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A High-Resolution Atlas of the Infrared Spectrum of the Sun and the Earth Atmosphere from Space

Volume III. Key to Identification of Solar Features

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I. Introduction

During the period April 29 through May 2, 1985, the Atmospheric Trace Molecule Spectroscopy (ATMOS) experiment was operated as part of the Spacelab-3 (SL-3) payload on the shuttle Challenger. The instrument, a Fourier transform spectrometer, recorded over 2000 infrared solar spectra from an altitude of 360 km. Detailed descriptions of the scientific background of the ATMOS experiment, of the instrument's design and observation technique, and of the SL-3 mission, as well as of the instrument itself, are given by Farmer et al.¹ and Farmer².

Although the majority of the spectra were taken through the limb of the Earth's atmosphere in order to better understand its composition, several hundred of the "high-sun" spectra³ were completely free from telluric absorption. These high-sun spectra recorded from space are, at the present time, the only high-resolution infrared spectra ever taken of the Sun free from absorptions due to constituents in the Earth's atmosphere. Volumes I and II of this series⁴ provide a compilation of these spectra arranged in a hard copy format suitable for quick-look reference purposes and are the first record of the continuous high-resolution infrared spectrum of the Sun and the Earth's atmosphere from space.

In the past, a number of infrared solar atlases⁵ have been published that have presented "solar-telluric" spectra containing lines originating in both the Sun and the Earth's atmosphere derived from observations made at ground-based sites or aircraft or balloon platforms. Thus, for the Sun itself, high-resolution infrared solar spectra were only available in intervals not marked by the strong absorption lines of constituents in the Earth's atmosphere, the atmospheric spectral "windows."

The spectral range covered by the ATMOS experiment was from 600 to 5000 cm^{-1} (2 to 16 μm) at a resolution of 0.01 cm^{-1} . Within this interval lie the fundamental vibration-rotation bands of the solar molecular species NH, CH and OH, the $\Delta v = 1$ and $\Delta v = 2$ vibration-rotation series of CO and its isotopomers, and the pure rotational bands of OH and NH. No other molecular species have been identified to date. In addition to these molecular bands, fifteen different atomic species can be identified by their transitions.

The ability to analyze these many solar spectral features will ultimately lead to the determination of more accurate solar atomic abundances, isotopic ratios, and photospheric temperature structures and motions, and will serve as a basis for comparison with

the atmospheric spectra and for future flights of ATMOS or similar instruments. As a precursor to the aforementioned goals, an assignment of the observed features is required. The present key, which reports line positions and absorption depths of nearly 16,000 features in the spectral range 622 to 4798 cm^{-1} , with assignments for more than 12,000 of these features, represents the first step in this process.

II. Frequency Calibration

From the earliest operation of the ATMOS instrument, it was clear that the spectra contained absorption-like features that were neither solar nor atmospheric in origin. In addition to those few "artifacts" as discussed in Volume I, there were many spectral lines superimposed on all of the spectra due to water vapor and CO_2 . Supporting evidence that these gases were inside the instrument itself was provided by a rotational analysis consistent with a very low pressure ($\sim 10^{-7}$ torr) and an ambient temperature of 301 ± 2 K, expected within the instrument enclosure. A subset of these "instrumental" H_2O and CO_2 lines was used by Norton⁶ to assign an absolute frequency scale to the spectra. The internal consistency for these residual gas instrumental lines has been determined to be ± 0.0003 cm^{-1} or better. For the solar spectral lines, the observed frequencies are shifted from measured laboratory rest-frame reference frequencies by the Doppler corrections for the projection of the SL-3 orbital velocity onto the line of sight to the Sun, the radial velocity between the Earth and the Sun, and the Einstein gravitational redshift. The net effect of all of these corrections can be summarized in a single correction term for the sunset spectra⁷

$$\sigma_{\text{LAB}} = \sigma_{\text{OBS}} (1 + \Delta) \quad (1)$$

where σ_{LAB} is the measured laboratory frequency, σ_{OBS} is the observed frequency for ATMOS solar spectra, and Δ is the correction factor. An important caveat to bear in mind is that *the final stated frequencies in the table are not to be considered as reference standards but merely as a guide for identification of features in the solar atmosphere.*

To optimize the instrument performance in terms of signal-to-noise ratio and data sampling rates, the broadband frequency response was limited by selection of several narrower band optical filters. The frequency ranges of the most important of these filters were roughly 600 to 1200 cm^{-1} for filter #1, 1100 to 2000 cm^{-1} for filter #2, 1580 to 3400 cm^{-1} for filter #3, and 3100 to 4800 cm^{-1} for filter #4. Certain observed solar features for CO have had transition

Table 1. Correction Factors for the Four Filters.

Filter #	Wavelength Range (cm ⁻¹)	Correction Factor
1	600 - 1200	2.488·10 ⁻⁵
2	1100 - 2000	2.488·10 ⁻⁵
3	1580 - 3400	2.474·10 ⁻⁵
4	3100 - 4800	2.402·10 ⁻⁵

frequencies measured under laboratory conditions to quite high accuracy. These were used to determine the frequency shift to be applied to the entire spectrum. A global fit of all such features using a single correction parameter, Δ , proved less satisfactory than treating each spectral filter range separately. Therefore, in the present catalogue, we have used a separate correction factor for each of the four filters. For filter #4 we have chosen the (2-0) band of CO as measured in the laboratory by Pollock et al.⁸ (from P₂₉ at 4120.7287 cm⁻¹ to R₃₅ at 4350.7189 cm⁻¹) as the reference standard leading to a correction factor of $\Delta = 2.402 \cdot 10^{-5}$. For 53 lines compared with the Pollock et al. reference standard, we find a root mean square deviation of 0.0023 cm⁻¹. Using only the observed frequencies from a single occultation (the 55 averaged high-sun spectra denoted as SUN2 in Volume I), Norton⁶ obtained a correction factor for these same 53 lines of $\Delta = 2.407 \cdot 10^{-5}$ and a root mean square deviation of 0.0008 cm⁻¹. For filter #3 we have chosen as a reference standard the "strong" CO lines from the (1-0) band to the (7-6) band as measured by Schneider et al.⁹ The overall correction factor for 117 lines as compared with the Schneider et al. reference standard is $\Delta = 2.474 \cdot 10^{-5}$, with a root mean square error of 0.0009 cm⁻¹. There appears to be a small but smooth change in the correction factor as one goes from the (1-0) band to the (7-6) band, perhaps indicating that the lines are formed at different altitudes in the photosphere. The same CO lines of Schneider et al.⁹ have been used as a reference standard to determine a value of $\Delta = 2.488 \cdot 10^{-5}$ for the correction factor for filter #2, again with a root mean square error of 0.0009 cm⁻¹ from 49 lines. Finally, although no adequate reference standard

exists to determine Δ for filter #1, there are five unblended, relatively strong, atomic lines that occur in the 1100 to 1180 cm⁻¹ overlap region between filter #1 and filter #2. Two are silicon lines at 1100.173 cm⁻¹ and 1166.743 cm⁻¹ and three are magnesium lines at 1125.290 cm⁻¹, 1125.932 cm⁻¹ and 1127.247 cm⁻¹. Using the same correction factor for filter #1 as for filter #2, 2.488·10⁻⁵, the consistency between the measured frequency of these five lines is ± 0.001 cm⁻¹. The results for the correction factors for the four filters are summarized in Table 1.

III. Assignment of Observed Features

Before any solar feature was assigned, a line list had to be generated. This was accomplished in a two-step procedure. In the first phase, every panel of four wavenumbers' width from Volume I was expanded by a factor of ten vertically and scanned manually for any feature that appeared above the noise in both the sunrise and sunset spectra. In many cases this was a judgment based on experience as to what constituted noise and what was a true solar feature. The observed position of the line (in cm⁻¹) and depth (in mm) were recorded. In the second phase, a computer-generated line list was obtained from the "raw" averaged high-sun spectra for each filter in the spacecraft rest velocity frame. Every feature, whether a true solar feature, noise, or an instrumental line with greater than 0.1% absorption, was listed. After applying the appropriate correction factor for every feature, as discussed in the preceding section, and using the fact that 100% absorption corresponds

Table 2. Depth of Catalogued Lines

Depth of Line (mm)	Number of Lines	% of Total
0.1 - 0.3	5419	34.2
0.4 - 0.6	2051	12.9
0.7 - 1.1	2075	13.1
1.2 - 1.6	900	5.7
1.7 - 2.1	687	4.3
2.2 - 2.8	646	4.1
2.9 - 9.9	2372	15.0
10.0 - 19.9	963	6.1
≥ 20	491	3.1
Unknown	244	1.5
TOTAL	15848	100.0

to a line of about 81 mm⁴ to convert the % absorption to a depth in millimeters, a second list of positions and depths was generated. After comparing the two lists and excluding from the second phase many lines that were either noise or instrumental in origin, a final list of 15,848 line positions and depths was obtained, as reported in the body of this work. In Table 2 we present the final total number of lines observed for a given range of depths. The line depths noted as "unknown" in Table 2 are due to broad features, blends, or lines that lie on the shoulders of other lines, making it difficult to obtain an exact depth.

After the assignments for all molecular and atomic species have been made (as will be discussed below), of the 15,848 catalogued lines, 12,098 lines (76.3%) have been assigned and 3,750 lines (23.7%) remain unidentified. The breakdown of the identification for all of the lines is given in Table 3. Approximately two-thirds of all catalogued lines are molecular in origin, about one-tenth are atomic in origin, and less than one-quarter (assumed to be atomic) are unidentified.

A. Molecular Species

CO: As discussed in the preceding section, a small number of the strong CO lines have been used to determine the correction factor for each filter. The total number of CO lines observed for the $\Delta v = 1$ series, i.e., from the (1-0) band (with a maximum observed J-value of 135 in both the P and R branches of ¹²C¹⁶O) to the (20-19) band, is 6,490. This number includes lines observed for the isotopes ¹²C¹⁶O, ¹³C¹⁶O, ¹²C¹⁸O and ¹²C¹⁷O. The number of lines observed for the $\Delta v = 2$ series (the isotope ¹²C¹⁶O only) is 2,394. The maximum depth observed for the (1-0) band of ¹²C¹⁶O is 27.5 mm for the R₂₉ through R₃₂ members (34% absorption) and for the (2-1) band of ¹²C¹⁶O it is 26.1 mm for the R₂₇ through R₃₅ members (32% absorption). The maximum depth observed for the (2-0) band of ¹²C¹⁶O is 7.9 mm for R₃₂ (10% absorption) and for the (3-1) band of ¹²C¹⁶O it is 11 mm for R₂₉ and R₃₀ (13% absorption)¹⁰. The totality of CO lines accounts for 56.0% of all catalogued lines. A summary of the $\Delta v = 1$ series is given for each isotope of CO in Table 4. The highest observed J-value is given for the P and R branches for each band from (1-0) to (20-19).

Table 3. Number of Catalogued Lines and Their Identification.

Identification	Number of Lines	% of Total
Molecular	10389	65.5
$\left\{ \begin{array}{l} \text{CO}^* (\Delta v = 1) \\ \text{CO}^{**} (\Delta v = 2) \\ \text{OH} \\ \text{CH} \\ \text{NH} \end{array} \right\}$	6490	40.9
	2394	15.1
	743	4.7
	581	3.7
	181	1.1
Atomic	1709	10.8
Unidentified	3750	23.7
TOTAL	15848	100.0

* - Includes isotopic variants $^{12}\text{C}^{16}\text{O}$, $^{13}\text{C}^{16}\text{O}$, $^{12}\text{C}^{18}\text{O}$ and $^{12}\text{C}^{17}\text{O}$.

** - The isotope $^{12}\text{C}^{16}\text{O}$ only.

Similar results for the $\Delta v = 2$ series for CO are given in Table 5 for the bands (2-0) to (16-14). In a recent paper by Farrenq et al.¹¹, the Dunham coefficients for all isotopes of CO have been improved based on about 4,500 of these high-J lines observed by ATMOS, plus an additional selected set of about 14,000 accurate laboratory measurements. A comparison of the line positions for more than 2,550 CO transitions of the $\Delta v = 1$ series (all transitions reported to three decimal places in the main table with a depth of greater than or equal to 0.5 mm) determined by the constants of Farrenq et al.¹¹ with those from the line list modified by the correction factors given in Table 1 leads to a root mean square deviation of the residuals of $\pm 0.0016 \text{ cm}^{-1}$. The corresponding root mean square deviation of the residuals for more than 4,250 transitions of CO and its isotopomers of the $\Delta v = 1$ series (all transitions reported to three decimal places in the main table) is $\pm 0.0024 \text{ cm}^{-1}$.

OH: The optimum molecular constants and term values for OH have been given by Coxon¹², based on

his work and the earlier work of Maillard et al.¹³ From these constants, Pickett¹⁴ has performed a series of calculations for position and intensity of the pure rotational lines of OH to be expected in the solar photosphere at wavenumbers up to 1100 cm^{-1} . In this catalogue, 370 pure rotational OH lines are reported between 622 and 1095 cm^{-1} for the strong (0-0) band to a few questionable lines of the very weak (4-4) band. In addition, 373 vibration-rotation lines of OH are observed for the P branch of the (1-0), (2-1), (3-2) and (4-3) bands between 1986 and 3508 cm^{-1} . A comparison between 108 unblended pure rotational (0-0) OH lines compared with Pickett¹⁴ on the one hand and 53 unblended vibration-rotation lines of the (1-0) band compared with Maillard et al.¹³ on the other leads to a root mean square deviation of 0.005 cm^{-1} .

CH: For CH, the most recent analyses of the vibration-rotation spectrum are by Mélen et al.¹⁵ and by Bernath¹⁶. In the present catalogue, 581 CH vibration-rotation lines for both the P and R branches

Table 4. Highest J-Values Observed for P and R Branches of CO: $\Delta v = 1$ Series

$\Delta v = 1$ Series

Band	CO		¹³ CO		C ¹⁸ O		C ¹⁷ O	
	P	R	P	R	P	R	P	R
(1-0)	135	135	96	100	75	77	56	63
(2-1)	135	132	100	97	72	70	43	52
(3-2)	129	124	95	96	72	71	26	41
(4-3)	126	128	95	92	68	65		
(5-4)	126	129	89	81	63	76		
(6-5)	122	119	89	90	60	75		
(7-6)	117	116	82	84	39	37		
(8-7)	118	109	84	76	28			
(9-8)	112	110	75	56				
(10-9)	110	105	42	45				
(11-10)	105	105	29	39				
(12-11)	103	98						
(13-12)	97	90						
(14-13)	89	90						
(15-14)	83	82						
(16-15)	82	80						
(17-16)	76	74						
(18-17)	65	52						
(19-18)	57	52						
(20-19)	35	45						
Total number of observed lines	3891		1584		853		162	

of the (1-0), (2-1), (3-2), and (4-3) bands have been observed, as well as a few Q branch lines of the (1-0) band. A small sampling of the strongest unblended lines compared with the above two references leads to a root mean square deviation of 0.005 cm⁻¹. No pure rotational lines of CH have been observed, although

they are to be expected, based on their calculated intensities¹⁴, below 622 cm⁻¹.

NH: Finally, for NH, 36 pure rotational lines have been observed by Geller et al.¹⁷ for the (0-0) band, including a few lines of the (1-1) band, between 626

Table 5. Highest J-Values Observed for P and R Branches of CO: $\Delta v = 2$ Series

$\Delta v = 2$ Series		
Band	CO	
	P	R
(2-0)	100	102
(3-1)	104	106
(4-2)	102	108
(5-3)	98	108
(6-4)	98	107
(7-5)	93	97
(8-6)	86	95
(9-7)	86	90
(10-8)	80	85
(11-9)	73	80
(12-10)	72	73
(13-11)	64	81
(14-12)	51	68
(15-13)	44	55
(16-14)	32	35
Total number of observed lines	2394	

and 896 cm^{-1} . In addition, 145 vibration-rotation R branch lines of the (1-0) and (2-1) bands between 2919 and 3460 cm^{-1} are catalogued. The identification for these lines comes from the works of Bernath and Amano¹⁸, Bouijaadar et al.¹⁹ and Grevesse et al.²⁰

B. Atomic Species

As previously noted, 1,709 atomic lines have been identified. Table 6 represents the breakdown of

the number of these observed atomic lines from hydrogen through nickel. In addition to fifteen different observed atoms in the ground neutral state, a few lines are reported for magnesium, aluminum, silicon and calcium in their first ionization state.

The primary sources for the energy levels from which these transitions were derived are Moore^{21,22} for H and C and the continuing series of compilations of energy levels in the Journal of Physical and Chemical Reference Data on Na (Martin and Zalubas²³), Mg (Martin and Zalubas²⁴), Al (Martin and Zalubas²⁵), Si (Martin and Zalubas²⁶), S (Martin, Zalubas and Musgrove²⁷), K (Corliss and Sugar²⁸), Ca (Sugar and Corliss²⁹), Sc (Sugar and Corliss³⁰), Ti (Corliss and Sugar³¹), Cr (Sugar and Corliss³²), Fe (Reader and Sugar³³), Co (Sugar and Corliss³⁴) and Ni (Corliss and Sugar³⁵).

As the work on identification of the atomic transitions progressed, it became clear that further calculations of the atomic energy levels had to be performed. As an example, in the 2450 to 2600 cm^{-1} range, there are more than 680 observed features: only about 140 features are molecular in origin, approximately 80 features are atomic transitions that could be derived from the known energy levels, and the remaining 460 features were unidentified. Similar large groupings of atomic lines, many of which were unassigned, have been observed near 3808 cm^{-1} , 1340 cm^{-1} and 808 cm^{-1} . These regions correspond to the hydrogen atom (4-5) transition at 2467.75 cm^{-1} , the (4-6) transition at 3808.26 cm^{-1} , the (5-6) and (6-8) transitions at 1340.50 cm^{-1} and 1332.90 cm^{-1} , respectively, and the (6-7) and (7-9) transitions at 808.29 cm^{-1} and 884.27 cm^{-1} , respectively, suggesting that many of the unidentified lines are atomic Rydberg-like transitions, as was later found to be the case. Chang³⁶ had noted that for low angular momentum states ($L \leq 3$), we should expect to see only absorption-like features. Thus, as already noted for the 2450 to 2600 cm^{-1} interval, a large number of the previously unidentified absorption features are atomic 4f-5g Rydberg-like transitions corresponding to the hydrogen atom (4-5) transition. As the L-value increases to $L = 4$ (g states), we begin to see Rydberg transitions with emission peaks in addition to the absorption troughs corresponding to the hydrogen atom (5-6) transition. A particularly striking example is the Mg 5g - 6h transition at 1356.19 cm^{-1} with a strong central emission peak surrounded by two deep absorption troughs. Finally, at higher L-values ($L \geq 5$), we see strong emission peaks, in some cases straddled by absorption troughs, corresponding to the hydrogen atom (6-7) and (7-9) transitions. Two examples, again due to Mg, are at 811.58 cm^{-1} (6h - 7i)

Table 6. Identified Atomic Features.

Atom	Number of Identified Lines	Abundance*
H	13**	12.00
C	115	8.56
Na	37	6.33
Mg	176**	7.58
Mg II	1	
Al	61	6.47
Al II	1	
Si	481	7.55
Si II	2	
S	28	7.21
K	16	5.12
Ca	97	6.26
Ca II	7	
Sc	9	3.04
Ti	31	4.99
Cr	18	5.67
Fe	610	7.67
Co	1	4.92
Ni	5	6.25
TOTAL	1709	

* Abundances taken from Anders and Grevesse, *Geochim. Cosmochim. Acta* 53, 197 (1989).

** See text Section III.B for additional H and Mg lines observed.

and 818.06 cm⁻¹ (6g - 7h). Similar types of absorption troughs plus emission peaks are also found for hydrogen, silicon and aluminum. That these high-L states are populated and produce observable transitions may provide some clues to the mechanism of formation of these lines—whether formed in the upper photosphere or lower chromosphere, if charge exchange with hydrogen or n, ℓ changing collisions play a role and if the emission features are expected to be more pronounced at the solar limb and in the region below 600 cm⁻¹. Many recent papers have reported and discussed these emission features³⁷.

The basic theory for obtaining the line positions of these Rydberg transitions is the core-polarization approach³⁸ in which

$$E = E_0 - \frac{\text{Ryd}}{n^2} - \alpha P(n, \ell) + E_{J,K}^{\text{core}}(n, \ell) \quad (2)$$

where E is the energy of an atom in a given state characterized by the quantum numbers $n, \ell, J_{\text{core}}, K$, and J ; E_0 is the ionization potential; Ryd is the Rydberg constant for the given atomic species; α is the dipole polarizability (in atomic units) of the atomic core; $P(n, \ell)$ is a theoretically derived function of the quantum numbers n and ℓ arising from the expectation value of the inverse fourth power of the hydrogenic radius, $\langle r^{-4} \rangle_H$, given by

$$P(n, \ell) = \frac{\text{Ryd} (3n^2 - \ell(\ell + 1))}{2n^5 (\ell - 1/2) \ell (\ell + 1/2) (\ell + 1) (\ell + 3/2)} \quad (3)$$

and $E_{J,K}^{\text{core}}(n, \ell)$ is a term representing quadrupole interactions and core-polarization and penetration effects. Using this approach, Chang³⁹ has made detailed calculations on the (6-7) transitions in Si; Schoenfeld, Geller and Chang⁴⁰ have made extensive calculations for the 4f - 5g, 4f - 6g and 5f - 6g transitions in Fe; and Geller⁴¹ has made preliminary calculations for C, Mg, Al, Si and Ca.

For C, in addition to those energy levels taken from Moore²², new energy levels have been derived⁴¹ as given in Table 7. The expected uncertainty in the levels is 0.05 cm⁻¹ or less, except for the 5g [4 1/2]_{4,5} level, which has an uncertainty of about 0.10 cm⁻¹, and the 5g [2 1/2]_{2,3} level, which has an uncertainty better than 0.2 cm⁻¹.

The primary source for the energy levels of Mg²⁴ has been supplemented by recent important papers⁴² by Biemont and Brault, Lemoine et al. and Kaufman and Martin, besides those papers by Chang, Jefferies,

Table 7. New Carbon Energy Levels.

Term (cm ⁻¹)	Level (cm ⁻¹)
5g [3 _{1/2}] _{3,4}	86426.76
5g [4 _{1/2}] _{4,5}	86427.25
5g [2 _{1/2}] _{2,3}	86498.5
5g [3 _{1/2}] _{3,4}	86489.62
5g [4 _{1/2}] _{4,5}	86485.56
5g [5 _{1/2}] _{5,6}	86495.26
6g [4 _{1/2}] _{4,5}	87769.96
6h [4 _{1/2}]	87771.65
6h [5 _{1/2}]	

and Lemoine et al. cited in Reference 37. In addition to those features noted (in the main table of identifications that follows) as being due to magnesium, there are several regions that show a broad absorption that can also be ascribed to magnesium. In Table 8, we give the approximate central frequencies to (0.1 cm⁻¹) of these features and the corresponding transition multiplet, and classify the depth qualitatively as deep (D), medium (M) or shallow (S). As an example, in Figure 1 we show an enlargement of a portion of the "raw" uncorrected spectrum in the region around 3108 cm⁻¹. Except for the feature at 3108.022 cm⁻¹ (with a corrected frequency of 3108.099 cm⁻¹, as given in the main table), which is ascribed to C(?), and the two narrow instrumental lines, the deep broad trough arises from the 5f - 9g multiplet of magnesium. Three similar features for hydrogen, not included in the main table, are the (5-10) transition (M) at 3290.3 cm⁻¹, the (5-11) transition (S) at 3480.7 cm⁻¹, and the (6-9) transition (M) at 1692.5 cm⁻¹.

Table 8. Additional Magnesium Features Observed in ATMOS.

Central Frequency (cm^{-1})	Transition Multiplet	Depth*
2746.6	5f - 8g	D
3108.1	5f - 9g	D
3052.1	5g - 9h	M
3594.4	5d - 10f	M
3366.5	5f - 10g	M
3309.9	5g - 10h	S
3557.6	5f - 11g	S
1736.8	6f - 9g	M
1704.1	6g - 9h	M
1995.2	6f - 10g	S
1144.3	7h - 10i	S
1143.0	7i - 10k	S

* The notation for the depth represents qualitatively whether the broad trough is deep (D), medium (M) or shallow (S).

For Al, in addition to the primary source²⁵, see the recent papers by Biemont and Brault⁴³ and Chang⁴³. From the recent analysis by Chang³⁹ on Si, several of the higher energy levels, although not explicitly stated, can be derived⁴¹ and are shown in Table 9. The expected uncertainty is 0.01 cm^{-1} for the 5g levels, 0.02 cm^{-1} for the 6g and 6h levels (except for the 6h [3 1/2] level, which is probably only good to 0.1 cm^{-1}) and 0.1 cm^{-1} for the 7g, 7h and 7i levels. As shown in Table 6, Si is the second most frequently occurring atomic species in the infrared solar spectrum, with nearly 500 transitions being observed. For Ca, several new levels have been found⁴¹ by the approach using equations (2) and (3). These energy levels are given in Table 10. The expected uncertainty for the 5g, 6g and 7g levels is 0.03 cm^{-1} and for the 6h and 7h levels it is 0.1 cm^{-1} . Chang⁴⁴ had earlier placed

the 5g 1G_4 level at $44874.5 \pm 0.2 \text{ cm}^{-1}$, in good agreement with the result shown in Table 10.

Iron is the dominant atomic species observed in the infrared solar spectrum, with over 600 lines being identified or characterized. Recently, Biemont et al.⁴⁵ have made a study of iron in the infrared solar spectrum, without identifications, and Johansson and Learner⁴⁶ have completed a thorough laboratory analysis of the lowest 3d to 4f transition supermultiplet. Using these experimentally determined 4f levels as a starting point, Schoenfeld, Geller and Chang^{40,47} have calculated, based on equations (2) and (3), the energy levels of the 5f, 5g, 6g and 6h levels of Fe. From this analysis, nearly two hundred previously unidentified solar lines have been accurately assigned. In Table 11 we present the

complete array of 5g levels with an estimated accuracy of $\pm 0.01 \text{ cm}^{-1}$. The notation used for the levels is $(J_c)[K]_J$, where J_c is the J-value of the parent ^6D core, $K = \ell + J_c$ ($\ell = 4$ corresponds to the g-levels) and $J = K \pm 1/2$. We have also determined a value of $63737.75 \pm 0.10 \text{ cm}^{-1}$ for the ionization potential⁴⁸ and a value of 28.2 ± 0.2 for α , the dipole polarizability of the FeII core.

We also note the useful papers by Biemont et al. for Cr⁴⁹, for the iron group elements⁵⁰ and for the lighter elements up to $Z = 20$ ⁵¹.

There is as yet no evidence for transitions of other atomic species than are presented in Table 6, although they cannot be ruled out at the present time. In Table 12 we show the twelve "strongest" identified atomic features with a depth of 27 mm or greater, corresponding to an absorption of 33% or more.

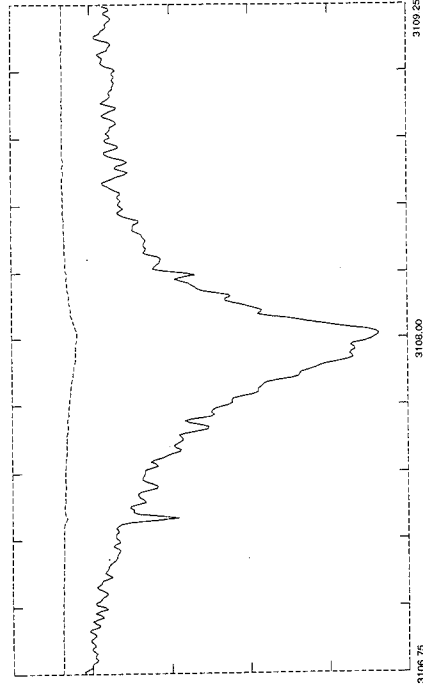


Figure 1. Two tracings of a portion of the ATMOS spectrum around 3108 cm^{-1} showing the Mg 5f-9g multiplet. The lower tracing has been expanded in the vertical scale by a factor of ten.

Table 9. New Silicon Energy Levels.

Term	Level (cm^{-1})	Term	Level (cm^{-1})	Term	Level (cm^{-1})
5g $[3_{1/2}]$	61346.46	6h $[4_{1/2}]$	62697.33	7i $[5_{1/2}]$	63507.76
5g $[4_{1/2}]$	61346.79	6h $[5_{1/2}]$	62697.26	7i $[6_{1/2}]$	63507.64
5g $[2_{1/2}]'$	61654.31	6h $[3_{1/2}]'$	62990.1	7i $[4_{1/2}]'$	-----
5g $[3_{1/2}]'$	61629.54	6h $[4_{1/2}]'$	62982.08	7i $[5_{1/2}]'$	63793.84
5g $[4_{1/2}]'$	61619.18	6h $[5_{1/2}]'$	62979.65	7i $[6_{1/2}]'$	63793.02
5g $[5_{1/2}]'$	61644.32	6h $[6_{1/2}]'$	62987.70	7i $[7_{1/2}]'$	63796.09
6g $[3_{1/2}]$	62692.54				
6g $[4_{1/2}]$	62692.43				
6g $[2_{1/2}]'$	62991.19				
6g $[3_{1/2}]'$	62976.35				
6g $[4_{1/2}]'$	62970.58				
6g $[5_{1/2}]'$	62985.32				
7g $[3_{1/2}]$	63503.60	7h $[4_{1/2}]$	63507.07		
7g $[4_{1/2}]$	63503.50	7h $[5_{1/2}]$	63506.70		
7g $[2_{1/2}]'$	63797.74	7h $[3_{1/2}]'$	63796.23		
7g $[3_{1/2}]'$	63788.50	7h $[4_{1/2}]'$	63792.44		
7g $[4_{1/2}]'$	63784.93	7h $[5_{1/2}]'$	63790.74		
7g $[5_{1/2}]'$	63794.4	7h $[6_{1/2}]'$	63795.59		

Table 10. New Calcium Energy Levels.

Term (cm^{-1})	Level (cm^{-1})
5g $^3\text{G}_{3,4,5}$	44874.83
5g $^1\text{G}_4$	44874.42
6g $^3\text{G}_{3,4,5}$	46231.03
6g $^1\text{G}_4$	46231.70
6h $^1,^3\text{H}$	46249.14
7g $^1\text{G}_4$	47048.89
7h $^1,^3\text{H}$	47060.5

Table 11. New Iron 5g Energy Levels.

Term	Level
5g (9/2) [8 _{1/2}]	59335.72
5g (9/2) [7 _{1/2}]	59331.26
5g (9/2) [6 _{1/2}]	59329.63
5g (9/2) [5 _{1/2}]	59329.88
5g (9/2) [4 _{1/2}]	59331.28
5g (9/2) [3 _{1/2}]	59333.25
5g (9/2) [2 _{1/2}]	59335.31
5g (9/2) [1 _{1/2}]	59337.07
5g (9/2) [1/2]	59338.24
5g (7/2) [7 _{1/2}]	59717.93
5g (7/2) [6 _{1/2}]	59717.07
5g (7/2) [5 _{1/2}]	59716.79
5g (7/2) [4 _{1/2}]	59716.93
5g (7/2) [3 _{1/2}]	59717.31
5g (7/2) [2 _{1/2}]	59717.75
5g (7/2) [1 _{1/2}]	59718.15
5g (7/2) [1/2]	59718.36
5g (5/2) [6 _{1/2}]	59999.20
5g (5/2) [5 _{1/2}]	60001.33
5g (5/2) [4 _{1/2}]	60001.57
5g (5/2) [3 _{1/2}]	60000.71
5g (5/2) [2 _{1/2}]	59999.39
5g (5/2) [1 _{1/2}]	59998.12
5g (3/2) [5 _{1/2}]	60193.66
5g (3/2) [4 _{1/2}]	60197.93
5g (3/2) [3 _{1/2}]	60196.42
5g (3/2) [2 _{1/2}]	60192.14
5g (1/2) [4 _{1/2}]	60309.69
5g (1/2) [3 _{1/2}]	60309.70

C. Unidentified Lines

From Table 3 we recall that there are a total of 3,750 unidentified lines accounting for 23.7% of the total of 15,848 lines. The breakdown of the depth of these unidentified lines, in mm, is given in Table 13. Only 533 lines, corresponding to 14.2% of the unidentified lines or 3.4% of the total number of lines, have an absorption of 0.8% or more (greater than 0.6 mm in depth). The totality of these 533 "large" unidentified features is given in Table 14 and in Figure 2 we present a histogram of these "large" unidentified features in blocks of 100 cm^{-1} . At present, only 29 unidentified lines have an absorption greater than 6%. The ten deepest lines from Table 14 are given in Table 15. Note that only three out of the total of 1,454 lines with depth ≥ 10.0 mm remain unidentified.

If and when a thorough analysis is made of the higher angular momentum levels in the third row atoms, Ca through Zn, and their corresponding Rydberg transitions, the number of "large" unidentified features is expected to drop markedly. Based on the solar atomic abundances of Cr (5.67), Mn (5.39), Co (4.92) and Ni (6.25) and the paucity of experimental energy levels, these four atomic species are highly likely candidates for a number of the unidentified features.

Table 12. Strongest Identified Atomic Features.

Frequency (cm ⁻¹)	Depth (mm)	Identification
4021.336	35.0	Mg 4p - 5s
4028.081	32.4	Mg 4p - 5s
4681.636	32	Si 4p - 5s
4532.583	30.6	Na 4s - 4p
4531.301	29.4	Si 3d - 4f
4723.760	29.2	Al 4p - 5s
3787.878	29.0	Mg 4p - 4d
4419.692	28.1	Fe x - e
4276.145	27.5	Na 4p - 4d
4590.181	27.5	Si 3d - 4f
3750.028	27.1	Fe c - y
4779.46	27	Si 3d - 4f

Table 13. Breakdown of Unidentified Lines.

Depth	Number of Lines	% of Total
0.1 - 0.3	2594	69.2
0.4 - 0.6	623	16.6
0.7 - 1.1	247	6.6
1.2 - 1.6	99	2.6
1.7 - 2.1	56	1.5
2.2 - 2.8	60	1.6
> 2.8	71	1.9
TOTAL	3750	100.0

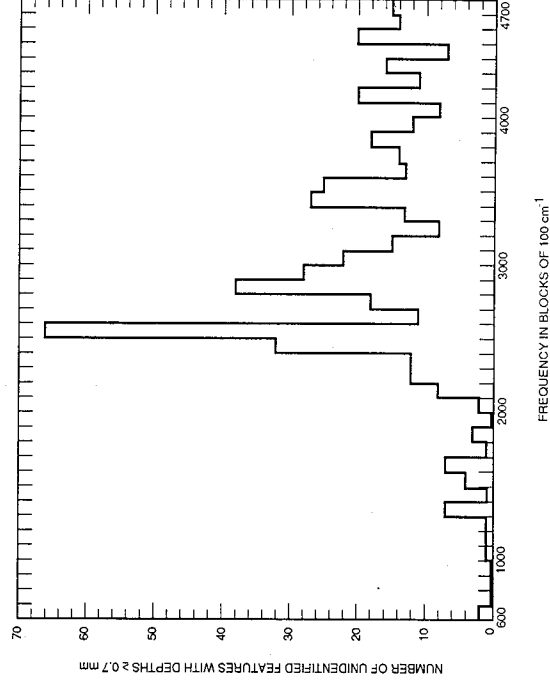


Figure 2. Histogram of a number of "large" unidentified features (with depth ≥ 0.7 mm) in blocks of 100 cm⁻¹ width. Data taken from Table 14.

Table 14. "Large" Unidentified Features.

Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)
641.351	0.8	2303.691	2.5	2502.332	3.8	2559.58	1.8		
644.362	1.0	2319.481	8.9	2502.415	0.8	2565.858	0.7		
1007.61	0.7	2325.379	2.8	2503.178	1.4	2567.676	2.3		
1160.586	0.7	2350.949	0.9	2503.242	1.3	2573.052	1.0		
1245.963	0.7	2351.927	4.1	2503.595	1.0	2576.50	1		
1345.093	1.6	2358.302	0.9	2504.542	1.3	2576.661	2.1		
1346.269	2.6	2362.064	1.2	2505.050	2.2	2576.893	2.0		
1346.807	1.0	2378.215	7.3	2505.383	1.1	2581.42	2.3		
1390.897	1.3	2380.925	1.0	2505.689	1.2	2587.952	0.8		
1394.245	0.8	2382.065	1.1	2505.838	1.0	2595.185	3.0		
1395.552	1.0	2382.783	0.8	2506.059	1.8	2600.965	2.0		
1398.119	0.7	2392.002	5.8	2506.181	2.4	2601.992	1.6		
1401.222	0.9	2408.524	1.9	2506.344	0.8	2615.876	0.8		
1506.961	1.5	2409.228	1.4	2506.498	1.8	2617.301	1.0		
1563.847	1.0	2416.572	2.5	2506.771	2.4	2641.183	0.8		
1586.271	0.7	2433.451	0.7	2507.260	0.7	2644.685	1.1		
1589.056	0.8	2435.843	0.8	2507.367	1.1	2669.121	1.8		
1614.110	1.3	2438.341	1.0	2507.505	1.0	2677.470	1.1		
1636.076	2.2	2439.137	1.1	2507.628	2.1	2683.873	0.9		
1636.940	1.1	2445.971	9.2	2507.875	0.8	2689.415	1.2		
1640.777	1.1	2450.452	1.1	2508.022	1.9	2698.37	0.9		
1656.829	0.8	2462.603	0.8	2508.100	4.9	2716.659	0.7		
1657.35	0.8	2463.30	<1	2508.157	4.7	2728.73	0.7		
1658.327	1.6	2478.59	1.8	2508.445	4.7	2729.933	1.6		
1776.731	2.1	2483.72	<1	2509.053	1.0	2731.182	0.7		
1804.651	0.8	2484.073	2.7	2509.562	2.0	2740.745	1.5		
1844.134	1.1	2485.748	1.1	2510.288	3.8	2745.665	0.8		
1865.406	1.0	2486.263	2.0	2510.753	3.2	2748.333	1.2		
2071.710	1.0	2486.645	1.0	2511.211	2.8	2752.151	1.4		
2099.888	1.1	2487.390	0.9	2511.504	4.4	2760.41	0.7		
2105.473	0.9	2487.910	0.8	2511.830	4.1	2784.36	1.5		
2114.003	0.9	2488.290	1.1	2512.597	2+	2790.774	2.2		
2155.953	1.1	2490.043	3.1	2512.777	1.5	2791.106	1.6		
2160.338	1.4	2492.007	0.8	2512.898	3.1	2791.490	1.4		
2162.795	1.1	2494.819	1.2	2513.019	1.0	2791.598	2.5		
2182.676	1.5	2495.436	1.1	2516.650	1.1	2793.63	0.8		
2191.029	0.8	2495.645	2.3	2520.194	1.1	2793.762	1.4		
2199.516	5.3	2495.843	0.7	2521.383	1.5	2794.096	5.9		
2209.650	1.0	2496.099	4.9	2521.609	0.7	2797.650	0.9		
2214.234	1	2496.738	1.5	2534.435	1.7	2807.526	0.8		
2220.586	1.3	2497.11	0.9	2535.764	0.8	2809.624	2.3		
2223.699	0.7	2497.203	0.9	2536.784	2.7	2811.279	0.8		
2227.384	5.7	2497.823	2.0	2537.193	0.9	2817.95	1.1		
2240.843	0.7	2497.872	2.0	2538.872	1.1	2818.897	0.8		
2252.437	5.2	2500.027	5.2	2539.730	1.5	2821.039	0.8		
2275.592	1.4	2500.540	5.0	2541.121	0.8	2821.299	4.7		
2276.666	0.7	2500.848	1.2	2543.037	0.7	2821.846	1.5		
2281.582	1.7	2501.14	<1	2545.72	1.0	2822.207	2.4		
2285.450	1.7	2501.262	1.1	2548.414	1.4	2823.699	3.8		
2291.463	2.8	2501.893	1.1	2548.795	0.8	2824.676	2.7		

Table 14. "Large" Unidentified Features. (continued)

Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)
2826.328	0.7	2986.400	0.9	3304.107	1.5	3548.240	0.8		
2826.510	1.1	2989.824	0.8	3313.13	1.9	3550.66	0.9		
2827.363	1.0	2991.403	1.3	3322.03	1.3	3553.602	0.8		
2828.260	2.6	2994.651	2.2	3336.79	<1	3555.486	2.1		
2828.654	0.7	2997.876	0.7	3337.043	3.4	3562.486	0.7		
2830.996	2.1	3002.83	1.5	3359.824	1.9	3567.636	1.2		
2833.854	2.6	3003.761	2.1	3360.855	2.9	3568.171	0.7		
2834.694	3.9	3006.469	2.6	3368.642	1.9	3568.663	1		
2835.312	1.4	3007.635	2.3	3371.110	0.9	3569.354	6.1		
2835.378	1.2	3008.493	1.3	3376.021	0.9	3571.215	3.5		
2842.548	3.8	3016.023	0.8	3389.632	1.4	3586.143	2.6		
2844.674	3.2	3025.498	0.7	3393.864	2.5	3593.968	4.8		
2846.591	2.8	3025.834	2.5	3398.055	1.1	3597.652	1.6		
2850.994	1.0	3025.922	2.8	3400.555	0.7	3599.644	3.7		
2856.585	1.4	3028.388	1.0	3403.279	13.5	3599.791	0.7		
2857.610	2.8	3029.108	2.3	3411.322	1.4	3608.411	0.8		
2858.062	2.0	3032.063	2.5	3416.24	0.8	3610.991	2.6		
2859.112	0.8	3033.439	0.8	3416.884	0.8	3623.290	1.6		
2860.837	1.1	3038.192	1.4	3418.215	0.7	3626.93	0.8		
2863.095	2.0	3047.230	0.7	3420.701	0.8	3628.86	0.7		
2866.828	1.2	3048.124	1.0	3433.045	1.9	3637.52	0.8		
2866.902	0.8	3070.169	1.6	3433.511	2.9	3656.258	3.4		
2873.005	1.7	3073.069	2.2	3442.165	7.5	3658.562	2.0		
2876.054	0.9	3084.537	2.8	3444.710	4.0	3664.679	1.4		
2884.104	2.1	3086.539	1.0	3454.102	0.8	3677.098	2.6		
2884.373	0.9	3087.867	1.5	3463.247	15.4	3690.662	1.4		
2888.068	1.0	3097.585	0.8	3464.171	0.9	3692.522	3.7		
2903.446	0.8	3118.518	5.6	3465.851	9.9	3698.109	1.7		
2904.545	0.8	3119.448	0.8	3468.148	1.4	3702.991	1.4		
2905.820	2.2	3132.082	1.5	3476.80	0.7	3703.02	0.9		
2907.585	2.3	3135.126	0.9	3477.800	1.2	3709.230	9.6		
2908.197	3.5	3150.968	1.4	3478.224	5.0	3713.908	0.9		
2919.721	0.9	3151.148	1.1	3481.277	8.4	3721.610	1.1		
2924.490	1.4	3151.561	1.0	3481.861	4.3	3726.788	0.7		
2925.190	1.5	3153.274	1.9	3483.381	12.7	3731.09	2		
2929.717	1.4	3162.005	2.5	3485.229	0.9	3748.389	1.2		
2932.298	0.7	3166.677	3.0	3485.986	1.5	3754.453	2.3		
2935.591	0.7	3176.314	2.0	3487.512	0.7	3776.717	1.1		
2938.703	1.5	3178.852	0.7	3494.781	2.0	3779.11	1		
2940.229	2.3	3185.743	0.7	3496.43	5.5	3784.934	0.7		
2940.592	0.8	3178.264	0.8	3501.49	0.7	3790.956	2.1		
2942.33	1.3	3195.054	1.2	3503.447	4.7	3794.933	2.8		
2946.750	1.8	3200.050	0.9	3504.171	2.3	3818.82	3		
2948.525	6.1	3203.515	0.9	3514.840	1.7	3830.19	1+		
2949.300	0.8	3217.777	0.8	3515.098	5.4	3838.802	1+		
2953.602	0.9	3245.766	5.7	3529.676	2.0	3839.369	1.1		
2955.781	0.9	3257.083	3.7	3534.927	1.0	3839.779	7.2		
2958.152	0.8	3279.930	1.0	3536.271	0.9	3841.798	1.8		
2980.026	2.8	3283.920	1.6	3538.737	3.7	3842.178	1.2		
2983.664	2.0	3295.791	0.7	3545.452	3.7	3846.49	2		

Table 14. "Large" Unidentified Features. (continued)

Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)	Frequency (cm^{-1})	Depth (mm)
3851.52	0.8	4212.548	1.3	4587.777	1.8
3856.87	1+	4213.366	0.9	4588.478	2.4
3861.327	2.0	4214.343	0.7	4592.339	1.4
3866.150	6.6	4216.595	1.1	4595.547	1.7
3866.66	2+	4218.369	2.0	4629.569	0.9
3883.91	1.1	4224.80	1.3	4638.396	2.2
3886.677	1.4	4234.580	1.7	4641.378	1.0
3889.984	7+	4253.794	1.2	4644.946	2.1
3894.51	0.7	4272.81	1.5	4648.138	1.3
3898.494	1	4284.76	1.2	4652.132	1.2
3904.436	2+	4298.224	1.8	4652.283	1.0
3928.351	0.9	4300.458	2.1	4652.695	3.4
3938.152	0.9	4303.829	0.9	4656.521	2.8
3939.205	1.0	4305.687	1.3	4660.355	1.3
3953.622	0.8	4308.761	0.8	4682.06	1
3958.373	0.7	4311.337	1.4	4685.13	0.9
3979.513	2	4312.072	2.6	4691.66	0.7
3982.386	1.0	4317.603	1.7	4696.983	1.4
3983.590	1	4332.516	2.2	4706.884	1.4
3984.126	0.8	4341.801	0.8	4710.30	1.4
3987.368	0.9	4342.513	0.9	4725.639	0.9
3997.738	0.7	4360.519	1.0	4726.995	0.7
4021.60	1	4361.457	3.4	4728.327	1.7
4035.730	1.1	4380.489	0.8	4729.147	1+
4041.51	1.0	4381.373	0.8	4729.69	1
4060.44	0.8	4392.325	0.9	4731.29	1.3
4067.912	1.0	4392.612	0.9	4736.895	2+
4075.206	1+	4409.448	0.7	4742.297	1.6
4075.289	8.9	4427.713	2.2	4745.090	1.5
4090.050	1.2	4443.608	1.4	4758.27	1+
4110.303	0.7	4458.496	0.8	4782.13	2+
4110.784	1.3	4460.374	1.1	4792.92	2+
4116.564	1.2	4469.919	0.9	4794.69	2+
4124.293	0.8	4494.22	1.2		
4131.510	2.2	4521.194	1		
4137.387	6.9	4535.925	1.1		
4140.53	0.8	4540.971	1.1		
4145.419	1.7	4543.692	0.8		
4149.51	0.8	4544.427	1.2		
4155.011	0.9	4545.764	4.0		
4160.097	2+	4546.525	3.7		
4171.616	0.9	4547.040	3.5		
4174.136	1.0	4548.31	1.5		
4181.843	1	4555.506	1.3		
4184.852	0.8	4568.539	4.3		
4187.903	1	4569.808	1		
4188.961	2.0	4571.470	0.7		
4189.45	0.8	4571.682	1.0		
4190.855	1	4582.169	1		
4197.606	1.0	4582.418	3.0		

Table 15. "Largest" Unidentified Lines.

Frequency (cm ⁻¹)	Depth of Line (mm)
3463.247	15.4
3403.279	13.5
3483.381	12.7
3465.851	9.9
3709.230	9.6
2445.971	9.2
2319.481	8.9
4075.289	8.9
3481.277	8.4
2948.525	8.1

¹²C¹⁶O, ¹³C¹⁶O, ¹²C¹⁸O and ¹²C¹⁷O, the notations CO, C13O16, C12O18 and C12O17 are used, respectively. The remaining molecular species are OH, CH and NH. Standard atomic designations are used throughout. Tentative identifications are marked with a species name plus a question mark, such as "Fe(?)." A question mark in the second column indicates that the line is unidentified. The third and fourth columns represent the assigned transition, such as OH (1-1) R1E 27.5, indicating the R_{1e} 27.5 transition of the (1-1) pure rotational band of molecular OH, or Si 4p ³D₁ - 3d ³F₂, corresponding to the silicon transition from the even state characterized by 1s²2s²2p⁶3s²3p4p ³D₁ to the odd state 1s²2s²2p⁶3s²3p3d ³F₂. The fifth column gives the depth of the line in millimeters, at the scale of the published spectra in Volume I, usually to one decimal place. In some cases, usually for a small line, the notations "<" ("less than") or "<<" ("much less than") are also used. Depths as small as 0.1 mm can be discerned for filters #1, #2 and #3, where the noise level is small. For filter #4, the noise level increases, particularly from about 4600 cm⁻¹ on. Since an absorption of 100% is represented in the spectra by a line of about 81 mm in depth, a depth of 0.7 mm corresponds to about 0.8% absorption. Also included in this column is a notation to indicate whether the line is a blend (b) or lies on the shoulder(s) of another line (s). The final column repeats the question mark if the line is unidentified. A few comments have been included, such as "broad" (self-evident) and "Abs + Emission" (if the line manifests emission features plus an absorption trough(s)). Most of these latter comments occur between 806 and 912 cm⁻¹ and between 1342 and 1358 cm⁻¹.

IV. Description of the Table of Identifications

In the Table of Identifications, which constitutes the main body of this volume, each block of eight wavenumbers is given a separate heading and corresponds to a page of two panels in Volume I of this series. In addition, three separate blocks of data available from ATMOS from 622-630 cm⁻¹, 630-638 cm⁻¹ and 638-646 cm⁻¹, excluded from Volume I because of the low signal-to-noise ratio, have been included due to the certain identification of several OH and NH transitions. In the first column of the table, the corrected frequency (see Table 1) is given, usually to three decimal figures if warranted by the data. In the case of blends, lines on the shoulders of other lines, noise, or background continuum, only two decimal figures are reported. The second column identifies the species. For the molecular species

V. Corrections and Additions

In an undertaking such as this, it is inevitable that errors will persist in the tables. It would be greatly appreciated if any corrections, additions or identifications were brought to the author's attention. The ultimate aim is to completely identify every observable feature in the infrared solar spectrum.

VI. Acknowledgements

This catalogue and identification key would not have been possible had not Barney Farmer, the late Bob Norton, and Rudy Schindler spent many years of their lives bringing the ATMOS experiment to fruition. The author especially thanks Barney Farmer for continuing encouragement and discussions and for providing a pre-publication copy of the spectra

early in 1989. Special thanks go to Nicolas Grevesse and Jacques Sauval for a comprehensive preliminary molecular line list and invaluable conversations, and to Bob Kurucz for supplying a useful expanded version of the ATMOS data. Acknowledgements are also given to Linda Brown, Ed Chang, John Jefferies, Bob Norton, Herb Pickett and Geoff Toon for many useful, stimulating and informative discussions. Finally, the publication of this identification key would have been a lot more difficult without the continuing aid, advice and support of Mike Gunson.

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Supplementary Note

After completion of this work, a thorough check of the main table uncovered several errors, which we note in the following supplementary table. In addition, a final literature search conducted by the author brought to light several papers on Fe, which has allowed many previously unassigned lines (some already correctly identified as being due to Fe) to be classified. In particular, we note the paper by Zhu and Knight^{S1}, which gives several new even-parity levels of Fe. From the eleven new levels that we present below, refined from Zhu and Knight's preliminary estimate, more than sixty identifications have been made, including the three "largest" unidentified lines at 3403.279, 3463.247 and 3483.381 cm⁻¹. Similarly, the paper by Brown, Ginter, Johansson and Tilford^{S2} presents new odd-parity energy levels from which more than thirty transitions have been identified. Other recent important Fe papers are by Johansson and Cowley^{S3}, who discuss the present status of the iron group elements in the neutral and first and second ionization states, and by O'Brian, Wickliffe, Lawler, Whaling and Brault^{S4}, who give lifetimes, transition probabilities, and an accurate updated listing of the known Fe I energy levels but not including those reported in Refs. S1 and S2. Most of the new Ni identifications presented in this supplementary table are taken from Biemont, Brault, Delbouille and Roland^{S5}. Two entries in Table 14 should be corrected to 2925.390 from 2925.190 cm⁻¹ and 3313.15 from 3313.13 cm⁻¹.

In the supplementary table, the first and fourth columns correspond to the frequency in wavenumbers and the depth in millimeters as given in the main table. The second and third columns are the species identification and transition, if known. The last column notes what the previous identification was:

"?" indicates that the line was unidentified, "Fe-No" indicates that the line was identified as Fe but without an assigned transition, and the remaining comments—"Add," "Corr" (correction), and "Delete"—are self-evident. We have used a shorthand notation for most of the Fe transitions, in which A, B, C and D represent the core:

A	3d ⁶ (⁵ D)4s(⁶ D)
B	3d ⁶ (³ D)4s(⁴ D)
C	3d ⁷ (⁴ F)
D	3d ⁷ (⁴ P)

The eleven new even-parity energy levels, based on the work of Zhu and Knight^{S1}, but refined due to the observed transitions, are

A6s ⁵ D ₄	54479.91	A5d ⁵ D ₄	56207.55
A6s ⁵ D ₃	54864.84	A5d ⁵ D ₃	56337.12
A6s ⁵ D ₂	55134.18	A5d ⁵ D ₂	56479.46
A6s ⁵ D ₁	55305.64	A5d ⁵ D ₁	56735.16
C6s ⁵ F ₅	56113.90	A5d ⁵ D ₀	56895.32
		A5d ⁵ F ₅ (?)	56550.64

All of these energy levels, in wavenumbers, are expected to be accurate to ± 0.02 cm⁻¹. We expect that as more of the A5d multiplet for Fe becomes known (in the range 56000-57000 cm⁻¹), many more of the unidentified lines will be identified. At present, only 51 lines remain unidentified in the range 2.2-2.8 mm and 52 lines remain unidentified with a depth greater than 2.8 mm, a total of 103 unidentified lines with an absorption greater than 2.5%. We note finally that six of the ten "largest" lines from Table 15 have all been identified as Fe with assigned transitions.

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Supplementary Table

1342.177	C	5p	3D_3	-	5d	$^3F_3^\circ$	0.2	?
1376.769	C	5p	3D_2	-	5d	$^3F_3^\circ$	0.1	?
1382.276	C	5p	3D_1	-	5d	$^3F_2^\circ$	0.1	?
1384.64	C	5p	3D_3	-	6s	$^3P_2^\circ$	0.1	?
1649.937	Fe	C6s	5F_5	-	B5p	$^5D_4^\circ$	0.4	?
1803.326	Fe	C6s	5F_5	-	B5p	$^3F_4^\circ$	0.2	?
1926.947	Fe	A4d	f^7F_4	-	C5p	$^5F_4^\circ$	0.4	?
1966.172	Fe	A4d	f^7F_5	-	C5p	$^5G_6^\circ$	0.4	?
1984.690	Fe	A5p	$t^5D_4^\circ$	-	C4d	g^5F_5	0.4	?
2078.517	Fe	A5p	$t^5D_4^\circ$	-	C4d	h^5D_4	0.5	?
2095.531	Fe	A6s	5D_1	-	A6p	$^5D_1^\circ$	0.2	?
2114.003	Fe	A6s	g^7D_4	-	A6p	$^7D_4^\circ$	0.9	?
2124.834	Fe	A4d	f^7F_4	-	C5p	$^5G_5^\circ$	0.2	?
2182.676	Fe	C4p	$y^3D_1^\circ$	-	X	3P_1	1.5	?
2199.516	Fe	A6s	5D_3	-	A6p	$^5F_4^\circ$	5.3	?
2200.999	Fe	A5p	$t^5D_2^\circ$	-	C4d	g^5F_3	0.1	?
2209.650	Fe	A6s	5D_2	-	A6p	$^5F_3^\circ$	1.0	?
2227.384	Fe	A6s	5D_4	-	A6p	$^5F_5^\circ$	5.7	?
2252.437	Fe	A6s	5D_4	-	A6p	$^5D_4^\circ$	5.2	?
2266.882	Fe	A6s	5D_1	-	A6p	$^5F_2^\circ$	bs 0.3	?
2285.450	Fe	A4d	f^7F_5	-	C5p	$^5F_4^\circ$	1.7	?
2303.691	Fe	A6s	5D_3	-	A6p	$^5D_3^\circ$	2.5	?
2319.481	Fe	A6s	g^7D_5	-	A6p	$^7D_5^\circ$	8.9	?
2367.418	Fe	C6s	5F_5	-	B5p	$^5F_4^\circ$	0.4	?
2378.215	Fe	A6s	g^7D_4	-	A6p	$^7F_5^\circ$	7.3	?
2380.925	Fe	A4d	e^5G_5	-	C5p	$^5F_5^\circ$	1.0	?
2391.444	Fe	A6s	5D_4	-	A6p	$^5P_3^\circ$	b 2.7	Add
2399.422	Fe	A6s	g^7D_3	-	A6p	$^7F_4^\circ$	6.1	Fe-No
2408.524	Fe	A6s	5D_4	-	A6p	$^7P_3^\circ$	1.9	?
2409.228	Ni			-			1.4	?
2415.281	Fe	A6s	g^7D_2	-	A6p	$^7F_3^\circ$	5.5	Fe-No
2416.859	Fe	A6s	g^7D_4	-	A6p	$^7P_4^\circ$	6.4	Fe-No
2429.641	Fe	A5p	$t^5D_1^\circ$	-	C4d	g^5F_2	0.4	?
2435.843	Fe	A6s	5D_1	-	A6p	$^5P_1^\circ$	0.8	?
2437.883	Fe	A6s	g^7D_5	-	A6p	$^7D_4^\circ$	7.6	Fe-No
2438.341	Fe	A6s	5D_2	-	A6p	$^5F_2^\circ$	1.0	?
2444.65	Fe	A5p	$t^5D_0^\circ$	-	C4d	g^5F_1	0.1	?
2447.824	Fe		$v^5P_2^\circ$	-	A4d	e^7P_3	0.3	?
2460.135	Fe	A6s	g^7D_5	-	A6p	$^7F_6^\circ$	10.2	Fe-No
2469.585	Fe	A5p	$t^5D_3^\circ$	-	C4d	g^5F_3	0.3	?
2478.988	Fe	A6s	5D_3	-	A6p	$^5F_3^\circ$	b	Add
2483.649	Fe	A6s	g^7D_3	-	A6p	$^7P_3^\circ$	4.0	Fe-No
2500.375	Fe	C4p	$y^3D_2^\circ$	-	X	3P_1	5.7	Fe-No
2506.059	Ni			-			1.8	?
2506.498	Ni			-			1.8	?
2508.697	Fe		$v^5P_3^\circ$	-	A4d	e^7P_4	3.6	Fe-No

Supplementary Table (continued)

2548.414	Fe	A6p	$5D_3^\circ$	-	A5g (7/2)[4 1/2]	1.4	?
2548.795	Fe	A6p	$5D_3^\circ$	-	A5g (7/2)[3 1/2]	0.8	?
2576.661	Fe	A4f	$(5/2)[1 1/2]_1^\circ$	-	A5g (5/2)[1 1/2]	2.1	?
2577.932	Fe	A4f	$(5/2)[1 1/2]_1^\circ$	-	A5g (5/2)[2 1/2]	0.4	?
2584.34	Fe	A6s	$5D_4$	-	A6p $5F_4^\circ$	bs 0.2	?
2627.514	Fe	A5p	$4D_2^\circ$	-	C4d g^5F_2	0.3	?
2639.178	C	4d	$3D_3^\circ$	-	5f G [41/2] ¹	0.2	?
2644.685	Fe	A6s	$v^5P_3^\circ$	-	A4d e^7P_3	1.1	?
2688.622	Fe	4d	$5D_4$	-	A6p $5D_3^\circ$	0.6	?
2689.415	C	4d	$3F_4^\circ$	-	5f G [41/2] ¹	1.2	?
2696.059	Fe	C4p	$y^3D_3^\circ$	-	X $3P_2$	10.7	Fe-No
2725.259	Fe	C5p	$5F_4^\circ$	-	C6s $5F_5$	0.5	?
2726.720	C	4d	$3F_3^\circ$	-	5f G [41/2] ¹	0.3	?
2740.745	Fe	A6s	g^7D_5	-	A6p $7P_4^\circ$	1.5	?
2754.376	Fe	A5p	$t^5D_4^\circ$	-	C4d g^5F_3	b	Fe-No
2756.22	Fe	A5p	$t^5D_2^\circ$	-	C4d g^5F_1	0.2	?
2763.683	Fe	A6s	g^7D_4	-	A6p $7P_3^\circ$	0.4	?
2785.06	Fe	C5p	$3F_4^\circ$	-	C6s $5F_5$	0.1	?
2787.89	Fe	A5p	$u^5P_3^\circ$	-	A6s $5D_4$	b	Fe-No
2827.363	Fe(?)	A4d	f^5F_4	-	C5p $3F_3^\circ$	1.0	?
2852.659	Ni					0.5	?
2857.610	Ni					2.8	?
2860.837	Fe	A5p	$u^5F_3^\circ$	-	A6s $5D_4$	1.1	?
2863.095	Fe(?)	A6p	$7F_6^\circ$	-	A6d $7F_6$	2.0	?
2865.824	Fe(?)	A6p	$7F_6^\circ$	-	A6d $7D_5$	0.6	?
2869.309	Ni					b 2.0	?
2888.068	Fe(?)	A6p	$7D_4^\circ$	-	A6d $7D_5$	1.0	?
2902.243	Fe	A6s	g^7D_4	-	A6p $7F_3^\circ$	0.5	?
2904.973	Fe	A5s	e^5D_2	-	$v^5F_2^\circ$	2.2	Corr
2905.256	Fe	A5s	e^5D_3	-	$v^5P_3^\circ$	2.9	Corr
2920.04	Fe	A5p	$u^5P_2^\circ$	-	A6s $5D_3$	0.5	?
2940.229	Fe	C5p	$5D_4^\circ$	-	A5d $5F_5$	2.3	?
3003.761	Fe(?)	A6p	$7D_5^\circ$	-	A6d $7F_6$	2.1	?
3006.469	Fe(?)	A6p	$7D_5^\circ$	-	A6d $7D_5$	2.6	?
3029.108	Fe	C5p	$5F_5^\circ$	-	C6s $5F_5$	2.3	?
3037.439	Fe	A5p	$u^5F_2^\circ$	-	A6s $5D_3$	0.1	?
3044.539	Fe	C5p	$5G_6^\circ$	-	C6s $5F_5$	6.6	Fe-No
3098.469	Fe	A5p	$u^5F_4^\circ$	-	A6s $5D_4$	0.4	?
3118.518	Fe	A5p	$t^5D_3^\circ$	-	A6s $5D_4$	5.6	?
3131.288	Fe	Fe	$v^5F_2^\circ$	-	A4d e^5G_2	0.3	?
3162.005	Fe	C5p	$5F_4^\circ$	-	A5d $5F_5$	2.5	?
3168.683	Fe	A6s	$5D_3$	-	B5p $5D_3^\circ$	0.6	?
3172.867	Fe	A5p	$u^5P_3^\circ$	-	A6s $5D_3$	b	Add
3189.396	Fe	A5s	$u^5P_2^\circ$	-	A6s $5D_2$	b 4.2	Fe-No
3195.054	Fe	A5p	$u^5P_1^\circ$	-	A6s $5D_1$	1.2	?
3234.841	Fe	A5p	$t^5D_2^\circ$	-	A6s $5D_3$	7.1	Fe-No

Supplementary Table (continued)

3245.766	Fe	A5p	$u^5F_3^\circ$	-	A6s	5D_3	5.7	?
3283.920	Fe	A6s	5D_4	-	B5p	5D_4	1.6	?
3295.791	Ni						0.7	?
3306.323	Fe	A5p	$t^5D_1^\circ$	-	A6s	5D_2	4.1	Fe-No
3306.770	Fe	A5p	$u^5F_2^\circ$	-	A6s	5D_2	3.2	Fe-No
3306.895	Fe	C5p	$^3G_5^\circ$	-	C6s	5F_5	0.4	?
3340.50	Fe	C5p	$^5D_3^\circ$	-	57125.248 ₃		0.5	?
3359.824	Fe	A5p	$u^5F_1^\circ$	-	A6s	5D_1	1.9	?
3360.855	Fe	A5p	$u^5P_2^\circ$	-	A6s	5D_1	2.9	?
3364.099	Fe	A5p	$t^5D_0^\circ$	-	A6s	5D_1	b 2.1	Add
3403.279	Fe	A5p	$t^5D_4^\circ$	-	A6s	5D_4	13.5	?
3442.165	Fe	A5p	$u^5P_3^\circ$	-	A6s	5D_2	7.5	?
3463.247	Fe	A5p	$u^5F_5^\circ$	-	A6s	5D_4	15.4	?
3464.171	Fe	C5p	$w^3P_2^\circ$	-	57125.248 ₃		b 0.9	Add
3464.171	Ni	3d ⁹ 5p	5D_3	-	3d ⁹ 6s	g^3D_3	b 0.9	?
3465.74	Fe	A6s	5D_2	-	B5p	5D_2	s 0.4	?
3465.851	Fe	C5p	$^5F_5^\circ$	-	A5d	5F_5	9.9	?
3477.800	Fe	A5p	$t^5D_1^\circ$	-	A6s	5D_1	1.2	?
3478.224	Fe	A5p	$u^5F_2^\circ$	-	A6s	5D_1	5.0	?
3481.277	Fe	C5p	$^5G_6^\circ$	-	A5d	5F_5	8.4	?
3481.861	Ni	3d ⁹ 5p	$v^3F_4^\circ$	-	3d ⁹ 6s	g^3D_3	4.3	?
3483.381	Fe	A5p	$u^5F_4^\circ$	-	A6s	5D_3	12.7	?
3503.447	Fe	A5p	$t^5D_3^\circ$	-	A6s	5D_3	4.7	?
3504.171	Fe	A5p	$t^5D_2^\circ$	-	A6s	5D_2	2.3	?
3514.840	Fe	C5p	$^5D_4^\circ$	-	57125.248 ₃		1.7	?
3515.098	Fe	A5p	$u^5F_3^\circ$	-	A6s	5D_2	5.4	?
3525.409	Ni	3d ⁹ 5p	$^1F_3^\circ$	-	3d ⁹ 6s	g^3D_3	0.5	?
3551.190	Si	4d	$^3D_3^\circ$	-	6f[31/2] ₄		0.5	?
3553.602	Fe	A6s	5D_4	-	B5p	$^5D_3^\circ$	0.8	?
3599.644	Ni	3d ⁹ 5p	$^1F_4^\circ$	-	3d ⁹ 6s	g^3D_2	3.7	?
3616.49	Fe	A6s	5D_3	-	B5p	$^5F_4^\circ$	b 0.3	?
3623.45	Fe	A6s	5D_2	-	B5p	$^5F_3^\circ$	0.4	?
3637.52	Si	4d	$^3F_2^\circ$	-	6f[2 1/2] ₂		0.8	?
3645.222	Fe		$x^3F_4^\circ$	-	A4d	f^3D_3	b	Corr
3667.00	Fe	A6s	5D_4	-	B5p	$^5F_5^\circ$	bs 0.5	?
3702.302	Fe	D4p	$u^5D_4^\circ$	-	A4d	f^3D_4	1.5	Corr
3708.668	Fe	C4p	$y^3F_3^\circ$	-	X	3P_2	b 1.7	Add
3772.783	Fe	A5p	$t^5D_3^\circ$	-	A6s	5D_2	0.4	?
3774.448	Si	4d	$^1F_3^\circ$	-	6f[3 1/2] ₃		0.4	?
3788.218	Fe	A5p	$t^5D_4^\circ$	-	A6s	5D_3	s	Add
3803.779	Fe	D4p	$u^5D_1^\circ$	-	A4d	f^3D_0	0.6	?
3813.549	Fe	D4p	$u^5D_4^\circ$	-	A4d	f^3D_3	0.6	?
3851.52	Fe	A5p	$^7P_3^\circ$	-	A6s	5D_4	0.8	?
3868.207	Si	4d	$^1P_1^\circ$	-	6f [2 1/2] ₂		s 0.5	?
3898.494	Si	4d	$^3D_1^\circ$	-	6f [2 1/2] ₂ ¹		b 1	?
3953.622	Fe	D4p	$u^5D_3^\circ$	-	A4d	f^3D_2	0.8	?

Supplementary Table (continued)

3991.590	Fe	D4p	$u^5D_2^{\circ}$	-	A4d	f^5D_1	0.4	?
4012.518	Fe	4d	$v^3G_4^{\circ}$	-	C4d	e^3G_5	b	Delete
4042.40	Si	4d	$^1F_3^{\circ}$	-	6f[3 1/2] ₃ ¹		s 0.4	?
4110.784	Ni						1.3	?
4184.412	Si	4d	$^1P_1^{\circ}$	-	6f[1 1/2] ₁ ¹		0.5	?
4184.852	Si	4d	$^1P_1^{\circ}$	-	6f[1 1/2] ₂ ¹		0.8	?
4260.327	Ni	3d ⁸ 4s 4p	$^5D_3^{\circ}$	-	3d ⁸ 4s5s	e^5F_5	0.4	?
4269.043	Fe		$z^5H_4^{\circ}$	-	C5s	e^5F_4	0.6	?
4300.458	Ni	3d ⁹ 5p	$w^3P_1^{\circ}$	-	3d ⁹ 6s	g^3D_1	2.1	?
4338.190	Fe		$w^3P_3^{\circ}$	-	A4d	e^7P_4	2.2	Fe-No
4363.161	Fe	C4d	e^5H_4	-	$^3G_3^{\circ}$		0.4	?
4382.352	Fe	D4p	$u^5D_4^{\circ}$	-	A4d	f^5F_5	3	Corr
4392.325	Fe	A5p	$u^5P_2^{\circ}$	-	A5d	5D_3	0.9	?
4427.713	Fe	A5p	$^7F_5^{\circ}$	-	A6s	5D_4	2.2	?
4460.374	Fe	C4d	e^5H_5	-	$^3G_4^{\circ}$		1.1	?
4474.165	Fe		$w^3P_3^{\circ}$	-	A4d	e^7P_3	2.0	Fe-No
4487.487	Ca	4s6s	3S_1	-	4s 7p	3P_2	0.4	?
4515.56	Fe	A5p	$u^5P_3^{\circ}$	-	A5d	5D_4	0.3	?
4533.400	Ni(?)	3d ⁹ 5s	e^3D_3	-	3d ⁸ 4s 4p	$v^3D_2^{\circ}$	b 1 ⁺	Add
4561.65	Fe	A5p	$^7F_4^{\circ}$	-	A6s	5D_3	bs 0.3	?
4565.648	Fe	C4d	f^5G_4	-	$^3G_4^{\circ}$		0.3	?
4609.701	Ni						0.5	?
4645.118	Fe	A5p	$u^5P_3^{\circ}$	-	A5d	5D_3	0.5	?
4665.584	Fe	C4d	e^5H_6	-	$^3G_5^{\circ}$		3	Fe-No
4674.571							bs 0.3	Delete
4706.48	Ni						<1	Add
4707.156	Fe	A5p	$t^5D_2^{\circ}$	-	A5d	5D_3	b	Add
4715.578	Fe	D4p	$u^5D_2^{\circ}$	-	A4d	f^5F_3	1.5	Fe-No
4716.69	Fe	D4p	$u^5D_3^{\circ}$	-	A4d	f^5F_4	4.6	Fe-No
4722.85	Ni						b 2.9	Add
4728.327	Si(?)	4f[2 1/2] ₃		-	6g [3 1/2]		1.7	?
4729.147	Si(?)	4f[2 1/2] ₂		-	6g [3 1/2]		1 ⁺	?
4731.29	Si(?)	5p	1P_1	-	5d	$^3D_1^{\circ}$	1.3	?
4732.41	Fe	A5p	$u^5F_4^{\circ}$	-	C6s	5F_5	2	Fe-No
4732.687	Fe	C5s	e^3F_2	-	C5p	5F_3	4	Fe-No
4736.895	Fe	C4d	f^5G_5	-	$^3G_5^{\circ}$		2 ⁺	?
4752.38	Fe	A4p	$z^7D_1^{\circ}$	-	c 3P_1		1	Fe-No
4758.27	Ni						1 ⁺	?
4768.52	Fe						1	Delete
4769.11	Fe		$v^3D_1^{\circ}$	-	C4d	f^3D_2	b	Fe-No
4780.45	Fe						1	Delete
4792.30	?						2 ⁺	4792.92

622-630 cm⁻¹

623.242	OH	(0-0)	R2F 16.5	4.8	
624.165	OH	(0-0)	R1E 17.5	4.6	
624.223	OH	(0-0)	R2E 16.5	4.6	
624.60	?			0.4	?
624.928	?			0.5	?
625.020	OH	(3-3)	R2F 19.5	0.6	
625.334	OH	(0-0)	R1F 17.5	4.9	
625.748	OH	(3-3)	R1E 20.5	0.4	
625.885	OH	(3-3)	R2E 19.5	0.5	
626.130	NH	(0-0)	R1 21	0.4	
626.170	NH	(0-0)	R2 20	0.4	
626.207	NH	(0-0)	R3 19	0.3	
626.752	OH	(3-3)	R1F 20.5	0.4	
626.960	OH	(1-1)	R2F 17.5	2.2	
627.608	OH	(2-2)	R2F 18.5	1.0	
627.805	OH	(1-1)	R1E 18.5	2.3	
627.914	OH	(1-1)	R2E 17.5	2.4	
628.389	OH	(2-2)	R1E 19.5	1.0	
628.524	OH	(2-2)	R2E 18.5	1.1	
628.932	OH	(1-1)	R1F 18.5	2.6	
629.460	OH	(2-2)	R1F 19.5	1.2	

630-638 cm⁻¹

630.929	?			0.3	?
631.554	?			0.4	?
633.526	?			0.4	?
635.921	?			0.3	?
636.85	?			0.3	?

