
M	5870.572	17029.39	−0.09	98°-139	L		(0)	1.67			
					M	5	(0.063)	1.724	0.896	1.080	
M	5859.688	17061.02	−0.02	107°-91							
			−0.14	99°-99	L		(0.19)	1.20			
C	5858.69	17063.94	−0.01	7°-44							
C	5855.47	17073.32	−0.02	59°-102							
K	5852.16	17082.98	+0.05	60°-66							
M	5838.951	17121.63	−0.01	20°-13	M	6	(0.958)	0.956	1.278	0.639	
K	5835.85	17130.72	+0.09	25°-15							
C	5822.50	17170.00	+0.11	27°-16?							
M	5820.32	17176.43	+0.05	58°-102							
K	5820.14	17176.96	+0.09	53°-20							
M	5817.69	17184.20	+0.11	65°-50							
M	5815.432	17190.87	−0.06	22°-14	M	6	(0.456)	0.738	0.887	0.586	
K	5809.38	17208.78	+0.12	56°-63?							
M	5808.06	17212.68	−0.01	139°-174							
K	5796.40	17247.32	+0.07	16°-59	M	5	(0.072)	1.225	0.843	0.995	
M	5795.99	17248.54	+0.15	4°-16?							
C	5794.4	17253.3	0.0	140°-152?							
K	5790.12	17266.02	+0.12	60°-105?							
C	5788.2	17271.8	0.0	24°-77							
K	5786.68	17276.29	+0.03	7°-3							
S	5778.08	17301.99	+0.03	138°-111	S		(0)	0.99			
M	5769.67	17327.21	−0.05	106°-150							
K	5766.10	17337.95	+0.05	151°-138							
			−0.13	54°-22?							
K	5758.92	17359.56	+0.09	27°-2							
K,C	5757.62	17363.48	+0.03	70°-52							
			−0.09	102°-143							
C	5754.6	17372.6	0.0	102°-104							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	5750.27	17385.68	+0.05	133°-98							
M	5749.379	17388.37	−0.01	62°-14	M	5	(0.172)	1.450	0.936	0.592	
			−0.13	71°-93?							
M	5745.665	17399.60	+0.02	138°-112	M	4	(0.064)	0.513	0.961	1.089	
					S		(0)	0.62			
M,K	5742.085	17410.46	−0.09	134°-99	L		(0)	1.10			
			−0.02	157°-133							
M	5741.162	17413.26	+0.08	26°-15	M	6	(0.452)	0.924	1.078	0.774	
M	5738.26	17422.06	−0.01	69°-16							
			+0.07	20°-66							
			0.00	63°-27							
M	5736.03	17428.84	+0.08	36°-55							
K	5732.05	17440.94	−0.02	99°-62							
K	5727.69	17454.22	−0.04	137°-105							
M	5725.031	17462.32	−0.12	67°-15?							
M	5724.35	17464.40	−0.07	34°-45							
C	5724.21	17464.83	+0.03	144°-119							
M	5712.54	17500.50	+0.03	33°-18							
M	5707.094	17517.20	−0.06	141°-133	M	6	(0.565)	1.256	1.189	1.315	
M	5703.96	17526.83	−0.06	21°-67							
C	5703.32	17528.80	−0.16	22°-49?							
M	5700.909	17536.20	−0.01	142°-133							
			+0.07	108°-91	L		(0)	1.22			
K	5700.696	17536.86	−0.03	96°-97	S		(0.51)				
M	5700.451	17537.61	0.00	111°-92							
C	5698.55	17543.47	+0.15	32°-41?							
K	5692.87	17560.97	0.00	62°-107							
K	5690.17	17569.31	−0.03	108°-50							
C	5683.4	17590.2	0.0	89°-21?							
M	5678.93	17604.08	0.00	33°-90							
			−0.11	58°-103?							
			+0.11	74°-46?							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	5671.0	17628.7	+0.1	107°-113?							
C	5660.0	17663.0	+0.1	127°-58?							
M	5657.926	17669.43	−0.08	77°-48							
K	5657.21	17671.67	−0.11	53°-97?							
M	5652.902	17685.13	+0.03	155°-145	S		(0)	1.22			
M	5650.32	17693.20	+0.01	94°-96							
K	5648.86	17697.78	−0.11	58°-64							
M	5645.888	17707.10	+0.03	97°-59	M	7b	(0)	0.978	0.978	0.978	
K	5641.23	17721.72	+0.04	73°-54							
M	5639.733	17726.43	+0.02	62°-49	M	6	(0.359)	1.004	0.931	1.076	
K	5633.65	17745.56	−0.06	112°-135							
M	5626.70	17767.49	+0.13	164°-171?	S		(0)	1.30			
K	5626.08	17769.44	−0.06	16°-61							
M	5620.92	17785.74	+0.03	100°-100							
C	5619.95	17788.83	+0.04	7°-46							
M	5615.72	17802.21	+0.01	76°-47							
M	5605.25	17835.46	−0.03	103°-107							
M	5601.620	17847.04	+0.12	97°-60?							
M	5599.665	17853.25	−0.01	65°-32							
M	5593.615	17872.58	+0.01	68°-15	M	5	(0.145)	1.503	1.077	0.793	
C	5590.2	17883.5	+0.1	50°-68?							
C	5588.87	17887.75	0.00	25°-1							
M	5583.759	17904.11	−0.02	30°-52	S		(0)	1.46			
M	5573.355	17937.53	−0.05	26°-80							
M	5568.019	17954.72	0.00	99°-141	S		(0)	1.47			
M,K	5565.015	17964.43	0.00	133°-140							
			+0.14	89°-97?							
M	5564.204	17967.03	−0.03	98°-140	M	5	(0.071)	1.739	0.865	1.060	
M	5556.17	17993.01	−0.06	139°-91							
M	5551.368	18008.57	−0.04	53°-57	M	6	(0.908)		0.600	(0.963)	
M	5548.165	18018.98	−0.17	131°-97?							
M	5539.901	18045.86	−0.05	53°-21	M	4		0.581	(0.601)	0.614	
					L		(0)	0.57			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	5537.127	18054.89	−0.01	95°-97	S		(0.41)	1.01			
M	5528.003	18084.69	−0.03	105°-110							
M	5524.212	18097.10	−0.03	154°-167	S		(0)	0.99			
M	5518.988	18114.23	+0.02	21°-26							
			+0.09	110°-81							
M	5510.678	18141.55	+0.03	58°-65							
			−0.01	136°-142	S		(0.60)				
M,K	5507.985	18150.43	−0.09	54°-59							
M	5501.938	18170.38	+0.08	26°-1	S		(0.53)	0.59			
M	5495.805	18190.64	+0.03	56°-101							
C	5489.10	18212.88	+0.11	108°-152?							
M	5488.622	18214.45	−0.02	21°-13							
M	5484.138	18229.34	+0.02	97°-61	S		(0)	1.05			
M	5481.48	18238.18	+0.09	109°-78	S		(0)	0.97			
M	5480.888	18240.15	+0.03	72°-93	S		(0)	1.48			
C	5479.06	18246.25	−0.04	58°-104							
C	5477.7	18250.8	0.0	104°-150?							
			0.0	107°-115?							
K	5477.07	18252.88	+0.03	137°-168	S		(0)	0.85			
M	5474.862	18260.23	+0.03	63°-14	M		(0.080)		0.746	(0.586)	
					S		(0)	0.90			
K	5468.79	18280.51	−0.15	60°-67?							
M	5462.615	18301.18	+0.02	135°-100	M		(0.114)		(0.791)	1.022	
M	5461.738	18304.10	+0.05	20°-5							
			+0.01	134°-141	S		(0)	1.20			
M	5449.478	18345.30	+0.01	135°-166	M	5		0.941	(0.791)	0.818	
			+0.02	61°-26							
V	5447.33	18352.52	+0.01	156°-153							
K	5446.11	18356.64	+0.06	159°-181							
M	5443.118	18366.72	−0.03	66°-91	S		(0)	1.39			
M	5435.898	18391.11	−0.02	143°-133							
			−0.10	133°-99?	L		(0)	1.31			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	5435.125	18393.74	−0.10	98°-99							
K	5434.94	18394.37	+0.01	136°-103							
M	5433.703	18398.54	−0.04	97°-139							
M	5433.292	18399.93	−0.03	66°-50							
M	5431.123	18407.30	−0.07	55°-99							
			+0.04	104°-49							
K	5429.12	18414.09	+0.07	56°-23							
K	5427.90	18418.23	+0.04	60°-106							
			−0.14	100°-102?							
M	5425.679	18425.76	−0.07	53°-22	M	4	(0.052)	0.432	0.595	0.704	
M	5421.837	18438.82	−0.02	69°-15	M	5			1.139	0.798	
M	5415.434	18460.62	+0.03	135°-101	M	4	(0.054)	0.429	0.787	0.891	
M	5392.573	18538.87	−0.06	109°-91	M	6	(0.886)		0.979	(1.232)	
			−0.14	155°-169?							
C	5392.52	18539.06	+0.05	155°-169							
M	5390.461	18546.13	−0.02	130°-137	L		(0.23)	0.97			
K	5388.93	18551.41	−0.12	113°-135?							
M	5382.927	18572.09	−0.05	109°-50	M	4	(0.089)	0.538	0.983	1.161	
M	5378.833	18586.24	+0.08	18°-64							
M	5376.754	18593.41	+0.01	100°-142							
M	5375.351	18598.26	+0.03	63°-49							
M	5369.18	18619.65	−0.07	20°-67	S		(0)	0.50			
			+0.08	27°-38							
C	5365.44	18632.63	−0.07	67°-81							
M	5363.611	18638.97	+0.05	102°-146	S		(0)	0.45			
M	5362.249	18643.71	0.00	111°-51							
C	5361.0	18648.1	+0.1	105°-72?							
K	5356.48	18663.80	−0.04	56°-102							
K	5353.96	18672.59	−0.18	54°-61?							
C	5347.95	18693.57	+0.02	58°-105							
M	5347.043	18696.73	−0.04	62°-70	S		(0)	1.51			
M	5346.394	18699.01	−0.04	4°-11							
K	5333.19	18745.30	−0.08	163°-170							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	5330.04	18756.38	0.00	140°-155							
C	5329.74	18757.43	+0.07	97°-98							
K	5329.43	18758.52	+0.01	163°-183							
			+0.12	99°-100?							
K	5325.157	18773.58	−0.04	98°-62	L		(0)	0.91			
M	5318.423	18797.35	+0.03	31°-51	S		(0)	0.97			
M	5310.260	18826.23	−0.05	64°-14							
			−0.05	101°-104							
M	5305.580	18842.84	−0.06	71°-53	S		(0.24)	1.00			
M	5304.625	18846.23	+0.03	100°-103	S		(0)	0.92			
M	5303.046	18551.86	+0.03	17°-63	S		(0)	0.71			
M	5301.406	18857.67	−0.06	2°-23	M	5	(0.175)	1.051	0.526	0.876	
V	5300.50	18860.91	−0.10	31°-41?							
M	5295.618	18878.29	−0.05	94°-97							
V	5291.86	18891.68	+0.11	154°-145?							
M	5289.895	18898.72	+0.05	23°-50	M	5			1.020	1.162	
M	5284.549	18917.83	0.00	99°-101	S		(0.78)				
M	5280.090	18933.80	−0.02	135°-102							
M	5277.502	18943.10	0.00	132°-139	M	6	(0.446)		(0.931)	1.030	
					L		(0.41)	0.97			
M	5276.407	18947.02	0.00	30°-16							
M	5272.646	18960.53	−0.03	154°-168	S		(0.21)	0.98			
K	5268.52	18975.40	+0.01	78°-19							
M	5264.96	18988.22	−0.14	73°-132							
			−0.15	105°-114							
C	5261.45	19000.89	+0.07	57°-65							
M	5255.96	19020.72	+0.13	141°-121?							
M	5255.52	19022.33	+0.05	4°-1							
M	5253.455	19029.81	+0.02	18°-65							
M	5247.652	19050.85	−0.02	22°-13	M	6	(0.377)	0.763	0.887	0.637	
M	5242.088	19071.07	−0.06	165°-191	S		(0)	1.18			
C	5241.84	19071.97	+0.09	19°-4							
M	5240.194	19077.95	−0.01	93°-137	S		(0)	1.63			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	5236.78	19090.41	−0.16	101°-66?							
M	5233.226	19103.37	−0.01	96°-59	M	5	(0.095)	1.642	1.174	0.988	
M	5232.016	19107.77	0.00	134°-100							
M	5231.159	19110.90	+0.06	150°-97							
C	5220.95	19148.29	+0.14	94°-138?							
M	5218.528	19157.17	+0.04	52°-56							
M	5216.590	19164.27	−0.05	64°-49	S		(0.29)	1.04			
M	5214.15	19173.25	+0.05	164°-185	S		(0.35)	1.17			
M	5206.659	19200.83	+0.02	54°-98	S		(0)	1.18			
M	5205.20	19206.22	+0.05	103°-150							
			+0.11	142°-158?							
M	5198.832	19229.73	+0.10	113°-94	L		(0)	1.15			
M	5195.814	19240.90	+0.01	108°-78							
M	5194.22	19246.83	+0.07	63°-74	M	5		1.042*			
M	5193.820	19248.31	−0.01	62°-13	M				0.930	(0.639)	
M	5190.870	19259.24	+0.03	24°-50	M	5			1.075	1.166	
M	5188.371	19268.51	−0.03	98°-63							
M	5184.726	19282.07	0.00	55°-63							
K	5184.011	19284.73	−0.02	133°-141	L		(0)	1.29			
K	5179.41	19301.86	−0.02	132°-98							
K	5176.75	19311.79	−0.04	153°-167							
M	5174.198	19321.27	−0.05	22°-29							
K	5172.95	19325.96	−0.13	151°-139?							
K	5170.23	19336.13	−0.03	97°-140	K		(0)	1.17			
M	5166.902	19348.57	+0.01	139°-117							
			−0.02	60°-107							
M	5163.446	19361.53	−0.12	135°-103							
M	5160.695	19371.84	−0.01	130°-96	L		(0)	1.22			
M	5151.620	19405.98	+0.18	7°-18?							
K	5148.210	19418.83	−0.03	136°-167	L		(0)	1.03			
M	5145.028	19430.83	+0.06	52°-20							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	5143.264	19437.51	0.00	65°-14	M	5		1.042	0.772	0.591	
					L		(0)	0.92			
M	5132.262	19479.16	−0.07	100°-143							
M	5131.078	19483.65	−0.05	136°-105	L		(0)	1.05			
K	5117.09	19536.91	+0.04	109°-119							
			−0.02	137°-107							
M	5113.39	19551.06	+0.07	26°-11							
K	5110.864	19560.73	−0.07	154°-147	L		(0)	0.77			
M	5107.28	19574.45	−0.11	31°-2?							
M	5104.51	19585.07	+0.11	138°-176?							
M	5103.768	19587.91	−0.01	62°-31							
C	5103.05	19590.68	+0.06	74°-18							
K	5095.068	19621.37	−0.02	95°-59	K		(0)	0.82			
V	5094.115	19625.04	+0.01	5°-15							
M	5093.091	19628.97	−0.01	56°-65							
M	5090.759	19637.96	−0.02	18°-4							
			−0.02	30°-88							
			−0.02	71°-51							
C	5088.30	19647.47	−0.06	94°-58							
M	5085.12	19659.76	−0.02	32°-52	L		(0.19)	1.40			
M	5079.141	19682.90	0.00	16°-62							
			−0.07	76°-54							
M	5075.471	19697.13	+0.04	3°-25							
M	5072.639	19708.12	−0.18	58°-67?							
M	5064.335	19740.43	0.00	134°-102							
K	5061.227	19752.56	−0.01	100°-66	L		(0)	0.58			
M	5058.574	19762.92	−0.02	97°-99	L		(0)	1.71			
K	5055.357	19775.50	+0.04	65°-49	K		(0.75)	0.82			
K	5053.32	19783.47	+0.02	71°-17							
M	5051.365	19791.12	−0.09	155°-170							
			+0.10	137°-148							
M	5049.810	19797.22	+0.02	15°-56	M	5	(0.142)	1.204	0.494	0.777	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	5047.429	19806.55	+0.04	115°-55	K		(0)	0.78			
M	5039.231	19838.77	−0.09	66°-80							
M	5029.631	19876.65	+0.04	18°-25							
			−0.08	140°-120							
M	5028.609	19880.69	+0.01	132°-140	M	6	(0.476)	0.985	0.932	1.037	0.27
M	5023.052	19902.67	+0.10	102°-107							
M	5020.541	19912.62	+0.05	99°-64							
C	5019.80	19915.57	+0.11	134°-142?							
M	5019.326	19917.46	+0.07	2°-24							
M	5017.247	19925.71	+0.03	52°-97	M	4		0.986	(1.061)	1.040	
M	5014.757	19935.58	+0.04	100°-105							
M	5008.194	19961.71	+0.03	61°-70	L		(0)	0.94			
M	4999.938	19994.69	+0.01	135°-143							
M	4999.109	19997.98	−0.06	56°-66							
C	4997.83	20003.1	0.0	101°-145							
M	4997.327	20005.12	+0.07	137°-108							
K	4993.92	20018.8	+0.1	25°-50?	K		(0)	1.10*			
M	4990.031	20034.36	−0.02	72°-52							
K	4987.160	20045.92	−0.02	163°-173	K		(0)	1.19			
K	4980.954	20070.89	+0.05	15°-20	K		(0)	0.58			
			0.00	106°-78							
M	4976.597	20088.45	+0.02	133°-100							
K	4975.94	20091.1	+0.1	98°-100	K		(0.58)	0.81			
M	4973.394	20101.40	0.00	3°-5							
C	4973.07	20102.7	−0.1	63°-33							
M	4972.609	20104.57	−0.02	55°-100							
			−0.16	77°-54?							
M	4972.179	20106.30	+0.03	153°-145							
K	4970.032	20114.98	−0.03	32°-51	K		(0)	0.84			
M	4968.755	20120.16	+0.02	63°-13							
C	4963.78	20140.3	0.0	158°-190							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4963.192	20142.70	−0.02	97°-62							
M	4962.963	20143.63	−0.01	95°-61							
M	4960.494	20153.65	−0.02	96°-98							
M	4958.725	20160.85	+0.06	108°-49							
K	4956.89	20168.3	+0.1	134°-103							
K	4954.649	20177.45	+0.06	152°-167	K		(0.39)	1.03			
K	4954.569	20177.77	−0.05	16°-63	M	5		1.132	0.877	0.977	
					L		(0)	1.04			
C	4952.68	20185.5	+0.1	156°-157							
M	4951.391	20190.71	−0.04	65°-117							
K	4947.567	20206.33	−0.06	54°-99	K		(0)	1.49			
M	4946.661	20210.01	−0.03	62°-115							
M	4945.850	20213.33	+0.03	136°-145							
K	4939.834	20237.96	−0.12	66°-121?							
K	4936.760	20250.57	+0.08	98°-101	K		(0.17)	0.87			
K	4933.852	20262.50	−0.01	52°-57	K		(0.22)	0.95			
M	4933.541	20263.76	+0.09	151°-140	K		(0)	0.84*			
K	4933.51	20263.9	−0.1	55°-101?	K		(0)	0.84			
M	4929.38	20280.9	0.0	18°-5							
C	4929.06	20282.2	−0.1	136°-168							
M	4927.587	20288.25	−0.05	101°-67							
M	4925.789	20295.65	+0.01	58°-26							
M	4924.431	20301.26	+0.02	26°-50	K		(0)	1.26			
K	4922.940	20307.41	−0.05	132°-99	K		(0.13)	0			
K	4921.608	20312.91	+0.01	95°-139	K		(0)	1.30			
K	4920.53	20317.4	+0.1	67°-91							
M	4919.814	20320.32	+0.06	93°-56	M	4		0.582	(0.718)	0.772	
K	4918.14	20327.2	0.0	60°-109							
M	4914.122	20343.85	+0.01	20°-69							
M	4912.529	20350.45	−0.05	67°-50	K		(0.57)	1.30			
K	4911.12	20356.3	+0.1	99°-65	K		(0)	1.47			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4902.776	20390.92	−0.11	65°-118?							
M	4899.151	20406.00	−0.02	61°-112							
M	4898.812	20407.42	+0.03	137°-171							
K	4898.452	20408.93	+0.06	155°-150	K		(0)	1.58			
M	4895.663	20420.56	0.00	20°-27							
			−0.07	25°-84							
M	4889.853	20444.80	−0.03	94°-59							
K	4888.41	20450.9	−0.1	135°-105?							
M	4886.01	20460.9	−0.1	99°-104							
K	4882.45	20475.8	0.0	56°-25	K		(0.12)	1.81			
			+0.1	106°-79?							
C	4881.22	20481.0	+0.1	107°-118?							
C	4880.90	20482.3	−0.1	104°-116							
M	4880.226	20485.13	+0.09	140°-179							
M	4879.158	20489.62	+0.01	72°-51							
K	4876.985	20498.76	+0.03	154°-148	L		(0)	0.90			
C	4872.04	20519.6	+0.1	5°-12							
M	4868.274	20535.43	+0.03	163°-174							
M	4866.6	20542.5	+0.1	109°-82?							
M,K	4863.174	20556.97	−0.03	130°-97	L		(0)	1.00			
			0.00	158°-133	L		(0)	1.00			
M	4860.410	20568.66	+0.09	137°-149							
M	4856.277	20586.17	0.00	54°-62							
M	4850.45	20660.9	−0.1	144°-91?	L		(0)	0.99			0.64
K	4850.03	20612.7	0.0	101°-68							
K	4849.42	20615.3	+0.1	112°-134							
M	4849.028	20616.95	−0.04	165°-187	L		(0)	1.55			
C	4845.97	20630.0	0.0	156°-187							
M	4844.759	20635.10	+0.03	72°-17							
K	4844.548	20636.01	+0.08	131°-98	K		(0)	1.01			
			+0.02	136°-106	K		(0)	1.01			
C	4844.20	20637.5	0.0	144°-127	L		(0)	1.02			
K	4844.164	20637.65	+0.01	97°-63	K		(0)	1.02			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4840.456	20653.44	+0.06	66°-14							
K	4839.72	20656.6	+0.1	97°-141							
K	4838.356	20662.42	−0.02	164°-176	L		(0)	1.30			
M	4837.711	20665.16	+0.02	100°-145							
C	4836.20	20671.6	−0.1	95°-98							
K	4832.811	20686.13	−0.10	64°-13	K		(0.15)	1.40			0.76
M	4829.888	20698.63	0.00	138°-118							
K	4828.470	20704.73	+0.03	60°-110	K		(0.24)	0.26			
M	4826.40	20713.6	+0.1	76°-18?							
M	4824.657	20721.07	−0.02	133°-102							
			+0.16	30°-1?							
K	4824.00	20723.9	+0.2	98°-102?							
M	4823.57	20725.8	−0.1	67°-85							
M	4823.184	20727.40	−0.02	68°-91							
M	4822.014	20732.43	−0.04	96°-140							
C	4820.91	20737.2	−0.1	55°-102							
K	4818.657	20746.89	−0.11	155°-184	L		(0)	1.15			
K	4817.56	20751.6	0.0	146°-95							
K	4816.872	20754.58	0.00	100°-146	K		(0)	0.73			
M	4815.5	20760.5	−0.1	68°-50							
M	4812.035	20775.43	−0.07	153°-147							
K	4811.87	20776.2	−0.1	58°-107	K		(0)	0.96			
M	4807.12	20796.7	−0.1	116°-55							
M	4806.065	20801.23	−0.06	134°-143							
M	4805.56	20803.4	0.0	63°-78							
M	4803.963	20810.33	−0.01	134°-104							
K	4803.490	20812.40	−0.12	164°-186	L		(0.27)	1.17			
M	4800.176	20826.75	−0.06	130°-138							
K	4799.76	20828.6	+0.1	17°-64	K		(0)	0.92			
M	4790.451	20869.05	−0.01	110°-50							
K	4787.38	20882.4	−0.1	136°-147	K		(0.16)	0.94			
K	4784.93	20893.1	+0.1	137°-110	K		(0)	1.30			
C	4783.88	20897.7	+0.1	22°-9							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4783.676	20898.58	−0.17	98°-142?							
M	4782.762	20902.60	+0.02	15°-57	M	5		1.668	0.512	0.967	
					K		(0.23)	1.66			
K	4781.58	20907.8	+0.1	137°-150?	K		(0.39)				
K	4780.73	20911.5	0.0	60°-29							
M	4778.891	20919.51	+0.02	138°-156							
			+0.01	2°-25							
K	4776.784	20928.76	+0.03	60°-112	K		(0.18)				
M	4775.1	20936.1	−0.1	21°-32?							
M	4774.255	20939.84	−0.04	15°-21	M	6	(0.200)	0.559	0.492	0.624	
K	4773.12	20944.8	−0.1	113°-93	K		(0)	1.18			
M	4770.77	20955.1	−0.1	74°-93							
M	4768.053	20967.06	−0.02	94°-61							
K	4766.98	20971.8	0.0	152°-145	K		(0)	1.18			
M	4765.655	20977.61	+0.09	144°-181							
M	4764.35	20983.4	−0.1	20°-71	M	4		1.019	(1.277)	1.174	
M	4763.7	20986.2	0.0	165°-188							
M	4761.86	20994.3	−0.1	104°-78							
K	4761.108	20997.66	−0.02	154°-170	K,L		(0.15)	0.99			
			+0.06	4°-41	L		(0.15)	0.99?			
M	4759.59	21004.4	0.0	3°-26							
M	4758.148	21010.70	−0.11	154°-183?							
K	4754.23	21028.0	0.0	81°-95							
M	4752.410	21036.07	+0.06	111°-133	M	4	(0.035)	1.085	1.400	1.330	0.60
M	4751.90	21038.3	0.0	102°-70							
M	4743.700	21074.72	0.00	27°-50	M	5		1.504	0.939	1.165	
					K		(0.09)	1.51			
M	4742.266	21081.09	0.00	54°-63	K		(0.34)	1.07			
M	4741.32	21085.3	−0.1	134°-144?	K		(0.48)				
M	4740.517	21088.86	+0.05	93°-97	M	6	(1.097)	0.871	0.719	1.033	
K	4739.859	21091.79	+0.02	155°-173	K		(0)	1.09			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4737.660	21101.57	−0.04	19°-7							
K	4734.62	21115.1	0.0	154°-171							
K	4733.00	21122.4	+0.2	163°-175	K		(0)	0.99			
M	4732.680	21123.77	+0.04	109°-159							
M	4729.883	21136.28	−0.06	94°-139	M	4		0.684	1.125	1.026	0.62
K	4726.452	21151.62	+0.07	98°-103	K		(0)	0.82			
M	4726.339	21152.13	+0.04	23°-14							
M	4725.95	21153.9	0.0	38°-19							
K	4724.771	21159.15	−0.10	96°-99	L		(0.14)	1.19			
K	4723.775	21163.59	+0.02	109°-49	K		(0)	0.82			
					M	4	(0.044)	0.801	1.018	1.106	0.66
M	4723.452	21165.04	+0.06	159°-133	L		(0)	0.60			
			−0.02	55°-103	L		(0)	0.60			
M	4719.997	21180.55	−0.04	135°-145	M	6	(1.178)	0.923	0.793	1.055	
M	4719.245	21183.92	+0.01	18°-26							
M	4718.627	21186.69	−0.02	164°-191	K		(0)	1.19			
M	4716.002	21198.51	+0.12	102°-71?							
M	4715.436	21201.03	+0.03	132°-141	M	6		1.075	0.928	1.222	
					K		(1.28)	1.06			
K	4713.82	21208.3	+0.1	39°-19							
			+0.1	63°-79							
M	4712.395	21214.69	−0.04	131°-140	K		(0.15)	1.07			
M	4708.076	21234.18	+0.12	1°-23	M	5	(0.310)	1.184	0.253	0.874	
C	4706.26	21242.4	0.0	103°-76							
M	4706.219	21242.55	+0.13	71°-15	M	5	(0.060)	1.107	0.924	0.803	
K	4705.622	21245.25	+0.02	98°-64							
K	4704.65	21249.6	+0.1	135°-168							
K	4704.49	21250.4	0.0	64°-37							
			−0.1	95°-140							
M	4702.320	21260.17	+0.14	33°-17?	K		(0)	0.94			
			−0.06	73°-92							
M	4700.150	21269.99	−0.04	135°-146	M	6	(0.113)	0.808	0.795	0.820	
K	4699.65	21272.2	+0.1	17°-65							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	4699.06	21274.9	+0.2	100°-68?	K		(0)	0.82			
M	4698.778	21276.17	−0.11	154°-149?							
M	4698.31	21278.3	+0.1	91°-22							
M	4697.395	21282.44	+0.09	112°-92							
M	4694.919	21293.66	−0.03	69°-91	K		(0)	1.37			0.60
K	4694.111	20138.99	+0.03	112°-93	K		(0)	1.19			
M	4694.092	21297.43	−0.02	65°-13	M	5	(0.063)	0.956	0.767	0.640	0.74
M	4691.06	21311.2	−0.1	164°-177	L		(0)	1.37			
C	4690.33	21314.5	0.0	155°-185							
M	4689.173	21319.78	−0.02	15°-22	M	6	(0.339)	0.611	0.490	0.716	
M	4686.18	21333.4	+0.1	56°-106							
M	4685.95	21334.4	+0.1	100°-197							
K	4681.15	21356.3	+0.1	100°-147							
M	4680.652	21358.57	−0.05	93°-138	M	5		1.702	(0.718)	0.934	
M	4678.220	21369.67	−0.01	106°-119							
K	4676.96	21375.4	−0.1	60°-31							
C	4672.46	21396.0	0.0	62°-77							
C	4670.91	21403.1	0.0	60°-73							
K	4666.98	21421.2	+0.1	113°-134							
M	4666.002	21425.65	+0.01	93°-57	M	4	(0.119)	0.120	0.715	0.953	
C	4660.43	21451.3	−0.1	80°-19							
K	4658.51	21460.1	−0.1	97°-100	K		(0)	0.86			
C	4656.79	21468.0	−0.1	137°-172							
M	4652.027	21490.01	−0.11	23°-49	M	5	(0)	1.152	1.026	(1.076)	0.58
M	4651.556	21492.18	+0.01	52°-59	M	6	(0.179)	1.024	1.062	0.990	
M	4650.923	21495.09	−0.03	94°-98							
C	4649.99	21499.4	−0.1	106°-80							
K	4647.88	21509.2	0.0	58°-27	K		(0)	1.11			
K	4645.50	21520.2	0.0	56°-68	K		(1.15)				
C	4643.57	21529.1	+0.1	138°-120							
C	4642.06	21536.1	0.0	64°-119							
M	4639.708	21547.07	−0.02	55°-24	M	5	(0.085)	1.232	0.986	0.822	
M	4631.762	21584.03	+0.04	151°-141	M	4	(0.048)	0.701	1.119	1.213	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	4630.363	21590.55	+0.02	137°-173	K		(0)	1.12			
M	4629.772	21593.29	−0.07	112°-53							
M	4628.559	21598.97	−0.11	110°-87?							
M	4627.65	21603.2	−0.1	135°-106							
M	4626.621	21607.99	−0.06	60°-114							
			+0.19	105°-118?							
K	4625.043	21615.29	+0.05	154°-150	L		(0)	0.98			
K	4624.125	21619.68	+0.09	97°-101	K		(0.23)	1.01			
M	4623.889	21620.76	−0.01	110°-88	M	6*					
M	4620.72	21635.6	+0.1	57°-107							
C	4620.25	21637.8	0.0	99°-145							
M	4619.562	21641.01	−0.05	152°-147	K		(0)	1.29			
					M	5	(0.061)	1.270	0.721	0.599*	
M,K	4619.480	21641.42	−0.03	78°-94							
			−0.09	131°-99	L		(0)	0.80			
M	4612.54	21674.0	+0.1	53°-62	K		(0.46)				
M	4611.842	21677.24	−0.02	95°-99	M	6	(1.056)	1.076	0.913	1.217	
K	4609.378	21688.85	−0.01	98°-65	K		(0.07)	0.39			
					M	4	(0.071)	0.447	0.817	0.965	
C	4607.95	21695.6	+0.2	91°-57?							
M	4606.506	21702.37	−0.02	55°-65	M	7b	(0)	0.986	0.986	0.986	
			+0.14	33°-16?							
C	4604.17	21713.4	−0.1	153°-148							
M	4603.929	21714.51	0.00	20°-31							
			+0.04	27°-89							
C	4603.38	21717.1	−0.1	61°-75							
M	4602.884	21719.44	0.00	32°-15	M	6	(0.542)	0.980	1.162	0.799	
C	4601.96	21723.8	0.0	110°-129							
M	4599.367	21736.04	−0.05	37°-54							
M	4597.327	21745.70	+0.13	20°-8?							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4596.933	21747.54	−0.02	27°-42							
			−0.07	143°-128							
C	4594.01	21761.4	+0.1	129°-101							
K	4593.559	21763.54	+0.07	83°-95							
K	4589.84	21781.2	0.0	155°-151							
M	4589.670	21781.95	0.00	133°-143							
M	4589.119	21784.57	−0.01	98°-143							
C	4588.25	21788.7	−0.3	58°-28?	K		(0)	1.01			
M	4587.77	21791.0	0.0	133°-104							
M	4587.22	21793.6	0.0	98°-104							
K	4586.637	21796.38	−0.03	137°-114	K		(0)	1.03			
C	4586.07	21799.1	0.0	65°-81							
M	4584.376	21807.13	−0.03	55°-104	M	5		1.156	(0.982)	1.031	
K	4582.79	21814.7	0.0	41°-55	K		(0.16)				
K	4581.595	21820.36	−0.10	136°-148?	K		(0)	1.01			
M	4581.250	21821.99	0.00	102°-72							
K	4580.78	21824.2	−0.1	101°-108							
C	4579.83	21828.8	+0.1	105°-156							
M	4579.286	21831.34	+0.06	19°-27	M	6		0.823	0.643	(1.003)	
M	4579.01	21832.7	0.0	64°-120							
M	4575.427	21849.78	−0.04	135°-147	M	6		0.908	0.793	1.031	
			+0.20	26°-41?	K		(1.06)	1.01			
M	4575.246	21850.64	−0.02	24°-49	M	7b	(0)	1.080	1.080	1.080	
M	4573.703	21858.00	0.00	93°-58							
C	4572.92	21861.8	+0.2	140°-124?							
M	4570.629	21872.70	−0.02	22°-78							
M	4569.024	21880.38	0.00	17°-4							
M	4567.242	21888.92	−0.03	107°-81							
M	4566.645	21891.80	−0.01	33°-2	M	4	(0.132)	0.853	0.986	1.251	
M	4566.249	21893.70	−0.01	10°-19							
M	4564.183	21903.61	0.00	54°-100	M	4		0.890	(1.088)	1.031	
M	4563.658	21906.11	−0.09	60°-74							
K	4563.308	21907.81	−0.15	163°-186	L		(0)	1.12			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	4562.59	21911.3	+0.2	73°-52?							
M	4556.809	21939.05	+0.03	2°-6							
C	4554.81	21948.7	+0.1	144°-129							
K	4554.07	21952.2	+0.1	34°-53							
K	4553.851	21953.31	−0.17	154°-184?							
M	4553.038	21957.20	+0.05	102°-73	L		(0)	0.96			
M	4552.31	21960.7	+0.1	27°-43							
M	4546.84	21987.1	−0.1	134°-145							
K	4545.849	21991.95	−0.13	78°-18?							
M	4545.264	21994.76	+0.06	75°-93							
M	4544.518	21998.38	+0.03	51°-56	M	6	(0.197)	0.816	0.853	0.781	
M	4543.208	22004.71	+0.03	132°-100	K		(0)	0.75			
K	4541.636	22012.35	−0.07	101°-69	K		(0.13)	1.85			
M	4541.209	22014.40	−0.02	52°-61							
M	4540.425	22018.22	−0.01	100°-107	M	6	(0.565)	0.941	0.862	1.023	
C	4538.29	22028.6	0.0	68°-89							
M	4538.18	22029.1	0.0	20°-32							
M,K	4537.079	22034.45	−0.05	135°-169	M	5	(0.048)	1.366	0.776	0.884	0.45
			−0.04	136°-108							
K	4535.72	22041.1	−0.1	38°-3							
M	4534.129	22048.79	−0.02	132°-166	M	4	(0.050)	0.373	0.927	0.826	0.47
M	4533.309	22052.78	−0.01	96°-141	M	5		1.359	(1.173)	1.215	
K	4532.43	22057.1	0.0	95°-62							
M	4532.264	22057.84	−0.08	98°-66	M	4		0.496	0.843	(1.003)	
M	4531.721	22060.48	−0.04	99°-106	K		(0.54)	1.07			
K	4531.21	22063.0	−0.1	54°-101							
M	4529.487	22071.39	−0.06	55°-66	M	7b	(0)	0.995	0.995	0.995	
K	4528.99	22073.8	−0.1	94°-140							
K	4528.421	22076.58	−0.06	134°-146							
M	4527.733	22079.91	−0.08	137°-174							
K	4526.05	22088.1	−0.1	113°-92	K		(0.69)	0.81			
K	4525.100	22092.78	−0.04	97°-102	K		(0.20)	1.00			
M	4524.84	22094.1	+0.1	72°-15	M	5		1.292	0.992	0.792	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	4524.57	22095.4	+0.1	39°-3							
K	4521.47	22110.5	0.0	8°-18							
C	4520.00	22117.7	+0.1	67°-87							
K	4519.761	22118.88	−0.09	17°-25	K		(0.19)	1.15			
M	4519.273	22121.25	+0.01	108°-123							
K	4518.651	22124.32	−0.05	155°-152	K		(0)	1.27			
M	4517.046	22132.18	−0.06	15°-59							
			+0.04	25°-41							
			−0.20	58°-110?	K		(0)	0.85			
					M	4		0.742	1.077	(0.981)	
M	4515.979	22137.38	−0.01	138°-179	L		(0)	1.21			
C	4515.11	22141.7	0.0	105°-119							
M	4512.490	22154.52	+0.01	16°-64	M	5	(0.102)	1.337	0.833	1.034	
			−0.13	142°-161							
M	4510.535	22164.12	+0.01	132°-101	M	5		0.992	(0.931)	0.913	
K	4509.98	22166.9	0.0	26°-87							
C	4509.58	22168.8	0.0	53°-63							
M	4508.651	22173.36	−0.03	133°-167							
C	4508.61	22173.6	0.0	141°-161							
M	4508.170	22175.73	−0.10	154°-172							
K	4496.323	22234.18	−0.02	164°-178	K		(0)	1.24			
			−0.01	19°-70							
C	4495.55	22238.0	0.0	24°-86							
M	4495.49	22238.3	0.0	133°-105							
M	4495.247	22239.48	−0.05	61°-33							
K	4494.971	22240.88	−0.01	98°-105	K		(0.39)	0.77			
C	4494.68	22242.3	0.0	67°-129							
K	4493.65	22247.4	0.0	99°-68							
M	4492.239	22254.39	−0.03	55°-105							
C	4491.68	22257.2	−0.2	138°-122?							
C	4491.36	22258.9	+0.1	58°-111?							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	4490.36	22263.7	0.0	56°-107							
M	4489.527	22267.81	−0.04	97°-142							
M	4488.680	22272.04	−0.05	15°-60	M	5	(0.184)	1.413	0.485	0.855	0.56
			+0.05	51°-20	M	5	(0.184)	1.413	0.485	0.855	0.56
			−0.07	25°-14							
K	4487.512	22277.85	−0.11	70°-91	L		(0)	1.34			0.61
K	4486.649	22282.11	−0.04	163°-191	K		(0)	1.55			
M	4485.796	22286.36	−0.09	54°-23	M		(0.107)		(1.088)	0.875	0.48
					K		(0.11)	1.37			
M	4484.292	22293.83	+0.11	1°-24	K		(0.33)	1.15			
K	4483.37	22298.4	+0.2	154°-173?							
M	4481.637	22307.01	−0.05	99°-147	M	4		0.634	1.183	1.026	
					K		(0)	0.81			
M	4480.822	22311.09	−0.08	70°-50	M	7b	(0)	1.167	1.167	1.167	0.78
K	4479.177	22319.30	−0.11	136°-170	K		(0)	1.04			
K	4475.245	22338.89	−0.24	58°-29?	K		(0)	0.96			
M	4474.078	22344.73	−0.05	115°-135	M		(0.452)*				
K	4471.775	22356.23	−0.15	58°-112	K		(0)	1.16			
C	4470.20	22364.1	−0.1	139°-124							
K	4470.02	22365.0	−0.1	41°-19							
K	4469.76	22366.3	0.0	73°-51							
C	4465.94	22385.4	0.0	66°-126							
M	4465.345	22388.43	−0.02	112°-51	M	5	(0.106)	1.735	1.203	0.990	
K	4463.21	22399.1	−0.2	113°-53?							
K	4461.716	22406.63	−0.06	163°-177	L		(0)	1.09			
M	4461.085	22409.78	+0.17	74°-53	L		(0.15)	1.07			
			−0.11	134°-106							
V	4457.12	22429.7	−0.1	21°-77							
M	4456.706	22431.80	0.00	151°-166							
M	4455.73	22436.7	−0.1	136°-171							
M	4455.039	22440.20	+0.04	62°-118	L		(0)	0.94			
M	4454.517	22442.85	+0.01	16°-24	M	7b	(0)	0.825	0.825	0.825	
					L		(0)	1.19*			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	4453.19	22449.5	+0.1	25°-87							
M	4451.056	22460.28	+0.10	102°-74?							
M	4447.845	22476.51	−0.05	32°-1	M	4	(0.476)	0.686	1.163	2.116	
K	4445.916	22486.26	−0.07	100°-108	K		(0)	0.88			
M	4444.979	22490.98	0.00	153°-149							
M	4441.90	22506.6	+0.1	65°-123							
M	4440.872	22511.81	+0.02	73°-17	M	5	(0.128)	1.598	1.223	0.972	
C	4440.56	22513.4	+0.1	66°-13	K		(0.28)				
M	4439.128	22520.65	0.00	97°-103	M	6	(0.536)		0.985	0.831	0.35
					L		(0.48)	0.88			
K	4437.73	22527.7	−0.1	35°-53							
M	4436.558	22533.69	+0.01	135°-107	M	4	(0.113)	0	0.791	1.017	
M	4436.298	22534.99	−0.06	131°-141	K		(0.57)				
M	4436.046	22536.29	+0.02	54°-102	K		(0)	1.00			
K	4434.84	22542.4	−0.1	52°-98	K		(0)	1.16			
K	4434.354	22544.89	−0.11	136°-109?	K		(0)	0.89			
C	4434.05	22546.4	0.0	6°-16							
C	4433.49	22549.3	+0.1	55°-25							
K	4432.970	22551.93	−0.03	95°-63	K		(0)	0.86			
K,M	4429.270	22570.76	−0.05	95°-141							
K	4427.662	22578.96	−0.03	152°-148	L		(0)	1.39			
			+0.02	20°-75							
K	4426.20	22586.4	0.0	79°-94							
M	4423.945	22597.91	−0.10	136°-149?							
C	4423.25	22601.5	−0.1	107°-159?							
M	4422.783	22603.87	−0.05	67°-14							
K	4421.551	22610.17	+0.03	25°-49	K		(0.15)				
M	4420.80	22614.0	−0.2	57°-109?							
C	4419.31	22621.6	+0.1	141°-128							
K	4419.002	22623.22	+0.09	137°-152	K		(0.18)	0.98			
K	4418.658	22624.98	+0.11	147°-95	K		(0)	1.91			
C	4418.43	22626.1	+0.1	22°-36							
M	4416.241	22637.36	+0.02	132°-102	M	4	(0.061)	0.506	0.927	1.048	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4413.378	22652.02	−0.03	101°-71							
M	4412.897	22654.48	−0.01	15°-61	K		(0.24)				
M	4412.745	22655.29	+0.01	93°-59	M	4	(0.132)	0.030	0.716	0.983	
					L		(0)	1.00*			
K	4412.535	22656.37	−0.06	134°-147	K		(0.70)				0.37
M	4411.634	22661.02	+0.09	61°-77							
K	4410.475	22666.95	+0.15	137°-175?	L		(0)	1.31			
K	4408.98	22674.6	+0.2	100°-69?							
M	4408.436	22677.43	+0.15	18°-28	M	6	(0.350)	1.250	1.366	1.136	
C	4406.97	22685.0	+0.1	67°-43							
K	4404.91	22695.6	−0.1	58°-72							
K	4402.732	22706.81	+0.12	82°-55?	K		(0.87)				
M	4402.26	22709.3	+0.1	21°-78							
M	4401.986	22710.66	+0.01	2°-7							
K	4401.634	22712.48	+0.14	101°-110	K		(1.07)	1.02			
C	4401.21	22714.7	0.0	103°-118							
K	4400.379	22718.95	−0.05	33°-15	K		(0.27)	0.90			
K	4397.898	22731.77	−0.03	56°-108	L		(0.20)	0.72*			
M	4396.479	22739.11	−0.02	113°-52	M	4	(0.126)	0.543	1.173	1.424	0.58
M	4394.899	22747.28	+0.01	34°-51	M	5	(0.063)	1.190	0.869	0.995	0.36
M	4391.114	22766.89	−0.01	51°-97	M	5	(0.087)	1.469	0.856	1.031	0.39
M	4388.413	22780.90	+0.04	10°-3							
			−0.01	71°-48							
K	4387.10	22787.7	0.0	154°-174	K		(0.40)				
			−0.1	135°-148							
C	4387.04	22788.0	−0.1	5°-46							
C	4385.75	22794.7	+0.1	83°-55							
C	4384.65	22800.5	+0.1	18°-70							
M	4384.12	22803.2	0.0	58°-31							
K	4384.05	22803.6	0.0	25°-42							
			−0.1	155°-176?							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4381.859	22814.98	−0.02	130°-139	M	6	(0.061)	1.021	1.014	1.028	
M	4381.392	22817.38	−0.07	60°-34							0.57
C	4380.65	22821.3	+0.2	108°-124?							
M	4379.563	22826.92	+0.04	20°-9							
K	4378.936	22830.21	+0.17	153°-150?							
M	4378.835	22830.71	−0.11	58°-73							
M,C	4377.29	22838.8	0.0	101°-111							
			−0.2	17°-67?							
M	4374.790	22851.82	−0.03	30°-50	M	4			1.376	1.160	0.70
					L		(0.11)	0.83			
M	4373.907	22856.45	−0.02	96°-100	M	6	(0.516)	1.099	1.171	1.023	
K	4371.80	22867.5	−0.2	35°-52?							
C	4371.34	22869.9	−0.1	108°-84							
M	4369.325	22880.42	−0.06	94°-62	M	5	(0.175)	2.008	1.130	0.781	
C	4369.05	22881.9	+0.1	66°-127							
M	4366.974	22892.74	+0.01	34°-17							
			+0.05	26°-49	K		(0)	0.94			
K	4361.796	22919.91	+0.02	56°-69	K		(0.71)				
K	4361.314	22922.45	−0.05	136°-110	K		(0)	1.00			
M	4359.376	22932.64	−0.02	59°-114							
M	4358.832	22935.48	−0.06	103°-156							
K,M	4358.550	22936.98	−0.04	79°-18	K		(0)	1.13			
			−0.07	136°-150	K		(0)	1.13			
M	4357.587	22942.05	+0.10	67°-49	M	6	(0.802)	1.235	1.392	1.070	0.58
M	4355.327	22953.96	−0.03	73°-16	M	4	(0.194)		1.218	(1.608)	
					L		(0.20)	0.62			
M	4353.404	22964.09	−0.01	54°-103	K		(0.13)	0.07			0.42
K	4352.808	22967.24	+0.04	16°-66	K		(0)	1.22			
K	4352.673	22967.95	+0.09	133°-145	K		(0.81)	1.34			
K	4352.18	22970.6	+0.1	98°-145							
C	4351.27	22975.4	0.0	141°-129							
C	4351.04	22976.6	+0.2	63°-81?							
M	4350.834	22977.64	+0.05	118°-55							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	4348.93	22987.7	+0.1	154°-151							
K	4348.305	22991.03	+0.11	99°-107?	K		(0.42)	1.45			
K	4347.22	22996.8	+0.2	56°-27	K		(0.17)				
			−0.1	100°-109							
K	4346.25	23001.9	+0.1	135°-108							
M	4345.05	23008.2	+0.1	61°-35							
M	4344.334	23012.04	+0.01	23°-13	M	6	(0.566)	0.828	1.019	0.641	0.65
M	4343.954	23014.05	0.00	68°-14	M	4 or 5	(0.244)		1.078	(0.586)	0.39
M	4343.602	23015.92	+0.02	96°-101	K		(0.88)				
			−0.01	105°-81							
M	4342.273	23022.94	−0.01	115°-94	K		(0.56)	1.00*			
K	4339.866	23035.73	+0.03	58°-114							
K	4338.39	23043.6	+0.1	84°-95							
M	4337.394	23048.83	−0.08	136°-111	L		(0)	1.07			
K	4335.774	23057.47	+0.17	133°-146?	K		(0.69)	0.96			
					L		(0)	0.99*			
M,K	4335.690	23057.92	−0.04	97°-65	M	7b	(0)	0.982	0.982	0.982	
			+0.14	54°-64							
K	4335.317	23059.90	−0.03	98°-146	K		(0)	0.81			
M	4331.931	23077.90	−0.04	152°-170	M	6	(0.449)		1.090	(1.008)	0.52
					K		(0.42)	1.02			
C	4329.46	23091.1	0.0	152°-183							
K	4328.690	23095.21	+0.10	137°-153	K		(0.39)	1.18			
					M	6	(0.424)	1.118	1.071	1.165	
M	4327.211	23103.08	+0.09	111°-91							
M	4327.078	23103.79	−0.07	62°-80							
			+0.03	51°-57							
M	4320.597	23138.47	−0.01	17°-6	M	7b	(0)	1.157	(1.167)	1.187	
K	4320.457	23139.21	+0.03	137°-116	K		(0)	1.01			
M	4320.131	23140.96	−0.07	51°-21	M	5	(0.115)	1.201	0.853	0.621	0.50
K	4319.099	23146.49	−0.04	136°-112	K		(0)	0.67			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4318.300	23150.77	−0.02	53°-101	M	5	(0.143)	1.668	0.603	0.907	
K	4317.68	23154.1	+0.1	100°-70							
C	4317.23	23156.5	0.0	20°-34							
C	4316.09	23162.6	−0.1	97°-104							
M	4315.957	23163.34	0.00	17°-68	M	4	(0.141)	0.462	1.166	0.884	
M	4314.00	23173.8	+0.1	130°-98?							
M	4313.314	23177.51	−0.04	93°-61	M	4	(0.109)	0.172	0.717	0.935	
K	4310.18	23194.4	+0.1	39°-54							
			0.0	113°-51							
M	4309.994	23195.37	+0.01	151°-142							
			+0.01	152°-171							
K	4309.22	23199.6	0.0	42°-19							
M	4308.260	23204.70	−0.02	74°-51							
K	4306.376	23214.87	0.00	164°-179	K		(0)	1.92			0.7
C	4306.14	23216.1	+0.1	108°-126							
C	4305.87	23217.6	+0.2	91°-96?							
C	4305.33	23220.5	−0.1	111°-163							
C	4303.39	23231.0	+0.2	59°-74?							
K	4301.29	23242.3	0.0	56°-109							
M	4300.799	23244.96	−0.03	99°-148	K		(0)	0.65*			
			−0.04	147°-164	K		(0)	0.65*			
K	4299.46	23252.2	+0.1	23°-41							
			0.0	41°-3							
C,K	4298.835	23255.60	−0.05	98°-67	K		(0)	0.73			
			+0.14	139°-127?							
C	4298.54	23257.2	+0.1	82°-19							
K	4295.122	23275.70	+0.05	101°-72	K,L		(0)	1.31			
K	4295.047	23276.11	+0.01	155°-154	K		(0)	1.09			
K	4293.07	23286.8	0.0	157°-190							
K,C	4291.39	23295.9	+0.1	1°-25	K		(0.37)	1.51			
C	4290.38	23301.4	+0.1	22°-80							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	4290.17	23302.6	+0.1	137°-176							
M	4288.056	23314.05	0.00	100°-71	M	4	(0.155)	0.086	0.859	1.167	
C	4286.45	23322.8	−0.1	35°-51							
K	4285.185	23329.68	+0.04	163°-178	K		(0)	0.95			
K	4284.979	23330.80	−0.04	154°-152	L		(0)	0.81			
V	4284.50	23333.4	+0.1	116°-54							
M	4283.525	23338.72	−0.01	131°-100	M		(0.033)		(1.086)	1.020	
					L		(0)	1.25			
K	4282.378	23344.96	−0.02	83°-19							
			−0.01	61°-79							
			−0.11	107°-84							
M	4282.044	23346.79	−0.02	93°-139	M	5	(0.156)	2.127	0.720	1.032	0.33
M	4281.425	23350.16	−0.02	74°-17	K		(0)	1.26			
M	4281.072	23352.09	+0.01	68°-49	M	7b	(0)	1.073	1.073	1.073	0.36
V,K	4280.26	23356.5	−0.2	78°-93	K		(0)	1.18			
			0.0	152°-149	K		(0)	1.18			
K	4278.53	23366.0	0.0	121°-95							
M	4277.322	23372.56	−0.01	24°-13	M	6	(0.641)	0.851	1.069	0.640	0.55
K	4277.03	23374.2	0.0	53°-23							
			−0.1	100°-110							
K	4276.973	23374.46	−0.02	95°-100							
			+0.12	100°-110?							
			−0.05	154°-175	K		(0.80)				
M	4276.814	23375.34	−0.06	94°-63	M	5		1.578	1.131	0.949	
K	4274.326	23388.94	+0.03	100°-150	K		(0)	1.46			
M	4274.032	23390.53	0.00	153°-172	M	6	(0.464)	1.227	1.266	1.180	
			−0.02	133°-106							
M	4273.363	23394.21	−0.03	94°-141	M	5	(0.043)	1.537	1.140	1.229	0.38
K	4272.39	23399.5	0.0	56°-70							
M	4271.103	23406.58	−0.05	4°-14							
			−0.13	55°-106?							
K	4270.329	23410.83	+0.02	101°-73	K		(0.14)	2.14			0.40
K	4267.716	23425.17	−0.14	58°-115?	K		(0)	0.83			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4267.519	23426.25	−0.02	17°-26	M	6	(0.667)	1.389	1.169	1.615	
V	4265.49	23437.4	−0.1	80°-54	K		(0)	0.94*			
C	4265.03	23439.9	+0.1	19°-32							
V	4264.35	23443.6	0.0	108°-160							
K	4264.110	23444.98	+0.02	16°-25	K		(0.28)	0.96			
M	4263.359	23449.11	+0.01	75°-53	M	6	(0.147)	1.064	1.094	1.035	
K	4262.742	23452.50	−0.02	155°-177	K		(0)	1.04			
V	4261.46	23459.6	0.0	118°-136							
M	4261.276	23460.54	−0.16	102°-153?							
			+0.03	110°-49							
V	4260.91	23462.6	+0.2	21°-36?							
M	4256.102	23489.09	−0.04	96°-102	M	6	(0.429)	1.114	1.175	1.053	0.31
K	4254.452	23498.20	+0.04	131°-101	K		(0)	1.38*			
M	4254.02	23500.6	−0.2	100°-111?							
K	4253.868	23501.43	+0.02	54°-65	K		(0.24)	1.01			
M	4253.544	23503.18	+0.10	62°-121							
C	4251.80	23512.9	−0.1	153°-173							
C	4251.58	23514.1	+0.1	138°-124							
M	4250.339	23520.94	−0.01	51°-22	M	5	(0.065)	1.061	0.858	0.724	0.50
M	4249.685	23524.56	+0.05	34°-2	M	4	(0.195)	0.661	0.858	1.250	
M	4247.994	23533.92	+0.01	95°-101	M	6		0.907	0.907	0.907	0.31
					L		(0)	0.92			
M	4247.599	23536.08	0.00	51°-58							0.65
			+0.07	70°-132							
			+0.09	106°-83							
C	4246.37	23542.9	0.0	3°-8							
M	4245.464	23547.93	−0.11	52°-99?							
M	4243.929	23556.46	−0.01	114°-53	M	5	(0)	1.148	1.065	(1.034)	
M	4242.725	23563.15	−0.02	6°-15	M	5	(0.125)	0.918	0.543	0.793	
			+0.08	24°-42							
M	4242.33	23565.3	0.0	135°-149							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4238.97	23584.0	+0.1	18°-72							
M	4237.119	23594.30	−0.06	134°-148							
C	4236.93	23595.4	−0.1	139°-181							
V	4236.40	23598.3	−0.1	100°-112							
C	4236.05	23600.3	−0.1	107°-125							
M	4234.989	23606.19	+0.01	54°-104							
K	4234.286	23610.11	+0.12	97°-105?	K		(0)	0.92			0.4
M	4233.291	23615.66	−0.03	101°-114	M	6	(0.639)	1.210	1.300	1.116	
K	4232.523	23619.94	+0.13	56°-110?							
			−0.03	136°-173							
C	4231.98	23623.0	−0.2	145°-94?							
C	4231.18	23627.4	0.0	155°-155							
C	4230.81	23629.5	0.0	27°-45							
M	4229.459	23637.03	−0.06	133°-147	M	6	(0.967)	1.138	1.245	1.031	0.45
K	4228.99	23639.7	0.0	98°-147							
K	4227.657	23647.13	+0.02	99°-69	K		(0)	1.29			
K	4224.610	23664.18	+0.02	96°-142	K		(0)	1.07			
M	4224.246	23666.20	+0.03	27°-49	M	5	(0.068)	1.284	0.943	1.082	0.56
M	4219.363	23693.58	+0.09	61°-36							
K	4219.00	23695.6	+0.1	152°-150							
M	4218.545	23698.21	+0.01	132°-143	M	6		0.931	0.931	0.931	0.38
M	4218.190	23700.20	+0.05	1°-5	M	7b	(0)	0.259	0.259	0.259	
C	4217.76	23702.6	+0.1	64°-83							
M	4217.225	23705.62	+0.04	93°-98	K		(1.32)	1.49			
C	4216.03	23712.3	−0.1	108°-127							
V	4214.84	23719.0	−0.1	18°-73							
C	4211.89	23735.7	0.0	153°-185							
M	4211.519	23737.71	+0.09	102°-77	M	5	(0.047)	1.198	0.966	0.873	
K	4209.984	23746.39	+0.17	56°-111?							
M	4208.893	23752.55	−0.03	130°-140	M	6	(0.081)	1.022	1.013	1.031	0.45
K	4204.92	23775.0	+0.1	137°-154							
M	4201.852	23792.35	−0.03	74°-16	M	4	(0.247)	0.374	1.114	1.607	
C	4201.01	23797.1	0.0	7°-2							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	4200.81	23798.3	−0.1	120°-55							
M	4199.022	23808.36	−0.03	134°-108	M	5	(0.154)	2.264	1.186	0.878	
C	4197.75	23815.6	−0.1	68°-44							
M	4195.950	23825.79	−0.06	136°-114							
K	4195.834	23826.48	−0.12	56°-29	M	5	(0.072)	1.540	1.335	1.196	
M	4195.550	23828.06	+0.05	163°-187	M	6?	(0.068)	1.122	1.117	1.127?	
M	4194.08	23836.4	0.0	85°-95	L		(0)	0.86			
M	4191.829	23849.24	−0.03	16°-5	M	5	(0.285)	1.112	0.833	0.269	
M	4188.594	23867.63	−0.05	60°-79							
K	4188.11	23870.4	−0.1	54°-66							
M	4184.79	23889.3	−0.2	156°-161?							
			+0.1	122°-95							
M	4184.721	23889.75	−0.04	135°-110	M	4		0.128	0.788	0.977	
C	4184.61	23890.4	−0.1	23°-89							
C	4184.28	23892.3	0.0	65°-85							
M	4183.574	23896.30	−0.03	114°-52	M	4	(0.175)	0.206	1.071	1.419	0.38
M	4182.159	23904.38	+0.02	135°-150	M	6	(0.822)	0.887	0.797	0.980	
V	4181.37	23908.9	−0.1	138°-126							
C	4181.16	23910.1	0.0	17°-7							
V	4181.09	23910.5	−0.1	35°-16							
M	4179.965	23916.93	−0.03	96°-103	M	6	(1.201)	1.003	1.171	0.828	0.40
M	4179.718	23918.34	−0.01	69°-49	M	6	(0.154)	1.070	1.138	(1.076)	0.59
M	4178.064	23927.81	−0.01	52°-62	M	6	(0.698)	0.923	1.062	0.783	0.39
			−0.05	108°-86							
C	4176.67	23935.8	+0.2	92°-22?							
K	4176.343	23937.67	+0.02	100°-72	K		(0.20)				
K	4173.99	23951.2	−0.1	137°-177							
K	4170.819	23969.37	−0.16	99°-109	K		(0.29)	1.09			
					M	6		1.107	1.150	1.064	
C	4170.543	23970.96	+0.16	73°-15?							
M	4170.475	23971.32	−0.07	131°-102	K		(0)	1.19			
C	4168.62	23982.0	−0.1	103°-158	L		(0.59)	1.01?			
			−0.1	107°-85	L		(0.59)	1.01?			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4168.574	23982.28	0.00	132°-144	M	6	(0.627)	0.999	0.931	1.071	
V	4167.29	23989.7	0.0	19°-75							
C	4165.75	23998.5	0.0	62°-122							
M	4165.087	24002.33	−0.07	153°-174							
M	4164.253	24007.17	+0.03	95°-102	M	6	(0.482)		(0.911)	1.018	
					K		(0.43)	0.97			
K	4163.737	24010.14	−0.04	154°-176	K		(0.83)				
M	4163.653	24010.63	−0.01	96°-64	M	5	(0.071)	1.527	1.174	1.031	
K	4163.194	24013.27	+0.02	116°-94	K		(0)	1.11			
M	4162.685	24016.21	+0.01	135°-111	M	4	(0.076)	0.246	0.787	0.941	
M	4161.93	24020.6	−0.1	109°-129							
M	4161.575	24022.59	+0.05	99°-149							
M	4160.72	24027.6	+0.1	60°-117							
K	4159.658	24033.69	−0.04	152°-184	L		(0)	1.17			0.38
M	4156.523	24051.81	−0.04	53°-103	M	5	(0.115)	1.400	0.603	0.831	0.41
M	4156.243	24053.43	−0.01	54°-105							0.42
C	4153.71	24068.1	−0.1	66°-87							
C	4152.17	24077.0	0.0	139°-182							
M	4151.45	24081.2	0.0	151°-143							
C	4150.35	24087.6	+0.1	144°-162							
M	4149.991	24089.67	0.00	132°-167	M	5	(0.035)	1.293	0.940	1.005	0.33
K	4148.68	24097.3	0.0	71°-91							
M	4148.348	24099.18	−0.05	101°-151							
M	4148.182	24100.17	+0.01	35°-2	M	4	(0.181)	0.708	0.890	1.252	
C	4146.64	24109.1	−0.1	5°-47							
C	4144.31	24122.7	−0.1	103°-81							
K	4143.617	24126.73	+0.01	99°-70							
M	4142.703	24132.05	0.00	25°-13	M	6	(1.181)	1.039	1.431	0.643	0.67
C	4141.93	24136.6	+0.1	138°-160							
K	4141.638	24138.25	+0.01	155°-156	L		(0)	1.04			
C	4141.26	24140.5	0.0	102°-154							
M	4140.392	24145.52	−0.01	53°-64	M	6	(1.074)	0.823	0.607	1.036	
M	4140.239	24146.38	−0.04	131°-142	M	6	(0.209)	1.047	(1.086)	1.132	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	4138.87	24154.4	−0.1	132°-105							
K	4138.82	24154.7	0.0	36°-52							
M	4136.383	24168.89	−0.04	162°-183	M	6	(0.954)	1.145	1.219	1.071	
C	4135.01	24176.9	−0.1	22°-82							
K	4134.110	24182.20	+0.03	95°-142	M	5	(0.111)	1.937	0.938	1.160	
M	4131.433	24197.88	−0.04	94°-100	M	6	(0.367)		1.133	1.026	
					K		(0.35)	1.04			
M	4130.68	24202.3	−0.1	153°-151							
C	4129.92	24206.7	0.0	20°-79							
C	4127.38	24221.6	−0.1	108°-161							
M	4124.658	24237.59	−0.01	19°-9	L		(0)	1.13			
M	4123.569	24244.01	−0.18	75°-51?							
M	4122.973	24247.50	−0.03	101°-75							
C	4121.86	24254.1	0.0	103°-82							
K	4120.03	24264.9	−0.1	164°-180	K		(0)	1.29			
V	4118.55	24273.6	0.0	106°-160							
C	4118.25	24275.3	−0.1	59°-116							
K	4117.86	24277.6	+0.1	100°-114							
M	4116.718	24284.37	−0.02	93°-140	M	5	(0.158)	2.147	0.718	1.035	0.35
C	4116.32	24286.7	0.0	99°-71							
K	4112.326	24310.30	−0.01	163°-179	K		(0)	1.43			
C	4111.84	24313.2	+0.1	65°-86							
C	4111.43	24315.6	+0.1	92°-21							
M	4110.870	24318.89	−0.01	134°-109	K		(0)	1.50			
M	4110.640	24320.28	−0.01	6°-1	M	6	(0.777)	1.333	0.556	2.110	
M,K	4110.525	24320.95	−0.16	146°-135?							
			0.00	133°-107							
K	4110.09	24323.5	−0.1	98°-107							
M	4109.395	24327.64	+0.04	76°-51	M	6	(0.317)		1.113	(0.986)	
M	4108.426	24333.38	−0.01	51°-59	M	6	(0.326)	0.921	0.856	0.986	0.40
K	4107.385	24339.55	−0.04	97°-145	K		(0)	1.20			
K	4106.130	24346.98	−0.05	99°-110							
K	4105.924	24348.21	−0.02	54°-25	K		(0)	1.12			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4105.343	24351.65	−0.05	34°-15	M	6	(0.085)	0.833	0.865	0.801	
			+0.09	114°-51	K		(0)	1.10			
M	4104.392	24357.30	−0.05	94°-101	M	6	(0.791)	1.017	1.130	0.904	0.62
M	4103.67	24361.6	0.0	40°-18							
			0.0	99°-150							
K	4101.337	24375.44	−0.03	155°-178	K		(0.25)	1.11			
K	4100.838	24378.40	−0.07	58°-116	K,L		(0)	1.09?			
			−0.10	152°-173	K,L		(0)	1.09?			
M	4098.939	24389.70	+0.05	75°-17	M	5	(0.062)	1.282	1.096	0.972	
M	4097.686	24397.13	+0.04	121°-55							
M	4097.339	24399.20	−0.02	131°-103							
C	4096.33	24405.2	0.0	138°-127							
M	4094.751	24414.64	+0.04	26°-13	M	6	(0.700)	0.866	1.103	0.635	0.47
K	4094.51	24416.1	0.0	137°-118							
M	4093.394	24422.74	0.00	52°-63	M	6	(0.277)	1.020	1.076	0.965	0.38
K	4092.32	24429.1	0.0	155°-157							
			+0.1	97°-146							
C	4091.75	24432.6	0.0	63°-84							
M	4091.53	24433.9	0.0	53°-24							
K	4091.341	24434.99	+0.02	95°-103	K		(0.27)	0.92			
V	4087.21	24459.7	+0.1	104°-83							
M	4086.520	24463.82	−0.04	67°-13	M	5	(0.377)	2.532	1.393	0.637	0.71
K	4085.810	24468.04	0.00	80°-18	K		(0)	1.17			
M	4085.036	24472.70	+0.04	151°-167	M	6	(0.704)	1.063	1.127	0.998	0.42
K	4083.390	24482.57	0.00	154°-154							
M	4082.263	24489.33	0.00	16°-68	M	5		0.953	(0.832)	0.880	0.37
					L		(0)	0.94			
V	4081.82	24492.0	+0.1	102°-155							
M	4079.91	24503.5	0.0	64°-85							
M,C	4079.606	24505.27	−0.02	19°-76							
C	4078.46	24512.2	+0.2	19°-33?							
C	4076.63	24523.2	0.0	56°-114							
K	4075.719	24528.65	0.00	95°-64	K		(0)	0.66			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	4072.92	24545.5	−0.1	153°-152							
C	4072.17	24550.0	0.0	96°-143							
C	4070.69	24559.0	−0.1	96°-104							
C	4069.75	24564.6	0.0	70°-14							
M	4069.210	24567.86	−0.01	15°-62	M	5	(0.144)	1.211	0.495	0.781	0.37
			+0.02	141°-131							
V	4068.07	24574.8	+0.1	104°-124							
C	4068.69	24571.0	0.0	99°-112							
K	4068.01	24575.1	+0.1	133°-148							
V	4067.91	24575.7	−0.1	100°-74							
V	4067.60	24577.6	0.0	98°-148							
V	4066.03	24587.1	+0.2	135°-173?							
M,K	4065.695	24589.12	−0.04	53°-65	M	6	(0.961)	0.796	0.605	0.989	
			−0.09	153°-175							
M	4064.63	24595.6	−0.1	81°-54							
M	4063.70	24601.2	0.0	152°-185							
M	4063.410	24602.95	−0.19	1°-26?	L		(0)	1.23			
C	4063.03	24605.3	+0.1	56°-32							
K	4062.61	24607.8	+0.3	32°-50	K		(0)	1.02			
M	4062.264	24609.89	−0.04	36°-51	M	6	(0.328)*				
M	4059.887	24624.31	+0.09	3°-9							
			−0.02	7°-15	K		(0.25)				0.48
K	4059.82	24624.7	−0.1	97°-67							
K	4057.773	24637.12	+0.12	137°-156?	K		(0.15)	1.10			
M	4057.337	24639.77	−0.01	17°-27	M	6	(0.246)	1.086	1.168	1.003	
K	4055.245	24652.48	−0.09	136°-152	K		(0.13)	0.99			
K	4054.18	24659.0	0.0	154°-177							
K	4049.837	24685.40	0.00	43°-55	K		(0.15)	2.04			
M	4048.448	24693.87	−0.06	53°-104	M	5	(0.210)	2.146	0.578	1.026	
K,M	4048.049	24696.30	−0.10	134°-110							
			+0.06	136°-175							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M,K	4045.635	24711.05	−0.12	93°-99							
			+0.08	134°-150							
M	4042.979	24727.25	−0.02	105°-125							
C	4041.81	24734.4	0.0	2°-31							
M	4041.207	24738.09	−0.10	115°-93?	L		(0.17)	0.97*			
					M	4	(0.168)	0.975*			
M	4039.364	24749.38	+0.01	77°-51							
M	4037.258	24762.31	+0.03	97°-106	M	7b	(0)	0.985	0.985	0.985	
M,K	4036.567	24766.55	+0.04	5°-14	M	7b	(0)	0.576	0.606	(0.586)	0.57
M	4036.056	24769.67	−0.06	63°-40							0.54
M	4034.256	24780.74	−0.01	112°-133	M	5	(0.055)	1.710	1.200	1.314	
C	4033.17	24787.4	−0.1	59°-78							
K	4032.480	24791.66	−0.02	98°-108	K		(0.11)	0.87			
K	4032.26	24793.0	−0.1	135°-114							
C	4030.51	24803.8	0.0	18°-9							
M	4030.293	24805.11	−0.10	55°-108							
K	4029.66	24809.0	−0.2	74°-15?							
M	4029.310	24811.16	+0.07	78°-53	K		(0.29)				
			−0.05	66°-90							
M	4029.046	24812.75	−0.10	19°-10?							
C	4028.71	24814.9	−0.1	20°-37							
V	4027.64	24821.5	+0.1	56°-74							
K	4027.42	24822.8	0.0	134°-111							
M	4027.330	24823.36	+0.03	96°-66							
M	4026.158	24830.58	0.00	94°-102	M	6	(0.273)	1.020	(1.132)	1.053	0.52
M	4025.612	24833.93	−0.12	96°-144	M	4	(0.049)	0.713	1.172	1.070	
			−0.02	154°-155	K		(0)	0.89			
M,K	4022.095	24855.67	+0.03	51°-61	M	6	(0.197)	0.929	0.854	0.933	
			+0.18	59°-35							
M	4020.096	24868.00	+0.04	152°-174							
M	4019.137	24873.93	−0.03	68°-13	M	5	(0.221)	1.746	1.080	0.639	0.41
			+0.09	155°-187							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	4018.37	24878.7	−0.1	104°-125							
M	4017.495	24884.10	−0.01	132°-145							
C	4016.47	24890.5	−0.1	58°-78							
K	4016.310	24891.47	−0.01	60°-80	K		(0.93)	1.32			
M	4015.117	24898.84	+0.04	108°-87							
M	4014.533	24902.48	−0.14	70°-49	K		(0.24)	1.07			
M	4013.264	24910.33	−0.04	10°-18	K		(0.23)	1.19			
			−0.01	99°-72							
M	4012.497	24915.12	−0.14	76°-16?							
M	4011.772	24919.62	−0.02	17°-28	K		(0)	1.16			
V	4011.62	24920.6	+0.1	108°-88							
			+0.1	134°-112							
M	4011.026	24923.24	−0.07	64°-86							
M	4010.50	24927.5	+0.2	35°-15?							
K	4010.426	24927.99	+0.06	137°-157							
M	4009.546	24933.43	+0.01	19°-77							
M	4007.027	24949.13	−0.02	97°-68	M	5	(0.042)	1.218	0.991	0.901	0.37
K	4006.386	24953.12	+0.02	132°-168	K		(0)	1.27			0.41
M	4005.549	24958.34	+0.12	53°-66?							
			−0.05	101°-116	L		(0.66)	1.08			
M	4003.316	24972.26	−0.02	95°-65	M	4		0.745	(0.911)	0.976	
K	4003.110	24973.54	−0.01	132°-146	K		(0.45)	0.84			0.43
C	4002.37	24978.2	0.0	110°-132							
M	4001.740	24982.09	−0.01	72°-50	K		(0.36)	1.04			
M	3999.95	24993.3	0.0	55°-69							
V	3998.98	24999.3	+0.1	146°-94							
M	3997.864	25006.31	+0.01	96°-105	M	6	(0.785)	1.060	1.178	0.952	0.43
K	3997.468	25008.79	−0.03	97°-147	K		(0)	1.12			
K	3996.062	25017.59	+0.07	153°-153	M	5	(0.042)		1.260	(1.176)	0.37
					L		(0)	1.64			
M	3993.725	25032.20	−0.05	131°-143							
M	3992.278	25041.27	−0.03	131°-104							
K	3992.05	25042.7	0.0	17°-70							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3991.607	25045.48	−0.02	99°-73							
C	3991.07	25048.9	+0.1	2°-32							
K	3988.845	25062.85	+0.04	15°-63							
					L		(0.23)	1.64			
K	3988.02	25068.0	0.0	95°-143	L		(0)	1.00			
M	3988.015	25068.07	−0.13	54°-67	K		(0.30)	1.05			0.49
			+0.15	152°-151							
M	3987.713	25069.94	−0.08	55°-27							
M	3987.226	25073.00	+0.10	130°-141							
M	3987.07	25074.0	0.0	133°-170							
M	3986.637	25076.71	−0.01	135°-174							
C	3986.43	25078.0	−0.1	18°-33?							
M	3984.374	25090.95	0.00	93°-62							
M	3982.236	25104.42	+0.02	57°-34							
			+0.01	100°-152							
K	3982.105	25105.27	0.00	30°-14	K		(1.16)	0.97			
M	3981.539	25108.84	+0.02	34°-1							
M	3981.110	25111.52	−0.07	162°-184	M	6	(0.792)	1.168	1.229	1.107	0.50
K	3979.047	25124.57	+0.02	136°-153	M	6	(0.832)	1.053	0.961	1.145	
M	3976.418	25141.18	−0.01	53°-105	M	5	(0.175)	1.823	0.605	0.953	0.38
C	3975.85	25144.8	+0.1	107°-128							
K	3974.227	25155.04	+0.04	56°-75	K		(0.63)	1.21			
M	3969.834	25182.85	+0.10	135°-115?							
M,K	3969.532	25184.79	+0.02	155°-158	K		(0)	0.97			
M	3969.343	25185.97	+0.07	109°-130							
M	3969.003	25188.14	+0.06	27°-13							0.65
M	3967.214	25199.50	+0.03	3°-10							0.51
K	3966.72	25202.6	−0.1	17°-71							
K	3966.24	25205.7	0.0	54°-106							
K	3964.872	25214.38	−0.03	115°-134	K		(0)	1.08?			
C	3964.02	25219.8	0.0	108°-89							
M	3963.226	25224.83	−0.05	153°-176	M	6	(0.706)	1.201	1.266	1.136	0.43
C	3962.93	25226.7	−0.1	138°-182							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3962.346	25230.46	−0.08	20°-80	M	4	(0.073)	0.900	1.272	1.126	
K	3961.516	25235.75	−0.03	43°-19							
M	3960.339	25243.25	+0.03	82°-54	M	6	(0.067)	1.232	1.219	1.246	
M	3959.295	25249.87	−0.11	161°-164?							
K	3959.221	25250.38	0.00	99°-114	K		(0)	1.13			
V	3957.16	25263.5	0.0	61°-122							
M	3956.682	25266.58	0.00	4°-13	M	4	(0.043)	0.590	0.719	0.633	
M	3956.603	25267.08	−0.02	151°-145	M	5		1.414	(1.128)	1.065	
K	3955.255	25275.69	+0.12	81°-94	K		(0)	1.09			
K	3955.109	25276.63	−0.05	135°-151							
C	3953.94	25284.1	0.0	65°-87							
M	3952.451	25293.60	+0.05	102°-157							
M	3951.521	25299.55	−0.01	133°-109	M	5	(0.092)	1.924	1.280	1.096	0.47
K	3951.116	25302.17	−0.02	98°-109	K		(0.57)				
M	3950.394	25306.79	−0.01	132°-106	M	4		0.769	(0.931)	0.977	
					L		(0)	0.79			
M	3949.006	25315.66	−0.01	102°-119	K		(0)	0.06	1.09		
M	3948.908	25316.32	−0.01	131°-144	M	6	(0.074)	1.079	1.087	1.071	
M	3946.151	25333.98	+0.03	162°-172	L		(0)	1.45			
K	3945.824	25336.10	+0.01	151°-168	K		(0.56)	1.17			0.54
M	3943.694	25349.77	−0.11	55°-28?							
M	3943.345	25352.01	−0.05	95°-144	M	5	(0.081)	1.603	0.906	1.061	
			−0.10	59°-117?							
			−0.08	94°-64							
K	3942.69	25356.2	+0.1	155°-179							
M	3942.646	25356.50	−0.04	151°-146							
K	3942.044	25360.40	0.00	163°-180	K		(0)	1.03			
M	3941.727	25362.41	−0.03	138°-128							
M	3939.788	25374.89	−0.07	153°-186							
C	3939.16	25379.0	0.0	18°-10							
K	3938.787	25381.37	−0.08	7°-1	K		(0.88)	1.23			
K	3938.739	25381.68	−0.08	41°-18	K		(0.43)				
C	3938.43	25383.7	0.0	51°-98							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3937.888	25387.17	0.00	36°-2	M	4	(0.109)	0.921	1.032	1.254	
M	3937.043	25392.61	+0.01	54°-68	M	6	(0.506)	0.988	1.089	0.886	0.39
K	3935.632	25401.71	+0.09	86°-95	M		(0.120)	0.270	1.126	0.886	
							(0.120)	0.270	(1.168)	0.922	
M	3935.528	25402.36	+0.02	122°-136							
M	3935.180	25404.63	−0.06	52°-101	K		(0)	1.21*			
K	3934.18	25411.1	0.0	152°-152							
K	3932.231	25423.68	−0.04	131°-167	K		(0)	0.63			0.43
M	3931.99	25425.2	+0.1	100°-76							
K	3930.33	25436.0	0.0	53°-25							
M	3929.671	25440.25	−0.01	69°-13	M	5	(0.251)	1.887	1.138	0.638	0.70
V,K	3928.95	25444.9	−0.1	24°-45							
			−0.1	79°-92							
V	3928.84	25445.6	+0.2	102°-80?							
K	3927.427	25454.78	+0.01	152°-175	L		(0.19)	1.10			0.36
K	3927.182	25456.37	+0.01	162°-173	K		(0)	1.92			0.44
M	3926.711	25459.40	+0.02	98°-70							
M	3925.320	25467.36	+0.09	40°-1	K		(0.51)				
M	3925.216	25469.12	+0.05	4°-47							
K	3925.11	25469.8	0.0	17°-29	K		(0)	1.18			
K	3924.99	25470.6	0.0	57°-77							
			+0.1	101°-78							
K	3922.224	25488.55	−0.01	131°-105	K		(0)	1.53			
C	3920.99	25496.6	+0.2	12°-18?							
			−0.1	67°-132							
C	3920.67	25498.7	+0.1	107°-129							
K	3920.322	25500.91	+0.07	148°-95	M	5	(0.122)	2.038	1.184	0.940	
M	3918.285	25514.15	+0.04	118°-54							
K	3918.021	25515.89	−0.04	118°-135	K		(0)	1.76			
K	3916.738	25524.25	−0.06	95°-105	K		(0.10)	0.91			
C	3915.84	25530.1	+0.1	103°-124							
C	3914.18	25540.9	+0.1	59°-36							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3913.826	25543.25	+0.02	31°-14	M	6	(0.620)	0.795	0.999	0.583	
M	3913.012	25548.52	−0.01	99°-74	L		(0)	1.16			
M	3912.285	25553.30	−0.04	132°-147	M	6	(0.471)	0.987	0.932	1.037	
M	3911.308	25559.66	+0.03	62°-125							
V	3908.76	25576.3	−0.1	100°-153							
M	3908.488	25578.10	+0.15	64°-41?							
K	3907.907	25581.93	−0.01	154°-178	K		(1.00)	1.18			
M	3907.342	25585.60	−0.05	37°-53							
K	3907.33	25585.7	−0.2	93°-63?							
C	3907.17	25586.8	+0.1	113°-133							
K	3906.81	25589.1	+0.2	13°-19?							
K	3905.188	25599.73	−0.02	134°-114	L		(0)	1.41			0.37
M	3904.089	25606.94	−0.12	33°-50	M	5	(0.090)	1.433	0.990	1.164	0.55
C	3903.29	25612.2	0.0	102°-120							
K	3902.123	25619.84	−0.02	135°-152	K		(0.86)				
M	3901.158	25626.18	−0.02	81°-18	K		(0)	1.43			
M	3900.886	25627.98	−0.12	52°-23	M	5	(0.094)	1.344	1.064	0.877	
M	3900.139	25632.88	−0.05	55°-71							0.64
V	3899.71	25635.7	+0.1	154°-157							
K	3899.040	25640.10	+0.11	99°-115?	K		(0.38)	1.04*			
M	3898.794	25641.69	−0.11	100°-90?							
			+0.14	62°-40?							
M	3898.477	25643.77	−0.08	58°-36							
C	3896.53	25656.6	+0.1	140°-131							
C	3895.09	25666.1	0.0	64°-128							
M	3894.901	25667.35	+0.07	3°-28							
M	3894.416	25670.51	−0.11	56°-76							
M	3893.396	25677.24	−0.10	56°-33							
			+0.18	133°-110?							
M	3893.113	25679.11	+0.05	162°-185							
K	3893.041	25679.61	−0.08	98°-110	K		(0.43)	1.05			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3892.311	25684.43	−0.04	35°-1	M	4	(0.616)	0.279	0.892	2.122	
C	3891.22	25691.6	0.0	133°-150							
K	3891.065	25692.65	−0.03	97°-107	K		(0.13)	0.99			
V	3890.83	25694.2	−0.1	98°-150							
M	3890.35	25697.4	+0.1	153°-154							
M	3885.766	25727.66	+0.01	111°-49							
K	3885.64	25728.5	0.0	116°-93							
M	3885.150	25731.74	−0.02	139°-130							
K	3884.830	25733.89	−0.03	99°-151	K		(0)	0.94			0.38
M	3884.531	25735.87	−0.03	96°-145	M	4	(0.062)		1.170	1.052	
					K		(0)	0.67			
C	3882.33	25750.5	0.0	106°-88							
M	3882.152	25751.62	−0.02	78°-17	M	5	(0.091)	1.415	1.148	0.969	
M	3881.490	25756.03	0.00	79°-53	M	6	(0.108)	1.059	1.081	1.038	
K	3879.810	25767.18	−0.02	60°-82							
C	3878.08	25778.7	−0.1	18°-78							
K	3875.53	25795.6	−0.1	94°-65							
V	3874.25	25804.2	−0.1	136°-154?							
K	3872.364	25816.73	+0.08	1°-27	K		(0.34)				
K	3871.464	25822.73	−0.01	164°-181	K		(0)	1.36			
K	3870.94	25826.2	−0.1	17°-72							
M	3869.981	25832.60	−0.05	80°-93							
M	3869.363	25836.73	+0.08	27°-48							
V	3867.89	25846.6	−0.1	2°-9							
V	3867.59	25848.6	0.0	75°-15							
M	3866.894	25853.24	−0.03	100°-77	M	7b	(0)	0.864	0.864	0.864	
M	3865.036	25865.65	+0.13	143°-163?							
C	3865.00	25865.9	0.0	56°-116							
K	3864.371	25870.12	+0.04	8°-17							
V	3863.83	25873.7	0.0	153°-177							
M	3863.391	25876.69	+0.11	130°-100	M	7b	(0)	0.992	(1.018)	1.026	
K	3862.668	25881.53	−0.05	115°-92							
K	3862.57	25882.2	0.0	99°-75							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3862.411	25883.25	−0.08	134°-174	K		(0)	0.49			
			+0.17	152°-153?							
M	3861.547	25889.05	0.00	16°-69	M	5	(0.108)	1.382	0.840	1.058	
M	3859.832	25900.55	+0.06	94°-104	M	6	(0.304)	1.087	1.131	1.044	
K	3859.760	25901.03	−0.06	133°-112							
V	3857.37	25917.1	+0.1	64°-88							
V	3856.51	25922.9	+0.1	50°-58							
C	3856.18	25925.1	+0.1	103°-126							
V	3854.89	25933.8	−0.1	17°-31	K		(0.17)	1.14			
M	3854.507	25936.33	0.00	151°-147	M	5	(0.043)	1.533	1.134	1.045	0.42
M	3852.962	25946.73	−0.02	97°-148	M	7b		1.051	(0.983)	0.999	
K	3850.290	25964.73	+0.06	17°-8							
M	3850.136	25965.77	0.00	16°-27	M	6	(0.261)	0.919	0.829	1.001	
C	3848.83	25974.6	0.0	137°-122							
K	3846.64	25989.4	0.0	134°-115							
V	3843.41	26011.2	+0.2	83°-94?							
M	3841.964	26021.01	−0.05	96°-67	M	5	(0.110)	1.728	1.174	0.953	0.42
M	3839.749	26036.01	0.00	130°-101	M	5	(0.054)	1.397	1.024	0.918	
K	3839.426	26038.20	+0.07	155°-159	K		(0)	1.11			
M	3837.880	26048.67	+0.02	153°-155							0.49
C	3837.81	26049.2	0.0	102°-158							
V	3833.69	26077.2	+0.1	99°-152							
K	3833.231	26080.28	−0.03	154°-187							
K	3832.789	26083.29	0.00	134°-151	K		(0.39)	1.10			
M	3832.431	26085.69	−0.05	21°-39							
V	3832.34	26086.3	0.0	59°-119							
K	3831.737	26090.45	+0.01	152°-176	L		(0.24)	1.13			
					M	6	(0.237)	1.045	1.097	(1.140)*	
K	3831.53	26091.9	0.0	135°-153							
K	3830.943	26095.86	−0.03	79°-52	K		(0)	1.15*			
K	3830.837	26096.58	+0.07	1°-28	K		(0.46)	1.58			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
V	3830.51	26098.8	0.0	56°-77							
M	3829.410	26106.27	+0.01	20°-82							
M	3826.947	26123.11	+0.18	43°-3	M	4	(0.650)	0.601	1.251	2.551	
V	3826.47	26126.4	+0.1	123°-95							
K	3825.040	26136.13	−0.04	54°-107	M	4		0.898	(1.088)	1.033	0.38
M	3823.589	26146.05	+0.01	119°-54	M	4	(0.057)	0.848	1.136	1.252	0.42
M	3823.327	26147.81	−0.05	119°-135							
C	3822.65	26152.5	0.0	103°-160							
K	3822.149	26155.91	−0.05	53°-67	M	6		0.769	0.595	0.950	
					K		(0.86)	0.77			
M	3821.431	26160.81	+0.03	97°-108	M	6	(0.352)	0.930	0.982	0.880	
M	3819.28	26175.5	0.0	94°-144							
M	3817.372	26188.60	−0.10	108°-130?							
V	3816.80	26192.6	0.0	115°-53							
K	3816.551	26194.26	−0.08	147°-135	K		(0)	1.13			
			+0.23	118°-94?	K		(0)	1.13			
K	3815.021	26204.76	+0.05	116°-134	K		(0)	1.18			
M	3813.625	26214.36	0.00	36°-15	M	6	(0.350)	0.915	1.032	0.799	
K	3813.323	26216.43	+0.12	64°-89?							
M	3813.064	26218.21	+0.05	131°-145	M	6	(0.124)	1.073	1.087	1.059	
M	3811.383	26229.75	+0.02	141°-132							
C	3810.32	26237.1	−0.1	132°-107							
K	3809.831	26240.46	−0.06	152°-186	L		(0)	1.31			
K	3809.46	26243.0	0.0	98°-72							
K	3809.09	26245.6	0.0	16°-28							
K	3808.69	26248.3	0.0	17°-32							
M	3808.146	26252.05	−0.07	133°-172							
M	3807.875	26253.94	+0.03	95°-145	M	5	(0.071)	1.566	0.921	1.064	
K	3807.51	26256.5	−0.1	55°-72							
M	3805.824	26268.09	−0.08	15°-23	M	6	(0.570)	0.681	0.490	0.870	
K	3804.997	26273.80	+0.03	82°-18	K		(0.11)	1.58			
K	3803.074	26287.08	−0.07	131°-168	K		(0)	0.74			0.42
M	3802.150	26293.47	−0.01	53°-106	K		(0.20)				