638-646 cm⁻¹

641.351	?			0.8	?
644.362	?			1.0	?

646-654 cm^{-1}

646.075	?				0.2	?
646.330	?				0.1	?
646.449	?				0.1	?
646.632	?				0.1	?
646.727	?				0.2	?
647.147	?				0.2	?
647.534	?				0.1	?
647.773	?				0.1	?
647.964	?				0.1	?
648.105	?				0.1	?
648.297	?				0.1	?
648.601	OH	(3-3)	R2F	20.5	0.5	?
648.767	?				0.1	?
649.023	?				0.1	?
649.250	OH	(3-3)	R1E	21.5	0.4	
649.472	OH	(3-3)	R2E	20.5	0.4	
649.609	?				0.2	?
650.088	NH	(0-0)	R1	22	0.4	
650.124	NH	(0-0)	R2	21	0.3	
650.160	NH	(0-0)	R3	20	0.3	
650.251	OH	(3-3)	R1F	21.5	0.4	
651.000	?				0.1	?
651.598	?				0.3	?
652.451	?				0.1	?
652.873	?				0.1	?
652.988	OH	(0-0)	R2F	17.5	4.7	
653.227	?				0.1	?
653.268	OH	(2-2)	R2F	19.5	1.3	
653.633	?				0.2	?
653.716	?				0.1	?
653.799	OH	(0-0)	R1E	18.5	4.8	
653.961	OH	(2-2)	R1E	20.5	1.1	
653.997	OH	(0-0)	R2E	17.5	4.6	

654-662 cm⁻¹

654.197	OH	(2-2)	R2E 19.5	1.2	
654.33	?			0.1	?
654.505	?			0.1	?
654.667	OH	(1-1)	R2F 18.5	2.3	
654.900	?			0.1	?
654.991	OH	(0-0)	R1F 18.5	4.9	
655.042	OH	(2-2)	R1F 20.5	1.1	
655.265	?			0.1	?
655.415	OH	(1-1)	R1E 19.5	2.6	
655.50	?			0.1	?
655.643	OH	(1-1)	R2E 18.5	2.6	
656.276	?			0.2	?
656.553	OH	(1-1)	R1F 19.5	2.5	
658.718	?			0.1	?
659.113	?			0.1	?
659.847	?			0.2	?
660.702	?			0.2	?
660.907	OH(?)	(4-4)	R2F 22.5	0.1	
661.466	OH(?)	(4-4)	R1E 23.5	0.2	
661.705	OH(?)	(4-4)	R2E 22.5	0.2	

662-670 cm⁻¹

662.341	OH(?)	(4-4)	R1F 23.5	0.1	
663.417	?			0.1	?
663.519	?			0.1	?
663.600	?			0.2	?
664.193	?			0.1	?

670-678 cm⁻¹

670.069	?			0.1	?
670.914	?			0.2	?
671.352	OH	(3-3)	R2F 21.5	0.3	
671.448	?			0.1	?
671.705	?			0.1	?
671.936	OH	(3-3)	R1E 22.5	0.4	
672.227	OH	(3-3)	R2E 21.5	0.4	
672.939	OH	(3-3)	R1F 22.5	0.4	
673.279	NH	(0-0)	R1 23	0.3	
673.316	NH	(0-0)	R2 22	0.2	
673.349	NH	(0-0)	R3 21	0.2	
676.388	?			0.2	?
677.294	?			0.2	?
677.490	?			0.2	?
677.528	?			0.1	?

678-686 cm⁻¹

678.010	?				0.2	?
678.122	OH	(2-2)	R2F 20.5		1.1	
678.743	OH	(2-2)	R1E 21.5		1.0	
678.921	?				0.1	?
679.062	OH	(2-2)	R2E 20.5		1.2	
679.826	OH	(2-2)	R1F 21.5		1.1	
680.597	?				0.1	?
681.103	?				0.2	?
681.431	?				0.1	?
681.587	OH	(1-1)	R2F 19.5		2.5	
681.962	OH	(0-0)	R2F 18.5		4.8	
682.181	?				0.2	?
682.251	OH	(1-1)	R1E 20.5		2.6	
682.579	OH	(1-1)	R2E 19.5		2.5	
682.678	OH	(0-0)	R1E 19.5		4.9	
682.995	OH	(0-0)	R2E 18.5		4.9	
683.138	?				0.1	?
683.404	OH	(1-1)	R1F 20.5		2.5	
683.889	OH	(0-0)	R1F 19.5		4.6	
684.386	?				0.1	?
684.765	?				0.1	?
684.838	?				0.1	?
685.29	?				0.1	?
685.984	NH	(1-1)	R1 24		0.1	

686-694 cm⁻¹

688.086	?				0.1	?
690.471	?				0.1	?
692.471	?				0.2	?
692.529	?				0.1	?
693.21	?				0.1	?
693.253	OH	(3-3)	R2F 22.5		0.4	
693.524	?				0.1	?
693.780	OH	(3-3)	R1E 23.5		0.4	

694-702 cm⁻¹

694.126	OH	(3-3)	R2E 22.5		0.8	?
694.768	OH	(3-3)	R1F 23.5		0.4	?
695.685	NH	(0-0)	R1 24		0.2	?
695.717	NH	(0-0)	R2 23		0.2	?
695.750	NH	(0-0)	R3 22		0.3	?
698.332	?				0.1	?
699.371	?				0.1	?
699.828	?				0.2	?
700.013	?				0.1	?
700.677	?				0.2	?

702-710 cm^{-1}

702.146	OH	(2-2)	R2F 21.5	1.1	
702.703	OH	(2-2)	R1E 22.5	1.2	
703.091	OH	(2-2)	R2E 21.5	1.1	
703.783	OH	(2-2)	R1F 22.5	1.1	
704.961	?			0.2	?
706.594	?			0.1	?
707.694	OH	(1-1)	R2F 20.5	2.2	
708.286	OH	(1-1)	R1E 21.5	2.6	
708.698	OH	(1-1)	R2E 20.5	2.4	
709.445	OH	(1-1)	R1F 21.5	2.5	
709.808	?			0.1	?

710-718 cm^{-1}

710.137	OH	(0-0)	R2F 19.5	4.8	
710.597	?			0.1	?
710.772	OH	(0-0)	R1E 20.5	4.9	
711.189	OH	(0-0)	R2E 19.5	4.5	
711.92	?			0.1	?
711.996	OH	(0-0)	R1F 20.5	4.7	
713.501	?			0.2	?
714.157	?			0.1	?
714.273	OH	(3-3)	R2F 23.5	0.4	
714.466	?			0.1	?
714.749	OH	(3-3)	R1E 24.5	0.4	
715.135	OH	(3-3)	R2E 23.5	0.3	
715.721	OH	(3-3)	R1F 24.5	0.4	
717.197	?			0.1	?
717.276	NH	(0-0)	R1 25	0.2	
717.307	NH	(0-0)	R2 24	0.2	
717.340	NH	(0-0)	R3 23	0.2	
717.614	?			0.1	?
717.938	?			0.1	?

718-726 cm⁻¹

718.431	?		0.1	?
719.852	?		0.1	?
720.191	OH(?)	(4-4)	0.1	
720.283	OH(?)	(4-4)	0.1	
720.379	OH(?)	(4-4)	0.1	
720.460	OH(?)	(4-4)	0.1	
722.269	?		0.2	
723.148	?		0.1	
723.327	?		0.1	
725.049	?		0.1	
725.128	?		0.1	
725.315	OH	(2-2)	1.0	
725.816	OH	(2-2)	1.1	
		R2F 22.5		
		R1E 23.5		

726-734 cm⁻¹

726.258	OH	(2-2)	1.1	
726.889	OH	(2-2)	1.1	
727.688	?		0.1	?
729.123	?		0.1	?
730.759	?		0.1	?
730.934	?		0.1	?
731.13	?		0.1	?
731.944	?		0.1	?
732.961	OH	(1-1)	2.3	
733.491	OH	(1-1)	2.5	
733.972	OH	(1-1)	2.4	
		R2E 22.5		
		R1F 23.5		
		R2F 21.5		
		R1E 22.5		
		R2E 21.5		

734-742 cm⁻¹

734.044	?		0.1	?
734.387	OH	(3-3)	0.3	
734.431	?		0.1	?
734.650	OH	(1-1)	2.5	
734.763	?		0.1	?
734.819	OH	(3-3)	0.4	
735.237	OH	(3-3)	0.3	
735.769	OH	(3-3)	0.4	
736.025	?		0.1	?
737.486	OH	(0-0)	4.6	
738.05	NH	(0-0)	b 0.2	
738.050	OH	(0-0)	b 4.9	
738.095	NH	(0-0)	0.3	
738.552	OH	(0-0)	4.7	
739.282	OH	(0-0)	4.8	
		R2F 24.5		
		R1F 22.5		
		R1E 25.5		
		R2E 24.5		
		R1F 25.5		
		R2F 20.5		
		R1 26		
		R1E 21.5		
		R3 24		
		R2E 20.5		
		R1F 21.5		

742-750 cm^{-1}

742.073	NH	(1-1)	R1 28	0.1	?
743.229	?			0.1	?
744.229	?			0.1	?
746.553	?			0.1	?
746.696	?			0.1	?
747.603	OH	(2-2)	R2F 23.5	1.0	?
747.925	?			0.1	
748.054	OH	(2-2)	R1E 24.5	1.1	?
748.373	?			0.1	
748.541	OH	(2-2)	R2E 23.5	1.0	?
748.956	?			0.1	
749.115	OH	(2-2)	R1F 24.5	1.1	?
749.89	?			0.1	?

750-758 cm^{-1}

750.242	?			0.1	?
751.49	?			0.1	?
752.703	?			0.1	?
753.572	OH	(3-3)	R2F 25.5	0.3	
753.963	OH	(3-3)	R1E 26.5	0.4	
754.401	OH	(3-3)	R2E 25.5	0.4	
754.888	OH	(3-3)	R1F 26.5	0.4	
757.365	OH	(1-1)	R2F 22.5	2.4	
757.839	OH	(1-1)	R1E 23.5	2.5	
757.936	NH	(0-0)	R1 27	0.2	
757.964	NH	(0-0)	R2 26	0.2	
757.992	NH	(0-0)	R3 25	0.2	

758-766 cm^{-1}

758.377	OH	(1-1)	R2E 22.5	2.2	?
758.577	?			0.1	
758.994	OH	(1-1)	R1F 23.5	2.4	?
761.095	?			0.1	?
762.004	?			0.1	?
762.035	?			0.1	?
763.983	OH	(0-0)	R2F 21.5	4.5	
764.487	OH	(0-0)	R1E 22.5	4.6	
764.534	?			0.1	?
764.65	?			0.1	?
765.058	OH	(0-0)	R2E 21.5	4.5	
765.435	Si	5d $^3\text{F}^0_4$ -5f [$4\frac{1}{2}$]' ₅		0.3	
765.721	OH	(0-0)	R1F 22.5	4.7	

766-774 cm^{-1}

768.986	OH	(2-2)	R2F 24.5	1.0	
769.393	OH	(2-2)	R1E 25.5	1.0	
769.913	OH	(2-2)	R2E 24.5	1.0	
770.437	OH	(2-2)	R1F 25.5	1.0	
771.800	OH	(3-3)	R2F 26.5	0.3	
772.157	OH	(3-3)	R1E 27.5	0.3	
772.605	OH	(3-3)	R2E 26.5	0.4	
773.049	OH	(3-3)	R1F 27.5	0.3	
773.30	?			0.1	?

774-782 cm^{-1}

776.966	NH	(0-0)	R1 28	0.2	
776.986	NH	(0-0)	R2 27	0.2	
777.009	NH	(0-0)	R3 26	0.3	
779.043	?			0.1	?
780.880	OH	(1-1)	R2F 23.5	2.1	
781.306	OH	(1-1)	R1E 24.5	2.4	
781.889	OH	(1-1)	R2E 23.5	2.2	

782-790 cm^{-1}

782.451	OH	(1-1)	R1F 24.5	2.4	?
782.902	?			0.1	?
784.477	?			0.1	?
785.588	?			0.1	?
788.778	?			0.1	?
789.045	OH	(3-3)	R2F 27.5	0.3	
789.373	OH	(3-3)	R1E 28.5	0.3	
789.441	OH	(2-2)	R2F 25.5	0.9	
789.604	OH	(0-0)	R2F 22.5	4.3	
789.813	OH	(3-3)	R2E 27.5	b 0.3	
789.813	OH	(2-2)	R1E 26.5	b 1.1	

790-798 cm^{-1}

790.054	OH	(0-0)	R1E 23.5	4.3	
790.227	OH	(3-3)	R1F 28.5	0.3	
790.353	OH	(2-2)	R2E 25.5	0.9	
790.683	OH	(0-0)	R2E 22.5	4.6	
790.830	OH	(2-2)	R1F 26.5	0.8	
791.088	?			0.1	?
791.286	OH	(0-0)	R1F 23.5	4.7	
792.718	?			0.1	?
794.388	Mg	$6p \ ^1P_1 - 7s \ ^1S_0$		0.7	
795.099	NH	(0-0)	R1 29	0.1	
795.122	NH	(0-0)	R2 28	0.2	
795.143	NH	(0-0)	R3 27	0.2	
795.912	?			0.2	?

798-806 cm^{-1}

798.570	?			0.1	?
798.973	?			0.1	?
803.484	OH	(1-1)	R2F 24.5	2.2	
803.869	OH	(1-1)	R1E 25.5	2.2	
804.485	OH	(1-1)	R2E 24.5	2.2	
804.998	OH	(1-1)	R1F 25.5	2.2	
805.05	Si	$6g \ [2\frac{1}{2}]' - 7h \ [3\frac{1}{2}]'$		<0.1	
805.285	OH	(3-3)	R2F 28.5	0.3	
805.585	OH	(3-3)	R1E 29.5	0.3	

806-814 cm^{-1}

806.028	OH	(3-3)	R2E 28.5	0.2	
806.398	OH	(3-3)	R1F 29.5	0.3	
806.681	Si	6h [3 $\frac{1}{2}$]'	- 7i [4 $\frac{1}{2}$]'	0.2	Abs. + Emission
806.731	?			0.1	?
807.399	?			0.1	?
807.762	?			0.1	?
807.92	?			0.2	?
807.99	?			0.2	?
808.031	?			0.2	?
808.13	?			0.2	?
808.243	Mg	6p ¹ P ₁ ⁰	- 6d ¹ D ₂	2.0	Abs. + Emission
808.25	H	(6-7)		b	
808.29					
808.32					
808.319	Si	6h [6 $\frac{1}{2}$]'	- 7i [7 $\frac{1}{2}$]'	1.0	Abs. + Emission
808.40				-	
808.436	?			0.4	?
808.84	OH	(2-2)	R2F 26.5	0.3	?
808.945	?			0.8	?
809.189	OH	(2-2)	R1E 27.5	0.2	?
809.282	?			0.9	?
809.389	?			0.3	?
809.482	?			0.1	?
809.64	?			0.2	?
809.691	?			0.4	?
809.792	?			0.2	?
809.835	OH	(2-2)	R2E 26.5	0.8	?
809.912	?			0.2	?
810.029	?			0.2	?
810.274	OH	(2-2)	R1F 27.5	0.8	?
810.325	Si	6g [5 $\frac{1}{2}$]'	- 7h [6 $\frac{1}{2}$]'	0.2	Abs. + Emission
810.34	?	+ 6h [5 $\frac{1}{2}$]	- 7i [6 $\frac{1}{2}$]	-	
810.391	?	+ 6h [4 $\frac{1}{2}$]	- 7i [5 $\frac{1}{2}$]	0.5	?
810.476	?			0.2	?
810.573	?			0.1	?
810.62	?			0.1	?
810.677	Al	6h ² H ⁰	- 7i ² I	0.2	Abs. + Emission
810.70				-	
810.732	?			0.3	?
810.834	?			0.2	?
810.91	?			0.2	?
810.99	?			0.2	?
811.088	?			0.3	?
811.180	?			0.2	?
811.307	Si	6f [1 $\frac{1}{2}$]'	- 7g [2 $\frac{1}{2}$]'	0.4	?
811.394	?			0.3	?
811.544	Mg	6h ^{1,3} H ⁰	- 7i ^{1,3} I	1.1	Abs. + Emission
811.58				-	
811.610	Si	6h [4 $\frac{1}{2}$]'	- 7i [5 $\frac{1}{2}$]'	1.4	Abs. + Emission
811.733	?			0.2	?
811.842	?			0.2	?
811.965	?			0.1	?
812.034	?			0.1	?
812.243	?			0.1	?
812.329	NH	(0-0)	R1 30, R2 29, R3 28	0.2	?

806-814 cm^{-1} (Continued)

813.359	Si	6h $[5\frac{1}{2}]'$ - 7i $[6\frac{1}{2}]'$	0.2	Abs. + Emission
813.39			-	
813.409			0.4	
813.409	Mg(?)		b	

814-822 cm^{-1}

814.100	?		0.2	?
814.184	?		0.3	?
814.257	Si	6g $[4\frac{1}{2}]$ - 7h $[5\frac{1}{2}]$	0.2	
814.324	OH	(0-0) R2F 23.5	4.3	
814.50	Si	6g $[3\frac{1}{2}]$ - 7h $[4\frac{1}{2}]$	<0.1	
814.727	OH	(0-0) R1E 24.5	4.4	
814.88	?		0.1	?
814.93	?		0.2	?
814.989	Ca(?)	7d 1D_2 - 7f 1F_3	b 0.5	
814.989	Ca(?)	6h - 7i	b 0.5	
815.17	?		0.1	?
815.355	Al	6g 2G - 7h $^2H^0$	b<0.2	Abs. + Emission
815.38				
815.402	OH	(0-0) R2E 23.5	4.3	
815.537	?		0.1	?
815.953	OH	(0-0) R1F 24.5	4.4	
816.00				
816.03	Si	6g $[3\frac{1}{2}]'$ - 7h $[4\frac{1}{2}]'$	0.3	Abs. + Emission
816.07				
816.488	?		0.1	?
816.747	?		0.1	?
816.923	?		0.2	?
817.097	?		0.3	?
817.197	?		0.1	?
817.53	?		0.1	?
818.027			1.8	Abs. + Emission
818.058	Mg	6g 1,3G - 7h $^1,3H^0$	-	
818.092			1.8	
819.116	Mg	5f 1F_3 - 6d 1D_2	0.8	
820.211			0.2	Abs. + Emission
820.24	Si	6g $[4\frac{1}{2}]'$ - 7h $[5\frac{1}{2}]'$	-	
820.264			0.1	
820.494	OH	(3-3) R2F 29.5	0.2	
820.770	OH	(3-3) R1E 30.5	0.2	
821.196	OH	(3-3) R2E 29.5	0.2	
821.533	OH	(3-3) R1F 30.5	0.2	
821.74	?		0.1	?

822-830 cm⁻¹

822.205	?			0.1	?
824.449	?			<0.1	?
825.155	OH	(1-1)	R2F 25.5	2.1	
825.503	OH	(1-1)	R1E 26.5	2.1	
825.68	Si	6f [4 $\frac{1}{2}$] ₄ - 7g [5 $\frac{1}{2}$] ₅		0.1	
826.143	OH	(1-1)	R2E 25.5	2.0	
826.612	OH	(1-1)	R1F 26.5	2.1	
827.477	OH	(2-2)	R2F 27.5	0.7	
827.62	?			0.1	?
827.784	OH	(2-2)	R1E 28.5	0.7	
828.342	OH	(2-2)	R2E 27.5	0.7	
828.607	NH	(0-0)	R1 31	0.2	
828.639	NH	(0-0)	R3 29	0.1	
828.742	OH	(2-2)	R1F 28.5	0.8	
829.439	?			0.2	?

830-838 cm⁻¹

830.964	Al	6p ² P _{3/2} ⁰ - 6d ² D _{3/2}		0.3	
831.38	Al	6p ² P _{1/2} ⁰ - 6d ² D _{3/2}		0.2	
831.448	?			0.2	?
834.644	OH	(3-3)	R2F 30.5	0.2	
834.899	OH	(3-3)	R1E 31.5	0.2	
835.301	OH	(3-3)	R2E 30.5	0.2	
835.606	OH	(3-3)	R1F 31.5	0.2	
835.737	Si	6f [3 $\frac{1}{2}$] ₃ - 7g [4 $\frac{1}{2}$] ₄		0.1	
836.189	Mg	6p ³ P ₂ ⁰ - 7s ³ S ₁		1.7	
837.504	Mg	6p ³ P ₁ ⁰ - 7s ³ S ₁		1.0	

838-846 cm⁻¹

838.122	OH	(0-0)	R2F 24.5	4.3	
838.13	Mg	6p ³ P ₀ ⁰ - 7s ³ S ₁		b<<1	
838.484	OH	(0-0)	R1E 25.5	4.3	
838.57	Al	6f ² F ⁰ - 7g ² G		0.1	?
838.74	?			0.1	
839.194	OH	(0-0)	R2E 24.5	4.0	
839.697	OH	(0-0)	R1F 25.5	4.3	
840.301	?			0.1	?
840.86	?			0.1	?
840.92	?			0.1	?
841.004	Mg	7p ³ P ₂ ⁰ - 7d ³ D ₃		0.6	
841.688	?			0.2	?
841.777	Mg	7p ³ P ₁ ⁰ - 7d ³ D ₂		0.4	
843.758	?			0.1	?
843.951	NH	(0-0)	R2 31	0.2	
845.015	OH	(2-2)	R2F 28.5	0.7	
845.295	OH	(2-2)	R1E 29.5	0.7	
845.872	OH	(2-2)	R2E 28.5	b 0.7	
845.872	OH	(1-1)	R2F 26.5	b 2.0	

846-854 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Transition	Intensity	Abs. + Emission
846.187	OH	(1-1)	R1E 27.5	1.9
846.216	OH	(2-2)	R1F 29.5	0.6
846.842	OH	(1-1)	R2E 26.5	1.9
847.272	OH	(1-1)	R1F 27.5	2.0
847.707	OH	(3-3)	R2F 31.5	b 0.2
847.94	Mg	6f ³ F ⁰ - 7g ³ G		b
847.991	OH	(3-3)	R1E 32.5	b 0.2
848.010	*			
848.043	Mg	6f ^{1,3} F ⁰ - 7g ^{1,3} G		b 1.5
848.060				
848.085				
848.18	Si	6f [3 $\frac{1}{2}$] ['] ₄ - 7g [4 $\frac{1}{2}$] ['] ₅		b <<1
848.316	OH	(3-3)	R2E 31.5	b 0.2
848.509	?			0.2
848.589	OH	(3-3)	R1F 32.5	0.2
849.16	Si	6f [3 $\frac{1}{2}$] ['] ₃ - 7g [4 $\frac{1}{2}$] ['] ₄		b 0.1

* Best estimates place the lines at

848.011	Mg	³ F ₄
848.024	Mg	³ F ₃
848.061	Mg	³ F ₂
848.070	Mg	¹ F ₃

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854-862 cm⁻¹

858.327	NH	(0-0)	R3 31	0.2
859.655	OH	(3-3)	R2F 32.5	0.2
859.874	OH	(3-3)	R1E 33.5	0.2
860.207	OH	(3-3)	R2E 32.5	0.2
860.456	OH	(3-3)	R1F 33.5	0.2
860.976	OH	(0-0)	R2F 25.5	4.1
861.303	OH	(0-0)	R1E 26.5	4.2
861.538	OH	(2-2)	R2F 29.5	0.6
861.794	OH	(2-2)	R2E 30.5	0.6

862-870 cm⁻¹

862.038	OH	(0-0)	R2E 25.5	4.1	
862.14	?			0.1	?
862.336	OH	(2-2)	R2E 29.5	0.6	
862.498	OH	(0-0)	R1F 26.5	4.1	
862.670	OH	(2-2)	R1F 30.5	0.6	
864.402	?			0.1	?
865.614	OH	(1-1)	R2F 27.5	1.8	
865.901	OH	(1-1)	R1E 28.5	1.8	
866.079	?			0.1	?
866.48	Ca	6f ¹ F ^o ₃ - 7g ¹ G ₄		0.1	
866.562	OH	(1-1)	R2E 27.5	1.8	
866.956	OH	(1-1)	R1F 28.5	1.8	

870-878 cm⁻¹

870.292	Si	6p (³ / ₂ , ³ / ₂) ₃ - 5d ³ D ^o ₃		0.1	
870.462	OH	(3-3)	R2F 33.5	0.1	
870.661	OH	(3-3)	R1E 34.5	0.1	
870.946	OH	(3-3)	R2E 33.5	0.1	
871.173	OH	(3-3)	R1F 34.5	0.1	
871.696	NH	(0-0)	R3 32	0.1	
877.023	OH	(2-2)	R2F 30.5	0.5	
877.261	OH	(2-2)	R1E 31.5	0.5	
877.782	OH	(2-2)	R2E 30.5	0.5	

878-886 cm⁻¹

878.086	OH	(2-2)	R1F 31.5	0.5	
880.082	OH	(3-3)	R2F 34.5	<0.1	
880.206	OH	(3-3)	R1E 35.5	<0.1	
880.276	?			0.2	?
880.502	OH	(3-3)	R2E 34.5	<0.1	
880.703	OH	(3-3)	R1F 35.5	0.1	
882.866	OH	(0-0)	R2F 26.5	3.7	
883.161	OH	(0-0)	R1E 27.5	3.9	
883.912	OH	(0-0)	R2E 26.5	3.5	
884.071	NH	(0-0)	R2 34	0.2	
884.27	H	(7-9)	Emission		
884.334	OH	(0-0)	R1F 27.5	3.4	
884.365	OH	(1-1)	R2F 28.5	1.5	
884.50	?			<0.1	?
884.56	?			<0.1	?
884.625	OH	(1-1)	R1E 29.5	1.6	
885.284	OH	(1-1)	R2E 28.5	1.4	
885.509					
885.529		7i ^{1,3} I - 9k ^{1,3} K ^o			
885.549	Mg			b 0.3	Abs. +
885.645	OH	(1-1)	R1F 29.5	1.4	Emission

886-894 cm⁻¹

Wavenumber (cm ⁻¹)	Element	Transition	Abs. + Emission
886.844	Mg	7h ^{1,3} H ⁰ - 9i ^{1,3} I	<0.3
886.872	?		0.1
886.911	?		0.1
888.485			
888.666			
891.322	Mg	7g ^{1,3} G - 9h ^{1,3} H ⁰	<0.2
891.365			
891.394			
891.452	OH	(2-2) R2F 31.5	0.4
891.670	OH	(2-2) R1E 32.5	0.4
892.165	OH	(2-2) R2E 31.5	0.4
892.443	OH	(2-2) R1F 32.5	0.4
893.356	?		0.1
893.487	Fe	5p ⁷ F ^o ₆ - e ⁷ G ₇	0.8

894-902 cm⁻¹

Wavenumber (cm ⁻¹)	Element	Transition	Abs. + Emission
895.431	NH	(0-0) R 35	0.1
895.754	Mg	5d ¹ D ₂ - 5f ¹ F ^o ₃	4.4
895.880	Mg	5d ¹ D ₂ - 5f ³ F ^o ₂	0.6
896.330	?		0.1
897.524	?		0.2
901.634	?		0.1
901.882	Fe	5p ⁷ F ^o ₃ - e ⁷ G ₄	0.3

902-910 cm⁻¹

Wavenumber (cm ⁻¹)	Element	Transition	Abs. + Emission
902.102	OH	(1-1) R2F 29.5	1.4
902.340	OH	(1-1) R1E 30.5	1.4
902.989	OH	(1-1) R2E 29.5	1.4
903.320	OH	(1-1) R1F 30.5	1.4
903.773	OH	(0-0) R2F 27.5	3.7
904.041	OH	(0-0) R1E 28.5	3.5
904.75	?		0.1
904.799	OH	R2E 27.5	3.7
904.799	OH	R2F 32.5	b 0.3
905.003	OH	R1E 33.5	0.3
905.186	OH	R1F 28.5	3.5
905.464	OH	R2E 32.5	0.3
905.715	OH	R1F 33.5	0.4
905.748	?		0.1
906.622	Mg	5d ¹ D ₂ - 6p ¹ P ^o ₁	0.1
908.973	?		0.1

910-918 cm⁻¹

			Abs. + Emission
911.550	Mg	7f 1,3F ⁰ - 9g 1,3G	0.3
911.58			
911.619	Si	5d 3F ⁰ - 5f [4 ₂ ¹] ₄	0.3
911.734	?		0.1
912.279	Al	4f 2F ⁰ - 5d 2D	<0.1
914.34	?		<0.1
914.999	Fe	5p 7F ⁰ - e 7G ₆	0.7
915.632	Fe	5p 7D ⁰ - e 7P ₄	0.1
916.552	Si	5d 3F ⁰ - 5f [3 ₂ ¹] ₃	0.6
917.048	OH	(2-2) R2F 33.5	b 0.3
917.048	OH	(2-2) R1E 34.5	0.3
917.238	OH	(2-2) R2E 33.5	0.3
917.657	OH	(2-2) R1F 34.5	0.3
917.885	OH		

918-926 cm⁻¹

918.810	OH	(1-1) R2F 30.5	1.3
919.029	OH	(1-1) R1E 31.5	1.3
919.513	Si	6p (3/2, 3/2) ₂ - 7s (3/2, 3/2) ₁	0.2
919.661	OH	(1-1) R2E 30.5	1.1
919.764	?		0.1
919.963	OH	(1-1) R1F 31.5	1.3
923.681	OH	(0-0) R2F 28.5	3.3
923.923	OH	(0-0) R1E 29.5	3.4
924.681	OH	(0-0) R2E 28.5	3.3
925.035	OH	(0-0) R1F 29.5	3.4
925.326	Fe	5p 7F ⁰ - e 7G ₅	0.4

926-934 cm⁻¹

926.866	?		0.1
927.351	?		0.1
928.172	OH	(2-2) R2F 34.5	0.2
928.349	OH	(2-2) R1E 35.5	0.3
928.720	OH	(2-2) R2E 34.5	0.2
928.925	OH	(2-2) R1F 35.5	0.3

934-942 cm⁻¹

934.472	OH	(1-1)	R2F 31.5	1.1
934.673	OH	(1-1)	R1E 32.5	1.2
935.23	?			bs 0.2
935.280	OH	(1-1)	R2E 31.5	1.2
935.557	OH	(1-1)	R1F 32.5	1.1
936.128	?			0.1
938.147	OH	(2-2)	R2F 35.5	0.3
938.311	OH	(2-2)	R1E 36.5	0.2
938.626	OH	(2-2)	R2E 35.5	0.2
938.810	OH	(2-2)	R1F 36.5	0.2

942-950 cm⁻¹

942.570	OH	(0-0)	R2F 29.5	3.1
942.791	OH	(0-0)	R1E 30.5	3.1
943.541	OH	(0-0)	R2E 29.5	3.1
943.866	OH	(0-0)	R1F 30.5	3.1
944.224	?			0.1
946.946	OH	(2-2)	R2F 36.5	0.2
946.984	?			0.1
947.100	OH	(2-2)	R1E 37.5	0.2
947.355	OH	(2-2)	R2E 36.5	0.2
947.514	OH	(2-2)	R1F 37.5	0.2
949.070	OH	(1-1)	R2F 32.5	0.9
949.255	OH	(1-1)	R1E 33.5	0.9
949.831	OH	(1-1)	R2E 32.5	0.9

950-958 cm⁻¹

950.084	OH	(1-1)	R1F 33.5	0.9
951.496	?			0.1
954.535	OH	(2-2)	R2F 37.5	0.1
954.682	OH	(2-2)	R1E 38.5	0.1
954.866	OH	(2-2)	R2E 37.5	0.1
955.007	OH	(2-2)	R1F 38.5	0.1
957.906	Mg	6d ^{1,3} D _{1,2,3} - 7f ^{1,3} F _{2,3,4}		1.1

(4 lines)

958-966 cm^{-1}

959.165	Ca	$4p^2\ ^1D_2 - 4s\ 6p\ ^1P^0_1$	0.1
960.427	OH	(0-0) R2F 30.5	2.6
960.629	OH	(0-0) R1E 31.5	2.8
960.760	?		0.3
960.89	OH	(2-2) R2F 38.5	0.1
961.023	OH	(2-2) R1E 39.5	0.1
961.133	OH	(2-2) R2E 38.5	0.1
961.252	OH	(2-2) R1F 39.5	0.1
961.363	OH	(0-0) R2E 30.5	2.7
961.661	OH	(0-0) R1F 31.5	2.8
962.587	OH	(1-1) R2F 33.5	0.8
962.758	OH	(1-1) R1E 34.5	0.8
963.298	OH	(1-1) R2E 33.5	0.7
963.527	OH	(1-1) R1F 34.5	0.8
965.14	?		0.1

966-974 cm^{-1}

966.933	Si	$6p\ (\frac{3}{2}, \frac{1}{2})_1 - 7s\ (\frac{3}{2}, \frac{1}{2})^0_2$	0.1
972.051	?		0.1
972.957	?		0.1
973.783	Si	$7p\ ^3P_0 - 7s\ ^3P^0_1$	0.1

974-982 cm^{-1}

974.888	?		0.1
975.006	OH	(1-1) R2F 34.5	0.6
975.165	OH	(1-1) R1E 35.5	0.6
975.660	OH	(1-1) R2E 34.5	0.8
975.868	OH	(1-1) R1F 35.5	0.6
976.899	Ca	$7s\ ^3S_1 - 7p\ ^3P^0_1$	0.2
977.236	OH	(0-0) R2F 31.5	2.4
977.421	OH	(0-0) R1E 32.5	2.4
978.132	OH	(0-0) R2E 31.5	2.4
978.406	OH	(0-0) R1F 32.5	2.5
981.001	Ca	$7s\ ^3S_1 - 7p\ ^3P^0_2$	0.5

982-990 cm⁻¹

982.500	Mg	7d ³ D _{1,2,3} - 9f ³ F _{2,3,4} ⁰	0.3
983.956	?		0.1
985.305	Si	6p ($\frac{3}{2}, \frac{1}{2}$) ₁ - 5d ³ P ₂ ⁰	0.3
986.311	OH	(1-1) R2F 35.5	0.5
986.459	OH	(1-1) R1E 36.5	0.5
986.905	OH	(1-1) R2E 35.5	0.5
987.093	OH	(1-1) R1F 36.5	0.5
988.572	Ca	4s 6s ¹ S ₀ - 3d 4p ¹ P ₁ ⁰	0.2
989.785	Fe	5p ⁷ D ₅ - e ⁷ F ₆	0.8

?

990-998 cm⁻¹

990.120	?		0.2
992.983	OH	(0-0) R2F 32.5	2.1
993.153	OH	(0-0) R1E 33.5	2.1
993.835	OH	(0-0) R2E 32.5	2.1
994.086	OH	(0-0) R1F 33.5	2.1
996.483	OH	(1-1) R2F 36.5	0.4
996.57	?		0.1
996.621	OH	(1-1) R1E 37.5	0.4
997.011	OH	(1-1) R2E 36.5	0.4
997.180	OH	(1-1) R1F 37.5	0.4

?

?

998-1006 cm⁻¹

1002.517	Si	5d ¹ D ₂ ⁰ - 5f [$2\frac{1}{2}$] ₃	0.3
1002.734	Fe	5p ⁷ D ₃ ⁰ - f ⁷ D ₄	0.2
1003.442	Si	5p ¹ D ₂ ⁰ - 4d ¹ P ₁ ⁰	0.3
1004.191	Si	5p ¹ D ₂ ⁰ - 5f [$3\frac{1}{2}$] ₃	0.3
1005.502	OH	(1-1) R2F 37.5	0.3
1005.634	OH	(1-1) R1E 38.5	0.3
1005.962	OH	(1-1) R2E 37.5	0.3

1006-1014 cm^{-4}

1006.112	OH	(1-1)	R1F 38.5	0.3
1007.61	?			bs 0.7
1007.654	OH	(0-0)	R2F 33.5	b 1.8
1007.810	OH	(0-0)	R1E 34.5	1.7
1008.459	OH	(0-0)	R2E 33.5	1.7
1008.687	OH	(0-0)	R1F 34.5	1.7
1011.792	?			0.1
1013.352	OH	(1-1)	R2F 38.5	0.3
1013.472	OH	(1-1)	R1E 39.5	0.3
1013.734	OH	(1-1)	R2E 38.5	0.3
1013.866	OH	(1-1)	R1F 39.5	0.3

1014-1022 cm^{-1}

1015.376	?			0.1
1020.001	OH	(1-1)	R2F 39.5	0.2
1020.118	OH	(1-1)	R1E 40.5	0.2
1020.307	OH	(1-1)	R2E 39.5	0.2
1020.422	OH	(1-1)	R1F 40.5	0.2
1021.237	OH	(0-0)	R2F 34.5	1.5
1021.381	OH	(0-0)	R1E 35.5	1.5
1021.56	?			0.1
1021.989	OH	(0-0)	R2E 34.5	1.5

1022-1030 cm^{-1}

1022.197	OH	(0-0)	R1F 35.5	1.5
1025.434	OH	(1-1)	R2F 40.5	0.2
1025.56	OH	(1-1)	R1E 41.5	b 0.2
1025.562	Fe	$5p \ ^7D_5 - f \ ^7D_5$		0.8
1025.653	OH	(1-1)	R2E 40.5	0.2
1025.751	OH	(1-1)	R1F 41.5	0.2
1025.833	Al	$6d \ ^2D_{5/2} - 6f \ ^2F_0^{7/2}$		0.4
1026.008	Si	$6p \ (\frac{3}{2}, \frac{1}{2})_2 - 5d \ ^3P_2$		0.1
1027.49	?			0.1
1028.127	Mg	$6s \ ^1S_0 - 6p \ ^1P_1$		3.6
1028.290	Al	$6d \ ^2D_{3/2} - 6f \ ^2F_0^{5/2}$		0.1
1029.613	OH	(1-1)	R2F 41.5	0.1
1029.719	OH	(1-1)	R2E 41.5	0.1
1029.824	OH	(1-1)	R1F 42.5	0.1

1030-1038 cm⁻¹

1032.545	?		0.1	?
1032.609	?		0.1	?
1033.718	OH	R2F 35.5	1.2	
1033.852	OH	R1E 36.5	1.3	
1034.414	OH	R2E 35.5	1.3	
1034.602	OH	R1F 36.5	1.3	

1038-1046 cm⁻¹

1038.571	?		0.1	?
1039.580	?		0.1	?
1042.808	?		0.1	?
1044.864	?		0.1	?
1045.086	OH	R2F 36.5	1.0	
1045.210	OH	R1E 37.5	1.1	
1045.721	OH	R2E 36.5	1.0	
1045.891	OH	R1F 37.5	1.0	

1046-1054 cm⁻¹

1050.526	?		0.2	?
1050.930	Si	6p ($\frac{1}{2}, \frac{3}{2}$) ₁ - 7s ($\frac{1}{2}, \frac{1}{2}$) ₀	0.2	
1052.524	Fe	5p ⁷ D ₄ - e ⁷ P ₃	0.3	

1054-1062 cm⁻¹

1055.328	OH	(0-0)	R2F 37.5	0.8	
1055.377	?			0.1	?
1055.444	OH	(0-0)	R1E 38.5	0.9	
1055.897	OH	(0-0)	R2E 37.5	0.9	
1056.052	OH	(0-0)	R1F 38.5	0.9	
1056.06	Fe	5p ⁷ D ₃ - e ⁷ P ₂	b		
1056.355	Ca	3d 4p ¹ P ₁ - 4s 6d ¹ D ₂	0.2		
1056.556	Fe	5p ⁷ D ₃ - f ⁷ D ₃	0.3		
1058.534	?		0.1	?	

1062-1070 cm⁻¹

1064.431	OH	(0-0)	R2F 38.5	0.6
1064.540	OH	(0-0)	R1E 39.5	0.6
1064.931	OH	(0-0)	R2E 38.5	0.6
1065.067	OH	(0-0)	R1F 39.5	0.6
1069.900	Si	6s ($\frac{3}{2}, \frac{1}{2}$) ₁ - 6p ($\frac{3}{2}, \frac{3}{2}$) ₁		0.4

1070-1078 cm⁻¹

1070.095	?			0.1
1070.793	?			0.1
1072.381	OH	(0-0)	R2F 39.5	0.5
1072.483	OH	(0-0)	R1E 40.5	0.5
1072.809	OH	(0-0)	R2E 39.5	0.5
1072.930	OH	(0-0)	R1F 40.5	0.5
1075.629	?			0.3
1076.429	?			0.1

1078-1086 cm⁻¹

1078.44	?			0.1
1079.165	OH	(0-0)	R2F 40.5	0.3
1079.262	OH	(0-0)	R1E 41.5	0.3
1079.51	Si	6p ($\frac{3}{2}, \frac{1}{2}$) ³ S ₁ - 5d ³ P ₁ ⁰		b 0.6
1079.514	OH	(0-0)	R2E 40.5	b 0.3
1079.619	OH	(0-0)	R1F 41.5	0.3
1084.767	OH	(0-0)	R2F 41.5	0.3
1084.858	OH	(0-0)	R1E 42.5	0.3
1084.945	?			0.1
1085.035	OH	(0-0)	R2E 41.5	0.3
1085.124	OH	(0-0)	R1F 42.5	0.3

1086-1094 cm⁻¹

1086.17	?			0.1
1089.169	OH	(0-0)	R2F 42.5	0.2
1089.258	OH	(0-0)	R1E 43.5	0.2
1089.351	OH	(0-0)	R2E 42.5	0.2
1089.425	OH	(0-0)	R1F 43.5	0.2
1089.61	?			0.1
1090.91	?			0.1
1091.99	?			0.1
1092.349	OH	(0-0)	R2F 43.5	0.1
1092.438	OH	(0-0)	R1E 44.5	b 0.3
1092.438	OH	(0-0)	R2E 43.5	b 0.3
1092.499	OH	(0-0)	R1F 44.5	0.1

1094-1102 cm⁻¹

1094.105	Na	3d ² D _{3/2} - 4p ² P _{1/2} ⁰	1.3
1094.285	OH(?)	(0-0)	0.2
1094.326	OH(?)	(0-0)	0.1
1094.375	OH(?)	(0-0)	0.2
1094.516	?		0.5
1095.281	Si	5p ¹ D ₂ - 4d ¹ F ₃	3.4
1096.469	?		0.1
1099.068	Si	6p ($\frac{1}{2}, \frac{3}{2}$) ³ D ₂ - 7s ($\frac{1}{2}, \frac{1}{2}$) ⁰ ₁	0.5
1099.703	Na	3d ² D _{3/2} - 4p ² P _{3/2} ⁰	0.3
1099.750	Na	3d ² D _{5/2} - 4p ² P _{3/2} ⁰	1.8
1100.096	Al	5d ² D _{5/2} - 6p ² P _{3/2} ⁰	0.2
1100.173	Si	4p ³ S ₁ - 3d ³ P ₂ ⁰	1.6
1101.303	Al	5d ² D _{3/2} - 6p ² P _{1/2} ⁰	0.2

1102-1110 cm⁻¹

1103.642	Si	6p ($\frac{1}{2}, \frac{1}{2}$) ³ S ₁ - 5d ³ P ₀ ⁰	0.2
1104.02	?		0.1
1106.771	?		0.1
1107.185	?		0.2
1107.727	Si	6s ($\frac{1}{2}, \frac{1}{2}$) ⁰ ₁ - 6p ($\frac{1}{2}, \frac{1}{2}$) ₁	0.4
1108.712	?		0.1
1109.748	Mg	7p ¹ P ₁ - 8d ¹ D ₂	0.1

1110-1118 cm⁻¹

1112.524	Ca	6d ³ D - 6f ³ F ₀ ⁰	0.2
1112.716	?		0.3
1114.437	?		0.2
1114.535	?		0.1
1115.609	?		0.1
1115.651	?		0.1

1118-1126 cm⁻¹

1119.027	Si	6p _{3/2} ($\frac{3}{2}, \frac{3}{2}$) ₃ - 7s _{1/2} ($\frac{3}{2}, \frac{1}{2}$) ⁰ ₂	0.7
1120.197	Si	6p _{1/2} ($\frac{3}{2}, \frac{1}{2}$) ₂ - 5d ³ P ₁ ⁰	0.1
1122.944	Fe	5p ⁷ D ₅ ⁰ - e ⁷ P ₄	0.4
1125.290	Mg	6s ³ S ₁ - 6p ³ P ₀ ⁰	1.5
1125.557	?		0.1
1125.932	Mg	6s ³ S ₁ - 6p ³ P ₁	3.6

1126-1134 cm^{-1}

1126.862	Mg	7p $^1P_1^0$ - 9s 1S_0	0.2	?
1127.081	?		0.1	
1127.247	Mg	6s 3S_1 - 6p $^3P_2^0$	5.0	?
1127.43	?		0.1	?
1130.454	?		0.1	?

1134-1142 cm^{-1}

1134.167	?		0.1	?
1135.375	?		0.1	?
1135.440	?		0.1	?
1137.408	?		0.2	?
1138.668	Fe	w $^5D_3^0$ - e 5D_3	0.2	
1140.323	Fe	5p $^7D_2^0$ - e 7F_3	0.3	
1140.393	?		0.1	?

1142-1150 cm^{-1}

1142.958	?		0.2	?
1144.345	?		0.2	?
1145.13	?		0.1	?
1145.535	?		0.3	?
1146.289	?		0.1	?
1148.840	Ca	7s 1S_0 - 7p $^1P_1^0$	0.3	
1149.332	?		0.3	?

1150-1158 cm^{-1}

1150.171	?		0.5	?
1152.031	?		0.6	?
1153.924	?		0.3	?
1157.872	?		0.4	?

1158-1166 cm⁻¹

1158.012	?	0.2	?
1160.198	?	0.1	?
1160.284	?	0.1	?
1160.52	?	0.1	?
1160.586	?	0.7	?
1163.929	?	0.1	?
1165.893	?	0.1	?

1166-1174 cm⁻¹

1166.743	Si	3p 4p ³ S ₁ - 3p 3d ³ P ₁ ⁰	1.8	?
1169.97	Mg	7f ^{1,3} F ⁰ - 9g ^{1,3} G	0.1	?
1171.360	?		0.4	?
1171.40	?		0.2	?
1172.147	?		0.2	?
1172.371	?		0.2	?
1173.120	Si	5d ¹ F ₃ - 7p (³ / ₂ , ³ / ₂) ₂	0.1	?

1174-1182 cm⁻¹

1175.065	?		0.3	?
1175.184	?		0.4	?
1175.894	?		0.1	?
1176.347	Fe	5p ⁷ F ₅ - e ⁷ G ₅	0.1	
1176.732	Ca	4p ³ P ₂ ⁰ - 4d ³ D ₂	0.3	
1177.503	Fe	w ⁵ D ₄ ⁰ - e ⁵ D ₄	0.6	
1177.55	K(?)	6p ² P _{3/2} ⁰ - 5d ² D _{5/2}	0.1	?
1178.435	?		0.2	?
1178.883	?		0.1	?
1181.961	?		0.4	?

1182-1190 cm⁻¹

1182.133	?		0.1	?
1182.332	Ca	4p ³ P ₂ ⁰ - 4d ³ D ₃	1.7	
1182.68	?		0.1	?
1184.441	?		0.2	?
1187.642	?		0.1	?
1188.66	?		0.1	?
1189.59	?		0.1	?

1190-1198 cm⁻¹

1190.631	Al	6s ² S _{1/2} - 6p ² P _{1/2}	0.5	
1190.892	Si	4f [2 $\frac{1}{2}$] ₃ - 5d ¹ D ₂ ⁰	0.2	
1192.130	?		0.1	?
1192.319	?		0.1	?
1192.569	Ca	6d ¹ D ₂ - 6f ¹ F ₃ ⁰	0.3	
1192.97	?		0.1	?
1193.048	?		0.1	?
1193.355	?		0.1	?
1193.429	Ca	5p ³ P ₁ ⁰ - 4d ³ D ₁	0.3	
1193.481	Al	6s ² S _{1/2} - 6p ² P _{3/2} ⁰	0.7	
1193.82	?		0.1	?
1194.05	?		0.1	?
1194.711	Si	6p ($\frac{3}{2}, \frac{3}{2}$) ₂ - 6d ¹ D ₂ ⁰	0.2	
1195.425	?		0.1	?
1195.994	?		0.2	?
1197.099	Ca	5p ³ P ₁ ⁰ - 4d ³ D ₂	1.0	

1198-1206 cm⁻¹

1198.06	?		0.1	?
1198.169	Si	6s ($\frac{3}{2}, \frac{1}{2}$) ₂ ⁰ - 6p ($\frac{3}{2}, \frac{3}{2}$) ₃	1.4	
1200.490	Ca	5p ³ P ₀ ⁰ - 4d ³ D ₁	0.5	
1202.763	Si	4p ³ S ₁ - 3d ³ P ₀ ⁰	1.0	

1206-1214 cm⁻¹

1206.943	?		0.1	?
1207.125	?		0.1	?
1207.578	?		0.1	?
1209.677	Fe	5p ⁷ F ₆ ⁰ - e ⁷ G ₆	0.1	
1210.495	?		0.1	?
1211.290	?		0.1	?
1211.503	?		0.1	?
1212.373	?		0.2	?
1212.526	?		0.1	?

1214-1222 cm⁻¹

1214.143	Si	6p ($\frac{1}{2}, \frac{3}{2}$) ₁ - 7s ($\frac{1}{2}, \frac{1}{2}$) ₁ ⁰	0.3	
1215.42	?		0.1	?
1217.518	?		0.1	?
1218.550	?		0.1	?
1221.299	?		0.5	?

1222-1230 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Intensity
1222.799	Si	1.4
1225.006	?	0.1
1225.234	?	0.3
1225.471	?	0.1
1225.578	?	0.1
1226.845	?	0.1
1226.914	?	0.1
1226.990	?	0.1
1227.191	?	0.1
1228.329	?	0.1
1229.55	?	0.2

6s ($\frac{1}{2}, \frac{1}{2}$)₁ - 6p ($\frac{1}{2}, \frac{3}{2}$)₂

1230-1238 cm⁻¹

1233.713	?	0.1
1233.817	?	0.2

1238-1246 cm⁻¹

1238.369	?	0.1
1238.533	Mg	1.2
1238.586	Mg	1.1
1238.638	Mg	0.9
1238.79	?	0.1
1240.045	Ca	0.8
1240.203	?	0.1
1240.547	?	0.1
1241.322	?	0.1
1241.692	?	0.1
1241.865	?	0.1
1242.963	?	0.1
1243.817	?	0.1
1244.552	?	0.1
1244.63	?	0.1
1245.93	?	0.5
1245.963	?	0.7

5f ³F₄ - 6d ³D₃
 5f ³F₃ - 6d ³D₂
 5f ³F₂ - 6d ³D₁
 6p ¹P₁ - 5d ¹D₂

1246-1254 cm⁻¹

1247.988	?	0.3
1249.261	?	0.2

1254-1262 cm⁻¹

1256.394	?		0.1	?
1256.583	?		0.1	?
1256.646	?		0.1	?
1258.22	?		0.1	?
1258.418	?		0.4	?
1261.617	Si	5d ¹ D ₂ - 5f [3 $\frac{1}{2}$] ₃	0.5	

1262-1270 cm⁻¹

1265.882	Si	4f [3 $\frac{1}{2}$] ₃ - 5d ¹ D ₂	0.1	
1266.002	Si	6s ($\frac{1}{2}$, $\frac{1}{2}$) ₀ - 6p ($\frac{1}{2}$, $\frac{3}{2}$) ₁	0.9	
1266.104	?		0.3	?
1266.593	?		0.1	?
1266.698	?		0.1	?
1266.78	?		0.1	?
1268.883	?		0.2	?

1270-1278 cm⁻¹

1272.374	?		0.1	?
1273.559	?		0.1	?
1273.960	?		0.1	?
1274.480	?		0.1	?
1274.699	Fe	5p ⁷ D ₄ - e ⁷ F ₅	0.5	
1275.399	?		0.1	?
1275.921	?		0.1	?
1277.223	?		0.1	?

1278-1286 cm⁻¹

1278.367	?		0.1	?
1278.727	?		0.1	?
1279.813	?		0.2	?
1282.295	?		0.1	?
1284.020	?		0.1	?
1284.338	?		0.2	?
1284.68	?		0.1	?
1284.76	?		0.1	?

1286-1294 cm⁻¹

1286.06	?	0.1	?
1287.52	?	0.1	?
1287.59	?	0.1	?
1288.461	?	0.2	?
1288.706	?	0.1	?
1289.007	?	0.1	?
1293.80	?	0.1	?
1293.84	?	0.1	?

1294-1302 cm⁻¹

1294.648	?	0.3	?
1294.734	Si	0.5	
1296.527	Si	1.0	
	4d ¹ D ₂ ⁰ - 5p ¹ D ₂		
	5d ¹ D ₂ ⁰ - 5f [2 $\frac{1}{2}$] ₃		

1302-1310 cm⁻¹

1303.418	?	0.1	?
1305.521	?	0.2	?
1305.62	Mg	0.2	
1305.699	?	0.2	?
1309.578	Si	1.8	
	6f ³ F ⁰ - 8d ³ D		
	6s ($\frac{3}{2}, \frac{1}{2}$) ₂ ⁰ - 6p ($\frac{3}{2}, \frac{1}{2}$) ₂		

1310-1318 cm⁻¹

1311.228	Si	2.0	
1312.723	Mg	0.5	
1312.765	Mg	0.6	
1314.360	?	0.1	?
1316.580	?	0.1	?
1317.575	?	0.1	?
1317.642	?	0.1	?
	4p ³ P ₂ - 3d ³ P ₂ ⁰		
	5g ¹ G ₄ - 6f ¹ F ₃ ⁰		
	5g ³ G - 6f ³ F ⁰		

1318-1326 cm⁻¹

1318.469	?		0.1	?
1319.13	?		0.1	?
1319.17	?		0.1	?
1319.259	?		0.1	?
1319.909	Si	5p ¹ D ₂ - 4d ³ D ₃	2.0	
1321.487	?		0.1	?
1322.966	?		0.1	?
1323.783	Si	4d ³ F ₃ - 4f ² [² ₂] ₃	0.6	
1324.54	?		0.2	?
1324.614	?		0.3	?
1324.800	?		0.4	?
1324.844	?		0.4	?
1324.996	?		0.2	?
1325.082	?		0.1	?
1325.447	Si	6s (³ / ₂ , ¹ / ₂) ₁ - 6p (³ / ₂ , ³ / ₂) ₂	1.8	
1325.521	?		0.3	?
1325.63	?		0.1	?

1326-1334 cm⁻¹

1329.772	Na	5p ² P _{3/2} - 6s ² S _{1/2}	0.5	?
1331.043	?		0.1	?
1331.758	?		0.1	?
1331.98	CO	(8-7) P118	0.1	?
1332.079	?		0.2	?
1332.164	?		0.5	?
1332.243	Na	5p ² P _{1/2} - 6s ² S _{1/2}	0.3	
1332.792	?		bs	0.1
1332.847	?		bs	0.1
1332.90	H	(6-8) broad	0.6	
1333.236	?		bs	0.1
1333.351	?		0.1	?
1333.516	?		0.1	?

1334-1342 cm⁻¹

1334.591	?			0.1	?
1334.756	?			0.1	?
1335.360	Si	5g [5 $\frac{1}{2}$]' - 6h [5 $\frac{1}{2}$]'		0.6	
1335.874	Al	6h - 8i		b	
1335.874	K(?)	5g ² G _{7/2,9/2} - 6f ² F _{5/2,7/2}		b 1.6	
1335.922	Al	6h - 8i		1.4	
1336.724	Mg	6h - 8i		b 1	
1336.751	Mg	6h - 8i		0.8	
1338.298	Si	4d ³ F ₃ - 4f F ² [3 $\frac{1}{2}$] ₄		3.7	
1338.716	CO	(8-7) P117		0.1	?
1338.95	?			0.1	?
1339.013	?			0.2	?
1339.857	?			0.1	?
1340.50	H	(5-6) broad			
1341.131	CO	(10-9) P110		0.1	
1341.677	Na	5g ² G _{7/2,9/2} - 6h ² H _{9/2,11/2}		1.7	
1341.871	CO	(12-11) P103		0.1	

1342-1350 cm⁻¹

1342.177	?			0.2	?
1342.33	?			0.2	?
1342.562	Al	4d ² D _{3/2} - 5p ² P _{1/2} ⁰		0.8	
1342.65	CO	(5-4) P126		0.1	
1342.723	?			0.3	
1343.21	Na	5f ² F _{5/2,7/2} ⁰ - 6g ² G _{7/2,9/2}		0.4	
1343.405	Si	5g [5 ₂]' - 6h [6 ₂]'		1.2	Abs. +
1343.456				1.8	Emission
1343.703	Mg	6g ³ G - 8h ³ H ⁰		1.7	Abs. +
1343.747	Mg	6g ¹ G ₄ - 8h ¹ H ₅ ⁰		1.2	Emission
1343.87	?			0.3	?
1343.931	Al	4d ² D _{5/2} - 5p ² P _{3/2} ⁰		0.4	
1343.931	CO	(2-1) P135	b	0.1	
1344.11	?			0.2	?
1344.332	?			0.3	?
1344.445	C	5g [4 ₂] - 6h [5 ₂]		1.4	
1344.567	?			0.2	?
1344.657	?			0.3	?
1344.858	C	5g [3 ₂] - 6h [4 ₂]		1.3	
1345.093	?			1.6	?
1345.247	?			0.1	?
1345.41	CO	(8-7) P116	b	0.2	
1345.568	?			0.2	?
1345.62	?			0.2	?
1345.729	?			0.2	?
1345.905	?			0.2	?
1345.970	?			0.6	?
1346.04	?			0.2	?
1346.16	?			0.3	?
1346.269	?			2.6	?
1346.31	?		bs	0.2	?
1346.474	Si	5d ¹ D ₂ ⁰ - 5f [1 ₂]' ₁		0.4	
1346.631	?			0.6	?
1346.807	?			1.0	?
1346.84	?		bs	0.2	?
1346.94	?		bs	0.2	?
1346.986	Si	5d ¹ D ₂ ⁰ - 5f [1 ₂]' ₂		1.2	
1347.28	?			0.1	?
1347.50	?			0.1	?
1347.627	CO	(10-9) P109		0.1	
1347.773	?			0.2	?
1348.095	?			0.6	?
1348.47	Al	4d ² D _{3/2} - 5p ² P _{3/2} ⁰		0.1	
1348.544	CO	(6-5) P122		0.1	
1349.190	?			0.1	?
1349.635	Fe	(9/2)5g[$\frac{1}{2}$] - (9/2)6h[$\frac{1}{2}$]		0.1	
1349.635	CO	(5-4) P125	b	0.1	
1349.731	Fe	(9/2)5g[$\frac{1}{2}$] - (9/2)6h[$\frac{1}{2}$]		0.1	

1350-1358 cm⁻¹

1350.03	CO	(9-8)	P112		0.1
1350.170	Fe	(9/2)5g[1½]	- (9/2)6h[2½]		0.3
1350.279	Si	6s (½, ½) ⁰ ₂ - 6p (½, ½) ₁			1.1
1350.279	Fe	(9/2)5g[8½]	- (9/2)6h[8½]	b	
1350.477	Si	5g [4½]	- 6h [5½]		1.9
1350.525					2.5
1350.84	Fe	(9/2)5g[1½]	- (9/2)6h[1½]	b	
1350.84	Si	5g [3½]	- 6h [4½]		2.0
1350.888					2.5
1351.189	CO	(2-1)	P134		0.1
1351.295	CO	(11-10)	P105		0.1
1351.400	Fe	(9/2)5g[2½]	- (9/2)6h[3½]	b	0.5
1351.400	Fe	(3/2)5g[4½]	- (3/2)6h[4½]	b	0.5
1351.521	Fe	(9/2)5g[8½]	- (9/2)6h[9½]		2.2
1351.521	Fe	(3/2)5g[3½]	- (3/2)6h[3½]	b	
1351.728	Fe	(3/2)5g[4½]	- (3/2)6h[5½]		1.4
1351.801	Al	5g ² G - 6h ² H ⁰			1.8
1351.840					2.6
1351.937	Fe	(9/2)5g[2½]	- (9/2)6h[2½]		0.3
1352.09	?				0.1
1352.134	CO	(8-7)	P115		0.1
1352.384	?				0.2
1352.531	Si	5g [3½]'	- 6h [4½]'		1.8
1352.577					2.4
1352.577	Fe	(5/2)5g[4½]	- (5/2)6h[4½]	b	
1352.778	Fe	(5/2)5g[4½]	- (5/2)6h[5½]		0.9
1352.885	Fe	(9/2)5g[3½]	- (9/2)6h[4½]	b	2.3
1352.885	Fe	(3/2)5g[3½]	- (3/2)6h[4½]	b	2.3
1352.885	Fe	(5/2)5g[5½]	- (5/2)6h[6½]	b	2.3
1353.044	Fe	(7/2)5g[½]	- (7/2)6h[1½]	b	0.1
1353.044	Fe	(5/2)5g[3½]	- (5/2)6h[3½]	b	0.1
1353.044	Fe	(7/2)5g[7½]	- (7/2)6h[7½]	b	0.1
1353.107	Fe	(7/2)5g[1½]	- (7/2)6h[2½]	b	0.2
1353.107	Fe	(5/2)5g[5½]	- (5/2)6h[5½]	b	0.2
1353.276	Fe	(7/2)5g[7½]	- (7/2)6h[8½]	b	2.0
1353.276	Fe	(7/2)5g[1½]	- (7/2)6h[1½]	b	
1353.358	Fe	(7/2)5g[2½]	- (7/2)6h[3½]		0.2
1353.440	Fe	(5/2)5g[3½]	- (5/2)6h[4½]	b	1.0
1353.440	Fe	(7/2)5g[2½]	- (7/2)6h[2½]	b	
1353.440	Fe	(9/2)5g[3½]	- (9/2)6h[3½]	b	2.0
1353.614	Fe	(1/2)5g[4½]	- (1/2)6h[5½]	b	2.0
1353.614	Fe	(1/2)5g[3½]	- (1/2)6h[4½]	b	2.0
1353.679	Fe	(7/2)5g[3½]	- (7/2)6h[4½]	b	1.0
1353.679	Fe	(1/2)5g[4½]	- (1/2)6h[4½]	b	
1353.802	Fe	(7/2)5g[6½]	- (7/2)6h[6½]	b	0.5
1353.802	Fe	(7/2)5g[3½]	- (7/2)6h[3½]	b	0.5
1353.90	C(?)	4d ¹ D ⁰ - 5p ¹ P ₁			1.4
1353.90	Fe	(7/2)5g[6½]	- (7/2)6h[7½]	b	1.4
1353.90	Fe	(5/2)5g[2½]	- (5/2)6h[2½]	b	1.4
1353.962	Fe	(7/2)5g[4½]	- (7/2)6h[5½]		0.9
1354.096	Fe	(7/2)5g[5½]	- (7/2)6h[6½]		1.3
1354.096	Fe	(7/2)5g[4½]	- (7/2)6h[4½]	b	
1354.096	Fe	(7/2)5g[5½]	- (7/2)6h[5½]	b	
1354.167	Fe	(9/2)5g[7½]	- (9/2)6h[7½]		0.2
1354.381	Fe	(9/2)5g[4½]	- (9/2)6h[5½]	b	2.8
1354.381	Fe	(5/2)5g[2½]	- (5/2)6h[3½]	b	2.8
1354.381	Fe	(5/2)5g[6½]	- (5/2)6h[7½]	b	2.8

1354.714	Fe	(9/2)5g[7½] - (9/2)6h[8½]	b	2.5	
1354.714	Fe	(3/2)5g[5½] - (3/2)6h[6½]	b	2.5	
1354.90	Fe	(9/2)5g[4½] - (9/2)6h[4½]	b	0.1	
1355.017	Fe	(5/2)5g[6½] - (5/2)6h[6½]		0.1	
1355.20	Fe	(5/2)5g[1½] - (5/2)6h[2½]		0.8	
1355.246	C	5f [3½] ₄ - 6g [4½]		1.0	
1355.422	CO	(6-5) P121		0.1	
1355.497	C	5f [3½] ₃ - 6g [4½]		1.2	
1355.497	Fe	(9/2)5g[5½] - (9/2)6h[6½]	b	1.2	
1355.795	Fe	(9/2)5g[6½] - (9/2)6h[7½]		1.6	
1355.795	Fe	(9/2)5g[6½] - (9/2)6h[6½]	b	1.6	
1355.795	Fe	(9/2)5g[5½] - (9/2)6h[5½]	b	1.6	
1355.871	Fe	(3/2)5g[2½] - (3/2)6h[3½]		0.8	
1356.152	Fe	(3/2)5g[6½] - (3/2)6h[6½]	b	6.0	Abs. + Emission
1356.152	Mg	5g ^{1,3} G - 6h ^{1,3} H ⁰		6.0	
1356.19				6.5	
1356.220				0.2	
1356.501	?			0.1	
1356.615	CO	(9-8) P111	b	0.1	
1356.615	CO	(5-4) P124	b	0.1	
1356.722	?			0.1	
1356.920	?			0.1	
1357.017	CO	(13-12) P97		0.1	
1357.195	?			0.1	

1358-1366 cm⁻¹

1358.714	?				0.4	?
1358.805	CO	(8-7)	P114		0.1	?
1359.318	?				0.1	?
1359.554	?				0.5	?
1359.719	?				0.3	?
1359.92	?				0.1	?
1360.183	?				0.1	?
1360.261	?				0.6	?
1360.30	?				0.1	?
1360.443	Si		5g [4 $\frac{1}{2}$]' - 6h [5 $\frac{1}{2}$]'		2.5	
1360.485			+ 5f [3 $\frac{1}{2}$]' - 6g [4 $\frac{1}{2}$]'		3.1	
1360.697	CO	(7-6)	P117	b	0.1	
1360.697	CO	(12-11)	P100	b	0.1	
1360.858	?				0.1	?
1361.437	?				0.3	?
1361.724	?				0.1	?
1361.985	?				0.4	?
1362.25	?				0.2	?
1362.281	CO	(6-5)	P120		0.1	?
1362.547	?				0.3	?
1362.900	Si		5g [4 $\frac{1}{2}$]' - 6h [4 $\frac{1}{2}$]'		0.4	
1363.005	Na		5d - 6f		0.2	
1363.18	CO	(9-8)	P110		0.1	?
1363.53	?				0.6	?
1363.558	CO	(5-4)	P123	b	0.1	
1363.558	?				0.5	?
1363.803	?				0.2	?
1363.987	?				0.5	?
1364.370	?				0.3	?
1364.55	CO	(4-3)	P126		0.1	?
1364.92	?				0.1	?
1365.242	CO	(3-2)	P129	b	0.1	
1365.242	?				0.6	?
1365.293	?				0.2	?
1365.465	CO	(8-7)	P113		0.1	
1365.64	CO	(2-1)	P132		0.1	
1365.752	CO	(1-0)	P135		0.1	

1366-1374 cm⁻¹

1366.903	CO	(12-11)	P99	0.1	?
1367.019	CO	(10-9)	P106	0.1	
1367.26	?			0.2	
1367.449	CO	(7-6)	P116	0.2	
1367.493	?			0.1	
1367.54	?			0.1	
1367.612	?			0.4	
1368.137	Si	5f [4 $\frac{1}{2}$] ₄ - 6g [5 $\frac{1}{2}$] _s		1.4	
1368.245	?			0.1	
1369.128	CO	(6-5)	P119	0.2	
1369.248	CO	(13-12)	P95	0.1	
1369.456	?			0.1	
1369.715	CO	(9-8)	P109	0.1	
1369.862	?			0.3	
1370.230	?			0.1	
1370.331	CO	(11-10)	P102	0.1	
1370.499	CO	(5-4)	P122	0.2	
1370.930	Si	5f [4 $\frac{1}{2}$] _s - 6g [5 $\frac{1}{2}$] ₆		1.7	
1371.050	?			0.1	
1371.505	?			0.2	
1371.578	CO	(4-3)	P125	0.1	
1371.92	?			0.1	
1372.097	CO	(8-7)	P112	0.2	
1372.355	CO	(3-2)	P128	0.1	
1372.838	CO	(2-1)	P131	0.1	
1373.04	CO	(1-0)	P134	0.1	
1373.112	CO	(12-11)	P98	0.1	
1373.435	CO	(10-9)	P105	0.1	

1374-1382 cm⁻¹

1374.177	CO	(7-6)	P115	0.1	
1374.304	Ca(?)	5g ³ G - 6h ³ H ⁰		2.2	
1374.727	Ca(?)	5g ¹ G - 6h ¹ H ⁰		1.2	
1375.342	CO	(13-12)	P94	0.1	
1375.342	Mg	6f - 8g		2.1	
1375.384	Mg	6f - 8g		2.1	
1375.944	CO	(6-5)	P118	0.1	?
1376.143	?			0.1	
1376.232	CO	(9-8)	P108	0.2	
1376.633	CO	(11-10)	P101	0.1	?
1376.769	?			0.1	
1377.413	CO	(5-4)	P121	0.2	?
1377.638	?			0.1	
1377.798	Si	4p ³ P ₂ - 3d ³ P ⁰ ₁		0.9	
1378.201	Si	5f [2 ₁] ['] ₂ - 6g [3 ₁] ['] ₃		0.9	
1378.364	?			0.2	?
1378.580	CO	(4-3)	P124	0.2	
1378.70	CO	(16-15)	P82	0.1	
1378.707	CO	(8-7)	P111	b 0.1	
1378.949	Si	5f [2 ₁] ['] ₃ - 6g [3 ₁] ['] ₄		1.3	
1379.287	CO	(12-11)	P97	0.1	
1379.449	CO	(3-2)	P127	0.1	
1379.840	CO	(10-9)	P104	0.1	?
1379.904	?			0.4	
1380.031	CO	(2-1)	P130	0.1	
1380.314	CO	(1-0)	P133	0.1	
1380.887	CO	(7-6)	P114	0.1	
1381.411	CO	(13-12)	P93	0.1	
1381.852	?			0.1	?

1382-1390 cm⁻¹

1382.276	?												0.1	?
1382.73	CO	(9-8)	P107										b 0.2	
1382.746	CO	(6-5)	P117										b 0.2	
1382.913	CO	(11-10)	P100										0.1	
1382.947	CO	(14-13)	P89										0.1	
1384.313	CO	(5-4)	P120										0.1	
1384.363	CO	(16-15)	P81										0.1	
1384.481	?												0.1	?
1384.64	?												0.1	?
1384.807	?												0.1	?
1384.991	?												0.1	?
1385.306	CO	(8-7)	P110										0.2	
1385.451	CO	(12-11)	P96										0.1	
1385.568	CO	(4-3)	P123										0.1	
1385.712	Si	5f [3 $\frac{1}{2}$] ₄ - 6g [4 $\frac{1}{2}$] ₅											1.7	
1385.85	?												s 0.1	?
1386.046	Si	nd a ³ P ₂ ⁰ - 5f [2 $\frac{1}{2}$] ₃											1.5	
1386.219	CO	(10-9)	P103										0.2	
1386.53	CO	(3-2)	P126										0.2	
1387.010	Fe	5p ⁷ D ₃ ⁰ - e ⁷ F ₄											0.4	
1387.202	CO	(2-1)	P129										0.1	
1387.377	Si	5f [3 $\frac{1}{2}$] ₃ - 6g [4 $\frac{1}{2}$] ₄											1.4	
1387.44	CO	(13-12)	P92										0.1	
1387.56	CO	(1-0)	P132										0.1	
1387.58	CO	(7-6)	P113										b 0.2	
1387.81	?												0.1	?
1388.24	Si	5f [2 $\frac{1}{2}$] ₂ - 6g [3 $\frac{1}{2}$] ₃											1.1	
1388.853	CO	(14-13)	P88										0.1	?
1389.04	?												0.2	
1389.180	CO	(11-10)	P99										b 0.2	
1389.189	Si	5f [2 $\frac{1}{2}$] ₃ - 6g [3 $\frac{1}{2}$] ₄											1.7	
1389.20	CO	(9-8)	P106										b 0.2	
1389.43	?												0.1	?
1389.526	CO	(6-5)	P116										0.3	
1389.716	CO	(17-16)	P76										0.1	

1390-1398 cm⁻¹

1390.01	CO	(16-15)	P80	0.1	?
1390.097	?			0.3	?
1390.272	?			0.1	?
1390.314	?			0.2	?
1390.558	?			0.6	?
1390.601	Al	5f ² F ⁰ - 6g ² G		b 2.1	
1390.628	Al	5f ² F ⁰ - 6g ² G		b 2.1	
1390.692	?			0.3	?
1390.793	?			0.2	?
1390.897	?			1.3	?
1391.185	CO	(5-4)	P119	0.2	
1391.584	CO	(12-11)	P95	0.1	
1391.877	CO	(8-7)	P109	0.2	
1391.98	?			0.1	?
1392.241	?			0.1	?
1392.330	?			0.2	?
1392.534	CO	(4-3)	P122	0.2	
1392.577	CO	(10-9)	P102	0.1	
1392.68	?			0.1	?
1392.852	?			0.3	?
1393.278	?			0.4	?
1393.45	CO	(13-12)	P91	b 0.1	
1393.588	CO	(3-2)	P125	0.2	
1393.792	?			0.5	?
1393.922	?			0.1	?
1394.007	Si	6p ³ D ($\frac{1}{2}, \frac{3}{2}$) ₁ - 7s ($\frac{3}{2}, \frac{1}{2}$) ₁	P112	0.3	
1394.245	CO	(7-6)		b 0.2	
1394.245	?			0.8	?
1394.331	CO	(2-1)	P128	0.1	
1394.753	CO	(14-13)	P87	0.1	
1394.81	CO	(1-0)	P131	0.1	
1394.947	?			0.2	?
1394.967	?			0.2	?
1395.118	?			0.1	?
1395.23	CO	(17-16)	P75	0.1	
1395.312	?			0.1	?
1395.418	CO	(11-10)	P98	0.2	
1395.48	CO	(15-14)	P83	<0.1	
1395.552	?			1.0	?
1395.658	CO	(16-15)	P79	b 0.4	
1395.658	CO	(9-8)	P105	b 0.3	
1396.040	?			0.3	?
1396.212	?			0.5	?
1396.29	CO	(6-5)	P115	b 0.2	
1396.552	?			0.2	?
1396.652	?			0.3	?
1396.83	?			0.3	?
1397.025	?			0.6	?
1397.102	?			0.2	?
1397.169	?			0.3	?
1397.248	?			0.1	?
1397.47	?			0.2	?
1397.654	?			0.4	?
1397.698	CO	(12-11)	P94	0.1	
1397.836	?			0.2	?

1398-1406 cm⁻¹

1398.036	CO	(5-4)	P118	b	0.3	?
1398.119	?				0.7	?
1398.379	?				0.6	?
1398.43	CO	(8-7)	P108	b	0.3	?
1398.60	?				0.1	?
1398.828	?				0.2	?
1398.913	CO	(10-9)	P101		0.2	
1399.147	?				0.5	?
1399.439	CO	(13-12)	P90		0.1	
1399.483	CO	(4-3)	P121		0.2	
1399.977	?				0.1	?
1400.131	?				0.3	?
1400.260	?				0.2	?
1400.618	CO	(14-13)	P86	b	0.2	
1400.618	CO	(3-2)	P124	b	0.3	
1400.72	CO	(17-16)	P74		0.1	
1400.887	CO	(7-6)	P111		0.3	
1400.973	?				0.3	?
1401.22	CO	(15-14)	P82	b	<0.1	
1401.222	?				0.9	?
1401.26	CO	(16-15)	P78	bs	0.1	
1401.467	CO	(2-1)	P127		0.2	
1401.627	CO	(11-10)	P97		0.2	
1401.986	?				0.2	?
1402.02	CO	(1-0)	P130	b	0.1	
1402.099	CO	(9-8)	P104		0.2	
1403.035	CO	(6-5)	P114		0.3	
1403.153	Si	4d ³ F ₂ - 4f F ² [2 ₂] ₂			1.0	
1403.310	?				0.2	?
1403.394	Mg	7p ³ P ₂ - 8d ³ D ₃			0.5	
1403.723	?				0.1	?
1403.788	CO	(12-11)	P93		0.2	
1404.156	Mg	7p ³ P ₁ - 8d ³ D ₂			0.4	
1404.605	?				0.1	?
1404.869	CO	(5-4)	P117		0.3	
1404.975	CO	(8-7)	P107		0.3	
1405.225	CO	(10-9)	P100		0.2	
1405.396	CO	(13-12)	P89		0.1	

1406-1414 cm⁻¹

1406.146	CO	(17-16)	P73	0.1
1406.415	CO	(4-3)	P120	bs 0.2
1406.46	CO	(14-13)	P85	bs 0.1
1406.522				
1406.557	Mg	5f ^{1,3} F ⁰ - 6g ^{1,3} G		5.8
1406.595				
1406.638	Si	5f [3 $\frac{1}{2}$] ['] ₄ - 6g [4 $\frac{1}{2}$] ['] ₅		1.5
1406.674	Mg	5f ³ F ⁰ - 6g ³ G		5.8
1406.84	CO	(16-15)	P77	bs 0.1
1406.93	CO	(15-14)	P81	<0.1
1407.515	CO	(7-6)	P110	0.3
1407.641	CO	(3-2)	P123	0.3
1407.817	CO	(11-10)	P96	0.2
1407.949	?			0.1
1408.099	Si	5f [3 $\frac{1}{2}$] ['] ₃ - 6g [4 $\frac{1}{2}$] ['] ₄		1.5
1408.251	?			0.2
1408.512	CO	(9-8)	P103	0.2
1408.57	CO	(2-1)	P126	b 0.2
1409.216	CO	(1-0)	P129	0.2
1409.757	CO	(6-5)	P113	0.3
1409.861	CO	(12-11)	P92	0.2
1409.912	?			0.1
1411.208	Fe	w ⁵ D ⁰ ₃ - e ⁵ D ²		0.3
1411.351	CO	(13-12)	P88	0.2
1411.473	CO	(8-7)	P106	0.2
1411.533	CO	(10-9)	P99	0.2
1411.578	CO	(17-16)	P72	b 0.1
1411.691	CO	(5-4)	P116	0.2
1412.265	CO	(14-13)	P84	0.1
1412.385	CO	(16-15)	P76	b 0.1
1412.618	CO	(15-14)	P80	0.1
1413.317	CO	(4-3)	P119	0.3
1413.854	?			0.2
1413.880	?			0.2
1413.990	CO	(11-10)	P95	0.2

1414-1422 cm⁻¹

1414.124	CO	(7-6)	P109	0.3
1414.553	Si	4d ³ F ⁰ ₂ - 4f F ² [3 ¹ / ₂] ₃		4.4
1414.642	CO	(3-2)	P122	0.3
1414.689	?			0.1
1414.905	CO	(9-8)	P102	0.3
1415.60	?			0.1
1415.663	CO	(2-1)	P125	0.2
1415.909	CO	(12-11)	P91	0.3
1416.389	CO	(1-0)	P128	0.2
1416.462	CO	(6-5)	P112	0.3
1416.983	CO	(17-16)	P71	0.1
1417.28	CO	(13-12)	P87	0.2
1417.797	CO	(10-9)	P98	0.3
1417.94	CO	(16-15)	P75	0.1
1417.966	CO	(8-7)	P105	0.3
1418.061	CO	(14-13)	P83	0.1
1418.19	?			0.1
1418.29	CO	(15-14)	P79	<0.1
1418.487	CO	(5-4)	P115	0.3
1420.144	CO	(11-10)	P94	0.2
1420.205	CO	(4-3)	P118	0.4
1420.711	CO	(7-6)	P108	0.3
1421.082	?			0.1
1421.15	?			0.1
1421.276	CO	(9-8)	P101	0.3
1421.624	CO	(3-2)	P121	0.4
1421.937	CO	(12-11)	P90	0.2

b

1422-1430 cm⁻¹

1422.178	?			0.1	?
1422.36	CO	(17-16)	F70	0.1	
1422.734	CO	(2-1)	P124	0.3	
1422.826	?			0.1	?
1423.143	CO	(6-5)	P111	0.4	
1423.174	CO	(13-12)	P86	0.2	
1423.433	CO	(16-15)	F74	0.2	
1423.553	CO	(1-0)	P127	0.2	
1423.81	Mg	6p ³ P ₂ - 6d ³ D ₃		b 4.7	
1423.82	Mg	6p ³ P ₂ - 6d ³ D ₂			
1423.84	Mg	6p ³ P ₂ - 6d ³ D ₃			
1423.84	CO	(14-13)	P82	bs 0.2	
1423.930	CO	(15-14)	F78	b 0.2	
1424.048	CO	(10-9)	P97	0.3	
1424.430	CO	(8-7)	P104	0.4	
1424.843	?			0.1	?
1424.911	?			0.1	?
1425.13	Mg	6p ³ P ₁ - 6d ³ D ₂		4.1	
1425.15	Mg	6p ³ P ₁ - 6d ³ D ₁		4.1	
1425.264	CO	(5-4)	P114	0.3	
1425.793	Mg	6p ³ P ₀ - 6d ³ D ₁		1.5	
1425.873	CO	(18-17)	P65	0.1	
1425.931	?			0.1	?
1426.269	CO	(11-10)	P93	0.2	
1426.827	Ca	5f ¹ F ₃ - 6g ¹ G ₄		0.8	
1426.96	?			0.1	?
1427.076	CO	(4-3)	P117	0.4	
1427.278	CO	(7-6)	P107	0.3	
1427.627	CO	(9-8)	P100	0.3	
1427.697	CO	(17-16)	P69	0.1	
1427.940	CO	(12-11)	P89	0.2	
1428.584	CO	(3-2)	P120	0.4	
1428.920	CO	(16-15)	P73	0.1	
1429.046	CO	(13-12)	P85	0.2	
1429.546	CO	(15-14)	P77	0.2	
1429.587	CO	(14-13)	P81	b 0.2	
1429.80	CO	(2-1)	P123	b 0.3	
1429.81	CO	(6-5)	P110	b 0.4	

1430-1438 cm⁻¹

1430.284	CO	(10-9)	P96	0.3	?
1430.63	?			0.1	
1430.692	CO	(1-0)	P126	0.2	?
1430.777	?			0.2	
1430.885	CO	(8-7)	P103	0.4	
1431.061	CO	(18-17)	P64	0.1	?
1431.340	?			0.1	?
1431.855	?			0.1	?
1431.914	?			0.1	?
1432.026	CO	(5-4)	P113	0.4	
1432.282	?			0.1	?
1432.375	CO	(11-10)	P92	0.3	
1432.584	?			0.2	?
1432.75	?			0.1	?
1432.996	Si	6s ($\frac{1}{2}, \frac{1}{2}$) ₁ - 6p ($\frac{3}{2}, \frac{3}{2}$) ₁		b 0.6	
1433.014	CO	(17-16)	P68	b 0.1	
1433.822	CO	(7-6)	P106	0.4	
1433.926	CO	(12-11)	P88	b 0.2	
1433.926	CO	(4-3)	P116	b 0.5	
1433.96	CO	(9-8)	P99	b 0.4	
1434.31	?			0.1	?
1434.38	CO	(16-15)	P72	0.1	
1434.53	?			0.2	?
1434.901	CO	(13-12)	P84	0.2	
1435.14	CO	(15-14)	P76	0.1	
1435.311	CO	(14-13)	P80	0.2	
1435.528	CO	(3-2)	P119	0.5	
1436.23	CO	(18-17)	P63	0.1	
1436.446	CO	(6-5)	P109	0.4	
1436.49	CO	(10-9)	P95	b 0.3	
1436.825	CO	(2-1)	P122	0.3	
1437.311	CO	(8-7)	P102	0.5	
1437.819	CO	(1-0)	P125	0.2	

1438-1446 cm⁻¹

1438.315	CO	(17-16)	P67	0.1
1438.460	CO	(11-10)	P91	0.3
1438.758	CO	(5-4)	P112	0.5
1439.14	?			0.2
1439.244	Si	4p ³ P ₁ - 3d ³ P _{0,2}		2.8
1439.807	CO	(16-15)	P71	0.1
1439.875	CO	(12-11)	P87	0.3
1440.264	CO	(9-8)	P98	0.5
1440.348	CO	(7-6)	P105	0.5
1440.71	CO	(15-14)	P75	b 0.1
1440.73	CO	(13-12)	P83	b 0.3
1440.756	CO	(4-3)	P115	b 0.6
1441.011	CO	(14-13)	P79	0.2
1441.36	CO	(18-17)	P62	b 0.1
1441.60	?			0.1
1442.448	CO	(3-2)	P118	0.5
1442.667	CO	(10-9)	P94	0.3
1443.069	CO	(6-5)	P108	0.5
1443.234	?			0.2
1443.467	CO	(19-18)	P57	0.1
1443.594	CO	(17-16)	P66	0.1
1443.720	CO	(8-7)	P101	0.5
1443.836	CO	(2-1)	P121	0.3
1444.520	CO	(11-10)	P90	0.3
1444.921	CO	(1-0)	P124	0.3
1445.212	CO	(16-15)	P70	0.2
1445.474	CO	(5-4)	P111	0.6
1445.810	CO	(12-11)	P86	0.3

1446-1454 cm⁻¹

1446.06	?				0.1	?
1446.247	CO	(15-14)	P74		0.1	
1446.463	CO	(18-17)	P61		0.1	
1446.54	CO	(13-12)	P82		b 0.3	
1446.55	CO	(9-8)	P97		b 0.5	
1446.689	CO	(14-13)	P78		0.2	
1446.854	CO	(7-6)	P104		0.5	
1447.570	CO	(4-3)	P114		0.6	
1448.784	?				0.3	?
1448.831	CO	(10-9)	P93		0.3	
1448.84	CO	(17-16)	P65		b 0.1	
1449.044	?				0.1	?
1449.354	CO	(3-2)	P117		0.6	
1449.670	CO	(6-5)	P107		0.6	
1450.056	?				0.3	?
1450.104	CO	(8-7)	P100		0.5	
1450.273	?				0.2	?
1450.560	CO	(11-10)	P89		0.4	
1450.61	CO	(16-15)	P69		b 0.1	?
1450.637	?				b 0.1	?
1450.699	?				0.1	?
1450.832	CO	(2-1)	P120		0.5	?
1451.13	?				0.1	
1451.326	Si	4d ³ F ₄ - 4f G ² [3 ₂]' ₃			0.1	
1451.538	CO	(18-17)	P60		0.1	
1451.721	CO	(12-11)	P85		0.3	
1451.772	CO	(15-14)	P73		0.2	
1452.010	CO	(1-0)	P123		0.3	
1452.172	CO	(5-4)	P110		0.6	
1452.323	CO	(13-12)	P81		b 0.3	
1452.33	CO	(14-13)	P77		b 0.3	
1452.813	CO	(9-8)	P96		0.5	
1453.337	CO	(7-6)	P103		b 0.6	
1453.388	Si	4d ³ F ₄ - 4f G ² [3 ₂]' ₄			2.0	?
1453.59	?				0.1	?
1453.68	?				0.1	?

1454-1462 cm⁻¹

1454.067	CO	(17-16)	P64	0.1	
1454.193	Ca	6p ³ P ₂ - 7s ³ S ₁		0.7	
1454.280	?			0.1	?
1454.359	Si	4f ³ D ₂ - 5d ³ F ₂		b 0.7	
1454.359	CO	(4-3)	P113	b 0.7	
1454.725	?			0.1	?
1454.925	?			0.6	
1454.970	CO	(10-9)	P92	0.3	
1455.649	Fe	5p ⁷ D ₅ - f ⁷ D ₄		0.2	
1455.968	CO	(16-15)	P68	0.1	
1456.24	CO	(3-2)	P116	b 0.7	
1456.24	CO	(6-5)	P106	b 0.7	
1456.474	CO	(8-7)	P99	0.6	
1456.575	CO	(11-10)	P88	0.4	
1456.61	CO	(18-17)	P59	b 0.1	
1457.262	CO	(15-14)	P72	0.2	
1457.616	CO	(12-11)	P84	0.3	
1457.810	CO	(2-1)	P119	b 0.6	
1457.960	CO	(14-13)	P76	0.2	
1458.084	CO	(13-12)	P80	0.3	
1458.848	CO	(5-4)	P109	0.7	
1459.057	CO	(9-8)	P95	b 0.6	
1459.08	CO	(1-0)	P122	bs 0.3	
1459.26	CO	(17-16)	P63	b 0.1	
1459.800	CO	(7-6)	P102	0.6	
1460.056	?			0.1	?
1460.091	?			0.3	?
1460.409	?			0.3	?
1460.47	?			0.1	?
1460.59	?			0.1	?
1460.637	?			0.2	?
1460.974	?			0.1	?
1461.10	CO	(10-9)	P91	0.4	
1461.131	CO	(4-3)	P112	0.8	
1461.295	CO	(16-15)	P67	0.2	
1461.63	CO	(18-17)	P58	b 0.1	
1461.946	?			0.1	?

1462-1470 cm^{-1}

1462.062	Ca	6p $^3P_1 - 7s \ ^3S_1$	0.6	?
1462.12	?		0.1	
1462.567	CO	(11-10) P87	0.4	
1462.734	CO	(15-14) P71	0.2	
1462.82	CO	(8-7) P98	b 0.7	
1462.82	CO	(6-5) P105	b 0.8	
1462.93	?		0.1	?
1463.101	CO	(3-2) P115	0.8	
1463.480	CO	(12-11) P83	0.4	
1463.562	CO	(14-13) P75	0.3	
1463.813	CO	(13-12) P79	0.3	
1463.87	?		0.2	?
1464.20	?		0.1	?
1464.43	CO	(17-16) P62	b 0.1	
1464.489	?		0.3	?
1464.586	?		0.1	?
1464.764	CO	(2-1) P118	0.6	
1465.277	CO	(9-8) P94	0.6	
1465.503	CO	(5-4) P108	0.8	
1465.778	?		0.1	?
1465.931	Ca	6p $^3P_0 - 7s \ ^3S_1$	0.1	
1466.123	CO	(1-0) P121	0.4	
1466.241	CO	(7-6) P101	0.8	
1466.383	?		0.1	?
1466.47	?		0.1	?
1466.602	CO	(16-15) P66	0.2	
1466.64	CO	(18-17) P57	0.1	
1466.815	?		0.2	?
1467.188	CO	(10-9) P90	0.6	
1467.683	?		0.1	?
1467.712	?		0.2	?
1467.814	?		0.1	?
1467.883	CO	(4-3) P111	1.1	
1467.943	Ca	5f $^3F_4 - 6g \ ^3G_5$	1.1	
1468.18	CO	(15-14) P70	b 0.2	
1468.191	Ca	5f $^3F_3 - 6g \ ^3G_4$	1.0	
1468.30	?		bs 0.1	?
1468.384	Ca	5f $^3F_2 - 6g \ ^3G_3$	0.6	
1468.537	CO	(11-10) P86	0.4	
1468.810	?		0.2	?
1469.134	CO	(8-7) P97	0.7	
1469.15	CO	(14-13) P74	b 0.3	
1469.32	CO	(12-11) P82	b 0.4	
1469.350	CO	(6-5) P104	0.8	
1469.526	CO	(13-12) P78	0.3	
1469.58	CO	(17-16) P61	b 0.1	
1469.947	CO	(3-2) P114	0.9	

1470-1478 cm⁻¹

1471.020	?				0.1	
1471.48	CO	(9-8)	P93		0.7	
1471.610	CO	(18-17)	P56		0.1	
1471.698	CO	(2-1)	P117		0.7	
1471.888	CO	(16-15)	P65		0.2	
1472.138	CO	(5-4)	P107		b 1.1	
1472.663	CO	(7-6)	P100		0.8	
1473.152	Si	$6p\ ^3D\ (\frac{1}{2}, \frac{3}{2})_1$	- 5d $^3P^0$		b <0.4	
1473.152	CO	(1-0)	P120		b 0.4	
1473.258	CO	(10-9)	P89		0.5	
1473.60	CO	(15-14)	P69		b 0.2	
1474.485	CO	(11-10)	P85		0.5	
1474.612	CO	(4-3)	P110		0.9	
1474.69	CO	(17-16)	P60		b 0.1	
1474.698	CO	(14-13)	P73		0.3	
1474.826	?				0.6	?
1475.084	?				0.2	?
1475.138	CO	(12-11)	P81		0.4	
1475.212	CO	(13-12)	P77		0.3	
1475.429	CO	(8-7)	P96		0.8	
1475.869	CO	(6-5)	P103		0.9	
1476.559	CO	(18-17)	P55		0.1	
1476.774	CO	(3-2)	P113		0.9	
1477.141	CO	(16-15)	P64		0.2	
1477.648	CO	(9-8)	P92		0.7	

1478-1486 cm⁻¹

1478.159	?					0.1	?
1478.353	?					0.4	?
1478.483	?					0.1	?
1478.620	CO	(2-1)	P116			0.8	
1478.754	CO	(5-4)	P106			0.9	
1478.905	?					0.1	?
1478.989	CO	(15-14)	P68			0.2	
1479.059	CO	(7-6)	P99			0.9	
1479.310	CO	(10-9)	P88			0.6	
1479.779	CO	(17-16)	P59			0.1	
1480.160	CO	(1-0)	P119			0.5	
1480.232	CO	(14-13)	P72			0.3	
1480.330	Mg	5p ¹ P ₁ - 6s ¹ S ₀			bs	6.7	
1480.41	CO	(11-10)	P84			0.5	
1480.876	CO	(13-12)	P76			0.4	
1480.931	CO	(12-11)	P80			0.5	
1481.090	Fe	5p ⁷ D ₅ - e ⁷ F ₅				0.3	
1481.323	CO	(4-3)	P109			1.0	
1481.481	CO	(18-17)	P54			0.1	
1481.635	?					0.4	?
1481.706	CO	(8-7)	P95			0.9	?
1482.015	?					0.2	?
1482.094	?					0.2	?
1482.23	CO	(19-18)	P49			0.1	
1482.289	?					0.1	?
1482.366	CO	(6-5)	P102			1.0	
1482.38	CO	(16-15)	P63		b	0.2	
1482.514	?					0.1	?
1482.583	?					0.1	?
1483.419	?					0.2	?
1483.45	?					0.1	?
1483.577	CO	(3-2)	P112			1.0	
1483.801	CO	(9-8)	P91			0.8	
1484.359	CO	(15-14)	P67			0.2	
1484.843	CO	(17-16)	P58			0.1	
1485.009	?					0.1	?
1485.170	?					0.1	?
1485.275	?					0.1	?
1485.34	CO	(10-9)	P87		b	0.7	
1485.35	CO	(5-4)	P105		b	1	
1485.44	Si	6s (¹ / ₂ , ¹ / ₂) ₀ - 6p (³ / ₂ , ³ / ₂) ₁			b	<1	
1485.44	CO	(7-6)	P98		b	1.0	
1485.519	CO	(2-1)	P115			0.9	
1485.731	CO	(14-13)	P71			0.3	

1486-1494 cm^{-1}

1486.307	CO	(11-10)	P83	0.6	
1486.371	CO	(18-17)	P53	0.1	
1486.511	CO	(13-12)	P75	0.4	
1486.702	CO	(12-11)	P79	0.5	
1486.948	CO	(19-18)	P48	0.1	
1487.146	CO	(1-0)	P118	0.6	
1487.584	CO	(16-15)	P62	0.2	
1487.650	?			0.2	?
1487.852	?			0.6	?
1487.961	CO	(8-7)	P94	0.8	
1488.013	CO	(4-3)	P108	1.1	
1488.841	CO	(6-5)	P101	1.1	
1489.699	CO	(15-14)	P66	0.2	
1489.88	CO	(17-16)	P57	b 0.1	
1489.94	CO	(9-8)	P90	0.9	
1490.256	Si	$5p^3s_1 - 4d^3d^0_2$		1.1	
1490.362	CO	(3-2)	P111	1.1	
1491.214	CO	(14-13)	F70	0.4	
1491.23	CO	(18-17)	P52	b 0.1	
1491.342	CO	(10-9)	P86	0.7	
1491.643	CO	(19-18)	P47	0.1	
1491.792	CO	(7-6)	P97	1.1	
1491.922	CO	(5-4)	P104	1.2	
1492.01	?			0.1	?
1492.06	?			0.1	?
1492.127	CO	(13-12)	P74	0.4	
1492.184	CO	(11-10)	P82	0.6	
1492.398	CO	(2-1)	P114	0.8	
1492.45	CO	(12-11)	P78	b 0.5	
1492.493	?			0.2	?
1492.522	Mg	$6d^3D_{3,2,1} - 8f^3F^0_{4,3,2}$		1.5	
1492.763	CO	(16-15)	P61	0.2	
1493.001	?			0.1	?
1493.314	?			0.1	?
1493.864	?			0.6	?

1494-1502 cm⁻¹

1494.123	CO	(1-0)	P117	0.8	
1494.194	CO	(8-7)	P93	1.0	
1494.683	CO	(4-3)	P107	1.3	
1494.894	CO	(17-16)	P56	0.1	
1495.017	CO	(15-14)	P65	0.2	
1495.295	CO	(6-5)	P100	1.3	
1495.551	?			0.2	?
1495.642	?			0.1	?
1496.043	CO	(9-8)	P89	0.9	
1496.08	CO	(18-17)	P51	b 0.1	
1496.665	CO	(14-13)	P69	0.4	
1497.127	CO	(3-2)	P110	1.2	
1497.325	CO	(10-9)	P85	0.8	
1497.717	CO	(13-12)	P73	0.5	
1497.914	CO	(16-15)	P60	0.3	
1498.037	CO	(11-10)	P81	0.7	
1498.125	CO	(7-6)	P96	1.2	
1498.171	CO	(12-11)	P77	0.6	
1498.38	?			0.2	?
1498.420	?			0.3	?
1498.474	CO	(5-4)	P103	1.4	
1498.980	?			0.2	?
1499.257	CO	(2-1)	P113	1.1	
1499.871	CO	(17-16)	P55	0.1	
1499.956	?			0.2	?
1500.021	?			0.1	?
1500.315	CO	(15-14)	P64	0.3	
1500.405	CO	(8-7)	P92	1.1	
1500.759	?			0.3	?
1500.886	CO	(18-17)	P50	0.1	
1500.949	CO	(19-18)	P45	0.1	
1501.076	CO	(1-0)	P116	0.7	
1501.332	CO	(4-3)	P106	1.4	
1501.425	?			0.1	?
1501.49	?			0.2	?
1501.727	CO	(6-5)	P99	1.4	

1502-1510 cm^{-1}

1502.10	CO	(14-13)	P68	b 0.5	
1502.127	CO	(9-8)	P88	1.0	
1502.336	?			0.6	?
1503.037	CO	(16-15)	P59	0.3	
1503.098	?			0.4	?
1503.282	CO	(13-12)	P72	b 0.5	
1503.282	CO	(10-9)	P84	b 1	
1503.870	CO	(11-10)	P80	b 1	
1503.870	CO	(12-11)	P76	b 0.6	
1503.88	CO	(3-2)	P109	b 1.4	
1504.437	CO	(7-6)	P95	1.3	
1504.828	CO	(17-16)	P54	0.1	
1505.005	CO	(5-4)	P102	1.5	
1505.551	CO	(19-18)	P44	0.1	
1505.572	CO	(15-14)	P63	0.3	
1505.65	Si	$5p^3P_0 - 4d^1P_0^1$		b 1	
1505.67	CO	(18-17)	P49	b 0.1	?
1506.054	?			0.2	
1506.096	CO	(2-1)	P112	1.2	
1506.203	?			0.1	?
1506.30	?			0.1	?
1506.591	CO	(8-7)	P91	1.2	
1506.961	?			1.5	?
1507.50	CO	(14-13)	P67	b 0.5	
1507.961	CO	(4-3)	P105	1.5	
1508.010	CO	(1-0)	P115	0.8	
1508.139	CO	(16-15)	P58	b 0.3	
1508.139	CO	(6-5)	P98	1.6	
1508.190	CO	(9-8)	P87	1.0	
1508.266	?			0.2	?
1508.818	Mg	$5d^3D_2 - 7p^3P_0^1$		b 1	
1508.818	CO	(13-12)	P71	0.6	
1509.220	CO	(10-9)	P83	0.9	
1509.54	Mg	$5d^3D_3 - 7p^3P_0^2$		b 1	
1509.54	CO	(12-11)	P75	b 0.7	
1509.68	CO	(11-10)	P79	b 1	
1509.76	CO	(17-16)	P53	b 0.1	

1510-1518 cm⁻¹

1510.22	?					0.2	?
1510.429	CO	(18-17)	P48			0.1	
1510.599	CO	(3-2)	P108			1.6	
1510.727	CO	(7-6)	P94			1.4	
1510.816	CO	(15-14)	P62			0.3	
1511.070	?					0.1	
1511.18	?					0.1	
1511.349	?					0.1	
1511.517	CO	(5-4)	P101			1.7	
1512.759	CO	(8-7)	P90			1.3	
1512.88	CO	(14-13)	P66		b	0.5	
1512.915	CO	(2-1)	P111			1.4	
1513.208	CO	(16-15)	P57			0.3	
1513.494	?					0.2	
1513.92	?					0.1	
1514.016	Si	4f ² [3 ₂] ₃ - 5d ¹ D ₂ ⁰				0.7	
1514.230	CO	(9-8)	P86			1.1	
1514.336	CO	(13-12)	P70			0.6	
1514.529	CO	(6-5)	P97			1.6	
1514.569	CO	(4-3)	P104		b	1.9	
1514.569	Si	5p ³ S ₁ - 4d ³ D ₁ ⁰			b	1.9	
1514.66	CO	(17-16)	P52		b	0.1	
1514.697	?					0.1	
1514.92	CO	(1-0)	P114			1.0	
1515.129	CO	(10-9)	P82			0.9	
1515.16	CO	(18-17)	P47		b	0.1	
1515.193	CO	(12-11)	P74			0.7	
1515.330	?					0.2	
1515.453	CO	(11-10)	P78			0.9	
1515.506	?					0.1	
1515.891	?					0.1	
1516.028	CO	(15-14)	P61			0.3	
1516.795	?					0.2	
1516.994	CO	(7-6)	P93			1.5	
1517.301	CO	(3-2)	P107			1.7	

1518-1526 cm⁻¹

1518.005	CO	(5-4)	P100	1.7	
1518.232	CO	(14-13)	P65	0.5	
1518.26	CO	(16-15)	P56	bs 0.3	
1518.572	?			0.1	?
1518.902	CO	(8-7)	P89	1.4	
1519.071	?			0.1	?
1519.533	CO	(17-16)	P51	0.2	
1519.713	CO	(2-1)	P110	1.5	
1519.825	CO	(13-12)	P69	0.6	
1519.86	CO	(18-17)	P46	b 0.1	
1520.25	CO	(9-8)	P85	b 1 ⁺	
1520.288	?			0.6	?
1520.356	?			0.3	?
1520.484	?			0.3	?
1520.59	?			0.1	?
1520.815	CO	(12-11)	P73	0.8	
1520.898	CO	(6-5)	P96	1.8	
1521.018	CO	(10-9)	P81	1.1	
1521.156	CO	(4-3)	P103	1.9	
1521.207	CO	(11-10)	P77	0.8	
1521.22	CO	(15-14)	P60	b 0.3	
1521.812	CO	(1-0)	P113	1.1	
1521.87	CO	(20-19)	P35	0.1	
1521.99	?			0.1	?
1522.250	?			0.6	?
1522.35	?			0.1	?
1523.239	CO	(7-6)	P92	1.7	
1523.28	CO	(16-15)	P55	bs 0.3	
1523.560	CO	(14-13)	P64	0.5	
1523.984	CO	(3-2)	P106	1.9	
1524.385	CO	(17-16)	P50	0.2	
1524.472	CO	(5-4)	P99	1.9	
1524.53	CO	(18-17)	P45	0.1	
1525.022	CO	(8-7)	P88	1.5	
1525.11	?			0.1	?
1525.291	CO	(13-12)	P68	0.6	

1526-1534 cm⁻¹

1526.15	CO	(20-19)	P34	0.1	
1526.240	CO	(9-8)	P84	1.4	
1526.312	Si	4d ³ F ₄ - 4f D ² [2 _{1/2}] ¹ ₃		0.1	
1526.378	CO	(15-14)	P59	0.3	
1526.416	CO	(12-11)	P72	0.8	
1526.493	Si	4f F ² [2 _{1/2}] ₃ - 5d ¹ D ⁰ ₂		b 2.1	
1526.493	CO	(2-1)	P109	b 2.1	
1526.74	?			0.1	?
1526.774	?			0.1	?
1526.883	CO	(10-9)	P80	1.2	
1526.944	CO	(11-10)	P76	0.9	
1527.244	CO	(6-5)	P95	2.0	
1527.721	CO	(4-3)	P102	2.1	
1528.16	CO	(19-18)	P39	0.1	
1528.260	CO	(16-15)	P54	0.3	
1528.680	CO	(1-0)	P112	1.2	
1528.860	CO	(14-13)	P63	0.5	
1529.020	?			0.2	?
1529.073	?			0.2	?
1529.11	?			0.1	?
1529.170	CO	(18-17)	P44	b 0.1	
1529.202	CO	(17-16)	P49	0.2	
1529.463	CO	(7-6)	P91	1.9	
1529.76	C13O16	(8-7)	P84	0.1	
1530.07	?			0.1	?
1530.18	?			0.1	?
1530.40	CO	(20-19)	P33	0.1	
1530.646	CO	(3-2)	P105	2.1	
1530.729	CO	(13-12)	P67	0.7	
1530.918	CO	(5-4)	P98	2.2	
1531.120	CO	(8-7)	P87	1.7	
1531.221	?			0.2	?
1531.518	CO	(15-14)	P58	0.4	
1531.992	CO	(12-11)	P71	0.9	
1532.210	CO	(9-8)	P83	1.4	
1532.595	CO	(19-18)	P38	0.1	
1532.652	CO	(11-10)	P75	1.0	
1532.723	CO	(10-9)	P79	1.3	
1533.221	CO	(16-15)	P53	b 0.3	
1533.25	CO	(2-1)	P108	b 2.1	
1533.568	CO	(6-5)	P94	2.1	
1533.79	CO	(18-17)	P43	0.1	
1534.00	CO	(17-16)	P48	b 0.2	

1534-1542 cm⁻¹

1534.135	CO	(14-13)	P62	0.5	
1534.265	CO	(4-3)	P101	2.4	
1534.62	CO	(20-19)	P32	0.1	
1535.44	C13O16	(8-7)	P83	0.1	
1535.52	CO	(1-0)	P111	b 1.4	
1535.663	CO	(7-6)	P90	2.0	
1535.857	?			0.5	?
1536.054	?			0.3	?
1536.143	CO	(13-12)	P66	0.7	
1536.620	CO	(15-14)	P57	0.4	
1536.853	?			0.2	
1537.004	CO	(19-18)	P37	0.1	
1537.195	CO	(8-7)	P86	1.9	
1537.288	CO	(3-2)	P104	2.3	
1537.343	CO	(5-4)	P97	2.3	
1537.541	CO	(12-11)	P70	0.9	
1537.78	?			0.1	?
1537.849	?			0.3	?
1538.119	Si	4p ³ P ₀ - 3d ³ P ₀ ¹		1.1	
1538.158	CO	(9-8)	P82	b 2	
1538.17	CO	(16-15)	P52	b 0.3	
1538.34	CO	(11-10)	P74	b 1	
1538.37	CO	(18-17)	P42	b 0.1	
1538.421	?			0.2	
1538.540	CO	(10-9)	P78	1.4	
1538.752	CO	(17-16)	P47	0.2	
1538.81	CO	(20-19)	P31	0.1	
1539.386	CO	(14-13)	P61	0.5	
1539.870	CO	(6-5)	P93	2.3	
1539.988	CO	(2-1)	P107	2.1	
1540.226	?			0.2	?
1540.745	?			0.3	?
1540.789	CO	(4-3)	P100	2.6	
1540.980	?			0.1	?
1541.13	C13O16	(8-7)	P82	0.1	
1541.532	CO	(13-12)	P65	0.8	
1541.70	CO	(15-14)	P56	bs 0.4	
1541.802	Mg	4d ¹ D ₂ - 4f ¹ F ₃ ⁰		12.2	
1541.84	Si	4p ³ P ₁ - 3d ³ P ₀ ⁰		bs <1	
1541.84	CO	(7-6)	P89	bs 2	

1542-1550 cm⁻¹

1542.064	Mg	4d ¹ D ₂ - 4f ³ F ₃ ⁰		1.9
1542.367	Si	6s ($\frac{1}{2}, \frac{1}{2}$) ₁ ⁰ - 6p ($\frac{3}{2}, \frac{1}{2}$) ₂		b 1.5
1542.367	CO	(1-0)	P110	b 1.5
1542.931	CO	(18-17)	P41	0.1
1542.97	CO	(20-19)	P30	0.1
1543.068	CO	(12-11)	P69	1.2
1543.068	CO	(16-15)	P51	b 0.4
1543.246	CO	(8-7)	P85	1.9
1543.48	CO	(17-16)	P46	b 0.2
1543.745	CO	(5-4)	P96	2.6
1543.909	CO	(3-2)	P103	2.5
1543.996	CO	(11-10)	P73	1.2
1544.079	CO	(9-8)	P81	1.7
1544.332	CO	(10-9)	P77	1.5
1544.608	CO	(14-13)	P60	0.6
1544.751	Si	4d ³ F ₄ ⁰ - 4f G ² [4 $\frac{1}{2}$]' ₅		9.5
1544.97	C13O16	(6-5)	P89	0.1
1545.352	?			0.6
1546.150	CO	(6-5)	P92	2.6
1546.706	CO	(2-1)	P106	2.3
1546.757	CO	(15-14)	P55	0.4
1546.895	CO	(13-12)	P64	0.8
1547.09	CO	(20-19)	P29	0.1
1547.291	CO	(4-3)	P99	2.8
1547.457	CO	(18-17)	P40	0.1
1547.957	CO	(16-15)	P50	bs 0.4
1547.996	CO	(7-6)	P88	2.4
1548.200	CO	(17-16)	P45	0.2
1548.244	Si	4d ³ F ₄ ⁰ - 4f G ² [4 $\frac{1}{2}$]' ₄		0.5
1548.45	?			0.1
1548.566	CO	(12-11)	P68	1.2
1548.93	?			0.3
1549.04	?			0.2
1549.183	CO	(1-0)	P109	1.6
1549.274	CO	(8-7)	P84	2.1
1549.631	CO	(11-10)	P72	1.4
1549.81	CO	(14-13)	P59	0.6
1549.978	CO	(9-8)	P80	1.8

1550-1558 cm⁻¹

1550.10	CO	(10-9)	P76	bs 2	?
1550.128	CO	(5-4)	P95	b 3	?
1550.509	CO	(3-2)	P102	2.9	?
1550.649	?			0.1	?
1550.714	?			0.2	?
1550.909	?			0.1	?
1550.952	?			0.3	?
1551.020	Fe	z ³ D ₃ - e ³ F ₄		2.2	
1551.20	CO	(20-19)	P28	0.1	?
1551.382	?			0.2	?
1551.568	?			0.2	?
1551.62	?			0.1	?
1551.785	CO	(15-14)	P54	0.5	?
1551.871	?			0.1	?
1551.91	?			0.1	?
1551.95	CO	(18-17)	P39	b 0.1	
1552.230	CO	(13-12)	P63	0.9	
1552.408	Fe	5p ⁷ D ₁ - f ⁵ F ₂		b 2	
1552.408	CO	(6-5)	P91	2.8	
1552.689	?			0.2	?
1552.810	CO	(16-15)	P49	0.4	
1552.872	CO	(17-16)	P44	0.2	
1552.946	?			0.1	?
1553.045	?			0.2	?
1553.228	C13O16	(4-3)	P95	0.1	
1553.403	CO	(2-1)	P105	2.6	
1553.772	CO	(4-3)	P98	3.1	
1554.041	CO	(12-11)	P67	1.2	
1554.128	CO	(7-6)	P87	2.6	
1554.972	CO	(14-13)	P58	0.7	
1555.087	?			0.1	?
1555.192	?			0.1	?
1555.242	CO	(11-10)	P71	1.4	
1555.281	CO	(8-7)	P83	2.4	
1555.50	?			0.1	?
1555.619	?			0.1	?
1555.85	CO	(10-9)	P75	b 2	
1555.85	CO	(9-8)	P79	b 2	
1555.975	CO	(1-0)	P108	1.9	
1556.181	?			0.1	?
1556.265	?			0.2	?
1556.361	?			0.2	?
1556.423	CO	(18-17)	P38	0.1	
1556.485	CO	(5-4)	P94	3.1	
1556.551	?			0.4	?
1556.71	C13O16	(6-5)	P87	0.1	
1556.784	CO	(15-14)	P53	0.5	
1557.004	?			0.3	?
1557.088	CO	(3-2)	P101	3.2	
1557.52	CO	(17-16)	P43	b 0.2	
1557.54	CO	(13-12)	P62	b 1	
1557.64	CO	(16-15)	P48	b 0.4	
1557.89	C13O16	(9-8)	P75	0.1	

1558-1566 cm⁻¹

1558.04	C13O16	(8-7)	P79	0.1	?
1558.175	?			0.1	
1558.642	CO	(6-5)	P90	3.0	
1559.31	CO	(20-19)	P26	b 0.1	
1559.31	C13O16	(4-3)	P94	b 0.1	
1559.43	?			0.1	
1559.489	CO	(12-11)	P66	1.2	
1560.079	CO	(2-1)	P104	2.9	
1560.118	CO	(14-13)	P57	s 0.7	
1560.23	CO	(4-3)	P97	b 4	
1560.23	CO	(7-6)	P86	b 3	
1560.827	CO	(11-10)	P70	1.5	
1560.872	CO	(18-17)	P37	0.1	
1560.97	?			0.1	
1561.261	CO	(8-7)	P82	2.5	
1561.374	Si	$6s (\frac{1}{2}, \frac{1}{2})_1^0 - 6p (\frac{1}{2}, \frac{1}{2})_0$		0.4	
1561.564	CO	(10-9)	P74	1.8	
1561.706	CO	(9-8)	P78	2.1	
1561.756	CO	(15-14)	P52	b 0.5	
1561.826	Fe	$w \ ^5D_4^0 - e \ ^5D_4$		0.4	
1562.146	CO	(17-16)	P42	0.2	
1562.435	CO	(16-15)	P47	0.4	
1562.55	C13O16	(6-5)	P86	0.1	
1562.747	CO	(1-0)	P107	2.1	
1562.823	CO	(5-4)	P93	b 3.5	
1562.823	CO	(13-12)	P61	b 1	
1563.02	?			0.1	
1563.31	CO	(20-19)	P25	0.1	
1563.36	C13O16	(7-6)	P82	b 0.1	
1563.36	C13O16	(9-8)	P74	b 0.1	
1563.426	?			0.1	
1563.583	?			0.2	
1563.646	CO	(3-2)	P100	3.2	
1563.847	?			1.0	
1563.929	Si	$5p \ ^3P_2 - 4d \ ^3D_2^0$		2.3	
1564.856	CO	(6-5)	P89	3.1	
1564.915	CO	(12-11)	P65	b 1 ⁺	
1565.233	CO	(14-13)	P56	0.7	
1565.27	CO	(18-17)	P36	0.2	

1566-1574 cm⁻¹

1566.324	CO	(7-6)	P85	3.3
1566.387	Fe	Z ³ F ₄ - e ³ F ₄		b 5.0
1566.387	CO	(11-10)	P69	b 2
1566.495	C13O16	(2-1)	P100	0.1
1566.667	CO	(4-3)	P96	3.6
1566.70	CO	(15-14)	P51	b 0.5
1566.734	CO	(17-16)	P41	b 0.3
1566.734	CO	(2-1)	P103	3.2
1566.999	CO	(19-18)	P30	0.1
1567.127	C13O16	(5-4)	P89	0.1
1567.20	CO	(16-15)	P46	b 0.4
1567.218	CO	(8-7)	P81	2.8
1567.260	CO	(10-9)	P73	1.9
1567.533	CO	(9-8)	P77	2.3
1567.678	?			0.1
1567.809	?			0.2
1567.93	?			0.1
1568.083	CO	(13-12)	P60	1.0
1568.36	C13O16	(6-5)	P85	0.1
1568.81	C13O16	(9-8)	P73	0.1
1569.06	C13O16	(7-6)	P81	0.1
1569.137	CO	(5-4)	P92	3.5
1569.201	C13O16	(8-7)	P77	0.1
1569.499	CO	(1-0)	P106	2.3
1569.650	CO	(18-17)	P35	0.2
1570.182	CO	(3-2)	P99	3.8
1570.315	CO	(12-11)	P64	b 1*
1570.32	CO	(14-13)	P55	b 0.7
1570.32	CO	(6-5)	P88	3.4
1571.046	CO	(19-18)	P29	0.1
1571.16	CO	(20-19)	P23	0.1
1571.23	CO	(17-16)	P40	0.3
1571.301	CO	(15-14)	P50	0.1
1571.551	?			0.6
1571.619	CO			bs 0.2
1571.796	?			9.9
1571.921	Mg	4d ¹ D ₂ - 5p ¹ P ₁		b 2
1571.921	CO	(11-10)	P68	bs 0.4
1571.95	CO	(16-15)	P45	3.4
1572.388	CO	(7-6)	P84	0.1
1572.54	?			0.2
1572.632	?			0.1
1572.72	C13O16	(2-1)	P99	0.1
1572.80	?			0.1
1572.929	CO	(10-9)	P72	2.1
1573.03	C13O16	(5-4)	P88	b 0.1
1573.083	CO	(4-3)	P95	3.9
1573.154	CO	(8-7)	P80	2.8
1573.32	CO	(13-12)	P59	b 1
1573.335	CO	(9-8)	P76	2.5
1573.369	CO	(2-1)	P102	3.5
1573.560	Si	4f [4 ₂] ¹ ₄ - 5d ³ F ₃		0.7
1573.627	?			0.6

1574-1582 cm⁻¹

1574.006	CO	(18-17)	P34	0.2	?
1574.081	?			0.1	
1574.15	C13O16	(6-5)	P84	0.1	
1574.22	C13O16	(9-8)	P72	0.1	
1574.547	?			0.1	?
1574.645	?			0.1	?
1574.735	C13O16	(7-6)	P80	b 0.1	
1574.75	C13O16	(8-7)	P76	b 0.1	
1574.850	?			0.1	?
1575.08	?			0.1	?
1575.14	CO	(20-19)	P22	0.1	
1575.215	?			0.1	?
1575.296	CO	(19-18)	P28	0.1	
1575.32	C13O16	(3-2)	P95	0.1	
1575.385	CO	(14-13)	P54	0.8	
1575.429	CO	(5-4)	P91	3.8	
1575.56	?			0.1	?
1575.682	CO	(12-11)	P63	1.4	
1575.834	CO	(17-16)	P39	0.3	
1576.225	CO	(1-0)	P105	2.6	
1576.42	?			0.1	?
1576.507	CO	(15-14)	P49	0.6	
1576.66	CO	(16-15)	P44	b 0.5	
1576.697	CO	(3-2)	P98	3.9	
1577.214	CO	(6-5)	P87	3.5	
1577.39	C13O16	(4-3)	P91	0.1	
1577.433	CO	(11-10)	P67	1.7	
1578.328	CO	(18-17)	P33	0.2	
1578.355	?			0.2	?
1578.428	CO	(7-6)	P83	3.4	
1578.519	CO	(13-12)	P58	1.1	
1578.575	CO	(10-9)	P71	2.1	
1578.924	C13O16	(5-4)	P87	0.1	
1579.02	CO	(20-19)	P21	0.1	
1579.065	CO	(8-7)	P79	3.0	
1579.116	CO	(9-8)	P75	2.5	
1579.404	CO	(19-18)	P27	0.1	
1579.477	CO	(4-3)	P94	4.2	
1579.620	C13O16	(9-8)	P71	0.1	
1579.920	C13O16	(6-5)	P83	0.1	
1579.981	CO	(2-1)	P101	3.7	
1580.120	?			0.1	?
1580.231	?			0.3	?
1580.273	C13O16	(8-7)	P75	0.1	
1580.340	CO	(17-16)	P38	0.3	
1580.37	C13O16	(7-6)	P79	0.1	
1580.421	CO	(14-13)	P53	0.8	
1581.028	CO	(12-11)	P62	1.4	
1581.19	?			0.1	?
1581.35	CO	(16-15)	P43	b 0.5	
1581.365	CO	(15-14)	P48	b 0.6	
1581.43	C13O16	(3-2)	P94	0.1	
1581.700	CO	(5-4)	P90	4.1	

1582-1590 cm⁻¹

1582.62	CO	(18-17)	P32	b	0.2
1582.620	Ca	4s 4d ³ D ₃ - 3d 4p ³ P ₂			0.9
1582.87	CO	(20-19)	P20		0.1
1582.92	CO	(11-10)	P66	b 2	
1582.94	CO	(1-0)	P104	b 3.0	
1583.079	?			0.1	?
1583.139	?			0.2	?
1583.190	CO	(3-2)	P97	4.2	
1583.358	CO	(6-5)	P86	3.9	
1583.39	Cl3O16	(4-3)	P90	0.1	
1583.472	Ca	4s 4d ³ D ₂ - 3d 4p ³ P ₁		b 0.6	
1583.472	CO	(19-18)	P26	b 0.1	
1583.699	CO	(13-12)	P57	1.1	
1583.864	?			0.1	?
1584.195	CO	(10-9)	P70	2.2	
1584.402	Si	4d ³ F ₃ - 4f G ² [<u>3₂']₃</u>		1.8	
1584.444	CO	(7-6)	P82	3.7	
1584.79	Cl3O16	(5-4)	P86	b 0.1	
1584.812	CO	(17-16)	P37	0.3	
1584.871	CO	(9-8)	P74	2.7	
1584.951	CO	(8-7)	P78	3.1	
1585.00	Cl3O16	(9-8)	P70	<0.1	
1585.14	Cl3O16	(2-1)	P97	0.1	
1585.197	?			0.2	?
1585.429	CO	(14-13)	P52	0.8	
1585.667	Cl3O16	(6-5)	P82	0.1	
1585.777	Cl3O16	(8-7)	P74	0.1	
1585.848	CO	(4-3)	P93	4.3	
1586.004	Cl3O16	(7-6)	P78	b 0.1	
1586.004	CO	(16-15)	P42	0.5	
1586.202	CO	(15-14)	P47	0.6	
1586.271	?			0.7	?
1586.347	CO	(12-11)	P61	1.5	
1586.463	Si	4d ³ F ₄ - 4f G ² [<u>3₂']₄</u>		3.9	
1586.573	CO	(2-1)	P100	4.2	
1586.68	CO	(20-19)	P19	0.1	
1586.879	CO	(18-17)	P31	0.2	
1587.140	?			0.1	?
1587.397	?			0.1	?
1587.51	Cl3O16	(3-2)	P93	b 0.1	
1587.51	CO	(19-18)	P25	b 0.1	
1587.697	Si	3s ² 3pnd a ³ P ₁ - 5f[<u>2₂']₂</u>		0.7	
1587.75	?			bs 0.1	?
1587.947	CO	(5-4)	P89	4.3	
1588.253	?			0.4	?
1588.375	CO	(11-10)	P65	1.8	
1588.711	?			0.5	?
1588.850	CO	(13-12)	P56	1.1	
1588.99	?			0.2	?
1589.056	?			0.8	?
1589.262	CO	(17-16)	P36	0.3	
1589.337	Cl3O16	(4-3)	P89	0.1	
1589.480	CO	(6-5)	P85	4.1	
1589.628	CO	(1-0)	P103	b 3.0	
1589.662	CO	(3-2)	P96	b 4.6	
1589.791	CO	(10-9)	P69	2.3	

1590-1598 cm⁻¹

1590.186	Fe	5p ⁷ D ₄ - e ⁷ F ₃	0.6	
1590.352	C13O16	(9-8)	0.1	
1590.41	CO	(14-13)	b 1	
1590.438	CO	(7-6)	3.8	
1590.601	CO	(9-8)	2.9	
1590.63	CO	(16-15)	bs <1	
1590.64	C13O16	(5-4)	b 0.1	
1590.814	CO	(8-7)	3.4	
1591.008	CO	(15-14)	0.7	
1591.109	CO	(18-17)	0.2	
1591.26	C13O16	(8-7)	0.1	
1591.32	C13O16	(2-1)	0.1	
1591.40	C13O16	(6-5)	0.1	
1591.43	?		0.1	?
1591.518	CO	(19-18)	0.1	
1591.60	C13O16	(7-6)	0.1	
1591.640	CO	(12-11)	1.6	
1591.899	?		0.1	?
1592.02	?		0.1	?
1592.197	CO	(4-3)	4.6	
1593.07	?		0.1	?
1593.144	CO	(2-1)	4.3	
1593.328	Al	5d ² D _{5/2} - 5f ² F ₀ ^{5/2,7/2}	3.1	
1593.564	C13O16	(3-2)	0.1	
1593.674	CO	(17-16)	0.3	
1593.808	CO	(11-10)	1.9	
1593.974	CO	(13-12)	1.1	
1594.172	CO	(5-4)	4.6	
1594.55	?		0.1	?
1595.228	CO	(16-15)	0.5	
1595.28	C13O16	(4-3)	b 0.1	
1595.309	CO	(18-17)	0.2	
1595.361	CO	(10-9)	b 2*	
1595.361	CO	(14-13)	b 1	
1595.50	CO	(19-18)	0.1	
1595.578	CO	(6-5)	4.4	
1595.59	Fe	5p ⁷ D ₂ - f ⁵ F ₃	b <1	
1595.69	C13O16	(9-8)	0.1	
1595.784	CO	(15-14)	0.7	
1596.12	CO	(3-2)	4.9	
1596.298	CO	(1-0)	b 3.5	
1596.31	CO	(9-8)	b 3	
1596.407	CO	(7-6)	3.8	
1596.46	C13O16	(5-4)	0.1	
1596.653	CO	(8-7)	3.5	
1596.75	C13O16	(8-7)	0.1	
1596.907	CO	(12-11)	1.7	
1597.099	C13O16	(6-5)	0.2	
1597.188	C13O16	(7-6)	0.1	
1597.376	Al	5d ² D _{3/2} - 5f ² F ₀ ^{5/2}	2.9	
1597.48	C13O16	(2-1)	b 0.1	
1597.514	?		0.1	?
1597.932	CO	(20-19)	0.1	

1598-1606 cm⁻¹

1598.060	CO	(17-16)	P34	0.4	
1598.524	CO	(4-3)	P91	5.0	
1599.072	CO	(13-12)	P54	1.2	
1599.215	CO	(11-10)	P63	2.1	
1599.44	CO	(19-18)	P22	0.1	
1599.479	CO	(18-17)	P28	0.3	
1599.553	?			0.3	?
1599.597	C13O16	(3-2)	P91	0.1	
1599.693	CO	(2-1)	P98	4.6	
1599.798	CO	(16-15)	P39	0.5	
1600.18	?			0.1	?
1600.286	CO	(14-13)	P49	1.0	
1600.374	CO	(5-4)	P87	5.0	
1600.533	CO	(15-14)	P44	0.7	
1600.906	CO	(10-9)	P67	2.6	
1600.98	C13O16	(9-8)	P67	0.1	
1601.072	?			0.2	?
1601.20	C13O16	(4-3)	P87	0.1	
1601.320	?			0.1	?
1601.386	?			0.2	?
1601.497	?			0.3	?
1601.652	CO	(6-5)	P83	5.0	
1601.834	Mg	5p ¹ P ₁ - 5d ¹ D ₂		10.9	
1601.987	CO	(9-8)	P71	3.6	
1602.147	CO	(12-11)	P58	1.8	
1602.15	C13O16	(8-7)	P71	b 0.1	
1602.267	C13O16	(5-4)	P83	0.2	
1602.352	CO	(7-6)	P79	4.3	
1602.42	CO	(17-16)	P33	b 0.4	
1602.467	CO	(8-7)	P75	4.1	
1602.540	CO	(3-2)	P94	5.5	
1602.618	?			0.1	?
1602.67	?			0.1	?
1602.74	C13O16	(7-6)	P75	0.1	
1602.771	C13O16	(6-5)	P79	0.1	
1602.936	CO	(1-0)	P101	b 0.2	
1602.96	Si	4d ¹ F ₃ - 6p ($\frac{1}{2}, \frac{3}{2}$) ₂		3.7	
1603.001	?			b	
1603.104	?			0.5	?
1603.61	C13O16	(2-1)	P94	0.1	?
1603.611	CO	(18-17)	P27	b 0.1	
1603.70	?			0.3	?
1604.029	?			0.1	?
1604.142	CO	(13-12)	P53	0.2	
1604.338	CO	(16-15)	P38	1.4	
1604.596	CO	(11-10)	P62	0.5	
1604.73	?			2.3	
1604.829	CO	(4-3)	P90	0.2	?
1604.88	Si	3s ² 3pnd a ³ P ⁰ - 5f[1 $\frac{1}{2}$] ₁		5.7	
1605.183	CO	(14-13)	P48	bs 1 ⁺	
1605.254	CO	(15-14)	P43	1.0	
1605.616	C13O16	(3-2)	P90	0.8	
				0.1	

1606-1614 cm⁻¹

1606.221	CO	(2-1)	P97	5.2	
1606.26	C13O16	(9-8)	P66	0.1	
1606.425	CO	(10-9)	P66	2.8	?
1606.50	?			0.1	
1606.553	CO	(5-4)	P86	5.4	
1606.74	CO	(17-16)	P32	b 0.4	?
1606.939	?			0.3	
1607.09	C13O16	(4-3)	P86	0.2	
1607.242	Mg	5d ³ D _{3,2,1} - 6f ³ F _{4,3,2}		b 6.6	
1607.27					
1607.322	CO	(12-11)	P57	b 2	
1607.36	C13O16	(8-7)	P70	b 0.1	
1607.55	CO	(9-8)	P70	b 4	
1607.645	Fe	3d ⁶ 4s 4p z ³ F ₃ - 3d ⁸ c ³ F ₃		b	
1607.67	CO	(6-5)	P82	5.3	
1607.704	CO	(18-17)	P26	b 0.3	
1607.72	?			0.2	?
1607.79	?			0.2	?
1607.843	?			0.1	?
1607.88	?			0.2	
1608.045	C13O16	(5-4)	P82	0.2	
1608.26	CO	(8-7)	P74	b 4	
1608.27	CO	(7-6)	P78	b 5	
1608.28	C13O16	(7-6)	P74	b 0.2	
1608.433	C13O16	(6-5)	P78	0.2	
1608.80	?			bs 0.5	?
1608.845	CO	(16-15)	P37	0.5	
1608.946	CO	(3-2)	P93	5.7	
1609.02	?			0.1	?
1609.185	CO	(13-12)	P52	1.4	
1609.570	CO	(1-0)	P100	3.8	
1609.723	C13O16	(2-1)	P93	0.1	
1609.950	CO	(11-10)	P61	b 2*	
1609.95	CO	(15-14)	P42	b 1	
1610.052	CO	(14-13)	P47	1.1	
1610.465	Si	4f [3 ₂] ³ , - 5d ³ F ₂		0.9	
1610.604	?			0.2	?
1611.037	CO	(17-16)	P31	0.4	
1611.09	CO	(19-18)	P19	b <<1	
1611.111	CO	(4-3)	P89	5.9	
1611.20	?			0.1	?
1611.399	?			0.1	?
1611.519	C13O16	(9-8)	P65	0.1	
1611.615	C13O16	(3-2)	P89	0.2	
1611.796	CO	(18-17)	P25	0.3	
1611.918	CO	(10-9)	P65	3.0	
1612.222	?			0.3	?
1612.33	?			0.1	?
1612.427	?			0.2	?
1612.49	CO	(20-19)	P12	0.1	
1612.548	CO	(12-11)	P56	2.0	
1612.71	CO	(5-4)	P85	b 6	
1612.72	CO	(2-1)	P96	b 6.0	
1612.936	C13O16	(8-7)	P69	0.1	
1612.984	C13O16	(4-3)	P85	0.2	

1606-1614 cm⁻¹ (Continued)

1613.038	?			0.5	?
1613.141	?			0.1	?
1613.273	CO	(9-8)	P69	3.6	
1613.328	CO	(16-15)	P36	0.5	
1613.505	C13O16	(1-0)	P96	0.1	
1613.732	CO	(6-5)	P81	5.5	
1613.79	C13O16	(7-6)	P73	b 0.2	
1613.798	C13O16	(5-4)	P81	b 0.2	
1613.887	?			0.1	?

1614-1622 cm⁻¹

1614.022	CO	(8-7)	P73	4.1	
1614.07	C13O16	(6-5)	P77	b 0.2	?
1614.110	?			1.3	
1614.172	CO	(7-6)	P77	4.9	
1614.20	CO	(13-12)	P51	bs 1 ⁺	
1614.607	CO	(15-14)	P41	0.8	?
1614.892	CO	(14-13)	P46	1.1	?
1615.042	?			0.5	
1615.18	?			0.1	
1615.279	CO	(11-10)	P60	2.4	
1615.30	CO	(17-16)	P30	b 0.4	
1615.329	CO	(3-2)	P92	6.1	
1615.81	C13O16	(2-1)	P92	b 0.1	
1615.843	CO	(18-17)	P24	0.3	
1616.04	CO	(20-19)	P11	0.1	
1616.09	?			0.2	?
1616.174	CO	(1-0)	P99	4.2	
1616.75	C13O16	(9-8)	P64	0.1	?
1616.84	?			0.4	
1617.374	CO	(4-3)	P88	7.0	
1617.38	CO	(10-9)	P64	b 3	
1617.598	C13O16	(3-2)	P88	0.2	
1617.707	CO	(12-11)	P55	2.0	
1617.780	CO	(16-15)	P35	0.5	
1618.305	C13O16	(8-7)	P68	0.1	
1618.696	CO	(19-18)	P17	0.1	
1618.841	C13O16	(4-3)	P84	b 0.2	
1618.841	CO	(5-4)	P84	6.0	
1618.879	CO	(9-8)	P68	3.8	
1619.19	CO	(13-12)	P50	b 1 ⁺	
1619.210	CO	(2-1)	P95	5.9	
1619.24	CO	(15-14)	P40	b 1	
1619.27	C13O16	(7-6)	P72	bs 0.2	?
1619.398	?			0.3	
1619.537	C13O16	(5-4)	P80	b 0.2	
1619.537	CO	(17-16)	P29	b 0.4	
1619.56	CO	(20-19)	P10	0.1	
1619.69	C13O16	(6-5)	P76	b 0.2	
1619.71	CO	(14-13)	P45	bs 1	
1619.737	CO	(6-5)	P80	b 6.0	
1619.76	CO	(8-7)	P72	b 4 ⁺	
1619.854	CO	(18-17)	P23	0.3	?
1620.045	CO	(7-6)	P76	5.1	
1620.376	?			0.3	
1620.581	CO	(11-10)	P59	2.5	
1620.94	?			0.1	?
1621.392	?			0.1	?
1621.50	?			0.1	?
1621.54	?			0.1	?
1621.691	CO	(3-2)	P91	0.1	?
1621.853	?			6.4	
1621.888	C13O16	(2-1)	P91	0.1	
1621.958	C13O16	(9-8)	P63	0.1	

1622-1630 cm⁻¹

1622.088	?					0.1	?
1622.199	CO	(16-15)	P34			0.6	
1622.758	CO	(1-0)	P98			4.6	
1622.83	CO	(10-9)	P63		b 3		
1622.84	CO	(12-11)	P54		b 2		
1623.05	CO	(20-19)	P9		0.1		
1623.550	C13O16	(3-2)	P87		0.2		
1623.61	CO	(4-3)	P87		b 7		
1623.63	C13O16	(8-7)	P67		b 0.1		
1623.735	Ca	4p ² 1D ₂ - 4s 4f 1F ^o ₃			1.7		
1623.74	CO	(17-16)	P28		b 0.4		
1623.83	CO	(18-17)	P22		b 0.2		
1623.84	CO	(15-14)	P39		b 1		
1624.148	CO	(13-12)	P49		1.5		
1624.458	CO	(9-8)	P67		4.0		
1624.48	CO	(14-13)	P44		bs 1		
1624.597	?				0.1		?
1624.67	C13O16	(4-3)	P83		0.2		
1624.747	C13O16	(7-6)	P71		0.2		
1624.952	CO	(5-4)	P83		6.1		
1625.176	?				0.1		?
1625.258	C13O16	(5-4)	P79		b 0.2		
1625.28	C13O16	(6-5)	P75		b 0.2		
1625.478	CO	(8-7)	P71		4.6		
1625.673	CO	(2-1)	P94		6.3		
1625.717	CO	(6-5)	P79		6.9		
1625.856	CO	(11-10)	P58		2.7		
1625.856	C13O16	(1-0)	P94		b 0.1		
1625.895	CO	(7-6)	P75		5.4		
1626.038	?				0.1		?
1626.101	?				0.1		?
1626.34	?				0.1		?
1626.51	CO	(20-19)	P8		0.1		
1626.593	CO	(16-15)	P33		0.6		
1626.919	?				0.2		?
1627.14	C13O16	(9-8)	P62		0.1		
1627.78	CO	(18-17)	P21		0.2		
1627.917	CO	(17-16)	P27		0.4		
1627.947	CO	(12-11)	P53		b 2		
1627.95	C13O16	(2-1)	P90		b 0.1		
1628.030	CO	(3-2)	P90		7.0		
1628.109	?				0.2		?
1628.245	CO	(10-9)	P62		3.4		
1628.419	CO	(15-14)	P38		0.8		
1628.95	C13O16	(8-7)	P66		0.1		
1629.080	CO	(13-12)	P48		1.6		
1629.244	CO	(14-13)	P43		1.1		
1629.320	CO	(1-0)	P97		4.9		
1629.364	?				0.3		?
1629.43	?				0.1		?
1629.486	C13O16	(3-2)	P86		0.2		
1629.821	CO	(4-3)	P86		7.3		
1629.86	CO	(19-18)	P14		b 0.1		
1629.93	CO	(20-19)	P7		0.1		

1630-1638 cm⁻¹

1630.013	CO	(9-8)	P66	4.1	
1630.183	C13O16	(7-6)	P70	0.2	
1630.32	?			0.1	?
1630.35	?			0.1	?
1630.41	?			0.1	?
1630.487	C13O16	(4-3)	P82	0.3	
1630.54	?			0.1	?
1630.674	?			0.1	?
1630.843	C13O16	(6-5)	P74	0.3	
1630.94	C13O16	(5-4)	P78	b 0.2	
1630.951	CO	(16-15)	P32	b 0.7	
1631.038	CO	(5-4)	P82	6.6	
1631.105	CO	(11-10)	P57	2.7	
1631.168	CO	(8-7)	P70	4.9	
1631.254	?			0.3	?
1631.318	Fe	3d ⁶ 4s4p z ³ F ₂ - 3d ⁸ c ³ F ₂		1.9	
1631.444	?			0.1	?
1631.52	?			0.1	?
1631.60	?			0.1	?
1631.673	CO	(6-5)	P78	6.4	
1631.70	CO	(18-17)	P20	b 0.2	
1631.720	CO	(7-6)	P74	5.9	
1631.791	?			0.1	?
1631.954	Mg	4f ¹ F ₃ - 5d ¹ D ₂		6.6	
1632.055	CO	(17-16)	P26	b 0.4	
1632.113	CO	(2-1)	P93	6.8	
1632.210	?			0.1	?
1632.298	C13O16	(9-8)	P61	0.2	
1632.40	?			0.1	?
1632.584	?			0.1	?
1632.85	?			0.1	?
1632.966	CO	(15-14)	P37	0.8	
1633.024	CO	(12-11)	P52	2.2	
1633.360	?			0.1	?
1633.52	CO	(19-18)	P13	0.1	
1633.58	Fe	5p ⁷ D ₄ - e ⁷ F ₄		0.1	
1633.635	CO	(10-9)	P61	3.6	
1633.97	C13O16	(2-1)	P89	b 0.2	
1633.97	CO	(14-13)	P42	b 1	
1633.98	CO	(13-12)	P47	b 1 ⁺	
1634.14	?			0.1	?
1634.24	C13O16	(8-7)	P65	0.2	
1634.347	CO	(3-2)	P89	7.2	
1634.537	?			0.1	?
1635.283	CO	(16-15)	P31	0.6	
1635.388	C13O16	(3-2)	P85	0.3	
1635.52	Si	6s (¹ / ₂ , ¹ / ₂) ⁰ - 6p (³ / ₂ , ¹ / ₂) ₁		b <1	
1635.542	CO	(9-8)	P65	4.4	
1635.59	CO	(18-17)	P19	0.2	
1635.60	C13O16	(7-6)	P69	b 0.2	
1635.860	CO	(1-0)	P96	5.2	
1636.012	CO	(4-3)	P85	7.8	
1636.076	?			2.2	?
1636.170	CO	(17-16)	P25	0.4	
1636.278	C13O16	(4-3)	P81	0.3	

1630-1638 cm^{-1} (Continued)

1636.327	CO	(11-10)	P56	2.8
1636.387	C13O16	(6-5)	P73	0.2
1636.61	C13O16	(5-4)	P77	0.2
1636.834	CO	(8-7)	P69	5.3
1636.940	?			1.1
1637.101	CO	(5-4)	P81	7.1
1637.43	C13O16	(9-8)	P60	b 0.2
1637.482	CO	(15-14)	P36	b 1
1637.518	CO	(7-6)	P73	6.1
1637.606	CO	(6-5)	P77	6.7

?