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3800.605	26304.14	−0.13	66°-45?							
			−0.14	164°-182?	L		(0)	1.17			
M	3800.378	26305.73	−0.02	52°-103	M	4	(0.116)	0.253	1.053	0.825	0.44
C	3799.42	26312.4	+0.1	8°-16							
K	3798.464	26318.99	−0.14	58°-80	K		(0)	1.11			
K	3797.457	26325.97	+0.06	44°-55	M	5	(0.048)	1.725	1.495	1.588	
C	3795.69	26338.2	0.0	21°-84							
M	3795.387	26340.3	+0.16	102°-122?							
K	3794.66	26345.4	−0.1	96°-68							
K	3794.43	26347.0	0.0	60°-38							
M	3794.341	26347.59	−0.16	94°-105?							
M	3794.154	26348.88	+0.01	97°-69	M	4		0.850	(0.983)	1.035	
M	3793.488	26353.50	−0.29	77°-15	M	5	(0.077)		0.952	0.798	
M	3792.920	26357.43	−0.06	160°-135							
K	3792.321	26361.62	−0.05	83°-18	K		(0)	1.28			
M	3791.981	26363.96	−0.10	55°-31							
M	3791.302	26368.70	+0.04	16°-70	M	5		0.978	(0.832)	0.890	
M,K	3789.969	26377.96	−0.04	56°-78							
			−0.20	98°-73							
M	3789.116	26383.91	+0.01	71°-14	M	5	(0.167)	1.423	0.922	0.587	0.44
K	3788.364	26389.15	−0.11	51°-99	K		(0.19)	2.11			
V	3787.11	26397.9	0.0	99°-76							
M	3786.884	26399.47	+0.04	52°-64	M	6	(0.055)		(1.061)	1.039	
					K		(0)	1.06			
K	3785.922	26406.17	−0.06	155°-180	K		(0.17)	1.11			
M	3785.603	26408.40	+0.01	93°-100	M	6	(1.072)	0.870	0.729	1.035	
V	3783.74	26421.4	+0.1	103°-127							
V,C	3783.66	26422.0	+0.1	2°-10							
V	3783.50	26423.1	−0.1	104°-128							
M	3783.296	26424.50	−0.03	70°-13	M		(0.265)		1.169	(0.639)	0.72
M	3783.016	26426.43	−0.04	134°-152	M	6	(0.731)	1.105	1.184	1.021	0.44
V	3782.11	26432.8	0.0	86°-55							
V	3780.29	26445.5	−0.1	136°-118							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	3779.73	26449.4	−0.1	154°-188							
C	3778.01	26461.5	+0.1	63°-87							
K	3777.288	26466.53	+0.01	164°-189	K		(0.15)	1.07			
V	3776.64	26471.1	0.0	129°-58							
V	3776.51	26472.0	+0.02	106°-90?							
M	3775.942	26475.97	−0.12	13°-3	M	6	(1.150)	1.410	0.260	2.560	
K	3775.315	26480.36	+0.01	53°-68	K		(0.71)	0.55			
M	3773.760	26491.27	0.00	132°-148	M	6	(0.305)	0.980	(0.931)	0.999	
M	3772.252	26501.86	0.00	8°-2	M	6	(0.125)	1.384	1.509	1.259	
M	3769.600	26520.48	+0.07	61°-124							
K	3768.437	26528.69	+0.01	16°-71	M	5	(0.171)	1.693	0.833	1.178	
M,K	3767.901	26532.46	+0.02	115°-52	K,L		(0)	1.08			
M	3767.23	26537.2	−0.1	100°-79	M		(0.111)		(0.862)	1.100	
K	3765.538	26549.11	+0.03	99°-153	K		(0)	1.18			
K	3765.250	26551.14	+0.02	79°-51	K		(0.22)	1.06			
M	3764.09	26559.3	−0.1	153°-156							
C	3764.05	26559.6	−0.1	22°-86							
M	3763.601	26562.78	+0.13	154°-179?	K		(0)	1.08*			
K	3763.57	26563.0	+0.2	152°-154?	K		(0)	1.08			
K	3763.318	26564.77	+0.16	87°-95	K		(0.15)				
M	3762.885	26567.83	+0.01	93°-101	M	6	(0.649)	0.810	0.719	0.904	
M	3761.104	26580.38	−0.03	133°-114							
C	3760.29	26586.2	+0.1	63°-129							
K	3759.30	26593.2	0.0	99°-116	K		(0.23)	1.12			
V	3758.81	26596.6	0.0	55°-114							
M	3757.256	26607.64	+0.12	100°-155							
K	3756.756	26611.17	+0.04	84°-54	K		(0.23)	1.20			
M	3754.596	26626.48	+0.03	5°-13	M	7b	(0)	0.648	0.621	(0.639)	0.55
M	3752.573	26640.84	−0.01	131°-106	M	5	(0.054)	1.440	1.094	0.991	
K	3751.754	26646.66	+0.02	1°-29	K		(0.50)	1.62			
M	3748.970	26666.41	−0.03	136°-156							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3748.280	26671.35	+0.06	97°-109	K		(0.24)	1.04			0.45
C	3747.92	26673.9	−0.1	104°-88							
M	3747.547	26676.57	−0.03	95°-106	M	6	(0.242)	0.980	(0.911)	0.980	
K	3746.467	26684.26	−0.01	130°-142							
V	3746.22	26686.0	0.0	20°-38							
M	3745.983	26687.70	−0.06	52°-24	M	5	(0.117)	1.419	1.064	0.828	
M	3744.739	26696.57	−0.01	79°-17	M		(0.053)		1.076	(0.968)	
					K		(0)	1.20			
K	3744.657	26697.16	+0.02	100°-117	K		(0.46)				
K	3743.506	26705.36	+0.06	132°-108	L		(0)	1.12			
			−0.07	139°-162							
K	3742.230	26714.47	+0.02	146°-93							
C	3741.69	26718.3	0.0	58°-121							
M	3741.190	26721.89	−0.04	71°-49	M	6	(0.380)	0.993	0.917	1.070	0.36
M	3740.849	26724.30	0.00	97°-149							0.46
M	3738.846	26738.64	0.00	9°-17	M	7b	(0)	0.968	0.968	0.968	
K	3738.750	26739.33	+0.08	152°-177	K		(0)	1.17			
			−0.06	141°-163							
V	3738.11	26743.9	0.0	114°-133							
V	3737.65	26747.2	0.0	101°-157							
M	3734.601	26769.04	0.00	51°-62	M	6	(0.180)	0.840	(0.857)	0.785	0.78
V	3732.70	26782.7	−0.1	56°-79							
V	3731.44	26791.7	−0.1	18°-37	M	6	(0.404)	1.227	1.365	1.095	
K	3731.36	26792.3	0.0	54°-69							
M	3730.87	26795.8	0.0	16°-29							
K	3730.754	26796.64	0.00	153°-178	M	6	(0.596)	1.220	1.266	1.159	0.46
M	3728.12	26815.6	+0.1	63°-42							
M	3726.730	26825.57	−0.04	73°-91	M	7b	(0)	1.257	(1.232)	1.224	
K	3726.669	26826.01	+0.05	119°-94	K		(0)	1.13			
			+0.04	99°-77							
M	3724.810	26839.38	−0.13	60°-39	M	5	(0.073)	1.732	1.505	1.355	
M	3723.655	26847.73	0.00	112°-91	M	6	(0.102)		1.203	(1.232)	0.45
					K		(0.09)	1.19			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3723.294	26850.33	−0.01	153°-157	K		(0)	1.73*			
M	3722.117	26858.82	0.00	73°-50	M	6	(0.137)		1.218	(1.163)	
					K		(0.12)	1.19			
M	3721.831	26860.88	−0.04	32°-14	M	6	(0.865)	0.869	1.169	0.591	
K	3721.487	26863.37	−0.10	95°-68							
M	3721.402	26863.96	−0.03	133°-174							
V	3720.71	26869.0	−0.1	54°-27							
M	3720.309	26871.87	−0.01	116°-92	M	6	(0.650)		1.142	0.956	
K	3720.22	26872.5	+0.1	147°-94							
K	3719.979	26874.26	0.00	151°-148	K		(0)	1.68			
					M	5 or 4					
K	3719.697	26876.30	+0.01	44°-19	K		(0.17)	1.48			
V	3719.03	26881.1	−0.1	98°-74							
			−0.2	112°-50?							
K	3718.172	26887.32	−0.07	131°-147	K		(0.21)	1.07			0.39
M	3717.832	26889.76	+0.06	2°-35	M	5	(0.258)	1.288	0.518	1.032	
C	3717.41	26892.8	+0.1	25°-48							
K	3716.78	26897.4	0.0	100°-118							
			+0.2	102°-123?							
K	3716.56	26899.0	−0.1	101°-80							
M	3716.255	26901.16	−0.06	66°-46							
K	3715.92	26903.6	+0.1	129°-57							
			−0.1	136°-178							
V	3715.71	26905.1	+0.1	137°-180							
C	3714.45	26914.3	+0.1	152°-155							
C	3714.31	26915.3	−0.1	61°-126							
K	3713.90	26918.2	0.0	163°-181							
M	3712.538	26928.12	+0.12	60°-83	M	6	(0.842)	1.342	1.511	1.174	0.5
V	3711.80	26933.5	−0.1	121°-54							
K	3711.54	26935.4	−0.1	121°-135							
M	3711.309	26937.04	−0.03	130°-103	M	5	(0.090)	1.657	1.016	0.832	0.38