1638-1646 cm⁻¹

1638.075	CO	(12-11)	P51	2.3	
1638.128	C13O16	(1-0)	P92	0.1	
1638.532	CO	(2-1)	P92	7.1	
1638.667	CO	(14-13)	P41	1.2	
1638.860	CO	(13-12)	P46	1.7	
1638.91	?			0.1	?
1638.999	CO	(10-9)	P60	b 4	
1639.061	Mg	5p ³ P ₀ - 6s ³ S ₁		10.4	?
1639.34	?			0.1	
1639.444	CO	(18-17)	P18	0.2	
1639.50	C13O16	(8-7)	P64	0.2	
1639.582	CO	(16-15)	P30	b 0.6	
1639.71	?			0.1	?
1639.80	?			0.1	?
1639.974	C13O16	(2-1)	P88	b 0.2	
1639.98	CO	(20-19)	P4	0.1	
1640.081	?			0.1	?
1640.148	?			0.2	?
1640.249	CO	(17-16)	P24	0.4	
1640.481	?			0.2	?
1640.641	CO	(3-2)	P88	7.7	
1640.777	?			1.1	?
1640.911	?			0.1	?
1640.984	C13O16	(7-6)	P68	0.2	
1641.045	CO	(9-8)	P64	4.6	
1641.174	?			0.2	?
1641.283	C13O16	(3-2)	P84	0.3	
1641.523	CO	(11-10)	P55	3.0	
1641.702	Mg	5p ³ P ₁ - 6s ³ S ₁		8.3	
1641.905	C13O16	(6-5)	P72	0.2	
1641.967	CO	(15-14)	P35	0.8	
1642.046	C13O16	(4-3)	P80	0.3	
1642.179	CO	(4-3)	P84	7.6	
1642.258	C13O16	(5-4)	P76	0.2	
1642.378	CO	(1-0)	P95	5.7	
1642.475	CO	(8-7)	P68	5.4	
1642.543	C13O16	(9-8)	P59	0.2	
1642.645	?			0.1	?
1642.87	?			0.1	?
1642.993	Mg	5p ³ P ₀ - 6s ³ S ₁		3.4	
1643.097	CO	(12-11)	P50	2.6	
1643.140	CO	(5-4)	P80	7.5	
1643.26	CO	(18-17)	P17	b 0.2	
1643.295	CO	(7-6)	P72	6.1	
1643.338	CO	(14-13)	P40	bs 1	
1643.514	CO	(6-5)	P76	7.0	
1643.707	CO	(13-12)	P45	1.7	
1643.854	CO	(16-15)	P29	0.6	
1644.231	C13O16	(1-0)	P91	0.1	
1644.29	CO	(19-18)	P10	b 0.1	
1644.29	CO	(17-16)	P23	0.3	

1638-1646 cm^{-1} (Continued)

1644.336	CO	(10-9)	P59	3.9	
1644.692	?			0.1	?
1644.735	C13O16	(8-7)	P63	0.2	
1644.928	CO	(2-1)	P91	7.5	
1645.166	?			0.3	?
1645.961	C13O16	(2-1)	P87	0.2	

1646-1654 cm⁻¹

1646.360							
1646.423	C13O16	(7-6)	P67		0.2		
1646.522	CO	(15-14)	P34		0.9		
1646.690	CO	(9-8)	P63		4.7		
1646.912	CO	(11-10)	P54		3.2		
1647.054	CO	(3-2)	P87		8.0		
1647.152	CO	(18-17)	P16		0.2		
1647.40	C13O16	(3-2)	P83		0.3		
1647.624	C13O16	(6-5)	F71		b 0.3		
1647.795	C13O16	(9-8)	P58		0.2		
1647.878	C13O16	(4-3)	F79		0.3		
1647.976	C13O16	(5-4)	F75		0.3		
1648.090	CO	(14-13)	P39		1.2		
1648.09	CO	(8-7)	P67		b 6		
1648.09	CO	(12-11)	P49		b 2*		
1648.31	CO	(16-15)	P28		b <1		
1648.322	CO	(17-16)	P22		b 0.3		
1648.528	CO	(4-3)	P83		b 8		
1648.875	CO	(13-12)	P44		1.8		
1649.046	CO	(1-0)	P94		6.2		
1649.155	CO	(7-6)	P71		6.5		
1649.398	CO	(5-4)	P79		7.6		
1649.458	CO	(6-5)	P75		7.2		
1649.647	?				0.3		?
1649.745	CO	(10-9)	P58		4.2		
1649.846	Si	5p ³ P ₂ - 4d ³ D ₃			6.2		
1649.937	?				0.3		?
1649.96	C13O16	(8-7)	P62		0.4		?
1650.066	?				b 0.2		
1650.211	?				0.6		
1650.314	C13O16	(1-0)	P90		0.1		?
1650.67	?				0.2		
1650.721	?				0.1		?
1650.81	CO	(18-17)	P15		b 0.1		
1650.849	CO	(15-14)	P33		0.8		
1651.301	CO	(2-1)	P90		8.0		
1651.710	C13O16	(7-6)	P66		0.2		
1651.831	CO	(11-10)	P53		3.3		
1651.926	C13O16	(2-1)	P86		0.3		
1651.974	CO	(9-8)	P62		4.9		
1652.30	CO	(17-16)	P21		b 0.3		
1652.30	CO	(16-15)	P27		b <1		
1652.586	CO	(14-13)	P38		1.3		
1652.681	C13O16	(9-8)	P57		0.2		
1652.875	C13O16	(6-5)	P70		b 0.3		
1653.001	C13O16	(3-2)	P82		0.3		
1653.058	CO	(12-11)	P48		2.6		
1653.161	CO	(3-2)	P86		8.3		
1653.31	CO	(13-12)	P43		b 2		
1653.48	C13O16	(5-4)	F74		b 0.3		
1653.51	C13O16	(4-3)	F78		b 0.3		
1653.679	CO	(8-7)	P66		6.0		

1654-1662 cm⁻¹

1654.445	CO	(4-3)	P82	8.3	
1654.54	CO	(18-17)	P14	b 0.1	
1654.772	CO	(7-6)	P70	7.0	
1654.931	CO	(10-9)	P57	4.3	
1655.147	CO	(5-4)	P78	8.0	
1655.147	C13O16	(8-7)	P61	b 0.2	
1655.24	CO	(15-14)	P32	b 1	
1655.258	CO	(6-5)	P74	7.6	
1655.350	CO	(1-0)	P93	6.6	
1655.45	?			0.2	?
1655.753	?			0.1	?
1656.253	CO	(17-16)	P20	0.3	
1656.384	C13O16	(1-0)	P89	0.2	
1656.42	Fe	5p ⁷ D ₃ - 4d f ⁵ F ₄		0.1	
1656.477	CO	(16-15)	P26	0.6	
1656.829	?			0.8	?
1656.944	CO	(11-10)	P52	3.4	
1657.03	C13O16	(7-6)	P65	b 0.3	
1657.13	?	(14-13)	P37	s 0.4	?
1657.167	CO			1.3	
1657.26	?			0.2	?
1657.35	?			s 0.8	?
1657.399	CO	(9-8)	P61	5.4	
1657.48	?			0.1	?
1657.544	?			0.1	?
1657.59	?			0.1	?
1657.652	CO	(2-1)	P89	8.1	
1657.712	C13O16	(9-8)	P56	0.2	
1657.872	C13O16	(2-1)	P85	0.3	
1657.999	CO	(12-11)	P47	2.6	
1658.079	CO	(13-12)	P42	2.0	
1658.23	CO	(18-17)	P13	0.1	
1658.327	C13O16	(6-5)	P69	b 0.3	
1658.327	?			1.6	?
1658.404	?			0.2	?
1658.820	C13O16	(3-2)	P81	0.3	
1658.87	?			0.1	?
1659.053	C13O16	(5-4)	P73	0.3	
1659.21	C13O16	(4-3)	P77	b 0.4	
1659.243	CO	(8-7)	P65	6.0	
1659.38	Si	4d ³ F ₃ - 4f ² [2 $\frac{1}{2}$] ³		b	
1659.386	CO	(3-2)	P85	9.2	
1659.54	?			0.1	?
1659.612	CO	(15-14)	P31	0.9	
1660.17	CO	(17-16)	P19	b 0.3	
1660.187	CO	(10-9)	P56	4.4	
1660.311	C13O16	(8-7)	P60	0.3	
1660.362	?			0.4	?
1660.472	CO	(7-6)	P69	7.0	
1660.542	CO	(4-3)	P81	9.2	
1660.624	CO	(16-15)	P25	0.6	
1661.10	CO	(6-5)	P73	b 8	
1661.11	CO	(5-4)	P77	b 8 ⁺	
1661.48	?			0.3	?

1654-1662 cm^{-1} (Continued)

1661.55	?			0.2	?
1661.670	?			0.1	?
1661.717	CO	(14-13)	P36	1.3	
1661.802	CO	(1-0)	P92	7.0	
1661.890	CO	(18-17)	P12	0.1	

1662-1670 cm⁻¹

1662.030	CO	(11-10)	P51	3.6	
1662.319	Cl3O16	(7-6)	P64	0.3	
1662.375	?			0.2	?
1662.416	Cl3O16	(1-0)	P88	0.2	
1662.684	Si	4d ³ F ⁰ ₂ - 4f ² [3 ₂] ¹ ₃	P55	6.0	
1662.72	Cl3O16	(9-8)	P60	b 0.2	
1662.795	CO	(9-8)	P41	b 5	
1662.81	CO	(13-12)	P46	b 2	
1662.910	CO	(12-11)	P68	2.6	
1663.753	Cl3O16	(6-5)	P84	0.3	
1663.793	Cl3O16	(2-1)	P30	0.3	
1663.94	CO	(15-14)	P88	b 1	
1663.981	CO	(2-1)	P18	8.6	
1664.060	CO	(17-16)	P72	0.3	
1664.61	Cl3O16	(5-4)	P80	b 0.3	
1664.62	Cl3O16	(3-2)	P24	b 0.4	
1664.73	CO	(16-15)	P64	bs <1	
1664.782	CO	(8-7)	P76	6.3	
1664.894	Cl3O16	(4-3)	P55	0.4	?
1664.95	?		P59	0.1	
1665.418	CO	(10-9)	P11	4.5	
1665.46	Cl3O16	(8-7)	P84	b 0.3	
1665.51	CO	(18-17)	P84	0.1	
1665.588	CO	(3-2)	P50	9.2	
1665.64	?			0.1	?
1665.79	?			0.1	?
1666.148	CO	(7-6)	P68	7.4	
1666.239	CO	(14-13)	P35	1.4	
1666.418	?			0.1	?
1666.616	CO	(4-3)	P80	9.2	
1666.904	CO	(6-5)	P72	8.3	
1667.057	CO	(5-4)	P76	8.9	
1667.09	CO	(11-10)	P50	b 4	
1667.182	?			0.1	?
1667.322	?			0.1	?
1667.515	CO	(13-12)	P40	2.0	
1667.595	Cl3O16	(7-6)	P63	0.3	
1667.70	Cl3O16	(9-8)	P54	0.2	
1667.793	CO	(12-11)	P45	2.6	
1667.914	CO	(17-16)	P17	0.3	
1668.170	CO	(9-8)	P59	5.5	
1668.233	CO	(1-0)	P91	b 7.5	
1668.25	CO	(15-14)	P29	b 1	
1668.420	Si	4f G ² [3 ₂] ¹ ₄ - 5d ³ F ⁰ ₃	P87	0.6	
1668.439	Cl3O16	(1-0)	P23	b 0.2	?
1668.659	?			0.2	
1668.820	CO	(16-15)	P23	0.6	
1669.024	?			0.1	?
1669.057	?			0.1	?
1669.097	CO	(18-17)	P10	0.1	
1669.16	Cl3O16	(6-5)	P67	b 0.4	
1669.494	Si	4p ³ D ₃ - 3d ³ F ⁰ ₃	P83	4.0	
1669.695	Cl3O16	(2-1)	P83	0.3	
1669.763	?			0.2	?
1669.93	?			0.2	?

1670-1678 cm⁻¹

1670.137	C13O16	(5-4)	P71	0.3	
1670.29	CO	(2-1)	P87	b 9.0	
1670.29	CO	(8-7)	P63	b 7	
1670.398	C13O16	(3-2)	P79	0.4	?
1670.48	?			0.2	
1670.550	C13O16	(4-3)	P75	0.4	
1670.57	C13O16	(8-7)	P58	b 0.3	
1670.621	CO	(10-9)	P54	4.6	
1670.730	CO	(14-13)	P34	1.4	
1670.864	?			0.2	?
1671.74	CO	(17-16)	P16	b 0.3	
1671.767	CO	(3-2)	P83	9.8	
1671.797	CO	(7-6)	P67	b 8	
1671.88	?			0.1	?
1671.991	?			0.1	?
1672.119	CO	(11-10)	P49	3.7	
1672.190	CO	(13-12)	P39	2.1	
1672.272	?			0.3	?
1672.39	?			0.1	?
1672.519	CO	(15-14)	P28	b 0.8	
1672.64	CO	(12-11)	P44	b 3	
1672.66	CO	(18-17)	P9	b <0.1	
1672.67	CO	(4-3)	P79	b 9 ⁺	
1672.67	C13O16	(9-8)	P53	b 0.2	
1672.68	CO	(6-5)	P71	b 9	
1672.78	?			0.1	?
1672.84	C13O16	(7-6)	P62	bs 0.3	
1672.872	CO	(16-15)	P22	b 0.6	
1672.976	CO	(5-4)	P75	9.2	
1673.39	?			0.1	?
1673.516	CO	(9-8)	P58	5.8	
1673.97	?			0.2	?
1674.393	?			0.6	?
1674.434	C13O16	(1-0)	P86	0.3	
1674.533	C13O16	(6-5)	P66	0.4	
1674.641	CO	(1-0)	P90	7.7	
1674.866	?			0.1	?
1675.19	CO	(14-13)	P33	b 1 ⁺	
1675.334	?			0.1	?
1675.53	CO	(17-16)	P15	b 0.3	
1675.57	C13O16	(2-1)	P82	b 0.3	
1675.649	C13O16	(5-4)	P70	0.3	
1675.67	C13O16	(8-7)	P57	b 0.3	
1675.78	CO	(8-7)	P62	b 7	
1675.79	CO	(10-9)	P53	b 5	
1676.150	CO	(3-2)	P78	0.5	
1676.18	C13O16	(4-3)	P74	b 0.5	
1676.18	CO	(18-17)	P8	b <0.1	
1676.570	CO	(2-1)	P86	9.2	
1676.769	CO	(15-14)	P27	0.8	
1676.835	CO	(13-12)	P38	2.1	
1676.892	CO	(16-15)	P21	0.5	
1677.121	CO	(11-10)	P48	3.8	
1677.422	CO	(7-6)	P66	7.9	

1670-1678 cm^{-1} (Continued)

1677.473	CO	(12-11)	P43	2.9
1677.595	C13O16	(9-8)	P52	0.2
1677.79	?			0.1
1677.923	CO	(3-2)	P82	9.9

1678-1686 cm⁻¹

1678.074	Cl3O16	(7-6)	P61	0.3	
1678.18	?			0.1	?
1678.450	CO	(6-5)	P70	9.0	
1678.693	CO	(4-3)	P78	9.6	
1678.834	CO	(9-8)	P57	6.0	
1678.871	CO	(5-4)	P74	9.5	
1679.152	?			0.1	?
1679.300	CO	(17-16)	P14	0.3	
1679.367	?			0.1	?
1679.509	?			0.2	?
1679.623	CO	(14-13)	P32	1.5	
1679.68	CO	(18-17)	P7	0.1	
1679.888	Cl3O16	(6-5)	P65	0.4	
1680.072	Si	nd a ³ P ₂ - 5f [2 ₂ ¹] ₃		2.8	
1680.18	?			0.1	?
1680.30	?			0.1	?
1680.416	Cl3O16	(1-0)	P85	0.3	
1680.728	Cl3O16	(8-7)	P56	0.3	
1680.814	Si	3s ² 3pnd a ³ P ₂ - 5f [2 ₂ ¹] ₂		0.4	
1680.881	CO	(16-15)	P20	b 0.5	
1680.946	CO	(10-9)	P52	4.9	
1680.98	CO	(15-14)	P26	b 1	
1681.026	CO	(1-0)	P89	8.4	
1681.13	Cl3O16	(5-4)	P69	b 0.4	
1681.241	CO	(8-7)	P61	7.1	
1681.324	Si	4d ³ F ₃ - 4f G ² [4 ₂ ¹] ₄		6.0	
1681.44	Cl3O16	(2-1)	P81	b 0.4	
1681.451	CO	(13-12)	P37	2.2	
1681.538	?			0.5	?
1681.789	Cl3O16	(4-3)	P73	0.5	
1681.886	Cl3O16	(3-2)	P77	0.5	
1682.096	CO	(11-10)	P47	3.9	
1682.270	CO	(12-11)	P42	3.0	
1682.501	Cl3O16	(9-8)	P51	0.3	
1682.830	CO	(2-1)	P85	9.8	
1682.928	?			0.1	?
1683.022	CO	(7-6)	P65	8.1	
1683.022	CO	(17-16)	P13	b 0.2	
1683.269	Cl3O16	(7-6)	P60	0.3	
1683.674	?			0.4	?
1684.025	CO	(14-13)	P31	b 1 ⁺	
1684.056	CO	(3-2)	P81	10.7	
1684.127	CO	(9-8)	P56	6.1	
1684.186	CO	(6-5)	P69	9.2	
1684.310	?			0.1	?
1684.695	CO	(4-3)	P77	10.7	
1684.741	CO	(5-4)	P73	9.9	
1684.83	CO	(16-15)	P19	bs 0.5	
1685.162	CO	(15-14)	P25	0.9	
1685.223	Cl3O16	(6-5)	P64	0.4	
1685.764	Cl3O16	(8-7)	P55	0.3	

1686-1694 cm⁻¹

1686.03	CO	(13-12)	P36	bs 2	
1686.067	CO	(10-9)	P51	5.2	
1686.365	C13O16	(1-0)	P84	0.3	
1686.586	C13O16	(5-4)	P68	0.5	
1686.675	CO	(8-7)	P60	7.5	
1686.71	CO	(17-16)	P12	b 0.2	?
1686.75	?			0.1	?
1686.866	?			0.1	
1687.04	CO	(12-11)	P41	b 3	
1687.040	CO	(11-10)	P46	b 4	
1687.260	C13O16	(2-1)	P80	0.4	?
1687.31	?			0.1	
1687.37	C13O16	(4-3)	P72	b 0.5	
1687.38	C13O16	(9-8)	P50	b 0.3	
1687.389	CO	(1-0)	P88	9.0	
1687.472	?			0.1	?
1687.599	C13O16	(3-2)	P76	0.5	
1687.68	?			0.1	?
1687.728	?			0.1	?
1687.874	?			0.4	?
1688.074	?			0.1	?
1688.265	?			0.5	?
1688.392	CO	(14-13)	P30	bs 1 ⁺	
1688.44	C13O16	(7-6)	P59	bs 0.3	
1688.595	CO	(7-6)	P64	8.7	
1688.761	CO	(16-15)	P18	0.5	
1689.067	CO	(2-1)	P84	10.2	
1689.313	CO	(15-14)	P24	0.9	
1689.393	CO	(9-8)	P55	6.3	
1689.896	CO	(6-5)	P68	9.2	
1689.94	CO	(18-17)	P4	0.1	
1690.16	CO	(3-2)	P80	11.5	
1690.37	CO	(17-16)	P11	0.2	
1690.529	C13O16	(6-5)	P63	0.4	
1690.587	CO	(5-4)	P72	10.6	
1690.59	CO	(13-12)	P35	b 2	
1690.673	CO	(4-3)	P76	10.7	
1690.789	C13O16	(8-7)	P54	0.3	?
1690.939	?			0.1	
1691.002	?			0.1	?
1691.075	?			0.1	?
1691.160	CO	(10-9)	P50	5.3	
1691.241	?			0.2	?
1691.48	?			0.1	?
1691.70	?			0.1	?
1691.777	CO	(12-11)	P40	3.1	
1691.960	CO	(11-10)	P45	4.0	
1692.022	C13O16	(5-4)	P67	0.5	
1692.082	CO	(8-7)	P59	7.6	
1692.23	C13O16	(9-8)	P49	b 0.3	
1692.297	C13O16	(1-0)	P83	0.3	
1692.412	?			0.1	?
1692.653	CO	(16-15)	P17	b 0.5	
1692.734	CO	(14-13)	P29	1.5	
1692.938	C13O16	(4-3)	P71	0.5	
1693.070	C13O16	(2-1)	P79	0.5	

1686-1694 cm^{-1} (Continued)

1693.286	C13O16	(3-2)	P75	0.5
1693.430	CO	(15-14)	P23	0.8
1693.522	?			0.1
1693.594	C13O16	(7-6)	P58	0.3
1693.729	CO	(1-0)	P87	9.2
1693.996	CO	(17-16)	P10	0.2

?

1694-1702 cm⁻¹

1694.142	CO	(7-6)	P63	8.6	?
1694.211	?			0.1	?
1694.28	?			0.1	?
1694.38	?			0.1	?
1694.46	?			0.1	?
1694.631	CO	(9-8)	P54	6.7	
1694.703	?			0.1	?
1694.832	Si	4d ¹ P ₁ - 6p ($\frac{1}{2}, \frac{3}{2}$) ₂		0.5	
1694.927	?			0.1	?
1695.120	CO	(13-12)	P34	2.2	
1695.280	CO	(2-1)	P83	10.7	
1695.347	Si	5p ³ D ₃ - 4d ¹ F ₃		0.6	
1695.582	CO	(6-5)	P67	9.5	
1695.773	Cl3O16	(8-7)	P53	0.3	
1695.81	Cl3O16	(6-5)	P62	b 0.4	
1696.23	CO	(10-9)	P49	b 5 ⁺	
1696.24	CO	(3-2)	P79	b 11.5	
1696.407	CO	(5-4)	P71	10.4	
1696.486	CO	(12-11)	P39	3.2	
1696.49	Fe(?)	5p ⁷ D ₂ - f ⁵ F ₂		b	
1696.51	CO	(16-15)	P16	b <1	
1696.627	CO	(4-3)	P75	10.9	
1696.731	Mg	6h - 9i		0.3	
1696.849	CO	(11-10)	P44	4.1	
1697.044	CO	(14-13)	P28	1.5	
1697.06	Cl3O16	(9-8)	P48	b 0.3	
1697.120	?			0.1	?
1697.225	?			0.1	?
1697.29	?			0.1	?
1697.43	Cl3O16	(5-4)	P66	b 0.5	
1697.463	CO	(8-7)	P58	8.0	
1697.520	CO	(15-14)	P22	b 1	
1697.59	CO	(17-16)	P9	b 0.2	
1697.942	Si	4d ³ D ₃ - 6p ($\frac{1}{2}, \frac{1}{2}$) ₂		1.2	
1697.97	S(?)	3s 3p ⁵ ³ P ₀ - 3s ² 3p ³ 5p ³ P ₁		bs <<1	
1698.208	Cl3O16	(1-0)	P82	0.4	
1698.477	Cl3O16	(4-3)	P70	0.5	
1698.720	Cl3O16	(7-6)	P57	0.3	
1698.858	Cl3O16	(2-1)	P78	0.5	
1698.954	Cl3O16	(3-2)	P74	0.5	
1699.61	CO	(13-12)	P33	b 2	
1699.664	CO	(7-6)	P62	9.2	
1699.842	CO	(9-8)	P53	6.7	
1700.047	CO	(1-0)	P86	9.5	
1700.341	CO	(16-15)	P15	0.5	
1700.746	Cl3O16	(8-7)	P52	0.4	
1701.061	Cl3O16	(6-5)	P61	0.4	
1701.15	CO	(17-16)	P8	b 0.2	
1701.17	CO	(12-11)	P38	bs 3	
1701.24	CO	(6-5)	P66	b 10	
1701.26	CO	(10-9)	P48	b 5 ⁺	
1701.323	CO	(14-13)	P27	1.5	
1701.470	CO	(2-1)	P82	10.9	

1694-1702 cm^{-1} (Continued)

1701.573	CO	(15-14)	P21	0.8
1701.710	CO	(11-10)	P43	4.3
1701.792	?			0.1
1701.861	C13O16	(9-8)	P47	0.3

1702-1710 cm⁻¹

1702.06	C13O16	(10-9)	P42	0.1	?
1702.131	?			0.1	
1702.203	CO	(5-4)	P70	10.6	
1702.310	CO	(3-2)	P78	11.7	
1702.451	?			0.4	?
1702.556	CO	(4-3)	P74	11.2	
1702.818	CO	(8-7)	P57	8.1	
1702.818	C13O16	(5-4)	P65	b 0.6	
1703.185	?			0.2	?
1703.261	?			0.1	?
1703.388	Si	5p ³ P ₁ - 4d ³ D ₂		4.9	
1703.478	?			0.1	?
1703.664	?			0.1	?
1703.820	C13O16	(7-6)	P56	0.4	
1703.92	C12O18	(6-5)	P60	0.1	
1703.992	C13O16	(4-3)	P69	0.6	
1704.085	CO	(13-12)	P32	2.2	
1704.09	C13O16	(1-0)	P81	b 0.4	
1704.134	CO	(16-15)	P14	bs <1	
1704.60	C13O16	(3-2)	P73	b <1	
1704.629	C13O16	(2-1)	P77	0.6	
1704.674	CO	(17-16)	P7	0.1	
1705.026	CO	(9-8)	P52	6.9	
1705.159	CO	(7-6)	P61	9.2	
1705.25	?			0.1	?
1705.570	CO	(14-13)	P26	1.5	
1705.59	CO	(15-14)	P20	bs 1	
1705.677	C13O16	(8-7)	P51	0.3	
1705.818	CO	(12-11)	P37	3.2	
1706.273	CO	(10-9)	P47	5.6	
1706.29	C13O16	(6-5)	P60	b 0.4	
1706.341	CO	(1-0)	P85	10.1	
1706.542	CO	(11-10)	P42	4.4	
1706.633	C13O16	(9-8)	P46	0.2	
1706.876	CO	(6-5)	P65	10.4	
1707.108	C12O18	(4-3)	P68	0.1	
1707.637	CO	(2-1)	P81	11.5	
1707.85	C12O18	(3-2)	P72	0.1	
1707.895	CO	(16-15)	P13	0.5	
1707.973	CO	(5-4)	P69	10.7	
1708.145	CO	(8-7)	P56	8.2	
1708.17	CO	(17-16)	P6	b 0.1	
1708.18	C13O16	(5-4)	P64	bs 0.6	
1708.270	?			0.1	?
1708.347	CO	(3-2)	P77	11.9	
1708.461	CO	(4-3)	P73	11.6	
1708.519	CO	(13-12)	P31	2.2	
1708.70	?			0.1	?
1708.889	C13O16	(7-6)	P55	0.4	
1709.00	CO	(20-19)	R19	0.2	
1709.09	C12O18	(6-5)	P59	0.1	
1709.24	?			0.1	?
1709.34	?			0.1	?

1702-1710 cm^{-1} (Continued)

1709.484	C13O16	(4-3)	P68	0.6
1709.587	CO	(15-14)	P19	0.8
1709.696	?			0.4
1709.786	CO	(14-13)	P25	1.4
1709.959	C13O16	(1-0)	P80	0.4

?

1710-1718 cm^{-1} (Continued)

1716.683	C13O16	(6-5)	P58	0.5
1717.141	?			0.1
1717.301	CO	(13-12)	P29	2.3
1717.47	CO	(15-14)	P17	b 1
1717.97	C12O18	(4-3)	P66	0.1

1718-1726 cm⁻¹

1718.066	CO	(6-5)	P63	10.7	
1718.125	CO	(14-13)	P23	1.4	
1718.267	?			0.2	?
1718.436	CO	(17-16)	P3	0.1	
1718.718	CO	(8-7)	P54	8.9	
1718.83	C13O16	(5-4)	P62	b 0.6	
1718.86	CO	(1-0)	P83	bs 11	
1718.960	C13O16	(7-6)	P53	b 0.4	
1718.97	C12O18	(3-2)	P70	b 0.1	
1718.975	CO	(16-15)	P10	b 0.4	
1719.118	?			0.1	?
1719.38	C12O18	(6-5)	P57	0.1	
1719.439	CO	(5-4)	P67	11.5	
1719.593	CO	(12-11)	P34	3.7	
1719.900	CO	(2-1)	P79	12.4	
1720.197	CO	(4-3)	P71	12.2	
1720.34	C13O16	(8-7)	P48	b 0.4	
1720.348	CO	(3-2)	P75	13.0	
1720.40	C13O16	(4-3)	P66	b 1	
1720.411	CO	(9-8)	P49	7.6	
1720.548	Si	4f ³ G ₅ - 5d ³ F ₄		2.2	
1720.70	CO	(20-19)	R24	0.1	
1720.791	C13O16	(9-8)	P43	0.3	
1720.865	CO	(11-10)	P39	4.6	
1721.132	CO	(10-9)	P44	6.2	
1721.37	CO	(15-14)	P16	b 1	
1721.371	C13O16	(3-2)	P70	b 1	
1721.487	CO	(7-6)	P58	9.8	
1721.62	C13O16	(1-0)	P78	b <1	
1721.644	CO	(13-12)	P28	2.4	
1721.67	C12O18	(5-4)	P61	bs 0.1	
1721.784	C13O16	(2-1)	P74	0.8	
1721.79	CO	(17-16)	P2	b 0.1	
1721.839	C13O16	(6-5)	P57	0.5	?
1721.909	?			0.2	
1721.95	CO	(19-18)	R14	0.1	?
1722.04	?			0.1	
1722.246	CO	(14-13)	P22	1.4	?
1722.32	?			0.1	?
1722.38	?			0.1	?
1722.608	CO	(16-15)	P9	0.4	?
1722.690	?			0.2	?
1722.850	?			0.1	?
1722.92	CO	(20-19)	R25	0.1	?
1723.011	?			0.1	?
1723.092	?			0.1	?
1723.243	?			0.1	?
1723.373	C12O18	(4-3)	P65	0.1	
1723.623	CO	(6-5)	P62	11.0	
1723.96	C13O16	(7-6)	P52	b 0.4	
1723.965	CO	(8-7)	P53	9.2	
1724.125	C13O16	(5-4)	P61	b 0.6	
1724.125	CO	(12-11)	P33	3.7	
1724.436	?			0.1	?

1718-1726 cm⁻¹ (Continued)

1724.49	C12018	(3-2)	P69	b 0.1
1724.49	C12018	(6-5)	P56	0.2
1724.59	CO	(19-18)	R15	0.1
1724.738	?			0.2
1724.82	C13016	(10-9)	P37	0.1
1724.92	CO	(18-17)	R6	0.1
1725.085	CO	(1-0)	P82	11.5
1725.134	CO	(5-4)	P66	12.2
1725.17	C13016	(8-7)	P47	b 0.4
1725.228	CO	(15-14)	P15	0.7
1725.46	C13016	(9-8)	P42	b 0.3
1725.484	CO	(9-8)	P48	7.6
1725.580	CO	(11-10)	P38	4.7
1725.742	?			0.1
1725.815	C13016	(4-3)	P65	0.8
1725.901	?			0.2
1725.96	CO	(13-12)	P27	bs 2.3
1725.996	CO	(2-1)	P78	b 13

1726-1734 cm^{-1}

1726.028	CO	(4-3)	P70	b 13	
1726.028	CO	(10-9)	P43	b 6	
1726.202	CO	(16-15)	P8	0.3	
1726.313	CO	(3-2)	P74	13.6	
1726.33	CO	(14-13)	P21	b 1.3	
1726.369	Fe	$4p\ z\ ^3D_2 - c\ ^3F_3$		2.0	?
1726.52	?			0.1	?
1726.68	?			0.1	
1726.876	CO	(7-6)	P57	10.4	
1726.91	C12O18	(5-4)	P60	bs 0.1	
1726.924	C13O16	(3-2)	P69	bs 1	
1726.972	C13O16	(6-5)	P56	0.5	?
1727.069	?			0.1	
1727.19	CO	(19-18)	R16	0.1	
1727.26	CO	(20-19)	R27	0.1	?
1727.339	?			0.1	
1727.420	C13O16	(1-0)	P77	0.5	
1727.456	C13O16	(2-1)	P73	0.9	
1727.60	?			0.1	?
1727.710	Si	$5p\ ^3P_1 - 4d\ ^3D_1$		3.1	
1727.883	CO	(18-17)	R7	0.1	
1727.977	?			0.1	?
1728.031	?			0.1	?
1728.121	?			0.1	?
1728.18	?			0.2	?
1728.274	?			0.1	?
1728.627	CO	(12-11)	P32	3.6	
1728.745	C12O18	(4-3)	P64	0.1	
1728.929	C13O16	(7-6)	P51	0.4	
1729.011	?			0.1	?
1729.058	CO	(15-14)	P14	0.7	
1729.153	CO	(6-5)	P61	b 11 ⁺	
1729.18	CO	(8-7)	P52	b 10	
1729.294	C13O16	(10-9)	P36	0.1	
1729.388	C13O16	(5-4)	P60	0.6	
1729.476	?			0.2	?
1729.581	C12O18	(6-5)	P55	0.2	
1729.649	?			0.2	?
1729.689	?			0.5	?
1729.755	CO	(16-15)	P7	0.3	
1729.76	CO	(19-18)	R17	b 0.1	
1729.898	?			0.1	?
1729.984	C13O16	(8-7)	P46	0.4	
1730.00	C12O18	(3-2)	P68	0.2	
1730.10	C13O16	(9-8)	P41	b 0.3	
1730.24	CO	(13-12)	P26	bs 2 ⁺	
1730.265	CO	(11-10)	P37	4.8	
1730.39	CO	(14-13)	P20	b 1 ⁺	
1730.529	CO	(9-8)	P47	7.8	
1730.67	C12O18	(2-1)	P72	0.1	
1730.803	CO	(5-4)	P65	12.2	
1730.81	CO	(18-17)	R8	b 0.1	
1730.895	CO	(10-9)	P42	6.4	
1730.996	?			0.1	?
1731.084	?			0.3	?
1731.212	C13O16	(4-3)	P64	0.9	

1726-1734 cm⁻¹ (Continued)

1731.287	CO	(1-0)	P81	11.8	
1731.65	CO	(17-16)	R0	0.1	
1731.833	CO	(4-3)	P69	13.0	
1732.067	CO	(2-1)	P77	13.1	
1732.08	C13O16	(6-5)	P55	b 0.6	
1732.13	C12O18	(5-4)	P59	0.1	
1732.24	CO	(7-6)	P56	b 11	
1732.247	CO	(3-2)	P73	b 13.8	
1732.29	CO	(19-18)	R18	b 0.1	
1732.347	?			0.2	?
1732.377	?			0.1	?
1732.448	C13O16	(3-2)	P68	0.8	?
1732.589	?			0.2	?
1732.64	?			0.1	?
1732.72	?			0.1	?
1732.807	?			0.2	?
1732.851	CO	(15-14)	P13	0.6	
1733.099	CO	(12-11)	P31	3.8	
1733.10	C13O16	(2-1)	P72	b 1	
1733.194	C13O16	(1-0)	P76	0.7	
1733.29	CO	(16-15)	P6	0.3	
1733.71	CO	(18-17)	R9	b 0.2	
1733.73	C13O16	(10-9)	P35	b 0.1	
1733.80	?			0.1	?
1733.874	C13O16	(7-6)	P50	0.5	

1734-1742 cm⁻¹

1734.004	?				0.1	?
1734.090	C12018	(4-3)	P63		0.1	
1734.376	CO	(8-7)	P51		9.5	
1734.42	CO	(14-13)	P19		1*	
1734.495	CO	(13-12)	P25		2.3	
1734.63	C13016	(5-4)	P59		b 0.7	
1734.64	C12018	(6-5)	P54		b 0.1	
1734.655	CO	(6-5)	P60		11.6	
1734.72	C13016	(9-8)	P40		b 0.3	
1734.76	C13016	(8-7)	P45		b 0.4	
1734.77	CO	(19-18)	R19		0.1	
1734.87	CO	(17-16)	R1		0.1	
1734.923	CO	(11-10)	P36		4.9	
1735.45	CO	(20-19)	R31		0.1	
1735.47	C12018	(3-2)	P67		b 0.2	
1735.546	CO	(9-8)	P46		8.0	
1735.619	?				0.1	?
1735.734	CO	(10-9)	P41		6.4	?
1735.959	?				0.1	?
1736.03	C13016	(11-10)	P29		0.1	
1736.266	C12018	(2-1)	P71		0.1	
1736.307	?				0.1	
1736.446	CO	(5-4)	P64		12.4	
1736.50	C12018	(1-0)	P75		0.1	
1736.57	CO	(18-17)	R10		b 0.2	
1736.581	C13016	(4-3)	P63		0.9	
1736.616	CO	(15-14)	P12		b 0.6	
1736.781	CO	(16-15)	P5		0.3	
1737.041	?				0.1	?
1737.105	?				0.1	?
1737.162	C13016	(6-5)	P54		0.6	
1737.22	CO	(19-18)	R20		0.1	
1737.33	C12018	(5-4)	P58		0.1	
1737.40	CO	(20-19)	R32		0.1	
1737.465	CO	(1-0)	P80		12.2	
1737.54	CO	(12-11)	P30		bs 4	
1737.574	CO	(7-6)	P55		10.9	
1737.615	CO	(4-3)	P68		13.8	
1737.949	C13016	(3-2)	P67		0.9	
1738.042	CO	(17-16)	R2		0.1	
1738.115	CO	(2-1)	P76		13.8	
1738.168	CO	(3-2)	P72		13.8	
1738.415	CO	(14-13)	P18		1.3	
1738.528	?				0.2	?
1738.589	?				0.4	?
1738.713	CO	(13-12)	P24		b 2.3	
1738.74	C13016	(2-1)	P71		b 1	
1738.792	C13016	(7-6)	P49		0.5	
1738.950	C13016	(1-0)	P75		0.8	
1739.296	C13016	(9-8)	P39		b 0.3	
1739.31	CO	(20-19)	R33		0.1	
1739.39	CO	(18-17)	R11		b 0.2	
1739.410	C12018	(4-3)	P62		b 0.1	
1739.51	C13016	(8-7)	P44		b 0.4	
1739.541	CO	(8-7)	P50		b 10	
1739.55	CO	(11-10)	P35		b 5	

1734-1742 cm⁻¹ (Continued)

1739.64	CO	(19-18)	R21	0.1	
1739.67	C12O18	(6-5)	P53	0.2	
1739.84	C13O16	(5-4)	P58	bs 0.7	
1740.135	CO	(6-5)	P59	11.6	
1740.24	C13O16	(11-10)	P28	b 0.1	
1740.242	CO	(16-15)	P4	0.3	
1740.349	CO	(15-14)	P11	0.5	
1740.535	CO	(9-8)	P45	b 8	
1740.54	CO	(10-9)	P40	b 7	
1740.688	?			0.1	?
1740.789	?			0.1	?
1740.927	C12O18	(3-2)	P66	0.2	
1741.112	?			0.1	?
1741.18	CO	(20-19)	R34	b 0.1	
1741.18	CO	(17-16)	R3	b 0.1	
1741.338	?			0.1	?
1741.432	?			0.1	?
1741.72	?			0.1	?
1741.85	C12O18	(2-1)	P70	0.2	
1741.93	C13O16	(4-3)	P62	b 1	
1741.948	CO	(12-11)	P29	3.7	

1742-1750 cm⁻¹

1742.01	CO	(19-18)	R22	b 0.1	?
1742.064	CO	(5-4)	P63	12.4	
1742.17	CO	(18-17)	R12	0.2	
1742.21	C12O18	(1-0)	P74	b 0.1	
1742.214	C13O16	(6-5)	P53	0.6	
1742.31	?			0.1	
1742.377	CO	(14-13)	P17	1.2	
1742.50	C12O18	(5-4)	P57	0.2	
1742.53	C13O16	(10-9)	P33	0.1	
1742.647	?			0.2	
1742.884	CO	(7-6)	P54	10.9	
1742.90	CO	(13-12)	P23	b 2	
1743.01	CO	(20-19)	R35	0.1	
1743.163	?			0.4	
1743.369	CO	(4-3)	P67	13.6	
1743.426	C13O16	(3-2)	P66	1.0	
1743.619	CO	(1-0)	P79	12.5	
1743.66	CO	(16-15)	P3	b <<1	
1743.686	C13O16	(7-6)	P48	0.5	
1743.749	?			0.1	
1743.857	C13O16	(9-8)	P38	0.3	
1743.941	?			0.2	
1744.04	CO	(15-14)	P10	b 0.5	
1744.058	CO	(3-2)	P71	14.2	
1744.140	CO	(2-1)	P75	14.4	
1744.14	CO	(11-10)	P34	b 5	
1744.239	C13O16	(8-7)	P43	0.4	
1744.29	CO	(17-16)	R4	0.1	
1744.339	C13O16	(2-1)	P70	1.2	
1744.35	CO	(19-18)	R23	b 0.1	
1744.41	C13O16	(11-10)	P27	0.1	
1744.459	?			0.1	
1744.675	C13O16	(1-0)	P74	b 1	
1744.675	CO	(8-7)	P49	10.0	
1744.68	C12O18	(6-5)	P52	b 0.1	
1744.71	C12O18	(4-3)	P61	bs 0.1	
1744.80	CO	(20-19)	R36	0.1	
1744.86	?			0.1	
1744.92	CO	(18-17)	R13	0.2	
1745.032	C13O16	(5-4)	P57	0.8	
1745.227	?			0.1	
1745.323	CO	(10-9)	P39	b 7	
1745.494	CO	(9-8)	P44	8.4	
1745.586	CO	(6-5)	P58	12.2	
1745.661	?			0.1	
1745.73	?			0.1	
1746.20	?			0.1	
1746.30	CO	(14-13)	P16	b 1	
1746.331	CO	(12-11)	P28	b 4	
1746.35	C12O18	(3-2)	P65	b 0.2	
1746.54	CO	(20-19)	R37	0.1	
1746.584	?			0.1	
1746.65	CO	(19-18)	R24	0.1	
1746.71	?			0.1	
1746.886	C13O16	(10-9)	P32	0.1	
1747.057	CO	(16-15)	P2	0.2	
				b <<1	

1742-1750 cm⁻¹

1747.057	CO	(13-12)	P22	2.3
1747.249	C13O16	(6-5)	P52	b 0.6
1747.249	C13O16	(4-3)	P61	1.1
1747.325	?			0.2
1747.37	CO	(17-16)	R5	0.1
1747.409	C12O18	(2-1)	P69	0.2
1747.63	C12O18	(5-4)	P56	b 0.1
1747.64	CO	(18-17)	R14	b 0.2
1747.655	CO	(5-4)	P62	13.1
1747.71	CO	(15-14)	P9	bs 0.4
1747.884	C12O18	(1-0)	F73	0.1
1748.165	CO	(7-6)	P53	10.9
1748.26	CO	(20-19)	R38	0.1
1748.393	C13O16	(9-8)	P37	0.3
1748.512	Si	4p ³ D ₂ - 3d ³ F ₂		4.7
1748.55	C13O16	(7-6)	P47	bs 0.5
1748.71	CO	(11-10)	P33	b 5
1748.878	C13O16	(3-2)	P65	1.1
1748.92	CO	(19-18)	R25	0.1
1748.94	C13O16	(8-7)	P42	b 0.4
1749.098	CO	(4-3)	P66	13.8
1749.668	C12O18	(6-5)	P51	0.1
1749.749	CO	(1-0)	P78	b 13.0
1749.783	CO	(8-7)	P48	10.1
1749.92	C13O16	(2-1)	P69	b 1
1749.923	CO	(3-2)	P70	14.5
1749.993	C12O18	(4-3)	P60	0.1

?

1750-1758 cm⁻¹

1750.074	CO	(10-9)	P38	6.9	
1750.138	CO	(2-1)	P74	14.2	
1750.20	C13O16	(5-4)	P56	b 1	
1750.20	CO	(14-13)	P15	b 1	
1750.31	CO	(18-17)	R15	0.2	
1750.38	C13O16	(1-0)	P73	bs 1	
1750.41	CO	(17-16)	R6	b 0.1	
1750.425	CO	(9-8)	P43	8.4	
1750.677	CO	(12-11)	P27	3.6	
1751.01	CO	(6-5)	P57	b 12.4	
1751.13	CO	(19-18)	R26	0.1	
1751.184	CO	(13-12)	P21	2.2	
1751.334	CO	(15-14)	P8	0.5	
1751.75	C12O18	(3-2)	P64	0.2	
1751.780	?		P51	0.1	?
1752.249	C13O16	(6-5)	P51	0.6	
1752.393	?		P60	0.1	?
1752.548	C13O16	(4-3)	P25	1.1	
1752.70	C13O16	(11-10)	P55	0.1	
1752.75	C12O18	(5-4)	P36	0.1	
1752.889	C13O16	(9-8)	P68	0.3	
1752.94	C12O18	(2-1)	R16	b 0.2	
1752.94	CO	(18-17)	R41	0.3	
1753.14	CO	(20-19)	P61	0.1	
1753.220	CO	(5-4)	P32	13.5	
1753.25	CO	(11-10)	R27	b 5	
1753.33	CO	(19-18)	P46	0.1	
1753.39	C13O16	(7-6)	R7	b 0.5	
1753.41	CO	(17-16)	P52	b 0.1	
1753.419	CO	(7-6)	P72	11.3	
1753.545	C12O18	(1-0)	P41	0.1	
1753.611	C13O16	(8-7)	P14	0.4	
1753.72	?		P14	0.1	?
1753.865	?		P64	0.1	?
1754.068	CO	(14-13)	P64	1.0	
1754.23	?		P50	0.1	
1754.306	C13O16	(3-2)	P37	0.1	
1754.475	C12O18	(6-5)	P65	0.1	
1754.621	CO	(10-9)	P47	0.2	
1754.80	CO	(4-3)	P7	b 7	
1754.801	CO	(8-7)	P26	15.1	
1754.863	CO	(15-14)	P59	10.1	
1754.933	CO	(12-11)	P20	0.3	
1754.995	C12O18	(4-3)	P42	3.5	
1755.24	CO	(13-12)	P55	b 0.1	
1755.276	CO	(9-8)	R28	2.1	
1755.328	C13O16	(5-4)	P68	8.7	
1755.34	CO	(19-18)	R17	b 1	
1755.45	C13O16	(2-1)	P69	b 0.1	
1755.477	CO	(18-17)	P77	1.2	
1755.55	?		P72	0.2	
1755.613	CO	(3-2)	P73	0.1	?
1755.764	CO	(1-0)	P69	14.7	
1755.856	CO	(1-0)	P77	13.5	
1756.07	C13O16	(1-0)	P72	bs 1	
1756.112	CO	(2-1)	P73	14.5	

1750-1758 cm^{-1} (Continued)

1756.38	CO	(17-16)	R8	b 0.1
1756.408	CO	(6-5)	P56	12.5
1757.14	C12018	(3-2)	P63	0.2
1757.226	C13016	(6-5)	P50	0.6
1757.363	C13016	(9-8)	P35	0.3
1757.56	CO	(19-18)	R29	0.1
1757.757	CO	(11-10)	P31	5.0
1757.822	C13016	(4-3)	P59	1.0
1757.83	C12018	(5-4)	P54	b 0.1
1757.899	CO	(14-13)	P13	0.9

1758-1766 cm⁻¹

1758.111	CO	(18-17)	R18	0.2	?
1758.205	C13O16	(7-6)	P45	0.5	
1758.260	C13O16	(8-7)	P40	0.3	
1758.448	C12O18	(2-1)	P67	0.3	
1758.492	CO	(15-14)	P6	0.3	
1758.641	CO	(7-6)	P51	11.5	
1758.760	CO	(5-4)	P60	13.8	
1758.854	?			0.1	?
1758.988	?			0.1	?
1759.07	CO	(20-19)	R45	0.1	
1759.175	C12O18	(1-0)	P71	0.2	
1759.218	?			0.2	?
1759.282	CO	(12-11)	P25	3.5	
1759.31	CO	(17-16)	R9	0.1	
1759.339	CO	(13-12)	P19	2.0	
1759.487	CO	(10-9)	P36	6.9	
1759.551	C12O18	(6-5)	P49	0.1	
1759.62	CO	(19-18)	R30	0.1	
1759.709	C13O16	(3-2)	P63	1.2	
1759.790	C13O16	(10-9)	P29	0.1	
1759.860	?			0.1	?
1759.915	CO	(8-7)	P46	10.6	
1760.037	?			0.2	?
1760.201	CO	(9-8)	P41	8.8	
1760.35	?			0.2	?
1760.45	C13O16	(5-4)	P54	b 1	
1760.46	C12O18	(4-3)	P58	b 0.2	
1760.481	CO	(4-3)	P64	15.0	
1760.618	Si	5p ³ P ₀ - 4d ³ D ₁		b 2.3	
1760.63	CO	(18-17)	R19	b 0.2	
1761.010	C13O16	(2-1)	P67	1.3	
1761.283	?			0.2	?
1761.579	CO	(3-2)	P68	15.3	
1761.65	CO	(19-18)	R31	0.1	
1761.696	CO	(14-13)	P12	0.9	
1761.73	C13O16	(1-0)	P71	b 1	
1761.779	CO	(6-5)	P55	12.7	
1761.81	C13O16	(9-8)	P34	b 0.3	
1761.937	CO	(1-0)	P76	13.8	
1762.02	CO	(15-14)	P5	b << 1	
1762.062	CO	(2-1)	P72	15.1	
1762.18	C13O16	(6-5)	P49	b 0.7	
1762.20	CO	(17-16)	R10	b 0.1	
1762.233	CO	(11-10)	P30	5.2	
1762.490	C12O18	(3-2)	P62	0.3	
1762.875	C13O16	(8-7)	P39	0.4	
1762.91	C12O18	(5-4)	P53	0.1	
1762.992	C13O16	(7-6)	P44	0.5	
1763.068	C13O16	(4-3)	P58	1.1	
1763.120	CO	(18-17)	R20	0.2	
1763.368	CO	(13-12)	P18	1.8	
1763.482	?			0.1	?
1763.537	CO	(12-11)	P24	3.5	
1763.64	CO	(19-18)	R32	0.1	
1763.844	CO	(7-6)	P50	11.6	
1763.93	C12O18	(2-1)	P66	0.3	

1758-1766 cm^{-1} (Continued)

1764.028	C13O16	(10-9)	P28	0.1
1764.149	CO	(10-9)	P35	7.0
1764.273	CO	(5-4)	P59	13.9
1764.457	C12O18	(6-5)	P48	0.1
1764.793	C12O18	(1-0)	P70	0.3
1764.938	CO	(8-7)	P45	10.7
1765.046	CO	(9-8)	P40	9.0
1765.06	CO	(17-16)	R11	b 0.2
1765.089	C13O16	(3-2)	P62	bs 1*
1765.426	?			0.1
1765.461	CO	(14-13)	P11	0.8
1765.51	CO	(15-14)	P4	b <<1
1765.537	C13O16	(5-4)	P53	0.9
1765.57	CO	(18-17)	R21	b 0.2
1765.58	CO	(19-18)	R33	b 0.1
1765.665	C12O18	(4-3)	P57	0.2

?

1766-1774 cm⁻¹

1766.133	CO	(4-3)	P63	15.0	
1766.229	C13O16	(9-8)	P33	0.3	
1766.422	?			0.1	?
1766.520	C13O16	(2-1)	P66	1.3	
1766.679	CO	(11-10)	P29	5.3	
1767.10	C13O16	(6-5)	P48	b 0.7	
1767.123	CO	(6-5)	P54	13.5	
1767.36	CO	(13-12)	P17	b 2	
1767.369	C13O16	(1-0)	P70	b 1	
1767.369	CO	(3-2)	P67	15.4	
1767.429	?			0.1	?
1767.47	C13O16	(8-7)	P38	b 0.4	
1767.47	CO	(19-18)	R34	0.1	
1767.75	C13O16	(7-6)	P43	b 0.5	
1767.760	CO	(12-11)	P23	3.6	
1767.82	C12O18	(3-2)	P61	0.3	
1767.879	CO	(17-16)	R12	0.2	
1767.94	C12O18	(5-4)	P52	b 0.2	
1767.97	CO	(18-17)	R22	b 0.2	
1767.99	CO	(2-1)	P71	b 16	
1767.99	CO	(1-0)	P75	b 14.2	
1768.286	C13O16	(4-3)	P57	1.0	
1768.782	CO	(10-9)	P34	7.2	
1768.89	C13O16	(11-10)	P21	0.1	
1768.97	CO	(15-14)	P3	b <<1	
1769.015	CO	(7-6)	P49	12.2	
1769.193	CO	(14-13)	P10	0.8	
1769.34	CO	(19-18)	R35	b 0.1	
1769.34	C12O18	(6-5)	P47	b 0.1	
1769.397	C12O18	(2-1)	P65	0.3	
1769.506	?			0.1	?
1769.54	?			0.1	?
1769.759	CO	(5-4)	P58	14.2	
1769.861	CO	(9-8)	P39	9.0	
1769.933	CO	(8-7)	P44	10.7	
1770.355	CO	(18-17)	R23	0.2	
1770.375	C12O18	(1-0)	P69	0.3	
1770.440	C13O16	(3-2)	P61	1.4	
1770.602	C13O16	(5-4)	P52	1.0	
1770.61	C13O16	(9-8)	P32	b 0.3	
1770.660	CO	(17-16)	R13	0.3	
1770.836	C12O18	(4-3)	P56	0.2	
1771.094	CO	(11-10)	P28	5.3	
1771.15	?			0.1	?
1771.17	CO	(19-18)	R36	0.1	
1771.33	CO	(13-12)	P16	b 2	
1771.760	CO	(4-3)	P62	15.3	
1771.874	?			0.1	?
1771.953	CO	(12-11)	P22	3.4	
1772.004	C13O16	(6-5)	P47	b 0.8	
1772.004	C13O16	(2-1)	P65	1.4	
1772.03	C13O16	(8-7)	P37	bs 0.4	
1772.40	CO	(15-14)	P2	b <<1	
1772.439	CO	(6-5)	P53	13.8	

1766-1774 cm^{-1} (Continued)

1772.48	C13016	(7-6)	P42	bs	0.5
1772.688	CO	(18-17)	R24		0.2
1772.893	CO	(14-13)	P9		0.8
1772.92	CO	(16-15)	R5	b	0.1
1772.95	CO	(19-18)	R37	b	0.1
1772.97	C12018	(5-4)	P51	b	0.2
1772.977	C13016	(1-0)	P69		1.1
1773.133	C12018	(3-2)	P60	b	0.3
1773.133	CO	(3-2)	P66		16.1
1773.264	?				0.1
1773.384	CO	(10-9)	P33		7.3
1773.40	CO	(17-16)	R14	b	0.3
1773.488	C13016	(4-3)	P56		1.2
1773.691	?				0.4
1773.888	CO	(2-1)	P70		16.5

1774-1782 cm⁻¹

1774.030	CO	(1-0)	P74	14.7
1774.158	CO	(7-6)	P48	12.2
1774.18	C12O18	(6-5)	P46	b 0.1
1774.647	CO	(9-8)	P38	9.1
1774.70	CO	(19-18)	R38	b 0.1
1774.835	C12O18	(2-1)	P64	0.3
1774.900	CO	(8-7)	P43	10.7
1774.98	CO	(18-17)	R25	b 0.3
1774.98	C13O16	(9-8)	P31	b 0.3
1775.218	CO	(5-4)	P57	15.0
1775.26	CO	(13-12)	P15	b 1 ⁺
1775.331	Si	4p ¹ S ₀ - 4d ¹ P ₁		6.7
1775.478	CO	(11-10)	P27	5.5
1775.543	Si	6p ($\frac{1}{2}, \frac{1}{2}$) ₁ - 6d ¹ D ₂ ⁰		1.5
1775.632	C13O16	(5-4)	P51	1.1
1775.772	C13O16	(3-2)	P60	1.5
1775.942	C12O18	(1-0)	P68	0.3
1775.986	CO	(16-15)	R6	b 0.3
1775.986	C12O18	(4-3)	P55	b 0.2
1776.113	CO	(12-11)	P21	3.4
1776.113	CO	(17-16)	R15	b 0.3
1776.40	CO	(19-18)	R39	0.1
1776.56	CO	(14-13)	P8	b 1
1776.56	C13O16	(8-7)	P36	b 0.4
1776.731	?			2.1
1776.876	C13O16	(6-5)	P46	0.8
1777.189	C13O16	(7-6)	P41	0.5
1777.234	CO	(18-17)	R26	0.2
1777.360	CO	(4-3)	P61	15.3
1777.464	C13O16	(2-1)	P64	1.4
1777.54	?			0.1
1777.63	?			0.2
1777.728	CO	(6-5)	P52	13.8
1777.95	C12O18	(5-4)	P50	b 0.2
1777.956	CO	(10-9)	P32	7.3
1778.06	CO	(19-18)	R40	0.1
1778.411	C12O18	(3-2)	P59	0.4
1778.569	C13O16	(1-0)	P68	1.1
1778.660	C13O16	(4-3)	P55	1.2
1778.79	CO	(17-16)	R16	0.3
1778.872	CO	(3-2)	P65	16.6
1779.01	C12O18	(6-5)	P45	b 0.1
1779.015	CO	(16-15)	R7	0.4
1779.162	CO	(13-12)	P14	b 1 ⁺
1779.273	CO	(7-6)	P47	12.2
1779.31	C13O16	(9-8)	P30	b 0.3
1779.403	CO	(9-8)	P37	9.2
1779.45	CO	(18-17)	R27	bs 0.2
1779.67	CO	(19-18)	R41	0.1
1779.763	CO	(2-1)	P69	16.7
1779.83	CO	(11-10)	P26	b 5 ⁺
1779.835	CO	(8-7)	P42	b 11
1780.039	CO	(1-0)	P73	15.1
1780.187	CO	(14-13)	P7	0.7
1780.241	CO	(12-11)	P20	3.4
1780.241	C12O18	(2-1)	P63	b 0.4

?

?

?

1774-1782 cm^{-1} (Continued)

1780.30	?				0.1	?
1780.65	C13016	(5-4)	P50	b 1		
1780.65	CO	(5-4)	P56	b 15		
1781.07	C13016	(8-7)	P35	b 0.4		
1781.077	C13016	(3-2)	P59	1.6		
1781.11	C12018	(4-3)	P54	bs 0.2		
1781.26	CO	(19-18)	R42	0.1		
1781.424	CO	(17-16)	R17	0.4		
1781.487	C12018	(1-0)	P67	0.2		
1781.627	CO	(18-17)	R28	0.2		
1781.721	C13016	(6-5)	P45	0.8		
1781.866	C13016	(7-6)	P40	0.6		

1782-1790 cm⁻¹

1782.01	CO	(16-15)	R8	b <1
1782.497	CO	(10-9)	P31	7.3
1782.80	CO	(19-18)	R43	0.1
1782.90	C13O16	(2-1)	P63	b 1 ⁺
1782.93	C12O18	(5-4)	P49	b 0.2
1782.934	CO	(4-3)	P60	16.1
1782.990	CO	(6-5)	P51	13.9
1783.02	CO	(13-12)	P13	b 1 ⁺
1783.616	C13O16	(9-8)	P29	0.3
1783.669	C12O18	(3-2)	P58	0.4
1783.76	CO	(18-17)	R29	b 0.2
1783.77	C12O18	(7-6)	P39	b 0.1
1783.78	CO	(14-13)	P6	b 1
1783.81	C13O16	(4-3)	P54	b 1 ⁺
1783.81	C12O18	(6-5)	P44	b 0.1
1783.948	?			0.2
1784.014	CO	(17-16)	R18	b 0.5
1784.13	CO	(9-8)	P36	b 9 ⁺
1784.13	C13O16	(1-0)	P67	b 1
1784.15	CO	(11-10)	P25	b 5 ⁺
1784.28	CO	(19-18)	R44	b 0.1
1784.34	CO	(12-11)	P19	b 3 ⁺
1784.359	CO	(7-6)	P46	13.0
1784.586	CO	(3-2)	P64	16.8
1784.746	CO	(8-7)	P41	11.2
1784.815	?			0.2
1784.985	CO	(16-15)	R9	0.7
1785.547	C13O16	(8-7)	P34	0.4
1785.613	CO	(2-1)	P68	16.8
1785.63	C12O18	(2-1)	P62	b 0.4
1785.63	C13O16	(5-4)	P49	b 1
1785.74	CO	(19-18)	R45	b 0.1
1785.744	CO	(15-14)	R1	0.2
1785.861	CO	(18-17)	R30	0.2
1785.924	?			0.1
1786.023	CO	(1-0)	P72	b 15.6
1786.057	CO	(5-4)	P55	15
1786.215	C12O18	(4-3)	P53	0.3
1786.27	?			0.2
1786.359	C13O16	(3-2)	P58	1.6
1786.52	C13O16	(7-6)	P39	b 0.6
1786.54	C13O16	(6-5)	P44	b 0.8
1786.581	CO	(17-16)	R19	0.4
1786.859	CO	(13-12)	P12	1.5
1787.00	C12O18	(1-0)	P66	b 0.2
1787.008	CO	(10-9)	P30	7.3
1787.16	CO	(19-18)	R46	0.1
1787.233	?			0.1
1787.35	CO	(14-13)	P5	0.5
1787.858	C12O18	(5-4)	P48	0.2
1787.89	C13O16	(9-8)	P28	b 0.3
1787.920	CO	(16-15)	R10	0.7
1787.920	CO	(18-17)	R31	b 0.2
1788.224	CO	(6-5)	P50	14.2
1788.313	C13O16	(2-1)	P62	1.5
1788.401	CO	(12-11)	P18	3.4

1782-1790 cm^{-1} (Continued)

1788.44	CO	(11-10)	P24	b 5
1788.482	CO	(4-3)	P59	16.4
1788.582	C12018	(6-5)	P43	0.1
1788.828	CO	(9-8)	P35	9.3
1788.90	C12018	(3-2)	P57	b 0.4
1788.926	C13016	(4-3)	P53	1.3
1789.000	CO	(15-14)	R2	0.2
1789.095	CO	(17-16)	R20	0.4
1789.419	CO	(7-6)	P45	13.3
1789.626	CO	(8-7)	P40	11.5
1789.676	C13016	(1-0)	P66	1.2
1789.853	CO	(19-18)	R48	0.1
1789.94	CO	(18-17)	R32	bs 0.2

1790-1798 cm⁻¹

1790.000	C13O16	(8-7)	P33	0.4	?
1790.054	?			0.2	
1790.273	CO	(3-2)	P63	17.0	
1790.522	Si	4p ³ D ₃ - 3d ³ F ^o ₄		12.2	
1790.59	C13O16	(5-4)	P48	bs 1	
1790.658	CO	(13-12)	P11	b 1 ⁺	
1790.799	CO	(16-15)	R11	b 0.6	
1790.815	CaII	5d ² D _{5/2} - 6p ² P ^o _{3/2}		b 0.2	
1790.881	CO	(14-13)	P4	0.3	
1791.00	C12O18	(2-1)	P61	b 0.4	
1791.136	C13O16	(7-6)	P38	0.6	
1791.285	C12O18	(4-3)	P52	0.3	
1791.336	C13O16	(6-5)	P43	0.8	
1791.436	CO	(5-4)	P54	b 15	
1791.436	CO	(2-1)	P67	b 17	
1791.490	CO	(10-9)	P29	7.3	
1791.58	CO	(17-16)	R21	b 0.5	
1791.615	C13O16	(3-2)	P57	1.6	
1791.925	CO	(18-17)	R33	0.2	
1791.984	CO	(1-0)	P71	16.2	
1792.142	C13O16	(9-8)	P27	0.2	
1792.211	CO	(15-14)	R3	0.3	
1792.434	CO	(12-11)	P17	3.1	
1792.505	C12O18	(1-0)	P65	0.2	
1792.704	CO	(11-10)	P23	b 5	
1792.774	C12O18	(5-4)	P47	0.2	
1793.29	?			0.1	?
1793.329	C12O18	(6-5)	P42	0.1	
1793.430	CO	(6-5)	P49	14.1	
1793.495	CO	(9-8)	P34	9.3	
1793.587	CO	(19-18)	R51	0.1	
1793.658	CO	(16-15)	R12	b 0.5	
1793.70	Fe	t ⁵ D ^o ₃ - h ⁵ D ₄		b	
1793.700	C13O16	(2-1)	P61	1.6	
1793.861	CO	(18-17)	R34	0.2	
1794.004	CO	(4-3)	P58	16.5	
1794.02	C13O16	(4-3)	P52	b 1 ⁺	
1794.02	CO	(17-16)	R22	b 0.5	
1794.111	C12O18	(3-2)	P56	0.4	?
1794.33	?			0.1	
1794.367	CO	(14-13)	P3	0.2	
1794.42	CO	(13-12)	P10	b 1	
1794.42	C13O16	(8-7)	P32	b 0.4	
1794.450	CO	(7-6)	P44	b 13	
1794.48	CO	(8-7)	P39	b 11 ⁺	
1794.747	CO	(19-18)	R52	0.1	
1795.192	C13O16	(1-0)	P65	1.3	?
1795.301	?			0.1	
1795.397	CO	(15-14)	R4	0.3	
1795.523	C13O16	(5-4)	P47	1.1	
1795.737	C13O16	(7-6)	P37	0.6	
1795.76	CO	(18-17)	R35	bs 0.2	
1795.935	CO	(3-2)	P62	17.0	
1795.94	CO	(10-9)	P28	b 7 ⁺	
1796.102	C13O16	(6-5)	P42	0.9	
1796.34	C12O18	(2-1)	P60	b 0.4	

1790-1798 cm^{-1} (Continued)

1796.34	C12018	(4-3)	P51	b 0.3	
1796.35	C13016	(9-8)	P26	b 0.2	
1796.434	CO	(17-16)	R23	b 0.5	
1796.434	CO	(12-11)	P16	b 3	
1796.480	CO	(16-15)	R13	0.5	
1796.641	?			0.1	?
1796.688	?			0.1	?
1796.787	CO	(5-4)	P53	15.4	
1796.845	C13016	(3-2)	P56	1.7	
1796.928	CO	(11-10)	P22	5.1	
1797.237	CO	(2-1)	P66	17.4	
1797.33	?			0.1	?
1797.364	?			0.1	?
1797.51	C12018	(7-6)	P36	0.1	
1797.57	?			0.1	?
1797.617	CO	(18-17)	R36	0.2	
1797.656	C12018	(5-4)	P46	0.2	
1797.834	CO	(14-13)	P2	0.1	
1797.919	CO	(1-0)	F70	16.7	
1797.96	C12018	(1-0)	P64	b 0.2	

1798-1806 cm⁻¹

1798.048	C12018	(6-5)	P41	0.2	
1798.133	CO	(9-8)	P33	9.4	
1798.16	CO	(13-12)	P9	b 1	?
1798.371	?			0.1	
1798.538	CO	(15-14)	R5	0.3	
1798.608	CO	(6-5)	P48	14.4	
1798.805	CO	(17-16)	R24	b 0.5	
1798.81	C13016	(8-7)	P31	b 0.4	
1798.86	Fe	5p ⁷ D ₃ - f ⁵ F ₃		b <0.1	?
1798.945	?			0.1	
1799.063	C13016	(2-1)	P60	1.9	
1799.09	Fe	t ⁵ D ₃ - f ⁵ P ₃		b	
1799.091	C13016	(4-3)	P51	b 1 ⁺	?
1799.17	?			0.1	
1799.26	CO	(16-15)	R14	b <1	
1799.29	C12018	(3-2)	P55	b 0.4	
1799.297	CO	(8-7)	P38	11.5	
1799.44	CO	(18-17)	R37	b 0.2	
1799.450	CO	(7-6)	P43	13.6	
1799.498	CO	(4-3)	P57	16.8	
1800.305	C13016	(7-6)	P36	0.7	
1800.358	CO	(10-9)	P27	7.4	
1800.402	CO	(12-11)	P15	2.9	
1800.43	C13016	(5-4)	P46	bs 1	
1800.544	C13016	(9-8)	P25	0.3	
1800.686	C13016	(1-0)	P64	1.4	?
1800.780	?			0.2	
1800.837	C13016	(6-5)	P41	0.9	
1801.124	CO	(11-10)	P21	5.1	
1801.124	CO	(17-16)	R25	b 0.6	
1801.213	CO	(18-17)	R38	0.2	
1801.255	CO	(14-13)	P1	0.1	
1801.36	C12018	(4-3)	P50	b 0.3	
1801.570	CO	(3-2)	P61	17.3	
1801.646	CO	(15-14)	R6	0.6	
1801.646	C12018	(2-1)	P59	b 0.4	
1801.736	?			0.2	?
1801.859	CO	(13-12)	P8	1.2	
1801.977	?			0.3	?
1802.00	CO	(16-15)	R15	b <1	
1802.049	C13016	(3-2)	P55	1.8	
1802.111	CO	(5-4)	P52	15.4	
1802.52	C12018	(5-4)	P45	b 0.2	
1802.682	Ca	3d4s ¹ D ₂ - 4s4p ¹ P ₁		2.8	
1802.739	C12018	(6-5)	P40	b 0.2	
1802.739	CO	(9-8)	P32	9.4	
1802.811	?			0.1	?
1802.95	CO	(18-17)	R39	bs 0.2	
1803.011	CO	(2-1)	P65	17.9	
1803.182	C13016	(8-7)	P30	0.4	?
1803.326	?			0.2	
1803.416	C12018	(1-0)	P63	b 0.3	
1803.416	CO	(17-16)	R26	0.6	
1803.522	?			0.1	?
1803.586	?			0.1	?
1803.759	CO	(6-5)	P47	15.3	

1798-1806 cm^{-1} (Continued)

1803.829	CO	(1-0)	P69	16.8	?
1803.95	?			0.1	
1804.089	CO	(8-7)	P37	11.6	
1804.136	C13O16	(4-3)	P50	s 1.6	
1804.227	?			0.1	?
1804.335	CO	(12-11)	P14	2.7	
1804.40	C13O16	(2-1)	P59	b 2	
1804.423	CO	(7-6)	P42	13.6	
1804.45	C12O18	(3-2)	P54	b 0.4	
1804.651	?			b 0.8	?
1804.651	CO	(18-17)	R40	b 0.2	
1804.70	C13O16	(9-8)	P24	bs 0.3	
1804.71	CO	(16-15)	R16	b <1	
1804.72	CO	(15-14)	R7	b <1	
1804.746	CO	(10-9)	P26	7.5	
1804.844	C13O16	(7-6)	P35	0.7	
1804.966	CO	(4-3)	P56	16.8	
1805.056	?			0.2	?
1805.143	?			0.3	?
1805.290	CO	(11-10)	P20	b 5	
1805.30	C13O16	(5-4)	P45	1.2	
1805.34	Si	$5p^3P_2 - 6s(\frac{1}{2}, \frac{1}{2})^0_1$		b	
1805.53	CO	(13-12)	P7	b 1	
1805.54	C13O16	(6-5)	P40	b 1	
1805.671	CO	(17-16)	R27	0.5	
1805.981	?			0.1	?

1806-1814 cm⁻¹

1806.155	C13O16	(1-0)	P63	1.5
1806.302	CO	(18-17)	R41	0.2
1806.354	C12O18	(4-3)	P49	0.3
1806.515	C12O18	(7-6)	P34	0.1
1806.942	C12O18	(2-1)	P58	0.4
1807.179	CO	(3-2)	P60	18.2
1807.23	C13O16	(3-2)	P54	bs 2
1807.316	CO	(9-8)	P31	9.5
1807.34	C12O18	(5-4)	P44	b 0.2
1807.38	CO	(16-15)	R17	b <1
1807.40	C12O18	(6-5)	P39	b 0.2
1807.408	CO	(5-4)	P51	16.1
1807.519	C13O16	(8-7)	P29	0.5
1807.748	CO	(15-14)	R8	b <1
1807.883	CO	(17-16)	R28	0.5
1807.923	CO	(18-17)	R42	0.1
1807.995	CO	(14-13)	R0	0.1
1808.236	CO	(12-11)	P13	2.6
1808.70	?			0.3
1808.759	CO	(2-1)	P64	18.3
1808.83	C13O16	(9-8)	P23	bs 0.3
1808.83	C12O18	(1-0)	P62	bs 0.3
1808.85	CO	(8-7)	P36	b 12
1808.880	CO	(6-5)	P46	b 15
1808.97	C12O18	(8-7)	P28	0.2
1809.103	CO	(10-9)	P25	7.4
1809.154	C13O16	(4-3)	P49	1.7
1809.154	CO	(13-12)	P6	b 1
1809.36	C13O16	(7-6)	P34	b 0.7
1809.367	CO	(7-6)	P41	13.8
1809.420	CO	(11-10)	P19	4.8
1809.494	CO	(18-17)	R43	0.1
1809.582	C12O18	(3-2)	P53	0.4
1809.714	CO	(1-0)	P68	17.0
1809.714	C13O16	(2-1)	P58	b 2
1810.011	CO	(16-15)	R18	0.6
1810.056	CO	(17-16)	R29	0.5
1810.160	C13O16	(5-4)	P44	1.2
1810.232	C13O16	(6-5)	P39	0.9
1810.406	CO	(4-3)	P55	16.8
1810.746	CO	(15-14)	R9	0.6
1810.98	C12O18	(7-6)	P33	0.1
1811.024	CO	(18-17)	R44	0.1
1811.154	?			0.1
1811.317	CO	(14-13)	R1	b 0.3
1811.317	C12O18	(4-3)	P48	b 0.3
1811.600	C13O16	(1-0)	P62	1.6
1811.83	C13O16	(8-7)	P28	b 0.5
1811.863	CO	(9-8)	P30	9.8
1812.039	C12O18	(6-5)	P38	0.2
1812.104	CO	(12-11)	P12	2.5
1812.15	C12O18	(5-4)	P43	0.1
1812.19	CO	(17-16)	R30	b 0.5
1812.20	C12O18	(2-1)	P57	b 0.4
1812.382	C13O16	(3-2)	P53	1.8
1812.510	CO	(18-17)	R45	0.1

1806-1814 cm^{-1} (Continued)

1812.606	CO	(16-15)	R19	0.7
1812.677	CO	(5-4)	P50	16.5
1812.75	CO	(13-12)	P5	b 1
1812.761	CO	(3-2)	P59	18.2
1812.931	C13O16	(9-8)	P22	0.3
1813.00	?			0.1
1813.129	?			0.1
1813.23	C12O18	(8-7)	P27	0.1
1813.428	CO	(10-9)	P24	7.3
1813.519	CO	(11-10)	P18	4.8
1813.584	CO	(8-7)	P35	11.8
1813.715	CO	(15-14)	R10	0.6
1813.840	C13O16	(7-6)	P33	0.7
1813.96	CO	(18-17)	R46	b 0.1
1813.974	CO	(6-5)	P45	15.3

?

?

1814-1822 cm⁻¹

1814.144	C13O16	(4-3)	P48	1.7	?
1814.23	C12O18	(1-0)	P61	bs 0.3	
1814.282	CO	(7-6)	P40	13.8	
1814.282	CO	(17-16)	R31	b 0.5	
1814.481	CO	(2-1)	P63	18.3	
1814.604	CO	(14-13)	R2	0.4	
1814.691	C12O18	(3-2)	P52	0.5	
1814.750	?			0.1	
1814.888	C13O16	(6-5)	P38	1.0	
1814.98	C13O16	(5-4)	P43	b 1 ⁺	
1814.996	C13O16	(2-1)	P57	b 2 ⁺	
1815.163	CO	(16-15)	R20	0.6	
1815.256	?			0.2	?
1815.364	CO	(18-17)	R47	0.1	
1815.43	C12O18	(7-6)	P32	0.1	
1815.573	CO	(1-0)	P67	17.0	
1815.820	CO	(4-3)	P54	17.6	
1815.939	CO	(12-11)	P11	2.4	
1816.04	?			0.1	?
1816.106	C13O16	(8-7)	P27	0.5	
1816.267	C12O18	(4-3)	P47	0.4	
1816.32	CO	(13-12)	P4	b <1	
1816.34	CO	(17-16)	R32	b 0.5	
1816.378	CO	(9-8)	P29	9.8	
1816.500	C13O16	(10-9)	P15	0.1	
1816.553	?			0.1	?
1816.643	CO	(15-14)	R11	0.8	
1816.65	C12O18	(6-5)	P37	b 0.2	
1816.730	CO	(18-17)	R48	0.1	
1816.920	C12O18	(5-4)	P42	0.3	
1817.00	C13O16	(9-8)	P21	b 0.3	
1817.018	C13O16	(1-0)	P61	1.7	
1817.188	?			0.1	?
1817.229	?			0.1	?
1817.445	C12O18	(2-1)	P56	0.4	
1817.512	C13O16	(3-2)	P52	1.9	
1817.586	CO	(11-10)	P17	4.6	
1817.68	CO	(16-15)	R21	bs <1	
1817.722	CO	(10-9)	P23	7.3	
1817.856	CO	(14-13)	R3	0.5	
1817.918	CO	(5-4)	P49	16.6	
1818.047	CO	(18-17)	R49	0.1	?
1818.130	?			0.1	?
1818.227	?			0.2	?
1818.29	CO	(8-7)	P34	bs 12	
1818.29	C13O16	(7-6)	P32	bs 0.7	
1818.318	CO	(3-2)	P58	18.3	
1818.35	CO	(17-16)	R33	b 0.5	
1818.39	?			0.2	?
1818.47	?			0.2	?
1818.667	?			0.1	?
1818.759	?			0.2	?
1818.86	?			0.1	?
1819.040	CO	(6-5)	P44	15.3	
1819.109	C13O16	(4-3)	P47	1.9	

1814-1822 cm^{-1} (Continued)

1819.168	CO	(7-6)	P39	13.8
1819.325	CO	(18-17)	R50	0.1
1819.51	C13O16	(6-5)	P37	b 1
1819.53	CO	(15-14)	R12	b 1
1819.604	C12O18	(1-0)	P60	0.3
1819.741	CO	(12-11)	P10	2.3
1819.77	C12O18	(3-2)	P51	b 0.5
1819.781	C13O16	(5-4)	P42	1.3
1819.83	C12O18	(7-6)	P31	b 0.1
1819.843	CO	(13-12)	P3	0.5
1819.978	?			0.1
1820.02	?			0.1
1820.15	CO	(16-15)	R22	b <1
1820.177	CO	(2-1)	P62	18.3
1820.264	C13O16	(2-1)	P56	2.1
1820.326	CO	(17-16)	R34	0.4
1820.353	C13O16	(8-7)	P26	0.5
1820.421	?			0.1
1820.565	CO	(18-17)	R51	0.1
1820.863	CO	(9-8)	P28	9.8
1820.93	?			0.1
1821.04	C13O16	(9-8)	P20	b 0.3
1821.069	CO	(14-13)	R4	0.6
1821.18	C12O18	(4-3)	P46	b 0.4
1821.207	CO	(4-3)	P53	17.6
1821.23	C12O18	(6-5)	P36	b 0.2
1821.408	CO	(1-0)	P66	17.9
1821.620	CO	(11-10)	P16	4.5
1821.675	C12O18	(5-4)	P41	0.3
1821.758	CO	(18-17)	R52	0.1
1821.879	?			0.1
1821.985	CO	(10-9)	P22	7.2

1822-1830 cm⁻¹

1822.262	CO	(17-16)	R35	0.4
1822.38	CO	(15-14)	R13	bs 1
1822.415	C13O16	(1-0)	P60	1.7
1822.60	CO	(16-15)	R23	b <1
1822.609	C13O16	(3-2)	P51	b 2
1822.661	C12O18	(2-1)	P55	0.4
1822.723	C13O16	(7-6)	P31	0.7
1822.90	?			s 0.2
1822.958	CO	(8-7)	P33	12.2
1823.132	CO	(5-4)	P48	16.8
1823.341	CO	(13-12)	P2	0.3
1823.509	CO	(12-11)	P9	2.1
1823.847	CO	(3-2)	P57	18.3
1824.024	CO	(7-6)	P38	13.8
1824.05	C13O16	(4-3)	P46	b 2
1824.077	CO	(6-5)	P43	15.8
1824.12	C13O16	(6-5)	P36	b 1
1824.160	CO	(17-16)	R36	0.4
1824.247	CO	(14-13)	R5	0.7
1824.305	?			0.1
1824.464	?			0.4
1824.554	C13O16	(5-4)	P41	1.4
1824.57	C13O16	(8-7)	P25	b 0.4
1824.821	C12O18	(3-2)	P50	0.5
1824.955	C12O18	(1-0)	P59	0.4
1825.001	CO	(16-15)	R24	0.6
1825.046	C13O16	(9-8)	P19	0.3
1825.198	CO	(15-14)	R14	1.0
1825.318	CO	(9-8)	P27	10.0
1825.500	C13O16	(2-1)	P55	2.2
1825.623	CO	(11-10)	P15	4.3
1825.787	C12O18	(6-5)	P35	0.2
1825.848	CO	(2-1)	P61	18.7
1825.937	?			0.1
1826.011	CO	(17-16)	R37	0.5
1826.03	Mg	6p ¹ P ₁ ^o - 7d ¹ D ₂		b
1826.069	C12O18	(4-3)	P45	0.4
1826.215	CO	(10-9)	P21	7.2
1826.400	C12O18	(5-4)	P40	0.3
1826.455	?			0.1
1826.50	?			s 0.2
1826.566	CO	(4-3)	P52	17.4
1826.801	CO	(13-12)	P1	0.2
1827.074	?			0.2
1827.123	C13O16	(7-6)	P30	0.7
1827.216	CO	(1-0)	P65	18.3
1827.24	CO	(12-11)	P8	b 2
1827.36	CO	(16-15)	R25	b <1
1827.38	CO	(14-13)	R6	b 0.8
1827.601	CO	(8-7)	P32	12.2
1827.688	C13O16	(3-2)	P50	2.1
1827.785	C13O16	(1-0)	P59	1.9
1827.82	Fe	e ⁵ D ₃ - u ⁵ D ₄		b
1827.82	CO	(17-16)	R38	b 0.4
1827.85	C12O18	(2-1)	P54	bs 0.5
1827.982	Fe	4p z ³ D ₁ - c ³ F ₂		1.8

1822-1830 cm^{-1} (Continued)

1827.982	CO	(15-14)	R15	b 1	?
1828.06	?			0.2	?
1828.13	?			0.1	?
1828.17	?			0.1	?
1828.317	CO	(5-4)	P47	17.0	
1828.445	?			0.1	?
1828.57	C12O18	(7-6)	P29	b 0.1	
1828.573	?			0.3	?
1828.690	C13O16	(6-5)	P35	1.0	
1828.768	C13O16	(8-7)	P24	0.4	
1828.851	CO	(7-6)	P37	13.8	
1828.958	C13O16	(4-3)	P45	1.8	
1829.022	C13O16	(9-8)	P18	0.3	
1829.084	CO	(6-5)	P42	15.4	
1829.295	C13O16	(5-4)	P40	s 1.6	
1829.350	CO	(3-2)	P56	18.5	
1829.535	Si	$6p\ ^3D_3 - 6d\ ^3F^0_4$		2.7	
1829.591	CO	(11-10)	P14	4.2	
1829.591	CO	(17-16)	R39	b 0.4	
1829.687	CO	(16-15)	R26	bs <1	
1829.740	CO	(9-8)	P26	10.0	
1829.850	C12O18	(3-2)	P49	0.5	

1830-1838 cm⁻¹

1830.271	C12018	(1-0)	P58	0.4
1830.314	C12018	(6-5)	P34	0.2
1830.414	CO	(10-9)	P20	7.0
1830.497	CO	(14-13)	R7	0.8
1830.615	?			0.1
1830.71	C13016	(2-1)	P54	bs 2 ⁺
1830.72	CO	(15-14)	R16	bs 1
1830.759	Si	4p ³ D ₁ - 3d ³ F ₂		10.7
1830.94	C12018	(4-3)	P44	b 0.4
1830.944	CO	(12-11)	P7	2.0
1831.104	C12018	(5-4)	P39	0.3
1831.325	CO	(17-16)	R40	0.4
1831.45	Si	4p ³ D ₂ - 3d ³ F ₃		bs
1831.492	C13016	(7-6)	P29	b 0.6
1831.492	CO	(2-1)	P60	b 19
1831.61	C13016	(10-9)	P11	0.1
1831.898	CO	(4-3)	P51	18.0
1831.976	CO	(16-15)	R27	0.7
1832.213	CO	(8-7)	P31	12.2
1832.728	C13016	(3-2)	P49	2.2
1832.892	C12018	(7-6)	P28	0.1
1832.930	C13016	(8-7)	P23	0.4
1832.98	C13016	(9-8)	P17	b 0.2
1832.999	CO	(1-0)	P64	18.3
1833.00	CO	(17-16)	R41	b 0.4
1833.01	C12018	(2-1)	P53	b 0.5
1833.131	C13016	(1-0)	P58	2.0
1833.235	C13016	(6-5)	P34	1.1
1833.42	CO	(15-14)	R17	bs 1
1833.474	CO	(5-4)	P46	17.1
1833.528	CO	(11-10)	P13	4.2
1833.56	CO	(14-13)	R8	bs 1
1833.648	CO	(7-6)	P36	13.9
1833.844	C13016	(4-3)	P44	1.9
1833.945	?			0.1
1834.014	C13016	(5-4)	P39	s 1.6
1834.063	CO	(6-5)	P41	16.1
1834.133	CO	(9-8)	P25	9.9
1834.222	CO	(16-15)	R28	0.7
1834.580	CO	(10-9)	P19	7.0
1834.61	CO	(12-11)	P6	b 2
1834.669	CO	(17-16)	R42	0.4
1834.746	?			0.1
1834.81	C12018	(6-5)	P33	b 0.2
1834.826	CO	(3-2)	P55	18.8
1834.85	C12018	(3-2)	P48	b 0.5
1835.31	C13016	(10-9)	P10	0.1
1835.571	C12018	(1-0)	P57	0.5
1835.76	C12018	(5-4)	P38	b 0.3
1835.77	C12018	(4-3)	P43	b 0.4
1835.833	C13016	(7-6)	P28	0.6
1835.900	C13016	(2-1)	P53	2.3
1835.940	?			s 0.1
1836.089	CO	(15-14)	R18	0.9
1836.205	?			0.1
1836.272	CO	(17-16)	R43	0.4

1830-1838 cm^{-1} (Continued)

1836.432	CO	(16-15)	R29	0.7
1836.601	CO	(14-13)	R9	0.9
1836.794	CO	(8-7)	P30	12.2
1836.893	Mg	5f 1F_3 - 7d 1D_2		b 0.6
1836.893	C13O16	(9-8)	P16	b 0.2
1836.974	CO	(13-12)	R1	0.3
1837.06	C13O16	(8-7)	P22	b 0.4
1837.109	CO	(2-1)	P59	19.6
1837.18	C12O18	(7-6)	P27	b 0.1
1837.199	CO	(4-3)	P50	18.3
1837.431	CO	(11-10)	P12	4.0
1837.75	C13O16	(6-5)	P33	b 1
1837.759	C13O16	(3-2)	P48	2.9
1837.838	CO	(17-16)	R44	0.3

1838-1846 cm⁻¹

1838.02	?					0.2	?
1838.152	C12018	(2-1)	P52			0.5	
1838.244	CO	(12-11)	P5			1.3	
1838.415	CO	(7-6)	P35			13.9	
1838.45	C13016	(1-0)	P57			b 2	
1838.493	CO	(9-8)	P24			9.9	
1838.603	CO	(16-15)	R30			b 0.7	
1838.603	CO	(5-4)	P45			17.6	
1838.70	C13016	(4-3)	P43			b 2	
1838.70	C13016	(5-4)	P38			b 1*	
1838.712	CO	(10-9)	P18			b 7	
1838.72	CO	(15-14)	R19			bs 1	
1838.757	CO	(1-0)	P63			18.3	?
1838.888	?					0.1	
1839.013	CO	(6-5)	P40			16.1	?
1839.18	?					0.1	
1839.277	C12018	(6-5)	P32			b 0.3	
1839.361	CO	(17-16)	R45			0.3	
1839.599	CO	(14-13)	R10			1.0	
1839.712	Na	5s ² S _{1/2} - 5p ² P _{1/2}				3.3	
1839.829	C12018	(3-2)	P47			0.5	?
1839.95	?					0.1	
1840.144	C13016	(7-6)	P27			0.6	
1840.275	CO	(3-2)	P54			19.0	
1840.29	CO	(13-12)	R2			b 0.4	
1840.406	C12018	(5-4)	P37			0.3	
1840.587	C12018	(4-3)	P42			0.5	
1840.731	CO	(16-15)	R31			0.8	
1840.788	C13016	(9-8)	P15			0.2	
1840.844	C12018	(1-0)	P56			b 0.5	
1840.844	CO	(17-16)	R46			b 0.3	
1840.942	?					0.1	?
1841.060	C13016	(2-1)	P52			2.4	
1841.163	C13016	(8-7)	P21			0.4	
1841.301	CO	(11-10)	P11			b 4	
1841.301	CO	(15-14)	R20			b 1	
1841.345	CO	(8-7)	P29			12.2	
1841.44	C12018	(7-6)	P26			0.1	
1841.842	CO	(12-11)	P4			1.0	
1842.179	Na	5s ² S _{1/2} - 5p ² P _{3/2}				6.0	
1842.24	C13016	(6-5)	P32			bs 1	
1842.287	CO	(17-16)	R47			0.3	
1842.478	CO	(4-3)	P49			18.8	
1842.559	CO	(14-13)	R11			1.1	
1842.701	CO	(2-1)	P58			19.9	
1842.760	C13016	(3-2)	P47			2.6	
1842.820	CO	(10-9)	P17			b 7	
1842.820	CO	(16-15)	R32			b 0.8	
1842.820	CO	(9-8)	P23			b 10	
1842.952	?					0.2	?
1843.153	CO	(7-6)	P34			14.2	
1843.266	C12018	(2-1)	P51			0.6	
1843.364	C13016	(5-4)	P37			1.5	
1843.533	C13016	(4-3)	P42			2.1	
1843.577	CO	(13-12)	R3			0.5	
1843.69	CO	(17-16)	R48			b 0.3	

1838-1846 cm⁻¹ (Continued)

1843.703	CO	(5-4)	P44	17.6
1843.72	C12O18	(6-5)	P31	b 0.2
1843.75	C13O16	(1-0)	P56	bs 2
1843.864	CO	(15-14)	R21	1.1
1843.934	CO	(6-5)	P39	16.4
1844.134	?			1.1
1844.43	C13O16	(7-6)	P26	bs 0.6
1844.487	CO	(1-0)	P62	18.7
1844.610	Fe	3d ⁸ c ³ F ₃ - 3d ⁷ 4p z ³ G ⁰ ₄		2.5
1844.65	C13O16	(9-8)	P14	bs 0.2
1844.781	C12O18	(3-2)	P46	0.5
1844.867	CO	(16-15)	R33	0.8
1845.03	C12O18	(5-4)	P36	b 0.3
1845.037	CO	(17-16)	R49	b 0.3
1845.138	CO	(11-10)	P10	3.6
1845.238	C13O16	(8-7)	P20	0.4
1845.280	?			0.1
1845.373	C12O18	(4-3)	P41	0.6
1845.406	CO	(12-11)	P3	b 1
1845.484	CO	(14-13)	R12	1.2
1845.696	CO	(3-2)	P53	19.9
1845.865	CO	(8-7)	P28	12.2

1846-1854 cm⁻¹

1846.088	C12018	(1-0)	P55	0.5
1846.195	C13016	(2-1)	P51	2.6
1846.321	Fe	3d ⁸ c ³ F ₂ - 3d ⁷ 4p z ³ G ₃		0.9
1846.36	CO	(17-16)	R50	b 0.3
1846.372	CO	(15-14)	R22	1.2
1846.51	?			0.1
1846.583	?			0.3
1846.698	C13016	(6-5)	P31	1.1
1846.825	CO	(13-12)	R4	0.7
1846.88	CO	(16-15)	R34	b 0.7
1846.886	CO	(10-9)	P16	6.9
1846.985	?			0.2
1847.119	CO	(9-8)	P22	9.6
1847.629	CO	(17-16)	R51	0.3
1847.726	CO	(4-3)	P48	18.8
1847.726	C13016	(3-2)	P46	b 2 ⁺
1847.862	CO	(7-6)	P33	14.5
1847.998	C13016	(5-4)	P36	1.5
1848.135	C12018	(6-5)	P30	0.2
1848.265	CO	(2-1)	P57	19.9
1848.338	C13016	(4-3)	P41	2.1
1848.35	C12018	(2-1)	P50	b 0.6
1848.37	CO	(14-13)	R13	bs 1.3
1848.479	C13016	(9-8)	P13	0.2
1848.682	C13016	(7-6)	P25	0.6
1848.774	CO	(5-4)	P43	18.0
1848.826	CO	(6-5)	P38	16.4
1848.85	CO	(16-15)	R35	b 0.7
1848.85	CO	(15-14)	R23	b 1
1848.86	CO	(17-16)	R52	b 0.3
1848.94	CO	(12-11)	P2	b <1
1848.940	CO	(11-10)	P9	3.6
1849.016	C13016	(1-0)	P55	2.2
1849.230	?			0.3
1849.281	C13016	(8-7)	P19	0.4
1849.415	?			0.3
1849.54	?			0.1
1849.608	C12018	(5-4)	P35	0.3
1849.702	C12018	(3-2)	P45	0.5
1849.89	C12018	(7-6)	P24	0.1
1850.039	CO	(13-12)	R5	1.1
1850.039	CO	(17-16)	R53	b 0.3
1850.126	C12018	(4-3)	P40	0.6
1850.192	CO	(1-0)	P61	19.6
1850.354	CO	(8-7)	P27	12.2
1850.776	CO	(16-15)	R36	0.7
1850.924	CO	(10-9)	P15	6.5
1851.090	CO	(3-2)	P52	19.9
1851.13	C13016	(6-5)	P30	b 1
1851.18	CO	(17-16)	R54	b 0.3
1851.222	CO	(14-13)	R14	1.3
1851.29	CO	(15-14)	R24	b 1
1851.302	C13016	(2-1)	P50	b 3
1851.31	C12018	(1-0)	P54	b 0.5
1851.385	CO	(9-8)	P21	9.5
1852.27	C13016	(9-8)	P12	b 0.2

1846-1854 cm⁻¹ (Continued)

1852.275	CO	(17-16)	R55	0.3
1852.43	CO	(12-11)	P1	0.4
1852.52	C12O18	(6-5)	P29	b 0.2
1852.538	CO	(7-6)	P32	14.5
1852.603	C13O16	(5-4)	P35	1.5
1852.66	CO	(16-15)	R37	b 0.6
1852.673	C13O16	(3-2)	P45	2.7
1852.711	CO	(11-10)	P8	2.9
1852.90	C13O16	(7-6)	P24	b 0.6
1852.947	CO	(4-3)	P47	19.0
1853.113	C13O16	(4-3)	P40	2.0
1853.216	CO	(13-12)	R6	1.2
1853.292	C13O16	(8-7)	P18	0.4
1853.334	CO	(17-16)	R56	0.2
1853.416	C12O18	(2-1)	P49	0.6
1853.546	?			0.2
1853.687	CO	(6-5)	P37	16.8
1853.69	CO	(15-14)	R25	b 1
1853.81	CO	(2-1)	P56	b 20
1853.82	CO	(5-4)	P42	b 18
				?

1854-1862 cm⁻¹

1854.035	CO	(14-13)	R15	1.4
1854.167	C12O18	(5-4)	P34	0.3
1854.261	C13O16	(1-0)	P54	2.3
1854.346	CO	(17-16)	R57	0.2
1854.513	CO	(16-15)	R38	0.6
1854.601	C12O18	(3-2)	P44	0.5
1854.812	CO	(8-7)	P26	12.2
1854.85	C12O18	(4-3)	P39	b 0.5
1854.928	CO	(10-9)	P14	6.3
1855.316	CO	(17-16)	R58	0.2
1855.533	C13O16	(6-5)	P29	1.1
1855.619	CO	(9-8)	P20	9.3
1855.871	CO	(1-0)	P60	19.9
1856.03	C13O16	(9-8)	P11	b 0.2
1856.047	CO	(15-14)	R26	1.2
1856.240	CO	(17-16)	R59	0.2
1856.316	CO	(16-15)	R39	bs 0.5
1856.36	CO	(13-12)	R7	bs 1*
1856.386	C13O16	(2-1)	P49	2.9
1856.45	CO	(11-10)	P7	b 2*
1856.457	CO	(3-2)	P51	19.9
1856.51	C12O18	(1-0)	P53	bs 0.5
1856.811	CO	(14-13)	R16	1.4
1856.867	C12O18	(6-5)	P28	0.2
1857.103	C13O16	(7-6)	P23	b 0.6
1857.13	CO	(17-16)	R60	b 0.1
1857.18	C13O16	(5-4)	P34	b 1*
1857.185	CO	(7-6)	P31	14.7
1857.27	C13O16	(8-7)	P17	b 0.4
1857.407	?			0.1
1857.49	?			0.1
1857.592	C13O16	(3-2)	P44	2.6
1857.862	C13O16	(4-3)	P39	2.2
1857.96	CO	(17-16)	R61	0.1
1858.09	CO	(16-15)	R40	b 0.6
1858.139	CO	(4-3)	P46	19.3
1858.21	C12O18	(7-6)	P22	0.1
1858.369	CO	(15-14)	R27	1.2
1858.448	Mg	6d ³ D _{1,2,3} - 9f ³ F _{2,3,4}		b 0.6
1858.448	C12O18	(2-1)	P48	b 0.6
1858.520	CO	(6-5)	P36	16.8
1858.61	C12O17	(1-0)	P56	bs 0.1
1858.61	?			bs 0.3
1858.698	C12O18	(5-4)	P33	0.3
1858.755	CO	(17-16)	R62	0.1
1858.832	CO	(5-4)	P41	18.3
1858.900	CO	(10-9)	P13	6.2
1859.032	?			0.3
1859.239	CO	(8-7)	P25	12.2
1859.313	CO	(2-1)	P55	20.5
1859.313	CO	(12-11)	R0	b <1
1859.46	CO	(13-12)	R8	b 1*
1859.47	C12O18	(3-2)	P43	b 0.5
1859.48	C13O16	(1-0)	P53	b 2*

1854-1862 cm^{-1} (Continued)

1859.50	CO	(17-16)	R63	b 0.1	
1859.551	CO	(14-13)	R17	1.7	
1859.551	C12O18	(4-3)	P38	b 0.5	
1859.76	C13O16	(9-8)	P10	0.2	
1859.81	CO	(16-15)	R41	b 0.6	
1859.820	CO	(9-8)	P19	9.3	
1859.908	C13O16	(6-5)	P28	1.1	
1860.148	CO	(11-10)	P6	2.2	
1860.203	CO	(17-16)	R64	0.1	
1860.40	?			0.1	?
1860.650	CO	(15-14)	R28	1.1	
1860.78	?			0.2	?
1860.857	CO	(17-16)	R65	0.1	
1861.20	C12O18	(6-5)	P27	0.2	
1861.228	C13O16	(8-7)	P16	b 0.4	
1861.265	C13O16	(7-6)	P22	0.6	
1861.443	C13O16	(2-1)	P48	2.9	
1861.48	CO	(17-16)	R66	b 0.1	
1861.49	CO	(16-15)	R42	b 0.6	
1861.524	CO	(1-0)	P59	19.9	
1861.678	C12O18	(1-0)	P52	0.6	
1861.730	C13O16	(5-4)	P33	b 1 ⁺	
1861.797	CO	(3-2)	P50	20.6	
1861.80	CO	(7-6)	P30	b 15	

1862-1870 cm⁻¹

1862.035	CO	(17-16)	R67	0.1
1862.251	CO	(14-13)	R18	1.7
1862.33	C12O18	(7-6)	P21	0.1
1862.483	C13O16	(3-2)	P43	2.6
1862.533	CO	(13-12)	R9	1.5
1862.57	CO	(17-16)	R68	b 0.1
1862.584	C13O16	(4-3)	P38	2.2
1862.706	CO	(12-11)	R1	0.6
1862.838	Si	6P ³ D (½, ¾) ₁ - 6d ³ F ⁰ ₂		b
1862.838	CO	(10-9)	P12	6.2
1862.894	CO	(15-14)	R29	1.2
1863.036	CO	(17-16)	R69	0.1
1863.137	CO	(16-15)	R43	0.7
1863.198	C12O18	(5-4)	P32	0.3
1863.31	CO	(4-3)	P45	b 19 ⁺
1863.32	CO	(6-5)	P35	b 17
1863.459	C12O18	(2-1)	P47	0.7
1863.46	C13O16	(9-8)	P9	b 0.1
1863.516	?			0.1
1863.635	CO	(8-7)	P24	12.2
1863.817	CO	(11-10)	P5	b 2
1863.817	CO	(5-4)	P40	18.3
1863.990	CO	(9-8)	P18	9.4
1863.99	C12O17	(1-0)	P55	b 0.1
1864.103	?			0.3
1864.21	CO	(17-16)	R72	0.1
1864.23	C12O18	(4-3)	P37	b 0.5
1864.248	C13O16	(6-5)	P27	1.1
1864.314	C12O18	(3-2)	P42	0.5
1864.484	CO	(17-16)	R73	0.1
1864.673	C13O16	(1-0)	P52	2.5
1864.738	CO	(16-15)	R44	b 0.6
1864.75	CO	(17-16)	R74	b 0.1
1864.797	CO	(2-1)	P54	20.6
1864.915	CO	(14-13)	R19	1.6
1865.095	CO	(15-14)	R30	1.2
1865.152	C13O16	(8-7)	P15	0.4
1865.266	?			0.2
1865.406	C13O16	(7-6)	P21	b 0.6
1865.406	?			1.0
1865.498	C12O18	(6-5)	P26	0.1
1865.564	CO	(13-12)	R10	1.7
1865.626	?			0.1
1866.062	CO	(12-11)	R2	0.8
1866.251	C13O16	(5-4)	P32	1.6
1866.301	CO	(16-15)	R45	0.6
1866.387	CO	(7-6)	P29	14.7
1866.471	C13O16	(2-1)	P47	b 3.4
1866.533	Al	5P ² P ⁰ _{3/2} - 6s ² S ^{1/2}		4.3
1866.743	CO	(10-9)	P11	5.6
1866.828	C12O18	(1-0)	P51	0.6
1866.98	?			0.1
1867.106	CO	(3-2)	P49	20.6
1867.14	C13O16	(9-8)	P8	b 0.1
1867.151	CO	(1-0)	P58	20.5
1867.26	CO	(15-14)	R31	b 1

1862-1870 cm^{-1} (Continued)

1867.273	C13O16	(4-3)	P37	b 2*
1867.347	C13O16	(3-2)	P42	2.7
1867.449	CO	(11-10)	P4	1.7
1867.539	CO	(14-13)	R20	1.6
1867.675	C12O18	(5-4)	P31	0.4
1867.742	?			0.1
1867.809	CO	(16-15)	R46	0.6
1868.000	CO	(8-7)	P23	12.3
1868.095	CO	(6-5)	P34	b 17
1868.13	CO	(9-8)	P17	bs 9*
1868.438	CO	(4-3)	P44	19.9
1868.438	C12O18	(2-1)	P46	b 0.7
1868.563	CO	(13-12)	R11	b 2
1868.563	C13O16	(6-5)	P26	b 1
1868.773	CO	(5-4)	P39	18.5
1868.874	C12O18	(4-3)	P36	0.5
1869.042	C13O16	(8-7)	P14	0.3
1869.129	C12O18	(3-2)	P41	0.6
1869.29	CO	(16-15)	R47	0.5
1869.35	C12O17	(1-0)	P54	b 0.1
1869.38	CO	(12-11)	R3	b 1
1869.38	CO	(15-14)	R32	b 1
1869.507	C13O16	(7-6)	P20	0.6
1869.767	C12O18	(6-5)	P25	0.2
1869.841	C13O16	(1-0)	P51	2.5
1869.841	Ca	4s4p $^3\text{P}^0$ - 4p 2 $^3\text{P}^0$		b

1870-1878 cm⁻¹

1870.127	CO	(14-13)	R21	1.7
1870.254	CO	(2-1)	P53	21.4
1870.39	?			0.1
1870.48	C12O18	(7-6)	P19	b 0.1
1870.615	CO	(10-9)	P10	5.2
1870.73	CO	(16-15)	R48	b 0.5
1870.732	C13O16	(5-4)	P31	1.7
1870.78	C13O16	(9-8)	P7	b 0.1
1870.943	CO	(7-6)	P28	14.7
1871.048	CO	(11-10)	P3	1.2
1871.07	Si	4f F ² [2 ₂] ₃ - 5d ³ F ⁰ ₂	b	b
1871.47	CO	(15-14)	R33	b 1
1871.475	C13O16	(2-1)	P46	b 3.4
1871.521	CO	(13-12)	R12	1.9
1871.607	?			0.1
1871.734	?			0.2
1871.944	C12O18	(1-0)	P50	b 0.6
1871.944	C13O16	(4-3)	P36	b 2*
1872.115	CO	(16-15)	R49	b 0.5
1872.12	C12O18	(5-4)	P30	b 0.3
1872.183	C13O16	(3-2)	P41	2.8
1872.232	CO	(9-8)	P16	9.2
1872.332	CO	(8-7)	P22	12.4
1872.391	CO	(3-2)	P48	20.5
1872.44	Al	5p ² P ⁰ _{1/2} - 6s ² S ^{1/2}	bs	bs
1872.47	OH	(2-1)	P1F 31.5	bs
1872.66	CO	(12-11)	R4	b 1*
1872.672	CO	(14-13)	R22	b 2
1872.749	CO	(1-0)	P57	20.3
1872.838	CO	(6-5)	P33	16.8
1872.85	C13O16	(6-5)	P25	b 1
1872.904	C13O16	(8-7)	P13	0.3
1873.04	?			0.1
1873.396	C12O18	(2-1)	P45	0.7
1873.462	CO	(16-15)	R50	b 0.5
1873.50	C12O18	(4-3)	P35	b 0.5
1873.51	CO	(15-14)	R34	b 1
1873.545	CO	(4-3)	P43	19.9
1873.58	C13O16	(7-6)	P19	b 0.5
1873.699	CO	(5-4)	P38	18.5
1873.800	?			0.1
1873.919	C12O18	(3-2)	P40	0.6
1874.00	C12O18	(6-5)	P24	0.2
1874.39	C13O16	(9-8)	P6	0.1
1874.45	CO	(13-12)	R13	b 2
1874.451	CO	(10-9)	P9	b 5
1874.537	?			0.1
1874.614	CO	(11-10)	P2	0.9
1874.689	C12O17	(1-0)	P53	0.1
1874.770	CO	(16-15)	R51	0.6
1874.982	C13O16	(1-0)	P50	2.6
1875.19	CO	(14-13)	R23	b 2
1875.198	C13O16	(5-4)	P30	b 1*
1875.467	CO	(7-6)	P27	14.8
1875.52	CO	(15-14)	R35	bs 1
1875.683	CO	(2-1)	P52	21.4

1870-1878 cm^{-1} (Continued)

1875.859	Si	$5p\ ^3D_2 - 4d\ ^1F^{\circ}_3$		1.8
1875.913	CO	(12-11)	R5	1.7
1876.033	CO	(16-15)	R52	0.6
1876.304	CO	(9-8)	P15	9.1
1876.455	C13O16	(2-1)	P45	3.2
1876.533	C12O18	(5-4)	P29	0.3
1876.581	C13O16	(4-3)	P35	2.4
1876.633	CO	(8-7)	P21	12.2
1876.734	C13O16	(8-7)	P12	0.3
1876.778	?			s 0.1
1876.894	?			0.1
1876.993	C13O16	(3-2)	P40	2.8
1877.040	C12O18	(1-0)	P49	0.6
1877.109	C13O16	(6-5)	P24	1.0
1877.254	CO	(16-15)	R53	0.5
1877.328	CO	(13-12)	R14	2.1
1877.481	CO	(15-14)	R36	1.1
1877.550	CO	(6-5)	P32	16.8
1877.62	C13O16	(7-6)	P18	b 0.5
1877.646	CO	(3-2)	P47	20.8
1877.65	CO	(14-13)	R24	b 2
1877.901	?			0.2
1877.96	C13O16	(9-8)	P5	0.1

1878-1886 cm⁻¹

1878.089	C12018	(4-3)	P34	0.5
1878.145	CO	(11-10)	P1	0.4
1878.22	C12018	(6-5)	P23	bs 0.2
1878.258	CO	(10-9)	P8	4.5
1878.32	C12018	(2-1)	P44	b 0.7
1878.322	CO	(1-0)	P56	20.8
1878.430	CO	(16-15)	R54	0.5
1878.513	C12018	(7-6)	P17	0.1
1878.60	CO	(5-4)	P37	b 19
1878.62	CO	(4-3)	P42	b 20
1878.68	C12018	(3-2)	P39	bs 0.6
1879.125	CO	(12-11)	R6	1.8
1879.404	CO	(15-14)	R37	1.2
1879.565	CO	(16-15)	R55	0.4
1879.644	C13016	(5-4)	P29	1.6
1879.960	CO	(7-6)	P26	14.9
1880.00	C12017	(1-0)	P52	b 0.1
1880.096	CO	(14-13)	R25	b 2
1880.096	C13016	(1-0)	P49	b 3
1880.176	CO	(13-12)	R15	2.2
1880.344	CO	(9-8)	P14	8.9
1880.449	Si	6p ³ D ($\frac{1}{2}, \frac{3}{2}$) ₂ - 6d ³ F ⁰ ₃		1.9
1880.526	C13016	(8-7)	P11	0.3
1880.655	CO	(16-15)	R56	0.4
1880.902	CO	(8-7)	P20	12.2
1880.92	C12018	(5-4)	P28	b 0.3
1881.085	CO	(2-1)	P51	21.4
1881.192	C13016	(4-3)	P34	2.4
1881.285	CO	(15-14)	R38	1.0
1881.339	C13016	(6-5)	P23	1.0
1881.405	C13016	(2-1)	P44	3.3
1881.642	C13016	(7-6)	P17	0.5
1881.702	CO	(16-15)	R57	0.4
1881.774	C13016	(3-2)	P39	2.9
1881.916	?			0.1
1882.028	CO	(10-9)	P7	4.1
1882.105	C12018	(1-0)	P48	0.6
1882.232	CO	(6-5)	P31	16.8
1882.302	CO	(12-11)	R7	2.0
1882.403	C12018	(6-5)	P22	0.2
1882.487	CO	(14-13)	R26	1.8
1882.651	C12018	(4-3)	P33	0.5
1882.707	CO	(16-15)	R58	0.3
1882.874	CO	(3-2)	P46	21.4
1882.987	CO	(13-12)	R16	2.3
1883.129	CO	(15-14)	R39	1.0
1883.228	C12018	(2-1)	P43	0.7
1883.282	?			0.1
1883.337	?			0.1
1883.41	C12018	(3-2)	P38	b 0.6
1883.464	CO	(5-4)	P36	18.3
1883.67	CO	(16-15)	R59	b 0.3
1883.672	CO	(4-3)	P41	19.9
1883.772	?			0.1
1883.867	CO	(1-0)	P55	21.4
1884.049	C13016	(5-4)	P28	1.5

1878-1886 cm^{-1} (Continued)

1884.294	C13O16	(8-7)	P10	0.3
1884.350	CO	(9-8)	P13	8.7
1884.423	CO	(7-6)	P25	14.9
1884.582	CO	(16-15)	R60	0.3
1884.844	CO	(14-13)	R27	1.8
1884.930	CO	(15-14)	R40	1.0
1885.138	CO	(8-7)	P19	12.2
1885.188	C13O16	(1-0)	P48	2.9
1885.28	C12O17	(1-0)	P51	b 0.1
1885.281	C12O18	(5-4)	P27	0.3
1885.443	CO	(12-11)	R8	2.2
1885.45	CO	(16-15)	R61	b 0.3
1885.537	C13O16	(6-5)	P22	1.0
1885.629	C13O16	(7-6)	P16	0.5
1885.76	CO	(13-12)	R17	b 2 ⁺
1885.766	CO	(10-9)	P6	b 4
1885.77	C13O16	(4-3)	P33	b 2.4
1885.81	Ca	5d ¹ D ₂ - 5f ¹ F ₃		bs 2.6
1885.95	?			0.1

?

1886-1894 cm⁻¹

1886.010	?				0.1	?
1886.279	CO	(16-15)	R62		0.3	
1886.328	C13O16	(2-1)	P43		3.3	
1886.459	CO	(2-1)	P50		21.9	
1886.530	C13O16	(3-2)	P38		3.0	
1886.54	C12O18	(6-5)	P21		b 0.2	
1886.688	CO	(15-14)	R41		1.0	
1886.884	CO	(6-5)	P30		16.8	
1887.068	CO	(16-15)	R63		0.3	
1887.15	C12O18	(1-0)	P47		b 0.7	
1887.158	CO	(14-13)	R28		2.0	
1887.19	C12O18	(4-3)	P32		b 0.5	
1887.532	?				0.2	?
1887.637	?				0.1	?
1887.803	CO	(16-15)	R64		0.3	
1888.03	C13O16	(8-7)	P9		b 0.2	
1888.072	CO	(3-2)	P45		21.4	
1888.10	C12O18	(2-1)	P42		b 0.8	
1888.12	C12O18	(3-2)	P37		b 0.6	
1888.304	CO	(5-4)	P35		b 19	
1888.32	CO	(9-8)	P12		b 8	
1888.41	CO	(15-14)	R42		b 1	
1888.421	C13O16	(5-4)	P27		b 1.6	
1888.497	CO	(13-12)	R18		2.5	
1888.50	CO	(16-15)	R65		b 0.3	
1888.52	CO	(11-10)	R1		b <1	
1888.545	CO	(12-11)	R9		b 2 ⁺	
1888.692	CO	(4-3)	P40		20.0	
1888.853	CO	(7-6)	P24		15.2	
1889.145	CO	(16-15)	R66		0.3	
1889.267	C13O16	(11-10)	R13		0.1	
1889.343	CO	(8-7)	P18		12.4	
1889.387	CO	(1-0)	P54		21.4	
1889.44	CO	(14-13)	R29		bs 2	
1889.468	CO	(10-9)	P5		3.5	
1889.57	C13O16	(7-6)	P15		bs 0.5	
1889.617	C12O18	(5-4)	P26		b 0.3	
1889.69	Ca	4s5p ³ P ₂ - 4p ² ³ P ₁			b	
1889.707	C13O16	(6-5)	P21		1.0	
1889.751	CO	(16-15)	R67		0.3	
1890.086	CO	(15-14)	R43		1.0	
1890.250	C13O16	(1-0)	P47		3.0	
1890.32	CO	(16-15)	R68		b 0.2	
1890.328	C13O16	(4-3)	P32		2.4	
1890.53	C12O17	(1-0)	P50		0.1	
1890.673	C12O18	(6-5)	P20		0.2	
1890.726	?				0.2	?
1890.82	CO	(16-15)	R69		0.2	
1891.19	CO	(13-12)	R19		bs 2 ⁺	
1891.224	C13O16	(2-1)	P42		b 3 ⁺	
1891.256	C13O16	(3-2)	P37		b 3	
1891.30	CO	(16-15)	R70		b 0.2	
1891.505	CO	(6-5)	P29		16.8	
1891.614	CO	(12-11)	R10		2.6	
1891.677	CO	(14-13)	R30		1.9	

1886-1894 cm^{-1} (Continued)

1891.69	C12O18	(4-3)	P31	b 0.5
1891.71	CO	(16-15)	R71	b 0.2
1891.721	CO	(15-14)	R44	1.0
1891.73	C13O16	(8-7)	P8	b 0.2
1891.805	CO	(2-1)	P49	21.6
1891.914	CO	(11-10)	R2	1.4
1892.09	CO	(16-15)	R72	b 0.2
1892.11	C13O16	(11-10)	R14	b 0.1
1892.161	C12O18	(1-0)	P46	0.7
1892.264	CO	(9-8)	P11	8.0
1892.318	Si	$5p^3P_1 - 6s(\frac{1}{2}, \frac{1}{2})^0$	P11	1.8
1892.415	CO	(16-15)	R73	0.2
1892.644	?			0.1
1892.698	CO	(16-15)	R74	0.2
1892.776	C13O16	(5-4)	P26	1.6
1892.81	C12O18	(3-2)	P36	bs 0.6
1892.94	CO	(16-15)	R75	b 0.1
1892.951	C12O18	(2-1)	P41	b 0.8
1893.110	CO	(5-4)	P34	19.1
1893.14	CO	(10-9)	P4	b 3
1893.14	CO	(16-15)	R76	b 0.1
1893.244	CO	(3-2)	P44	b 22
1893.25	CO	(7-6)	P23	b 15
1893.28	CO	(16-15)	R77	b 0.1
1893.32	CO	(15-14)	R45	b 1
1893.36	CO	(16-15)	R78	0.1
1893.41	CO	(16-15)	R79	b 0.1
1893.41	CO	(16-15)	R80	b 0.1
1893.50	C13O16	(7-6)	P14	b 0.4
1893.515	CO	(8-7)	P17	12.2
1893.683	CO	(4-3)	P39	20.2
1893.762	?			0.1
1893.84	C13O16	(6-5)	P20	b 1
1893.85	CO	(13-12)	R20	b 2 ⁺
1893.87	CO	(14-13)	R31	b 2
1893.916	C12O18	(5-4)	P25	0.3
1893.961	?			0.1

1894-1902 cm⁻¹

1894.161	?				0.3	?
1894.429	?				0.2	?
1894.540	?				0.1	?
1894.644	CO	(12-11)	R11		2.8	
1894.762	C12018	(6-5)	P19		0.2	
1894.85	C13016	(4-3)	P31			
1894.87	CO	(15-14)	R46			
1894.877	CO	(1-0)	P53			
1895.047	?				21.4	?
1895.27	CO	(11-10)	R3		0.1	
1895.284	C13016	(1-0)	P46			
1895.403	C13016	(8-7)	P7			
1895.562	?				0.2	?
1895.70	C12017	(1-0)	P49		0.2	
1895.955	C13016	(3-2)	P36		3.1	
1896.032	CO	(14-13)	R32		1.7	
1896.09	C13016	(2-1)	P41			
1896.095	CO	(6-5)	P28			
1896.170	CO	(9-8)	P10			
1896.17	C12018	(4-3)	P30			
1896.378	CO	(15-14)	R47			
1896.477	CO	(13-12)	R21			
1896.65	?				0.1	?
1896.771	CO	(10-9)	P3		2.0	?
1896.993	?				0.3	?
1897.10	C13016	(5-4)	P25			
1897.123	CO	(2-1)	P48		21.7	
1897.15	C12018	(1-0)	P45			
1897.395	C13016	(7-6)	P13		0.4	
1897.452	C12018	(3-2)	P35		0.7	
1897.620	CO	(7-6)	P22		15.0	
1897.64	CO	(12-11)	R12			
1897.653	CO	(8-7)	P16			
1897.773	C12018	(2-1)	P40			
1897.85	CO	(15-14)	R48		0.8	
1897.887	CO	(5-4)	P33			
1897.952	C13016	(6-5)	P19		19.0	
1898.057	?					
1898.152	CO	(14-13)	R33		0.1	?
1898.19	C12018	(5-4)	P24		1.8	
1898.385	CO	(3-2)	P43			
1898.50	?				21.6	?
1898.586	CO	(11-10)	R4		0.1	
1898.645	CO	(4-3)	P38		2.4	
1898.830	C12018	(6-5)	P18		20.5	
1898.91	?				0.2	?
1899.04	C13016	(8-7)	P6		0.2	
1899.061	CO	(13-12)	R22		b 0.1	
1899.273	CO	(15-14)	R49		2.8	
1899.351	C13016	(4-3)	P30		0.9	
1899.524	?				2.4	?
1899.621	?				0.1	?
1899.802	?				0.1	?
1899.89	?				0.1	?
1900.044	CO	(9-8)	P9		0.1	?
					6.9	

1894-1902 cm^{-1} (Continued)

1900.139	?				0.1	?
1900.231	CO	(14-13)	R34		1.8	
1900.30	C13O16	(1-0)	P45	bs 3		
1900.342	CO	(1-0)	P52	21.7		
1900.37	CO	(10-9)	P2	b 1+		
1900.43	C13O16	(11-10)	R17	0.1		
1900.522	?			0.2		?
1900.60	CO	(12-11)	R13	bs 3		
1900.62	C12O18	(4-3)	P29	b 0.5		
1900.62	C13O16	(3-2)	P35	bs 3		
1900.655	CO	(6-5)	P27	17.0		
1900.655	CO	(15-14)	R50	b 1		
1900.73	?			0.1		?
1900.822	?			0.1		?
1900.936	C13O16	(2-1)	P40	3.6		
1900.96	C12O17	(1-0)	P48	b 0.2		
1901.257	C13O16	(7-6)	P12	0.4		
1901.384	C13O16	(5-4)	P24	1.7		
1901.607	CO	(13-12)	R23	2.8		
1901.763	CO	(8-7)	P15	11.5		
1901.870	CO	(11-10)	R5	2.6		
1901.956	CO	(7-6)	P21	15.0		

1902-1910 cm⁻¹

1902.00	CO	(15-14)	R51	b 1
1902.030	C13016	(6-5)	P18	bs 1
1902.078	C12018	(3-2)	P34	0.7
1902.111	C12018	(1-0)	P44	0.7
1902.20	C12017	(2-1)	P43	0.1
1902.270	CO	(14-13)	R35	1.9
1902.414	CO	(2-1)	P47	22.2
1902.43	C12018	(5-4)	P23	b 0.3
1902.568	C12018	(2-1)	P39	0.8
1902.635	CO	(5-4)	P32	18.8
1902.65	C13016	(8-7)	P5	b 0.1
1902.75	?			0.1
1902.854	C12018	(6-5)	P17	0.2
1903.14	C13016	(11-10)	R18	0.1
1903.297	CO	(15-14)	R52	0.9
1903.498	CO	(3-2)	P42	21.6
1903.51	CO	(12-11)	R14	b 3 ⁺
1903.577	CO	(4-3)	P37	20.3
1903.653	?			0.2
1903.819	C13016	(4-3)	P29	2.4
1903.883	CO	(9-8)	P8	6.6
1903.938	CO	(10-9)	P1	0.7
1904.113	CO	(13-12)	R24	2.8
1904.269	CO	(14-13)	R36	1.9
1904.551	CO	(15-14)	R53	0.8
1904.93	?			0.1
1905.03	Si	4d ¹ P ₁ ⁰ - 6p (³ / ₂ , ³ / ₂) ₁		b
1905.05	C12018	(4-3)	P28	b 0.5
1905.09	C13016	(7-6)	P11	bs 0.3
1905.116	CO	(11-10)	R6	3.0
1905.183	CO	(6-5)	P26	17.0
1905.27	C13016	(3-2)	P34	b 3
1905.275	C13016	(1-0)	P44	b 3 ⁺
1905.645	C13016	(5-4)	P23	1.8
1905.75	C13016	(2-1)	P39	b 3 ⁺
1905.77	CO	(15-14)	R54	b 1
1905.778	CO	(1-0)	P51	22.2
1905.837	CO	(8-7)	P14	11.2
1906.079	C13016	(6-5)	P17	0.8
1906.15	C12017	(1-0)	P47	0.2
1906.23	CO	(14-13)	R37	b 2
1906.23	C13016	(8-7)	P4	b 0.1
1906.260	CO	(7-6)	P20	14.8
1906.399	CO	(12-11)	R15	3.5
1906.582	CO	(13-12)	R25	2.7
1906.64	C12018	(5-4)	P22	bs 0.3
1906.674	C12018	(3-2)	P33	0.6
1906.73	?			0.2
1906.775	?			0.2
1906.857	C12018	(6-5)	P16	0.1
1906.932	CO	(15-14)	R55	0.8
1907.046	C12018	(1-0)	P43	0.7
1907.168	?			0.2
1907.20	C12017	(2-1)	P42	0.1
1907.33	C12018	(2-1)	P38	b 0.8

1902-1910 cm^{-1} (Continued)

1907.352	CO	(5-4)	P31	18.8
1907.676	CO	(2-1)	P46	22.5
1907.69	CO	(9-8)	P7	b 6
1908.057	CO	(15-14)	R56	0.7
1908.145	CO	(14-13)	R38	2.0
1908.258	C13O16	(4-3)	P28	2.5
1908.329	CO	(11-10)	R7	3.2
1908.479	CO	(4-3)	P36	20.8
1908.582	CO	(3-2)	P41	21.6
1908.680	?			0.1
1908.791	Fe	$3d^8 c^3F_4 - 3d^7 4p z^5G^0_5$		4.9
1908.888	C13O16	(7-6)	P10	0.3
1909.010	CO	(13-12)	R26	2.8
1909.14	CO	(15-14)	R57	b 1
1909.246	CO	(12-11)	R16	3.6
1909.402	Si	$5s^1 p^0_1 - 5p^1 p_1$		7.8
1909.44	C12O18	(4-3)	P27	bs 0.5
1909.680	CO	(6-5)	P25	17.0
1909.78	C13O16	(8-7)	P3	0.1
1909.879	C13O16	(5-4)	P22	b 2
1909.879	CO	(8-7)	P13	11.6
1909.89	C13O16	(3-2)	P33	b 3

?

1910-1918 cm⁻¹

1910.02	Ca	4s 5p ³ P ₁ - 4p ² ³ P ₁		
1910.02	CO	(14-13)	R39	b 2
1910.093	C13O16	(6-5)	P16	b 2
1910.179	CO	(15-14)	R58	0.8
1910.235	C13O16	(1-0)	P43	0.6
1910.532	CO	(7-6)	P19	3.4
1910.532	C13O16	(2-1)	P38	14.8
1910.826	C12O18	(6-5)	P15	b 3 ⁺
1910.826	C12O18	(5-4)	P21	b 0.1
1910.961	CO	(10-9)	R0	b 0.3
1911.04	C13O16	(11-10)	R21	0.8
1911.18	CO	(15-14)	R59	0.1
1911.187	CO	(1-0)	P50	b 0.6
1911.24	C12O18	(3-2)	P32	22.3
1911.29	C12O17	(1-0)	P46	b 0.7
1911.402	CO	(13-12)	R27	bs 0.2
1911.461	CO	(9-8)	P6	2.8
1911.504	CO	(11-10)	R8	5.6
1911.857	CO	(14-13)	R40	3.5
1911.955	C12O18	(1-0)	P42	1.7
1912.039	CO	(5-4)	P30	0.7
1912.05	CO	(12-11)	R17	18.8
1912.08	C12O18	(2-1)	P37	b 4
1912.126	CO	(15-14)	R60	b 0.8
1912.19	C12O17	(2-1)	P41	0.6
1912.352	?			0.1
1912.480	?			0.1
1912.65	C13O16	(7-6)	P9	0.1
1912.668	C13O16	(4-3)	P27	b 0.3
1912.800	?			2.6
1912.910	CO	(2-1)	P45	0.2
1913.033	CO	(15-14)	R61	22.6
1913.09	?			0.6
1913.28	C13O16	(8-7)	P2	0.1
1913.352	CO	(4-3)	P35	0.1
1913.637	CO	(3-2)	P40	20.8
1913.65	CO	(14-13)	R41	22.2
1913.754	CO	(13-12)	R28	b 2
1913.801	C12O18	(4-3)	P26	2.8
1913.887	CO	(8-7)	P12	0.5
1913.90	CO	(15-14)	R62	10.7
1914.078	C13O16	(5-4)	P21	b 0.6
1914.08	C13O16	(6-5)	P15	b 2
1914.146	CO	(6-5)	P24	b 0.8
1914.420	CO	(10-9)	R1	17.0
1914.471	C13O16	(3-2)	P32	1.5
1914.642	CO	(11-10)	R9	3.2
1914.712	CO	(15-14)	R63	3.8
1914.77	C12O18	(6-5)	P14	0.6
1914.772	CO	(7-6)	P18	b 0.1
1914.825	CO	(12-11)	R18	14.1
1914.991	C12O18	(5-4)	P20	3.7
1915.164	C13O16	(1-0)	P42	0.4
1915.199	CO	(9-8)	P5	3.7
1915.298	C13O16	(2-1)	P37	5.0
				3.8

? ? ? ?

1910-1918 cm^{-1} (Continued)

1915.406	CO	(14-13)	R42	1.7
1915.488	CO	(15-14)	R64	0.5
1915.778	C12O18	(3-2)	P31	0.8
1915.778	Fe	$3d^6 4s 5p \text{ t } ^5D_2 - 3d^7 4d \text{ h } ^5D_3$		b 1
1916.066	CO	(13-12)	R29	2.8
1916.14	C13O16	(11-10)	R23	b 0.1
1916.216	CO	(15-14)	R65	0.5
1916.40	C13O16	(7-6)	P8	b 0.3
1916.41	C12O17	(1-0)	P45	b 0.2
1916.569	CO	(1-0)	P49	22.5
1916.695	CO	(5-4)	P29	19.7
1916.76	C13O16	(8-7)	P1	b 0.1
1916.783	C12O18	(2-1)	P36	0.9
1916.835	C12O18	(1-0)	P41	0.7
1916.898	CO	(15-14)	R66	0.5
1917.050	C13O16	(4-3)	P26	2.4
1917.119	Ca	$4s \text{ } 5p \text{ } ^3P_1 - 4p^2 \text{ } ^3P_0$		b 2
1917.119	CO	(14-13)	R43	1.7
1917.55	CO	(15-14)	R67	b 0.4
1917.557	CO	(12-11)	R19	3.9
1917.745	CO	(11-10)	R10	4.0
1917.84	CO	(10-9)	R2	b 2
1917.861	CO	(8-7)	P11	10.7

1918-1926 cm⁻¹

1918.04	C13O16	(6-5)	P14	b 0.8	
1918.12	CO	(2-1)	P44	22.9	
1918.13	C12O18	(4-3)	P25	b 0.5	
1918.14	CO	(15-14)	R68	b 0.4	
1918.195	CO	(4-3)	P34	20.9	
1918.25	C13O16	(5-4)	P20	bs 2	
1918.339	CO	(13-12)	R30	2.9	
1918.580	CO	(6-5)	P23	17.3	
1918.663	CO	(3-2)	P39	21.9	
1918.68	C12O18	(6-5)	P13	b 0.1	
1918.69	CO	(15-14)	R69	b 0.4	
1918.790	CO	(14-13)	R44	1.7	
1918.902	CO	(9-8)	P4	4.2	
1918.979	CO	(7-6)	P17	14.0	
1919.030	C13O16	(3-2)	P31	3.3	
1919.107	C12O18	(5-4)	P19	0.4	
1919.184	CO	(15-14)	R70	0.4	
1919.418	?			0.1	?
1919.557	?			0.2	?
1919.640	CO	(15-14)	R71	0.3	
1919.737	?			0.2	?
1919.975	Si	5p ³ D ₃ - 4d ³ D ₀		5.0	
1920.029	C13O16	(2-1)	P36	b 4	
1920.05	CO	(15-14)	R72	b 0.3	
1920.066	C13O16	(1-0)	P41	4.1	
1920.09	C13O16	(7-6)	P7	b 0.3	
1920.14	?			0.1	?
1920.253	CO	(12-11)	R20	4.0	
1920.29	C12O18	(3-2)	P30	b 0.7	
1920.340	?			0.1	?
1920.418	CO	(14-13)	R45	b 1 ⁺	
1920.418	CO	(15-14)	R73	b 0.3	
1920.573	CO	(13-12)	R31	2.9	
1920.728	CO	(15-14)	R74	0.3	
1920.810	CO	(11-10)	R11	4.2	
1920.898	?			0.1	?
1921.004	CO	(15-14)	R75	0.3	
1921.075	C13O16	(11-10)	R25	0.1	
1921.234	CO	(10-9)	R3	3.1	
1921.234	CO	(15-14)	R76	b 0.2	
1921.320	CO	(5-4)	P28	19.7	
1921.402	C13O16	(4-3)	P25	2.4	
1921.402	CO	(15-14)	R77	b 0.2	
1921.474	C12O18	(2-1)	P35	0.9	
1921.48	C13O16	(9-8)	R7	b 0.1	
1921.546	CO	(15-14)	R78	0.2	
1921.61	CO	(15-14)	R82	b 0.1	
1921.61	CO	(15-14)	R79	b 0.2	
1921.69	CO	(15-14)	R80	b 0.2	
1921.69	CO	(15-14)	R81	b 0.2	
1921.69	C12O18	(1-0)	P40	b 0.8	
1921.804	CO	(8-7)	P10	9.9	
1921.922	CO	(1-0)	P48	22.5	
1921.96	C13O16	(6-5)	P13	b 0.7	
1922.006	CO	(14-13)	R46	b 1 ⁺	

1918-1926 cm^{-1} (Continued)

1922.05	C12O17	(2-1)	P39	0.1
1922.389	C13O16	(5-4)	P19	b 1*
1922.439	C12O18	(4-3)	P24	0.5
1922.55	Si	$4d\ ^1F_3 - 6p\ (\frac{3}{2}, \frac{1}{2})_2$		b
1922.56	C12O18	(6-5)	P12	b 0.1
1922.571	CO	(9-8)	P3	4.1
1922.767	CO	(13-12)	R32	2.9
1922.837	?			0.1
1922.910	CO	(12-11)	R21	4.1
1922.99	CO	(6-5)	P22	b 17
1923.00	CO	(4-3)	P33	b 21
1923.154	CO	(7-6)	P16	14.0
1923.20	C12O18	(5-4)	P18	b 0.4
1923.292	CO	(2-1)	P43	22.9
1923.55	CO	(14-13)	R47	b 1*
1923.556	C13O16	(3-2)	P30	b 3*
1923.660	CO	(3-2)	P38	21.9
1923.765	C13O16	(7-6)	P6	0.2
1923.839	CO	(11-10)	R12	4.5
1924.471	Si	$6s\ (\frac{1}{2}, \frac{1}{2})_1 - 6p\ (\frac{3}{2}, \frac{3}{2})_0$		0.2
1924.589	CO	(10-9)	R4	3.4
1924.60	C13O16	(9-8)	R8	b 0.1
1924.733	C13O16	(2-1)	P35	4.1
1924.77	C12O18	(3-2)	P29	bs 0.7
1924.92	CO	(13-12)	R33	b 3
1924.932	C13O16	(1-0)	P40	b 4*
1925.054	CO	(14-13)	R48	1.5
1925.529	CO	(12-11)	R22	4.1
1925.714	CO	(8-7)	P9	b 10
1925.72	C13O16	(4-3)	P24	b 2*
1925.86	C13O16	(6-5)	P12	0.7
1925.915	CO	(5-4)	P27	19.5

1926-1934 cm⁻¹

1926.04	?			0.1	?
1926.127	C12018	(2-1)	P34	1.0	
1926.206	CO	(9-8)	P2	2.4	?
1926.297	?			0.2	
1926.41	C12018	(6-5)	P11	0.1	
1926.50	C13016	(5-4)	P18	b 1 ⁺	
1926.510	CO	(14-13)	R49	b 1 ⁺	
1926.51	C12018	(1-0)	P39	b 0.8	
1926.714	C12018	(4-3)	P23	0.5	
1926.832	CO	(11-10)	R13	4.6	
1926.94	C12017	(2-1)	P38	b 0.1	?
1926.947	?			0.4	
1927.034	CO	(13-12)	R34	2.9	
1927.246	CO	(1-0)	P47	23.1	
1927.26	C12018	(5-4)	P17	b 0.4	
1927.297	CO	(7-6)	P15	b 14	
1927.354	CO	(6-5)	P21	17.0	
1927.41	C13016	(7-6)	P5	bs 0.2	
1927.520	?			0.2	?
1927.63	?			0.1	?
1927.69	C13016	(9-8)	R9	0.1	
1927.790	CO	(4-3)	P32	21.5	
1927.907	CO	(10-9)	R5	4.0	
1927.93	CO	(14-13)	R50	bs 1 ⁺	
1928.059	C13016	(3-2)	P29	3.4	
1928.109	CO	(12-11)	R23	4.2	
1928.224	C13016	(11-10)	R28	0.1	
1928.440	CO	(2-1)	P42	23.7	
1928.627	CO	(3-2)	P37	22.8	
1928.90	?			0.1	?
1929.03	?			0.1	?
1929.108	CO	(13-12)	R35	2.9	
1929.228	C12018	(3-2)	P28	0.8	
1929.310	CO	(14-13)	R51	1.4	
1929.409	C13016	(2-1)	P34	4.1	
1929.587	CO	(8-7)	P8	9.2	
1929.721	C13016	(6-5)	P11	0.7	
1929.788	CO	(11-10)	R14	b 5	
1929.788	C13016	(1-0)	P39	b 4 ⁺	
1929.80	CO	(9-8)	P1	b 1	
1930.018	Si	4f F ² [2 ₁] ₂ - 5d ³ F ⁰ ₃		b	
1930.018	C13016	(4-3)	P23	2.3	?
1930.12	?			0.1	
1930.226	C12018	(6-5)	P10	0.1	?
1930.313	?			0.1	
1930.36	C13016	(8-7)	R2	0.1	
1930.478	CO	(5-4)	P26	19.9	
1930.579	C13016	(5-4)	P17	1.5	
1930.64	CO	(14-13)	R52	b 1 ⁺	
1930.650	CO	(12-11)	R24	b 4 ⁺	
1930.73	C13016	(9-8)	R10	b 0.1	
1930.755	C12018	(2-1)	P33	0.9	
1930.961	C12018	(4-3)	P22	0.5	
1931.019	C13016	(7-6)	P4	0.2	
1931.141	CO	(13-12)	R36	2.8	

1926-1934 cm^{-1} (Continued)

1931.189	CO	(10-9)	R6	4.4	
1931.31	C12018	(5-4)	P16	b 0.4	
1931.315	C12018	(1-0)	P38	0.8	
1931.406	CO	(7-6)	P14	13.8	
1931.53	?			0.1	?
1931.61	C12017	(1-0)	P42	0.2	
1931.693	CO	(6-5)	P20	16.9	
1931.80	C12017	(2-1)	P37	0.1	
1931.934	CO	(14-13)	R53	1.2	
1932.054	?			0.1	?
1932.19	OH	(2-1)	P1E	0.1	
1932.319	?			0.1	?
1932.436	?			0.2	?
1932.53	C13016	(3-2)	P28	b 3*	
1932.543	CO	(4-3)	P31	b 21*	
1932.543	CO	(1-0)	P46	b 23.5	
1932.705	CO	(11-10)	R15	5.1	
1932.811	C13016	(11-10)	R30	0.1	
1933.13	CO	(13-12)	R37	b 3	
1933.148	CO	(12-11)	R25	b 4*	
1933.18	CO	(14-13)	R54	b 1*	
1933.295	?			0.1	?
1933.428	CO	(8-7)	P7	8.4	
1933.55	C13016	(6-5)	P10	b 0.7	
1933.562	CO	(2-1)	P41	b 24	
1933.562	CO	(3-2)	P36	b 23	
1933.650	C12018	(3-2)	P27	0.6	
1933.67	C13016	(8-7)	R3	b 0.1	
1933.74	C13016	(9-8)	R11	b 0.1	
1933.74	?			0.3	?
1933.83	C13016	(10-9)	R20	0.1	

1934-1942 cm⁻¹

1934.002	C12018	(6-5)	P9	s 0.1	
1934.057	C13016	(2-1)	P33	4.1	
1934.122	?			0.1	?
1934.281	C13016	(4-3)	P22	2.3	
1934.385	CO	(14-13)	R55	1.2	
1934.435	CO	(10-9)	R7	4.8	
1934.60	C13016	(7-6)	P3	b 0.2	
1934.610	C13016	(1-0)	P38	4.2	
1934.62	C13016	(5-4)	P16	b 1 ⁺	
1934.735	?			0.2	?
1934.845	?			0.1	?
1935.010	CO	(5-4)	P25	19.9	
1935.087	CO	(13-12)	R38	2.7	
1935.177	C12018	(4-3)	P21	0.5	
1935.302	C12018	(5-4)	P15	0.4	
1935.355	C12018	(2-1)	P32	0.9	
1935.482	CO	(7-6)	P13	13.6	
1935.55	CO	(14-13)	R56	b 1	
1935.586	CO	(11-10)	R16	5.5	
1935.618	CO	(12-11)	R26	4.7	
1936.000	CO	(6-5)	P19	16.8	
1936.090	C12018	(1-0)	P37	0.8	
1936.282	?			0.1	?
1936.466	C13016	(10-9)	R21	0.1	
1936.61	C12017	(1-0)	P41	0.2	
1936.663	CO	(14-13)	R57	1.1	
1936.728	C13016	(9-8)	R12	0.1	
1936.790	?			0.1	?
1936.901	CO	(9-8)	R0	1.2	
1936.95	C13016	(8-7)	R4	b 0.2	
1936.98	C13016	(3-2)	P27	b 3 ⁺	
1937.00	CO	(13-12)	R39	b 3	
1937.143	?			0.1	?
1937.24	CO	(8-7)	P6	b 8	
1937.264	CO	(4-3)	P30	21.4	
1937.351	C13016	(6-5)	P9	0.6	
1937.645	CO	(10-9)	R8	5.2	
1937.74	CO	(14-13)	R58	1.0	
1937.76	C12018	(6-5)	P8	b 0.1	
1937.814	CO	(1-0)	P45	23.5	
1938.044	CO	(12-11)	R27	4.7	
1938.05	C12018	(3-2)	P26	b 0.6	
1938.14	C13016	(7-6)	P2	0.2	
1938.43	CO	(11-10)	R17	bs 5 ⁺	
1938.472	CO	(3-2)	P35	22.8	
1938.51	C13016	(4-3)	P21	b 2 ⁺	
1938.650	C13016	(5-4)	P15	b 1 ⁺	
1938.650	CO	(2-1)	P40	24.0	
1938.68	C13016	(2-1)	P32	b 4	
1938.768	CO	(14-13)	R59	1.0	
1938.869	CO	(13-12)	R40	2.6	
1939.061	C13016	(10-9)	R22	0.1	
1939.13	?			0.1	?
1939.190	?			0.1	?
1939.279	C12018	(5-4)	P14	0.3	

1934-1942 cm^{-1} (Continued)

1939.36	C12018	(4-3)	P20	b 0.5
1939.401	C13016	(1-0)	P37	4.0
1939.51	CO	(5-4)	P24	b 20
1939.52	CO	(7-6)	P12	b 13
1939.664	C13016	(9-8)	R13	0.1
1939.753	CO	(14-13)	R60	1.0
1939.928	C12018	(2-1)	P31	0.9
1940.20	C13016	(8-7)	R5	0.2
1940.275	CO	(6-5)	P18	16.8
1940.39	CO	(9-8)	R1	bs 2
1940.431	CO	(12-11)	R28	4.5
1940.58	?			0.1
1940.698	CO	(13-12)	R41	b 3
1940.70	CO	(14-13)	R61	b 1
1940.819	CO	(10-9)	R9	6.0
1940.83	C12018	(1-0)	P36	b 1
1941.007	CO	(8-7)	P5	7.2
1941.122	C13016	(6-5)	P8	0.6
1941.234	CO	(11-10)	R18	5.6
1941.389	C13016	(3-2)	P26	3.4
1941.44	C12017	(2-1)	P35	0.1
1941.484	C12018	(6-5)	P7	0.1
1941.53	C13016	(11-10)	R34	0.1
1941.59	C12017	(1-0)	P40	b 0.2
1941.594	CO	(14-13)	R62	1.0
1941.66	C13016	(7-6)	P1	b 0.1
1941.80	?			0.2
1941.956	CO	(4-3)	P29	21.5
				?

1942-1950 cm⁻¹

1942.234	?								0.1	?
1942.41	C12O18	(3-2)	P25						0.6	
1942.45	CO	(14-13)	R63					b 1		
1942.487	CO	(13-12)	R42					2.6		
1942.57	C13O16	(9-8)	R14					0.1		
1942.636	C13O16	(5-4)	P14					1.1		
1942.714	C13O16	(4-3)	P20					2.2		
1942.777	CO	(12-11)	R29					4.3		
1943.054	CO	(1-0)	P44					23.9		
1943.22	C12O18	(5-4)	P13					bs 0.3		
1943.26	CO	(14-13)	R64					b 1		
1943.266	C13O16	(2-1)	P31					b 4*		
1943.350	CO	(3-2)	P34					22.8		
1943.42	C13O16	(8-7)	R6					bs 0.3		
1943.52	C12O18	(4-3)	P19					b 0.5		
1943.536	CO	(7-6)	P11					13.1		
1943.62	C13O16	(11-10)	R35					bs 0.1		
1943.711	CO	(2-1)	P39					24.0		
1943.711	Mg	6p ³ P ⁰ - 8s ³ S ₁						b		
1943.856	CO	(9-8)	R2					3.4		
1943.95	CO	(10-9)	R10					b 6		
1943.981	CO	(5-4)	P23					19.9		
1944.00	CO	(11-10)	R19					b 6		
1944.03	CO	(14-13)	R65					b 1		
1944.071	?							0.1		?
1944.165	C13O16	(1-0)	P36					4.1		
1944.234	CO	(13-12)	R43					2.6		?
1944.32	?							0.1		
1944.47	C12O18	(2-1)	P30					bs 1		
1944.517	CO	(6-5)	P17					16.8		
1944.652	?							0.1		?
1944.74	CO	(14-13)	R66					b 1		
1944.746	CO	(8-7)	P4					7.0		
1944.859	C13O16	(6-5)	P7					0.5		
1945.024	Mg	6p ³ P ⁰ - 8s ³ S ₁						s 0.4		
1945.085	CO	(12-11)	R30					4.3		
1945.18	C12O18	(6-5)	P6					0.1		
1945.42	CO	(14-13)	R67					bs 1		
1945.45	C13O16	(9-8)	R15					0.2		
1945.551	C12O18	(1-0)	P35					0.9		
1945.675	C13O16	(11-10)	R36					0.2		
1945.773	C13O16	(3-2)	P25					3.5		
1945.940	CO	(13-12)	R44					2.6		
1946.05	CO	(14-13)	R68					0.8		
1946.22	C12O17	(2-1)	P34					0.1		?
1946.32	?							0.1		
1946.54	C12O17	(1-0)	P39					bs 0.2		
1946.60	C13O16	(8-7)	R7					b 0.3		
1946.60	C13O16	(5-4)	P13					b 1		
1946.616	CO	(4-3)	P28					21.4		
1946.64	CO	(14-13)	R69					b 0.7		
1946.64	C13O16	(10-9)	R25					b 0.1		
1946.733	CO	(11-10)	R20					5.9		
1946.75	C12O18	(3-2)	P24					b 0.6		
1946.892	C13O16	(4-3)	P19					2.1		

1942-1950 cm⁻¹ (Continued)

1947.055	CO	(10-9)	R11	6.3	
1947.13	C12018	(5-4)	P12	bs 0.3	
1947.163	CO	(14-13)	R70	0.7	
1947.281	CO	(9-8)	R3	4.2	
1947.354	CO	(12-11)	R31	4.3	
1947.513	CO	(7-6)	P10	12.6	
1947.604	CO	(13-12)	R45	2.4	
1947.65	C12018	(4-3)	P18	b 0.5	
1947.66	CO	(14-13)	R71	0.7	
1947.829	C13016	(2-1)	P30	4.2	
1948.01	?			0.1	?
1948.106	CO	(14-13)	R72	0.6	
1948.11	CO	(14-13)	R90	b <<1	
1948.197	CO	(3-2)	P33	22.9	
1948.266	CO	(1-0)	P43	23.7	
1948.29	C13016	(9-8)	R16	b 0.2	
1948.418	CO	(5-4)	P22	19.9	
1948.45	CO	(8-7)	P3	b 5	
1948.506	CO	(14-13)	R73	0.5	
1948.53	CO	(14-13)	R89	b <<1	
1948.567	C13016	(6-5)	P6	0.3	
1948.73	CO	(6-5)	P16	b 17	
1948.738	CO	(2-1)	P38	24.5	
1948.84	C12018	(6-5)	P5	0.1	
1948.87	CO	(14-13)	R74	b 0.5	
1948.90	CO	(14-13)	R88	b <<1	
1948.902	C13016	(1-0)	P35	4.1	
1948.987	C12018	(2-1)	P29	0.8	
1949.091	C13016	(10-9)	R26	0.2	
1949.166	CO	(14-13)	R75	0.5	
1949.20	CO	(14-13)	R87	b <<1	
1949.227	CO	(13-12)	R46	2.4	
1949.297	?			0.1	?
1949.424	CO	(11-10)	R21	6.1	
1949.424	CO	(14-13)	R76	b 0.5	
1949.46	CO	(14-13)	R86	b <<1	
1949.582	CO	(12-11)	R32	4.3	
1949.65	C13016	(11-10)	R38	b 0.1	
1949.65	CO	(14-13)	R77	0.5	
1949.68	CO	(14-13)	R85	b <<1	
1949.745	C13016	(8-7)	R8	0.3	
1949.810	CO	(14-13)	R78	0.5	
1949.83	H	(6-10)	Broad	b	
1949.84	CO	(14-13)	R84	b <<1	
1949.936	CO	(14-13)	R79	0.5	
1949.96	CO	(14-13)	R83	b <<1	

1950-1958 cm⁻¹

1950.02	CO	(14-13)	R80	b <1	
1950.02	CO	(14-13)	R82	b <1	
1950.04	CO	(14-13)	R81	b <1	
1950.12	C13O16	(3-2)	P24	b 3 ⁺	
1950.123	CO	(10-9)	R12	b 7	
1950.239	C12O18	(1-0)	P34	0.9	?
1950.388	?			0.2	?
1950.470	?			0.1	
1950.523	C13O16	(5-4)	P12	1.2	
1950.669	CO	(9-8)	R4	4.9	
1950.806	CO	(13-12)	R47	2.5	
1950.97	C12O17	(2-1)	P33	0.1	
1951.02	C12O18	(5-4)	P11	b 0.2	
1951.036	C13O16	(4-3)	P18	2.1	
1951.06	C12O18	(3-2)	P23	b 0.6	
1951.098	C13O16	(9-8)	R17	0.2	
1951.246	CO	(4-3)	P27	21.4	
1951.456	CO	(7-6)	P9	12.5	
1951.47	C12O17	(1-0)	P38	b 0.2	
1951.591	C13O16	(11-10)	R39	0.1	
1951.74	C12O18	(4-3)	P17	b 0.4	
1951.771	CO	(12-11)	R33	4.3	
1951.995	C13O16	(7-6)	R1	0.1	
1952.077	CO	(11-10)	R22	6.0	
1952.120	CO	(8-7)	P2	b 3.7	
1952.239	C13O16	(6-5)	P5	0.3	
1952.35	CO	(13-12)	R48	b 2	
1952.358	C13O16	(2-1)	P29	b 4 ⁺	
1952.54	?			0.1	?
1952.824	CO	(5-4)	P21	19.4	
1952.86	C13O16	(8-7)	R9	b 0.3	
1952.904	CO	(6-5)	P15	16.7	
1953.016	CO	(3-2)	P32	22.9	
1953.148	CO	(10-9)	R13	6.7	
1953.290	?			0.1	?
1953.449	CO	(1-0)	P42	23.5	
1953.47	C12O18	(2-1)	P28	b 0.8	
1953.611	C13O16	(1-0)	P34	4.1	
1953.744	CO	(2-1)	P37	23.7	
1953.841	CO	(13-12)	R49	2.2	
1953.86	C13O16	(9-8)	R18	b 0.2	
1953.920	CO	(12-11)	R34	4.3	
1954.022	CO	(9-8)	R5	5.6	
1954.215	?			0.1	?
1954.42	C13O16	(5-4)	P11	bs 1.1	
1954.455	C13O16	(3-2)	P23	3.3	
1954.588	?			0.1	?
1954.693	CO	(11-10)	R23	6.1	
1954.86	C12O18	(5-4)	P10	0.2	
1954.899	C12O18	(1-0)	P33	0.9	
1955.149	C13O16	(4-3)	P17	2.0	
1955.294	CO	(13-12)	R50	2.1	
1955.34	C12O18	(3-2)	P22	b 0.6	
1955.366	CO	(7-6)	P8	12.2	
1955.571	?			0.1	?