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3710.55	26942.5	0.0	134°-116							
			−0.1	56°-117							
V	3709.85	26947.6	−0.2	52°-104?							
K	3708.760	26955.56	+0.05	124°-95	K		(0.38)	0.96			
K	3707.434	26965.20	−0.01	30°-13							
M	3706.993	26968.37	−0.03	37°-16							
M	3706.769	26970.02	−0.02	133°-115	M	5		2.194	1.255	0.987	0.53
					K		(0.15)	1.19*			
M	3706.697	26970.52	+0.02	129°-138	M	5		2.194			
K	3706.423	26972.55	−0.08	98°-115							
V	3706.05	26975.3	0.0	21°-85							
M	3705.94	26976.1	0.0	80°-92							
M	3704.967	26983.14	+0.01	86°-19	M		(0.203)		1.178	(1.592)	
					K		(0.22)	0.56			
V	3704.35	26987.6	−0.1	115°-51							
M	3704.087	26989.55	0.00	38°-53	M	5	(0.096)	1.340	0.820	1.027	
K	3703.999	26990.20	−0.01	132°-170	K		(0)	1.25			
K	3703.915	26990.81	0.00	81°-93	K		(0)	1.16			
M	3702.872	26998.39	−0.09	164°-190							
M	3700.771	27013.74	−0.19	148°-136	M	6	(0.701)	1.086	1.166	1.010	
C	3698.75	27028.5	−0.1	63°-43							
M	3698.304	27031.76	−0.19	1°-30	M	5	(0.343)	1.274	0.253	0.935	
M	3697.034	27041.04	−0.01	93°-102	K		(1.15)	0.98			
M	3696.653	27043.83	−0.04	39°-53	K		(0)	0.85			
M	3695.980	27048.75	−0.04	97°-110	M	7b	(0)	0.984	0.984	0.984	
			+0.17	57°-119?							
K	3693.99	27063.3	0.0	97°-150	L		(0.70)	1.00*			
K	3693.901	27063.98	+0.03	133°-151	M	6	(0.725)		1.264	(1.100)	
					K		(0.73)	1.11			
V	3693.53	27066.7	+0.1	98°-151							
K	3692.077	27077.35	0.00	94°-145	K		(0)	0.84			
M	3690.490	27088.99	0.00	96°-107	M	6	(0.523)	1.102	1.175	1.025	