1950-1958 cm⁻¹ (Continued)

1955.616	?				0.1	?
1955.68	C12017	(2-1)	P32		0.1	
1955.755	CO	(8-7)	P1		2.2	
1955.81	C12018	(4-3)	P16		0.4	
1955.844	CO	(4-3)	P26		21.5	
1955.85	A1	5p 2p ⁰ _{3/2} - 5d 2D _{3/2}			b	
1955.88	C13016	(6-5)	P4		0.2	
1955.938	C13016	(8-7)	R10		0.4	
1956.028	CO	(12-11)	R35		4.3	
1956.138	CO	(10-9)	R14		7.0	
1956.223	C13016	(10-9)	R29		0.2	
1956.282	?				0.1	?
1956.365	C12017	(1-0)	P37		0.2	
1956.601	C13016	(9-8)	R19		0.2	
1956.705	CO	(13-12)	R51		2.1	
1956.868	C13016	(2-1)	P28		4.2	
1957.049	CO	(6-5)	P14		16.7	
1957.199	CO	(5-4)	P20		19.1	
1957.270	CO	(11-10)	R24		6.2	
1957.339	CO	(9-8)	R6		6.0	
1957.707	?				0.1	?
1957.803	CO	(3-2)	P31		22.9	
1957.930	C12018	(2-1)	P27		0.8	

1958-1966 cm⁻¹

1958.08	CO	(13-12)	R52	b 2
1958.09	CO	(12-11)	R36	b 4*
1958.28	C13O16	(5-4)	P10	b 1
1958.290	C13O16	(1-0)	P33	b 4*
1958.45	?			0.3
1958.51	C12O17	(3-2)	P26	<0.1
1958.603	CO	(1-0)	P41	23.9
1958.68	C12O18	(5-4)	P9	bs 0.2
1958.717	CO	(2-1)	P36	23.7
1958.75	C13O16	(3-2)	P22	b 3*
1958.82	?			0.3
1958.90	?			0.2
1958.98	C13O16	(8-7)	R11	0.4
1959.090	CO	(10-9)	R15	7.2
1959.23	C13O16	(4-3)	P16	b 2
1959.241	CO	(7-6)	P7	11.6
1959.30	C13O16	(9-8)	R20	0.2
1959.398	CO	(13-12)	R53	2.1
1959.49	C13O16	(6-5)	P3	0.1
1959.532	C12O18	(1-0)	P32	0.8
1959.586	C12O18	(3-2)	P21	0.6
1959.808	CO	(11-10)	R25	6.3
1959.85	C12O18	(4-3)	P15	bs 0.4
1959.908	Al	5p ² P _{3/2} - 5d ² D _{5/2}	P25	6.9
1960.124	CO	(12-11)	R37	4.3
1960.240	Fe(?)	z ³ F ₃ - c ³ F ₂		0.7
1960.412	CO	(4-3)	P25	21.4
1960.620	CO	(9-8)	R7	6.8
1960.682	CO	(13-12)	R54	2.0
1960.805	C13O16	(10-9)	R31	0.2
1961.161	CO	(6-5)	P13	16.5
1961.23	C12O17	(1-0)	P36	b 0.2
1961.343	C13O16	(2-1)	P27	4.2
1961.541	CO	(5-4)	P19	19.6
1961.760	Al	5p ² P _{1/2} - 5d ² D _{3/2}		6.0
1961.920	CO	(13-12)	R55	1.9
1961.96	C13O16	(9-8)	R21	b 0.2
1962.00	C13O16	(8-7)	R12	b 0.4
1962.006	CO	(10-9)	R16	7.6
1962.112	CO	(12-11)	R38	4.5
1962.12	C13O16	(5-4)	P9	b 1
1962.307	CO	(11-10)	R26	6.3
1962.359	C12O18	(2-1)	P26	0.8
1962.470	C12O18	(5-4)	P8	0.2
1962.560	CO	(3-2)	P30	23.1
1962.92	CO	(8-7)	R0	b 4
1962.939	C13O16	(1-0)	P32	4.4
1963.017	C13O16	(3-2)	P21	3.2
1963.07	C13O16	(6-5)	P2	b 0.1
1963.084	CO	(7-6)	P6	10.7
1963.12	CO	(13-12)	R56	b 2
1963.284	C13O16	(4-3)	P15	1.8
1963.659	CO	(2-1)	P35	24.5
1963.729	CO	(1-0)	P40	24.5
1963.806	C12O18	(3-2)	P20	0.6

1958-1966 cm^{-1} (Continued)

1963.85	Cl2018	(4-3)	P14	b	0.4
1963.865	CO	(9-8)	R8		7.5
1964.058	CO	(12-11)	R39		4.3
1964.137	Cl2018	(1-0)	P31		0.8
1964.270	CO	(13-12)	R57		1.8
1964.441	Si	$5p^3s_1 - 6s(\frac{3}{2}, \frac{1}{2})_2$			4.6
1964.592	Cl3016	(9-8)	R22		0.2
1964.768	CO	(11-10)	R27		6.4
1964.884	CO	(10-9)	R17		8.0
1964.948	CO	(4-3)	P24		21.5
1964.97	Cl3016	(8-7)	R13	b	0.4
1965.03	Cl2017	(2-1)	P30	b	0.1
1965.079	?				0.1
1965.239	CO	(6-5)	P12		16.1
1965.321	Cl3016	(7-6)	R5		0.1
1965.379	Fe	$5p^7D_3 - g^5D_3$		b	
1965.379	CO	(13-12)	R58		1.7
1965.790	Cl3016	(2-1)	P26		4.2
1965.851	CO	(5-4)	P18		19.6
1965.920	Cl3016	(5-4)	P8	bs	<1
1965.964	CO	(12-11)	R40		4.1

1966-1974 cm⁻¹

1966.067	C12017	(1-0)	P35	0.2	
1966.172	?			0.4	?
1966.218	C12018	(5-4)	P7	0.1	
1966.448	CO	(8-7)	R1	4.8	
1966.45	CO	(13-12)	R59	b 1.7	
1966.524	?			0.1	?
1966.62	C13016	(6-5)	P1	<0.1	
1966.757	C12018	(2-1)	P25	0.8	
1966.892	CO	(7-6)	P5	9.4	
1966.992	?			0.1	?
1967.074	CO	(9-8)	R9	8.0	
1967.18	C13016	(9-8)	R23	b 0.2	
1967.189	CO	(11-10)	R28	6.5	
1967.25	C13016	(3-2)	P20	b 3	
1967.286	CO	(3-2)	P29	23.2	
1967.30	C13016	(4-3)	P14	b 1*	
1967.377	C13016	(10-9)	R34	0.1	
1967.43	C12017	(3-2)	P24	s <0.1	
1967.463	CO	(13-12)	R60	bs 1.6	
1967.567	C13016	(1-0)	P31	4.4	
1967.725	CO	(10-9)	R18	8.1	
1967.828	CO	(12-11)	R41	4.5	
1967.828	C12018	(4-3)	P13	b 0.4	
1967.914	C13016	(8-7)	R14	0.5	
1967.997	C12018	(3-2)	P19	0.6	
1968.17	?			0.1	?
1968.30	?			0.1	?
1968.385	?			0.2	?
1968.442	CO	(13-12)	R61	1.6	
1968.57	C13016	(7-6)	R6	b 0.2	
1968.573	CO	(2-1)	P34	24.5	
1968.714	C12018	(1-0)	P30	0.8	
1968.824	CO	(1-0)	P39	24.6	
1969.284	CO	(6-5)	P11	16.0	
1969.375	CO	(13-12)	R62	1.5	
1969.452	CO	(4-3)	P23	21.4	
1969.571	CO	(11-10)	R29	6.6	
1969.652	CO	(12-11)	R42	4.2	
1969.66	C12017	(2-1)	P29	b 0.1	
1969.69	C13016	(5-4)	P7	bs <1	
1969.744	C13016	(9-8)	R24	0.2	
1969.944	CO	(8-7)	R2	5.1	
1969.944	C12018	(5-4)	P6	b 0.1	
1970.128	CO	(5-4)	P17	19.3	
1970.208	C13016	(2-1)	P25	bs 4*	
1970.247	CO	(9-8)	R10	b 9	
1970.27	CO	(13-12)	R63	b 1.5	
1970.364	?			0.1	?
1970.528	CO	(10-9)	R19	8.2	
1970.665	CO	(7-6)	P4	8.1	
1970.825	C13016	(8-7)	R15	0.3	
1970.884	C12017	(1-0)	P34	0.2	
1971.11	CO	(13-12)	R64	1.5	
1971.13	C12018	(2-1)	P24	b 0.8	
1971.296	C13016	(4-3)	P13	1.7	

1966-1974 cm^{-1} (Continued)

1971.436	CO	(12-11)	R43	4.2
1971.46	C13O16	(3-2)	P19	bs 3
1971.584	C13O16	(10-9)	R36	0.1
1971.77	C12O18	(4-3)	P12	b 0.5
1971.78	C13O16	(7-6)	R7	b 0.3
1971.85	C12O17	(3-2)	P23	s <0.1
1971.91	CO	(13-12)	R65	b 1.4
1971.912	CO	(11-10)	R30	b 7
1971.982	CO	(3-2)	P28	23.2
1972.16	C12O18	(3-2)	P18	b 0.5
1972.161	C13O16	(1-0)	P30	4.6
1972.261	C13O16	(9-8)	R25	0.2
1972.661	CO	(13-12)	R66	1.3
1972.931	?			0.1
1973.174	CO	(12-11)	R44	4.0
1973.26	C12O18	(1-0)	P29	b 1
1973.29	CO	(10-9)	R20	b 8 ⁺
1973.295	CO	(6-5)	P10	16.0
1973.38	CO	(13-12)	R67	b 1
1973.38	CO	(9-8)	R11	b 9
1973.40	CO	(8-7)	R3	b 6
1973.43	C13O16	(5-4)	P6	b <1
1973.456	CO	(2-1)	P33	24.5
1973.63	C13O16	(10-9)	R37	b 0.1
1973.636	C12O18	(5-4)	P5	b 0.1
1973.696	C13O16	(8-7)	R16	0.5
1973.890	CO	(1-0)	P38	25.2
1973.92	CO	(4-3)	P22	b 22

?

1974-1982 cm⁻¹

1974.04	Fe	e ⁵ G ₄ - ⁵ F ₄			b
1974.04	CO	(13-12)	R68		1.2
1974.216	CO	(11-10)	R31		6.5
1974.373	Fe	e ⁵ F ₄ - 5p ⁷ D ₅			b
1974.373	CO	(5-4)	P16		b 19
1974.40	CO	(7-6)	P3		b 7
1974.596	C13O16	(2-1)	P24		4.2
1974.65	CO	(13-12)	R69		1.1
1974.746	C13O16	(9-8)	R26		0.3
1974.873	CO	(12-11)	R45		3.9
1974.963	C13O16	(7-6)	R8		0.4
1975.24	CO	(13-12)	R70		bs 1
1975.256	C13O16	(4-3)	P12		1.7
1975.468	C12O18	(2-1)	P23		0.8
1975.513	?				b 0.2
1975.637	C13O16	(3-2)	P18		3.1
1975.66	C12O17	(1-0)	P33		b 0.2
1975.68	C12O18	(4-3)	P11		s 0.4
1975.755	CO	(13-12)	R71		0.9
1976.019	CO	(10-9)	R21		8.4
1976.239	CO	(13-12)	R72		1.0
1976.286	C12O18	(3-2)	P17		0.5
1976.480	CO	(11-10)	R32		b 6 ⁺
1976.480	CO	(9-8)	R12		b 9
1976.53	C13O16	(8-7)	R17		b 0.4
1976.532	CO	(12-11)	R46		4.0
1976.646	CO	(3-2)	P27		23.7
1976.69	CO	(13-12)	R73		b 1
1976.728	C13O16	(1-0)	P29		4.4
1976.827	CO	(8-7)	R4		7.5
1976.91	CO	(13-12)	R90		0.2
1977.05	C13O16	(6-5)	R1		b 0.1
1977.07	CO	(13-12)	R74		0.8
1977.135	C13O16	(5-4)	P5		0.5
1977.193	C13O16	(9-8)	R27		0.3
1977.275	CO	(6-5)	P9		15.3
1977.28	CO	(13-12)	R89		b 0.3
1977.41	CO	(13-12)	R75		0.7
1977.60	CO	(13-12)	R88		0.4
1977.689	Si	5p ³ P ₀ - 6s (¹ / ₂ , ¹ / ₂) ₁			2.8
1977.71	CO	(13-12)	R76		bs 0.7
1977.779	C12O18	(1-0)	P28		0.9
1977.87	CO	(13-12)	R87		0.4
1977.96	CO	(13-12)	R77		0.7
1978.10	CO	(13-12)	R86		b <1
1978.11	C13O16	(7-6)	R9		b 0.5
1978.11	CO	(7-6)	P2		b 6
1978.147	CO	(12-11)	R47		4.0
1978.16	CO	(13-12)	R78		b <1
1978.28	CO	(13-12)	R85		b <1
1978.307	CO	(2-1)	P32		24.6
1978.33	CO	(13-12)	R79		b <1
1978.367	CO	(4-3)	P21		22.0
1978.41	CO	(13-12)	R84		b <1
1978.44	CO	(13-12)	R80		b <1

1974-1982 cm⁻¹ (Continued)

1978.49	CO	(13-12)	R83	b <1	
1978.50	CO	(13-12)	R81	b <1	
1978.52	CO	(13-12)	R82	b <1	
1978.585	CO	(5-4)	P15	19.0	
1978.706	CO	(11-10)	R33	b 6 ⁺	
1978.706	CO	(10-9)	R22	b 9	
1978.84	C12O17	(2-1)	P27	0.1	
1978.928	CO	(1-0)	P37	25.2	
1978.95	C13O16	(2-1)	P23	b 4 ⁺	
1979.186	C13O16	(4-3)	P11	1.6	
1979.338	C13O16	(8-7)	R18	0.5	
1979.543	CO	(9-8)	R13	9.3	
1979.57	C12O18	(4-3)	P10	0.4	
1979.607	C13O16	(9-8)	R28	0.3	
1979.719	CO	(12-11)	R48	3.7	
1979.78	C12O18	(2-1)	P22	b 0.8	
1979.782	C13O16	(3-2)	P17	b 3	
1979.860	?			0.1	?
1980.09	?			0.1	?
1980.215	CO	(8-7)	R5	8.3	
1980.33	C12O18	(6-5)	R3	0.1	
1980.385	C12O18	(3-2)	P16	0.5	
1980.41	C12O17	(1-0)	P32	bs 0.2	
1980.467	C13O16	(6-5)	R2	0.2	
1980.59	C12O17	(3-2)	P21	0.1	
1980.809	C13O16	(5-4)	P4	0.4	
1980.887	CO	(11-10)	R34	6.5	
1981.002	?			0.1	?
1981.219	CO	(6-5)	P8	15.3	
1981.22	C13O16	(7-6)	R10	b 0.5	
1981.25	CO	(12-11)	R49	b 3 ⁺	
1981.26	C13O16	(1-0)	P28	b 4 ⁺	
1981.280	CO	(3-2)	P26	24.3	
1981.357	CO	(10-9)	R23	8.8	
1981.426	C13O16	(10-9)	R41	0.1	
1981.600	Fe	f ⁵ F ₅ - ⁵ F ₅ ^o		0.5	
1981.779	CO	(7-6)	P1	3.1	
1981.983	C13O16	(9-8)	R29	0.3	

1982-1990 cm⁻¹

1982.106	C13016	(8-7)	R19	0.4	
1982.269	C12018	(1-0)	P27	0.9	
1982.567	CO	(9-8)	R14	9.7	
1982.74	CO	(12-11)	R50	bs 3 ⁺	
1982.77	CO	(5-4)	P14	b 19	
1982.772	CO	(4-3)	P20	b 22	
1983.030	CO	(11-10)	R35	6.4	
1983.08	C13016	(4-3)	P10	b 1 ⁺	
1983.131	CO	(2-1)	P31	24.5	
1983.284	C13016	(2-1)	P22	4.3	
1983.38	C12017	(2-1)	P26	0.1	
1983.422	C12018	(4-3)	P9	0.3	
1983.567	CO	(8-7)	R6	9.2	
1983.66	C12018	(6-5)	R4	0.1	
1983.848	C13016	(6-5)	R3	s 0.3	
1983.90	C13016	(3-2)	P16	b 3	
1983.935	CO	(1-0)	P36	25.1	
1983.97	CO	(10-9)	R24	bs 9	
1984.061	C12018	(2-1)	P21	0.8	
1984.184	CO	(12-11)	R51	3.4	
1984.30	C13016	(7-6)	R11	b 0.6	
1984.32	C13016	(9-8)	R30	b 0.3	
1984.452	C13016	(5-4)	P3	b <<1	
1984.452	C12018	(3-2)	P15	b 0.5	
1984.690	?			0.4	?
1984.737	?			0.3	?
1984.91	C12017	(3-2)	P20	0.1	
1984.997	?			0.2	?
1985.130	CO	(6-5)	P7	15.0	
1985.130	CO	(11-10)	R36	b 6 ⁺	
1985.14	C12017	(1-0)	P31	b 0.2	
1985.555	CO	(9-8)	R15	b 10	
1985.59	CO	(12-11)	R52	b 3	
1985.774	C13016	(1-0)	P27	4.3	
1985.882	CO	(3-2)	P25	23.7	
1986.058	?			0.1	?
1986.46	OH	(2-1)	P1F 29.5	0.2	
1986.542	CO	(10-9)	R25	8.8	
1986.623	C13016	(9-8)	R31	0.3	
1986.730	C12018	(1-0)	P26	0.9	
1986.88	CO	(8-7)	R7	b 10	
1986.911	CO	(5-4)	P13	b 18.8	
1986.95	C13016	(4-3)	P9	b 1 ⁺	
1986.95	CO	(12-11)	R53	b 3	
1986.96	C12018	(6-5)	R5	b 0.1	
1987.152	CO	(4-3)	P19	21.7	
1987.19	CO	(11-10)	R37	bs 6 ⁺	
1987.19	C13016	(6-5)	R4	b 0.4	
1987.24	C12018	(4-3)	P8	bs 0.3	
1987.345	C13016	(7-6)	R12	0.6	
1987.46	OH	(2-1)	P2E 28.5	0.2	
1987.533	C13016	(8-7)	R21	0.4	
1987.583	C13016	(2-1)	P21	4.2	
1987.668	?			0.1	?
1987.743	?			0.2	?

1982-1990 cm^{-1} (Continued)

1987.923	CO	(2-1)	P30	25.1
1987.983	C13O16	(3-2)	P15	3.0
1988.062	C13O16	(5-4)	P2	0.2
1988.265	CO	(12-11)	R54	3.1
1988.314	C12O18	(2-1)	P20	0.8
1988.49	C12O18	(3-2)	P14	b 0.5
1988.505	CO	(9-8)	R16	10.4
1988.62	C13O16	(10-9)	R45	0.1
1988.758	?			0.1
1988.88	C13O16	(9-8)	R32	b 0.3
1988.914	CO	(1-0)	P35	25.2
1989.008	CO	(6-5)	P6	13.9
1989.01	CO	(7-6)	R0	b
1989.076	CO	(10-9)	R26	9.0
1989.218	CO	(11-10)	R38	6.4
1989.539	CO	(12-11)	R55	3.0
1989.78	C12O18	(7-6)	R14	0.1
1989.836	C12O17	(1-0)	P30	0.3
1989.96	?			0.1

1990-1998 cm⁻¹

1990.163	CO	(8-7)	R8	10.5
1990.19	C13O16	(8-7)	R22	b 0.4
1990.23	C12O18	(6-5)	R6	b 0.1
1990.254	C13O16	(1-0)	P26	4.3
1990.355	C13O16	(7-6)	R13	0.6
1990.45	Si	3s3p ³ D ⁰ - 3s ² 3p4p ¹ P ₁	b	b
1990.453	CO	(3-2)	P24	23.7
1990.51	C13O16	(6-5)	R5	b 0.5
1990.63	?			0.1
1990.774	CO	(12-11)	R56	b 3 ⁺
1990.78	C13O16	(4-3)	P8	b 1 ⁺
1991.025	CO	(5-4)	P12	18.4
1991.03	C12O18	(4-3)	P7	b 0.2
1991.113	C13O16	(9-8)	R33	0.2
1991.16	C12O18	(1-0)	P25	bs 1
1991.200	CO	(11-10)	R39	6.3
1991.419	CO	(9-8)	R17	10.5
1991.497	CO	(4-3)	P18	21.6
1991.572	CO	(10-9)	R27	9.2
1991.635	C13O16	(5-4)	P1	0.1
1991.779	?			0.1
1991.853	C13O16	(2-1)	P20	4.1
1991.96	CO	(12-11)	R57	b 3
1992.038	C13O16	(3-2)	P14	2.6
1992.266	?			0.2
1992.37	C12O17	(2-1)	P24	0.1
1992.495	C12O18	(3-2)	P13	bs 0.5
1992.53	C12O18	(2-1)	P19	bs 0.8
1992.579	CO	(7-6)	R1	5.8
1992.685	CO	(2-1)	P29	25.2
1992.82	C13O16	(8-7)	R23	b 0.4
1992.850	CO	(6-5)	P5	12.7
1992.979	?			0.1
1993.103	CO	(12-11)	R58	bs 3
1993.140	CO	(11-10)	R40	6.3
1993.31	C13O16	(9-8)	R34	b 0.3
1993.33	C13O16	(7-6)	R14	b 0.6
1993.407	CO	(8-7)	R9	10.7
1993.47	C12O17	(3-2)	P18	b 0.1
1993.47	C12O18	(6-5)	R7	0.1
1993.53	?			0.2
1993.599	?			0.1
1993.687	?			0.3
1993.79	C13O16	(6-5)	R6	bs 0.5
1993.861	CO	(1-0)	P34	25.2
1993.87	Na	5p ² P ⁰ _{3/2} - 5d ² D _{5/2}	b	b
1994.028	CO	(10-9)	R28	9.2
1994.202	CO	(12-11)	R59	2.8
1994.294	CO	(9-8)	R18	10.6
1994.41	?			0.2
1994.493	C12O17	(1-0)	P29	0.2
1994.586	C13O16	(4-3)	P7	1.2
1994.704	C13O16	(1-0)	P25	4.4
1994.783	C12O18	(4-3)	P6	0.2
1994.992	CO	(3-2)	P23	24.0

1990-1998 cm⁻¹ (Continued)

1995.04	CO	(11-10)	R41	bs 6	
1995.105	CO	(5-4)	P11	18.3	
1995.18	?			0.1	?
1995.258	CO	(12-11)	R60	2.7	
1995.410	C13O16	(8-7)	R24	0.4	
1995.457	C13O16	(9-8)	R35	0.4	
1995.565	C12O18	(1-0)	P24	0.9	
1995.611	C12O18	(7-6)	R16	0.1	
1995.69	?			0.1	?
1995.810	CO	(4-3)	P17	21.4	
1996.06	C13O16	(3-2)	P13	bs 2 ⁺	
1996.09	C13O16	(2-1)	P19	b 4	
1996.105	CO	(7-6)	R2	8.9	
1996.27	C13O16	(7-6)	R15	b 0.6	
1996.271	CO	(12-11)	R61	2.8	
1996.376	Na	5p ² P _{1/2} - 5d ² D _{3/2}		bs 2	
1996.445	CO	(10-9)	R29	9.2	
1996.48	C12O18	(3-2)	P12	b 0.4	
1996.613	CO	(8-7)	R10	11.0	
1996.659	CO	(6-5)	P4	11.5	
1996.67	C12O18	(6-5)	R8	b 0.1	
1996.729	C12O18	(2-1)	P18	0.8	
1996.82	C12O17	(2-1)	P23	0.1	
1996.898	CO	(11-10)	R42	6.2	
1997.036	C13O16	(6-5)	R7	0.6	
1997.131	CO	(9-8)	R19	10.7	
1997.239	CO	(12-11)	R62	2.5	
1997.31	?			bs 0.1	?
1997.415	CO	(2-1)	P28	25.2	
1997.576	C13O16	(9-8)	R36	0.4	
1997.70	C12O17	(3-2)	P17	b 0.1	
1997.724	?			0.3	?
1997.834	?			0.2	?
1997.920	?			0.3	?
1997.963	C13O16	(8-7)	R25	0.4	

1998-2006 cm⁻¹

1998.038	?						0.2	?
1998.163	Fe	5p ⁷ D _s - g ⁵ D ₄					b	
1998.163	CO	(12-11)	R63				2.4	
1998.229	?						0.1	?
1998.294	?						0.1	?
1998.358	C13O16	(4-3)	P6				1.1	
1998.47	C12O18	(7-6)	R17				0.1	
1998.504	C12O18	(4-3)	P5				0.2	
1998.589	C12O18	(5-4)	R1				0.2	
1998.714	CO	(11-10)	R43				6.2	
1998.779	CO	(1-0)	P33				25.8	
1998.82	CO	(10-9)	R30				bs 9	
1999.042	CO	(12-11)	R64				2.3	
1999.12	C13O16	(1-0)	P24				b 4 ⁺	
1999.13	C12O17	(1-0)	P28				b 0.2	
1999.152	CO	(5-4)	P10				18.3	
1999.17	C13O16	(7-6)	R16				b 0.7	
1999.318	?						0.1	?
1999.501	CO	(3-2)	P22				24.2	
1999.603	CO	(7-6)	R3				9.2	
1999.65	C13O16	(9-8)	R37				b 0.3	
1999.784	CO	(8-7)	R11				11.6	
1999.84	C12O18	(6-5)	R9				b 0.1	
1999.876	CO	(12-11)	R65				2.2	
1999.932	CO	(9-8)	R20				11.0	
1999.94	C12O18	(1-0)	P23				b 1	
2000.05	C13O16	(3-2)	P12				b 2 ⁺	
2000.090	CO	(4-3)	P16				21.7	
2000.252	C13O16	(6-5)	R8				0.6	
2000.301	C13O16	(2-1)	P18				4.0	
2000.42	C12O18	(3-2)	P11				b 0.4	
2000.433	CO	(6-5)	P3				10.2	
2000.48	C13O16	(8-7)	R26				b 0.4	
2000.490	CO	(11-10)	R44				6.2	
2000.666	CO	(12-11)	R66				2.0	
2000.79	?						0.1	?
2000.887	C12O18	(2-1)	P17				0.8	
2001.160	CO	(10-9)	R31				9.2	
2001.24	C12O17	(2-1)	P22				0.2	
2001.32	CO	(12-11)	R98				b <<1	
2001.411	CO	(12-11)	R67				1.9	
2001.691	C13O16	(9-8)	R38				0.4	
2001.756	?						0.1	?
2001.83	?						0.1	?
2001.90	C12O17	(3-2)	P16				0.1	
2002.02	C12O18	(5-4)	R2				b 0.2	
2002.04	C13O16	(7-6)	R17				b 0.7	
2002.05	CO	(12-11)	R97				b <<1	
2002.10	C13O16	(4-3)	P5				b 1	
2002.11	CO	(12-11)	R68				b <2	
2002.115	CO	(2-1)	P27				25.2	
2002.18	C13O16	(5-4)	R1				b <<1	
2002.20	C12O18	(4-3)	P4				b 0.1	
2002.224	CO	(11-10)	R45				6.0	
2002.31	?						0.2	?
2002.418	?						0.1	?

1998-2006 cm⁻¹ (Continued)

2002.50	?						0.3	?
2002.620	?						0.5	?
2002.693	CO	(9-8)	R21				11.0	
2002.73	CO	(12-11)	R96				b <<1	
2002.765	CO	(12-11)	R69				1.7	
2002.918	CO	(8-7)	R12				11.9	
2002.96	C13O16	(8-7)	R27				bs 0.5	
2002.97	C12O18	(6-5)	R10				bs 0.1	
2003.061	CO	(7-6)	R4				9.6	
2003.166	CO	(5-4)	P9				18.0	
2003.279	?						0.1	?
2003.37	CO	(12-11)	R95				b <<1	
2003.371	CO	(12-11)	R70				1.7	
2003.43	C13O16	(6-5)	R9				b 0.7	
2003.458	CO	(10-9)	R32				9.2	
2003.516	C13O16	(1-0)	P23				4.4	
2003.668	CO	(1-0)	P32				25.8	
2003.69	C13O16	(9-8)	R39				b 0.3	
2003.78	C12O17	(1-0)	P27				0.2	
2003.844	?						0.1	?
2003.917	CO	(11-10)	R46				b 6	
2003.95	CO	(12-11)	R71				b 1*	
2003.95	CO	(12-11)	R94				b <<1	
2003.977	CO	(3-2)	P21				24.1	
2004.01	C13O16	(3-2)	P11				bs 2	
2004.09	C12O18	(7-6)	R19				0.1	
2004.173	CO	(6-5)	P2				8.1	
2004.28	C12O18	(1-0)	P22				bs 1	
2004.337	C12O18	(3-2)	P10				b 0.4	
2004.337	CO	(4-3)	P15				21.7	
2004.47	CO	(12-11)	R72				b 1*	
2004.476	C13O16	(2-1)	P17				4.0	
2004.48	CO	(12-11)	R93				b <1	
2004.55	?						0.1	?
2004.642	?						0.1	?
2004.883	C13O16	(7-6)	R18				0.7	
2004.929	CO	(12-11)	R73				1.4	
2004.96	CO	(12-11)	R92				bs <1	
2005.021	C12O18	(2-1)	P16				0.8	
2005.09	?						0.1	?
2005.13	?						0.1	?
2005.18	?						0.1	?
2005.35	CO	(12-11)	R74				1.2	
2005.40	CO	(12-11)	R91				b 0.5	
2005.40	C13O16	(8-7)	R28				b 0.5	
2005.416	CO	(9-8)	R22				11.3	
2005.42	C12O18	(5-4)	R3				b 0.2	
2005.566	CO	(11-10)	R47				5.7	
2005.62	C13O16	(5-4)	R2				b <<1	
2005.63	C12O17	(2-1)	P21				b 0.1	
2005.65	C13O16	(9-8)	R40				b 0.3	
2005.717	CO	(10-9)	R33				9.3	
2005.74	CO	(12-11)	R75				b 1	
2005.78	CO	(12-11)	R90				b 0.5	
2005.806	C13O16	(4-3)	P4				0.8	
2005.87	C12O18	(4-3)	P3				0.1	

2006-2014 cm⁻¹

2006.015	CO	(8-7)	R13	12.1	?
2006.07	C12017	(3-2)	P15	b 0.1	
2006.07	C12018	(6-5)	R11	b 0.1	
2006.07	CO	(12-11)	R76	b 1	
2006.11	CO	(12-11)	R89	b <1	
2006.213	?			0.1	
2006.35	CO	(12-11)	R77	1.0	
2006.39	CO	(12-11)	R88	bs 0.7	
2006.484	CO	(7-6)	R5	11.0	
2006.58	C13016	(6-5)	R10	b 0.8	
2006.60	CO	(12-11)	R78	bs 1	
2006.63	CO	(12-11)	R87	b <1	
2006.783	CO	(2-1)	P26	24.6	
2006.80	CO	(12-11)	R79	b 1	
2006.82	CO	(12-11)	R86	b <1	
2006.94	CO	(12-11)	R80	1	
2006.96	CO	(12-11)	R85	b 1	
2007.04	CO	(12-11)	R81	b 1	
2007.05	CO	(12-11)	R84	b 1	
2007.08	CO	(12-11)	R82	b 1	
2007.09	CO	(12-11)	R83	b 1	
2007.146	CO	(5-4)	P8	18.0	
2007.17	CO	(11-10)	R48	b 5 ⁺	
2007.31	?			0.2	?
2007.42	?			0.1	?
2007.58	C13016	(9-8)	R41	b 0.3	
2007.682	C13016	(7-6)	R19	0.7	
2007.812	C13016	(8-7)	R29	0.5	
2007.877	CO	(6-5)	P1	b 7	
2007.877	C13016	(1-0)	P22	b 4 ⁺	
2007.88	Si	3s3p ³ D ⁰ ₁ - 3s ² 3p4p ¹ P ₁		b	
2007.936	CO	(10-9)	R34	9.4	
2007.94	C13016	(3-2)	P10	b 2	
2008.101	CO	(9-8)	R23	11.3	
2008.220	C12018	(3-2)	P9	0.4	
2008.31	C12017	(1-0)	P26	0.3	
2008.421	CO	(3-2)	P20	24.2	
2008.53	CO	(1-0)	P31	b 26	
2008.55	CO	(4-3)	P14	b 21	
2008.60	C12018	(1-0)	P21	b 1	
2008.627	C13016	(2-1)	P16	4.0	
2008.740	CO	(11-10)	R49	5.5	
2008.79	C12018	(5-4)	R4	0.2	
2008.946	?			0.1	?
2009.04	C13016	(5-4)	R3	b <1	
2009.075	CO	(8-7)	R14	12.3	
2009.12	C12018	(2-1)	P15	bs <1	
2009.14	C12018	(6-5)	R12	bs 0.1	
2009.25	?			0.4	?
2009.32	?			0.2	?
2009.46	C13016	(9-8)	R42	b 0.3	
2009.477	C13016	(4-3)	P3	0.7	
2009.49	C12018	(4-3)	P2	b 0.1	
2009.570	C12018	(7-6)	R21	0.1	
2009.683	C13016	(6-5)	R11	0.8	

2006-2014 cm^{-1} (Continued)

2009.79	?			0.1	?
2009.871	CO	(7-6)	R6	11.5	
2009.99	C12O17	(2-1)	P20	0.2	
2010.113	CO	(10-9)	R35	9.2	
2010.181	C13O16	(8-7)	R30	0.5	
2010.263	CO	(11-10)	R50	5.2	
2010.35	?			0.1	
2010.447	C13O16	(7-6)	R20	0.8	
2010.748	CO	(9-8)	R24	11.3	
2010.87	?			0.2	
2010.984	?			0.2	
2011.092	CO	(5-4)	P7	16.0	
2011.17	?			0.1	
2011.233	?			0.3	
2011.32	C13O16	(9-8)	R43	0.3	
2011.421	CO	(2-1)	P25	24.5	
2011.745	CO	(11-10)	R51	4.8	
2011.844	C13O16	(3-2)	P9	1.8	
2012.07	C12O18	(3-2)	P8	b <<1	
2012.097	CO	(8-7)	R15	12.4	
2012.12	C12O18	(5-4)	R5	b 0.2	
2012.18	C12O18	(6-5)	R13	b 0.1	
2012.210	C13O16	(1-0)	P21	4.2	
2012.25	C12O18	(7-6)	R22	b 0.1	
2012.252	CO	(10-9)	R36	9.0	
2012.320	?			0.2	
2012.416	C13O16	(5-4)	R4	0.6	
2012.519	C13O16	(8-7)	R31	0.5	
2012.611	?			0.4	
2012.734	CO	(4-3)	P13	20.3	
2012.74	C13O16	(2-1)	P15	b 3*	
2012.76	C13O16	(6-5)	R12	b 0.8	
2012.833	CO	(3-2)	P19	22.9	
2012.85	C12O17	(1-0)	P25	b 0.3	
2012.88	C12O18	(1-0)	P20	b 1	
2012.97	?			0.4	
2013.02	?			0.1	
2013.09	C12O18	(4-3)	P1	0.1	
2013.123	C13O16	(4-3)	P2	0.4	
2013.123	C13O16	(9-8)	R44	b 0.3	
2013.17	C13O16	(7-6)	R21	b 0.8	
2013.18	CO	(11-10)	R52	bs 5	
2013.19	C12O18	(2-1)	P14	b 0.7	
2013.222	CO	(7-6)	R7	12.2	
2013.353	CO	(1-0)	P30	24.6	
2013.353	CO	(9-8)	R25	b 11	
2013.494	?			0.2	
2013.645	?			0.1	
2013.74	?			0.3	
2013.83	?			0.2	
2013.89	?			0.3	
2013.98	?			0.1	

2014-2022 cm⁻¹

2014.02	?					0.1	?
2014.083	?					0.1	?
2014.20	?					0.1	?
2014.32	C12017	(2-1)	P19			b 0.1	
2014.32	C12017	(3-2)	P13			b 0.1	
2014.349	CO	(10-9)	R37			8.6	
2014.41	?					0.1	?
2014.45	?					0.1	?
2014.578	CO	(11-10)	R53			4.7	
2014.674	Si	5p ³ D ₂ - 4d ³ D ₀ ²				2.8	
2014.816	C13016	(8-7)	R32			0.6	
2014.90	C13016	(9-8)	R45			0.4	
2014.90	C12018	(7-6)	R23			b 0.1	
2015.003	CO	(5-4)	P6			15.3	
2015.083	CO	(8-7)	R16			12.5	
2015.17	C12018	(6-5)	R14			b 0.1	
2015.183	CO	(6-5)	R0			4.8	
2015.344	?					0.2	?
2015.433	C12018	(5-4)	R6			b 0.1	
2015.433	Ca	5d ³ D ₃ - 5f ³ F ₀ ²				0.7	
2015.53	?					0.3	?
2015.710	C13016	(3-2)	P8			b 1.7	
2015.710	Ca	5d ³ D ₃ - 5f ³ F ₀ ⁴				5.6	
2015.76	C13016	(5-4)	R5			bs 0.7	
2015.802	C13016	(6-5)	R13			b 0.8	
2015.87	C13016	(7-6)	R22			bs 0.8	
2015.90	C12018	(3-2)	P7			b <<1	
2015.926	CO	(9-8)	R26			b 11 ⁺	
2015.93	CO	(11-10)	R54			b 5	
2016.027	CO	(2-1)	P24			24.2	?
2016.180	?					0.2	?
2016.26	?					0.2	?
2016.329	?					0.2	?
2016.406	CO	(10-9)	R38			8.3	
2016.51	C13016	(1-0)	P20			b 4	
2016.536	CO	(7-6)	R8			12.5	
2016.63	C13016	(9-8)	R46			0.3	
2016.73	C13016	(4-3)	P1			0.1	
2016.83	C13016	(2-1)	P14			bs 3 ⁺	
2016.883	CO	(4-3)	P12			b 20	
2016.98	?					0.1	?
2017.01	?					0.1	?
2017.075	C13016	(8-7)	R33			0.6	
2017.135	C12018	(1-0)	P19			0.8	
2017.214	CO	(3-2)	P18			22.6	
2017.23	C12018	(2-1)	P13			b 0.7	
2017.24	CO	(11-10)	R55			b 5	
2017.375	C12017	(1-0)	P24			0.3	
2017.519	C12018	(7-6)	R24			0.2	
2017.738	?					0.2	?
2017.807	?					0.2	?
2017.884	Ca	5d ³ D ₂ - 5f ³ F ₀ ²				0.7	
2018.031	CO	(8-7)	R17			12.8	
2018.13	Ca	5d ³ D ₂ - 5f ³ F ₀ ³				b 4	
2018.13	C12018	(6-5)	R15			b 0.1	

2014-2022 cm^{-1} (Continued)

2018.149	CO	(1-0)	P29	24.6	?
2018.24	?			s 0.1	
2018.318	C13O16	(9-8)	R47	0.3	
2018.39	C12O17	(3-2)	P12	bs 0.1	
2018.42	CO	(10-9)	R39	b 8	
2018.455	CO	(9-8)	R27	11.6	
2018.507	CO	(11-10)	R56	4.7	
2018.53	C13O16	(7-6)	R23	b 0.8	
2018.61	C12O17	(2-1)	P18	0.1	
2018.69	C12O18	(5-4)	R7	0.2	
2018.783	CO	(6-5)	R1	8.6	
2018.81	C13O16	(6-5)	R14	bs 0.9	
2018.881	CO	(5-4)	P5	14.5	
2019.00	?			0.2	?
2019.080	C13O16	(5-4)	R6	0.9	
2019.232	?			0.4	?
2019.300	C13O16	(8-7)	R34	0.5	
2019.547	C13O16	(3-2)	P7	1.6	
2019.621	Ca	$5d^3D_1 - 5f^3F_2^0$		2	
2019.729	CO	(11-10)	R57	4.1	
2019.816	CO	(7-6)	R9	12.7	
2019.976	C13O16	(9-8)	R48	b <<1	
2020.039	?			0.1	?
2020.100	C12O18	(7-6)	R25	0.2	
2020.27	?			0.2	?
2020.397	CO	(10-9)	R40	8.4	
2020.601	CO	(2-1)	P23	24.5	
2020.716	?			0.1	?
2020.785	C13O16	(1-0)	P19	3.9	
2020.89	C13O16	(2-1)	P13	bs 3	
2020.91	CO	(11-10)	R58	b 4	
2020.942	CO	(8-7)	R18	b 13	
2020.942	CO	(9-8)	R28	b 11*	
2020.998	CO	(4-3)	P11	19.8	
2021.06	C12O18	(6-5)	R16	b 0.1	
2021.097	Si	$5p^1P_1 - 4d^1P_1^0$		2	
2021.147	C13O16	(7-6)	R24	0.8	
2021.242	C12O18	(2-1)	P12	0.7	
2021.359	C12O18	(1-0)	P18	0.8	
2021.482	C13O16	(8-7)	R35	0.5	
2021.561	CO	(3-2)	P17	22.5	
2021.59	C13O16	(9-8)	R49	b <<1	
2021.783	C13O16	(6-5)	R15	0.9	
2021.85	C12O17	(1-0)	P23	0.3	
2021.920	C12O18	(5-4)	R8	0.2	

2022-2030 cm⁻¹

2022.043	CO	(11-10)	R59	3.8	
2022.33	CO	(10-9)	R41	b 8	
2022.342	CO	(6-5)	R2	b 12	
2022.35	C13016	(5-4)	R7	b 1	
2022.43	C12017	(3-2)	P11	0.1	
2022.630	C12018	(7-6)	R26	0.2	
2022.725	CO	(5-4)	P4	13.9	
2022.88	C12017	(2-1)	P17	b 0.1	
2022.914	CO	(1-0)	P28	24.7	
2023.058	CO	(7-6)	R10	13.1	
2023.134	CO	(11-10)	R60	3.7	
2023.16	C13016	(9-8)	R50	b <<1	
2023.35	C13016	(3-2)	P6	bs 1*	
2023.398	CO	(9-8)	R29	11.4	
2023.59	?			bs 0.2	?
2023.629	C13016	(8-7)	R36	0.5	
2023.735	C13016	(7-6)	R25	0.7	
2023.814	CO	(8-7)	R19	13.4	
2023.96	C12018	(6-5)	R17	0.2	
2024.06	?			0.1	?
2024.181	CO	(11-10)	R61	3.3	
2024.225	CO	(10-9)	R42	8.0	
2024.30	CO	(11-10)	R105	0.1	
2024.38	?			0.1	?
2024.504	?			0.3	?
2024.71	C13016	(9-8)	R51	b <<1	
2024.723	C13016	(6-5)	R16	0.9	
2024.914	C13016	(2-1)	P12	2.8	
2025.025	C13016	(1-0)	P18	bs 4	
2025.079	CO	(4-3)	P10	19.8	
2025.13	C12018	(5-4)	R9	b 0.2	
2025.14	C12018	(7-6)	R27	b 0.2	
2025.144	CO	(2-1)	P22	24.5	
2025.19	CO	(11-10)	R62	b 3	
2025.22	C12018	(2-1)	P11	bs 0.6	
2025.35	CO	(11-10)	R104	0.1	
2025.556	C12018	(1-0)	P17	0.7	
2025.603	C13016	(5-4)	R8	0.9	
2025.742	C13016	(8-7)	R37	0.5	
2025.809	CO	(9-8)	R30	11.0	
2025.876	CO	(3-2)	P16	b 22.5	
2025.876	CO	(6-5)	R3	b 12*	
2026.076	CO	(10-9)	R43	8.0	
2026.145	CO	(11-10)	R63	3.2	
2026.20	C13016	(9-8)	R52	b <<1	
2026.263	CO	(7-6)	R11	13.8	
2026.28	C13016	(7-6)	R26	b 1	
2026.31	C12017	(1-0)	P22	b 0.2	
2026.35	CO	(11-10)	R103	0.1	
2026.44	C12017	(3-2)	P10	0.1	
2026.534	CO	(5-4)	P3	12.2	
2026.648	CO	(8-7)	R20	13.6	
2026.81	C12018	(6-5)	R18	0.2	
2026.987	?			0.1	?
2027.058	CO	(11-10)	R64	3.0	

2022-2030 cm^{-1} (Continued)

2027.11	C12017	(2-1)	P16	b 0.1	
2027.121	C13016	(3-2)	P5	1.1	
2027.24	?			0.2	?
2027.29	CO	(11-10)	R102	0.1	
2027.367	C13016	(4-3)	R1	0.4	
2027.412	?			0.1	?
2027.53	?			0.4	?
2027.62	C12018	(7-6)	R28	b 0.2	
2027.62	C13016	(6-5)	R17	b 1	
2027.649	CO	(1-0)	P27	24.8	
2027.65	C13016	(9-8)	R53	b <<1	
2027.812	C13016	(8-7)	R38	0.5	
2027.887	CO	(10-9)	R44	8.0	
2027.928	CO	(11-10)	R65	b 3	
2028.18	CO	(11-10)	R101	b 0.2	
2028.183	CO	(9-8)	R31	b 11+	
2028.30	C12018	(5-4)	R10	0.2	
2028.465	?			0.2	?
2028.51	?			0.4	?
2028.752	CO	(11-10)	R66	2.6	
2028.80	C13016	(7-6)	R27	b 1.0	
2028.811	C13016	(5-4)	R9	b 1.0	
2028.909	C13016	(2-1)	P11	2.9	
2029.02	CO	(11-10)	R100	b 0.2	
2029.07	C13016	(9-8)	R54	b <<1	
2029.128	CO	(4-3)	P9	19.8	
2029.17	C12018	(2-1)	P10	b 0.6	
2029.237	C13016	(1-0)	P17	4.1	
2029.369	CO	(6-5)	R4	13.0	
2029.43	CO	(7-6)	R12	b 14	
2029.44	CO	(8-7)	R21	b 14	
2029.532	CO	(11-10)	R67	2.6	
2029.64	C12018	(6-5)	R19	b 0.2	
2029.656	CO	(10-9)	R45	b 8	
2029.656	CO	(2-1)	P21	24.2	
2029.72	C12018	(1-0)	P16	bs 0.7	
2029.83	CO	(11-10)	R99	b 0.2	
2029.84	C13016	(8-7)	R39	b 0.5	

2030-2038 cm⁻¹

2030.041	C12O18	(7-6)	R29	0.2	
2030.158	CO	(3-2)	P15	22.5	
2030.27	CO	(11-10)	R68	b 2 ⁺	
2030.309	CO	(5-4)	P2	9.9	
2030.45	C13O16	(9-8)	R55	b <<1	
2030.49	C13O16	(6-5)	R18	b 1	
2030.515	CO	(9-8)	R32	11.0	
2030.56	CO	(11-10)	R98	b 0.2	
2030.729	C12O17	(1-0)	P21	0.2	
2030.85	C13O16	(4-3)	R2	b <1	
2030.860	C13O16	(3-2)	P4	1.2	
2030.958	CO	(11-10)	R69	2.4	
2031.117	?			0.2	?
2031.186	?			0.1	?
2031.27	CO	(11-10)	R97	b 0.2	
2031.272	C13O16	(7-6)	R28	1.0	
2031.383	CO	(10-9)	R46	7.8	
2031.43	C12O18	(5-4)	R11	0.1	
2031.600	CO	(11-10)	R70	2.3	
2031.65	?			0.1	?
2031.78	C13O16	(9-8)	R56	0.2	
2031.840	C13O16	(8-7)	R40	0.5	
2031.900	CO	(11-10)	R96	0.2	
2031.993	C13O16	(5-4)	R10	1.1	
2031.993	Fe	5p ⁷ D ₃ - e ⁵ P ₃	b		
2032.203	CO	(8-7)	R22	13.8	
2032.203	CO	(11-10)	R71	b 2	
2032.353	CO	(1-0)	P26	24.6	
2032.43	C12O18	(7-6)	R30	bs 0.2	
2032.43	C12O18	(6-5)	R20	bs 0.2	
2032.491	CO	(11-10)	R95	0.3	
2032.563	CO	(7-6)	R13	14.3	
2032.752	CO	(11-10)	R72	2.0	
2032.81	CO	(9-8)	R33	b 11	
2032.82	CO	(6-5)	R5	b 13 ⁺	
2032.87	C13O16	(2-1)	P10	bs 2 ⁺	
2033.04	CO	(11-10)	R94	b 0.3	
2033.068	CO	(10-9)	R47	7.6	
2033.08	C12O18	(2-1)	P9	b 0.6	
2033.143	CO	(4-3)	P8	18.7	
2033.260	CO	(11-10)	R73	2.0	
2033.326	C13O16	(6-5)	R19	1.0	
2033.420	C13O16	(1-0)	P16	3.5	
2033.521	CO	(11-10)	R93	0.4	
2033.71	C13O16	(7-6)	R29	b 1	
2033.721	CO	(11-10)	R74	b 2	
2033.797	C13O16	(8-7)	R41	0.5	
2033.853	C12O18	(1-0)	P15	0.7	
2033.969	CO	(11-10)	R92	0.6	
2033.98	C12O18	(4-3)	R4	bs 0.1	
2034.049	CO	(5-4)	P1	6.6	
2034.135	CO	(2-1)	P20	24.5	
2034.135	CO	(11-10)	R75	b 2	
2034.292	C13O16	(4-3)	R3	0.8	
2034.38	CO	(11-10)	R91	b 0.6	
2034.408	CO	(3-2)	P14	22.3	

2030-2038 cm^{-1} (Continued)

2034.504	CO	(11-10)	R76	1.8
2034.53	C12018	(5-4)	R12	b 0.2
2034.575	C13016	(3-2)	P3	0.6
2034.710	CO	(10-9)	R48	7.6
2034.710	CO	(11-10)	R90	b 0.6
2034.826	CO	(11-10)	R77	1.4
2034.923	CO	(8-7)	R23	13.8
2035.01	CO	(11-10)	R89	0.6
2035.062	CO	(9-8)	R34	11.0
2035.11	CO	(11-10)	R78	b 1
2035.12	C12017	(1-0)	P20	b 0.2
2035.133	C13016	(5-4)	R11	1.1
2035.18	C12018	(6-5)	R21	0.2
2035.26	CO	(11-10)	R88	0.6
2035.331	CO	(11-10)	R79	1.2
2035.46	CO	(11-10)	R87	0.7
2035.48	C12017	(2-1)	P14	b 0.1
2035.514	CO	(11-10)	R80	1.2
2035.60	?			bs 0.5
2035.62	CO	(11-10)	R86	b 1
2035.65	CO	(11-10)	R81	b 1
2035.658	CO	(7-6)	R14	14.5
2035.72	C13016	(8-7)	R42	0.4
2035.72	CO	(11-10)	R85	b 1
2035.75	CO	(11-10)	R82	b 1
2035.78	CO	(11-10)	R84	b 1
2035.78	CO	(11-10)	R83	b 1
2035.829	?			0.1
2035.879	?			0.2
2036.123	C13016	(7-6)	R30	b 1
2036.123	C13016	(6-5)	R20	b 1
2036.173	?			0.1
2036.250	CO	(6-5)	R6	13.9
2036.312	CO	(10-9)	R49	7.2
2036.450	?			0.2
2036.803	C13016	(2-1)	P9	2.4
2036.85	?			0.1
2036.97	C12018	(2-1)	P8	bs 0.5
2037.025	CO	(1-0)	P25	25.1
2037.124	CO	(4-3)	P7	18.3
2037.275	CO	(9-8)	R35	11.0
2037.35	C12018	(4-3)	R5	0.2
2037.57	C13016	(1-0)	P15	b 3 ⁺
2037.59	C12018	(5-4)	R13	b 0.2
2037.60	C13016	(8-7)	R43	b 0.4
2037.604	CO	(8-7)	R24	13.9
2037.706	C13016	(4-3)	R4	0.8
2037.749	?			0.1
2037.869	CO	(10-9)	R50	7.0
2037.90	C12018	(6-5)	R22	b 0.2
2037.956	C12018	(1-0)	P14	0.7

2038-2046 cm⁻¹

2038.108	Si	5p ³ P ₂ - 6s ($\frac{3}{2}, \frac{1}{2}$) ₂		7.2	
2038.245	C13O16	(5-4)	R12	b 1.2	
2038.245	C13O16	(3-2)	P2	b <1	
2038.485	C13O16	(7-6)	R31	1.0	
2038.580	CO	(2-1)	P19	24.6	
2038.626	CO	(3-2)	P13	b 22	
2038.716	CO	(7-6)	R15	14.6	
2038.886	C13O16	(6-5)	R21	1.0	
2038.95	?			0.2	?
2039.020	?			0.1	?
2039.084	?			0.1	?
2039.144	?			0.2	?
2039.385	CO	(10-9)	R51	6.9	
2039.44	C13O16	(8-7)	R44	b 0.4	
2039.448	CO	(9-8)	R36	b 11.1	
2039.48	C12O17	(1-0)	P19	b 0.2	
2039.62	C12O17	(2-1)	P13	b 0.1	
2039.635	CO	(6-5)	R7	14.5	
2040.145	?			0.1	?
2040.247	CO	(8-7)	R25	14.0	
2040.58	C12O18	(6-5)	R23	b 0.2	
2040.582	Ca	4s6s ³ S ₁ - ³ P ₀		1.1	
2040.62	C12O18	(5-4)	R14	bs 0.2	
2040.68	C12O18	(4-3)	R6	b 0.2	
2040.702	C13O16	(2-1)	P8	2.2	
2040.81	C13O16	(7-6)	R32	bs 1	
2040.82	C12O18	(2-1)	P7	bs 0.5	
2040.859	CO	(10-9)	R52	6.8	
2040.958	?			0.1	?
2041.070	CO	(4-3)	P6	17.9	
2041.08	C13O16	(4-3)	R5	b 1	
2041.252	C13O16	(8-7)	R45	0.4	
2041.32	C13O16	(5-4)	R13	b 1.2	
2041.424	CO	(5-4)	R0	6.7	
2041.580	CO	(9-8)	R37	11.2	
2041.61	C13O16	(6-5)	R22	b 1	
2041.666	CO	(1-0)	P24	24.6	
2041.69	C13O16	(1-0)	P14	b 3 ⁺	
2041.737	CO	(7-6)	R16	15.1	
2041.88	C13O16	(3-2)	P1	0.2	
2042.030	C12O18	(1-0)	P13	0.6	
2042.289	CO	(10-9)	R53	6.7	
2042.807	CO	(3-2)	P12	b 22	
2042.85	CO	(8-7)	R26	bs 14	
2042.99	CO	(6-5)	R8	b 15	
2042.995	CO	(2-1)	P18	b 24.9	
2043.01	C13O16	(8-7)	R46	b 0.4	
2043.109	C13O16	(7-6)	R33	0.8	
2043.184	OH	(2-1)	P1F 28.5	0.3	
2043.22	C12O18	(6-5)	R24	0.2	
2043.61	C12O18	(5-4)	R15	0.2	
2043.673	CO	(9-8)	R38	b 11	
2043.68	CO	(10-9)	R54	b 6 ⁺	
2043.73	C12O17	(2-1)	P12	0.1	
2043.81	C12O17	(1-0)	P18	b 0.2	

2038-2046 cm^{-1} (Continued)

2043.833	Fe	$e\ ^5D_4 - ^3F^0_4$		1.0	
2043.95	?			0.2	?
2043.99	C12018	(4-3)	R7	0.3	
2044.18	OH	(2-1)	P2E 27.5	0.2	
2044.303	C13016	(6-5)	R23	1.2	
2044.362	C13016	(5-4)	R14	1.2	
2044.43	C13016	(4-3)	R6	b 1 ⁺	
2044.460	Ca	$6s\ ^3S_1 - 6p\ ^3P^0_1$		2.8	
2044.572	C13016	(2-1)	P7	1.9	
2044.572	Fe	$u\ ^5F^0_5 - g\ ^5F_5$		b	
2044.65	C12018	(2-1)	P6	0.4	
2044.719	CO	(7-6)	R17	15.2	
2044.74	C13016	(8-7)	R47	b 0.4	
2044.809	?			0.1	?
2044.983	CO	(4-3)	P5	17.4	
2045.02	CO	(10-9)	R55	b 6 ⁺	
2045.059	CO	(5-4)	R1	10.4	
2045.155	?			0.1	?
2045.36	C13016	(7-6)	R34	b 1	
2045.416	CO	(8-7)	R27	14.0	
2045.62	OH	(2-1)	P1E 28.5	0.2	
2045.723	CO	(9-8)	R39	10.9	
2045.779	C13016	(1-0)	P13	3.2	
2045.83	C12018	(6-5)	R25	0.1	

2046-2054 cm⁻¹

2046.017	?								0.3	?
2046.072	C12018	(1-0)	P12						0.6	
2046.279	CO	(1-0)	P23						25.1	
2046.30	CO	(6-5)	R9						bs 15 ⁺	
2046.32	CO	(10-9)	R56						b 6 ⁺	
2046.425	C13016	(8-7)	R48						0.4	
2046.575	C12018	(5-4)	R16						0.3	
2046.71	?								0.1	?
2046.87	?								s 0.5	?
2046.959	CO	(3-2)	P11						21.4	
2046.96	C13016	(6-5)	R24						b 1	
2047.06	?								0.2	?
2047.25	C12018	(4-3)	R8						0.2	
2047.37	C13016	(5-4)	R15						b 1.3	
2047.380	CO	(2-1)	P17						24.3	
2047.580	C13016	(7-6)	R35						b 1	
2047.580	CO	(10-9)	R57						6.4	
2047.664	CO	(7-6)	R18						15.4	
2047.734	CO	(9-8)	R40						10.9	
2047.74	C13016	(4-3)	R7						b 1 ⁺	
2047.81	C12017	(2-1)	P11						0.1	
2047.942	CO	(8-7)	R28						14.0	
2048.073	C13016	(8-7)	R49						0.4	
2048.108	C12017	(1-0)	P17						0.2	
2048.189	C12018	(7-6)	R37						0.1	
2048.409	C13016	(2-1)	P6						1.8	
2048.41	C12018	(6-5)	R26						b 0.2	
2048.43	C12018	(2-1)	P5						b 0.4	
2048.658	CO	(5-4)	R2						12.2	
2048.794	CO	(10-9)	R58						5.9	
2048.862	CO	(4-3)	P4						16.5	
2049.08	C13016	(3-2)	R0						0.2	
2049.33	?								0.4	?
2049.509	C12018	(5-4)	R17						0.3	
2049.576	C13016	(6-5)	R25						b 1	
2049.576	CO	(6-5)	R10						15.9	
2049.68	C13016	(8-7)	R50						b 0.4	
2049.703	CO	(9-8)	R41						10.8	
2049.759	C13016	(7-6)	R36						0.8	
2049.837	C13016	(1-0)	P12						3.0	
2049.964	CO	(10-9)	R59						5.7	
2050.079	C12018	(1-0)	P11						0.5	
2050.243	?								0.4	?
2050.338	C13016	(5-4)	R16						1.4	
2050.428	CO	(8-7)	R29						14.0	
2050.49	C12018	(4-3)	R9						b 0.3	
2050.571	CO	(7-6)	R19						15.6	
2050.689	?								0.1	?
2050.854	CO	(1-0)	P22						25.2	
2050.95	C12018	(6-5)	R27						0.3	
2051.02	C13016	(4-3)	R8						bs 1 ⁺	
2051.076	CO	(3-2)	P10						21.4	
2051.09	CO	(10-9)	R60						b 6	
2051.153	?								0.1	?
2051.248	C13016	(8-7)	R51						0.5	

2046-2054 cm^{-1} (Continued)

2051.297	?					0.1	?
2051.33	OH	(1-0)	P1F	30.5		0.1	
2051.476	?					0.1	?
2051.631	CO	(9-8)	R42			10.7	
2051.730	CO	(2-1)	P16			24.2	
2051.85	C12O17	(2-1)	P10			0.1	
2051.904	C13O16	(7-6)	R37			0.8	
2052.103	?					0.1	?
2052.16	C13O16	(6-5)	R26			b 1	
2052.17	OH	(1-0)	P2E	29.5		b 0.1	
2052.171	CO	(10-9)	R61			b 6	
2052.19	C12O18	(2-1)	P4			b 0.4	
2052.21	C13O16	(2-1)	P5			b 1 ⁺	
2052.222	CO	(5-4)	R3			14.2	
2052.328	Ca	$6s\ ^3S_1 - 6p\ ^3P^0_2$				4.1	
2052.34	C12O18	(3-2)	R2			b <<1	
2052.38	C12O17	(1-0)	P16			b 0.2	
2052.40	C12O18	(5-4)	R18			bs 0.3	
2052.472	?					0.3	?
2052.524	CH(?)	(1-0)	P1E	19.5		0.2	
2052.62	C13O16	(3-2)	R1			0.3	
2052.706	CO	(4-3)	P3			14.5	
2052.78	C13O16	(8-7)	R52			b 0.4	
2052.816	CO	(6-5)	R11			16.6	
2052.876	CO	(8-7)	R30			13.9	
2053.211	CO	(10-9)	R62			5.2	
2053.273	C13O16	(5-4)	R17			1.5	
2053.441	CO	(7-6)	R20			15.5	
2053.45	C12O18	(6-5)	R28			b 0.3	
2053.518	CO	(9-8)	R43			10.6	
2053.68	C12O18	(4-3)	R10			0.3	
2053.78	?					0.1	?
2053.86	CO	(10-9)	R105			b 0.2	
2053.864	C13O16	(1-0)	P11			b 3	
2053.925	Si	$5p\ ^3D_1 - 4d\ ^3D^0_2$				3.2	

2054-2062 cm⁻¹

2054.006	C13O16	(7-6)	R38	0.9
2054.061	C12O18	(1-0)	P10	0.5
2054.205	CO	(10-9)	R63	4.7
2054.270	C13O16	(4-3)	R9	b 1 ⁺
2054.270	C13O16	(8-7)	R53	b 0.4
2054.28	Fe	e ⁵ P ₃ - ⁵ D ₃	b	b
2054.38	OH	(1-0)	P2F 29.5	0.2
2054.703	C13O16	(6-5)	R27	1.1
2054.896	CO	(10-9)	R104	0.2
2055.024	?			0.1
2055.16	CO	(10-9)	R64	b 4 ⁺
2055.160	CO	(3-2)	P9	21.4
2055.25	C12O18	(5-4)	R19	b 0.3
2055.283	CO	(8-7)	R31	13.9
2055.36	CO	(9-8)	R44	b 10 ⁺
2055.400	CO	(1-0)	P21	24.9
2055.72	C13O16	(8-7)	R54	b 0.4
2055.751	CO	(5-4)	R4	15.1
2055.81	C12O18	(3-2)	R3	b <<1
2055.857	CO	(10-9)	R103	0.3
2055.86	C12O17	(2-1)	P9	b 0.1
2055.92	C12O18	(6-5)	R29	b 0.3
2055.921	C12O18	(2-1)	P3	0.3
2055.99	C13O16	(2-1)	P4	bs 1 ⁺
2056.02	CO	(6-5)	R12	b 17
2056.05	CO	(2-1)	P15	b 24.6
2056.06	CO	(10-9)	R65	b 4
2056.07	C13O16	(7-6)	R39	b 0.9
2056.136	C13O16	(3-2)	R2	<1
2056.175	C13O16	(5-4)	R18	1.6
2056.272	CO	(7-6)	R21	15.7
2056.39	?			0.1
2056.516	CO	(4-3)	P2	12.2
2056.60	C12O17	(1-0)	P15	0.1
2056.762	CO	(10-9)	R102	0.3
2056.85	C12O18	(4-3)	R11	0.1
2056.920	CO	(10-9)	R66	4.3
2057.03	?			0.1
2057.13	C13O16	(8-7)	R55	b 0.4
2057.167	CO	(9-8)	R45	10.5
2057.21	C13O16	(6-5)	R28	bs 1.2
2057.292	?			0.1
2057.345	?			0.1
2057.477	C13O16	(4-3)	R10	1.7
2057.61	CO	(10-9)	R101	b 0.3
2057.651	CO	(8-7)	R32	13.9
2057.735	CO	(10-9)	R67	4.1
2057.860	C13O16	(1-0)	P10	2.8
2058.011	C12O18	(1-0)	P9	0.5
2058.07	C12O18	(5-4)	R20	b 0.3
2058.102	C13O16	(7-6)	R40	0.9
2058.338	?			0.4
2058.34	C12O18	(6-5)	R30	b 0.3
2058.417	CO	(10-9)	R100	0.3
2058.50	C13O16	(8-7)	R56	b 0.3

2054-2062 cm⁻¹ (Continued)

2058.504	CO	(10-9)	R68	4.0	
2058.752	?			0.2	?
2058.81	?			0.1	?
2058.928	CO	(9-8)	R46	10.5	
2059.04	C13O16	(5-4)	R19	b 1.6	
2059.065	CO	(7-6)	R22	15.9	
2059.18	CO	(10-9)	R99	b <1	
2059.19	CO	(6-5)	R13	b 17	
2059.21	CO	(3-2)	P8	b 21	
2059.23	CO	(10-9)	R69	b 4	
2059.24	C12O18	(3-2)	R4	b <<1	
2059.24	CO	(5-4)	R5	b 16	
2059.43	?			0.1	?
2059.613	C12O18	(2-1)	P2	b <<1	
2059.613	C13O16	(3-2)	R3	b 1	
2059.686	C13O16	(6-5)	R29	1.1	
2059.727	C13O16	(2-1)	P3	0.9	
2059.821	C13O16	(8-7)	R57	bs 0.3	
2059.89	CO	(10-9)	R98	b <1	
2059.91	CO	(10-9)	R70	b 4.0	
2059.914	CO	(1-0)	P20	b 25	
2059.979	CO	(8-7)	R33	13.9	
2059.98	C12O18	(4-3)	R12	b 0.3	
2060.095	C13O16	(7-6)	R41	0.8	
2060.095	Si	$4f^2[3\frac{1}{2}]_4 - 5d^3F^0_4$		b	
2060.29	CO	(4-3)	P1	b 11	
2060.332	CO	(2-1)	P14	23.5	
2060.54	CO	(10-9)	R97	b <1	
2060.542	CO	(10-9)	R71	4.0	
2060.649	CO	(9-8)	R47	10.6	
2060.65	C13O16	(4-3)	R11	b 2	
2060.73	C12O18	(6-5)	R31	0.3	
2060.82	C12O17	(1-0)	P14	0.2	
2060.857	C12O18	(5-4)	R21	0.3	
2061.11	C13O16	(8-7)	R58	b 0.3	
2061.132	CO	(10-9)	R72	3.6	
2061.15	CO	(10-9)	R96	b <1	
2061.68	CO	(10-9)	R73	3.4	
2061.70	CO	(10-9)	R95	b <1	
2061.820	CO	(7-6)	R23	16.2	
2061.82	C13O16	(1-0)	P9	b 3	
2061.87	C13O16	(5-4)	R20	bs 1.6	
2061.93	C12O18	(1-0)	P8	b <1	
2061.974	?			0.1	?