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3690.119	27091.68	−0.13	59°-82?							0.38
M	3688.273	27105.24	+0.02	99°-78							
K	3688.200	27105.81	0.00	134°-176							
K	3687.525	27110.77	+0.08	1°-31	K		(0.40)				
			−0.02	59°-122							
M	3686.987	27114.73	−0.01	54°-109	K		(0)	1.00			0.46
M	3685.871	27122.91	−0.06	135°-155							
C	3683.73	27138.7	−0.1	79°-16							
M	3683.332	27141.63	+0.03	1°-8	M	6	(0.346)		(0.255)	0.947	
					K		(0.34)	0.60			
K	3682.346	27148.90	0.00	54°-28	K		(0)	1.03			
K	3681.886	27152.31	+0.01	16°-72	M	5	(0.212)	1.892	0.833	1.258	
K	3681.178	27157.51	+0.07	123°-55	L		(0.16)	0.44			
V	3680.53	27162.3	−0.1	108°-162							
M	3679.712	27168.31	+0.01	162°-176	M	5	(0.045)	1.746	1.251	1.161	0.42
M	3678.791	27175.14	−0.06	97°-111							
M	3678.029	27180.77	−0.07	9°-16	M	5	(0.316)	1.920	0.975	1.605	
			+0.09	40°-53	M	4	(0.038)	0.927	1.117	1.041	
V	3677.94	27181.4	−0.1	45°-19							
M	3677.741	27182.87	−0.02	116°-53							
K	3676.689	27190.67	0.00	146°-134	K		(0.65)	1.13			
C	3676.11	27195.0	+0.1	58°-82							
M	3675.571	27198.94	−0.01	32°-49	M	4	(0.042)	0.951	1.159	1.074	
V	3674.02	27210.4	−0.2	78°-15?							
M	3673.799	27212.06	−0.06	52°-66	M	6	(0.140)	1.029	1.057	1.001	
C	3673.61	27213.5	+0.2	22°-41?							
M,K	3673.260	27216.05	0.00	93°-142	M		(0.218)		(0.718)	1.154	
					K		(0.20)	2.56			
K	3671.527	27228.90	+0.07	99°-154	K		(0)	1.01			
C	3671.16	27231.6	+0.1	137°-124							
M	3670.635	27235.52	0.00	72°-14							
M	3670.062	27239.77	+0.01	34°-50	M	5	(0.154)	1.613	0.865	1.165	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3669.413	27244.55	−0.05	154°-159							
M	3666.380	27267.10	+0.04	20°-83							
M	3665.731	27271.95	+0.02	54°-70	M	6	(0.486)	0.997	1.095	0.900	
					K		(0.45)	1.27*			
K	3665.174	27276.10	+0.09	136°-120	M			0.641	0.982	(1.080)	
					K		(0.08)				
M	3663.708	27287.01	−0.04	80°-53	M	7b	(0)	1.039	1.039	1.039	0.50
M	3663.204	27290.76	−0.02	16°-8							
K	3663.152	27291.15	+0.10	84°-94							
M	3662.639	27294.94	−0.07	153°-187							
M	3662.194	27298.26	−0.08	101°-121							
C	3660.77	27308.9	+0.1	138°-131							
C	3660.11	27313.8	0.0	17°-76							
M	3659.513	27318.29	−0.09	140°-132	M	6	(0.669)	1.182	1.230	1.129	0.43
			−0.05	162°-186							
M	3658.235	27327.83	0.00	15°-24	M	6	(0.500)		(0.492)	0.825	
					K		(0.50)	0.55*			
M	3658.069	27329.07	+0.02	8°-15	M	4	(0.353)	0.441	1.506	0.798	
M	3657.538	27333.02	−0.16	62°-87?							
M	3656.204	27343.01	−0.05	96°-148	M	4	(0.088)	0.394	1.179	1.005	
					K		(0.32)	0.90*			
K	3654.572	27355.22	+0.03	155°-160	M		(0.09)				
					K			0.68			
M	3653.59	27362.6	+0.1	94°-67	M				(1.132)	0.953	
M	3652.542	27370.42	0.00	9°-2	M	6	(0.139)	1.113	0.974	1.252	0.45
M	3652.168	27373.23	+0.02	151°-170	M	6	(0.606)	1.125	1.070	1.180?	
V	3651.82	27375.8	+0.1	17°-34							
V	3651.51	27378.2	0.0	117°-134							
M	3650.771	27383.70	−0.03	39°-52	M	5	(0.120)	1.787	1.181	1.423	0.43
M	3650.510	27385.63	−0.01	19°-81							
M	3649.251	27395.11	+0.02	52°-105	M	4	(0.055)	0.680	1.052	0.945	0.43
M	3648.639	27399.67	−0.05	163°-182							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3648.170	27403.20	+0.03	31°-13							
M	3647.648	27407.12	−0.01	133°-152	M	6	(1.025)	1.131	1.245	1.019	0.47
K	3647.362	27409.30	+0.09	100°-157	K		(0)	1.91			
K	3647.293	27409.81	+0.05	98°-152	K		(0)	1.62			
C	3647.06	27411.6	−0.1	61°-127							
M	3646.886	27412.84	−0.03	135°-118							
M	3645.25	27425.2	+0.2	152°-156?							
			0.0	1°-32							
M	3644.717	27429.16	−0.01	60°-40	M	5	(0.077)	1.732	1.504	1.350	
M	3644.347	27431.97	+0.02	54°-71	M	6	(0.205)		(1.088)	1.170	
					K		(0.15)	1.10			
M	3643.515	27438.23	+0.15	60°-126?							
M	3641.841	27450.82	+0.02	133°-175							
M	3639.449	27468.88	0.00	93°-103	M	6	(0.338)	0.775	0.721	0.830	0.41
V	3637.73	27481.9	−0.1	102°-83							
M	3637.557	27483.17	+0.04	15°-65	M	5	(0.246)	1.734	0.497	0.992	
M	3636.557	27490.71	+0.08	151°-171							
K	3635.248	27500.63	+0.02	46°-55	K		(0)	1.57			
M	3634.214	27508.42	−0.08	136°-121	M	4	(0.087)	0.637	1.246	1.420*	
M	3632.626	27520.48	−0.01	40°-52	M	5	(0.158)	1.891	1.114	1.426	0.51
K	3627.259	27561.20	+0.08	100°-80							
K	3627.159	27561.96	0.00	163°-189	K		(0.15)	1.15			
M	3625.940	27571.22	−0.03	131°-107	M	5		1.295	(1.086)	1.028	0.36
					L		(0)	1.21			
M	3625.628	27573.60	+0.05	72°-49	M	6	(0.188)	1.031	0.993	1.069	0.60
K	3625.010	27578.30	+0.10	134°-154	K		(0)	1.11			
M	3624.898	27579.15	0.00	130°-104	M	4		0.957	(1.018)	1.036	
					L		(0)	0.97			
M	3623.035	27593.32	+0.01	132°-110							
M	3622.717	27595.72	−0.02	87°-55							
M	3621.121	27607.91	+0.03	132°-150	M	6	(0.194)	0.955	0.933	0.976	

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3620.492	27612.71	+0.01	154°-180							
K	3620.373	27613.62	+0.09	121°-94	M	6	(0.343)	1.172	1.223	1.125	
M	3619.711	27618.67	+0.02	54°-111	M	4	(0.067)	0.601	1.080	0.944	
M	3617.732	27633.78	+0.05	135°-156							
K	3617.115	27638.49	+0.11	82°-93	K		(0)	1.07			
M	3617.019	27639.19	−0.21	123°-136	M	4	(0.100)	0.174	1.250	1.010	
K	3616.704	27641.63	−0.05	84°-18	K		(0)	1.31			
C	3616.14	27645.9	0.0	102°-84							
M	3615.133	27653.64	0.00	113°-91	M	6	(0.212)	1.180	1.172	(1.232)	0.45
M	3614.011	27662.20	0.00	152°-178	L		(0.35)	1.09			0.41
M	3613.779	27664.00	0.00	74°-91	K		(0)	1.42			
C	3613.27	27667.9	0.0	59°-123							
M	3612.108	27676.77	−0.03	56°-119							
M	3610.794	27686.87	+0.02	113°-50	M	7b	(0)	1.174	1.174	1.174	
			−0.04	94°-68							
K	3610.398	27689.91	+0.03	52°-25	K		(0)	1.09			
K	3610.132	27691.95	−0.03	53°-108	M	4	(0.138)	0.749	1.715	1.439*	
M	3610.043	27692.63	+0.06	162°-191	K		(0)	1.06			
M	3609.447	27697.20	−0.01	74°-50	M	6	(0.104)	1.139	1.118	1.160	0.44
K	3609.229	27698.88	−0.15	54°-29	K		(0)	0.98			0.45
K	3607.402	27712.91	−0.06	136°-158	M	6	(0.686)		0.989	(1.141)	
					K		(0.58)	0.98			
K	3605.660	27726.29	+0.01	83°-93	K		(0)	1.21			
K	3603.629	27741.92	0.00	17°-77							
M	3603.363	27743.97	−0.06	55°-76							0.43
M	3603.208	27745.16	−0.02	96°-69	M	5	(0.062)	1.478	1.165	1.040	0.40
K	3603.041	27746.45	−0.13	94°-147?							
M	3602.464	27750.86	+0.10	55°-33?							
K	3601.992	27754.53	−0.09	134°-177	K		(0)	0.92			
M	3600.826	27763.51	+0.07	44°-3	K		(0.51)	0.90			
C	3600.21	27768.3	0.0	20°-40							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
V	3599.89	27770.7	−0.2	58°-123?							
K	3599.359	27774.83	−0.01	101°-82	K		(0)	1.59			
K	3599.030	27777.37	+0.06	153°-179							
C	3598.10	27784.5	−0.1	38°-51							0.48
M	3595.323	27806.01	+0.04	55°-34	M	5	(0.141)	1.412	0.997	0.718	
K	3595.253	27806.52	−0.07	56°-80							
M	3594.116	27815.35	−0.06	35°-50	M	5	(0.129)		0.892	1.163	
					K		(0.14)	1.54			
K	3593.881	27817.15	−0.18	132°-112	M	4		0.370	0.930	1.093	
			+0.05	162°-177	K		(0)	1.60			
K	3592.819	27825.39	+0.07	131°-148	K		(0.34)	1.07			
M	3592.456	27828.20	+0.20	140°-163?							
M	3591.065	27838.98	+0.02	39°-51	M	4	(0.098)	0.696	1.180	0.984	
M	3589.362	27852.19	0.00	15°-66	M	5	(0.251)	1.766	0.494	1.003	
K	3589.145	27853.87	−0.08	137°-160	K		(0.20)	1.02*			
M	3589.109	27854.12	−0.06	130°-144	K		(0.20)	1.02			
K	3588.308	27860.37	−0.11	33°-14	K		(0.55)	0.81			
M,K	3588.234	27860.95	−0.12	95°-148?							
C	3587.07	27870.0	−0.1	99°-118							
K	3585.884	27879.20	+0.09	133°-153	K		(0.23)	1.30			
M	3585.774	27880.05	−0.02	53°-69	M	6	(1.123)	0.826	0.601	1.048	0.43
K	3585.55	27881.8	0.0	98°-153							
V	3583.06	27901.2	0.0	102°-125							
K	3582.009	27909.36	+0.09	118°-93	M	6	(0.240)	1.126	1.091	1.161	
M	3580.235	27923.19	+0.01	133°-116	M	5		1.754	1.250	(1.106)	0.4
M	3579.343	27930.14	+0.04	38°-17	M	6	(0.203)	0.898	0.832	0.965	
C	3578.15	27939.5	+0.1	55°-116?							
M	3577.219	27946.70	−0.08	135°-119	M	4		0.236	(0.791)	0.950	
M	3576.562	27951.86	+0.08	18°-81							
K	3576.55	27952.0	−0.1	97°-114							
M	3575.323	27961.55	−0.02	130°-167	M	7b		0.951	(1.018)	1.006	0.41

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3574.98	27964.2	+0.2	155°-181?							
M	3573.511	27975.73	+0.01	40°-51	K		(0)	0.82			
M	3573.222	27977.99	+0.01	116°-51	M	5	(0.076)	1.523	1.141	0.987	
M	3572.399	27984.43	+0.01	39°-17	M	6	(0.321)	1.075	1.179	0.967	
C	3572.05	27987.2	+0.1	125°-55							
M	3571.575	27990.89	+0.02	151°-150	M	5	(0.078)	1.795	1.133	0.985	0.45
K	3569.924	28003.83	+0.12	88°-95	K		(0)	0.87			
M	3569.888	28004.10	+0.12	136°-122?							0.47
M	3569.627	28006.13	−0.06	93°-65							
K	3567.967	28019.19	−0.01	134°-117	K		(0)	1.62			
M	3567.707	28021.24	+0.06	17°-78	K		(0)	0.77			
K	3567.049	28026.40	−0.01	130°-105	K		(0)	1.16			0.46
V	3565.40	28039.3	0.0	131°-108	M	5		1.803	1.086	(0.881)	
					K		(0)	1.62			
M	3563.93	28050.9	−0.1	46°-19							
M	3561.809	28067.61	+0.01	96°-109							
K	3560.856	28075.15	+0.05	95°-108	K		(0)	0.89			
M	3559.958	28082.20	+0.06	80°-51	M	5		1.802*			
K	3559.727	28084.05	+0.09	85°-94							
M	3559.456	28086.19	+0.02	8°-1	M	6	(0.308)	1.810	1.503	2.118	
C	3559.43	28086.4	−0.1	51°-100							
M	3557.464	28101.91	0.00	93°-143	M	5	(0.105)	1.707	0.721	0.940	0.48
M	3556.312	28111.02	+0.06	93°-104							
K	3555.014	28121.28	+0.10	40°-17?	K		(0)	1.09			
M	3553.379	28134.22	+0.02	81°-92	M	4	(0.115)		1.158	0.943	
					K		(0)	0.59*			
M	3551.870	28146.17	+0.05	87°-19	M	4	(0.192)	0.619	1.195	1.579	
M	3551.386	28149.98	+0.14	60°-86?							0.5
K	3550.71	28155.4	−0.2	79°-15?							
K	3550.292	28158.69	+0.06	98°-77	K		(0)	0.82			
M	3549.741	28163.05	−0.03	54°-31	M	5		1.180	(1.088)	1.028	
M	3549.597	28164.17	+0.05	59°-39							0.6

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3546.260	28190.70	−0.01	54°-73							
K	3545.384	28197.66	+0.05	9°-15	K		(0)	1.10			
M	3545.290	28198.41	−0.10	33°-49	K		(0)	1.15			0.43
K	3545.174	28199.33	+0.01	161°-135	K		(0)	1.28			
C	3544.98	28200.9	+0.1	41°-53							
M	3544.36	28205.8	0.0	56°-121							
M	3542.632	28219.54	−0.04	102°-160	M	4 or 5	(0.131)		(0.953)	1.215	
					K		(0)	1.78*			
			+0.06	134°-118	M	4 or 5	(0.131)		(1.185)	0.923	
					K		(0)	1.78*			
M	3541.977	28224.79	0.00	96°-70	K		(0.40)	1.88*			
M	3541.622	28227.61	+0.01	80°-17	M	5		1.145	1.037	(0.968)	
					L		(0)	1.14			
M	3539.589	28243.83	−0.01	71°-13	M	5	(0.140)	1.346	0.920	0.636	0.43
M	3539.325	28245.93	+0.02	51°-101	M	5		0.996	(0.857)	0.897	0.59
M	3537.161	28263.21	+0.02	95°-69	M	4	(0.066)	0.577	0.909	1.043	0.35
M	3536.65	28267.3	+0.1	58°-39							
M	3535.336	28277.78	−0.06	108°-132							
M	3533.706	28290.82	+0.04	132°-173							
C	3531.88	28305.5	0.0	100°-81							
K	3528.948	28328.99	−0.01	151°-184	K		(0)	1.03			0.47
K	3528.823	28329.99	+0.04	15°-25	M	6	(0.814)	0.766	0.495	1.042	
M	3527.350	28341.81	+0.15	97°-115?	K		(0)	1.01			
M	3526.239	28350.72	−0.16	101°-123?							
			+0.03	103°-90							
K	3525.623	28355.71	+0.06	58°-83	K		(0.19)	1.14			
M	3525.142	28359.57	−0.11	53°-70?							
M	3523.557	28372.33	0.00	38°-16							
K	3521.91	28385.6	+0.1	118°-134	L		(0)	1.31			
K	3520.658	28395.69	+0.10	54°-114	K		(0)	1.17			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3519.690	28403.50	+0.17	89°-95	M	4	(0.214)	−0.169	1.328	0.901	
M	3518.894	28409.93	+0.08	52°-67	K		(0.38)				
M	3516.827	28426.62	0.00	39°-16	M	6	(0.636)	1.395	1.183	1.608	
M	3516.357	28430.42	−0.02	94°-107	K		(0.35)	1.03			0.78
C	3515.85	28434.5	−0.1	85°-18							
K	3515.704	28435.70	+0.02	97°-151	K		(0)	1.34			
K	3515.551	28436.93	+0.10	100°-82							
K	3515.43	28437.9	0.0	98°-78							
K	3515.117	28440.45	+0.11	134°-156?							
M	3514.966	28441.64	−0.05	131°-171							
M,K	3514.524	28445.25	+0.04	81°-53	M	6	(0.330)	1.099	1.166	1.033	
			+0.15	96°-110?							
M	3513.758	28451.45	+0.04	55°-78							
C	3513.23	28455.7	−0.1	100°-122							
M	3512.746	28459.65	−0.02	96°-150	M	4	(0.097)	0.201	1.168	0.973	
					K		(0)	0.51*			
C	3511.63	28468.7	+0.1	124°-136	L		(0)	0.96			
M	3511.553	28469.32	0.00	51°-23	M	7b		0.831	(0.857)	0.874	
M	3511.273	28471.56	+0.06	152°-158							
M	3510.540	28477.53	−0.02	54°-32							0.68
M	3509.197	28488.40	+0.02	102°-127							
C	3509.14	28488.9	0.0	20°-86							
K	3508.171	28496.76	−0.04	132°-114							
M	3506.854	28507.46	+0.04	14°-19	M	4	(0.312)	1.279	2.216	1.592	
M	3505.41	28519.2	−0.2	55°-35?							
K	3503.610	28533.86	+0.05	99°-80	L		(0)	1.19			
M	3502.783	28540.59	−0.04	41°-52	M	5	(0.071)	1.657	1.276	1.426	0.60
M	3501.94	28547.5	+0.1	52°-106							
M	3501.457	28551.40	+0.04	151°-172	L		(0.25)	1.19			
K	3500.532	28558.95	+0.09	133°-154	K		(0.63)	1.13			
M	3500.269	28561.07	+0.03	136°-123							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	3500.21	28561.6	+0.1	98°-154							
			−0.1	154°-160							
M	3499.996	28563.32	−0.06	40°-16	M	6	(0.748)	1.360	1.108	1.606	0.38
M	3498.986	28571.56	+0.05	96°-111	M	6	(0.788)		(1.173)	0.947	
					K		(0.81)	1.00			
K	3497.96	28579.9	−0.1	53°-110							
K	3497.459	28584.04	+0.06	97°-75							
K	3497.266	28585.61	0.00	95°-109	K		(0.45)	1.06			
K	3497.016	28587.66	−0.02	147°-93	K		(0)	1.10			
M	3496.812	28589.30	+0.01	19°-39							
K	3494.81	28605.7	+0.1	13°-18							
M	3493.526	28616.22	+0.02	39°-2	M	4		1.150	1.185	(1.254)	
					L		(0)	1.17			
M	3492.683	28623.10	+0.02	62°-130							
M	3491.579	28632.14	+0.07	137°-161							
M	3490.456	28641.36	+0.03	3°-11	M	5	(0.505)	2.060	2.565	1.555	
K	3490.276	28642.86	−0.01	152°-179	K		(0.36)	1.18			
M	3489.832	28646.51	0.00	16°-33							
M	3487.849	28662.79	−0.08	18°-38	M	6	(0.228)	1.291	1.367	1.212	
K	3487.078	28669.13	0.00	96°-112							
M	3486.976	28669.97	+0.01	10°-17	M	5		1.193	0.526	(0.968)	
					K		(0.26)				
K	3486.847	28671.03	+0.06	149°-95							
M	3486.526	28673.67	−0.10	151°-173	M	6?	(0.210)	1.087	1.068	1.106	
K	3485.72	28680.3	0.0	135°-158							
K	3485.483	28682.25	−0.06	56°-82	K		(0.42)				0.83
M	3485.216	28684.45	−0.06	94°-148	M	4	(0.064)	0.549	1.130	0.999	0.72
M	3484.086	28693.74	0.00	54°-74	M	6	(0.106)	1.110	1.089	1.131	
K	3483.263	28700.53	−0.01	99°-120							
M	3483.175	28701.25	−0.04	56°-122							
M	3482.763	28704.65	0.00	6°-14	M	7b	(0)	0.590	(0.586)	0.57	
M	3482.552	28706.39	−0.01	53°-111	M	5	(0.177)	1.820	0.599	0.948	0.42
K	3481.013	28719.08	−0.06	51°-102							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3480.809	28720.76	−0.10	32°-13							
C	3479.68	28730.1	0.0	120°-93							
M	3479.177	28734.23	−0.03	15°-5	M	5	(0.114)	0.611	0.496	0.267	
			−0.02	52°-68							
K	3479.049	28735.29	+0.01	133°-177							
M	3478.464	28740.09	+0.03	162°-178							0.44
M	3478.136	28742.83	+0.03	95°-70	M	7b		0.942	(0.911)	0.899	
M	3476.917	28752.88	−0.05	40°-2							
			−0.05	107°-132							
M	3476.543	28755.98	−0.03	130°-145	M	6?	(0.168)	1.010	1.028	0.991?	
M	3475.536	28764.34	−0.05	105°-162							
M,K	3474.299	28774.57	+0.09	17°-36	K		(0)	1.21			
K	3473.784	28778.81	−0.05	97°-152	K		(0)	1.24			
M	3473.455	28781.56	−0.21	82°-92	M	4		0.301	1.213	0.952	
M	3473.033	28785.06	−0.01	81°-52	M	6	(0.636)	1.282	1.164	1.418	
			−0.14	54°-115?							
K	3470.80	28803.6	+0.1	60°-41							
M	3469.926	28810.84	0.00	114°-91	M	6	(0.558)	1.153	1.072	1.232	0.38
M	3468.720	28820.85	0.00	18°-11							
K	3468.222	28824.99	−0.01	130°-168	K,L		(0)	1.019			0.52
K	3467.939	28827.35	−0.05	153°-180	K		(0.66)				0.55
M	3465.929	28844.06	+0.01	114°-50							0.53
M	3465.766	28845.42	−0.03	130°-146	M	6	(0.855)	0.911	1.011	0.821	0.46
M	3465.019	28851.64	+0.01	135°-179							
M	3463.722	28862.44	+0.01	44°-54	M	4	(0.106)	0.926	1.454	1.242	0.39
K	3463.598	28863.47	−0.03	126°-55							
M	3462.855	28869.67	0.00	83°-92	M	4	(0.077)	0.569	1.103	0.950	
M	3459.641	28896.49	+0.02	151°-185							
M	3457.683	28912.82	−0.05	98°-155							
M	3456.936	28919.07	−0.06	61°-89							
M	3455.949	28927.32	−0.04	131°-110							
M	3455.275	28927.36	0.00	99°-121							
K	3455.12	28934.3	0.0	21°-43							
			+0.1	136°-180							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3454.657	28938.17	+0.03	46°-3							
K	3454.205	28941.96	+0.03	131°-150	K		(0.45)	1.07			0.41
M	3453.922	28944.30	−0.01	137°-182							
M	3453.566	28947.32	−0.02	16°-10							
M	3452.683	28954.72	−0.01	9°-1	M	6	(0.574)	1.542	0.969	2.116	
K	3451.702	28962.95	−0.16	95°-110?	K		(0)	1.31*			0.38
M	3450.949	28969.27	0.00	86°-54	M	6	(0.182)	1.240	1.162	(1.245)	0.44
V	3450.72	28971.2	−0.1	135°-122							
K	3449.946	28977.69	+0.01	95°-150							
M	3449.648	28980.19	−0.01	132°-151	M	6	(0.723)	1.007	0.930	1.098	
M	3447.631	28997.15	−0.03	52°-26	M	4	(0.273)	0.230	1.065	1.621	
C	3447.57	28997.7	0.0	102°-161							
K	3446.990	29002.54	+0.05	98°-117							
K	3446.541	29006.32	+0.03	84°-93	K		(0)	1.19			
M	3445.748	29012.99	+0.11	100°-123	M	6	(0.567)	0.938	0.860	1.023	
M	3445.382	29016.07	+0.05	55°-117	M	7b		1.039	(0.982)	0.998	0.50
K	3445.218	29017.45	+0.03	119°-134	K		(0)	1.210			
K	3445.12	29018.3	+0.1	100°-159							
M	3444.047	29027.32	−0.11	54°-75	M	7b		1.092	1.092	1.092	
M	3443.124	29035.10	−0.12	42°-53	M	4	(0.193)	0.463	1.425	1.037	
M	3441.366	29049.90	+0.01	15°-67	M	5	(0.237)	1.639	0.470	0.938	0.47
			−0.01	134°-120							
K	3441.036	29052.72	+0.06	118°-92	K		(0.45)	1.03			
K	3440.91	29053.8	0.0	131°-111							
			+0.2	59°-85?							
M	3439.714	29063.85	−0.02	147°-134	K		(0.023)	1.144	1.141	1.147	
K	3439.229	29067.98	+0.07	16°-77							
M	3438.953	29070.32	+0.01	148°-135	M	6	(0.358)	1.215	1.175	1.255	
M	3437.027	29086.60	−0.03	94°-69	K		(0)	1.40			0.79
M	3436.687	29089.48	−0.04	95°-111	M	6	(0.110)		(0.911)	0.942	
					K		(0.10)	1.02			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3435.979	29095.48	+0.02	72°-13	M	5	(0.179)	1.536	0.999	0.643	0.70
					L		(0)	1.09*			
M	3434.000	29112.24	0.00	73°-14	M	5	(0.313)	2.167	1.221	0.591	
K	3431.016	29137.56	+0.06	99°-158	K		(0)	1.15			
M	3430.558	29141.45	+0.13	41°-17							
M	3430.342	29143.29	−0.01	53°-72							
M	3429.904	29147.01	+0.04	51°-103	M	7b		0.793	(0.857)	0.839	0.78
					L		(0)	0.80			
M	3429.392	29151.36	−0.03	131°-112	M	7b		1.090	1.090	1.090	
			−0.08	117°-51							
M	3427.995	29163.21	−0.02	151°-174							
M	3427.466	29167.74	+0.05	45°-54							
K	3427.14	29170.5	0.0	154°-181							
M	3426.939	29172.23	+0.14	53°-30?							
K	3426.138	29179.05	+0.10	19°-40							
M	3425.948	29180.66	−0.02	83°-53	M	6	(0.174)	1.068	1.103	1.033	
M	3425.190	29187.12	−0.02	95°-112	M	6	(0.612)	0.996	0.908	1.083	
K	3423.67	29200.1	−0.1	133°-118							
M	3423.131	29204.68	−0.04	55°-36	M	4	(0.116)	0.633	0.982	1.215	
M	3422.657	29208.69	+0.04	77°-91							
M	3419.176	29238.43	0.00	162°-187	L		(0.63)	1.31?			0.43
K,M	3418.941	29240.47	+0.17	81°-51							
			−0.18	51°-64							
M	3418.782	29241.80	−0.06	77°-50	L		(0)	0.98			
K,M	3417.726	29250.87	+0.04	53°-31							
			+0.03	97°-153							
C	3417.69	29251.2	0.0	129°-137							
M	3417.12	29256.1	+0.1	12°-17							
K	3416.419	29262.05	−0.01	56°-38	K		(0)	1.49			
M	3414.513	29278.38	−0.08	53°-73	M	6	(0.908)	0.782	0.600	0.964	
			+0.14	99°-81?							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3413.409	29287.83	+0.01	93°-145							
M	3413.019	29291.18	+0.08	149°-164							
M	3411.789	29301.76	+0.02	10°-2	M	6	(0.369)	0.887	0.518	1.256	
M	3409.273	29323.38	0.00	132°-152	M	6	(0.416)	0.988	0.934	1.026	
K	3409.104	29324.84	−0.02	152°-159							
			−0.04	103°-131							
M	3408.648	29328.76	−0.01	121°-93							
K	3407.631	29337.51	−0.01	90°-95	M	4	(0.121)	0.330	1.177	0.935	
					K		(0)	0.50*			
M	3406.243	29349.47	+0.01	15°-6	M	4	(0.359)	0.131	0.490	1.208	
M	3404.654	29363.16	−0.03	151°-151	M	7b		1.245	(1.128)	1.102	
K	3404.604	29363.60	−0.07	118°-53	K,L		(0)	1.21			
K	3404.201	29367.07	+0.02	132°-175							
M	3403.275	29375.06	−0.02	42°-52	M	7b	(0)	1.424	1.424	1.424	
K	3403.005	29377.39	+0.13	93°-146?							
M	3402.701	29379.99	+0.01	115°-133	K,L		(0)	1.33			
M	3402.031	29385.80	+0.04	81°-17	M	5	(0.091)		1.163	(0.968)	
					L		(0)	1.48			
M	3401.649	29389.11	+0.04	38°-15	L		(0)	0.82			
M	3401.03	29394.5	−0.1	14°-3							
K	3399.328	29409.17	+0.12	94°-109?							
K	3399.299	29409.42	−0.11	99°-82	K		(0)	1.18			
K	3397.955	29421.07	+0.07	133°-156							
C	3397.65	29423.7	+0.1	98°-156							
M	3397.108	29428.39	−0.12	99°-122?							
K	3396.615	29432.66	+0.02	82°-52	K		(0.49)				
K	3396.407	29434.46	0.00	89°-55	K		(0.60)	1.35			
C	3395.97	29438.3	+0.1	65°-47							
M	3395.381	29443.36	−0.03	39°-15	M	6	(0.564)		1.176	(0.800)	
M	3395.127	29445.56	−0.01	102°-128							
			−0.16	101°-126?							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3393.232	29461.97	−0.09	94°-149							
M	3392.970	29464.28	−0.14	55°-37?							
M	3392.040	29472.35	−0.04	112°-49	M	5	(0.064)	1.505	1.195	1.071	
M	3390.781	29483.30	−0.04	53°-114							
K	3390.378	29486.80	−0.07	134°-158	K		(0)	1.22			
M	3389.645	29493.18	0.00	34°-14	M	6	(0.412)	0.719	0.856	0.582	0.57
M	3388.582	29502.40	−0.02	131°-172	L		(0)	1.51			
M	3386.504	29520.53	−0.01	83°-52	M	6	(0.780)	1.263	1.108	1.420	
K	3385.84	29526.3	−0.1	95°-72							
M	3385.537	29528.96	−0.02	51°-24	M	7b		0.881	(0.857)	0.841	0.65
K	3385.000	29533.65	+0.03	135°-159							
C	3383.13	29550.0	+0.2	54°-33?	L		(0)	1.55*			
K	3383.120	29550.06	+0.18	150°-95	K		(0)	1.75			
M	3381.375	29565.31	+0.01	53°-32							
M	3380.495	29573.01	+0.03	93°-67							
C	3380.01	29577.3	−0.2	58°-86?							
M	3379.674	29580.19	+0.04	40°-15							
K	3379.30	29583.5	0.0	41°-16							
K	3379.094	29585.26	+0.04	88°-19							
M	3378.579	29589.78	−0.04	11°-16	M	4	(0.316)	1.292	2.238	1.607	
K	3377.664	29597.79	+0.15	100°-83?							
M	3376.848	29604.94	−0.05	54°-34	M	5	(0.190)	1.664	1.091	0.710	
K	3374.587	29624.78	−0.05	131°-173	K,L		(0)	1.07			0,45
M	3373.499	29634.30	+0.10	57°-125	M	4	(0.070)	0.839	1.329	1.189*	
K	3371.801	29649.25	+0.06	86°-94	K,L		(0)	1.06			
M	3371.49	29652.0	0.0	154°-182							
M	3370.788	29658.17	−0.06	133°-178?							
			−0.07	134°-179?							
M	3370.39	29661.7	+0.1	95°-73							
K	3369.085	29673.16	−0.07	101°-160							
M	3367.823	29684.27	−0.01	51°-65	M	6	(0.328)	0.932	0.862	0.993	