2062-2070 cm⁻¹

2062.048	C13O16	(7-6)	R42	0.7
2062.048	Si	4f ² [3 $\frac{1}{2}$] ₃ - 5d ³ F ⁰ ₄	b	
2062.122	C13O16	(6-5)	R30	1.2
2062.171	CO	(10-9)	R74	2.9
2062.21	CO	(10-9)	R94	b 1
2062.266	CO	(8-7)	R34	13.9
2062.318	CO	(6-5)	R14	b 17 ⁺
2062.32	CO	(9-8)	R48	b 10 ⁺
2062.36	C13O16	(8-7)	R59	b 0.3
2062.622	CO	(10-9)	R75	2.8
2062.64	C12O18	(3-2)	R5	b <1
2062.68	CO	(10-9)	R93	b 1
2062.700	CO	(5-4)	R6	16.9
2062.837	?			0.3
2062.938	?			0.1
2063.025	CO	(10-9)	R76	2.7
2063.06	C13O16	(3-2)	R4	b 1 ⁺
2063.07	CO	(10-9)	R92	b 1
2063.08	C12O18	(4-3)	R13	b 0.4
2063.09	C12O18	(6-5)	R32	b 0.2
2063.225	CO	(3-2)	P7	20.2
2063.383	CO	(10-9)	R77	2.6
2063.43	C13O16	(2-1)	P2	b 1
2063.43	CO	(10-9)	R91	1.0
2063.570	C13O16	(8-7)	R60	0.2
2063.614	C12O18	(5-4)	R22	0.3
2063.694	CO	(10-9)	R78	2.2
2063.74	CO	(10-9)	R90	1.0
2063.79	C12O17	(2-1)	P7	b 0.1
2063.796	C13O16	(4-3)	R12	1.9
2063.961	C13O16	(7-6)	R43	b 0.7
2063.961	CO	(9-8)	R49	b 10 ⁺
2063.961	CO	(10-9)	R79	b 2
2064.00	CO	(10-9)	R89	b 1
2064.177	CO	(10-9)	R80	b 2
2064.22	CO	(10-9)	R88	b 1
2064.35	CO	(10-9)	R81	b 1 ⁺
2064.38	CO	(10-9)	R87	b 1
2064.397	CO	(1-0)	P19	24.8
2064.48	CO	(10-9)	R82	b 1 ⁺
2064.50	CO	(10-9)	R86	b 1
2064.52	CO	(8-7)	R35	b 13 ⁺
2064.52	C13O16	(6-5)	R31	b 1 ⁺
2064.54	CO	(7-6)	R24	b 16
2064.55	CO	(10-9)	R83	b 1 ⁺
2064.56	CO	(10-9)	R85	b 1
2064.58	CO	(10-9)	R84	b 1 ⁺
2064.586	CO	(2-1)	P13	23.9
2064.663	C13O16	(5-4)	R21	1.7
2064.73	C13O16	(8-7)	R61	0.1
2064.998	C12O17	(1-0)	P13	0.2
2065.066	?			0.2
2065.193	?			0.3
2065.409	CO	(6-5)	R15	17.4
2065.41	C12O18	(6-5)	R33	b 0.2

2062-2070 cm⁻¹ (Continued)

2065.555	CO	(9-8)	R50	9.7	?
2065.65	?			0.2	?
2065.69	?			0.3	?
2065.756	C13O16	(1-0)	P8	2.5	
2065.81	C12O18	(1-0)	P7	bs <1	
2065.84	C13O16	(7-6)	R44	b 0.7	
2065.86	C13O16	(8-7)	R62	b 0.2	
2066.009	C12O18	(3-2)	R6	0.4	
2066.121	CO	(5-4)	R7	17.3	
2066.14	C12O18	(4-3)	R14	b 0.4	
2066.259	?			0.1	?
2066.324	C12O18	(5-4)	R23	0.3	
2066.472	C13O16	(3-2)	R5	1.5	
2066.558	?			0.1	?
2066.723	CO	(8-7)	R36	13.9	
2066.89	C13O16	(6-5)	R32	b 1 ⁺	
2066.90	C13O16	(4-3)	R13	b 2	
2066.94	C13O16	(8-7)	R63	b 0.2	
2067.001	?			0.2	?
2067.106	CO	(9-8)	R51	9.5	
2067.106	C13O16	(2-1)	P1	b 1	
2067.209	CO	(3-2)	P6	b 20	
2067.21	CO	(7-6)	R25	b 16	
2067.422	C13O16	(5-4)	R22	1.7	
2067.671	C13O16	(7-6)	R45	0.6	
2067.69	C12O18	(6-5)	R34	b 0.2	
2067.69	C12O17	(2-1)	P6	b 0.1	
2067.736	CO	(4-3)	R0	9.2	
2067.82	?			0.2	?
2067.98	C13O16	(8-7)	R64	0.2	
2068.464	CO	(6-5)	R16	17.7	
2068.614	CO	(9-8)	R52	9.3	
2068.800	CO	(2-1)	P12	b 24	
2068.846	CO	(1-0)	P18	b 25	
2068.89	CO	(8-7)	R37	bs 13 ⁺	
2068.98	C13O16	(8-7)	R65	b 0.2	
2069.00	C12O18	(5-4)	R24	b 0.4	
2069.11	?			0.2	?
2069.13	C12O17	(1-0)	P12	0.2	
2069.17	C12O18	(4-3)	R15	b 0.4	
2069.209	C13O16	(6-5)	R33	1.2	
2069.28	?			0.1	?
2069.338	C12O18	(3-2)	R7	0.4	
2069.47	C13O16	(7-6)	R46	b 0.6	
2069.506	CO	(5-4)	R8	17.5	
2069.658	C13O16	(1-0)	P7	2.3	
2069.67	C12O18	(1-0)	P6	b <<1	
2069.715	?			0.1	?
2069.749	?			0.2	?
2069.85	C13O16	(3-2)	R6	b 1 ⁺	
2069.853	CO	(7-6)	R26	16.5	
2069.93	C12O18	(6-5)	R35	b 0.2	
2069.94	C13O16	(8-7)	R66	b 0.2	
2069.978	C13O16	(4-3)	R14	2.2	

2070-2078 cm⁻¹

2070.080	CO	(9-8)	R53	9.1	
2070.145	C13O16	(5-4)	R23	1.8	
2070.24	?			0.1	?
2070.50	C12O18	(2-1)	R0	0.1	?
2070.564	?			0.2	?
2070.701	?			0.2	?
2070.857	C13O16	(8-7)	R67	0.2	
2071.017	CO	(8-7)	R38	13.6	
2071.155	CO	(3-2)	P5	19.1	
2071.230	C13O16	(7-6)	R47	0.6	
2071.230	Fe	u ³ G ^o - e ³ G ₅		b	
2071.406	CO	(4-3)	R1	b 13	
2071.48	CO	(6-5)	R17	b 18	
2071.50	C13O16	(6-5)	R34	b 1 ⁺	
2071.50	CO	(9-8)	R54	b 9	
2071.640	C12O18	(5-4)	R25	0.4	
2071.710	?			1.0	?
2071.73	C13O16	(8-7)	R68	b 0.2	
2071.803	?			0.4	?
2072.15	C12O18	(6-5)	R36	b 0.2	
2072.15	C12O18	(4-3)	R16	b 0.5	
2072.453	CO	(7-6)	R27	16.5	
2072.560	C13O16	(8-7)	R69	0.2	
2072.641	C12O18	(3-2)	R8	0.4	
2072.83	C13O16	(5-4)	R24	b 2	
2072.860	CO	(5-4)	R9	18.1	
2072.88	CO	(9-8)	R55	b 8 ⁺	
2072.95	C13O16	(7-6)	R48	b 0.6	
2072.988	CO	(2-1)	P11	23.4	
2073.01	C13O16	(4-3)	R15	b 2 ⁺	
2073.103	CO	(8-7)	R39	13.8	
2073.195	C13O16	(3-2)	R7	b 2	
2073.24	C12O17	(1-0)	P11	b 0.1	
2073.264	CO	(1-0)	P17	25.1	
2073.36	C13O16	(8-7)	R70	0.1	
2073.41	?			0.2	?
2073.49	C12O18	(1-0)	P5	b 0.2	
2073.528	C13O16	(1-0)	P6	1.9	
2073.748	C13O16	(6-5)	R35	1.2	
2073.918	?			0.1	?
2074.06	C12O18	(2-1)	R1	0.1	
2074.11	C13O16	(8-7)	R71	0.1	
2074.218	CO	(9-8)	R56	8.7	
2074.25	C12O18	(5-4)	R26	b 0.4	
2074.32	C12O18	(6-5)	R37	0.2	
2074.365	C13O16	(2-1)	R0	0.3	
2074.462	CO	(6-5)	R18	18.2	
2074.631	C13O16	(7-6)	R49	0.6	
2074.782	?			0.2	?
2074.81	C13O16	(8-7)	R72	0.1	
2075.01	CO	(7-6)	R28	b 16 ⁺	
2075.04	CO	(4-3)	R2	b 15	
2075.067	CO	(3-2)	P4	b 18	
2075.12	C12O18	(4-3)	R17	b 0.4	
2075.148	CO	(8-7)	R40	13.7	
2075.216	Si	4d ³ P ^o - 4f ² [2 ₂] ₂		bs 0.4	

2070-2078 cm⁻¹ (Continued)

2075.296	?				0.1	?
2075.42	C12017	(2-1)	P4		0.1	
2075.48	C13016	(5-4)	R25		b 2	
2075.48	C13016	(8-7)	R73		b 0.1	
2075.509	CO	(9-8)	R57		8.8	
2075.671	?				0.1	?
2075.768	?				0.2	?
2075.905	C12018	(3-2)	R9		0.5	
2075.960	C13016	(6-5)	R36		1.3	
2076.019	C13016	(4-3)	R16		2.4	
2076.10	C13016	(8-7)	R74		0.1	
2076.166	CO	(5-4)	R10		18.4	
2076.267	C13016	(7-6)	R50		0.5	
2076.35	?				0.1	?
2076.45	C12018	(6-5)	R38		0.2	
2076.507	C13016	(3-2)	R8		1.9	
2076.629	?				0.1	?
2076.68	C13016	(8-7)	R75		0.1	
2076.759	CO	(9-8)	R58		8.3	
2076.831	C12018	(5-4)	R27		0.4	
2077.141	CO	(2-1)	P10		23.5	
2077.15	CO	(8-7)	R41		b 13 ⁺	
2077.22	C13016	(8-7)	R76		<0.1	
2077.28	C12018	(1-0)	P4		0.1	
2077.32	C12017	(1-0)	P10		< 0.1	
2077.36	C13016	(1-0)	P5		b 1 ⁺	
2077.404	CO	(6-5)	R19		18.3	
2077.535	CO	(7-6)	R29		16.5	
2077.60	C12018	(2-1)	R2		0.1	
2077.649	CO	(1-0)	P16		24.8	
2077.820	?				0.1	?
2077.87	C13016	(7-6)	R51		b 0.5	
2077.88	CO	(9-8)	R110		b <<1	
2077.94	C13016	(2-1)	R1		b <1	
2077.964	CO	(9-8)	R59		8.1	

2078-2086 cm⁻¹

2078.04	C12018	(4-3)	R18	0.4	?
2078.097	C13016	(5-4)	R26	2.0	
2078.137	C13016	(6-5)	R37	1.3	
2078.244	Si	5p ³ D ₁ - 4d ³ D ₀		1.5	
2078.36	?			0.1	?
2078.517	?			0.5	?
2078.54	C12018	(6-5)	R39	b 0.2	
2078.639	CO	(4-3)	R3	16.6	
2078.947	CO	(3-2)	P3	17.1	
2078.98	C13016	(4-3)	R17	bs 2*	
2079.118	CO	(8-7)	R42	b 14	
2079.12	CO	(9-8)	R109	b <<1	
2079.12	CO	(9-8)	R60	b 8	
2079.14	C12018	(3-2)	R10	b 0.5	
2079.24	?			0.3	?
2079.357	C12018	(5-4)	R28	0.4	
2079.43	C13016	(7-6)	R52	b 0.5	
2079.442	CO	(5-4)	R11	18.6	
2079.603	?			0.1	?
2079.785	C13016	(3-2)	R9	2.1	
2080.017	CO	(7-6)	R30	16.5	
2080.244	CO	(9-8)	R61	7.6	
2080.27	C13016	(6-5)	R38	b 1*	
2080.308	CO	(6-5)	R20	18.3	
2080.31	CO	(9-8)	R108	b <<1	
2080.517	?			0.1	?
2080.60	C12018	(6-5)	R40	0.2	
2080.678	C13016	(5-4)	R27	2.0	
2080.93	C12018	(4-3)	R19	b 0.4	
2080.94	C13016	(7-6)	R53	b 0.5	
2081.037	C12018	(1-0)	P3	b <<1	
2081.037	CO	(8-7)	R43	13.2	
2081.09	C12018	(2-1)	R3	bs 0.2	
2081.170	C13016	(1-0)	P4	1.0	
2081.258	CO	(2-1)	P9	22.9	
2081.319	CO	(9-8)	R62	7.5	
2081.44	CO	(9-8)	R107	0.4	
2081.486	C13016	(2-1)	R2	0.8	
2081.605	?			0.1	?
2081.858	C12018	(5-4)	R29	0.3	
2081.921	C13016	(4-3)	R18	2.6	
2082.002	CO	(1-0)	P15	24.6	
2082.110	?			0.1	?
2082.203	CO	(4-3)	R4	17.5	
2082.33	C12018	(3-2)	R11	b 0.5	
2082.347	CO	(9-8)	R63	7.3	
2082.37	C13016	(6-5)	R39	b 1*	
2082.43	C13016	(7-6)	R54	b 0.5	
2082.460	CO	(7-6)	R31	16.5	
2082.50	CO	(9-8)	R106	b <<1	
2082.57	?			0.1	?
2082.62	C12018	(6-5)	R41	b 0.2	
2082.680	CO	(5-4)	R12	b 18.8	
2082.793	CO	(3-2)	P2	15.0	
2082.917	CO	(8-7)	R44	13.0	

2078-2086 cm^{-1} (Continued)

2083.028	C13O16	(3-2)	R10	2.4	
2083.108	?			s 0.1	?
2083.174	CO	(6-5)	R21	18.3	
2083.22	C13O16	(5-4)	R28	bs 2	
2083.332	CO	(9-8)	R64	6.8	
2083.34	OH	(3-2)	P1F 25.5	b 0.1	
2083.54	CO	(9-8)	R105	0.4	
2083.787	C12O18	(4-3)	R20	0.4	
2083.86	Fe	t $^5D^0_4$ - f 5P_3		b <1	
2083.872	C13O16	(7-6)	R55	0.5	
2083.964	?			0.1	?
2084.163	?			0.2	?
2084.272	CO	(9-8)	R65	6.6	
2084.32	C12O18	(5-4)	R30	bs 0.3	
2084.434	C13O16	(6-5)	R40	1.1	
2084.510	CO	(9-8)	R104	0.6	
2084.56	C12O18	(2-1)	R4	0.3	
2084.56	OH	(3-2)	P2E 24.5	b 0.1	
2084.60	C12O18	(6-5)	R42	0.2	
2084.756	CO	(8-7)	R45	12.8	
2084.77	C12O18	(1-0)	P2	b <<1	
2084.82	C13O16	(4-3)	R19	bs 2*	
2084.863	CO	(7-6)	R32	16.5	
2084.942	C13O16	(1-0)	P3	0.7	
2084.998	C13O16	(2-1)	R3	1.1	
2085.167	CO	(9-8)	R66	6.3	
2085.28	C13O16	(7-6)	R56	bs 0.5	
2085.343	CO	(2-1)	P8	22.3	
2085.435	CO	(9-8)	R103	0.6	
2085.502	C12O18	(3-2)	R12	0.5	
2085.546	OH	(3-2)	P1E 25.5	0.1	
2085.59	?			0.1	?
2085.627	?			0.2	?
2085.730	CO	(4-3)	R5	18.4	
2085.73	C13O16	(5-4)	R29	b 2	
2085.882	CO	(5-4)	R13	19.0	

2086-2094 cm⁻¹

2086.004	CO	(6-5)	R22	18.5
2086.01	CO	(9-8)	R67	b 6
2086.236	C13O16	(3-2)	R11	2.6
2086.30	CO	(9-8)	R102	b 0.5
2086.321	CO	(1-0)	P14	24.6
2086.37	OH	(3-2)	P2F	24.5
2086.456	C13O16	(6-5)	R41	1.1
2086.54	C12O18	(6-5)	R43	b 0.2
2086.552	CO	(8-7)	R46	12.5
2086.60	C12O18	(4-3)	R21	b 0.4
2086.603	CO	(3-2)	P1	b 11.5
2086.64	C13O16	(7-6)	R57	b 0.4
2086.697	?			0.1
2086.740	C12O18	(5-4)	R31	0.3
2086.822	CO	(9-8)	R68	5.8
2086.95	?			0.2
2087.057	?			0.1
2087.115	CO	(9-8)	R101	0.5
2087.225	CO	(7-6)	R33	16.5
2087.458	?			0.3
2087.583	CO	(9-8)	R69	5.6
2087.681	C13O16	(4-3)	R20	2.5
2087.891	CO	(9-8)	R100	0.6
2087.95	C13O16	(7-6)	R58	0.3
2087.98	C12O18	(2-1)	R5	b 0.3
2088.194	C13O16	(5-4)	R30	2.0
2088.30	CO	(9-8)	R70	b 5*
2088.305	CO	(8-7)	R47	b 13
2088.443	C13O16	(6-5)	R42	1.2
2088.443	C12O18	(6-5)	R44	b 0.2
2088.46	C12O18	(1-0)	P1	b <<1
2088.475	C13O16	(2-1)	R4	1.3
2088.61	CO	(9-8)	R99	b 0.8
2088.62	C12O18	(3-2)	R13	b 0.5
2088.686	C13O16	(1-0)	P2	0.5
2088.792	CO	(6-5)	R23	18.5
2088.967	CO	(9-8)	R71	5.6
2089.047	CO	(5-4)	R14	19.4
2089.135	C12O18	(5-4)	R32	0.3
2089.222	CO	(4-3)	R6	18.8
2089.24	C13O16	(7-6)	R59	b 0.4
2089.29	CO	(9-8)	R98	bs 1
2089.39	C12O18	(4-3)	R22	b 0.5
2089.394	CO	(2-1)	P7	22.2
2089.41	C13O16	(3-2)	R12	b 3
2089.548	CO	(7-6)	R34	16.4
2089.59	CO	(9-8)	R72	bs 5*
2089.894	CO	(9-8)	R97	0.8
2090.020	CO	(8-7)	R48	12.4
2090.166	CO	(9-8)	R73	4.7
2090.32	C12O18	(6-5)	R45	0.3
2090.385	C13O16	(6-5)	R43	1.1
2090.463	CO	(9-8)	R96	1.0
2090.48	C13O16	(7-6)	R60	b 0.3
2090.509	C13O16	(4-3)	R21	2.7

2086-2094 cm⁻¹ (Continued)

2090.609	CO	(1-0)	P13	24.5	
2090.63	C13O16	(5-4)	R31	b 2	
2090.701	CO	(9-8)	R74	4.3	
2090.782	?			0.1	?
2090.981	CO	(9-8)	R95	1.1	
2091.091	?			0.1	?
2091.187	CO	(9-8)	R75	4.3	
2091.27	?			0.1	?
2091.395	C12O18	(2-1)	R6	0.4	
2091.449	CO	(9-8)	R94	1.1	
2091.48	C12O18	(5-4)	R33	b 0.3	
2091.544	CO	(6-5)	R24	18.3	
2091.627	CO	(9-8)	R76	4.1	
2091.68	C13O16	(7-6)	R61	b 0.3	
2091.691	CO	(8-7)	R49	12.2	
2091.72	C12O18	(3-2)	R14	bs 0.5	
2091.831	CO	(7-6)	R35	16.2	
2091.88	CO	(9-8)	R93	b 1*	
2091.921	C13O16	(2-1)	R5	1.8	
2092.020	CO	(9-8)	R77	3.8	
2092.09	?			s 0.1	?
2092.13	C12O18	(4-3)	R23	b 0.5	
2092.14	C12O18	(6-5)	R46	b 0.2	
2092.174	CO	(5-4)	R15	19.6	
2092.243	CO	(9-8)	R92	b 1*	
2092.298	C13O16	(6-5)	R44	1.1	
2092.366	CO	(9-8)	R78	3.5	
2092.55	C13O16	(3-2)	R13	b 3*	
2092.56	CO	(9-8)	R91	b 1*	
2092.67	CO	(9-8)	R79	b 3*	
2092.678	CO	(4-3)	R7	19.7	
2092.835	C13O16	(7-6)	R62	b 0.3	
2092.835	CO	(9-8)	R90	1.9	
2092.919	CO	(9-8)	R80	3.2	
2093.021	C13O16	(5-4)	R32	2.0	
2093.060	CO	(9-8)	R89	1.9	
2093.125	CO	(9-8)	R81	3.0	
2093.234	CO	(9-8)	R88	2.0	
2093.30	CO	(9-8)	R82	b 3	
2093.30	C13O16	(4-3)	R22	b 2*	
2093.318	CO	(8-7)	R50	12.0	
2093.38	CO	(9-8)	R87	b 2*	
2093.410	CO	(2-1)	P6	21.6	
2093.41	CO	(9-8)	R83	b 3	
2093.45	CO	(9-8)	R86	b 2*	
2093.47	CO	(9-8)	R84	b 2*	
2093.49	CO	(9-8)	R85	b 2*	
2093.53	?			0.1	?
2093.649	?			0.1	?
2093.801	C12O18	(5-4)	R34	0.3	
2093.862	?			0.2	?
2093.93	C12O18	(6-5)	R47	b 0.2	
2093.94	C13O16	(7-6)	R63	b 0.3	

2094-2102 cm⁻¹

2094.073	CO	(7-6)	R36	16.1	?
2094.118	CO	(3-2)	R0	12.2	
2094.16	C13O16	(6-5)	R45	bs 1	
2094.256	CO	(6-5)	R25	18.4	
2094.32	?			0.1	?
2094.394	?			0.2	?
2094.545	?			0.1	?
2094.692	?			0.1	?
2094.75	Si	5p ³ S ₁ - 6s (³ / ₂ , ¹ / ₂) ₁		b <1	
2094.76	C12O18	(2-1)	R7	b 0.5	
2094.78	C12O18	(3-2)	R15	b 0.5	
2094.84	C12O18	(4-3)	R24	b 0.5	
2094.860	CO	(1-0)	P12	24.5	
2094.90	CO	(8-7)	R51	bs 12	
2095.021	C13O16	(7-6)	R64	0.3	
2095.06	?			0.1	?
2095.153	?			0.3	?
2095.264	CO	(5-4)	R16	19.8	
2095.333	C13O16	(2-1)	R6	2.2	
2095.378	C13O16	(5-4)	R33	2.0	
2095.459	?			0.2	?
2095.531	?			0.2	?
2095.657	C13O16	(3-2)	R14	3.2	
2095.67	C12O18	(6-5)	R48	b 0.2	
2095.796	?			0.4	?
2095.949	Si	4d ³ P ⁰ ₂ - 4f ² [³ / ₂] ₃		4.3	
2096.00	C13O16	(6-5)	R46	bs 1	
2096.05	C13O16	(4-3)	R23	bs 3	
2096.06	C13O16	(7-6)	R65	b 0.3	
2096.07	C12O18	(5-4)	R35	b 0.3	
2096.098	CO	(4-3)	R8	19.9	
2096.19	?			0.1	?
2096.276	CO	(7-6)	R37	16.2	
2096.36	?			0.1	?
2096.448	CO	(8-7)	R52	11.9	
2096.642	?			0.2	?
2096.74	?			0.2	?
2096.79	?			0.2	?
2096.930	CO	(6-5)	R26	18.5	
2097.049	C13O16	(7-6)	R66	0.3	
2097.203	?			0.2	?
2097.236	?			0.2	?
2097.39	C12O18	(6-5)	R49	b 0.2	
2097.394	CO	(2-1)	P5	21.2	
2097.523	C12O18	(4-3)	R25	0.6	
2097.700	C13O16	(5-4)	R34	2.0	
2097.79	C13O16	(6-5)	R47	b 1	
2097.81	C12O18	(3-2)	R16	b 0.5	
2097.822	CO	(3-2)	R1	15.6	
2097.949	CO	(8-7)	R53	11.6	
2098.00	C13O16	(7-6)	R67	b 0.3	
2098.044	?			0.1	?
2098.093	C12O18	(2-1)	R8	0.5	
2098.225	?			0.3	?
2098.31	C12O18	(5-4)	R36	b 0.3	

2094-2102 cm^{-1} (Continued)

2098.317	CO	(5-4)	R17	19.9	
2098.438	CO	(7-6)	R38	16.1	
2098.53	?			0.1	?
2098.598	?			0.1	?
2098.71	C13O16	(2-1)	R7	b 2 ⁺	
2098.722	C13O16	(3-2)	R15	b 3 ⁺	
2098.775	C13O16	(4-3)	R24	3.0	
2098.83	?			0.1	?
2098.911	C13O16	(7-6)	R68	0.3	
2099.06	C12O18	(6-5)	R50	b 0.2	
2099.082	CO	(1-0)	P11	24.5	
2099.406	CO	(8-7)	R54	11.3	
2099.481	CO	(4-3)	R9	20.2	
2099.54	C13O16	(6-5)	R48	b 1	
2099.564	CO	(6-5)	R27	18.6	
2099.63	OH	(2-1)	P1F 27.5	bs 0.3	
2099.714	C13O16	(1-0)	R0	0.3	
2099.774	C13O16	(7-6)	R69	0.3	
2099.888	?			1.1	?
2099.983	C13O16	(5-4)	R35	2.0	
2100.16	C12O18	(4-3)	R26	0.6	
2100.24	?			0.1	?
2100.35	?			0.1	?
2100.488	Si	5p ³ D ₂ - 4d ³ D ₃		2.8	
2100.49	C12O18	(5-4)	R37	b 0.4	
2100.559	CO	(7-6)	R39	15.9	
2100.60	C13O16	(7-6)	R70	b 0.2	
2100.68	OH	(2-1)	P2E 26.5	b 0.4	
2100.69	C12O18	(6-5)	R51	b 0.2	
2100.80	C12O18	(3-2)	R17	b 0.5	
2100.820	CO	(8-7)	R55	11.2	
2101.104	?			0.3	?
2101.18	?			0.1	?
2101.253	C13O16	(6-5)	R49	1.0	
2101.336	CO	(5-4)	R18	b 20	
2101.34	CO	(2-1)	P4	b 20	
2101.39	C12O18	(2-1)	R9	b 0.5	
2101.46	C13O16	(4-3)	R25	b 3	
2101.492	CO	(3-2)	R2	17.2	
2101.62	?			0.2	?
2101.66	?			0.2	?
2101.765	C13O16	(3-2)	R16	3.4	
2101.912	?			0.1	?
2101.975	?			0.3	?

2102-2110 cm^{-1}

2102.054	C13O16	(2-1)	R8	2.6	
2102.160	CO	(6-5)	R28	18.6	
2102.19	CO	(8-7)	R56	bs 11	
2102.23	C13O16	(5-4)	R36	bs 2	
2102.29	C12O18	(6-5)	R52	0.2	?
2102.546	?			0.3	
2102.639	CO	(7-6)	R40	15.7	
2102.68	C12O18	(5-4)	R38	b 0.3	
2102.76	C12O18	(4-3)	R27	b 0.6	
2102.82	C13O16	(7-6)	R73	b 0.2	
2102.828	CO	(4-3)	R10	20.4	
2102.91	C12O18	(1-0)	R2	0.1	
2102.924	C13O16	(6-5)	R50	1.0	
2102.979	?			0.1	?
2103.080	?			0.3	?
2103.269	CO	(1-0)	P10	24.5	
2103.32	C13O16	(1-0)	R1	b 1	
2103.46	?			s 0.1	
2103.520	CO	(8-7)	R57	11.0	
2103.755	C12O18	(3-2)	R18	0.6	
2103.84	C12O18	(6-5)	R53	0.2	
2103.95	?			0.2	?
2104.030	?			0.1	?
2104.106	C13O16	(4-3)	R26	2.9	
2104.309	CO	(5-4)	R19	20.1	
2104.436	C13O16	(5-4)	R37	2.0	
2104.560	C13O16	(6-5)	R51	0.8	
2104.65	C12O18	(2-1)	R10	b 0.5	
2104.66	C13O16	(7-6)	R76	b 0.1	
2104.677	CO	(7-6)	R41	b 15*	
2104.717	CO	(6-5)	R29	18.6	
2104.77	C13O16	(3-2)	R17	b 3*	
2104.804	CO	(8-7)	R58	10.8	
2104.804	C12O18	(5-4)	R39	b 0.3	
2105.126	CO	(3-2)	R3	18.3	
2105.257	CO	(2-1)	P3	19.1	
2105.33	C12O18	(4-3)	R28	b 0.6	
2105.35	C12O18	(6-5)	R54	b 0.1	
2105.364	C13O16	(2-1)	R9	3.0	
2105.473	?			0.9	?
2105.557	?			0.1	?
2105.812	?			0.2	?
2105.890	?			0.2	?
2106.044	CO	(8-7)	R59	10.6	
2106.139	CO	(4-3)	R11	20.6	
2106.15	C13O16	(6-5)	R52	b 0.8	
2106.24	?			0.2	?
2106.369	?			0.1	?
2106.44	C12O18	(1-0)	R3	0.2	
2106.504	C13O16	(7-6)	R80	0.1	
2106.604	C13O16	(5-4)	R38	b 2	
2106.675	CO	(7-6)	R42	15.4	
2106.675	C12O18	(3-2)	R19	b 0.6	
2106.72	C13O16	(4-3)	R27	bs 3	
2106.767	?			s 0.1	?

2102-2110 cm^{-1} (Continued)

2106.82	C12O18	(6-5)	R55	0.1	
2106.901	C12O18	(5-4)	R40	b 0.3	
2106.901	C13O16	(1-0)	R2	b 1	
2107.023	?			0.3	?
2107.057	?			0.5	?
2107.23	CO	(6-5)	R30	b 18 ⁺	
2107.24	CO	(8-7)	R60	b 10	
2107.25	CO	(5-4)	R20	b 20.1	
2107.423	CO	(1-0)	P9	23.9	
2107.51	CH	(3-2)	P2F 11.5	0.1	
2107.557	C	4p ¹ D ₂ - 5s ¹ P ₁		0.3	
2107.61	CH	(3-2)	P1E 12.5	0.1	
2107.644	?			0.4	?
2107.644	C13O16	(7-6)	R84	b 0.1	
2107.71	C13O16	(6-5)	R53	b 0.8	
2107.730	C13O16	(3-2)	R18	3.6	
2107.86	C12O18	(4-3)	R29	b 0.6	
2107.88	C12O18	(2-1)	R11	b 0.6	
2108.25	C12O18	(6-5)	R56	0.1	
2108.394	CO	(8-7)	R61	10.1	
2108.48	CH	(3-2)	P2E 11.5	0.1	
2108.52	CH	(3-2)	P1F 12.5	0.1	
2108.633	CO	(7-6)	R43	15	
2108.64	C13O16	(2-1)	R10	b 3	
2108.724	CO	(3-2)	R4	19.3	
2108.74	C13O16	(5-4)	R39	b 2	
2108.956	C12O18	(5-4)	R41	0.3	
2109.027	CO	(8-7)	R109	b <<1	
2109.136	CO	(2-1)	P2	16.8	
2109.223	C13O16	(6-5)	R54	0.8	
2109.292	C13O16	(4-3)	R28	2.9	
2109.40	OH	(1-0)	P1F 29.5	b 0.1	
2109.412	CO	(4-3)	R12	21.0	
2109.502	CO	(8-7)	R62	9.8	
2109.564	C12O18	(3-2)	R20	0.6	
2109.64	C12O18	(6-5)	R57	b 0.1	
2109.711	CO	(6-5)	R31	18.4	
2109.945	C12O18	(1-0)	R4	0.3	

2110-2118 cm⁻¹

2110.150	CO	(5-4)	R21	20.1	
2110.16	CO	(8-7)	R108	b <<1	
2110.26	OH	(1-0)	P2E 28.5	0.2	
2110.356	C12O18	(4-3)	R30	0.5	
2110.443	C13O16	(1-0)	R3	1.2	
2110.55	CO	(7-6)	R44	b 15	
2110.56	CO	(8-7)	R63	b 10	
2110.662	C13O16	(3-2)	R19	3.6	
2110.70	C13O16	(6-5)	R55	bs 0.7	
2110.833	C13O16	(5-4)	R40	1.6	
2110.968	C12O18	(5-4)	R42	0.3	
2111.01	C12O18	(6-5)	R58	0.1	
2111.081	C12O18	(2-1)	R12	0.6	
2111.121	?			0.1	?
2111.254	CO	(8-7)	R107	0.5	
2111.463	?			s 0.1	?
2111.542	CO	(1-0)	P8	23.5	
2111.59	CO	(8-7)	R64	bs 9 ⁺	
2111.67	?			0.1	?
2111.831	C13O16	(4-3)	R29	2.8	
2111.882	C13O16	(2-1)	R11	3.2	
2111.96	OH	(1-0)	P1E 29.5	b 0.2	
2111.96	?			0.6	?
2112.05	?			0.2	?
2112.13	C13O16	(6-5)	R56	b 0.7	
2112.149	CO	(6-5)	R32	18.3	
2112.287	CO	(8-7)	R106	b <1	
2112.287	CO	(3-2)	R5	20.3	
2112.32	C12O18	(6-5)	R59	bs 0.1	
2112.42	C12O18	(3-2)	R21	b 0.6	
2112.421	CO	(7-6)	R45	15.2	
2112.46	OH	(1-0)	P2F 28.5	b 0.2	
2112.56	CO	(8-7)	R65	bs 9	
2112.649	CO	(4-3)	R13	21.3	
2112.814	C12O18	(4-3)	R31	0.6	
2112.887	C13O16	(5-4)	R41	1.7	
2112.94	C12O18	(5-4)	R43	bs 0.3	
2112.98	CO	(2-1)	P1	b 16	
2113.013	CO	(5-4)	R22	20.3	
2113.274	CO	(8-7)	R105	0.6	
2113.408	C12O18	(1-0)	R5	0.4	
2113.492	CO	(8-7)	R66	9.0	
2113.53	C13O16	(6-5)	R57	b 0.7	
2113.558	C13O16	(3-2)	R20	3.7	
2113.58	C12O18	(6-5)	R60	b 0.1	
2113.699	?			0.1	?
2113.80	?			0.4	?
2113.955	C13O16	(1-0)	R4	1.5	
2114.003	?			0.9	
2114.21	CO	(8-7)	R104	b <1	
2114.24	C12O18	(2-1)	R13	b 0.6	
2114.253	CO	(7-6)	R46	15.2	
2114.332	C13O16	(4-3)	R30	3.1	
2114.379	CO	(8-7)	R67	8.7	
2114.481	Mg	5f ³ F ⁰ _{2,3,4} - 7d ³ D _{1,2,3}		bs 0.3	

2110-2118 cm^{-1} (Continued)

2114.547	CO	(6-5)	R33	18.2	
2114.719	?			0.2	?
2114.81	C12O18	(6-5)	R61	0.1	
2114.87	C12O18	(5-4)	R44	bs 0.3	
2114.88	C13O16	(6-5)	R58	bs 0.6	
2114.905	C13O16	(5-4)	R42	1.7	
2115.089	C13O16	(2-1)	R12	b 3+	
2115.089	CO	(8-7)	R103	b <1	
2115.220	CO	(8-7)	R68	8.3	
2115.22	C12O18	(3-2)	R22	b 0.6	
2115.23	C12O18	(4-3)	R32	b 0.6	
2115.35	?			0.1	?
2115.629	CO	(1-0)	P7	22.9	
2115.81	CO	(3-2)	R6	b 21	
2115.84	CO	(5-4)	R23	b 20	
2115.85	CO	(4-3)	R14	b 21+	
2115.924	CO	(8-7)	R102	0.8	
2116.01	C12O18	(6-5)	R62	b 0.1	
2116.02	CO	(8-7)	R69	b 8	
2116.04	CO	(7-6)	R47	b 15	
2116.186	C13O16	(6-5)	R59	0.6	
2116.418	C13O16	(3-2)	R21	3.7	
2116.512	?			0.2	?
2116.705	CO	(8-7)	R101	0.9	
2116.765	CO	(8-7)	R70	8.0	
2116.77	C12O18	(5-4)	R45	b 0.3	
2116.80	C13O16	(4-3)	R31	bs 3	
2116.84	C12O18	(1-0)	R6	bs 0.4	
2116.89	C13O16	(5-4)	R43	b 1.6	
2116.904	CO	(6-5)	R34	18.2	
2117.05	?			0.2	?
2117.16	C12O18	(6-5)	R63	b 0.1	
2117.371	C12O18	(2-1)	R14	0.6	
2117.43	C13O16	(1-0)	R5	bs 2	
2117.44	CO	(8-7)	R100	bs 1	
2117.46	C13O16	(6-5)	R60	b 0.6	
2117.470	CO	(8-7)	R71	7.6	
2117.617	C12O18	(4-3)	R33	0.7	
2117.68	?			0.2	?
2117.790	CO	(7-6)	R48	14.8	

2118-2126 cm⁻¹

2118.12	CO	(8-7)	R99	b 1	
2118.127	CO	(8-7)	R72	7.3	
2118.262	C13O16	(2-1)	R13	3.7	
2118.27	C12O18	(6-5)	R64	b 0.1	?
2118.432	?			0.1	
2118.623	CO	(5-4)	R24	20.3	
2118.63	C12O18	(5-4)	R46	b 0.3	
2118.70	C13O16	(6-5)	R61	b 0.6	
2118.742	CO	(8-7)	R73	7.2	
2118.75	CO	(8-7)	R98	b 1	
2118.826	C13O16	(5-4)	R44	1.6	
2119.011	CO	(4-3)	R15	21.5	?
2119.11	?			0.1	
2119.223	CO	(6-5)	R35	18.4	
2119.223	C13O16	(4-3)	R32	b 3	
2119.24	C13O16	(3-2)	R22	b 3 ⁺	
2119.305	CO	(3-2)	R7	21.3	
2119.31	CO	(8-7)	R74	b 7	
2119.33	C12O18	(6-5)	R65	b 0.1	
2119.34	CO	(8-7)	R97	b 1 ⁺	?
2119.391	?			0.1	
2119.496	CO	(7-6)	R49	14.9	?
2119.59	?			0.1	
2119.681	CO	(1-0)	P6	22.6	
2119.831	CO	(8-7)	R75	6.3	
2119.87	CO	(8-7)	R96	bs 1 ⁺	
2119.89	C13O16	(6-5)	R62	b 0.5	
2119.964	C12O18	(4-3)	R34	0.7	
2120.036	?			0.2	?
2120.138	?			0.3	?
2120.234	C12O18	(1-0)	R7	0.4	
2120.234	CO	(8-7)	R76	5.8	
2120.305	CO	(8-7)	R95	bs 2.0	
2120.36	CO	(8-7)	R66	b 0.1	
2120.36	C12O18	(6-5)	R47	b 0.3	
2120.46	C12O18	(5-4)	R15	b 0.7	
2120.460	C12O18	(2-1)	R0	13.6	
2120.567	CO	(2-1)	R45	b 1.5	
2120.73	C13O16	(5-4)	R77	b 6	
2120.73	CO	(8-7)	R24	b 0.7	
2120.75	C12O18	(3-2)	R94	bs 2.0	
2120.79	CO	(8-7)	R6	2.1	
2120.876	C13O16	(1-0)	R63	0.6	
2121.039	C13O16	(6-5)	R78	bs 5 ⁺	
2121.12	CO	(8-7)	R50	15.2	
2121.160	CO	(7-6)	R93	b 2	
2121.16	CO	(8-7)	R67	b 0.1	
2121.35	C12O18	(6-5)	R25	20.4	
2121.371	CO	(5-4)	R14	b 4	
2121.40	C13O16	(2-1)	R79	bs 5	
2121.46	CO	(8-7)	R36	18.3	
2121.500	CO	(6-5)	R92	b 2 ⁺	
2121.50	CO	(8-7)	R33	2.9	
2121.615	C13O16	(4-3)	R80	5.0	
2121.740	CO	(8-7)	R91	2.6	
2121.780	CO	(8-7)			

2118-2126 cm^{-1} (Continued)

2121.889	?					0.1	?
2121.982	CO	(8-7)	R81			4.9	
2122.02	C13O16	(3-2)	R23			b 3.0	
2122.02	CO	(8-7)	R90			b 3*	
2122.135	CO	(4-3)	R16			21.6	
2122.14	C13O16	(6-5)	R64			b 0.5	
2122.19	CO	(8-7)	R82			bs 5	
2122.21	CO	(8-7)	R89			bs 3*	
2122.23	C12O18	(5-4)	R48			b 0.3	
2122.276	C12O18	(4-3)	R35			b 0.7	
2122.29	C12O18	(6-5)	R68			b 0.1	
2122.33	CO	(8-7)	R83			b 5.0	
2122.35	CO	(8-7)	R88			b 4	
2122.42	CO	(8-7)	R84			b 5.0	
2122.44	CO	(8-7)	R87			b 4	
2122.48	CO	(8-7)	R85			b 4*	
2122.48	CO	(8-7)	R86			b 4*	
2122.591	C13O16	(5-4)	R46			1.5	
2122.760	CO	(3-2)	R8			b 22	
2122.78	CO	(7-6)	R51			b 14*	
2122.88	?					0.1	?
2122.98	?					0.1	?
2123.20	C12O18	(6-5)	R69			b 0.1	
2123.204	C13O16	(6-5)	R65			0.5	
2123.292	?					0.1	?
2123.421	?					0.1	?
2123.459	C12O18	(3-2)	R25			0.7	
2123.519	C12O18	(2-1)	R16			0.8	
2123.597	C12O18	(1-0)	R8			0.4	
2123.697	CO	(1-0)	P5			b 22.6	
2123.737	CO	(6-5)	R37			b 18*	
2123.88	?					0.1	?
2123.969	C13O16	(4-3)	R34			2.8	
2123.97	C12O18	(5-4)	R49			b 0.3	
2124.05	C12O18	(6-5)	R70			b 0.1	
2124.080	CO	(5-4)	R26			20.2	
2124.232	C13O16	(6-5)	R66			0.4	
2124.29	C13O16	(1-0)	R7			b 2*	
2124.305	CO	(2-1)	R1			17.1	
2124.359	CO	(7-6)	R52			14.2	
2124.416	C13O16	(5-4)	R47			1.5	
2124.505	C13O16	(2-1)	R15			4.0	
2124.54	C12O18	(4-3)	R36			bs 0.7	
2124.783	C13O16	(3-2)	R24			3.7	
2124.834	?					0.2	?
2124.87	C12O18	(6-5)	R71			0.1	
2124.979	?					0.3	?
2125.09	C12O17	(3-2)	R17			0.1	
2125.22	C13O16	(6-5)	R67			b 0.4	
2125.223	CO	(4-3)	R17			21.7	
2125.32	?					0.1	?
2125.469	?					0.1	?
2125.65	C12O18	(6-5)	R72			0.1	
2125.68	C12O18	(5-4)	R50			b 0.3	
2125.894	CO	(7-6)	R53			b 14	
2125.935	CO	(6-5)	R38			18.3	

2126-2134 cm⁻¹

2126.13	C12018	(3-2)	R26	b 0.7	?
2126.16	C13016	(6-5)	R68	b 0.3	
2126.178	CO	(3-2)	R9	21.9	
2126.20	C13016	(5-4)	R48	b 1.4	
2126.285	C13016	(4-3)	R35	2.7	
2126.38	C12018	(6-5)	R73	<0.1	
2126.542	C12018	(2-1)	R17	0.8	
2126.749	CO	(5-4)	R27	20.3	
2126.78	C12018	(4-3)	R37	b 0.7	?
2126.87	?			0.1	
2126.932	C12018	(1-0)	R9	0.5	
2127.060	C13016	(6-5)	R69	0.3	
2127.08	C12018	(6-5)	R74	b <0.1	
2127.34	C12018	(5-4)	R51	b 0.3	
2127.386	CO	(7-6)	R54	13.9	
2127.499	C13016	(3-2)	R25	3.7	
2127.574	C13016	(2-1)	R16	4.0	
2127.66	C13016	(1-0)	R8	b 2 ⁺	
2127.682	CO	(1-0)	P4	20.6	
2127.72	C12018	(6-5)	R75	<0.1	?
2127.80	?			0.1	
2127.92	C13016	(6-5)	R70	b 0.3	
2127.944	C13016	(5-4)	R49	1.3	
2128.010	CO	(2-1)	R2	18.8	
2128.090	CO	(6-5)	R39	18.3	
2128.274	CO	(4-3)	R18	21.8	
2128.562	C13016	(4-3)	R36	2.7	
2128.728	C13016	(6-5)	R71	0.2	
2128.769	C12018	(3-2)	R27	0.7	
2128.836	CO	(7-6)	R55	13.7	
2128.98	C12018	(5-4)	R52	b 0.3	
2128.98	C12018	(4-3)	R38	b 0.7	
2129.252	?			0.1	?
2129.380	CO	(5-4)	R28	20.4	
2129.50	C13016	(6-5)	R72	b 0.2	
2129.53	C12018	(2-1)	R18	b 0.8	
2129.559	CO	(3-2)	R10	22.4	
2129.651	C13016	(5-4)	R50	1.4	?
2129.765	?			0.2	
2129.82	CO	(7-6)	R116	0.1	?
2129.893	?			0.1	?
2129.959	?			0.2	?
2130.18	C13016	(3-2)	R26	b 4	
2130.203	CO	(6-5)	R40	b 18	
2130.23	C12018	(1-0)	R10	b 0.5	
2130.23	C13016	(6-5)	R73	b 0.2	
2130.24	CO	(7-6)	R56	b 14	
2130.476	?			0.2	?
2130.55	C12018	(5-4)	R53	<0.1	
2130.607	C13016	(2-1)	R17	4.2	
2130.718	?			0.1	?
2130.803	C13016	(4-3)	R37	2.7	
2130.922	C13016	(6-5)	R74	0.2	
2131.006	C13016	(1-0)	R9	2.6	
2131.09	C12017	(3-2)	R19	b 0.1	

2126-2134 cm^{-1} (Continued)

2131.09	?				0.3	
2131.14	C12018	(4-3)	R39		0.6	
2131.28	CO	(7-6)	R115		b <<1	
2131.286	CO	(4-3)	R19		21.9	
2131.32	C13016	(5-4)	R51		b 1.3	
2131.366	C12018	(3-2)	R28		0.7	
2131.57	C13016	(6-5)	R75		bs 0.2	
2131.61	CO	(7-6)	R57		b 13 ⁺	
2131.63	CO	(1-0)	P3		b 20	
2131.681	CO	(2-1)	R3		21.1	
2131.87	?				0.1	?
2131.971	CO	(5-4)	R29		20.3	
2132.10	C12018	(5-4)	R54		0.2	
2132.17	C13016	(6-5)	R76		0.2	
2132.279	CO	(6-5)	R41		17.8	
2132.368	?				0.1	?
2132.484	C12018	(2-1)	R19		0.9	
2132.70	CO	(7-6)	R114		0.4	
2132.73	C13016	(6-5)	R77		0.2	
2132.823	C13016	(3-2)	R27		3.9	
2132.907	CO	(3-2)	R11		b 23	
2132.92	CO	(7-6)	R58		b 13 ⁺	
2132.95	C13016	(5-4)	R52		bs 1.2	
2133.007	C13016	(4-3)	R38		2.7	
2133.158	?				0.1	?
2133.25	C13016	(6-5)	R78		b 0.1	
2133.258	C12018	(4-3)	R40		b 0.6	
2133.487	C12018	(1-0)	R11		0.6	
2133.606	C13016	(2-1)	R18		4.4	
2133.61	C12018	(5-4)	R55		b 0.2	
2133.710	C13016	(6-5)	R79		0.1	
2133.87	?				0.1	?
2133.932	C12018	(3-2)	R29		0.7	

2142-2150 cm^{-1}

2142.028	CO	(6-5)	R46	16.8
2142.134	CO	(7-6)	R106	0.9
2142.290	?	(2-1)	R21	0.1
2142.390	C13016	(2-1)	R6	4.6
2142.473	CO	(3-2)	R23	22.4
2142.636	?	(3-2)	R14	0.3
2142.64	C12017	(3-2)	R67	0.1
2142.720	CO	(7-6)	R23	22.9
2142.720	CO	(4-3)	R62	10.7
2142.816	CO	(5-4)	R31	22.1
2142.953	C12018	(3-2)	P2F 10.5	b 0.2
2143.03	C13016	(3-2)	R14	4.0
2143.033	CH	(1-0)	R105	0.1
2143.04	C12018	(7-6)	P1E 11.5	1.2
2143.078	CO	(3-2)	R59	0.4
2143.078	CH	(5-4)	R45	2.4
2143.14	C13016	(4-3)	R43	0.1
2143.213	C12018	(4-3)	R43	10.6
2143.294	C13016	(4-3)	R43	b 0.7
2143.449	?	(7-6)	R68	16.8
2143.547	CO	(3-2)	R33	1.0
2143.547	CO	(6-5)	R47	b 0.1
2143.692	C12018	(2-1)	R23	b 1
2143.82	CO	(3-2)	P1F 11.5	3.5
2143.853	C12018	(3-2)	R104	0.3
2143.946	CH	(7-6)	R13	19.9
2143.98	CO	(1-0)	R63	b 1
2143.981	C13016	(5-4)	R34	10.6
2144.035	C12018	(5-4)	R60	0.1
2144.20	CO	(5-4)	R69	0.1
2144.334	C13016	(7-6)	R69	0.1
2144.52	CO	(7-6)	R103	0.4
2144.523	?	(7-6)	R103	4.5
2144.720	CO	(1-0)	R7	9.4
2144.823	?	(4-3)	R46	bs 0.2
2144.90	C12017	(2-1)	R22	2.3
2145.06	C12018	(7-6)	R70	3.8
2145.188	C13016	(5-4)	R64	b 1*
2145.246	CO	(4-3)	R44	16.8
2145.308	C12018	(3-2)	R32	21.9
2145.35	C13016	(7-6)	R48	b 1
2145.421	C13016	(6-5)	R24	b 22.9
2145.493	CO	(4-3)	R61	b 22.9
2145.63	CO	(5-4)	R15	bs 9*
2145.636	CO	(3-2)	R7	b 0.7
2145.775	C13016	(2-1)	R71	b 0.8
2145.78	CO	(7-6)	R34	1.6
2145.917	CO	(3-2)	R15	0.3
2145.998	CO	(1-0)	R101	19.8
2146.049	C12018	(7-6)	R65	b 1
2146.198	C12018	(5-4)	R35	9.6
2146.198	CO	(5-4)	R24	
2146.364	C12018	(2-1)	R72	
2146.46	CO	(7-6)		
2146.686	CO			
2146.72	CO			
2146.743	CO			

2134-2142 cm^{-1} (Continued)

2138.862	CO	(7-6)	R63	b 12
2138.911	CO	(2-1)	R5	21.9
2138.95	C12018	(3-2)	R31	b 0.7
2138.98	CO	(7-6)	R109	b <1
2138.99	OH	(3-2)	P2E 23.5	b 0.1
2139.055	C13016	(5-4)	R56	1.1
2139.15	?			0.1
2139.24	C12018	(5-4)	R59	b 0.3
2139.38	C13016	(4-3)	R41	bs 2*
2139.40	C12018	(4-3)	R43	b 0.4
2139.426	CO	(1-0)	P1	13.9
2139.49	CO	(3-2)	R13	b 23
2139.498	C13016	(2-1)	R20	b 4*
2139.51	CO	(5-4)	R32	b 20
2139.665	?			0.3
2139.81	C12017	(3-2)	R22	0.1
2139.832	OH	(3-2)	P1E 24.5	0.1
2139.91	C12018	(1-0)	R13	b 0.7
2139.918	CO	(7-6)	R64	11.6
2140.01	?			0.1
2140.09	CO	(7-6)	R108	b <1
2140.094	CO	(4-3)	R22	22.0
2140.162	CO	(6-5)	R45	17.1
2140.33	?			0.1
2140.478	C13016	(5-4)	R57	1.1
2140.536	C13016	(3-2)	R30	4.0
2140.54	C12018	(5-4)	R60	b 0.2
2140.73	OH	(3-2)	P2F 23.5	b 0.1
2140.830	C13016	(1-0)	R12	3.3
2140.929	CO	(7-6)	R65	11.2
2141.135	C12018	(2-1)	R22	b 1
2141.135	CO	(7-6)	R107	b 1
2141.27	?			0.2
2141.371	C12018	(4-3)	R44	0.4
2141.40	C12018	(3-2)	R32	b 0.7
2141.437	C13016	(4-3)	R42	2.2
2141.555	?			0.6
2141.56	C12017	(1-0)	R6	b 0.1
2141.731	?			0.1
2141.80	C12018	(5-4)	R61	0.2
2141.87	C13016	(5-4)	R58	b 1
2141.894	CO	(7-6)	R66	b 11
2141.942	CO	(5-4)	R33	b 20

2142-2150 cm⁻¹

2142.028	CO	(6-5)	R46	16.8
2142.134	CO	(7-6)	R106	0.9
2142.290	?			0.1
2142.390	C13O16	(2-1)	R21	4.6
2142.473	CO	(2-1)	R6	22.4
2142.636	?			0.3
2142.64	C12O17	(3-2)	R23	0.1
2142.720	CO	(3-2)	R14	22.9
2142.816	CO	(7-6)	R67	10.7
2142.953	CO	(4-3)	R23	22.1
2143.03	C12O18	(5-4)	R62	b 0.2
2143.033	C13O16	(3-2)	R31	4.0
2143.04	CH	(3-2)	P2F 10.5	b 0.1
2143.078	C12O18	(1-0)	R14	b 0.7
2143.078	CO	(7-6)	R105	1.0
2143.14	CH	(3-2)	P1E 11.5	0.1
2143.213	C13O16	(5-4)	R59	1.2
2143.294	C12O18	(4-3)	R45	0.4
2143.449	C13O16	(4-3)	R43	2.4
2143.547	?			0.1
2143.692	CO	(7-6)	R68	10.6
2143.82	C12O18	(3-2)	R33	b 0.7
2143.853	CO	(6-5)	R47	16.8
2143.946	C12O18	(2-1)	R23	1.0
2143.98	CH	(3-2)	P1F 11.5	b 0.1
2143.981	CO	(7-6)	R104	b 1
2144.035	C13O16	(1-0)	R13	3.5
2144.20	C12O18	(5-4)	R63	0.3
2144.334	CO	(5-4)	R34	19.9
2144.52	C13O16	(5-4)	R60	b 1
2144.523	CO	(7-6)	R69	10.6
2144.720	?			0.1
2144.823	CO	(7-6)	R103	1.2
2144.90	?			0.1
2145.06	C12O17	(1-0)	R7	0.1
2145.188	C12O18	(4-3)	R46	0.4
2145.246	C13O16	(2-1)	R22	4.5
2145.308	CO	(7-6)	R70	9.4
2145.35	C12O18	(5-4)	R64	bs 0.2
2145.421	C13O16	(4-3)	R44	2.3
2145.493	C13O16	(3-2)	R32	3.8
2145.63	CO	(7-6)	R102	b 1*
2145.636	CO	(6-5)	R48	16.8
2145.775	CO	(4-3)	R24	21.9
2145.78	C13O16	(5-4)	R61	b 1
2145.917	CO	(3-2)	R15	b 22.9
2145.998	CO	(2-1)	R7	b 22.9
2146.049	CO	(7-6)	R71	bs 9*
2146.198	C12O18	(3-2)	R34	b 0.7
2146.198	C12O18	(1-0)	R15	b 0.8
2146.364	CO	(7-6)	R101	1.6
2146.46	C12O18	(5-4)	R65	0.3
2146.686	CO	(5-4)	R35	19.8
2146.72	C12O18	(2-1)	R24	b 1
2146.743	CO	(7-6)	R72	9.6

2142-2150 cm⁻¹ (Continued)

2146.86	?					0.1	?
2147.001	C13O16	(5-4)	R62			1.1	
2147.04	C12O18	(4-3)	R47			b 0.4	
2147.07	CO	(7-6)	R100			b 2	
2147.081	CO	(1-0)	R0			13.8	
2147.206	C13O16	(1-0)	R14			b 4	
2147.206	Ca	4p ¹ S ₀ - 3d ¹ P ₁				b	
2147.28	?					0.1	?
2147.36	C13O16	(4-3)	R45			b 2*	
2147.378	CO	(6-5)	R49			16.8	
2147.39	CO	(7-6)	R73			b 9	
2147.51	C12O18	(5-4)	R66			0.3	
2147.535	?					0.1	?
2147.704	CO	(7-6)	R99			2.0	
2147.82	?					0.1	?
2147.917	C13O16	(3-2)	R33			3.8	
2147.994	CO	(7-6)	R74			9.0	
2148.068	C13O16	(2-1)	R23			4.3	
2148.184	C13O16	(5-4)	R63			1	
2148.30	CO	(7-6)	R98			b 2	
2148.36	C12O17	(2-1)	R16			0.1	
2148.53	C12O18	(5-4)	R67			b 0.2	
2148.54	C12O18	(3-2)	R35			b 0.7	
2148.55	CO	(7-6)	R75			b 8*	
2148.557	CO	(4-3)	R25			b 22	
2148.735	?					s 0.2	?
2148.767	?					s 0.2	?
2148.79	H	(5-7)				Broad	
2148.845	CO	(7-6)	R97			b 2*	
2148.86	C12O18	(4-3)	R48			b 0.4	
2148.999	CO	(5-4)	R36			b 19*	
2149.06	CO	(7-6)	R76			b 8*	
2149.076	CO	(3-2)	R16			b 23	
2149.08	CO	(6-5)	R50			b 17	
2149.25	C13O16	(4-3)	R46			b 2	
2149.29	C12O18	(1-0)	R16			b 0.8	
2149.33	C13O16	(5-4)	R64			b 1	
2149.336	CO	(7-6)	R96			2.3	
2149.46	C12O18	(2-1)	R25			b 1	
2149.487	CO	(2-1)	R8			23.3	
2149.50	C12O18	(5-4)	R68			bs 0.2	
2149.53	CO	(7-6)	R77			bs 8	
2149.66	?					0.1	?
2149.783	CO	(7-6)	R95			2.4	
2149.944	CO	(7-6)	R78			7.8	

2158-2166 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Assignment	Wavenumber (cm ⁻¹)	Assignment	Wavenumber (cm ⁻¹)	Assignment
2158.050	OH	(2-1)	2158.63	?	2158.922	C13O16
2158.144	C13O16	(4-3)	2158.72	OH	2158.991	C13O16
2158.30	CO	(1-0)	2158.843	C12O17	2159.109	CO
2158.33	CO	(3-2)	2158.86	C12O18	2159.297	C13O16
2158.35	CO	(1-0)	2158.922	C13O16	2159.470	C13O16
2158.37	CO	(6-5)	2158.991	C13O16	2159.542	C12O18
2158.438	C13O16	(5-4)	2159.109	CO	2159.69	CO
2158.438	CO	(6-5)	2159.297	C13O16	2159.74	C13O16
2158.63	?	(2-1)	2159.470	C13O16	2159.75	CO
2158.72	OH	(3-2)	2159.542	C12O18	2159.77	C13O16
2158.843	C12O17	(4-3)	2159.69	CO	2159.80	CO
2158.86	C12O18	(2-1)	2159.74	C13O16	2159.953	C12O18
2158.922	C13O16	(5-4)	2159.75	CO	2160.068	CO
2158.991	C13O16	(4-3)	2159.77	C13O16	2160.11	?
2159.109	CO	(3-2)	2159.80	CO	2160.16	?
2159.297	C13O16	(1-0)	2159.953	C12O18	2160.237	?
2159.470	C13O16	(3-2)	2160.068	CO	2160.338	C13O16
2159.542	C12O18	(2-1)	2160.11	?	2160.34	C12O18
2159.69	CO	(5-4)	2160.16	?	2160.461	C12O17
2159.74	C13O16	(6-5)	2160.237	?	2160.49	Si
2159.75	CO	(4-3)	2160.338	C13O16	2160.588	?
2159.77	C13O16	(5-4)	2160.34	C12O18	2160.665	?
2159.80	CO	(2-1)	2160.461	C12O17	2160.755	C13O16
2159.953	C12O18	(6-5)	2160.49	Si	2160.89	?
2160.068	CO	(6-5)	2160.588	?	2160.967	?
2160.11	?		2160.665	?	2161.04	CO
2160.16	?		2160.755	C13O16	2161.120	?
2160.237	?		2160.89	?	2161.213	C12O18
2160.338	C13O16	(5-4)	2160.967	?	2161.30	CO
2160.34	C12O18	(4-3)	2161.04	CO	2161.341	Al
2160.34	C12O18	(2-1)	2161.120	?	2161.341	C13O16
2160.461	C12O17	4d 1p ₁ - 6p (3/2, 3/2) ₂	2161.213	C12O18	2161.40	C13O16
2160.49	Si		2161.30	CO	2161.422	CO
2160.49	?		2161.341	Al	2161.422	C13O16
2160.588	?		2161.341	C13O16	2161.54	C13O16
2160.665	?		2161.40	C13O16	2161.631	C13O16
2160.755	C13O16	(5-4)	2161.422	CO	2161.668	?
2160.89	?		2161.54	C13O16	2161.72	C12O18
2160.967	?		2161.631	C13O16	2161.804	C13O16
2161.04	CO	(6-5)	2161.668	?	2161.86	CO
2161.120	?		2161.72	C12O18	2161.884	C12O18
2161.213	C12O18	(1-0)	2161.804	C13O16	2161.96	CO
2161.213	C12O18	(3-2)	2161.86	CO	2161.967	CO
2161.30	CO	5g 2G _{7/2,9/2} - 7h 2H ⁰ _{9/2,11/2}	2161.884	C12O18	2162.021	CO
2161.341	Al	(5-4)	2161.96	CO		
2161.341	C13O16	(4-3)				
2161.40	C13O16	(6-5)				
2161.40	CO	(2-1)				
2161.422	C13O16	(3-2)				
2161.54	C13O16	(3-2)				
2161.631	C13O16	(3-2)				
2161.668	?					
2161.72	C12O18	(3-2)				
2161.804	C13O16	(5-4)				
2161.86	CO	(4-3)				
2161.884	C12O18	(4-3)				
2161.96	CO	(1-0)				
2161.967	CO	(5-4)				
2162.021	CO	(5-4)				

P1E 26.5

b 22
b 24
bs 1
b 15^{*}
0.5
0.5
0.2
0.4
0.1
0.3
5.0
0.4
22.5
3.7
4.6
b 0.6
24.4
b <1
bs 15^{*}
b 2
19.7
1.0
b 0.5
b 0.2
0.1
1.4
b <1
0.3
0.1
0.8
0.1
0.4
b <<1
0.2
0.1
15.3
0.2
b 1
24.2
b
b <<1
b 2
0.6
5.0
3.9
0.1
0.6
b <<1
22.6
b 0.2
22.4
19.9

2150-2158 cm⁻¹ (Continued)

2153.31	?				0.4	?
2153.443	C13O16	(1-0)	R16		4.3	
2153.47	C13O16	(5-4)	R68		b <1	
2153.503	CO	(5-4)	R38		19.9	
2153.602	C13O16	(2-1)	R25		5.0	
2153.76	C12O18	(5-4)	R73		0.2	
2153.915	CO	(6-5)	R53		16.2	
2154.005	CO	(4-3)	R27		22.2	
2154.06	C12O18	(4-3)	R51		bs 0.3	
2154.205	?				0.3	?
2154.31	?				0.1	?
2154.407	C13O16	(5-4)	R69		0.7	
2154.49	C12O18	(5-4)	R74		0.2	
2154.596	CO	(1-0)	R2		19.7	
2154.704	C13O16	(4-3)	R49		2.0	
2154.835	C12O18	(2-1)	R27		1.0	
2154.962	C13O16	(3-2)	R36		4.0	
2155.08	?				0.1	?
2155.17	C12O18	(5-4)	R75		0.2	
2155.284	CO	(3-2)	R18		23.6	
2155.30	C13O16	(5-4)	R70		b 0.6	
2155.34	C12O18	(3-2)	R38		b 0.7	
2155.364	C12O18	(1-0)	R18		b 0.9	
2155.442	CO	(6-5)	R54		15.9	
2155.51	CO	(6-5)	R119		0.3	
2155.58	?				0.1	?
2155.694	CO	(5-4)	R39		19.8	
2155.73	C12O18	(4-3)	R52		b 0.3	
2155.80	C12O18	(5-4)	R76		b 0.2	
2155.953	?				1.1	?
2156.045	?				0.2	?
2156.143	C13O16	(5-4)	R71		0.6	
2156.20	?				0.1	?
2156.26	C12O17	(3-2)	R28		0.1	
2156.31	C13O16	(2-1)	R26		0.1	
2156.359	CO	(2-1)	R10		bs 5	
2156.443	C13O16	(4-3)	R50		24.0	
2156.510	C13O16	(1-0)	R17		2.0	
2156.58	?				4.0	
2156.671	CO	(4-3)	R28		0.1	?
2156.927	CO	(6-5)	R55		22.2	
2156.95	C13O16	(5-4)	R72		15.6	
2157.10	CO	(6-5)	R118		b 0.5	
2157.235	C13O16	(3-2)	R37		0.4	
2157.341	C12O18	(4-3)	R53		3.9	
2157.469	C12O18	(2-1)	R28		0.3	
2157.533	C12O18	(3-2)	R39		1.0	
2157.713	C13O16	(5-4)	R73		0.7	
2157.844	CO	(5-4)	R40		0.5	
					19.8	

2158-2166 cm⁻¹

2158.050	OH	(2-1)	P1E 26.5	0.2	
2158.144	C13O16	(4-3)	R51	2.0	
2158.30	CO	(1-0)	R3	b 22	
2158.33	CO	(3-2)	R19	b 24	
2158.35	C12O18	(1-0)	R19	bs 1	
2158.37	CO	(6-5)	R56	b 15 ⁺	
2158.438	C13O16	(5-4)	R74	0.5	
2158.63	CO	(6-5)	R117	0.5	
2158.72	?			0.2	?
2158.843	OH	(2-1)	P2F 25.5	0.4	
2158.86	C12O17	(3-2)	R29	0.1	
2158.922	C12O18	(4-3)	R54	0.3	
2158.991	C13O16	(2-1)	R27	5.0	
2159.109	C13O16	(5-4)	R75	0.4	
2159.297	CO	(4-3)	R29	22.5	
2159.470	C13O16	(3-2)	R38	3.7	
2159.542	C13O16	(1-0)	R18	4.6	
2159.69	C12O18	(3-2)	R40	b 0.6	
2159.74	CO	(2-1)	R11	24.4	
2159.75	C13O16	(5-4)	R76	b <1	
2159.77	CO	(6-5)	R57	bs 15 ⁺	
2159.80	C13O16	(4-3)	R52	b 2	
2159.953	CO	(5-4)	R41	19.7	
2160.068	C12O18	(2-1)	R29	1.0	
2160.11	CO	(6-5)	R116	b 0.5	
2160.16	?			0.2	?
2160.237	?			0.1	?
2160.338	?			1.4	?
2160.34	C13O16	(5-4)	R77	b <1	
2160.461	C12O18	(4-3)	R55	0.3	
2160.49	C12O17	(2-1)	R20	0.1	
2160.588	Si	4d 1p ⁰ ₁ - 6p ($\frac{3}{2}, \frac{3}{2}$) ₂		0.8	
2160.665	?			0.1	?
2160.755	?			0.4	?
2160.89	C13O16	(5-4)	R78	b <<1	
2160.967	?			0.2	?
2161.04	?			0.1	?
2161.120	CO	(6-5)	R58	15.3	
2161.213	?			0.2	?
2161.30	C12O18	(1-0)	R20	b 1	
2161.341	CO	(3-2)	R20	24.2	
2161.341	Al	5g ² G _{7/2,9/2} - 7h ² H _{9/2,11/2}		b	
2161.40	C13O16	(5-4)	R79	b <<1	
2161.422	C13O16	(4-3)	R53	b 2	
2161.54	CO	(6-5)	R115	0.6	
2161.631	C13O16	(2-1)	R28	5.0	
2161.668	C13O16	(3-2)	R39	3.9	
2161.72	?			0.1	?
2161.804	C12O18	(3-2)	R41	0.6	
2161.86	C13O16	(5-4)	R80	b <<1	
2161.884	CO	(4-3)	R30	22.6	
2161.96	C12O18	(4-3)	R56	b 0.2	
2161.967	CO	(1-0)	R4	22.4	
2162.021	CO	(5-4)	R42	19.9	

2158-2166 cm^{-1} (Continued)

2162.13	?				0.1	?
2162.277	C13O16	(5-4)	R81		0.1	
2162.34	?				0.2	?
2162.431	CO	(6-5)	R59		15.2	
2162.538	C13O16	(1-0)	R19		4.8	
2162.626	C12O18	(2-1)	R30		1.1	?
2162.795	?				1.1	?
2162.83	?				bs 0.2	
2162.919	CO	(6-5)	R114		0.8	
2163.004	C13O16	(4-3)	R54		1.9	
2163.082	CO	(2-1)	R12		24.5	
2163.17	?				0.1	?
2163.332	?				0.2	?
2163.422	C12O18	(4-3)	R57		0.2	
2163.50	?				0.3	?
2163.698	CO	(6-5)	R60		15.1	
2163.828	C13O16	(3-2)	R40		4.0	
2163.88	C12O18	(3-2)	R42		b 0.6	
2163.97	C12O17	(3-2)	R31		b 0.1	
2164.047	CO	(5-4)	R43		19.9	
2164.22	C12O18	(1-0)	R21		b 1	
2164.234	C13O16	(2-1)	R29		b 5	
2164.24	CO	(6-5)	R113		b 1	
2164.312	CO	(3-2)	R21		24.2	
2164.431	CO	(4-3)	R31		22.6	
2164.543	C13O16	(4-3)	R55		1.9	
2164.685	?				s 0.2	?
2164.78	?				0.2	?
2164.832	C12O18	(4-3)	R58		0.2	
2164.921	CO	(6-5)	R61		14.9	
2165.04	?				0.2	?
2165.145	C12O18	(2-1)	R31		1.1	
2165.325	?				0.4	?
2165.421	?				0.3	?
2165.50	CO	(6-5)	R112		b 1	
2165.501	C13O16	(1-0)	R20		5.0	
2165.601	CO	(1-0)	R5		22.9	
2165.69	?				0.1	?
2165.80	?				s 0.5	?
2165.92	C12O18	(3-2)	R43		b 0.6	
2165.949	C13O16	(3-2)	R41		bs 4	

2174-2182 cm^{-1}

2174.050	C13016	(3-2)	R45	3.4
2174.17	C13016	(1-0)	R23	bs 5
2174.19	C13016	(4-3)	R62	b 1*
2174.222	CO	(4-3)	R35	22.5
2174.281	C13016	(2-1)	R33	bs 5
2174.41	?			0.1
2174.482	?			0.1
2174.543	CO	(6-5)	R103	0.4
2174.633	CO	(6-5)	R71	2.0
2174.703	CO	(2-1)	R35	12.2
2174.866	C12018			1.2
2175.084	?			0.6
2175.199	?			0.1
2175.330	CO	(6-5)	R49	18.7
2175.40	CO	(4-3)	R102	b 2
2175.40	C13016	(6-5)	R63	b 1*
2175.432	CO	(1-0)	R72	12.0
2175.53	C12018	(3-2)	R25	1.1
2175.54	C12018	(5-4)	R48	b 0.5
2175.58	CO	(3-2)	R125	0.3
2175.701	CO	(3-2)	R25	0.1
2175.813	?			24.4
2175.90	C13016	(3-2)	R46	0.1
2175.978	CO	(2-1)	R16	24.5
2176.09	CO	(6-5)	R101	22.5
2176.10	CO	(6-5)	R73	b 1*
2176.11	CO	(1-0)	R8	b 2
2176.284	CO	(4-3)	R36	5.1
2176.570	CO	(4-3)	R64	11.3
2176.58	C13016	(2-1)	R34	b 3
2176.58	C13016	(2-1)	R74	0.2
2176.699	CO	(6-5)	R100	5.1
2176.755	CO	(6-5)		18.6
2176.76	?			1.0
2176.88	C13016	(1-0)	R24	b 11
2176.985	CO	(5-4)	R50	b 0.5
2177.064	CO	(2-1)	R36	b 3*
2177.205	C12018	(6-5)	R75	0.3
2177.349	CO	(3-2)	R49	0.6
2177.35	C12018	(6-5)	R99	0.1
2177.36	CO	(5-4)	R124	1.1
2177.450	CO	(5-4)	($\frac{3}{2}, \frac{1}{2}$) ₂	b 3
2177.579	Si	5P ³ P ₁ - 6s	R26	11.0
2177.58	C12017	(2-1)	R65	b 4
2177.58	C13016	(4-3)	R47	0.1
2177.712	C13016	(3-2)	R76	1.1
2177.87	CO	(6-5)	R98	b 3
2177.893	CO	(6-5)	P1E	10.7
2177.92	CO	(3-2)		
2178.02	CH			
2178.135	?			
2178.262	C12018	(1-0)	R26	bs 4*
2178.393	CO	(6-5)	R77	24.4
2178.44	CO	(6-5)	R97	18.5
2178.44	CO	(3-2)	R26	
2178.592	CO	(5-4)	R51	bs 1*
2178.755	CO	(4-3)	R66	
2178.80	C13016			

2166-2174 cm^{-1} (Continued)

2170.36	OH	(1-0)	P1E	b 0.2	
2170.372	CO	(6-5)	R66	13.7	
2170.59	?			0.2	?
2170.708	?			0.1	?
2170.858	?			0.2	?
2171.092	CO	(6-5)	R107	1.3	
2171.196	?			0.3	?
2171.31	C13016	(1-0)	R22	b 5	
2171.326	C12018	(4-3)	R63	b 0.1	
2171.326	CO	(6-5)	R67	13.8	
2171.495	?			s 0.2	?
2171.58	C12017	(1-0)	R15	bs 0.1	
2171.637	C13016	(4-3)	R60	1.5	
2171.66	CO	(5-4)	R127	b <<1	
2171.737	CO	(5-4)	R47	19.5	
2171.81	C12018	(3-2)	R46	b 0.6	
2171.82	C13016	(2-1)	R32	b 5	
2171.834	CO	(4-3)	R34	22.8	
2171.927	?			s 0.1	?
2171.99	?			0.1	?
2172.06	CO	(6-5)	R106	b 1 ⁺	
2172.082	C13016	(3-2)	R44	3.7	
2172.239	CO	(6-5)	R68	13.5	
2172.445	?			0.2	?
2172.493	C12018	(2-1)	R34	1.1	
2172.493	C12018	(4-3)	R64	b 0.1	?
2172.58	?			0.2	
2172.75	C12018	(1-0)	R24	b 1.1	
2172.759	CO	(1-0)	R7	24.2	
2172.891	CO	(2-1)	R15	25.1	
2172.94	C13016	(4-3)	R61	bs 1 ⁺	
2172.97	CO	(6-5)	R105	b 1 ⁺	
2172.996	CO	(3-2)	R24	24.4	
2173.106	CO	(6-5)	R69	12.8	
2173.19	?			0.1	?
2173.23	?			0.1	?
2173.555	CO	(5-4)	R48	19.1	
2173.63	C12018	(4-3)	R65	b 0.1	
2173.65	CO	(5-4)	R126	0.2	
2173.694	C12018	(3-2)	R47	b 0.5	
2173.825	CO	(6-5)	R104	1.8	
2173.927	CO	(6-5)	R70	12.4	

2174-2182 cm⁻¹

2174.050	C13016	(3-2)	R45	3.4	
2174.17	C13016	(1-0)	R23	bs 5	
2174.19	C13016	(4-3)	R62	b 1 ⁺	
2174.222	CO	(4-3)	R35	22.5	
2174.281	C13016	(2-1)	R33	bs 5	
2174.41	?			0.1	?
2174.482	?			0.1	?
2174.543	?			0.4	?
2174.633	CO	(6-5)	R103	2.0	
2174.703	CO	(6-5)	R71	12.2	
2174.866	C12018	(2-1)	R35	1.2	
2175.084	?			0.6	?
2175.199	?			0.1	?
2175.330	CO	(5-4)	R49	18.7	
2175.40	CO	(6-5)	R102	b 2	
2175.40	C13016	(4-3)	R63	b 1 ⁺	
2175.432	CO	(6-5)	R72	12.0	
2175.53	C12018	(1-0)	R25	1.1	
2175.54	C12018	(3-2)	R48	b 0.5	
2175.58	CO	(5-4)	R125	0.3	
2175.701	?			0.1	?
2175.813	CO	(3-2)	R25	24.4	
2175.90	?			0.1	?
2175.978	C13016	(3-2)	R46	3.3	
2176.09	CO	(2-1)	R16	25.6	
2176.10	CO	(6-5)	R101	b 2 ⁺	
2176.11	CO	(6-5)	R73	b 12	
2176.284	CO	(1-0)	R8	24.5	
2176.570	CO	(4-3)	R36	22.5	
2176.58	C13016	(4-3)	R64	b 1 ⁺	
2176.699	C13016	(2-1)	R34	5.1	
2176.755	CO	(6-5)	R74	11.3	
2176.76	CO	(6-5)	R100	b 3	
2176.88	?			0.2	?
2176.985	C13016	(1-0)	R24	5.1	
2177.064	CO	(5-4)	R50	18.6	
2177.205	C12018	(2-1)	R36	1.0	
2177.349	CO	(6-5)	R75	b 11	
2177.35	C12018	(3-2)	R49	b 0.5	
2177.36	CO	(6-5)	R99	b 3 ⁺	
2177.450	CO	(5-4)	R124	0.3	
2177.579	Si	5p ³ P ₁ - 6s ($\frac{3}{2}, \frac{1}{2}$) ₂	R26	0.6	
2177.58	C12017	(2-1)	R26	0.1	
2177.712	C13016	(4-3)	R65	1.1	
2177.87	C13016	(3-2)	R47	b 3	
2177.893	CO	(6-5)	R76	11.0	
2177.92	CO	(6-5)	R98	bs 4	
2178.02	CH	(3-2)	PIE 10.5	0.1	
2178.135	?			0.1	?
2178.262	C12018	(1-0)	R26	1.1	
2178.393	CO	(6-5)	R77	10.7	
2178.44	CO	(6-5)	R97	bs 4 ⁺	
2178.592	CO	(3-2)	R26	24.4	
2178.755	CO	(5-4)	R51	18.5	
2178.80	C13016	(4-3)	R66	bs 1 ⁺	

2174-2182 cm^{-1} (Continued)

2178.85	CO	(6-5)	R78	b 10
2178.87	CO	(4-3)	R37	22.3
2178.89	CO	(6-5)	R96	bs 5
2179.080	C13O16	(2-1)	R35	4.9
2179.13	C12O18	(3-2)	R50	0.5
2179.13	Si	$6p^3D (\frac{1}{2}, \frac{3}{2})_1 - 6d^1P^0$		b
2179.243	CO	(2-1)	R17	b 25.8
2179.25	CO	(5-4)	R123	b <<1
2179.26	CO	(6-5)	R79	b 10
2179.30	CO	(6-5)	R95	bs 5
2179.504	C12O18	(2-1)	R37	0.9
2179.614	CO	(6-5)	R80	9.2
2179.66	CO	(6-5)	R94	bs 5
2179.72	C13O16	(3-2)	R48	b 3
2179.77	C13O16	(1-0)	R25	b 5
2179.772	CO	(1-0)	R9	24.8
2179.851	C13O16	(4-3)	R67	b 1
2179.926	CO	(6-5)	R81	9.1
2179.969	CO	(6-5)	R93	bs 5*
2180.06	?			0.1
2180.11	?			0.1
2180.193	CO	(6-5)	R82	8.3
2180.24	CO	(6-5)	R92	bs 5*
2180.29	C12O17	(2-1)	R27	0.1
2180.403	CO	(5-4)	R52	b 18*
2180.41	CO	(6-5)	R83	b 8
2180.45	CO	(6-5)	R91	bs 6
2180.59	CO	(6-5)	R84	b 8
2180.61	CO	(6-5)	R90	b 6
2180.71	CO	(6-5)	R85	b 7*
2180.73	CO	(6-5)	R89	b 6*
2180.79	CO	(6-5)	R86	b 7
2180.80	CO	(6-5)	R88	b 7
2180.81	CO	(6-5)	R87	b 7
2180.85	C12O18	(3-2)	R51	b 0.5
2180.86	C13O16	(4-3)	R68	bs 1
2180.964	C12O18	(1-0)	R27	1.2
2181.03	CO	(5-4)	R122	b 0.4
2181.143	CO	(4-3)	R38	22.3
2181.331	CO	(3-2)	R27	24.4
2181.424	C13O16	(2-1)	R36	4.8
2181.529	C13O16	(3-2)	R49	2.9
2181.767	C12O18	(2-1)	R38	0.9
2181.825	C13O16	(4-3)	R69	1.1
				?
				?