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3366.720	29694.00	+0.04	123°-54	K		(0)	1.23			
M	3366.526	29695.71	−0.07	123°-135	M	7b	(0)	1.253	1.253	1.253	
M	3365.633	29703.56	+0.03	118°-52	M	4		0.301	1.100	(1.419)	
M	3365.366	29705.95	+0.18	2°-38?							
K	3364.84	29710.6	+0.1	93°-106							
K	3364.687	29711.94	+0.01	133°-157	M	6	(0.687)	1.193	1.269	1.118	0.44
M	3364.594	29712.76	0.00	100°-124	M	6	(0.685)		(0.862)	1.058	
K	3364.392	29714.56	0.00	98°-157							
M	3363.737	29720.33	−0.09	33°-13							
K	3363.691	29720.73	0.00	162°-179							
M	3363.089	29726.05	−0.21	94°-71	M	7b		1.062	(1.132)	1.160	0.91
M	3362.533	29730.97	−0.10	147°-92							
M	3362.196	29733.92	−0.13	133°-119?							
C	3361.89	29736.7	0.0	98°-119							
			+0.1	101°-85							
M	3361.739	29738.00	−0.06	96°-115	M	6	(0.671)		1.158	0.966	0.47
M	3361.68	29738.5	+0.1	54°-116	L		(0)	1.12			
K	3360.369	29750.12	+0.08	151°-175	K,L		(0)	1.11			
			−0.09	55°-119							
M	3360.161	29751.96	−0.05	16°-79	M	5	(0.140)	1.510	0.835	1.107	
M	3359.070	29761.59	−0.03	100°-84							
M	3358.606	29765.73	−0.08	7°-14	M	5	(0.121)	0.706	0.343	0.585	
K	3357.404	29776.39	+0.03	153°-160							
M	3357.232	29777.89	+0.01	134°-122							
M	3357.054	29779.50	+0.10	11°-2?							
M	3356.829	29781.46	−0.03	53°-74							
K	3356.25	29786.6	+0.1	94°-110							
M	3355.245	29795.52	+0.16	132°-153?							
C	3354.81	29799.4	−0.1	102°-129							
K	3354.623	29801.07	−0.05	94°-150	K		(0)	0.54			
K	3354.180	29805.01	+0.02	121°-134	K,L		(0)	1.03			
M	3353.96	29807.0	0.0	97°-78	M	7b		0.977	0.977	0.977	0.41
M	3353.16	29814.1	−0.1	20°-42							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3351.599	29827.96	0.00	81°-16							
M	3351.230	29831.25	+0.04	34°-49	M	5	(0.107)	1.389	0.866	1.076	0.48
M	3350.311	29839.39	−0.04	132°-116							
M	3349.884	29839.43	0.00	56°-83							
M	3347.576	29863.80	+0.05	2°-11							
			−0.03	60°-90							
K	3347.28	29866.5	0.0	95°-114							
			0.0	98°-80							
M	3346.559	29872.88	−0.07	53°-115	M	5	(0.185)	1.929	0.608	0.985	0.45
M	3345.38	29883.4	0.0	136°-160							
M	3344.882	29887.86	+0.10	12°-2							
			−0.09	61°-130	L		(0)	1.44?			
			−0.01	82°-51							
K	3344.31	29893.0	0.0	44°-18							
M	3343.815	29897.40	+0.02	93°-68							
M	3343.271	29902.23	0.00	127°-55	M	4	(0.165)	0.667	1.241	(1.571)	
K	3342.07	29913.0	0.0	94°-111							
C	3338.84	29941.9	−0.1	101°-127							
M	3338.400	29945.89	+0.01	52°-108	M	4	(0.092)		(1.061)	0.882	
					K		(0)	0.51			
M	3337.869	29950.64	+0.01	74°-14	M	5	(0.266)	1.908	1.112	0.580	
K	3337.16	29957.0	−0.1	93°-147							
K	3335.062	29975.86	−0.09	42°-17	K		(0.69)	1.10			
			+0.09	83°-51							
M	3334.605	29979.97	−0.18	145°-133	M	6	(0.730)	1.228	1.148	1.311	0.45
K	3334.055	29984.91	+0.07	89°-19	K		(0)	1.20			
K	3333.384	29990.95	+0.09	99°-159							
M	3332.395	29999.85	+0.03	86°-18	M	5	(0.102)	1.469	1.173	0.977	
M	3332.07	30002.8	0.0	132°-176							
K	3331.21	30010.5	−0.1	94°-112							
K	3328.970	30030.71	+0.14	133°-120?							
K	3328.67	30033.4	+0.2	98°-120?							
			+0.1	82°-17							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3328.25	30037.2	+0.1	46°-54	M	4	(0.159)	0.763	1.556	1.240	
M	3327.194	30046.74	+0.01	55°-120	M	5	(0)	1.300	(0.982)	1.072	
M	3326.468	30053.30	−0.04	51°-66	M	6	(0.358)	0.930	0.860	1.000	
M	3325.132	30065.38	−0.08	78°-91	M	5		1.400	1.166	(1.232)	
					L		(0)	1.38			
M	3324.754	30068.79	−0.04	35°-14	M	6	(0.457)	0.732	0.883	0.579	0.39
M	3321.453	30098.68	+0.01	78°-50	M	7b	(0)	1.152	1.152	1.152	
M	3320.302	30109.11	+0.01	130°-107	M	7b		1.001	(1.018)	1.023	
M	3319.63	30115.2	0.0	53°-75							
M	3318.981	30121.09	0.00	15°-7	M	4	(0.123)	0.361	0.489	0.735	
M	3318.21	30128.1	0.0	59°-41							
K	3318.12	30128.9	0.0	10°-15							
M	3317.75	30132.3	0.0	87°-54	M	6	(0.096)	1.223	1.204	1.242	
M	3317.571	30133.89	−0.08	52°-69	M	7b		1.053	1.053	1.053	
M	3316.23	30146.1	−0.1	38°-1	M	4	(0.643)	0.187	0.830	2.116	
K	3315.83	30149.7	0.0	84°-92							
C	3315.55	30152.3	+0.1	136°-127							
K	3314.831	30158.77	+0.01	118°-51	M	5	(0.052)	1.364	1.104	1.000	
C	3314.01	30166.3	+0.1	62°-46							
V	3313.02	30175.3	+0.1	96°-152							
M	3310.51	30198.2	−0.2	2°-39?							
			−0.1	45°-18							
M	3310.249	30200.55	+0.04	39°-1	M	4	(0.454)	0.714	1.168	2.076	
					L		(0)	1.07*			
M	3309.137	30210.69	0.00	52°-27	M	5		1.123	(1.061)	1.018	
M	3308.071	30220.40	+0.08	131°-115							
K	3306.365	30236.02	−0.29	51°-105?	K		(0)	1.01			
M	3304.174	30256.07	0.00	95°-115	M	6	(0.200)	0.900	(0.911)	0.968	
M	3303.487	30262.33	−0.03	56°-125	M	4	(0.134)	0.439	1.339	1.081	
K	3301.767	30278.12	−0.18	113°-49?							
M	3301.651	30279.16	−0.06	55°-121	M		(0.068)		(0.982)	1.118 or 0.846	

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3301.347	30281.95	−0.02	97°-155	L		(0)	1.01			
M	3300.613	30288.68	+0.02	74°-49							
M	3297.828	30314.29	+0.04	131°-151	M	7b		1.091	1.091	1.091	
M	3297.373	30318.44	+0.02	54°-35							
M	3296.607	30325.52	+0.04	17°-82	M	5		1.152	1.15	1.15	
					L		(0)	1.16			
M	3295.529	30335.44	−0.02	119°-52							
			+0.21	100°-160?							
M	3295.320	30337.36	+0.09	40°-1	K		(0.51)				
K	3294.999	30340.32	+0.09	134°-159	K		(0.39)	1.12			
M	3293.943	30350.04	+0.04	95°-151	M	5	(0.086)	1.740	0.925	1.101	0.42
			+0.18	94°-72?							
M	3293.597	30353.20	+0.01	56°-126							
M	3292.518	30363.18	+0.01	130°-148	M	6		1.008	1.008	1.008	0.38
					K		(0.053)	1.017	1.023	1.011	
K	3291.928	30368.62	−0.03	90°-55							
M	3291.743	30370.33	+0.05	116°-133	M	5	(0.089)	1.913	1.139	1.311	
K	3291.603	30371.62	+0.03	97°-117							
M	3291.36	30373.9	0.0	123°-94							
M	3290.127	30385.24	+0.06	153°-181	M	6	(0.729)	1.211	1.275	1.141	
M	3287.787	30406.86	0.00	35°-49	M	5	(0.091)	1.342	0.905	1.083	
M	3286.577	30418.06	+0.09	42°-16	M	6	(0.296)	1.510	1.415	1.612	
M	3282.969	30451.46	+0.11	101°-161?	L		(0)	0.80			
					M	4	(0.071)	0.696	1.335	1.193*	
C	3282.00	30460.5	−0.2	84°-53?							
M	3281.415	30465.88	+0.12	18°-86?							
M	3281.283	30467.11	+0.01	59°-88							
K	3280.95	30470.2	0.0	98°-158							
M	3280.736	30472.19	+0.03	121°-92							
K	3280.375	30475.54	+0.01	82°-16	K,L		(0.19)	0.63			
K	3279.36	30485.0	0.0	94°-73							
K	3278.769	30490.50	−0.05	52°-28	K		(0)	1.000			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3277.901	30498.57	+0.27	95°-75	M	4		0.473	0.914	(1.090)	
K	3275.256	30523.20	+0.04	124°-54							
M,K	3275.069	30524.93	−0.05	124°-135	K		(0.11)	1.90			
M	3274.399	30531.16	+0.06	51°-25							
M,K	3273.904	30535.80	0.00	151°-186	K		(0)	1.12			
					M	6	(0.669)	1.304*			
C	3272.02	30553.4	+0.1	19°-41							
C	3271.89	30554.6	+0.1	153°-161							
M	3270.816	30564.63	+0.04	6°-13	M			0.675	0.575	(0.639)	
M	3270.23	30570.1	0.0	58°-88							
			0.0	59°-129							
M	3269.469	30577.22	+0.02	130°-108	M	5	(0.068)	1.488	1.022	0.887	
M	3267.002	30600.31	+0.02	41°-15	M	6	(0.701)	1.039	1.263	0.796	
M	3266.342	30606.49	−0.10	11°-15							
M	3265.60	30613.4	−0.1	52°-70	M	6	(0.411)	0.978	1.065	0.901	
M	3264.437	30624.36	−0.02	55°-81	M	7b	(0)	0.986	0.986	0.986	
M	3263.033	30637.53	0.00	53°-33							
K	3262.676	30640.88	−0.03	93°-107	M	6	(1.068)	0.867	0.715	1.021	0.37
K	3262.577	30641.81	−0.11	152°-160?							
M	3261.544	30651.49	−0.04	132°-177	M	5	(0.096)	1.989	0.933	1.125	
K,M	3260.930	30657.29	−0.14	131°-152	K		(0.23)	1.36*			
M	3257.935	30685.44	−0.01	99°-124							
M	3257.162	30692.75	+0.01	53°-34	M	4		0.500	(0.601)	0.67	
K	3256.277	30701.10	0.00	131°-175	K,L		(0)	1.20			0.43
K	3255.507	30708.36	+0.03	134°-180	L		(0)	1.01			0.44
M	3254.811	30714.92	−0.03	12°-15	M	5		0.83	0.74	(0.800)	
M	3251.917	30742.23	+0.04	98°-82							0.45
M	3250.193	30758.53	−0.01	133°-122							
M	3249.934	30760.99	−0.18	98°-122?							
K	3248.888	30770.91	+0.09	162°-180	K		(0)	1.55*			
M	3248.554	30774.08	+0.04	15°-69							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3248.371	30775.81	+0.06	16°-80							
K	3246.79	30790.8	+0.1	119°-51							
M	3246.581	30792.75	+0.02	97°-156							
M	3245.760	30800.57	+0.02	84°-52	M	6	(0.620)	1.295	1.172	1.419	
K	3244.514	30812.40	+0.22	87°-94?	K		(0)	1.07			
K	3244.24	30815.0	0.0	54°-117							
M	3243.77	30819.5	0.0	100°-86							
M	3243.034	30826.44	−0.05	132°-155							
M	3242.257	30833.85	−0.04	52°-110							
M	3241.112	30844.74	+0.01	81°-15	M	5	(0.181)	1.717	1.168	0.801	
M	3240.605	30849.54	+0.03	56°-127							
K	3240.484	30850.72	+0.04	135°-160							
			−0.04	15°-27							
K	3239.282	30862.17	+0.05	130°-170	K		(0)	0.985			
M	3238.799	30866.74	+0.02	153°-182							
M	3238.118	30873.23	0.00	37°-50	M	4	(0.076)	0.929	1.298	1.151	
K	3236.775	30886.06	+0.01	10°-1							
M	3235.843	30894.96	−0.02	93°-148	M	5	(0.141)	1.985	0.725	1.005	0.39
M	3233.62	30916.2	+0.1	132°-117							
M	3233.334	30918.93	−0.10	90°-19	M	4		0.489	1.150	1.589	
M	3230.869	30942.52	−0.07	85°-92	M	7b	(0)	0.970	0.944	(0.953)	
M	3229.014	30960.30	0.00	52°-111	M	4	(0.052)	0.675	1.067	0.955	
M	3227.767	30972.26	+0.08	73°-13	M	5	(0.293)	2.064	1.217	0.641	
M	3227.011	30979.48	−0.09	120°-51							
			−0.06	130°-171							
M	3226.121	30988.06	+0.01	94°-74	M	7b?		1.111	(1.132)	1.140	
K	3225.90	30990.2	+0.1	75°-14							
M	3225.359	30995.38	−0.07	122°-92	M	6	(0.405)	1.012	1.068	0.952	
M	3223.803	31010.34	−0.06	79°-91	M		(0.080)		1.075	(1.232)	
M	3223.284	31015.33	+0.01	54°-118	M	4	(0.076)	0.122	1.088	0.938	
M	3221.88	31028.8	−0.2	153°-189	M		(0.076)		(1.267)	1.115	
M	3221.293	31034.47	−0.05	151°-177							0.36
C	3221.25	31034.9	+0.1	134°-124							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3220.348	31043.61	0.00	79°-50	M	6	(0.191)	1.140	1.087	1.163	0.72
M	3218.864	31057.92	0.00	52°-112	M	5		1.130	(1.061)	1.082	
K	3218.76	31058.9	0.0	53°-77							
M	3218.317	31063.19	−0.01	17°-11							
			+0.13	150°-136?							
M	3217.856	31067.65	−0.03	46°-18							
M	3217.733	31068.81	−0.07	161°-134							
M	3217.457	31071.50	+0.02	43°-53	M	4	(0.104)	0.704	1.232	1.020	
V	3216.63	31079.5	0.0	94°-115							
K	3215.772	31087.78	+0.07	130°-109	K		(0)	1.00			
K	3213.573	31109.05	+0.05	93°-108	M	6	(0.557)	0.795	0.714	0.874	
M	3212.811	31116.43	+0.04	132°-118	M	7b?		0.907	(0.931)	0.938	
K	3212.130	31123.03	0.00	121°-52							
V	3211.45	31129.6	+0.2	131°-153?							
K	3211.34	31130.7	+0.1	15°-28							
C	3210.32	31140.6	−0.1	130°-149	L		(0.26)	1.07			
M	3209.33	31150.2	0.0	101°-88	M	4 or 5	(0.092)		1.296	(1.112)	
M	3208.025	31162.84	+0.03	87°-18	M	5	(0.112)	1.534	1.213	0.993	
K	3207.785	31165.19	+0.03	95°-153							
M	3206.935	31173.45	+0.01	94°-151	M	7b	(0)	1.052	(1.132)	1.114?	
			−0.03	131°-116	M	7b	(0)	1.052	(1.086)	1.097	
M,K	3203.874	31203.22	+0.14	124°-94	M	6	(0.296)	1.084	1.042	1.126	
			−0.07	96°-78							
K,M	3203.246	31209.34	−0.14	151°-155							
			+0.11	95°-116							
M	3201.225	31229.02	+0.02	60°-44	M		(0.283)		1.488	(0.922)	
M	3200.557	31235.56	−0.01	97°-80	M	4	(0.073)	0.608	0.969	1.111	
K	3198.973	31251.03	−0.04	51°-67	K		(0.18)	0.94			0.94
M	3198.702	31253.65	+0.05	85°-53	K		(0.20)	1.04			
			+0.03	15°-70							
K	3198.480	31255.85	+0.07	84°-51	K		(0.46)				
K	3194.25	31297.2	+0.1	93°-69							
M	3193.311	31306.44	−0.02	122°-53	M	5	(0)	1.136	1.062	(1.034)	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3193.17	31307.8	−0.1	99°-160							
M	3192.098	31318.31	+0.08	98°-123							
M	3191.835	21320.89	0.00	133°-159							
K	3191.219	31326.96	+0.06	96°-154	K		(0)	0.95			
M	3191.095	31328.18	+0.05	75°-49	K		(0.81)	0.87*			
M	3190.73	31331.8	0.0	55°-123							
M	3190.34	31335.6	+0.1	55°-38							
K	3190.169	31337.27	+0.02	132°-156	M	6	(0.754)		(0.931)	1.097	
					M	6	(0.754)	0.933	0.849	1.017*	
M	3190.074	31338.20	+0.02	53°-78	M	6	(1.000)		(0.601)	1.001	
K	3189.04	31348.4	0.0	47°-3							
M	3188.281	31355.84	0.00	36°-14	M	6	(0.677)	0.814	1.039	0.588	
K	3188.227	31356.36	+0.12	146°-133	K,L		(0)	1.293			
M	3188.188	31356.71	−0.18	60°-45?							
K	3188.116	31357.45	+0.04	41°-1							
K	3187.46	31363.9?	+0.2	11°-1?							
K	3187.402	31364.47	+0.04	86°-93	K		(0)	1.17			
M	3184.952	31388.60	0.00	51°-106	M	5	(0.062)	1.311	0.869	0.996	0.71
M	3183.794	31400.02	0.00	126°-54	M	7b	(0)	1.230	1.230	1.230	
K	3183.565	31402.27	−0.03	97°-120	K		(0.24)	1.11			
M	3182.648	31411.32	−0.02	43°-52	M	5	(0.085)	1.667	1.254	1.423	
M	3182.403	31413.74	+0.07	15°-71							
M	3181.76	31420.1	0.0	152°-161							
M	3181.189	31425.73	−0.26	52°-30	M	5	(0.063)	1.257	1.071	0.947	
M	3180.199	31435.51	+0.01	114°-49	M	7b	(0)	1.074	1.074	1.074	0.39
K	3179.046	31446.88	−0.08	115°-91	L		(0.24)	0.82			0.57
K	3178.787	31449.47	−0.01	101°-89	K		(0)	1.67			
M	3177.874	31458.51	+0.10	18°-88	M	4	(0.123)	0.720	1.35	1.10	
K	3177.37	31463.5	+0.2	136°-129?							
			−0.2	148°-93?							
M	3177.198	31465.20	−0.01	130°-110	M	7b		1.084	(1.018)	0.999	

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3176.507	31472.05	−0.02	12°-1	M	6	(0.711)	1.405	0.694	2.116	
M	3175.730	31479.75	−0.03	130°-150	M	6	(0.138)	1.001	1.016	0.985	0.34
K	3175.056	31486.43	+0.15	17°-83?							
M	3174.460	31492.32	+0.02	82°-15	M		(0.207)		1.214	(0.800)	
M	3174.166	31495.26	−0.02	77°-14	M	5	(0.181)	1.503	0.959	0.597	0.70
M	3173.214	31504.71	−0.02	52°-31	M	7b		1.113	(1.061)	1.027	
K	3172.02	31516.6	0.0	94°-152							
M	3171.665	31520.09	−0.04	16°-81							
M	3170.429	31532.38	+0.02	52°-73	M	6	(0.238)		(1.061)	0.966	
			−0.07	57°-129							
M	3169.279	31543.82	+0.08	117°-133	M	5	(0.100)	2.014	1.120	1.320	
C	3168.73	31549.3	+0.1	54°-119							
C,M	3167.545	31561.09	+0.17	153°-190?							
			−0.14	100°-128?							
M	3166.102	31575.47	0.00	51°-68	M	6	(0.056)	0.875	0.863	0.886	0.76
M	3165.822	31578.23	−0.03	121°-51	M		(0.122)		1.230	(0.986)	
M	3165.622	31580.26	+0.06	83°-15							
M	3164.483	31591.62	0.00	130°-111	M	5		1.188	(1.018)	0.97	
V	3164.28	31593.7	+0.2	85°-52	M	6	(1.206)		0.937	(1.419)	
M	3162.836	31608.08	0.00	96°-79	M	5		1.338	(1.173)	1.107	
M	3161.693	31619.47	−0.05	93°-109	M	6	(1.203)	0.900	0.728	1.072	
M	3161.071	31625.72	−0.03	7°-13							
M	3160.821	31628.20	+0.02	132°-157							
M	3160.179	31634.62	−0.17	97°-121?							
M	3159.013	31646.32	0.00	122°-52	M	4	(0.173)	0.207	1.059	1.402	
C	3158.62	31650.3	0.0	17°-84							
M	3158.612	31650.31	+0.01	132°-119							
K	3157.905	31657.44	+0.15	134°-160	M	6?	(0.073)	1.171	1.179	1.163?	
M	3156.399	31672.50	−0.03	93°-149	M	5	(0.182)	2.354	0.718	1.082	0.47
M	3155.833	31678.18	−0.10	96°-155	M	4	(0.084)	0.343	1.157	0.974	0.49
K	3155.590	31680.66	−0.09	15°-29							
K	3154.765	31688.94	−0.05	133°-180	L		(0)	0.57			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3154.730	31689.29	+0.05	130°-112							
M	3154.26	31694.0	+0.1	36°-49	M	7b	(0)	1.101	1.060	(1.076)	0.54
M	3151.82	31718.5	−0.1	56°-41							
K	3151.65	31720.3	0.0	151°-156	K		(0)	1.14			
M	3150.457	31732.24	−0.04	152°-182	M	6	(0.489)	1.829	1.785	1.874*	
					L		(0.48)	1.25			
M	3149.960	31737.28	+0.04	52°-114	M	5		1.194	(1.061)	1.100	
C	3146.07	31776.5	+0.1	62°-48							
M	3146.041	31776.81	+0.10	93°-70	M	4	(0.085)	0.280	0.707	0.878	0.34
C	3144.71	31790.3	−0.2	100°-87?							
K	3142.837	31809.20	+0.04	131°-154	K,L		(0)	1.10			0.31
K	3142.71	31810.5	−0.1	74°-13							
M	3141.849	31819.20	0.00	52°-32	M	5	(0.159)	1.551	1.069	0.748	
V	3141.33	31824.5	0.0	3°-43							
M	3140.975	31828.05	+0.02	55°-39	M	4	(0.175)	0.459	(0.982)	1.337	
K	3139.869	31839.26	0.00	97°-158							
M	3139.307	31844.94	+0.03	95°-154	M	5	(0.102)	1.777	0.892	1.092	
K	3139.232	31845.73	−0.02	54°-120	K		(0)	1.12			
M	3137.174	31866.62	+0.05	43°-51	M	4	(0.130)	0.586	1.245	0.983	
M	3136.70	31871.4	0.0	101°-90							
K	3134.420	31894.62	+0.10	152°-189	K,L		(0)	1.35			
M	3133.619	31902.77	−0.02	53°-117	M	5	(0.201)	2.031	0.604	1.012	
M	3131.070	31928.74	−0.03	35°-13	M	6	(0.381)	0.763	0.889	0.639	
K	3130.29	31936.7	0.0	93°-71							
M	3129.297	31946.83	+0.01	132°-120	M		(0.071)		(0.931)	1.088	
M	3128.627	31953.65	−0.19	60°-46?	M		(0.245)		1.493	(1.003)	
M	3127.207	31968.18	0.00	96°-118	M	6	(0.810)	1.056	1.174	0.943	
K	3125.499	31985.62	+0.04	131°-177	L		(0)	1.21			0.42
K	3125.203	31988.67	+0.07	94°-153	L		(0)	1.28			
M	3124.388	31997.02	0.00	93°-110	M	6	(0.923)	0.857	0.722	0.986	
M	3122.962	32011.63	+0.08	93°-150	M	5	(0.126)	1.883	0.730	0.986	0.35
					L		(0)	1.44*			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3122.34	32018.0	−0.1	98°-124	M	6	(0.395)				
M	3121.01	32031.7	0.0	55°-124	M	5		1.243	(0.982)	1.056	
V	3120.91	32032.7	0.0	94°-116							
M	3119.484	32047.32	+0.19	145°-91	M	4		0.907	1.159	(1.232)	0.44
M	3117.661	32066.06	0.00	15°-30	M	6	(0.659)	0.704	0.489	0.928	0.31
M	3116.476	32078.25	+0.01	54°-121							0.46
K	3116.299	32080.07	+0.13	126°-94	K		(0.29)	1.17			
C	3115.2	32091	0	53°-36?							
M	3114.208	32101.61	+0.06	122°-51	M	5		1.255	1.062	(0.986)	
M	3114.068	32103.05	−0.02	53°-118	M	5	(0.176)	1.786	0.599	0.939	
M	3112.087	32123.46	+0.03	93°-111							
M	3111.831	32126.13	+0.04	95°-79	M				(0.911)	1.115	
K	3111.769	32126.77	−0.08	52°-115							
M	3110.022	32144.82	+0.02	15°-31	M	6	(0.782)	0.757	0.492	1.013	0.39
K	3108.304	32162.59	−0.09	130°-173	K,L		(0)	1.30			0.38
			+0.03	59°-131							
K	3107.35	32172.5	0.0	15°-73							
M	3107.029	32175.78	+0.01	15°-8	M	4	(0.229)	0.260	0.487	0.943	0.43
M	3106.691	32179.26	−0.05	132°-121							
K	3105.752	32189.01	−0.03	96°-156	K,L		(0)	1.01			0.34
M	3105.477	32191.86	0.00	42°-1	M			1.077	1.422	(2.112)	
M	3105.053	32196.23	−0.06	95°-155							
M	3102.666	32221.03	−0.02	93°-112	M	6	(1.296)	0.904	0.721	1.091	
M	3101.691	32231.15	−0.07	16°-38	M	6	(0.577)		(0.832)	1.219	
					K		(0.58)	1.00			
K	3100.799	32240.43	−0.01	149°-135							
M	3099.863	32250.16	0.00	131°-117	M	5		1.400	(1.086)	1.00	
K	3099.739	32251.45	+0.17	88°-94?	K		(0)	1.33			
K	3098.386	32265.53	+0.04	94°-77							
K	3098.327	32266.15	+0.04	134°-181							
M	3097.270	32277.16	+0.03	38°-50	M	5	(0.168)	1.649	0.830	1.160	
M	3096.434	32285.87	−0.04	95°-117	M	6	(0.331)		(0.911)	1.006	
					K		(0.33)	0.98			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
C	3096.29	32287.4	+0.1	17°-85							
M	3095.764	32292.86	−0.04	20°-46	M	6	(0.406)		(1.277)	1.005	
K	3093.26	32319.0	0.0	51°-107							
K	3092.96	32322.1	−0.1	98°-125							
M	3092.35	32328.5	−0.1	162°-181							
V	3091.66	32335.7	0.0	55°-125							
M	3090.102	32352.03	−0.06	78°-14	M	5	(0.279)	1.984	1.145	0.581	
M	3089.631	32356.93	−0.02	56°-89							
M	3088.842	32365.22	+0.03	13°-17							
M	3088.473	32369.09	+0.01	52°-75	M	6	(0.036)	1.071	1.064	1.079	0.40
K	3087.09	32383.6	−0.2	132°-158?							
C	3086.57	32389.1	−0.1	16°-11							
V	3084.54	32410.4	−0.1	133°-126							
M	3084.28	32413.1	0.0	98°-126							
M	3083.852	32417.56	−0.13	55°-40	M	4	(0.184)	0.463?	(0.982)	1.346	
M	3083.300	32423.40	0.00	54°-81	M	6	(0.270)		1.087	0.979	0.5
M	3083.004	32426.48	−0.09	55°-126	M	5	(0.099)		(0.982)	1.184	
			0.00	152°-190							
M	3081.982	32437.26	0.00	116°-91	M	6	(0.318)		1.141	(1.232)	
					K		(0.28)	1.20			
M	3081.662	32440.63	+0.06	127°-135	M	7b		1.212	1.254	(1.242)	
V	3081.03	32447.3	0.0	47°-54							
K	3080.220	32455.82	−0.02	151°-187	K,L		(0)	1.11			0.42
K	3079.888	32459.31	+0.04	15°-32							
M	3078.832	32470.45	−0.02	116°-50	M	7b		1.104	1.146	(1.163)	0.44
K	3078.744	32471.37	+0.08	91°-95							
M	3077.936	32479.92	−0.01	96°-157	K		(0)	0.96			
M	3077.343	32486.16	−0.03	95°-118	M	6	(0.083)	0.928	0.916	0.940	0.47
M	3076.050	32499.79	−0.05	60°-132	M	4	(0.122)	0.610	1.464	1.220	
M	3075.832	32502.09	0.00	96°-119	M	6	(0.844)	1.231	1.352	1.111*	

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	3075.29	32507.8	0.0	86°-92							
V	3073.42	32527.6	+0.2	87°-93?							
M	3072.831	32533.86	−0.06	99°-128							
M	3072.120	32541.39	−0.03	80°-91	M	5	(0.093)	1.699	1.059	1.243	0.41
K	3071.78	32545.0	+0.3	94°-78?							
K	3070.818	32555.18	+0.03	132°-179	L		(0)	1.31			
M	3068.987	32574.60	−0.03	80°-50	M	6	(0.276)	1.123	1.068	1.178	
M	3066.420	32601.87	−0.04	88°-18	M	7b	(0)	1.020	0.993	(0.977)	
M	3065.935	32607.00	−0.04	148°-92							
C	3063.19	32636.3	−0.1	85°-16							
M	3063.132	32636.85	−0.13	53°-119	M	5	(0.159)	1.738	0.625	0.943	
K	3063.030	32637.95	0.00	133°-160	M	6?	(0.169)	1.217	1.236	1.198	0.51
M	3061.703	32652.10	−0.04	130°-174	L		(0)	1.25			0.46
M	3061.28	32656.6	−0.1	58°-44							
K	3060.174	32668.41	+0.06	94°-154	K,L		(0)	1.06			0.78
M	3058.142	32690.09	−0.03	78°-49							
M	3057.904	32692.63	+0.01	97°-159							
M	3057.642	32695.44	−0.05	93°-73							
V	3056.86	32703.8	−0.2	98°-85?							
M	3056.099	32711.97	−0.02	44°-53	M	4	(0.218)	0.387	1.472	1.038	
M	3054.997	32723.77	−0.01	16°-39	M	6		1.087	0.835	1.355	
M	3051.796	32758.10	−0.07	130°-115	M			1.091	(1.018)	0.997	
K,M	3050.987	32766.78	+0.01	151°-158	K		(0)	1.074			
			+0.01	53°-80							
M	3049.866	32778.80	−0.11	56°-90	M	6		1.271	1.338	1.203	
M	3049.093	32787.11	+0.01	51°-108	M	7b		0.905	(0.857)	0.871	0.78
K	3048.01	32798.8	+0.2	96°-120?							
M	3046.954	32810.12	−0.13	21°-48?							0.43
			−0.02	162°-182							
V	3046.16	32818.7	−0.1	86°-53							
M	3045.568	32825.08	0.00	151°-188	M	4	(0.078)	0.157	1.125	0.976	
M	3044.756	32833.83	+0.07	2°-42	M	5	(0.214)	1.169	0.530	0.957	
M	3043.249	32850.09	+0.05	75°-13	M	5			1.08	0.62	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3043.068	32852.04	−0.06	130°-151	M	6	(0.314)	1.066	1.020	1.090	
M	3042.312	32860.21	0.00	84°-15	M		(0.185)		1.172	(0.800)	
M	3040.049	32884.64	−0.06	52°-76	M	6	(0.077)	1.036	1.051	1.021	
V	3039.43	32891.4	−0.1	52°-33							
M	3038.600	32900.35	−0.02	93°-114	M	6	(1.387)	0.909	0.715	1.111	
M	3038.005	32906.76	0.00	133°-127	M	5		1.357	(1.245)	1.213	
K,V	3036.93	32918.4	−0.1	124°-93							
			−0.1	149°-94							
M	3035.542	32933.49	+0.04	76°-13	M	5	(0.243)		1.10	0.61	
			−0.01	53°-120	M	5	(0.243)		0.594	(1.080)	
M	3035.113	32938.12	−0.02	151°-179	M	6	(0.567)		(1.128)	1.034	0.42
					K		(0.52)	1.12			
M	3034.069	32949.48	−0.05	94°-79	M	5		1.180	(1.132)	1.113	0.65
					L		(0)	1.18			
K	3032.88	32962.4	+0.2	131°-157?							
M	3031.968	32972.28	−0.10	162°-189	K		(0.55)	1.22			
M	3031.701	32975.19	0.00	51°-69							
M	3030.868	32984.25	−0.10	131°-119	M	5		1.637	(1.086)	0.929	
K	3029.62	32997.9	−0.1	95°-157							
M	3028.580	33009.19	+0.04	15°-75	M	5	(0.298)	1.982	0.499	1.092	
V	3027.61	33019.8	0.0	94°-155							
M	3026.580	33030.99	−0.11	96°-121?	L		(0.27)	1.15			0.40
V	3025.14	33046.7	−0.2	2°-43?							
M	3024.669	33051.87	+0.02	44°-52	M	4?		1.382	1.444	(1.419)	
			−0.07	51°-27?							
M	3022.097	33080.00	−0.01	52°-116	M	4 or 5		1.177	(1.061)	1.095	
M	3019.418	33109.35	0.00	94°-117	M	6	(0.417)	1.082	1.146	1.027	0.74
M	3018.51	33119.3	0.0	150°-135	M	6	(0.691)	1.164	1.101	1.257	
M	3017.47	33130.7	−0.1	54°-123							
M	3017.122	33134.54	+0.05	54°-38	M	4	(0.060)	0.919	1.088	1.202	
K	3015.721	33149.91	+0.02	95°-80	M	4	(0.109)	0.379	0.910	1.124	
M	3014.925	33158.69	0.00	86°-52	M	6	(0.626)	1.296	1.175	1.429	
K	3013.605	33173.21	−0.06	48°-54	K		(0)	1.37			

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	3012.708	33183.09	+0.10	119°-133	M	5	(0.092)	1.944	1.137	1.317	
M	3011.593	33195.37	+0.09	130°-152	M	7b	(0)	1.020	1.020	1.020	
M	3009.725	33215.98	+0.20	36°-13	M	6	(0.596)	0.835	1.036	0.638	
M	3008.491	33229.60	+0.13	147°-133	M	6	(0.791)	1.250	1.133	1.310	0.43
V	3008.29	33231.8	−0.1	132°-123							
M	3008.22	33232.6	+0.1	123°-92							
K	3007.949	33235.59	+0.02	96°-158							
M	3007.82	33237.0	−0.1	132°-159							
K	3007.630	33239.11	+0.16	130°-175?	K		(0)	1.17*			
M	3006.930	33246.84	+0.06	133°-181	M	4	(0.044)	0.692	1.176	1.088?	0.43
M	3006.005	33257.08	0.00	15°-9	M	4		0.000	0.491	1.541	
M	3004.649	33272.09	0.00	97°-83	M	4	(0.092)	0.541	0.982	1.159	
M	3003.855	33280.88	+0.01	131°-120	M	7b	(0)	1.088	1.088	1.088	
K	3003.04	33289.9	−0.1	93°-115							
M	3002.39	33297.1	+0.1	79°-14	M	5	(0.248)	1.826	1.080	0.585	0.69
K	3002.35	33297.6	0.0	51°-109							
M	3001.264	33309.61	−0.02	94°-118	M	6	(0.656)	1.037	1.134	0.945	0.81
K	3000.97	33312.9	0.0	52°-77							
M	3000.922	33313.41	−0.03	16°-40							
M	2999.773	33326.14	+0.34	56°-130	M	4	(0.072)	0.834	1.338	1.194	
V	2998.61	33339.1	0.0	9°-14							
M	2997.15	33355.3	+0.1	77°-13	M	5	(0.160)	1.418	0.951	(0.639)	
M	2996.980	33357.22	+0.11	45°-52	M	5	(0.050)	1.576	1.33	1.43	
V,C	2996.225	33365.63	+0.23	3°-44?							
M	2995.270	33376.27	+0.01	96°-81	M	5	(0.098)	1.662	1.179	0.985	0.43
V	2994.59	33383.8	−0.1	93°-151	M		(0.174)		(0.718)	1.066	
M	2993.803	33392.62	0.00	160°-133	M	4	(0)	1.022	1.259	(1.312)	0.42
V	2993.63	33394.6	0.0	124°-134							
M	2991.693	33416.15	+0.08	133°-161							
K	2991.05	33423.4	+0.1	146°-91	K		(0)	1.45			
M	2989.912	33436.07	0.00	97°-84	M	4	(0.100)	0.488	0.982	1.181	
M	2988.234	33454.85	+0.05	51°-70	M	6	(0.160)	0.873	0.84	0.91	0.70

* These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2986.788	33471.05	+0.05	43°-15	M	6	(0.675)	1.026	1.254	0.804	
M	2985.246	33488.34	−0.01	41°-50	M	4	(0.060)	1.035	1.30	1.18	
V	2984.81	33493.2	−0.1	3°-45							
M	2983.818	33504.34	0.00	162°-190	L		(0.19)	1.25			0.47
M	2983.566	33507.17	+0.09	44°-51	M	4	(0.240)	0.250	1.446	0.967	
V	2983.22	33511.1	−0.1	53°-81?							
M	2983.020	33513.29	−0.07	131°-121							
M	2982.018	33524.58	−0.19	15°-76?							
M	2981.850	33526.44	−0.14	96°-122?							
K	2981.51	33530.3	−0.2	94°-156?	K		(0)	1.082			
M	2981.362	33531.96	−0.25	93°-75	M	4	(0.200)		(0.718)	1.094	
M	2980.338	33543.48	−0.04	123°-53	M	5	(0.106)	1.784	1.255	1.045	
K	2976.658	33584.95	−0.14	90°-94	K		(0)	1.05			
M	2976.020	33592.15	+0.07	52°-78	M	6	(0.185)	1.016	1.053	0.979	
M	2974.013	33614.82	0.00	51°-71	M	6	(0.785)	1.012	0.853	1.168	0.65
K	2973.544	33620.12	−0.01	151°-159	K,L		(0)	1.19			0.40
M	2972.932	33627.04	−0.01	54°-39	M		(0.137)		(1.088)	1.349	
M	2972.224	33635.05	−0.01	79°-49	M	7b	(0)	1.068	1.068	1.068	
M	2971.439	33643.93	0.00	117°-50	M	4?		1.040	1.127	(1.163)	
			+0.09	57°-45							
V	2970.61	33653.3	+0.2	85°-15?							
C	2969.9	33661	0	53°-122?							
M	2969.363	33667.43	+0.17	130°-153?	M	6	(0.712)		(1.018)	1.176	
					K		(0.63)	1.05			
M	2969.069	33670.76	−0.05	87°-92							
M	2968.685	33675.14	+0.03	51°-110	M	5	(0.065)	1.295	0.868	0.990	0.63
K	2966.53	33699.6	0.0	81°-91							
V	2966.16	33703.8	+0.2	19°-46?							
M	2965.501	33711.30	−0.03	130°-116	M	4		0.748	(1.018)	1.095	
K	2964.927	33717.82	−0.01	131°-158	K		(0.200)	1.09			
M	2964.113	33727.08	−0.01	93°-152	M	5		2.094	0.707	1.014	
M	2964.008	33728.25	−0.06	133°-182							
M	2963.609	33732.82	+0.03	81°-50	M	7b	(0)	1.165	1.165	1.165	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2961.765	33753.79	+0.21	95°-158?							
M	2958.142	33795.14	−0.04	126°-93	M	6	(0.207)	1.204	1.234	1.174	
M	2957.922	33797.67	+0.22	150°-94?	M	4	(0.000)	1.000	1.000	1.000	
M	2957.590	33801.46	−0.06	51°-111	M	5		1.153	0.857	0.942	0.76
M	2956.638	33812.34	0.00	45°-51	M	4	(0.160)	0.504	1.302	0.983	
K	2955.83	33821.6	+0.2	94°-157?	K		(0)	1.03			
M	2955.605	33824.16	0.00	13°-15	M	5	(0.270)	1.068	0.261	0.799	
M	2955.038	33830.66	0.00	54°-124	M			1.044	(1.088)	1.075	
M	2954.889	33832.36	+0.03	15°-10							
K	2951.210	33874.53	−0.09	130°-176	K		(0)	1.66			
					M	5	(0.056)	1.667	1.051	1.163	
V	2950.76	33879.7	+0.2	54°-84?							
M	2950.442	33883.35	−0.03	123°-52	M	4	(0.089)	0.803	1.240	1.413	
K	2949.930	33889.23	+0.03	131°-179	K		(0)	0.81			0.39
M	2949.491	33894.27	0.00	95°-81	M	4	(0)	0.824	(0.911)	0.986	
M	2949.069	33899.13	−0.01	51°-112	M	5	(0.113)	1.662	0.869	1.098	0.58
M	2946.606	33927.43	−0.06	58°-132	M	5	(0.085)	1.661	1.089	1.255	
M	2946.235	33931.73	0.00	132°-124	M		(0.064)		(0.931)	1.049	
V	2943.96	33958.0	+0.2	45°-17?							
K	2942.864	33970.60	+0.04	121°-133	K,L		(0)	1.50			0.46
M	2942.634	33973.25	−0.08	94°-80	M	7b	(0)	1.122	1.122	1.122	0.80
M	2941.899	33981.74	−0.08	87°-53	M	6	(0.416)		1.206	(1.034)	
K	2941.341	33988.19	−0.04	151°-180	K		(0)	1.119			
M	2940.589	33996.87	0.00	52°-79	M	6	(0.075)	1.090	(1.061)	1.101	
K	2940.293	34000.30	+0.18	17°-89?							
M	2938.106	34025.61	0.00	95°-82	M	4	(0.117)	0.308	0.909	1.149	
M	2937.445	34033.26	+0.04	17°-42	M	6	(0.335)	1.062	1.170	0.948	
M	2936.469	34044.55	−0.04	95°-122	M	6	(0.419)	0.737	0.737?	0.677*	
M	2936.194	34047.74	−0.09	93°-76	M	4	(0.142)	0.377	(0.718)	1.024	
K	2935.76	34052.8	0.0	91°-19							
			−0.2	99°-130?							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	2934.97	34062.0	+0.3	124°-92?	K		(0.26)				
			−0.1	125°-92	K		(0.26)*				
M	2934.141	34071.56	−0.06	115°-49	K		(0)	1.40*			
M	2933.104	34083.63	−0.01	96°-123	M	6	(0.517)	1.130	(1.173)	1.025	
M	2932.647	34088.92	−0.01	96°-159							
M	2932.148	34094.74	0.00	44°-16	M	6	(0.205)		1.471	(1.608)	
M	2930.913	34109.12	−0.20	55°-87?	M		(0.082)	1.085	1.069	1.102*	
V	2928.69	34135.0	+0.2	54°-125?							
M	2928.256	34140.06	0.00	94°-120	M	6	(0.147)	1.116	1.137	1.095	0.70
M	2922.990	34201.56	−0.02	86°-16	M	4			1.173	1.616	
M	2922.801	34203.77	−0.05	48°-18							
M	2920.935	34225.60	−0.02	54°-126							
M	2920.372	34232.22	+0.07	15°-78	M		(0.251)		(0.492)	0.987	
V	2920.07	34235.8	−0.1	132°-125							
M	2919.842	34238.43	+0.01	51°-72	M	6	(0.993)	1.052	0.854	1.251	0.59
K	2919.42	34243.4	−0.1	17°-12							
V	2919.18	34246.2	−0.1	17°-43							
M	2917.39	34267.2	0.0	51°-30	M	4		0.768	(0.857)	0.916	0.72
V	2917.04	34271.3	−0.1	126°-134							
V	2914.60	34300.0	−0.1	15°-35							
M	2912.760	34321.68	0.00	87°-52	M	6	(0.545)	1.314	1.207	1.425	0.56
M	2912.664	34322.77	−0.03	42°-50							
M	2912.012	34330.49	+0.02	8°-13	M	4	(0.431)	0.205	1.492	0.630	0.41
M	2911.324	34338.60	−0.01	123°-51	M	5	(0.129)		1.247	(0.986)	
					K		(0.14)	1.45*			
M	2910.597	34347.18	+0.03	82°-91	M	7b?		1.251	1.222	(1.232)	
			+0.17	130°-154?							
M	2909.767	34356.97	0.00	52°-118	M	4	(0.041)	0.664	1.03	0.95	
V	2908.99	34366.2	0.0	89°-93							
M	2908.359	34373.61	+0.03	51°-73	M	6	(0.288)	0.910	0.857	0.972	
V	2907.79	34380.3	0.0	82°-50							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2906.126	34400.02	+0.02	45°-16							
M	2905.934	34402.28	−0.12	134°-130?							
V	2904.71	34416.8	−0.1	98°-89							
M	2904.254	34422.19	+0.11	17°-90	M	7b		1.214	(1.167)	1.186	
M	2903.565	34430.36	0.00	55°-89	M	6	(0.384)	1.054	0.977	1.131	
M	2903.170	34435.04	−0.01	83°-91							
M	2899.724	34475.96	0.00	93°-77	M	4	(0.070)	0.369	0.714	0.852	0.40
M	2899.373	34480.11	−0.17	99°-131?							
M	2897.071	34507.52	+0.04	101°-132	M	6	(0.164)	1.288	1.312	1.264	
K	2895.76	34523.2	−0.3	130°-177?							
M	2895.143	34530.51	−0.04	38°-14	M	6	(0.369)	0.703	0.822	0.582	0.55
M	2892.175	34565.95	+0.05	131°-123	M	5		1.304	1.092	1.031	
K	2891.24	34577.1	+0.1	94°-158	K		(0)	1.16			
M	2890.893	34581.27	−0.01	13°-1							
V	2889.19	34601.7	0.0	95°-123							
M	2887.821	34618.04	0.00	118°-91	M	6	(0.464)		1.099	(1.232)	0.43
					K		(0.48)	1.38*			
K	2886.51	34633.8	0.0	149°-93	K		(0)	0.95			
M	2886.248	34636.93	−0.01	15°-79	M	5	(0.304)	2.005	0.501	1.104	
K	2885.04	34651.4	+0.2	118°-50?	K,L		(0)	1.02			0.57
M	2884.295	34660.38	−0.04	51°-32	M	5	(0.040)		(0.857)	0.738	0.68
					K		(0.06)	1.08			
M	2883.628	34668.40	0.00	96°-83	M	4 or 5		1.190	(1.173)	1.16	
M	2882.516	34681.77	−0.01	46°-51	M	4	(0.291)	0.109	1.567	0.985	
M	2882.014	34687.81	+0.06	16°-41	M	6	(0.083)	0.856	0.828	0.883	0.47
M	2881.147	34698.22	−0.17	130°-155?	M	6?	(0.092)	1.005	1.026	0.984	
M	2879.533	34717.68	−0.02	94°-81	M	5	(0.070)	1.509	1.136	0.987	
			+0.04	136°-132							
M	2879.205	34721.65	+0.02	40°-14	M	6	(0.789)	0.848	1.107	0.586	
			−0.24	54°-127?							

* These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2876.421	34755.25	+0.04	93°-78	M	4	(0.128)	0.046	0.705	0.963	
M	2874.630	34776.91	0.00	87°-51	M	6	(0.540)	1.099	1.208	0.989	
M	2873.717	34787.95	−0.06	130°-117	M	7b		1.022	1.022	1.022	
			+0.15	97°-161							
M	2870.825	34822.98	−0.03	132°-127							
M	2870.413	34827.99	−0.06	80°-14	M	5	(0.228)	1.736	1.043	0.583	0.53
K	2869.91	34834.1	+0.2	127°-93?	K		(0.29)	1.10			
M	2868.678	34849.06	+0.01	94°-82	M	7b		1.090	1.132	1.149	
M	2868.401	34852.42	+0.10	55°-90	M	6	(0.523)	1.088	0.982	1.191	
V	2867.08	34868.5	−0.1	38°-49							
M	2866.412	34876.61	0.00	51°-74	M	6	(0.707)	0.996	0.849	1.137	
M	2865.230	34890.96	+0.08	52°-119	M	4	(0.063)	0.617	0.932	1.058	
V	2862.61	34922.9	0.0	39°-49							
M	2861.416	34937.50	+0.12	54°-86	M	7b	(0)	1.078	1.078	1.078	
M	2861.338	34938.45	−0.12	126°-92	M	6	(0.986)	1.096	1.232	0.951	
K	2858.92	34968.0	−0.1	51°-115							
M	2857.494	34985.45	−0.01	15°-36	M	6	(1.094)	0.857	0.487	1.218	
M	2855.898	35005.00	−0.07	16°-87	M	5	(0.100)	1.321	0.857	1.043	
M	2854.920	35016.97	−0.17	101°-163?							
K	2854.63	35020.6	−0.1	52°-80							
M	2854.131	35026.65	+0.09	16°-88							
			−0.05	99°-162							
M	2851.445	35059.66	0.00	40°-49	M	7b?		1.030	1.107	(1.076)	
M	2851.261	35061.92	0.00	116°-49	M	5		1.254	1.127	(1.076)	
K	2849.15	35087.9	+0.2	96°-125?	K		(0.28)				
M,K	2847.349	35110.08	+0.17	88°-92?							
			+0.08	149°-134	K		(0.25)	1.12			
M	2845.83	35128.8	+0.1	92°-95	K		(0)	0.90			
K	2843.57	35156.8	−0.2	79°-13?							
M	2843.300	35160.06	+0.06	93°-79	M	5?	(0.194)		(0.718)	1.106	
V	2843.05	35163.2	+0.2	132°-181?							
M	2842.815	35166.09	+0.01	80°-49	M	7b		1.054	1.05	1.05	0.45
V	2842.67	35167.9	+0.1	124°-51							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2841.814	35178.48	0.00	96°-126	M	7b	(0)	1.190	1.190	1.190	
M	2841.168	35186.47	+0.06	95°-83	M	4	(0.122)	0.302	0.912	1.156	
M	2840.156	35199.01	−0.02	9°-13	M	4	(0.161)	0.473	0.970	0.640	
M	2839.335	35209.16	+0.01	130°-156							
M	2839.243	35210.33	+0.03	51°-75	M	6	(0.582)	0.971	0.850	1.085	
V	2838.61	35218.2	−0.2	86°-15?							
M	2837.63	35230.3	+0.1	93°-155							
M	2837.299	35234.43	−0.02	161°-133	L		(0)	1.05			0.31
M	2836.438	35245.14	−0.02	15°-37							
M	2836.049	35249.98	+0.01	119°-91	M	6	(0.346)	1.170	1.121	1.220	
M	2834.484	35269.44	0.00	46°-16	M	6	(0.050)	1.581	1.565	1.598	
M	2833.339	35283.69	+0.02	14°-17	M	4	(0.062)	0.343	2.238	0.975	
M	2832.319	35296.40	−0.05	147°-91	M	4		0.832	1.142	(1.232)	
V	2832.00	35300.4	0.0	90°-93							
V	2831.21	35310.2	+0.1	127°-134							
M	2830.445	35319.76	−0.06	93°-117	M	6	(1.019)	0.860	0.710	1.003	
M	2829.936	35326.12	+0.01	16°-89	M	5	(0.160)	1.606	0.817	1.133	
V	2829.44	35332.3	0.0	132°-161							
M	2827.992	35350.38	−0.01	95°-84							
M	2826.858	35364.58	+0.01	87°-16	M	4	(0.203)	0.591	1.201	1.605	
V	2825.94	35376.1	0.0	134°-162							
K	2823.55	35406.0	0.0	96°-160	K		(0)	1.29			
M	2823.12	35411.4	0.0	3°-47							
V	2822.68	35416.9	+0.1	45°-15							
C	2822.40	35420.4	+0.1	1°-12							
M	2822.362	35420.90	−0.02	88°-53							
M	2822.035	35425.02	−0.07	94°-123	M	6	(0.357)	1.095	1.146	1.044	0.68
K	2821.61	35430.4	0.0	94°-159	K		(0)	1.021			
M	2820.337	35446.33	−0.05	130°-178	M	5	(0.074)	1.787	1.048	1.183	
M	2819.329	35459.02	0.00	46°-2	M	5	(0.155)	1.694	1.546	1.246	
M	2817.139	35486.58	0.00	97°-88	M	4		0.676	0.995	1.127	
K	2816.06	35500.2	+0.1	130°-157	K		(0.32)	1.07			
V	2815.06	35512.8	+0.1	150°-93							

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2814.318	35522.13	−0.07	130°-119							
K	2812.41	35546.3	+0.2	151°-181	K		(0)	1.130			
K	2810.57	35569.5	0.0	16°-12							
M	2808.996	35589.44	0.00	126°-52	M	4	(0.100)	0.798	1.242	(1.419)	
			−0.13	97°-129?							
M	2808.878	35590.92	+0.07	18°-47							
			−0.10	54°-41							
M	2807.825	35604.28	−0.01	53°-85	M	6	(0.158)	0.631	0.600	0.663	
					K,L		(0)	1.08*			
M	2807.717	35605.63	−0.03	95°-125	M	6	(0.590)	1.033	0.949	1.118	
					M	6	(0.590)	1.033	(0.911)	1.074	
M	2803.381	35660.70	−0.04	131°-126							
			−0.04	15°-80							
M	2802.283	35674.70	+0.11	96°-127	M	6	(0.110)	1.197	1.181	1.213	
V	2801.92	35679.3	+0.2	54°-128?							
			+0.2	100°-163?							
M	2800.572	35696.49	0.00	95°-126	M	6	(0.943)	1.037	0.904	1.176	
V	2800.25	35700.6	+0.2	3°-48?							
M	2799.120	35715.01	−0.05	84°-91	M	7b		1.288	1.211	(1.232)	
M	2798.270	35725.87	0.00	14°-16	M		(0.305)	1.302	2.216	1.607	
			−0.02	51°-76							
M	2797.740	35732.62	−0.03	51°-33	M	5		1.034	(0.857)	0.739	
M	2797.026	35741.74	−0.03	41°-14	M	6	(1.019)	0.933	1.265	0.582	
K	2796.51	35748.3	+0.1	84°-50	K		(0)	1.15			
K	2795.53	35760.9	+0.1	88°-52							
V	2795.19	35765.2	+0.2	52°-81?							
M	2794.260	35777.12	−0.05	149°-92	M	5	(0.069)	1.553	1.098	0.965	
V	2794.01	35780.3	+0.1	132°-128							
K	2793.57	35786.0	+0.1	97°-89							
V	2791.66	35810.4	+0.1	133°-131							
M	2791.46	35813.0	+0.1	98°-131							

* These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2791.016	35818.71	−0.01	130°-120	M	4	(0)	0.778	(1.018)	1.087	
M	2790.425	35826.29	−0.18	55°-131?							
V	2788.09	35856.3	−0.1	12°-14							
M	2787.132	35868.62	−0.01	44°-1	M	4	(0.328)	1.136	1.454	2.100	
M	2786.26	35879.8	−0.1	18°-48							
M	2785.613	35888.16	−0.09	131°-160							
M	2785.463	35890.12	−0.12	96°-86?							
M	2784.978	35896.36	−0.03	52°-82	M	6	(0.230)	1.097	1.051	1.143	
C	2783.53	35915.0	−0.1	17°-45							
M	2783.496	35915.44	+0.02	14°-2	M	6	(0.479)	1.730	2.209	1.251	
			+0.07	52°-122							
M	2783.054	35921.17	−0.06	51°-116	M	5	(0.124)	1.734	0.865	1.115	0.70
K	2782.85	35923.8	−0.2	95°-160?							
M	2778.710	35977.33	+0.03	127°-92	M	6	(1.085)	1.089	1.257	0.947	
M	2778.027	35986.16	−0.05	81°-14							1.23
K	2777.81	35989.0	+0.1	150°-134	K		(0.25)	1.15			
K	2776.20	36009.9	0.0	94°-83							
V	2775.02	36025.2	0.0	53°-86							
M	2774.843	36027.44	−0.11	151°-182							
M	2774.51	36031.8	−0.1	93°-157							
K	2774.07	36037.5	0.0	121°-91	K		(0.06)	1.25			
M	2773.960	36038.93	−0.01	91°-54	M	6		1.231	1.231	1.231	
K	2773.54	36044.4	−0.3	126°-51?							
V	2773.03	36051.0	−0.2	130°-121?							
K	2771.51	36070.8	0.0	121°-50	K		(0)	1.35			0.67
M	2770.822	36079.74	−0.06	41°-49	M	4	(0.101)	0.785	1.252	1.064	
					L		(0)	1.02*			
M	2768.848	36105.46	+0.02	148°-133	M	6	(0.661)	1.240	1.167	1.314	0.45
M	2765.127	36154.05	0.00	51°-77	M	6		0.855	0.855	0.855	0.69
M	2764.643	36160.37	−0.03	89°-52	M	6	(0.171)	1.389	1.355	1.423	
M	2763.613	36173.83	−0.04	45°-1	M	4	(0.397)	0.916	1.313	2.107	
			0.00	94°-84							

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
K	2762.84	36184.0	+0.2	93°-80?							
			−0.1	96°-161							
V	2762.40	36189.7	−0.1	151°-189							
M	2760.396	36216.01	0.00	88°-51	M	7b	(0)	0.988	0.988	0.988	
M	2757.365	36255.80	+0.12	130°-158	M	6	(0.555)		(1.018)	1.141	
M	2752.172	36324.22	−0.02	81°-49	M	6	(0.205)	1.113	1.154	1.072	
M	2749.712	36356.70	−0.03	133°-162							
M	2749.542	36358.96	−0.10	43°-50	M	4		1.059	1.234	(1.163)	0.58
M	2749.357	36361.40	−0.07	88°-17							
M	2747.853	36381.31	−0.03	87°-15	M	5	(0.209)		1.203	(0.800)	
					K		(0.21)	1.64			
M	2747.161	36390.47	−0.02	38°-13	M	6	(0.285)	0.731	0.824	0.636	0.61
M	2745.829	36408.13	−0.12	95°-86	M	4	(0.078)		(0.911)	1.069	
M	2743.94	36433.2	−0.1	51°-78							
K	2743.145	36443.75	+0.03	90°-92	L		(0)	1.09			
M	2743.067	36444.78	+0.03	39°-13	M	6	(0.813)	0.899	1.171	0.628	
M	2739.564	36491.41	−0.13	134°-132?	M		(0.104)*				
K	2739.13	36497.2	+0.1	131°-181							
M	2738.813	36501.39	+0.10	51°-35	M		(0.083)		(0.857)	1.023	
M	2738.319	36507.97	0.00	85°-91	M	5	(0.143)	1.940	0.947	1.238	
M	2737.416	36520.01	+0.08	94°-126	M	6	(0.158)	1.147	1.125	1.170	
K	2736.19	36536.4	−0.1	15°-82							
M	2735.830	36541.18	0.00	85°-50	M	6	(0.542)		0.941	(1.163)	
M	2734.354	36560.91	+0.08	122°-91	M	6	(0.555)	1.152	1.081	1.240	0.51
V	2733.22	36576.1	−0.1	42°-14							
M	2732.815	36581.50	−0.07	40°-13	M	6	(0.704)	0.867	1.102	0.638	0.62
V	2732.70	36583.0	0.0	93°-121							
M	2730.267	36615.63	0.00	89°-51	M	6	(0.891)	1.166	1.355	0.999	
M	2729.330	36628.20	+0.03	127°-52	M	4	(0.083)	0.871	1.266	1.424	
M	2728.915	36633.77	−0.01	82°-14	M	5	(0.319)	2.177	1.216	0.577	
M	2727.600	36651.44	+0.10	54°-90	M				(1.088)	1.189	
M	2727.24	36656.3	+0.2	150°-92	M	5	(0.069)	1.560	1.088	0.953	

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2726.490	36666.34	−0.03	131°-161							
M	2725.568	36678.76	−0.01	53°-41	M	4	(0.146)	0.012	(0.601)	0.895	
M	2724.886	36687.94	−0.05	80°-13	M	5	(0.204)	1.656	1.050	0.642	
M	2722.383	36721.67	−0.02	83°-14	M	5	(0.260)	1.892	1.111	0.591	
			−0.08	151°-190							
M	2721.697	36730.92	+0.01	123°-133	M	5		1.483	1.263	(1.312)	
M	2720.829	36742.64	0.00	14°-15	M	4	(0.709)	0.078	2.205	0.787	
K	2720.48	36747.4	−0.1	94°-160							
M	2719.939	36754.64	−0.07	90°-53	M	6	(0.296)	1.089	1.149	1.031	
			−0.15	97°-130?							
M	2719.465	36761.07	−0.02	89°-17	M	5	(0.189)	1.908	1.344	0.967	
M	2716.318	36803.65	−0.02	88°-16	M	4	(0.300)	0.070	0.993	1.602	
V	2712.07	36861.3	+0.1	96°-87							
V	2710.48	36882.9	0.0	96°-88							
M	2708.181	36914.23	−0.02	42°-49	M	4	(0.174)	0.553	1.409	1.065	
M	2707.54	36923.0	+0.1	2°-48	M	5	(0.372)	1.633	0.510	1.257	
M	2704.503	36964.43	+0.28	1°-44	M	5	(0.347)	1.260	0.23	0.92	
M	2703.962	36971.82	+0.01	82°-49	M	6	(0.356)	1.155	1.226	1.084	
M	2702.933	36985.90	0.00	96°-129	M	6	(0.273)		(1.173)	1.095	
M	2700.605	37017.77	−0.01	53°-88	M	6	(1.280)	0.857	0.602	1.111	
M	2698.742	37043.33	0.00	46°-1	M	4	(0.272)	1.291	1.562	2.105	
M	2697.550	37059.70	−0.01	83°-49	M	6	(0.060)	1.092	1.104	1.080	
			+0.18	93°-82?							
M	2696.836	37069.51	+0.02	91°-18	M	5	(0.118)	1.539	1.190	0.957	
V	2696.18	37078.5	0.0	93°-122							
M	2695.822	37083.45	+0.05	127°-51	M		(0.132)		1.260	(0.986)	
M	2695.207	37091.89	−0.10	47°-51	K		(0.09)	0.73			
			−0.13	1°-45?							
K	2695.02	37094.5	−0.1	90°-52							
M	2694.347	37103.75	0.00	130°-123	M	7b		1.022	1.022	1.022	
M	2693.635	37113.55	+0.28	16°-44	M	6	(0.134)	0.881	0.837	0.926	
M	2693.111	37120.78	−0.01	53°-129	M		(0.240)		(0.601)	1.084	
M	2692.422	37130.28	−0.07	10°-13	M	5		0.690	0.537	(0.639)	0.48

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2689.377	37172.31	0.00	52°-124	M	7b		1.096	(1.061)	1.072	
K,V	2688.66	37182.2	0.0	96°-89							
			+0.2	97°-131?							
M	2688.329	37186.80	+0.19	51°-36	M	4	(0.183)	0.311	0.855	1.221	0.57
V	2687.51	37198.1	−0.1	51°-118							
			−0.1	54°-130							
M	2687.138	37203.29	0.00	89°-16	M	4	(0.130)	0.953	1.336	1.596	
K	2684.66	37237.6	+0.2	47°-17?							
M	2684.294	37242.70	0.00	118°-49	K		(0)	1.134			0.44
M	2680.19	37299.7	+0.4	132°-130	M		(0.132)		0.930	(1.194)	
M	2678.938	37317.15	+0.02	53°-89	M	6	(1.351)	0.860	0.589	1.132	
M	2675.670	37362.73	+0.04	48°-52	M	5	(0.160)	1.880	1.14	1.43	
M	2665.892	37499.76	0.00	14°-1	M	7b?	(0)	2.168	2.224	(2.112)	
V	2664.07	37525.4	−0.2	94°-161?							
M	2662.349	37549.66	−0.16	90°-51	M	6	(0.413)	1.067	1.146	0.981	
M	2661.38	37563.3	0.0	53°-43							
M	2658.667	37601.66	−0.05	41°-13	M	6	(0.938)	0.955	1.263	0.635	
K	2658.21	37608.1	+0.1	11°-13							
M	2656.272	37635.56	0.00	93°-123	M	6	(1.077)		(0.718)	1.026	
K	2655.90	37640.8	0.0	93°-159							
K	2653.17	37679.6	+0.2	129°-95	M	6	(0.727)	1.011	1.115	0.919	
			−0.1	47°-16							
M	2652.073	37695.14	−0.14	90°-17	M	4	(0.092)	1.428	1.166	0.991	
M	2650.588	37716.26	−0.11	12°-13	M	7b?		0.616	0.685	(0.639)	0.57
M	2649.873	37726.43	−0.13	132°-131?	M	4	(0.041)	0.500	0.787	0.868?	
M	2649.481	37732.03	−0.07	51°-119							
M	2643.29	37820.4	0.0	88°-15	M	5	(0.099)	1.291	1.001	0.803	
M	2641.494	37846.10	−0.05	81°-13	M	5	(0.264)	1.955	1.160	0.635	
M	2640.393	37861.88	−0.01	51°-80	M	6	(0.671)		(0.857)	1.127	
M	2639.895	37869.03	−0.20	47°-2	K		(0)	1.13			
M	2639.508	37874.57	−0.05	119°-49	K		(0)	1.00*			

*These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2633.333	37963.38	0.00	48°-17	M	6	(0.223)		1.117	(0.968)	
					K		(0.220)	1.05			
M	2630.825	37999.57	0.00	44°-50	M	4	(0.154)	0.717	1.462	1.164	
K	2630.68	38001.7	0.0	84°-14							
M	2628.816	38028.61	−0.01	51°-120	M	5	(0.113)	1.666	0.868	1.097	
M	2626.403	38063.55	−0.04	52°-127	M	5	(0.087)	1.586	1.086	1.229	
			+0.03	120°-49							
M	2625.736	38073.22	+0.02	86°-91	M	5?		1.332	1.194	(1.232)	
M	2623.454	38106.33	−0.08	86°-50	M	7b	(0)	1.163	1.163	1.163	
M	2622.354	38122.31	+0.10	95°-90	M		(0.135)		(0.911)	1.188	
K	2618.90	38172.6	+0.2	148°-91?	K		(0)	1.06			
V	2617.14	38198.3	−0.2	15°-40?							
M	2615.353	38224.35	+0.01	94°-88	M	6	(0.080)	1.110	1.122	1.099	
M	2611.686	38278.02	−0.08	49°-54	M	5	(0.175)	1.738	0.924	1.250	
V	2611.13	38286.2	+0.2	53°-130?							
M	2609.855	38304.88	+0.05	45°-50	M	4	(0.063)	0.965	1.280	1.154	
M	2608.327	38327.31	−0.04	94°-129	M	6	(0.148)	1.104	1.125	1.083	
V	2607.78	38335.4	−0.1	93°-124							
M	2607.482	38339.73	+0.01	84°-49	M	6	(0.227)		1.167	(1.076)	
M	2603.011	38405.58	0.00	48°-16	M	6	(0.738)		1.116	(1.608)	
K	2601.62	38426.1	0.0	130°-160							
M	2600.885	38436.97	0.00	126°-133	M	5		1.519	1.253	(1.312)	
M	2597.050	38493.73	+0.01	82°-13	M	5	(0.291)	2.074	1.214	0.640	
M	2595.033	38523.65	−0.04	94°-89	M	7b		1.115	(1.132)	1.139	
M	2590.224	38595.16	0.00	48°-2	M	7b?	(0.067)	1.054	1.121	1.255	
M	2589.063	38612.47	−0.01	43°-14	M	6	(0.993)	0.926	1.250	0.586	
M	2587.25	38639.5	−0.1	93°-125	M	6	(1.269)	0.898	0.717	1.080	
M	2586.153	38665.91	−0.06	151°-162	M	7b?	(0)	1.145	(1.128)	1.124	
V,K	2583.455	38696.27	−0.15	47°-15	M	6	(0.657)	0.976	1.189	0.766	
			−0.08	92°-54							
M	2580.700	38737.59	−0.02	51°-82	M	6	(0.751)	1.000	0.852	1.152	
M	2579.437	38756.56	−0.03	51°-122	M	5		1.473	0.878	1.048	
M	2576.907	38794.60	0.00	85°-14	M		(0.182)		0.950	(0.586)	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2576.690	38797.87	−0.02	123°-91	M	7b	(0)	1.238	1.238	1.238	
M	2574.484	38831.11	+0.01	123°-50	M	5		1.409	1.233	(1.163)	0.65
M	2566.905	38945.75	+0.10	94°-90	M	4		1.008	(1.132)	1.182	
M	2566.589	38950.55	+0.04	43°-49	M	4	(0.084)	0.814	1.234	1.066	
M	2565.597	38965.61	−0.03	13°-14	M	5	(0.162)	0.736	0.262	0.586	
M	2561.937	39021.27	−0.05	93°-85	M	5		0.788	(0.718)	0.690	
V	2561.04	39034.9	0.0	130°-181							
M	2556.480	39104.56	+0.27	53°-44	M	4	(0.157)	0.122	0.605	0.927	
V	2554.64	39132.7	+0.1	85°-49							
M	2553.242	39154.15	−0.10	90°-15	M	5	(0.183)	1.686	1.158	0.804	
M	2551.931	39174.27	0.00	46°-50	M	4	(0.204)	0.551	1.552	1.152	
M	2551.200	39185.49	0.00	122°-49	M	7b	(0)	1.073	1.073	1.073	
M	2548.149	39232.25	+0.07	53°-45	M	4	(0.176)	0.080	0.592	0.953	
M	2547.902	39236.21	+0.02	87°-91	M	5?		1.280	1.21	(1.232)	
					L		(0)	1.22			
M	2545.747	39269.42	+0.02	87°-50	M	6	(0.074)	1.185	1.199	1.170	
M	2545.345	39275.62	+0.05	149°-133	M	6	(0.994)	1.205	1.091	1.312	
M	2542.642	39317.37	+0.01	51°-38	M	4	(0.178)	0.322	0.851	1.205	
M	2538.940	39374.69	0.00	52°-129	M	7b	(0)	1.107	(1.061)	1.075	
K	2538.85	39376.1	−0.2	92°-94?							
M	2535.870	39422.36	+0.01	48°-15	M	6	(0.483)		1.128	(0.800)	
M	2534.604	39442.04	−0.12	93°-86	M	4	(0.178)	0.180	0.719	1.080	
V	2533.87	39453.4	−0.1	47°-1							
M	2532.452	39475.56	−0.14	127°-133	M	7b?		1.430	1.28	(1.312)	
M	2526.342	39571.03	0.00	52°-89	M	6	(0.174)	1.097	1.062	1.132	
M	2525.931	39577.47	−0.02	91°-92	M	4	(0.128)	0.323	1.203	0.951	
M	2521.78	39642.6	−0.2	95°-162?							
K	2520.66	39660.2	−0.1	124°-50	K		(0)	0.92			
M	2516.45	39726.6	−0.3	92°-18?							
M	2511.181	39809.92	0.00	51°-39	M	4	(0.238)	0.112	0.851	1.339	
M	2509.97	39829.1	0.0	53°-46	M	4	(0.200)	0.030	0.592	0.995	
M	2507.92	39861.7	0.0	84°-13	M	5	(0.266)	1.973	1.172	0.639	
M	2505.615	39898.34	−0.07	51°-83	M	6	(0.757)	1.008	0.860	1.163	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2504.275	39919.71	−0.09	94°-131							
M	2499.679	39993.09	+0.10	52°-90	M	6	(0.319)		(1.061)	1.189	
M	2498.863	40006.06	+0.05	130°-129	M	4	(0)	0.844	(1.018)	1.069	
M	2498.402	40013.52	−0.01	51°-124	M	5	(0.104)	1.623	0.88	1.09	
M	2495.353	40062.43	+0.02	51°-84	M	6	(0.813)	1.022	0.860	1.183	
			−0.06	54°-47							
M	2489.64	40154.3	−0.2	150°-133	M	6	(0.989)	1.197	1.091	1.314	
K	2486.133	40210.97	−0.13	15°-89	M	5	(0.322)	2.112	0.502	1.146	
M	2485.058	40228.36	0.00	91°-52	M	6	(0.534)	1.322	1.219	1.429	
K	2479.560	40317.57	−0.10	51°-125							
M	2476.96	40359.9	+0.1	86°-14	M	5	(0.291)	2.045	1.168	0.586	
M	2473.98	40408.5	0.0	51°-126							
M	2468.150	40503.93	−0.02	126°-91	M	7b	(0)	1.236	1.236	1.236	
M	2466.126	40537.17	+0.01	126°-50	M	5		1.374	1.223	(1.163)	
M	2464.844	40558.25	0.00	45°-14	M	6	(1.085)		1.313	0.590	
M	2462.854	40591.02	0.00	44°-49	M	4	(0.197)	0.511	1.471	1.083	
M	2459.007	40654.52	−0.02	85°-13	M	5	(0.148)	1.397	0.951	0.651	
M	2457.751	40675.29	0.00	88°-91	M	5	(0.113)	1.784	1.015	1.237	
K	2456.381	40697.97	+0.14	86°-49?							
M	2456.292	40699.45	+0.04	51°-85	M	6	(0.465)	0.756	0.849	0.663	
M	2455.746	40708.50	0.00	88°-50	M	6	(0.400)		1.003	(1.163)	
M	2448.700	40825.62	0.00	13°-13	M		(0.187)		0.265	(0.639)	
M	2444.469	40896.28	0.00	45°-49	M	4	(0.101)	0.726	1.273	1.055	
M	2443.951	40904.95	+0.14	51°-127	M	5	(0.173)	2.094	0.864	1.217	
M	2440.248	40967.04	−0.10	52°-131	M	5		1.125	(1.061)	1.079	
M	2432.85	41091.6	+0.1	92°-93	M	5	(0.114)	1.776	0.963	1.199	
M	2431.16	41120.1	−0.1	51°-86	M	6	(0.547)	0.970	0.86	1.08	
M	2423.675	41247.15	+0.15	129°-54							
V	2422.26	41271.2	0.0	91°-16							
V	2418.07	41342.7	+0.2	149°-91							
M	2413.405	41422.63	+0.04	123°-49							
M	2407.581	41522.82	0.00	87°-14	M		(0.309)		1.201	(0.586)	
M	2406.434	41542.65	−0.03	127°-91	M	6?		1.242	1.242	1.242	

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
M	2404.510	41575.85	−0.04	127°-50	M	5		1.475	1.252	(1.163)	
M	2404.174	41581.69	0.00	94°-132	M	6	(0.375)	1.197	1.143	1.250	
M	2395.67	41729.3	0.0	50°-18	M	5	(0.156)	1.120*			
M	2393.113	41773.84	−0.05	51°-41	M	7b		0.826	(0.857)	0.878	
M	2388.143	41860.77	−0.08	87°-49	M	6	(0.320)	1.141	1.205	1.077	
C	2388.1	41862	0	51°-128?							
M	2386.81	41884.1	0.0	14°-14	M		(0.818)		2.222	(0.586)	
V	2384.36	41927.2	+0.3	129°-94?							
M	2377.832	42042.27	−0.04	90°-50	M	7b	(0)	1.157	1.157	1.157	
M	2375.075	42091.08	−0.13	51°-87	M	6	(0.424)	0.982	0.896	1.068	
M	2373.846	42112.86	−0.04	51°-88	M	6	(0.639)	1.000	0.862	1.118	
			+0.04	44°-13							
M	2368.051	42215.91	0.00	51°-129	M	5	(0.107)	1.638	0.859	1.081	
M	2367.821	42220.04	+0.27	86°-13							
M	2366.984	42234.98	+0.08	92°-92							
V	2366.02	42252.1	+0.4	124°-49?							
			0.0	125°-49							
K	2362.750	42310.62	+0.19	48°-50?							
M	2356.755	42418.25	+0.06	45°-13	M	6	(1.003)	0.990	1.308	0.640	
M	2355.251	42445.32	−0.03	51°-42	M	7b		0.761	(0.857)	0.921	
M	2354.02	42467.5	0.0	49°-52	M	5	(0.244)	2.186	0.933	1.432	
K	2349.69	42545.8	−0.1	92°-53							
V	2333.87	42834.1	−0.1	51°-90							
K	2331.065	42885.67	−0.10	92°-52							
M	2329.064	42922.51	−0.24	49°-51	M		(0)	1.074	0.927	(0.986)	
M	2326.922	42962.02	+0.10	88°-14	M	5	(0.206)	1.618	1.003	0.591	
M	2317.926	43128.73	+0.12	126°-49							
K	2310.88	43260.2	−0.1	130°-132							
V	2305.46	43361.9	+0.4	89°-14?							
V	2298.86	43486.4	−0.1	92°-17							
V	2290.64	43642.5	+0.3	129°-93?							

* These data are inconsistent with the classifications listed.

Table 6 (continued)

Reference	Wave Length λ (Å)	Frequency σ_{vac} (cm^{-1})	Frequency $\Delta\sigma_{vac}$ (cm^{-1})	Transition	Reference	Observed Zeeman Pattern Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})
V	2287.65	43699.5	−0.1	89°-49							
M	2280.433	43837.76	−0.14	47°-14	M	6	(0.862)		1.161	(0.586)	
M	2263.40	44167.6	+0.3	127°-49?							
M	2243.26	44564.1	+0.3	48°-14?							
M	2239.757	44633.81	+0.05	90°-49	M	6	(0.164)		1.142	1.076	
M	2230.35	44822.0	+0.2	88°-13	M	5	(0.180)	1.531	1.003	0.651	
M	2226.38	44902.0	+0.1	48°-49							
M	2212.87	45176.1	0.0	91°-50							
M	2210.64	45221.6	+0.2	89°-13							
M	2197.63	45489.3	+0.5	50°-17?							
M	2187.60	45697.9	0.0	47°-13							
M	2153.37	46424.2	+0.4	48°-13?							

Table 7. Zeeman Data of Unclassified Th II Lines

λ(Å)	Type of Pattern	Separation (Lorentz units)	p (Lorentz units)	n (Lorentz units)	J_1	J_2	g_1	g_2
6378.76	6	0.184	(0.455)	0.974	2½	2½	1.064	0.882
6369.144	6	0.062	(0.031)	1.029	½	½	1.060	0.998
6289.490	5	0.154	(0.075)	1.663	4½	3½	1.125	0.971
6066.501	4	0.166	(0.083)	0.654	2½	1½	0.903	1.069
6061.48	6	0.084	(0.042)	0.939	½	½	0.897	0.981
6037.692	6	0.076	(0.038)	0.711	½	½	0.749	0.673
6034.50	4	0.211	(0.099)	0.949	2½	1½	1.266	1.477
6000.88	4	0.155	(0.081)	1.532	1½	½	1.610	1.765
5973.669	4	0.172	(0.086)	1.078	2½	1½	1.341	1.513
5910.472	6	0.106	(0.053)	1.113	½	½	1.166	1.060
5194.22	5	0.285		1.042	2½	1½	0.610	0.325
5178.24	6	0.333		0.460	1½	1½	0.624	0.291
4703.992	6	0.290	(0.145)	0.666				
4666.003	4	0.245	(0.119)	0.120	2½	1½	0.472	0.717
4619.562	5	0.122	(0.061)	1.270	3½	2½	0.965	0.843
4619.472	4	0.126		0.649	4½	3½	1.083	1.207
4592.79	6				1½	1½		
4592.668	4 or 5	0.290	(0.145)					
4571.948	6	0.090		0.796	2½	2½	0.753	0.833
4562.374	5	0.120	(0.060)	1.219	4½	3½	0.799	0.679
4555.815	4 or 5	0.178	(0.089)					
4513.827	4 or 5	0.293	(0.146)					
4505.226	5	0.215	(0.112)	1.948	3½	2½	1.388	1.164
4500.04	5	0.198						
4457.931	6	0.272		1.388	2½	2½	1.525	1.253
4443.099	6		(0.652)		3½	3½		
4397.919	4 or 5	0.106	(0.048)		4½	3½		
4342.273	6	0.136			4½	4½		
4341.032	4	0.087	(0.037)	0.721	3½	2½	0.939	1.026
4335.403	6	0.096			2½	2½		
4333.942	6	0.090	(0.674)		7½	7½		
4313.314	4	0.218	(0.109	0.172	2½	1½	0.499	0.717
4309.994	6	0.454	(0.227)	1.116	½	½	1.343	0.889
4308.085	4 or 5	0.090	(0.045)		3½	2½		
4289.926	6	0.103	(0.360)	0.876	3½	3½	0.932	0.829
4281.37	5	0.406	(0.203)	1.335	1½	½	1.132	0.726
4281.119	6				2½	2½		
4265.942	6				1½	1½		
4260.45	5	0.193	(0.097)	2.438	5½	4½	1.565	1.374
4239.889	5	0.276	(0.136)	1.911	3½	2½	1.220	0.944
4199.022	5	0.306	(0.154)	2.264	3½	2½	1.499	1.193
4195.782	5	0.143	(0.071)	1.413	2½	1½	1.199	1.056
4195.561	6	0.138	(0.068)	1.122	½	½	1.191	1.054
4171.349	6	0.390	(0.195)	1.189	½	½	1.384	0.994
4158.567	6	0.283	(1.285)		4½	4½		

Table 7 (continued)

λ(Å)	Type of Pattern	Separation (Lorentz units)	p (Lorentz units)	n (Lorentz units)	J_1	J_2	g_1	g_2
4146.193	4 or 5	0.099	(0.048)		3½	2½		
4140.239	6	0.418	(0.209)	1.047	½	½	1.256	0.838
4134.117	5	0.222	(0.111)	1.937	5½	4½	0.938	0.716
4132.751	6	0.338	(0.169)	0.973	½	½	1.142	0.804
4122.67	6	0.177	(0.789)		4½	4½		
4120.873	6	0.064	(0.284)		4½	4½		
4073.775	6	0.330	(0.165)	1.123	½	½	1.288	0.958
4064.416	4 or 5	0.115	(0.058)		4½	3½		
4062.264	6	0.094	(0.328)		3½	3½		
4042.623	4 or 5	0.122	(0.061)		4½	3½		
4041.207	4	0.334	(0.168)	0.975	1½	½	1.143	1.477
4034.96	4 or 5	0.173	(0.084)		3½	2½		
4032.54	6	0.300	(0.150)	0.881	½	½	1.031	0.731
3996.066	5	0.088	(0.045)	1.469	5½	4½	1.064	0.976
3994.56	6		(0.041)	0.680				
3991.701	4 or 5	0.191	(0.102)		3½	2½		
3979.063	6	0.186	(0.832)	0.871	4½	4½	0.964	0.781
3951.68	5	0.191	(0.092)	1.933	3½	2½	1.446	1.255
3948.971	6	0.144	(0.072)	1.079	½	½	1.151	1.007
3947.315	4 or 5	0.148	(0.072)		4½	3½		
3932.90	4 or 5	0.190	(0.095)		4½	3½		
3920.399	5	0.251	(0.122)	2.038	3½	2½	1.428	1.177
3905.262	5				4½	3½		
3903.206	4 or 5	0.250	(0.127)		4½	3½		
3895.42	6		(0.327)		4½	4½	0.863	0.936
3879.66	4	0.070	(0.035)	0.956	3½	2½	1.131	1.201
3862.501	4 or 5	0.127	(0.052)		4½	3½		
3830.888	6	0.282	(0.671)	1.585	2½	2½	1.719	1.451
3818.485	4 or 5	0.264	(0.129)		3½	2½		
3788.443	4 or 5	0.366	(0.183)		2½	1½		
3776.297	4 or 5	0.167	(0.074)		3½	2½		
3767.905	4	0.182	(0.098)	1.013	2½	1½	1.286	1.468
3743.004	6		(0.144)	1.193	½	½	1.337	1.049
3736.949	4	0.666	(0.335)	1.004	1½	½	1.339	2.005
3724.739	5	0.158	(0.079)	1.733	3½	2½	1.338	1.180
3723.175	4 or 5	0.164	(0.082)		4½	3½		
3708.851	6	0.123	(0.416)		3½	3½		
3702.950	6		(0.114)	1.147	½	½	1.261	1.033
3693.94	6	0.158	(0.720)	1.092	4½	4½	1.172	1.012
3688.763	5	0.090	(0.046)	1.518	3½	2½	1.293	1.203
3681.252	4 or 5	0.323	(0.160)		3½	2½		
3672.362	6	0.154	(0.386)		2½	2½		
3652.168	6	0.120	(0.603)	1.125	5½	5½	1.180	1.070
3635.944	4	0.125	(0.061)	0.608	3½	2½	0.913	1.038
3634.221	4		(0.046)	0.637				

Table 7 (continued)

λ(Å)	Type of Pattern	Separation (Lorentz units)	p (Lorentz units)	n (Lorentz units)	J_1	J_2	g_1	g_2
3614.011	6	0.102	(0.356)	1.196	3½	3½	1.247	1.145
3610.039	4	0.277	(0.138)	0.749	2½	1½	1.165	1.442
3592.776	6	0.158	(0.389)	0.903	2½	2½	0.981	0.825
3582.040	6		(0.240)	1.126	½	½	1.366	0.886
3553.124	6	0.358	(0.179)	1.108	½	½	1.287	0.929
3538.223	6	0.492	(0.245)	0.833	½	½	1.079	0.587
3498.625	6		(0.300)					
3486.521	6	0.420	(0.210)	1.087	½	½	1.297	0.877
3456.456	4 or 5	0.424	(0.209)		2½	1½		
3421.204	4	0.114	(0.060)	0.644	4½	3½	1.064	1.178
3421.234	6	0.061	(0.392)	1.197	5½	5½	1.233	1.165
3419.224	6	0.107	(0.701)	1.116	7½	7½	1.169	1.063
3416.440	6	0.122	(0.183)		1½	1½		
3411.362	5	0.291	(0.146)	2.425	3½	2½	1.698	1.407
3407.653	4	0.234	(0.121)	0.330	4½	3½	1.149	1.383
3402.721	6	0.155	(0.859)	1.524	5½	5½	1.602	1.446
3398.564	6		(0.089)	1.101	½	½	1.190	1.012
3373.499	4	0.133	(0.070)	0.828	3½	2½	1.161	1.294
3364.698	6	0.156	(0.687)	1.318	4½	4½	1.240	1.395
3343.271	4	0.300	(0.165)	0.667	3½	2½	1.417	1.717
3332.47	5	0.209	(0.109)	1.573	2½	1½	1.259	1.050
3329.719	6	0.170	(0.622)		3½	3½		
3322.47	5		(0.115)		2½	1½		
3301.716	5	0.136	(0.068)		3½	2½		
3282.969	4	0.127	(0.071)	0.696	4½	3½	1.141	1.268
3232.74	4 or 5	0.172	(0.086)		2½	1½		
3229.99	6	0.270	(0.404)		1½	1½		
3226.412	5	0.504	(0.252)	2.327	2½	1½		
3225.616	4	0.191	(0.083)	0.893	3½	2½	1.343	1.523
3221.88	4 or 5	0.152	(0.076)		5½	4½		
3214.416	6	0.130	(0.443)		3½	3½		
3207.677	4 or 5	0.256	(0.127)		3½	2½		
3206.275	4	0.234	(0.108)	0.969	3½	2½	1.554	1.788
3205.281	6		(0.450)	1.981	½	½	2.431	1.531
3202.132	4 or 5	0.218	(0.109)		3½	2½		
3195.326	4	0.166	(0.088)	0.381	3½	2½	0.796	0.962
3190.11	6	0.166	(0.755)	0.933	4½	4½	1.017	0.849
3187.023	6	0.177	(0.629)		3½	3½		
3165.71	5	0.244	(0.128)	1.602	2½	1½	1.236	0.992
3163.920	6	0.095	(0.237)		2½	2½		
3160.781	6	0.169	(0.590)		3½	3½		
3160.448	6	0.263	(0.922)		3½	3½		
3157.90	6	0.146	(0.073)	1.171	½	½	1.244	1.098
3155.014	4 or 5	0.124	(0.058)		3½	2½		
3154.594	4 or 5	0.114	(0.052)		2½	1½		

Table 7 (continued)

λ(Å)	Type of Pattern	Separation (Lorentz units)	p (Lorentz units)	n (Lorentz units)	J_1	J_2	g_1	g_2
3150.457	6	0.108	(0.489)	1.829	4½	4½	1.883	1.775
3122.37	6	0.263	(0.395)		1½	1½		
3099.109	5	0.465	(0.226)	1.948	2½	1½	1.251	0.786
3095.764	6	0.272	(0.406)	1.625	1½	1½	1.761	1.489
3094.74	6	0.214	(0.756)	1.028	3½	3½	1.135	0.921
3075.876	6	0.242	(0.844)	1.231	3½	3½	1.352	1.111
3075.668	6	0.235	(0.353)		1½	1½		
3050.841	6	0.144	(0.373)	1.360	2½	2½	1.432	1.288
3031.291	5	0.171	(0.088)	1.704	2½	1½	1.448	1.277
3026.131	6		(0.064)	1.061				
3025.435	4	0.572	(0.286)	0.815	2½	1½	1.673	2.245
3023.56	6		(0.361)	0.616	½	½	0.979	0.253
3021.46	4	0.122	(0.055)	0.512	5½	4½	1.061	1.183
3005.575		0.206	(0.103)		4½	3½		
2998.329	5	0.306	(0.153)	2.092	2½	1½	1.633	1.327
2977.225	6	0.169	(0.425)	1.189	2½	2½	1.274	1.104
2959.91	6		(0.565)		2½	2½	1.344	1.118
2944.985	6	0.278	(0.686)	1.202	2½	2½	1.341	1.063
2938.393	4 or 5	0.266	(0.128)		4½	3½		
2934.141	5	0.177	(0.083)	1.888	4½	3½	1.269	1.092
2930.913	6		(0.082)	1.004				
2916.44	4 or 5		(0.086)		3½	2½		
2915.54	4 or 5	0.116			4½	3½		
2878.638	4	0.293	(0.147)	0.614	2½	1½	1.054	1.347
2852.502	5	0.255	(0.123)	2.061	4½	3½	1.169	0.914
2848.01	6	0.254	(0.631)	1.370	2½	2½	1.497	1.243
2814.574	4	0.188	(0.094)	0.883	3½	2½	1.358	1.546
2782.421	6		(0.158)	1.264	½	½	1.422	1.106
2753.100	5	0.260	(0.127)	1.107	1½	½	0.977	0.717
2735.49	6	0.169	(0.423)		2½	2½		
2731.583	4 or 5	0.389	(0.195)		3½	2½		
2728.70	5	0.634	(0.317)	1.546	1½	½	1.229	0.595
2723.323	4	0.164	(0.081)	0.922	3½	2½	1.332	1.496
2718.798	6	0.370	(0.556)		1½	1½		
2717.265	4	0.231	(0.114)	0.795	2½	1½	1.142	1.373
2715.092	6	0.137			4½	4½		
2709.857	6	0.216	(0.756)		3½	3½		
2709.386	4 or 5	0.254	(0.137)		3½	2½		
2701.86	5	0.051	(0.024)	1.172	1½	½	1.147	1.096
2695.207	4	0.154	(0.078)	0.562	2½	1½	0.793	0.947
2685.55	4 or 5	0.223	(0.105)		6½	5½		
2677.531	6	0.333	(1.166)	1.163	3½	3½	1.330	0.997
2673.922	6		(0.359)	0.865				
2671.458	4	0.141	(0.070)	0.783	3½	2½	1.136	1.277
2669.44	6	0.112	(0.056)	1.168	½	½	1.224	1.112

Table 7 (continued)

λ(Å)	Type of Pattern	Separation (Lorentz units)	p (Lorentz units)	n (Lorentz units)	J_1	J_2	g_1	g_2
2667.07	6		(0.731)	0.967	½	½	1.698	0.236
2666.87	4	0.207		0.986	1½	½	1.090	1.297
2653.33	6	0.208		0.910	3½	3½	1.014	0.806
2647.50	6	1.369	(0.685)	0.937	½	½	1.622	0.252
2644.679	4	0.402	(0.201)	1.222	1½	½	1.423	1.825
2642.615	4	0.223	(0.110)	0.447	3½	2½	1.005	1.228
2635.42	6		(0.130)	1.087				
2635.28	5	0.219	(0.109)	1.631	3½	2½	1.084	0.865
2631.048	4 or 5	0.206	(0.104)		2½	1½		
2628.37	6		(0.899)	1.132				
2617.83	4	0.582	(0.291)	1.001	1½	½	1.292	1.874
2615.353	6		(0.080)	1.110				
2613.96	6		(0.177)	1.132				
2607.10	4	0.209	(0.106)	1.347	2½	1½	1.656	1.864
2606.00	5	0.137	(0.068)	1.666	4½	3½	1.187	1.050
2591.547	6	0.224	(0.565)		2½	2½		
2579.437	4	0.320	(0.160)	0.807	1½	½	0.967	1.287
2563.477	4 or 5	0.362	(0.186)		2½	1½		
2562.530	4 or 5	0.159	(0.075)		3½	2½		
2560.94	4	0.192	(0.091)	0.277	4½	3½	0.949	1.141
2549.98	6	0.186	(0.651)		3½	3½		
2537.764	6	0.228	(0.566)		2½	2½		
2517.948	4 or 5	0.362	(0.181)		3½	2½		
2494.64	6	0.189	(0.663)	1.303	3½	3½	1.398	1.209
2485.976	5	0.644	(0.322)	2.122	2½	1½	1.156	0.512
2481.40	6	0.471	(1.178)		2½	2½		
2470.591	4	0.153	(0.074)	0.734	2½	1½	0.964	1.117
2450.81	4	0.145	(0.072)	0.405	4½	3½	0.913	1.058
2443.88	5	0.367	(0.176)	1.727	2½	1½	1.177	0.810
2436.34	6		(0.147)	1.275				
2404.895	4 or 5	0.254	(0.126)		3½	2½		
2368.96	4 or 5	0.264	(0.139)		3½	2½		
2362.11	6		(0.294)	0.563				
2344.31	6		(0.443)	2.721				
2338.03	6		(0.802)	1.823				
2330.87	6		(0.117)	0.644				

THORIUM

Th I

90 Electrons **Z = 90**

Ground State: $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^{10}\ 4s^2\ 4p^6\ 4d^{10}\ 4f^{14}\ 5s^2\ 5p^6\ 5d^{10}\ 6s^2\ 6p^6\ 6d^2\ 7s^2\ \ ^3F_2$

The analysis of this spectrum is quite incomplete. The levels are taken from the dissertation by Schuurmans and an unpublished list of McNally. More work is needed on all phases of this spectrum.

REFERENCES

Ph. Schuurmans, Doctoral Dissertation, Amsterdam (1946). (T)

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Table 8. Energy Levels of Th I

Configuration	Designation	J	Level (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
$6d^2 7s^2\ ^3F_2$	1	2	0.00	0.738	0.54
$6d^2 7s^2\ ^3F_3$.	2	3	2869.24	1.086	0.49
$6d^2 7s^2\ ^3F_4$?	3	4	5093.55	1.18	
$6d^3 7s\ ^5F_1$?	4	1	5563.18	0.067	
$6d^3 7s\ ^5F_2$?	5	2	6362.39	1.008	
	6	3	7502.25	1.155	
	7	2,3	8545.50		
	8	0	8605.88		
	9	1	8662.29	1.49?	
	10	1	10806.72	1.574?	
	11	4	12083.41	0.997?	
	12	4	13297.42	0.997	
	13°	1	*15396.27*	0.508	
	14°	1	*17354.64*	0.55	
	15°	4	*19511.76*	1.305	
	16°	2?	*19570.87*		
	17°	1,2	*20423.57*	1.42[a]	
	19°	1,2	*21252.61*	0.68[a]	
	20°	1	*21668.94*	1.571	
	21°	2,3	*22141.55*	1.10[a]	
	22°	2	*22248.92*	1.140	
	23°	2	*22508.02*	1.38[a]	
	24°	1	*23481.38*	0.845	
	25°	2	*23603.52*	1.381	
	26°	2	*24624.00*	1.252	
	27°	3	*24769.70*	1.138	0.00
	28°	2	*25051.01*	1.131	
	29°	4	*25059.54*	1.321	
	30°	3?	*25401.65*	0.502?	
	31°	?	*25834.91?*	0.999?	
	32°	3	*26048.69*	1.055?	0.06
	33°	2	*26113.27*	0.985	0.14
	34°	2	*26287.06?*	0.74	

[a]Values taken from Schuurmans.

Table 8 (continued)

Configuration	Designation	J	Level (cm^{-1})	Observed g Value	$\sigma_{232} - \sigma_{230}$ (cm^{-1})
	35°	3	*26508.01*	1.080	0.06
	36°	3	*26878.17*	0.900	0.17
	37°	2	*27447.78*	1.067	0.04
	38°	3	*27670.93*	1.215 1.32[a]	0.10
	39°	2	*27674.36*	1.103	0.10
	40°	2	*27784.34*	0.863	0.06
	41°	3?	*27789.06*	1.09?	
	42°	3?	*27806.03*	1.04?	
	43°	1	*28024.70*	1.030	0.05
	44°	4?	*28666.13?*	1.07?	0.01
	45°	4?	*28676.29*	1.063	0.11
	46°	3?	*28884.96*	1.192	0.10
	47°	2	*28917.90*	0.98[a]	0.00
	49°	1?	*29197.32*	1.14[a]	
	50°	4?	*29806.91?*		
	51°	2	*29851.46*	0.901	
	52°	2	*29853.17*	0.90[a]	0.06
	53°	3	*30017.12*	1.128	0.11
	55°	3	*30255.44*	1.079	
	56°	1	*31756.63?*	0.494[b]	
	57°	3?	*32090.40?*	1.08[a]	
	58°	2	*32356.98*	0.963	
	59°	2	*32954.64*	1.04[a]	

[a]Values taken from Schuurmans.
[b]Th III?.

Table 9. Classified Lines of Th I

Ref	λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Transition	Ref	Zeeman Effect (Lorentz units)					$\sigma_{230} - \sigma_{232}$ (cm^{-1})	Notes
						Type	p	n	g_1	g_2		
C[a]	8478.36	11791.50	+0.04	14°-4								
M[b]	7567.72	13210.39	−0.20	35°-12								
C	7361.40	13580.64	−0.11	36°-12								
C	7353.06	13596.04	−0.01	21°-7								
M	6829.05	14639.30	0.00	21°-6								
M	6727.48	14860.31	−0.08	17°-4								Th II?
C	6714.01	14890.13	−0.09	19°-5								
M	6662.274	15005.75	−0.02	23°-6								
M	6531.348	15306.55	0.00	20°-5	M	1	(0.000)	0.445	1.571	1.008		
M	6493.29	15396.27	0.00	13°-1	M	2	(0.000)	0.968	0.508	0.738		
M	6413.612	15587.54	0.00	46°-12	M	1	(0.000)	0.419	1.192	0.997		
			+0.02	38°-11								
M	6371.936	15689.49	+0.06	19°-4								
C	6292.94	15886.44	−0.09	22°-5								
M	6207.218	16105.58	−0.18	20°-4								
M	6191.895	16145.69	+0.06	23°-5								Th II?
M	6079.15	16645.13	0.00	28°-8								
M	6007.068	16642.65	+0.13	15°-2	M	2	(0.000)	1.960	1.305	1.087		
M	5950.18	16801.57	+0.02	46°-11								
C	5899.83	16944.96	+0.12	23°-4								
K[c]	5895.29	16958.01	−0.01	55°-12								Th II?
M	5838.951	17121.62	−0.13	26°-6								Th II?
M	5806.26	17218.03	+0.05	43°-10								
C	5798.45	17241.22	+0.09	25°-5								
M	5789.60	17267.57	+0.12	27°-6								
C	5782.26	17289.49	+0.08	31°-7								
M	5760.554	17354.63	+0.01	14°-1	L[d]		(0)	0.90	0.61	0.80		
K	5640.703	17723.38	−0.12	50°-11?								Th III?

[a]M. Fred, MS Thesis, M. Ference, Jr., MS Thesis, and R. B. Bowersox, MS Thesis, University of Chicago (1934).

[b]MIT data are taken from either MIT wavelength tables or MIT card files on thorium. MIT Zeeman data are also taken from J. R. McNally, Jr., G. R. Harrison, and H. B. Park, *J. Opt. Soc. Am.* 32, 334 (1942).

[c]P. F. A. Klinkenberg, unpublished wavelength list and unpublished Zeeman data.

[d]J. N. Lier, Doctoral Dissertation, Amsterdam (1939).

Table 9 (continued)

Ref	λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Transition	Ref	Zeeman Effect (Lorentz units)					$\sigma_{230} - \sigma_{232}$ (cm^{-1})	Notes
						Type	p	n	g_1	g_2		
M	5579.371	17918.21	+0.01	24°-4								
C	5541.58	18040.40	+0.06	25°-4								
M	5431.123	18407.29	−0.02	27°-5								Th II?
C	5390.40	18546.36	−0.08	32°-6								
M	5260.11	19005.74	−0.02	35°-6								
M	5258.358	19012.08	+0.01	39°-9								
C	5250.87	19039.18	−0.08	30°-5								
C	5187.31	19272.46	+0.15	21°-2								
K	5159.58	19376.04	+0.12	36°-6								
M	5158.607	19379.70	+0.02	22°-2								
M	5148.215	19418.82	0.00	43°-8	K		(0)	1.03				Th II?
M	5108.25	19570.74	−0.13	16°-1	L		(0)	0.74				Th III?
C	5090.56	19638.75	−0.03	23°-2								
C	5078.25	19686.35	+0.05	32°-5								
M	5061.657	19750.90	+0.02	33°-5								
C	4956.8	20168.7	0.00	38°-6								
M	4955.98	20172.0	−0.1	39°-6								
M	4929.081	20282.1	0.0	40°-6								Th II?
M	4907.238	20372.39	−0.01	47°-7								
M	4894.954	20423.52	−0.05	17°-1								
M	4872.926	20515.84	+0.06	36°-5								
M	4840.826	20651.89	+0.07	49°-7								
M	4824.029	20723.90	+0.02	34°-4								Th II?
M	4821.589	20734.27	−0.01	25°-2								
C	4771.94	20950.0	+0.1	56°-10								
M	4770.77	20955.1	0.0	32°-3								Th II?
M	4741.32	21085.3	−0.1	37°-5								
M	4723.683	21164.02	+0.14	44°-6	M	1		0.787	1.063	1.155		
M	4715.436	21201.03	0.00	50°-8								Th II?
C	4702.08	21261.3	−0.1	50°-7								
M	4691.628	21308.62	+0.08	38°-5								
K	4675.33	21382.9	+0.2	46°-6								
M	4668.20	21415.6	−0.1	47°-6	M		(0.000)	$\Delta g = 0.296$				
M	4666.804	21421.96	+0.01	40°-5								

Table 9 (continued)

Ref	λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Transition	Ref	Zeeman Effect (Lorentz units)					$\sigma_{230} - \sigma_{232}$ (cm^{-1})	Notes
						Type	p	n	g_1	g_2		
C	4615.0	21662.4	+0.1	43^{0}-5								
M	4595.424	21754.70	+0.14	26^{0}-2	M	1	(0.000)	0.763	1.152	1.088		
M	4589.119	21784.59	−0.03	36^{0}-3	L	3	(1.18)	0.89, 1.18	0.89	1.18		
M	4568.142	21884.62	+0.02	37^{0}-4								
C	4564.86	21900.4	−0.1	27^{0}-2								
M	4515.124	22141.60	+0.05	21^{0}-1								Th II?
M	4505.226	22190.24	−0.06	29^{0}-2	M	2		1.948	1.321	1.112		
M	4498.950	22221.20	+0.04	40^{0}-4	M	2	(0.000)	1.645	0.861	0.077		
M	4493.340	22248.94	+0.02	22^{0}-1	M	3	(0.812)	1.140, 0.733	1.140	0.733		
C	4480.26	22313.9	0.0	45^{0}-5								
C	4473.20	22349.1	−0.1	51^{0}-6								
M	4450.787	22461.65	+0.13	43^{0}-4								
C	4441.60	22508.1	+0.1	23^{0}-1								
V[e]	4440.29	22514.8	−0.1	53^{0}-6								
M	4438.750	22522.56	−0.01	46^{0}-5								
M	4432.262	22555.53	+0.02	47^{0}-5								
M	4410.383	22667.42	+0.12	54^{0}-6								
M	4404.929	22695.49	−0.02	41^{0}-3								Th II?
C	4401.59	22712.7	+0.2	42^{0}-3								
C	4393.75	22753.2	0.0	55^{0}-6								
C	4328.88	23094.2	−0.1	56^{0}-9								
V	4327.26	23102.8	−0.1	44^{0}-4								
M	4318300	23150.77	+0.02	56^{0}-8								Th II?
C	4312.97	23179.4	−0.1	32^{0}-2							0.43	
V	4280.57	23354.8	+0.1	47^{0}-4								
M	4257.502	23481.37	−0.01	24^{0}-1	M	1	(0.000)	0.625	0.845	0.735		
M	4256.102	23489.09	+0.02	51^{0}-5								Th II?
M	4255.789	23490.82	+0.04	52^{0}-5								
M	4235.468	23603.52	0.00	25^{0}-1	M	3	(1.283)	1.381, 0.740	1.381	0.740		
V	4229.17	23638.7	−0.1	35^{0}-2								
C	4226.30	23654.7	0.0	53^{0}-5								

[e]Vatican data from A. Gatterer and J. Junkes, *Spektren der Seltenen Erden*, p 329–347, Specola Vaticana, Vatican City, 1945.

Table 9 (continued)

Ref	λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Transition	Ref	Zeeman Effect (Lorentz units) Type	p	n	g_1	g_2	$\sigma_{230} - \sigma_{232}$ (cm^{-1})	Notes
C	4184.12	23983.2	+0.1	55°-5								
C	4163.93	24009.0	+0.1	36°-2								
M	4115.773	24289.94	−0.05	52°-4								
M	4067.465	24578.42	−0.12	37°-2								
M	4036.056	24769.69	−0.01	27°-1	L		(0.00)	1.98	1.190	0.792	0.54	Th II?
M	4030.855	24801.65	−0.04	38°-2	M	3	(0.384)	1.216, 1.085	1.215	1.085	0.39	
M	4030.293	24805.11	−0.01	39°-2								Th II?
M	4012.497	24915.12	+0.02	40°-2	M	2	(0.000)	1.525	0.864	1.086	0.46	Th II?
M	4011.752	24919.75	−0.07	41°-2	L		(0)	1.09				Th II?
M	4009.066	24936.44	−0.35	42°-2	L		(0.08)	1.04				
K	3990.730	25051.00	−0.01	28°-1	L		(0.81)	0.71, 1.14	1.14	0.71		Th III?
M	3935.642	25401.65	0.00	30°-1								Th II?
C	3927.82	25452.2	−0.2	59°-6								
M	3875.379	25796.64	−0.25	44°-2	L		(0)	1.02			0.38	
M	3873.823	25807.00	−0.05	45°-2	L		(0)	1.07			0.48	
M	3869.639	25834.91	0.00	31°-1								
M	3837.880	26048.69	+0.03	47°-2	M	2	(0.000)	1.425	1.021	1.156	0.49	Th II?
			0.00	32°-1								
M	3828.388	26113.27	0.00	33°-1	M	3	(0.499)	0.985, 0.735	0.985	0.735	0.40	
M	3803.077	26287.06	0.00	34°-1	K		(0)	0.74				Th II?
M	3771.377	26508.01	0.00	35°-1	M	2	(0.000)	1.760	1.080	0.740	0.48	
M	3759.445	26592.14	−0.11	59°-5								
M	3719.436	26878.18	+0.01	36°-1	M	2	(0.000)	1.221	0.900	0.738	0.37	
V	3704.86	26984.2	+0.3	52°-2								
M	3682.490	27147.84	−0.04	53°-2								
M	3649.737	27391.46	0.00	59°-4								
M	3642.249	27445.89	+0.11	37°-1	M	3	(0.669)	1.067, 0.730	1.067	0.730	0.50	
M	3612.869	27670.97	+0.04	38°-1								
M	3612.427	27674.36	0.00	39°-1	M	3	(0.714)	1.103, 0.733	1.103	0.733	0.44	
M	3598.124	27784.36	+0.02	40°-1	M	3	(0.248)	0.857, 0.738	0.863	0.738	0.48	Th II?
M	3597.498	27789.20	+0.14	41°-1								
M	3595.323	27806.01	−0.02	42°-1								
M	3567.266	28024.70	0.00	43°-1	M	1	(0.000)	0.438	1.030	0.735	0.49	

Table 9 (continued)

Ref	λ(Å)	σ_{vac} (cm^{-1})	$\Delta\sigma_{vac}$ (cm^{-1})	Transition	Ref	Zeeman Effect (Lorentz units)					$\sigma_{230} - \sigma_{232}$ (cm^{-1})	Notes
						Type	p	n	g_1	g_2		
C	3486.20	28676.3	0.0	45°-1								
M	3461.021	28884.97	+0.01	46°-1	M	2	(0.000)	2.096	1.192	0.739	0.44	
M	3457.075	28917.93	+0.03	47°-1								
M	3427.03	29171.5	0.0	48°-1								
M	3423.991	29197.34	+0.02	49°-1								
M	3421.189	29221.25	+0.09	57°-2								
M	3353.96	29807.0	+0.1	50°-1								Th II?
M	3348.961	29851.46	0.00	51°-1	M	3	(0.320)	0.901, 0.725	0.901	0.725		
M	3348.766	29853.20	+0.03	52°-1							0.48	
M	3330.475	30017.18	+0.06	53°-1	M	2	(0.000)	1.909	1.128	0.739	0.43	
C	3313.67	30169.4	−0.2	54°-1	M	2	(0.000)	1.366	0.914	0.744		Th III?
M	3304.239	30255.48	+0.04	55°-1	M	2	(0.000)	1.770	1.079	0.731	0.46	
M	3148.040	31756.60	−0.03	56°-1	M	2	(0.000)	1.059	0.494	0.769		Th III?
M	3089.631	32356.96	−0.02	58°-1	M	3	(0.416)		0.963	0.767		Th II?
												Th III?

Table 10. Zeeman Data of Unclassified Th I Lines

λ(Å)	Type	Separation (Lorentz units)	p (Lorentz units)	n (Lorentz units)	J_1	J_2	g_1	g_2	Notes
6470.62	3	0.140	(0.266)		2	2			
6457.285	2	0.141	(0.000)		5	4	1.006	0.865	
6449.44	2	0.382	(0.000)	1.293	2	1	0.908	0.526	
6411.893	1	0.071	(0.000)	1.101	3	2	1.243	1.314	
6358.629	1		(0.000)	0.715	5	4			
6342.861	2	0.118	(0.000)	1.666	4	3	1.312	1.194	
6077.547	1 or 2	0.313			3	2			
5437.519	1 or 2	0.190			4	3			
5382.927	1	0.182	(0.000)	0.538	3	2	0.898	1.080	
4943.57	1	0.29	(0.00)	0.89	2	1	1.19	1.49	
4822.758	1 or 2				2	1			
4677.06	3	0.117	(0.852)		4	4			
4662.800	1	0.143	(0.000)	0.425	2	1	0.568	0.711	
4649.397	3	0.127			3	3			
4634.130	1 or 2	0.197			2	1			
4555.742	3	0.221	(0.438)	1.128, 0.907	2	2	1.128	0.907	Th III?
4535.257	1 or 2	0.157			2	1			
4531.721	3	0.155	(0.472)		3	3			
4469.528	3	0.100	(0.399)		4	4			
4458.006	3	0.261	(0.530)		2	2			
4408.891	3	0.190	(0.439)		2	2			
4399.180	3	0.165			3	3			
4378.127	1 or 2	0.060			3	2			
4365.909	2	0.313	(0.000)	1.719	3	2	1.093	0.780	
4346.450	1 or 2	0.277	(0.000)		2	1			
4299.846	1 or 2	0.065	(0.000)		4	3			
4296.95	3	0.125	(0.632)		5	5			
4291.812	1 or 2	0.112	(0.000)		3	2			
4278.323	3	0.085	(0.425)		5	5			
4272.885	1 or 2	0.166	(0.000)		4	3			
4270.332	1 or 2	0.335	(0.000)		3	2			
4260.341	2	0.192	(0.000)	2.139	5	4	1.371	1.179	
4227.421	1 or 2	0.205	(0.000)		2	1			
4170.570	3	0.120	(0.411)		4	4			
4165.813	3	0.228	(0.913)		4	4			
4112.762	3	0.774		1.549	2	2			
4102.662	1 or 2	0.301	(0.000)		3	2			
4059.259	2	0.082	(0.000)	1.261	3	2	1.096	1.014	
4053.531	3		(1.103)		4	4	1.003	0.735	
4022.068	1 or 2	0.550	(0.000)		3	2			
4008.216	1 or 2	0.272	(0.000)		4	3			
3980.884	3	0.121			2	2	1.230	1.109	
3967.426	3	0.096	(0.381)		4	4			
3895.42	3	0.077	(0.327)		4	4	0.903	0.826	
3852.154	2	0.295	(0.000)	1.560	2	1	1.254	0.959	
3790.902	1 or 2	0.188	(0.000)		4	3			

Table 10 (continued)

λ(Å)	Type	Separation (Lorentz units)	p (Lorentz units)	n (Lorentz units)	J_1	J_2	g_1	g_2	Notes
3790.851	1 or 2	0.168	(0.000)		3	2			
3788.35	1 or 2	0.36	(0.00)	1.91	3	2	1.19 or 2.63	0.83	
								2.99	
3780.97	2	0.21	(0.00)	2.44	3	2	2.02	1.81	
3770.09	3	0.734	(0.734)		1	1	0.791	0.057	
3754.113	1 or 2	0.314	(0.000)		3	2			
3733.074	3	0.140	(0.410)		3	3			
3730.470	1 or 2	0.331	(0.000)		2	1			
3727.991	3	0.181	(0.534)	1.259	3	3	1.261	1.080	
3711.31	2	0.19	(0.00)	1.62	4	3	1.05	0.86	
3708.851	3	0.123			4	4			
3700.410	3	0.213	(0.855)		4	4			
3698.204	1 or 2	0.934	(0.000)		2	1			
3668.147	1	0.115	(0.000)	0.660	2	1	0.776	0.891	
3667.095	3	0.208	(0.838)		4	4			
3655.490	3	0.160	(0.803)		5	5			
3652.272	3	0.117	(0.666)		5	5	1.059	1.176	
3643.611	1 or 2	0.092	(0.000)		3	2			
3638.85	3	0.191	(0.570)		3	3			
3608.445	1 or 2	0.235	(0.000)		4	3			
3591.455	1	0.160	(0.000)	0.789	3	2	1.109	1.269	
3584.186	3	0.108	(0.319)		3	3			
3565.39	2	0.201	(0.000)	1.803	5	4	1.000	0.799	Th II?
3561.809	2	0.200	(0.000)	1.601	3	2	1.207	1.005	
3544.014	1	0.174	(0.000)	0.420	5	4	1.116	1.290	
3422.677	3	0.202	(0.402)		2	2			
3415.905	3	0.153	(0.305)		2	2			
3405.574	2	0.146	(0.000)		3	2			
3387.939	3	0.160	(0.631)		4	4			
3195.691	1 or 2	0.380	(0.000)		3	2			
3173.553	1 or 2	0.209	(0.000)		3	2			
3171.281	1 or 2	0.362	(0.000)		3	2			
3145.672	1 or 2	0.440	(0.000)		3	2			
3136.864	3	0.206	(0.412)		2	2			
3124.42	3	0.30	(0.95)	0.64, 0.96	3	3	0.96	0.64	
3069.251	1		(0.000)	0.963	3	2			
3063.026	3	0.171	(0.169)	1.207	1	1	1.207	1.378	Th II?
3049.866	3	0.140	(0.457)		3	3	1.369	1.229	Th II?
3041.553	1 or 2	0.185	(0.000)		2	1			
3013.649	2	0.183	(0.000)	1.432	2	1	1.246	1.063	
2827.992	1	0.274	(0.000)	0.342	3	2	0.908	1.182	Th II?
2787.639	1 or 2	0.142	(0.000)		4	3			
2630.017	1		(0.000)	0.776	4	3			
2614.447	1 or 2	0.384	(0.000)		2	1			
2442.68	1 or 2	0.116	(0.000)	1.127	3	2	0.895 or 1.359	0.779	
								1.475	
2333.730	1 or 2	0.286	(0.000)		2	1			

Table 11. Isotope Shift Data of Unclassified Lines

λ (Å)	Intensity		$\sigma_{230} - \sigma_{232}$ (cm^{-1})	Probable Spectrum
	Arc	Spark		
4673.661	6	2	0.6	Th I
4644.371	3		0.42	Th I
4408.891	6	2	0.6	Th I (Zeeman Effect)
4307.185	5	3	0.7	Th II
4306.381	8	6	0.7	Th II
4270.332	6	3	0.40	Th I (Zeeman Effect)
4240.59	2		0.6	Th I
4230.431	5	1	0.4	Th I
4193.022	2		0.5	Th I
4132.751	10	12	0.38	Th II
4112.762	5	5	0.40	Th II (I – Zeeman Effect)
4100.350	8	5	0.4	Th II
4005.095	3	1	0.43	Th I
3990.558	8	5	0.5	Th II
3988.601	10	8	0.6	Th II
3972.159	15	8	0.35	Th I
3895.425	20	10	0.39	Th I (Zeeman Effect)
3874.866	5	3	0.47	Th I
3866.09		2	0.6	Th II
3852.135	5		0.5	Th I (Zeeman Effect)
3742.925	20	8	0.5	Th I
3737.513	5	1	0.5	Th I
3730.383	15	3	0.45	Th I (Zeeman Effect ?)
3727.903	15	5	0.4	Th I
3724.739	30	20	0.4	Th II
3712.538	15	8	0.5	Th I
3692.571	10	2	0.4	Th I
3669.958	5	1	0.6	Th I
3635.944	8	4	0.38	Th I
3634.584	8	4	0.40	Th I
3601.040	8	10	0.4	Th II
3598.786		2	0.75	Th II
3547.339	2d	1d	0.7	Th II
3531.451	4	1	0.6	Th I
3495.703	10	1	0.5	Th I
3477.705	8	8	0.5	Th II
3469.341	6	3	0.42	Th I
3466.647	5	2	0.4	Th I
3466.536	5	1	0.5	Th I
3461.218	10	4	0.56	Th I
3442.581	5	1	0.7	Th I
3437.310	6	2	0.49	Th I
3429.000	6	3	0.5	Th I
3210.273	10	10	0.42	Th II
3139.822	10	5	0.36	Th I

Table 11 (continued)

λ(Å)	Intensity		$\sigma_{230} - \sigma_{232}$ (cm^{-1})	Probable Spectrum
	Arc	Spark		
3100.939	12	2	0.50	Th I
3067.734	12	20	0.45	Th II
2999.093	12	12	0.40	Th II
2925.050	10s	15h	0.45	Th II

Table 12. Unclassified Furnace Lines of Thorium

λ(Å)	Intensity		Notes	Probable Spectrum
	Arc	Spark		
5044.72	8			Th I
4954.665	10	2	II 152°-167?	Th I
4878.739	8			Th I
4848.355	8			Th I
4831.15	10	2		Th I
4826.40	1		II 76°-18?	Th I
4809.625	2			Th I
4808.127	2	1		
4789.381	2		II 136°-147?	
4778.287	2			
4766.595	2			
4563.316	2			
4563.228	5	5		Th II
4537.11	20	8	II 135°-169?	Th I
4499.96	12	6		
4493.31	12	4		
4482.170	5			
4458.009	10	2	II Zeeman Effect?	Th I
4408.886	6	2	I Zeeman Effect	Th I
4378.183	2	1	I Zeeman Effect?	
4374.139	4	1		
4313.003	8	4		Th I
4210.928	8	3		Th I
4210.768	3	1		Th I
4112.762	5	5w	I Zeeman Effect	Th I
4097.751	5			
3967.412	2	1	I Zeeman Effect	Th I
3895.424	20	10		?
3886.918	8	1		Th I
3659.632	4	1		Th I
3658.808	5	1		Th I
3526.629	5	1		Th I
3521.062	3d	1d		
3518.402	6	2		Th I
3511.154	5			Th I
3498.625	6	3	II Zeeman Effect	
3496.809	5	3		
3495.705	10	1		Th I
3488.837	3			Th I
3471.219	6	2		Th I
3469.337	6	3		Th I
3466.646	5	2		Th I
3466.532	5	1		Th I
3461.216	10	4		Th I
3451.699	8	5		Th I

Table 12 (continued)

λ(Å)	Intensity		Notes	Probable Spectrum
	Arc	Spark		
3442.580	5	1		Th I
3437.303	6	2		Th I
3428.990	6	3		Th I
3422.657	3	1	II 19°-39?	Th I
			I Zeeman Effect?	
3417.494	3			Th I
3413.015	5	2	II 149°-164?	Th I
3408.748	5	1		Th I
3405.560	3	4	I Zeeman Effect	Th I
3398.548	5	2	II Zeeman Effect	Th I
3397.518	8	4		Th I
3396.733	5	1		Th I
3389.464	3			Th I
3380.883	5	2		Th I
3374.979	3	3		Th II
3373.500	2	1	II Zeeman Effect	Th II
3372.794	3d	4d		Th II
3372.696	1d	2d		
3333.129	6	2		Th I
3309.361	4	1		Th I
3301.654	6	1h	II 55°-121?	Th I
3298.054	4	1h		Th I
3285.750	8	1		Th I
3272.025	6	1		Th I
3257.35	6	2		Th I
3253.872	5	1		Th I
3244.450	5d	1d		Th I
3232.307	8			
3232.123	3	25h	+ III?	

Table 13. Unclassified Absorption Lines of Thorium

λ(Å)	Intensity		Degree of Absorption	Probable Spectrum
	Arc	Spark		
5028.61	40wh	10wh	3	Th I
4987.17	15	4	5	Th I
4563.23	5	5	3	Th II
4256.23	6	1	5	Th I
4253.50	8	3	5	Th I
4171.35	10	12l	5	Th II Zeeman Effect
4168.62	8	12	5	Th II
4057.51			5	
3895.42	20	10	5	Th I or II Zeeman Effect
3874.85	5	3	5	Th II
3839.69	15	15	3	Th II
3828.43	5	5	5	Th II
3804.70	10	8	3	Th II
3720.30	15	10	1	Th II*
3711.32	30	20	3	Th I Zeeman Effect
3700.80	15	10	3	Th II
3693.95	2	3	3	Th II Zeeman Effect
3669.94	5d	1d	5	Th I
3659.63	4	1	3	Th I
3634.584	8	4	5	Th II
3617.038	4d	3d	5	Th II
3601.040	8	10	2	Th II
3589.299	5	5	3	Th II
3553.111	5	6	4	Th II Zeeman Effect
3511.615	10	8	1	Th II
3421.189	10	10	5	Th II + I? Zeeman Effect (II)
3408.750	5	1	3	Th I
3398.548	5	2	5	Th I II? Zeeman Effect (II)
3397.87		2	5	Th II
3397.519	8	4	5	Th I
3389.464	3		4	Th I
3382.36			5	
3320.81		10h	5	Th II or III
3301.347	6d	5d	2	Th II
3257.369	6	2	3	Th I
3225.409			3	
3108.36			3	
3082.031	12	8	5	Th II
3072.18			3	
3067.734	12	20	3	Th II
2999.093	12	12	3	Th II
2985.31			4	
2983.86			4	

*The line has been classified, but the absorption seems too strong to be consistent with the classification.

Table 13 (continued)

λ(Å)	Intensity		Degree of Absorption	Probable Spectrum
	Arc	Spark		
2981.56			3	
2958.26			4	
2957.98			3	
2924.99			3	
2891.819	6	5	3	Th II
2891.31			3	
2885.10			3	
2814.318	8	5	4	Th II
2809.09			3	
2786.917	5	8	3	Th II
2786.16			5	
2785.56			5	
2784.92			5	
2783.99			5	
2783.44			5	
2777.86			3	
2762.05			5	
2759.415	4	3	5	Th II
2749.63	2		3	Th II
2738.46			5	
2731.583	5	4	5	Th II Zeeman Effect
2726.43			5	
2723.41			5	
2715.092	6	5	5	Th II Zeeman Effect
2714.617	2h		5	Th II
2708.08			3	
2701.86	2h		5	Th II Zeeman Effect
2695.555	8	10	5	Th II
2672.88			5	
2671.44			5	Th II Zeeman Effect
2669.43			5	Th II Zeeman Effect
2664.02			5	
2662.866	8	5	5	Th II
2659.47			5	
2652.02			5	
2643.40			5	
2642.615	5	2	5	Th II Zeeman Effect
2640.33	5d	2d	5	Th II
2638.32			5	
2628.39			5	Th II Zeeman Effect
2560.94	6	2	5	Th II Zeeman Effect
2509.84			5	
2502.903	6	3	5	
2494.57			5	Th II Zeeman Effect
2470.597	6	4	3	Th II Zeeman Effect
2456.86	4	2	5	Th II

Table 13 (continued)

λ(Å)	Intensity		Degree of Absorption	Probable Spectrum
	Arc	Spark		
2450.81	5	3	5	Th II Zeeman Effect
2437.56	5	4	3	Th II
2423.675	6	5	1	Th II
2422.99	1	1	4	Th II
2411.25			3	
2407.51			4	
2407.13	1	1	4	Th II
2406.68	1	1	4	Th II
2395.62	3	1	2	Th II
2385.55			4	
2384.36	1	2	4	Th II
2375.835	5	3	4	Th II
2368.88			2	Th II Zeeman Effect
2366.984	3	5	2	Th II*
2359.95			5	
2330.94			2	Th II Zeeman Effect
2308.58	1	1	5	Th II
2306.00	1	1h	5	
2305.52			5	
2281.98	1	2h	3	Th II
2265.90	1	1	3	Th II
2244.89			5	
2242.55			5	
2240.33			3	
2224.30			5	
2221.09			3	
2200.24			5	
2198.70			5	

*The line has been classified, but the absorption seems too strong to be consistent with the classification.

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