2182-2190 cm⁻¹

2182.009	CO	(5-4)	R53	18.5	?
2182.099	?			0.2	
2182.364	CO	(2-1)	R18	25.5	
2182.512	C13O16	(1-0)	R26	5.0	
2182.54	C12O18	(3-2)	R52	b 0.5	
2182.676	?			1.5	
2182.74	CO	(5-4)	R121	b <1	
2182.746	C13O16	(4-3)	R70	1.1	
2182.85	C12O17	(3-2)	R39	0.1	
2182.974	?			0.4	
2182.98	C12O17	(2-1)	R28	0.1	
2183.07	?			0.1	
2183.12	?			0.1	
2183.224	CO	(1-0)	R10	25.1	
2183.301	C13O16	(3-2)	R50	2.7	
2183.369	CO	(4-3)	R39	22.2	
2183.571	CO	(5-4)	R54	18.4	
2183.63	C12O18	(1-0)	R28	b 1.1	
2183.63	C13O16	(4-3)	R71	b 1	
2183.730	C13O16	(2-1)	R37	4.8	
2183.809	?			0.3	
2183.99	C12O18	(2-1)	R39	b 1	
2184.032	CO	(3-2)	R28	24.3	
2184.12	?			0.1	
2184.195	C12O18	(3-2)	R53	0.5	
2184.398	CO	(5-4)	R120	0.6	
2184.460	C13O16	(4-3)	R72	0.7	
2184.46	Fe	t ⁵ D ₃ - h ⁵ D ₃		b	
2184.55	?			0.1	
2184.655	?			0.2	
2184.89	?			0.2	
2185.033	C13O16	(3-2)	R51	2.7	
2185.091	CO	(5-4)	R55	18.3	
2185.221	C13O16	(1-0)	R27	5.0	
2185.26	C13O16	(4-3)	R73	bs <1	
2185.33	?			0.1	
2185.446	CO	(2-1)	R19	25.6	
2185.554	CO	(4-3)	R40	21.9	
2185.62	C12O17	(2-1)	R29	s 0.1	
2185.806	C12O18	(3-2)	R54	b 0.5	
2185.89	?			0.2	
2186.000	C13O16	(2-1)	R38	b 5	
2186.000	CO	(5-4)	R119	b <1	
2186.02	C13O16	(4-3)	R74	b <1	
2186.062	?			s 0.1	
2186.179	C12O18	(2-1)	R40	1.0	
2186.25	Si	4d ³ D ₃ - 5f ² [²] ₂		b	
2186.257	C12O18	(1-0)	R29	1.1	
2186.36	?			0.1	
2186.567	CO	(5-4)	R56	18.3	
2186.637	CO	(1-0)	R11	25.7	
2186.694	CO	(3-2)	R29	24.3	
2186.73	C13O16	(3-2)	R52	bs 2 ⁺	
2186.73	C13O16	(4-3)	R75	bs <1	
2186.83	?			0.1	

2182-2190 cm⁻¹ (Continued)

2186.955	?				0.1	?
2187.02	C12017	(1-0)	R20		0.2	
2187.178	?				0.1	?
2187.19	C12017	(3-2)	R41		0.1	
2187.38	C12018	(3-2)	R55		b 0.5	
2187.39	C13016	(4-3)	R76		b 0.5	
2187.440	?				0.2	?
2187.552	CO	(5-4)	R118		0.7	
2187.698	CO	(4-3)	R41		21.7	
2187.894	C13016	(1-0)	R28		5.1	
2188.000	CO	(5-4)	R57		18.3	
2188.02	C13016	(4-3)	R77		b 0.5	
2188.152	?				0.4	?
2188.22	C12017	(2-1)	R30		b 0.1	
2188.229	C13016	(2-1)	R39		4.9	
2188.326	C12018	(2-1)	R41		0.9	
2188.378	C13016	(3-2)	R53		2.5	
2188.490	CO	(2-1)	R20		26.0	
2188.605	C13016	(4-3)	R78		0.5	
2188.731	Si	4d ³ D ⁰ ₃ - 5f [3 $\frac{1}{2}$] ₄			3.0	
2188.848	C12018	(1-0)	R30		1.1	
2188.910	C12018	(3-2)	R56		0.5	
2188.965	?				0.1	?
2189.047	CO	(5-4)	R117		0.8	
2189.143	C13016	(4-3)	R79		0.5	
2189.314	CO	(3-2)	R30		24.4	
2189.390	CO	(5-4)	R58		18.2	
2189.564	?				0.3	?
2189.635	C13016	(4-3)	R80		0.5	
2189.800	CO	(4-3)	R42		21.7	
2189.98	C12017	(1-0)	R21		b 0.2	
2189.99	C13016	(3-2)	R54		b 2 ⁺	

2190-2198 cm⁻¹

2190.017	CO	(1-0)	R12	25.9	
2190.09	C13O16	(4-3)	R81	bs 0.5	
2190.215	?			0.3	?
2190.31	?			0.3	?
2190.40	C12O18	(3-2)	R57	b 0.4	
2190.421	C13O16	(2-1)	R40	5.0	
2190.44	C12O18	(2-1)	R42	b 1	
2190.49	CO	(5-4)	R116	b 1	
2190.50	C13O16	(4-3)	R82	bs 0.5	
2190.530	C13O16	(1-0)	R29	5.2	
2190.615	?			s 0.2	?
2190.736	CO	(5-4)	R59	18.0	
2190.80	C12O17	(2-1)	R31	<0.1	
2190.862	C13O16	(4-3)	R83	0.5	
2190.97	?			0.2	?
2191.029	?			0.8	?
2191.180	C13O16	(4-3)	R84	0.4	
2191.267	?			0.3	?
2191.402	C12O18	(1-0)	R31	1.1	
2191.46	C13O16	(4-3)	R85	b 0.4	
2191.496	CO	(2-1)	R21	26.0	
2191.564	C13O16	(3-2)	R55	bs 2 ⁺	
2191.641	OH	(3-2)	P1F 23.5	0.1	
2191.684	C13O16	(4-3)	R86	0.3	
2191.780	?			0.3	?
2191.85	C12O18	(3-2)	R58	b 0.4	
2191.87	CO	(4-3)	R43	b 21 ⁺	
2191.88	CO	(5-4)	R115	b 1	
2191.88	C13O16	(4-3)	R87	b 0.3	
2191.897	CO	(3-2)	R31	24.3	
2192.02	C13O16	(4-3)	R88	b 0.3	
2192.038	CO	(5-4)	R60	17.6	
2192.124	C13O16	(4-3)	R89	0.3	
2192.17	C13O16	(4-3)	R92	b 0.2	
2192.17	C13O16	(4-3)	R90	b 0.3	
2192.17	C13O16	(4-3)	R91	b 0.2	
2192.30	?			0.2	?
2192.40	?			0.1	?
2192.512	C12O18	(2-1)	R43	1.0	
2192.575	C13O16	(2-1)	R41	4.6	
2192.715	?			0.3	?
2192.80	?			0.2	?
2192.917	?			0.4	?
2192.92	C12O17	(1-0)	R22	0.2	
2193.02	OH	(3-2)	P2E 22.5	0.1	
2193.10	C13O16	(3-2)	R56	bs 2 ⁺	
2193.130	C13O16	(1-0)	R30	5.1	
2193.215	CO	(5-4)	R114	1.0	
2193.26	C12O18	(3-2)	R59	b 0.3	
2193.295	CO	(5-4)	R61	17.5	
2193.32	C12O17	(2-1)	R32	b 0.1	
2193.361	CO	(1-0)	R13	25.9	
2193.68	?			0.1	?
2193.735	OH	(3-2)	P1E 23.5	0.1	
2193.882	CO	(4-3)	R44	21.7	

2190-2198 cm^{-1} (Continued)

2193.92	C12018	(1-0)	R32	b 1.1	?
2194.017	?			0.1	?
2194.10	?			0.1	?
2194.231	?			0.2	?
2194.44	CO	(3-2)	R32	b 24	
2194.46	CO	(2-1)	R22	b 26	
2194.51	CO	(5-4)	R113	b 1	
2194.51	CO	(5-4)	R62	b 17 ⁺	
2194.54	C12018	(2-1)	R44	b 1	
2194.590	C13016	(3-2)	R57	2.3	
2194.63	C12018	(3-2)	R60	bs 0.3	
2194.691	C13016	(2-1)	R42	4.6	
2194.691	OH	(3-2)	P2F 22.5	b 0.1	
2194.77	?			0.1	?
2194.975	?			0.1	?
2195.229	?			0.1	?
2195.681	CO	(5-4)	R63	17.4	
2195.69	C13016	(1-0)	R31	b 5	
2195.73	CO	(5-4)	R112	b 1 ⁺	
2195.81	C12017	(2-1)	R33	b 0.1	
2195.82	C12017	(1-0)	R23	b 0.2	
2195.861	CO	(4-3)	R45	21.6	
2195.960	C12018	(3-2)	R61	0.3	
2196.041	C13016	(3-2)	R58	2.1	
2196.139	?			0.1	?
2196.405	C12018	(1-0)	R33	1.3	
2196.543	C12018	(2-1)	R45	1.0	
2196.664	CO	(1-0)	R14	26.0	
2196.77	C13016	(2-1)	R43	bs 4 ⁺	
2196.806	CO	(5-4)	R64	17.0	
2196.91	CO	(5-4)	R111	b 1 ⁺	
2196.942	CO	(3-2)	R33	24.4	
2197.05	?			0.1	?
2197.14	?			0.1	?
2197.249	C12018	(3-2)	R62	0.3	
2197.393	CO	(2-1)	R23	26.0	
2197.45	C13016	(3-2)	R59	bs 2	
2197.797	CO	(4-3)	R46	21.6	
2197.887	CO	(5-4)	R65	16.5	

2198-2206 cm⁻¹

2198.045	CO	(5-4)	R110	1.6	
2198.218	C13O16	(1-0)	R32	4.9	
2198.27	C12O17	(2-1)	R34	s 0.1	
2198.501	C12O18	(2-1)	R46	b 1	
2198.501	C12O18	(3-2)	R63	b 0.3	
2198.56	?			s 0.2	?
2198.67	C12O17	(1-0)	R24	0.2	
2198.810	C13O16	(2-1)	R44	b 4 ⁺	
2198.82	C13O16	(3-2)	R60	b 2	
2198.85	C12O18	(1-0)	R34	b 1.1	
2198.923	CO	(5-4)	R66	16.0	
2199.123	CO	(5-4)	R109	1.6	
2199.405	CO	(3-2)	R34	24.4	
2199.516	?			5.3	?
2199.692	CO	(4-3)	R47	21.5	
2199.70	C12O18	(3-2)	R64	bs 0.3	
2199.92	CO	(5-4)	R67	b 15 ⁺	
2199.928	CO	(1-0)	R15	26.2	
2200.152	C13O16	(3-2)	R61	b 2	
2200.152	CO	(5-4)	R108	b 2	
2200.284	CO	(2-1)	R24	26.0	
2200.416	C12O18	(2-1)	R47	1.0	
2200.47	?			0.1	?
2200.554	CO	(4-3)	R128	0.2	
2200.62	?			0.2	?
2200.706	C13O16	(1-0)	R33	4.9	
2200.806	C13O16	(2-1)	R45	4.3	
2200.862	CO	(5-4)	R68	15.4	
2200.87	C12O18	(3-2)	R65	b 0.3	
2200.999	?			0.1	?
2201.125	CO	(5-4)	R107	2.3	
2201.256	C12O18	(1-0)	R35	1.1	
2201.443	C13O16	(3-2)	R62	1.7	
2201.51	C12O17	(1-0)	R25	b 0.2	
2201.545	CO	(4-3)	R48	21.3	
2201.64	?			0.1	?
2201.762	CO	(5-4)	R69	15.2	
2201.829	CO	(3-2)	R35	24.4	
2201.99	C12O18	(3-2)	R66	bs 0.2	
2202.049	CO	(5-4)	R106	2.4	
2202.172	Al	5f ² F ⁰ _{5/2,7/2} - 7g ² G ⁺ _{7/2,9/2}	R106	1.0	
2202.294	C12O18	(2-1)	R48	1.0	
2202.449	?			0.2	?
2202.559	CO	(4-3)	R127	0.3	
2202.619	CO	(5-4)	R70	15.0	
2202.689	C13O16	(3-2)	R63	1.7	
2202.768	C13O16	(2-1)	R46	4.2	
2202.856	?			0.1	?
2202.922	CO	(5-4)	R105	2.5	
2203.05	C12O17	(2-1)	R36	bs 0.1	
2203.08	C12O18	(3-2)	R67	bs 0.2	
2203.14	CO	(2-1)	R25	b 26	
2203.16	CO	(1-0)	R16	b 26	
2203.16	C13O16	(1-0)	R34	b 5	
2203.356	CO	(4-3)	R49	21.3	
2203.431	CO	(5-4)	R71	14.4	

2198-2206 cm^{-1} (Continued)

2203.625	C12018	(1-0)	R36	1.0
2203.745	CO	(5-4)	R104	2.8
2203.895	C13016	(3-2)	R64	1.7
2204.04	?			0.1
2204.11	C12018	(3-2)	R68	bs 0.2
2204.14	C12018	(2-1)	R49	bs 1
2204.20	CO	(5-4)	R72	b 14
2204.208	CO	(3-2)	R36	b 24
2204.30	C12017	(1-0)	R26	0.1
2204.49	CO	(4-3)	R126	b <<1
2204.515	CO	(5-4)	R103	3.1
2204.691	C13016	(2-1)	R47	4.0
2204.79	?			0.1
2204.915	CO	(5-4)	R73	14.1
2205.069	C13016	(3-2)	R65	1.7
2205.12	C12018	(3-2)	R69	b 0.2
2205.124	CO	(4-3)	R50	21.3
2205.237	CO	(5-4)	R102	3.1
2205.39	C12017	(2-1)	R37	b 0.1
2205.57	C13016	(1-0)	R35	b 5
2205.587	CO	(5-4)	R74	14.3
2205.92	CO	(5-4)	R101	b 3
2205.93	C12018	(2-1)	R50	b 1
2205.950	CO	(2-1)	R26	26.0
2205.96	C12018	(1-0)	R37	b 1

2206-2214 cm⁻¹

2206.08	C12018	(3-2)	R70	0.2
2206.19	C13016	(3-2)	R66	b 1 ⁺
2206.217	CO	(5-4)	R75	13.6
2206.353	CO	(1-0)	R17	26.1
2206.38	CO	(4-3)	R125	b <<1
2206.54	CO	(5-4)	R100	b 3 ⁺
2206.552	CO	(3-2)	R37	24.4
2206.57	C13016	(2-1)	R48	b 4
2206.706	?			0.1
2206.798	CO	(5-4)	R76	13.1
2206.851	CO	(4-3)	R51	21.1
2206.997	C12018	(3-2)	R71	0.1
2207.05	C12017	(1-0)	R27	b 0.2
2207.099	CO	(5-4)	R99	3.9
2207.265	C13016	(3-2)	R67	1.3
2207.335	CO	(5-4)	R77	12.8
2207.493	?			0.1
2207.621	CO	(5-4)	R98	4.4
2207.69	C12017	(2-1)	R38	b 0.1
2207.699	C12018	(2-1)	R51	0.8
2207.824	CO	(5-4)	R78	12.5
2207.948	C13016	(1-0)	R36	4.8
2208.092	CO	(5-4)	R97	4.8
2208.16	?			0.1
2208.204	CO	(4-3)	R124	b <1
2208.25	C12018	(1-0)	R38	b 1
2208.265	CO	(5-4)	R79	12.2
2208.31	C13016	(3-2)	R68	bs 1 ⁺
2208.417	C13016	(2-1)	R49	3.9
2208.52	CO	(5-4)	R96	b 5
2208.532	CO	(4-3)	R52	21.1
2208.661	CO	(5-4)	R80	11.7
2208.725	CO	(2-1)	R27	26.1
2208.853	CO	(3-2)	R38	24.4
2208.88	CO	(5-4)	R95	b 5 ⁺
2209.011	CO	(5-4)	R81	10.9
2209.210	CO	(5-4)	R94	5.8
2209.31	C13016	(3-2)	R69	b 1 ⁺
2209.312	CO	(5-4)	R82	10.7
2209.423	C12018	(2-1)	R52	b 0.8
2209.49	CO	(5-4)	R93	b 6
2209.506	CO	(1-0)	R18	26.1
2209.568	CO	(5-4)	R83	10.4
2209.650	?			1.0
2209.711	CO	(5-4)	R92	6.6
2209.77	C12017	(1-0)	R28	b 0.2
2209.774	CO	(5-4)	R84	9.8
2209.886	CO	(5-4)	R91	7.2
2209.935	CO	(5-4)	R85	9.4
2209.94	C12017	(2-1)	R39	b 0.1
2209.99	CO	(4-3)	R123	b <1
2210.01	CO	(5-4)	R90	b 7 ⁺
2210.045	CO	(5-4)	R86	9.0
2210.10	CO	(5-4)	R89	b 8
2210.11	CO	(5-4)	R87	b 8 ⁺

2206-2214 cm^{-1} (Continued)

2210.13	CO	(5-4)	R88	b 8
2210.174	CO	(4-3)	R53	20.9
2210.22	C13O16	(2-1)	R50	bs 4
2210.26	C13O16	(3-2)	R70	b 1
2210.286	C13O16	(1-0)	R37	4.9
2210.510	C12O18	(1-0)	R39	1.0
2210.806	?			0.3
2211.11	C12O18	(2-1)	R53	b 0.8
2211.114	CO	(3-2)	R39	24.3
2211.18	C13O16	(3-2)	R71	bs 1
2211.29	?			0.1
2211.460	CO	(2-1)	R28	26.1
2211.699	OH	(2-1)	P1F 25.5	b 0.2
2211.70	CO	(4-3)	R122	b <1
2211.772	CO	(4-3)	R54	20.2
2211.984	C13O16	(2-1)	R51	b 4
2212.048	C13O16	(3-2)	R72	0.9
2212.138	Fe	$e^5D_4 - u^5D_4$		1.3
2212.45	C12O17	(1-0)	R29	0.2
2212.58	C13O16	(1-0)	R38	b 5
2212.626	CO	(1-0)	R19	26.2
2212.73	C12O18	(1-0)	R40	b 1
2212.75	C12O18	(2-1)	R54	b 0.8
2212.84	OH	(2-1)	P2E 24.5	b 0.3
2212.874	C13O16	(3-2)	R73	1.0
2213.098	?			0.2
2213.33	CO	(4-3)	R55	b 20
2213.332	CO	(3-2)	R40	b 24
2213.38	CO	(4-3)	R121	b <1
2213.552	?			0.6
2213.667	C13O16	(3-2)	R74	0.8
2213.712	C13O16	(2-1)	R52	3.4
2213.846	?			0.3
2213.954	OH	(2-1)	P1E 25.5	0.4

2214-2222 cm⁻¹

2214.156	CO	(2-1)	R29	26.1	?
2214.234	?			1	
2214.354	Ca	5d ³ D ₃ - 7p ³ P ₀ ^o		b	
2214.354	C12O18	(2-1)	R55	0.8	
2214.406	C13O16	(3-2)	R75	0.9	
2214.559	?			0.2	
2214.712	OH	(2-1)	P2F 24.5	0.3	
2214.838	CO	(4-3)	R56	20.0	
2214.85	C13O16	(1-0)	R39	b 5	
2214.910	C12O18	(1-0)	R41	s 1.1	
2214.998	CO	(4-3)	R120	0.6	
2215.110	C13O16	(3-2)	R76	0.8	
2215.32	?			0.1	
2215.398	C13O16	(2-1)	R53	3.3	
2215.513	CO	(3-2)	R41	24.2	
2215.705	CO	(1-0)	R20	26.6	
2215.77	C13O16	(3-2)	R77	bs 0.7	
2215.845	?			0.1	
2215.915	C12O18	(2-1)	R56	0.7	
2216.07	?			0.1	
2216.306	CO	(4-3)	R57	19.9	
2216.383	C13O16	(3-2)	R78	0.7	
2216.49	C12O17	(2-1)	R42	0.1	
2216.557	CO	(4-3)	R119	0.7	
2216.813	CO	(2-1)	R30	26.1	
2216.954	C13O16	(3-2)	R79	0.6	
2217.04	Ca	5d ³ D ₂ - 7p ³ P ₀ ^o		b	
2217.04	C13O16	(2-1)	R54	b 3 ⁺	
2217.05	C12O18	(1-0)	R42	b 1	
2217.074	C13O16	(1-0)	R40	5.0	
2217.444	C12O18	(2-1)	R57	0.5	
2217.484	C13O16	(3-2)	R80	0.5	
2217.650	CO	(3-2)	R42	24.2	
2217.68	C12O17	(1-0)	R31	b 0.2	
2217.731	CO	(4-3)	R58	19.9	
2217.865	?			0.1	
2217.967	C13O16	(3-2)	R81	0.6	
2218.069	CO	(4-3)	R118	0.9	
2218.18	?			0.1	
2218.341	?			0.1	
2218.408	C13O16	(3-2)	R82	0.6	
2218.59	C12O17	(2-1)	R43	bs 0.1	
2218.648	C13O16	(2-1)	R55	3.4	
2218.745	CO	(1-0)	R21	26.8	
2218.81	C13O16	(3-2)	R83	bs 0.5	
2218.928	C12O18	(2-1)	R58	0.6	
2219.112	CO	(4-3)	R59	19.8	
2219.16	C12O18	(1-0)	R43	b 1	
2219.16	C13O16	(3-2)	R84	bs 0.5	
2219.262	C13O16	(1-0)	R41	b 4 ⁺	
2219.31	Mg	5f ^{1,3} F ^o - 7g ^{1,3} G		b	
2219.430	CO	(2-1)	R31	26.1	
2219.48	C13O16	(3-2)	R85	b 0.5	
2219.525	CO	(4-3)	R117	bs 1	
2219.59	?			s 0.1	

2214-2222 cm^{-1} (Continued)

2219.74	C13016	(3-2)	R86	b 0.4	
2219.747	CO	(3-2)	R43	23.9	
2219.863	?			0.1	?
2219.95	C13016	(3-2)	R96	b <<1	
2219.95	C13016	(3-2)	R87	0.4	
2220.13	C13016	(3-2)	R95	b <<1	
2220.13	C13016	(3-2)	R88	0.4	
2220.214	C13016	(2-1)	R56	3.2	
2220.25	C12017	(1-0)	R32	b 0.2	
2220.26	C13016	(3-2)	R94	b <<1	
2220.26	C13016	(3-2)	R89	0.4	
2220.36	C13016	(3-2)	R93	b <<1	
2220.36	C13016	(3-2)	R90	0.4	
2220.36	C12018	(2-1)	R59	b <1	
2220.40	C13016	(3-2)	R92	b <<1	
2220.40	C13016	(3-2)	R91	b <<1	
2220.449	CO	(4-3)	R60	19.4	?
2220.586	?			1.3	
2220.65	C12017	(2-1)	R44	bs 0.1	
2220.72	?			0.1	?
2220.813	?			0.2	?
2220.935	CO	(4-3)	R116	b 1*	
2221.090	?			0.2	?
2221.227	C12018	(1-0)	R44	1.0	
2221.411	C13016	(1-0)	R42	4.5	
2221.59	?			0.1	?
2221.63	?			0.1	?
2221.74	C13016	(2-1)	R57	b 3	
2221.745	CO	(4-3)	R61	b 19	
2221.745	CO	(1-0)	R22	b 27	
2221.77	C12018	(2-1)	R60	b <1	
2221.804	CO	(3-2)	R44	23.8	

2222-2230 cm⁻¹

2222.008	CO	(2-1)	R32	26.1	?
2222.15	?			0.2	?
2222.20	?			0.1	?
2222.283	CO	(4-3)	R115	1.4	?
2222.353	?			0.4	?
2222.440	?			0.5	?
2222.574	?			0.5	?
2222.608	C	4s 1p ⁰ ₁ - 4p 1P ₁		0.5	
2222.67	C12017	(2-1)	R45	bs 0.1	
2222.77	C12017	(1-0)	R33	0.2	
2222.90	?			0.1	?
2222.992	CO	(4-3)	R62	19.0	
2223.139	C12018	(2-1)	R61	0.4	
2223.225	C13016	(2-1)	R58	2.8	
2223.25	C12018	(1-0)	R45	bs 1	
2223.521	C13016	(1-0)	R43	4.4	
2223.584	CO	(4-3)	R114	1.5	
2223.699	?			0.7	?
2223.815	CO	(3-2)	R45	23.6	
2224.083	?			0.2	?
2224.197	CO	(4-3)	R63	18.7	
2224.35	?			0.1	?
2224.457	C12018	(2-1)	R62	0.3	
2224.546	CO	(2-1)	R33	26.1	
2224.67	C13016	(2-1)	R59	b 2*	
2224.713	CO	(1-0)	R23	27.1	
2224.830	CO	(4-3)	R113	1.6	
2225.013	OH	(1-0)	P1F 27.5	0.2	
2225.248	C12018	(1-0)	R46	0.9	
2225.25	C12017	(1-0)	R34	b 0.2	
2225.358	CO	(4-3)	R64	18.4	
2225.592	C13016	(1-0)	R44	4.3	
2225.64	?			0.1	?
2225.74	C12018	(2-1)	R63	bs <<1	
2225.788	CO	(3-2)	R46	23.6	
2225.970	?			0.6	?
2226.01	OH	(1-0)	P2E 26.5	b 0.2	
2226.025	CO	(4-3)	R112	b 2	
2226.072	C13016	(2-1)	R60	2.5	
2226.474	CO	(4-3)	R65	18.3	
2226.59	C12017	(2-1)	R47	0.1	
2226.750	?			0.2	?
2226.85	?			0.1	?
2226.98	C12018	(2-1)	R64	bs <<1	
2227.043	CO	(2-1)	R34	26.1	
2227.169	CO	(4-3)	R111	2.0	
2227.19	C12018	(1-0)	R47	b 0.8	
2227.25	?			0.1	?
2227.384	?			5.7	?
2227.433	C13016	(2-1)	R61	bs 2*	
2227.49	OH	(1-0)	P1E 27.5	b 0.2	
2227.546	CO	(4-3)	R66	18.3	
2227.63	C13016	(1-0)	R45	b 4*	
2227.637	CO	(1-0)	R24	27.1	
2227.70	C12017	(1-0)	R35	b 0.2	

2222-2230 cm⁻¹ (Continued)

2227.718	CO	(3-2)	R47	23.5	
2228.047	OH	(1-0)	P2F	0.3	
2228.18	C12O18	(2-1)	R65	0.2	
2228.261	CO	(4-3)	R110	2.2	
2228.422	?			0.2	?
2228.573	CO	(4-3)	R67	18.2	
2228.63	?			bs 0.3	?
2228.756	C13O16	(2-1)	R62	2.3	
2228.83	?			0.1	?
2229.109	C12O18	(1-0)	R48	0.8	
2229.230	?			0.1	?
2229.302	CO	(4-3)	R109	2.4	
2229.33	C12O18	(2-1)	R66	b 0.2	
2229.498	CO	(2-1)	R35	26.1	
2229.555	CO	(4-3)	R68	b 18	
2229.606	CO	(3-2)	R48	b 23*	
2229.62	C13O16	(1-0)	R46	b 4	

2230-2238 cm⁻¹

2230.036	C13O16	(2-1)	R63	2.2	
2230.11	C12O17	(1-0)	R36	0.2	
2230.290	CO	(4-3)	R108	2.6	
2230.35	C12O17	(2-1)	R49	0.1	
2230.45	C12O18	(2-1)	R67	0.2	b
2230.49	CO	(4-3)	R69	17*	bs
2230.526	CO	(1-0)	R25	27.2	
2230.986	C12O18	(1-0)	R49	0.7	
2231.10	?			0.1	?
2231.227	CO	(4-3)	R107	2.9	
2231.277	C13O16	(2-1)	R64	2.1	
2231.383	CO	(4-3)	R70	17.3	
2231.451	CO	(3-2)	R49	23.2	
2231.52	C12O18	(2-1)	R68	0.2	b
2231.574	C13O16	(1-0)	R47	4.0	
2231.76	?			0.3	?
2231.918	CO	(2-1)	R36	26.0	
2232.114	CO	(4-3)	R106	3.2	
2232.230	CO	(4-3)	R71	17.1	
2232.475	C13O16	(2-1)	R65	2.0	
2232.48	C12O17	(1-0)	R37	0.2	b
2232.560	C12O18	(2-1)	R69	0.2	
2232.817	C12O18	(1-0)	R50	0.7	
2232.87	?			0.1	?
2232.951	CO	(4-3)	R105	3.4	
2233.031	CO	(4-3)	R72	16.8	
2233.11	?			0.1	?
2233.254	CO	(3-2)	R50	22.9	
2233.374	CO	(1-0)	R26	27.2	
2233.490	C13O16	(1-0)	R48	4.0	
2233.55	C12O18	(2-1)	R70	0.1	
2233.631	C13O16	(2-1)	R66	1.9	
2233.735	CO	(4-3)	R104	4.0	
2233.786	CO	(4-3)	R73	16.5	
2233.950	C12O17	(2-1)	R51	0.1	
2234.026	?			0.1	?
2234.063	?			0.1	?
2234.295	CO	(2-1)	R37	26.0	
2234.40	?			0.1	?
2234.47	CO	(4-3)	R103	5	b
2234.494	CO	(4-3)	R74	16.5	
2234.611	C12O18	(1-0)	R51	0.7	
2234.746	C13O16	(2-1)	R67	1.7	
2234.81	C12O17	(1-0)	R38	0.2	
2235.015	CO	(3-2)	R51	22.9	
2235.159	CO	(4-3)	R102	5*	b
2235.159	CO	(4-3)	R75	16.4	
2235.366	C13O16	(1-0)	R49	3.8	
2235.557	Si	4p ³ D ₃ - 3d ³ P ₂		2.6	b
2235.557	Si	4f [2 ₁] ² - 5g [3 ₁]		0.1	b
2235.69	C12O17	(2-1)	R52	0.1	
2235.777	CO	(4-3)	R76	16.0	
2235.79	CO	(4-3)	R101	6	b
2235.82	C13O16	(2-1)	R68	1*	bs

2230-2238 cm^{-1} (Continued)

2236.184	CO	(1-0)	R27	27.2
2236.349	CO	(4-3)	R77	15.4
2236.36	C12O18	(1-0)	R52	b 0.7
2236.37	CO	(4-3)	R100	b 6+
2236.508	Si	4f [2 $\frac{1}{2}$] ₃ - 5g [3 $\frac{1}{2}$]		2.3
2236.631	CO	(2-1)	R38	26.0
2236.734	CO	(3-2)	R52	22.8
2236.85	C13O16	(2-1)	R69	b 1+
2236.871	CO	(4-3)	R78	15.2
2236.91	CO	(4-3)	R99	bs 7
2236.98	?			0.1
2237.106	?			0.4
2237.11	C12O17	(1-0)	R39	b 0.2
2237.203	C13O16	(1-0)	R50	3.7
2237.350	CO	(4-3)	R79	14.4
2237.39	CO	(4-3)	R98	bs 7
2237.528	?			0.2
2237.781	CO	(4-3)	R80	13.9
2237.82	C13O16	(2-1)	R70	b 1+
2237.829	CO	(4-3)	R97	7.2
				?
				?
				?

2238-2246 cm⁻¹

2238.002	?				0.1	?
2238.085	C12O18	(1-0)	R53		0.7	
2238.165	CO	(4-3)	R81		13.5	
2238.212	CO	(4-3)	R96		7.2	
2238.410	CO	(3-2)	R53		22.5	
2238.503	CO	(4-3)	R82		13.2	
2238.548	CO	(4-3)	R95		7.8	
2238.613	?				0.1	?
2238.792	C13O16	(2-1)	R71	b 1 ⁺		
2238.792	CO	(4-3)	R83	13.1		
2238.834	CO	(4-3)	R94	8.7		
2238.93	CO	(2-1)	R39	b 26		
2238.95	CO	(1-0)	R28	b 27		
2239.00	C13O16	(1-0)	R51	b 4		
2239.037	CO	(3-2)	R124	b <<1		
2239.037	CO	(4-3)	R84	13.0		
2239.07	CO	(4-3)	R93	bs 9.3		
2239.235	CO	(4-3)	R85	12.8		
2239.26	CO	(4-3)	R92	bs 11		
2239.36	C12O17	(1-0)	R40	b 0.2		
2239.38	CO	(4-3)	R86	b 12 ⁺		
2239.40	CO	(4-3)	R91	b 12		
2239.486	CO	(4-3)	R87	b 12 ⁺		
2239.49	CO	(4-3)	R90	b 12		
2239.536	CO	(4-3)	R88	b 12		
2239.536	CO	(4-3)	R89	b 12		
2239.692	C13O16	(2-1)	R72	1.4		
2239.758	C12O18	(1-0)	R54	0.7		?
2239.955	?			0.1		
2240.042	CO	(3-2)	R54	22.1		?
2240.35	?			0.1		
2240.554	C13O16	(2-1)	R73	1.2		
2240.76	CO	(3-2)	R123	b <<1		
2240.761	C13O16	(1-0)	R52	3.8		?
2240.843	?			0.7		
2241.182	CO	(2-1)	R40	26.0		
2241.38	C13O16	(2-1)	R74	b 1 ⁺		
2241.39	C12O18	(1-0)	R55	b 0.7		?
2241.48	?			0.1		
2241.57	C12O17	(1-0)	R41	b 0.2		
2241.630	CO	(3-2)	R55	b 22		?
2241.686	CO	(1-0)	R29	27.5		?
2241.85	?			0.1		
2242.151	C13O16	(2-1)	R75	b 1		?
2242.231	?			0.2		
2242.321	?			0.2		?
2242.392	?			0.1		?
2242.46	CO	(3-2)	R122	b <1		
2242.476	C13O16	(1-0)	R53	3.5		?
2242.58	?			0.1		
2242.845	Si	5p ³ D ₁ - 6s (1/2, 1/2) ^o		5.3		
2242.89	C13O16	(2-1)	R76	bs 1		
2242.988	C12O18	(1-0)	R56	0.7		
2243.179	CO	(3-2)	R56	22.0		
2243.396	CO	(2-1)	R41	25.5		

2238-2246 cm^{-1} (Continued)

2243.576	C13O16	(2-1)	R77	0.9	
2243.627	?			0.1	?
2243.75	C12O17	(1-0)	R42	0.2	
2244.028	Ca	5f $^1\text{F}^0$ - 7g $^1\text{G}_4$		0.4	
2244.084	CO	(3-2)	R121	0.7	
2244.156	C13O16	(1-0)	R54	3.2	
2244.227	C13O16	(2-1)	R78	0.8	
2244.377	CO	(1-0)	R30	27.5	
2244.48	?			0.1	?
2244.544	C12O18	(1-0)	R57	0.6	
2244.682	CO	(3-2)	R57	21.7	
2244.832	C13O16	(2-1)	R79	0.8	
2245.205	OH	(3-2)	P1F 22.5	0.2	
2245.403	C13O16	(2-1)	R80	0.7	
2245.569	CO	(2-1)	R42	25.7	
2245.663	CO	(3-2)	R120	1.0	
2245.73	?			0.1	?
2245.795	C13O16	(1-0)	R55	3.1	
2245.88	C12O17	(1-0)	R43	bs 0.2	
2245.913	C13O16	(2-1)	R81	0.7	

2246-2254 cm⁻¹

2246.065	C12018	(1-0)	R58	b 0.7	
2246.142	CO	(3-2)	R58	21.6	
2246.387	C13016	(2-1)	R82	0.6	
2246.455	?			0.1	?
2246.527	?			0.1	?
2246.636	OH	(3-2)	P2E 21.5	0.2	
2246.820	C13016	(2-1)	R83	0.6	
2247.029	CO	(1-0)	R31	27.5	
2247.18	OH	(3-2)	P1E 22.5	b 0.2	
2247.191	CO	(3-2)	R119	1.5	
2247.20	C13016	(2-1)	R84	b <1	
2247.393	C13016	(1-0)	R56	3.0	
2247.54	C12018	(1-0)	R59	b 0.6	
2247.558	CO	(3-2)	R59	21.6	
2247.56	C13016	(2-1)	R85	b <1	
2247.700	CO	(2-1)	R43	25.6	
2247.801	Si	4d ³ D ₁ - 5f ² [2 _{1/2}] ₂	R43	s 0.8	
2247.85	C13016	(2-1)	R86	bs <1	
2247.98	C12017	(1-0)	R44	0.2	
2248.103	C13016	(2-1)	R87	0.5	
2248.236	OH	(3-2)	P2F 21.5	0.1	
2248.24	C13016	(2-1)	R97	0.1	
2248.317	C13016	(2-1)	R88	0.3	
2248.38	C13016	(2-1)	R96	0.1	
2248.48	C13016	(2-1)	R89	0.3	
2248.52	C13016	(2-1)	R95	<0.1	
2248.601	C13016	(2-1)	R90	0.3	
2248.61	C13016	(2-1)	R94	b 0.1	
2248.661	CO	(3-2)	R118	b 1.5	
2248.68	C13016	(2-1)	R91	b 0.2	
2248.68	C13016	(2-1)	R93	b 0.2	
2248.68	C13016	(2-1)	R92	b 0.2	
2248.795	?			0.1	?
2248.931	CO	(3-2)	R60	21.5	
2248.95	C13016	(1-0)	R57	b 3	
2248.97	C12018	(1-0)	R60	b 0.6	
2249.26	?			0.1	?
2249.642	CO	(1-0)	R32	27.5	
2249.791	CO	(2-1)	R44	25.5	
2250.079	CO	(3-2)	R117	1.5	
2250.259	CO	(3-2)	R61	21.4	
2250.369	C12018	(1-0)	R61	0.5	
2250.469	C13016	(1-0)	R58	2.8	
2250.688	?			0.1	?
2251.025	?			0.2	?
2251.17	?			0.2	?
2251.444	CO	(3-2)	R116	1.4	
2251.544	CO	(3-2)	R62	21.1	
2251.723	C12018	(1-0)	R62	0.5	
2251.839	CO	(2-1)	R45	25.4	
2251.946	C13016	(1-0)	R59	2.6	
2252.05	C12017	(1-0)	R46	0.2	
2252.214	CO	(1-0)	R33	27.2	
2252.437	?			5.2	?
2252.75	CO	(3-2)	R115	b 1 ⁺	

2246-2254 cm^{-1} (Continued)

2252.784	CO	(3-2)	R63	21.1
2253.042	C12O18	(1-0)	R63	0.5
2253.382	C13O16	(1-0)	R60	2.5
2253.701	?			0.1
2253.846	CO	(2-1)	R46	25.2
2253.980	CO	(3-2)	R64	20.8

?

2254-2262 cm⁻¹

2254.01	CO	(3-2)	R114	b 1 ⁺
2254.02	C12O17	(1-0)	R47	b 0.1
2254.311	C12O18	(1-0)	R64	0.4
2254.382	CO	(2-1)	R132	0.1
2254.65	?			0.1
2254.747	CO	(1-0)	R34	27.2
2254.78	C13O16	(1-0)	R61	bs 2 ⁺
2254.91	Fe	4s4p x ⁵ P ₁ ⁰ - e ⁵ D ₂		0.2
2255.132	CO	(3-2)	R65	20.3
2255.229	CO	(3-2)	R113	2.1
2255.547	C12O18	(1-0)	R65	0.4
2255.641	?			0.3
2255.81	CH	(2-1)	P2F 10.5	b 0.1
2255.811	CO	(2-1)	R47	25.2
2255.93	CH	(2-1)	P1E 11.5	b 0.1
2255.94	C12O17	(1-0)	R48	bs 0.1
2256.060	Si	5p ³ D ₂ - 6s ($\frac{1}{2}, \frac{1}{2}$) ₁ ⁰		8.8
2256.130	C13O16	(1-0)	R62	2
2256.239	CO	(3-2)	R66	20.0
2256.387	CO	(3-2)	R112	2.3
2256.516	CO	(2-1)	R131	0.3
2256.73	CH	(2-1)	P2E 10.5	b 0.1
2256.733	C12O18	(1-0)	R66	b 0.4
2256.80	CH	(2-1)	P1F 11.5	0.2
2257.123	?			0.2
2257.238	CO	(1-0)	R35	26.8
2257.302	CO	(3-2)	R67	19.9
2257.445	C13O16	(1-0)	R63	2.2
2257.493	CO	(3-2)	R111	2.7
2257.652	?			0.1
2257.734	CO	(2-1)	R48	25.0
2257.84	C12O17	(1-0)	R49	0.1
2257.879	C12O18	(1-0)	R67	0.3
2258.053	?			0.1
2258.100	?			0.1
2258.319	CO	(3-2)	R68	19.7
2258.546	CO	(3-2)	R110	2.9
2258.60	CO	(2-1)	R130	bs 0.3
2258.718	C13O16	(1-0)	R64	2.1
2258.82	?			0.1
2258.993	C12O18	(1-0)	R68	0.4
2259.291	CO	(3-2)	R69	19.4
2259.44	?			0.1
2259.549	CO	(3-2)	R109	b 3 ⁺
2259.613	CO	(2-1)	R49	24.8
2259.693	CO	(1-0)	R36	26.8
2259.949	C13O16	(1-0)	R65	2.0
2260.057	C12O18	(1-0)	R69	0.3
2260.218	CO	(3-2)	R70	19.0
2260.501	CO	(3-2)	R108	3.6
2260.611	CO	(2-1)	R129	0.4
2261.08	C12O18	(1-0)	R70	b 0.3
2261.100	CO	(3-2)	R71	18.8
2261.14	C13O16	(1-0)	R66	b 2
2261.331	?			0.3

2254-2262 cm^{-1} (Continued)

2261.40	CO	(3-2)	R107	bs 4	
2261.454	CO	(2-1)	R50	24.7	
2261.572	?			0.3	?
2261.75	?			0.1	?
2261.936	CO	(3-2)	R72	18.5	

2262-2270 cm^{-1}

2262.06	C12O18	(1-0)	R71	b 0.3	?
2262.104	CO	(1-0)	R37	26.8	
2262.21	Fe(?)	5p $^7D^0_3 - e \ ^5P_2$		b	
2262.251	CO	(3-2)	R106	4.3	
2262.29	C13O16	(1-0)	R67	bs 2	
2262.393	?			0.1	?
2262.46	?			0.1	?
2262.582	CO	(2-1)	R128	0.5	
2262.727	CO	(3-2)	R73	18.3	
2262.86	?			0.1	?
2263.00	C12O18	(1-0)	R72	b 0.3	
2263.050	CO	(3-2)	R105	4.6	
2263.248	CO	(2-1)	R51	24.6	
2263.393	C13O16	(1-0)	R68	1.8	
2263.472	CO	(3-2)	R74	18.2	
2263.798	CO	(3-2)	R104	4.9	
2263.896	C12O18	(1-0)	R73	0.3	
2264.06	?			0.1	?
2264.171	CO	(3-2)	R75	17.7	
2264.32	?			0.1	?
2264.46	C13O16	(1-0)	R69	b 1 ⁺	
2264.476	CO	(1-0)	R38	26.7	
2264.49	CO	(3-2)	R103	b 5	
2264.50	CO	(2-1)	R127	b <1	
2264.75	C12O18	(1-0)	R74	bs 0.3	
2264.824	CO	(3-2)	R76	17.2	
2265.003	CO	(2-1)	R52	24.5	
2265.143	CO	(3-2)	R102	5.8	
2265.21	?			0.1	?
2265.430	CO	(3-2)	R77	17.0	
2265.48	C13O16	(1-0)	R70	b 1 ⁺	
2265.568	C12O18	(1-0)	R75	0.2	
2265.740	CO	(3-2)	R101	6.3	
2265.991	CO	(3-2)	R78	17.0	
2266.287	CO	(3-2)	R100	6.6	
2266.34	C12O18	(1-0)	R76	b 0.2	
2266.362	CO	(2-1)	R126	0.7	
2266.46	C13O16	(1-0)	R71	b 1 ⁺	
2266.505	CO	(3-2)	R79	16.5	
2266.713	CO	(2-1)	R53	24.4	
2266.78	CO	(3-2)	R99	b 7	
2266.805	CO	(1-0)	R39	b 26 ⁺	
2266.882	?			bs 0.3	?
2266.972	CO	(3-2)	R80	16.1	
2267.075	C12O18	(1-0)	R77	0.2	
2267.233	CO	(3-2)	R98	7.8	
2267.25	OH	(2-1)	P1F 24.5	b 0.3	
2267.392	C13O16	(1-0)	R72	b 1 ⁺	
2267.392	CO	(3-2)	R81	15.6	
2267.630	CO	(3-2)	R97	8.4	
2267.765	CO	(3-2)	R82	15.2	
2267.979	CO	(3-2)	R96	8.9	
2268.092	CO	(3-2)	R83	14.7	
2268.174	CO	(2-1)	R125	0.8	
2268.280	CO	(3-2)	R95	9.4	

2262-2270 cm^{-1} (Continued)

2268.30	C13O16	(1-0)	R73	b 1 ⁺
2268.37	CO	(3-2)	R84	b 14
2268.380	CO	(2-1)	R54	24.2
2268.48	OH	(2-1)	P2E 23.5	b 0.3
2268.530	CO	(3-2)	R94	9.9
2268.602	CO	(3-2)	R85	13.8
2268.731	CO	(3-2)	R93	10.4
2268.787	CO	(3-2)	R86	13.4
2268.884	CO	(3-2)	R92	b 11
2268.923	CO	(3-2)	R87	b 13
2268.99	CO	(3-2)	R91	b 11 ⁺
2269.00	CO	(3-2)	R88	b 12 ⁺
2269.04	CO	(3-2)	R90	b 12
2269.05	CO	(3-2)	R89	b 12
2269.099	CO	(1-0)	R40	26.3
2269.15	C13O16	(1-0)	R74	b 1
2269.30	?			0.1
2269.455	OH	(2-1)	P1E 24.5	0.6
2269.559	?			0.1
2269.92	CO	(2-1)	R124	bs 1
2269.96	C13O16	(1-0)	R75	b 1
				?
				?

2270-2278 cm⁻¹

2270.006	CO	(2-1)	R55	24.0	?
2270.11	?			0.1	?
2270.155	?			0.1	?
2270.280	OH	(2-1)	P2F 23.5	0.4	?
2270.39	?			0.1	?
2270.550	?			0.1	?
2270.725	C13O16	(1-0)	R76	1.1	
2271.016	Si	4d ¹ D ₂ - 4f ² [2 ₁] ₃		11.5	
2271.202	Si	4d ³ D ₂ - 5f [2 ₁] ₃		4.0	
2271.345	CO	(1-0)	R41	26.3	
2271.441	C13O16	(1-0)	R77	b 1	
2271.587	CO	(2-1)	R56	23.4	
2271.62	CO	(2-1)	R123	b 1	
2271.70	?			0.1	?
2271.75	?			0.1	?
2271.870	Mg	5d ¹ D ₂ - 7p ¹ P ₁		1.3	
2272.088	Si	4d ¹ D ₂ - 4f [2 ₁] ₃		b 2.3	
		4d ³ D ₂ - 5f [2 ₁] ₂			
2272.13	C13O16	(1-0)	R78	bs 1	
2272.24	?			0.1	?
2272.453	?			0.1	?
2272.772	C13O16	(1-0)	R79	0.9	
2272.877	Si	4d ³ D ₂ - 5f ² [3 ₁] ₃		4.3	
2273.126	CO	(2-1)	R57	23.2	
2273.267	CO	(2-1)	R122	0.9	
2273.369	C13O16	(1-0)	R80	0.8	
2273.553	CO	(1-0)	R42	26.1	
2273.787	?			0.3	?
2273.919	C13O16	(1-0)	R81	0.7	
2274.198	?			0.1	?
2274.422	C13O16	(1-0)	R82	0.7	
2274.52	C12O17	(1-0)	R59	0.1	
2274.621	CO	(2-1)	R58	23.1	
2274.858	CO	(2-1)	R121	1.1	
2274.89	C13O16	(1-0)	R83	0.6	
2274.995	?			0.5	?
2275.110	?			0.2	?
2275.313	C13O16	(1-0)	R84	0.5	
2275.242	?			0.1	?
2275.592	?			1.4	?
2275.69	C13O16	(1-0)	R85	b <1	
2275.719	CO	(1-0)	R43	26.2	
2275.97	C12O17	(1-0)	R60	b 0.1	
2275.98	C13O16	(1-0)	R100	b 0.1	
2276.02	C13O16	(1-0)	R86	b <1	
2276.072	CO	(2-1)	R59	22.9	
2276.28	C13O16	(1-0)	R99	b 0.1	
2276.307	C13O16	(1-0)	R87	b 0.4	
2276.399	CO	(2-1)	R120	1.2	
2276.54	C13O16	(1-0)	R98	b 0.1	
2276.554	C13O16	(1-0)	R88	b 0.4	
2276.666	?			0.7	?
2276.74	C13O16	(1-0)	R97	b 0.1	
2276.75	C13O16	(1-0)	R89	b 0.4	
2276.90	C13O16	(1-0)	R96	b 0.1	

2270-2278 cm^{-1} (Continued)

2276.913	C13O16	(1-0)	R90	b 0.4
2277.01	C13O16	(1-0)	R95	b 0.2
2277.02	C13O16	(1-0)	R91	b 0.3
2277.086	C13O16	(1-0)	R94	b 0.2
2277.086	C13O16	(1-0)	R92	b 0.3
2277.12	C13O16	(1-0)	R93	b 0.2
2277.38	C12O17	(1-0)	R61	0.1
2277.480	CO	(2-1)	R60	22.8
2277.684	?			0.1
2277.844	CO	(1-0)	R44	26.2
2277.88	CO	(2-1)	R119	b 1 ⁺

?

2278-2286 cm⁻¹

2278.043	CH	(3-2)	P2F 6.5	0.1	?
2278.262	CH	(3-2)	P1E 7.5	0.1	
2278.60	CH	(3-2)	P2E 6.5	0.1	
2278.72	C12O17	(1-0)	R62	0.1	
2278.79	CH	(3-2)	P1F 7.5	b 0.1	
2278.844	CO	(2-1)	R61	22.5	
2279.03	CO	(1-0)	R135	0.1	
2279.245	?			0.1	
2279.316	CO	(2-1)	R118	1.4	
2279.45	?			0.1	
2279.56	?			0.2	
2279.646	?			0.1	
2279.928	CO	(1-0)	R45	26.1	
2280.03	C12O17	(1-0)	R63	0.1	
2280.164	CO	(2-1)	R62	22.2	
2280.393	?			0.1	
2280.698	CO	(2-1)	R117	1.6	
2280.820	?			0.2	
2281.30	CO	(1-0)	R134	0.2	
2281.439	CO	(2-1)	R63	22.0	
2281.582	?			1.7	
2281.969	CO	(1-0)	R46	26.0	
2282.02	CO	(2-1)	R116	bs 2	
2282.120	?			0.2	
2282.505	OH	(1-0)	P1F 26.5	0.5	
2282.671	CO	(2-1)	R64	22.0	
2283.21	?			0.1	
2283.302	CO	(2-1)	R115	2.0	
2283.50	CO	(1-0)	R133	b 0.3	
2283.505	Si	4d ¹ D ⁰ ₂ - 4f ² [3 ²] ₃		7.8	
2283.56	OH	(1-0)	P2E 25.5	b 0.4	
2283.71	?			0.1	
2283.858	CO	(2-1)	R65	21.8	
2283.970	CO	(1-0)	R47	26.0	
2284.317	?			0.1	
2284.523	CO	(2-1)	R114	2.7	
2284.91	OH	(1-0)	P1E 26.5	bs 0.4	
2285.000	CO	(2-1)	R66	21.4	
2285.450	?			1.7	
2285.533	Si	4d ¹ D ⁰ ₂ - 4f ² [3 ²] ₄		b 0.4	
2285.54	OH	(1-0)	P2F 25.5	b 0.3	
2285.65	CO	(1-0)	R132	bs 0.4	
2285.697	CO	(2-1)	R113	2.8	
2285.928	CO	(1-0)	R48	25.7	

2286-2294 cm⁻¹

2286.098	CO	(2-1)	R67	21.2	
2286.816	CO	(2-1)	R112	3.0	
2286.97	?			0.1	?
2287.151	CO	(2-1)	R68	21.1	
2287.356	?			0.2	
2287.750	CO	(1-0)	R131	0.4	
2287.843	CO	(1-0)	R49	25.6	
2287.88	CO	(2-1)	R111	b 3 ⁺	
2288.00	?			0.1	
2288.158	CO	(2-1)	R69	20.8	
2288.841	?			s 0.2	
2288.901	CO	(2-1)	R110	3.6	
2288.988	?			0.2	
2289.121	CO	(2-1)	R70	20.3	
2289.310	?			0.1	
2289.717	CO	(1-0)	R50	25.5	
2289.866	CO	(2-1)	R109	4.0	
2289.933	?			0.4	
2290.038	CO	(2-1)	R71	19.9	
2290.299	?			0.3	
2290.780	CO	(2-1)	R108	4.2	
2290.910	CO	(2-1)	R72	19.6	
2291.184	?			0.3	
2291.337	?			0.4	
2291.463	?			2.8	
2291.548	CO	(1-0)	R51	25.2	
2291.55	Mg	4f ³ F _{2,3,4} - 5d ³ D _{1,2,3}	b		
2291.642	CO	(2-1)	R107	b 4 ⁺	
2291.736	CO	(2-1)	R73	19.6	
2291.74	CH	(2-1)	P2F 9.5	b 0.1	
2291.77	CO	(1-0)	R129	0.4	
2291.876	CH	(2-1)	P1E 10.5	0.1	
2292.455	CO	(2-1)	R106	5.0	
2292.517	CO	(2-1)	R74	19.2	
2292.57	CH	(2-1)	P2E 9.5	<0.1	
2292.66	CH	(2-1)	P1F 10.5	b 0.2	
2292.829	?			0.2	
2293.22	CO	(2-1)	R105	b 5 ⁺	
2293.251	CO	(2-1)	R75	19.2	
2293.337	CO	(1-0)	R52	25.2	
2293.431	?			0.1	
2293.700	CO	(1-0)	R128	0.5	
2293.749	?			0.1	
2293.866	CH	(1-0)	P2F 12.5	b _s 0.2	
2293.93	CO	(2-1)	R104	b 6	
2293.938	CO	(2-1)	R76	18.8	

2294-2302 cm⁻¹

2294.582	CO	(2-1)	R77	18.5	
2294.59	CO	(2-1)	R103	b 6	
2294.864	?			0.4	?
2294.928	CH	(1-0)	P2E 12.5	0.3	
2295.083	CO	(1-0)	R53	25.0	
2295.180	CO	(2-1)	R78	18.4	
2295.20	CO	(2-1)	R102	b 6 ⁺	
2295.30	?			0.1	?
2295.379	?			0.1	?
2295.576	CO	(1-0)	R127	0.6	
2295.727	CO	(2-1)	R79	18.0	
2295.75	CO	(2-1)	R101	bs 7	
2295.902	?			0.5	?
2296.229	CO	(2-1)	R80	17.6	
2296.27	CO	(2-1)	R100	bs 7 ⁺	
2296.50	?			0.1	?
2296.685	CO	(2-1)	R81	17.1	
2296.73	CO	(2-1)	R99	bs 8	
2296.787	CO	(1-0)	R54	24.9	
2296.94	?			0.3	?
2297.094	CO	(2-1)	R82	16.8	
2297.142	CO	(2-1)	R98	b 9	
2297.40	CO	(1-0)	R126	0.6	
2297.456	CO	(2-1)	R83	16.3	
2297.504	CO	(2-1)	R97	10.0	
2297.634	?			0.1	?
2297.771	CO	(2-1)	R84	15.7	
2297.816	CO	(2-1)	R96	10.7	
2298.039	CO	(2-1)	R85	15.3	
2298.08	CO	(2-1)	R95	b 11 ⁺	
2298.26	OH	(3-2)	P1F 21.5	b 0.3	
2298.260	CO	(2-1)	R86	15.2	
2298.29	CO	(2-1)	R94	b 12	
2298.43	CO	(2-1)	R87	b 15	
2298.445	CO	(1-0)	R55	b 25	
2298.45	CO	(2-1)	R93	b 12 ⁺	
2298.56	CO	(2-1)	R88	b 14 ⁺	
2298.57	CO	(2-1)	R92	b 13	
2298.64	CO	(2-1)	R89	b 14	
2298.64	CO	(2-1)	R91	b 13 ⁺	
2298.66	CO	(2-1)	R90	b 14	
2298.959	?			0.1	?
2299.07	?			0.2	?
2299.164	CO	(1-0)	R125	0.7	
2299.291	?			0.1	?
2299.741	Mg	6p ³ P ₂ - 7d ³ D _{3,2,1}		4.0	
2299.814	OH	(3-2)	P2E 20.5	bs 0.3	
2300.063	CO	(1-0)	R56	24.2	
2300.188	OH	(3-2)	P1E 21.5	0.3	
2300.411	?			0.2	?
2300.644	?			0.3	?
2300.787	?			0.3	?
2300.877	CO	(1-0)	R124	0.8	
2301.059	Mg	6p ³ P ₁ - 7d ³ D _{2,1}		2.5	
2301.29	?			0.2	?

2294-2302 cm^{-1} (Continued)

2301.346	OH	(3-2)	P2F 20.5	0.3	
2301.45	?			0.1	?
2301.636	CO	(1-0)	R57	24.1	
2301.736	Mg	6p $^3\text{P}_0$ - 7d $^3\text{D}_1$		0.6	

2302-2310 cm⁻¹

2302.01	?			0.1	?
2302.056	?			0.1	?
2302.537	CO	(1-0)	R123	0.8	
2303.166	CO	(1-0)	R58	24.1	
2303.336	?			0.1	?
2303.691	?			2.5	?
2303.752	?			0.2	?
2304.144	CO	(1-0)	R122	0.9	
2304.653	CO	(1-0)	R59	23.5	
2304.980	?			0.1	?
2305.699	CO	(1-0)	R121	1.0	
2305.742	?			0.1	?
2305.88	?			23.2	
2306.096	CO	(1-0)	R60	0.1	?
2306.249	?			0.2	?
2306.47	?			0.2	?
2306.581	?			0.2	?
2306.910	?			0.2	?
2307.198	CO	(1-0)	R120	1.2	
2307.495	CO	(1-0)	R61	23.2	
2307.881	Si	5p ³ P ₁ - 6s (³ / ₂ , ¹ / ₂) ₁ ⁰		2.6	
2308.340	Si	5p ³ D ₃ - 6s (³ / ₂ , ¹ / ₂) ₂ ⁰		10.7	
2308.638	CO	(1-0)	R119	1.4	
2308.72	?			0.2	?
2308.850	CO	(1-0)	R62	22.9	
2309.262	?			0.2	?
2309.438	?			0.3	?
2309.57	?			0.2	?
2309.751	Si	4f [³ / ₂] ⁴ - 5g [⁴ / ₂]		2.3	
2309.84	CH	(3-2)	P2F 5.5	bs 0.2	

2310-2318 cm⁻¹

2310.038	CO	(1-0)	R118	1.5	
2310.15	CH	(3-2)	P1E 6.5	b 0.2	
2310.161	CO	(1-0)	R63	22.8	
2310.253	?			0.1	?
2310.323	CH	(3-2)	P2E 5.5	0.2	
2310.59	CH	(3-2)	P1F 6.5	0.2	
2311.39	CO	(1-0)	R117	b 2	
2311.428	CO	(1-0)	R64	22.3	
2311.648	?			0.1	?
2311.70	?			s 0.1	?
2311.800	Si	4f [3 $\frac{1}{2}$] ₃ - 5g [4 $\frac{1}{2}$]		2.0	
2312.54	?			0.1	?
2312.650	CO	(1-0)	R65	22.3	
2312.67	CO	(1-0)	R116	b 2	
2312.78	?			0.1	?
2312.89	?			0.2	?
2313.000	?			0.3	?
2313.827	CO	(1-0)	R66	22.2	
2313.910	CO	(1-0)	R115	2.0	
2313.99	?			s 0.1	?
2314.068	Fe	3d ⁶ c ³ F ₂ - z ³ G ₃ ⁰		4.9	
2314.178	?			0.1	?
2314.26	?			0.1	?
2314.50	?			0.1	?
2314.559	?			0.1	?
2314.961	CO	(1-0)	R67	21.9	
2315.097	CO	(1-0)	R114	2.2	
2315.745	?			0.1	?
2316.049	CO	(1-0)	R68	21.6	
2316.23	CO	(1-0)	R113	b 2 ⁺	
2316.344	?			0.1	?
2316.688	OH	(4-3)	P1F 18.5	b 0.3	
2316.88	?			0.3	?
2317.092	CO	(1-0)	R69	21.4	
2317.311	CO	(1-0)	R112	2.6	
2317.577	?			0.2	?
2317.756	?			0.3	?

2318-2326 cm⁻¹

2318.089	CO	(1-0)	R70	21.4
2318.29	OH	(4-3)	P1E 18.5	bs 0.2
2318.342	CO	(1-0)	R111	3.2
2318.721	OH	(4-3)	P2E 17.5	0.3
2319.043	CO	(1-0)	R71	21.1
2319.320	CO	(1-0)	R110	3.5
2319.481	?			8.9
2319.700	?			0.1
2319.950	CO	(1-0)	R72	20.7
2319.98	OH	(4-3)	P2F 17.5	b 0.1
2320.077	?			0.3
2320.249	CO	(1-0)	R109	3.8
2320.811	CO	(1-0)	R73	20.3
2321.129	CO	(1-0)	R108	4.0
2321.627	CO	(1-0)	R74	19.9
2321.952	CO	(1-0)	R107	4.4
2322.15	?			0.1
2322.397	CO	(1-0)	R75	19.7
2322.46	OH	(2-1)	P1F 23.5	bs 0.6
2322.727	CO	(1-0)	R106	4.8
2323.123	CO	(1-0)	R76	b 19
2323.449	CO	(1-0)	R105	5.4
2323.76	OH	(2-1)	P2E 22.5	b 0.6
2323.799	CO	(1-0)	R77	18.7
2324.125	CO	(1-0)	R104	5.8
2324.218	?			0.1
2324.300	?			0.4
2324.431	CO	(1-0)	R78	18.3
2324.587	OH	(2-1)	P1E 23.5	0.8
2324.749	CO	(1-0)	R103	6.3
2325.02	CO	(1-0)	R79	b 18
2325.25	?			s 0.1
2325.323	CO	(1-0)	R102	6.8
2325.379	?			2.8
2325.50	OH	(2-1)	P2F 22.5	bs 0.6
2325.555	CO	(1-0)	R80	17.6
2325.71	?			0.1
2325.846	CO	(1-0)	R101	7.2
2325.91	?			0.1

2326-2334 cm⁻¹

2326.047	CO	(1-0)	R81	17.3	?
2326.187	?			0.3	
2326.319	CO	(1-0)	R100	7.7	
2326.492	CO	(1-0)	R82	17.0	
2326.744	CO	(1-0)	R99	8.4	
2326.89	CO	(1-0)	R83	b 17	
2326.967	CH	(2-1)	P2F 8.5	0.1	
2327.117	CO	(1-0)	R98	9.0	
2327.12	CH	(2-1)	P1E 9.5	b 0.1	
2327.241	CO	(1-0)	R84	16.2	
2327.442	CO	(1-0)	R97	9.5	
2327.544	CO	(1-0)	R85	15.6	
2327.71	CH	(2-1)	P2E 8.5	b 0.1	
2327.718	CO	(1-0)	R96	10.0	
2327.800	CO	(1-0)	R86	15.3	
2327.82	CH	(2-1)	P1F 9.5	b 0.2	
2327.944	CO	(1-0)	R95	10.7	
2328.009	CO	(1-0)	R87	14.4	
2328.122	CO	(1-0)	R94	11.2	
2328.170	CO	(1-0)	R88	14.1	
2328.25	CO	(1-0)	R93	bs 12 ⁺	
2328.280	CO	(1-0)	R89	b 13 ⁺	
2328.35	CO	(1-0)	R92	b 13	
2328.35	CO	(1-0)	R90	b 13 ⁺	
2328.35	CO	(1-0)	R91	b 13	
2329.603	?			0.2	?
2331.03	?			0.1	?
2331.69	?			0.2	?
2331.79	?			0.2	?
2332.05	?			0.4	?
2332.12	CH	(1-0)	P2F 11.5	0.2	
2332.208	CH	(1-0)	P1E 12.5	0.4	
2333.124	CH	(1-0)	P2E 11.5	0.4	
2333.199	CH	(1-0)	P1F 12.5	0.4	
2333.29	?			0.1	?

2334-2342 cm⁻¹

2335.119	?			0.1	?
2335.798	?			0.2	?
2338.235	?			0.1	?
2339.757	OH	(1-0)	P1F 25.5	0.9	
2340.14	?			0.1	?
2340.510	?			0.6	?
2340.76	CH	(3-2)	P2F 4.5	0.2	
2340.855	OH	(1-0)	P2E 24.5	0.6	
2341.15	CH	(3-2)	P2E 4.5	b 0.1	
2341.213	CH	(3-2)	P1E 5.5	0.2	
2341.578	CH	(3-2)	P1F 5.5	0.2	

2342-2350 cm⁻¹

2342.081	OH	(1-0)	P1E 25.5	0.5	
2342.785	OH	(1-0)	P2F 24.5	b <1	
2344.086	Si	4d ³ P ₂ ⁰ - 4f ² [3 ₂ ¹] ₃		2.2	?
2346.13	?			0.3	
2346.876	Fe	e ⁵ F ₅ - ⁷ D ₅		1.9	?
2347.107	?			0.1	?
2347.855	?			0.2	?
2348.550	?			0.1	?
2349.228	?			0.3	?

2350-2358 cm⁻¹

2350.856	OH	(3-2)	P1F 20.5	0.5	?
2350.949	?			0.9	?
2351.927	?			4.1	
2352.521	OH	(3-2)	P2E 19.5	0.4	
2352.681	OH	(3-2)	P1E 20.5	0.4	
2353.186	?			0.2	?
2353.967	OH	(3-2)	P2F 19.5	0.4	
2354.852	Fe	c ³ F ₃ - z ³ G ₄ ⁰		5.8	
2356.67	?			0.1	?
2357.006	?			0.1	?
2357.53	?			0.3	?
2357.98	?			0.6	?

2358-2366 cm⁻¹

2358.302	?			0.8	?
2358.360	?			0.3	?
2359.78	?			0.1	?
2360.773	?			0.2	?
2361.432	CH	(2-1)	P2F 7.5	b 0.2	
2361.64	CH	(2-1)	P1E 8.5	0.4	
2362.064	?			1.2	?
2362.11	CH	(2-1)	P2E 7.5	b 0.2	
2362.253	CH	(2-1)	P1F 8.5	0.4	
2363.14	?			0.3	?
2364.38	?			0.4	?
2365.516	Fe	u ³ G ₅ ⁰ - e ³ G ₅		0.9	

2366-2374 cm⁻¹

2366.291	OH	(4-3)	PIF 17.5	0.2	?
2366.96	?			0.3	?
2367.418	?			0.4	?
2367.823	OH	(4-3)	P1E 17.5	0.2	
2368.507	OH	(4-3)	P2E 16.5	0.1	
2369.689	OH	(4-3)	P2F 16.5	0.2	
2369.808	CH	(1-0)	P2F 10.5	0.3	
2369.933	CH	(1-0)	P1E 11.5	0.4	?
2370.60	?			0.2	
2370.68	CH	(3-2)	P2F 3.5	0.1	
2370.750	CH	(1-0)	P2E 10.5	0.3	
2370.831	CH	(1-0)	P1F 11.5	0.3	
2370.95	Fe	v 5P ₂ - f 5D ₃		0.3	
2371.00	CH	(3-2)	P2E 3.5	<0.1	
2371.44	CH	(3-2)	P1E 4.5	0.1	
2371.73	CH	(3-2)	P1F 4.5	0.2	
2373.391	?			0.1	?

2374-2382 cm⁻¹

2374.020	?			0.2	?
2374.138	?			0.3	?
2374.337	?			0.3	?
2374.527	?			0.5	?
2374.941	?			0.2	?
2375.418	Si	5p 3S ₁ - nd a 3P ₂		6.2	
2375.59	?			0.2	?
2375.68	?			0.1	?
2375.72	?			0.1	?
2376.292	Mg	5s 3S ₁ - 5p 3P ₀		0.1	?
2376.61	?			12.1	
2377.07	?			b 0.1	?
2377.23	?			0.1	?
2377.285	OH	(2-1)	P1F 22.5	s 0.2	?
2377.579	Mg	5s 3S ₁ - 5p 3P ₁		bs 0.7	
2378.215	?			16.2	?
2378.674	OH	(2-1)	P2E 21.5	7.3	
2379.337	OH	(2-1)	P1E 22.5	0.8	
2379.66	?			0.8	
2380.222	Mg	5s 3S ₁ - 5p 3P ₂		b 0.3	?
2380.34	OH	(2-1)	P2F 21.5	17.7	
2380.58	?			b 0.6	
2380.925	?			bs 0.2	?
2381.15	?			1.0	?
2381.383	?			0.3	?
2381.42	?			0.5	?
2381.46	?			bs 0.1	?
2381.558	?			bs 0.1	?
2381.778	?			b 0.2	?
				0.1	?

2382-2390 cm⁻¹

2382.065	?		1.1	?
2382.229	?		0.2	?
2382.64	?		0.2	?
2382.783	?		0.8	?
2382.86	?		0.2	?
2382.93	?		0.1	?
2383.060	?		0.3	?
2383.331	?		0.3	?
2384.376	?		0.5	?
2384.647	?		0.6	?
2385.16	?		0.2	?
2385.43	Al	4d ² D _{5/2} - 4f ² F _{5/2,7/2} ⁰	10.7	?
2386.370	?		0.2	?
2388.30	?		0.3	?
2388.75	?		0.3	?
2388.862	?		0.6	?
2389.142	?		0.3	?
2389.45	?		0.1	?
2389.979	Al	4d ² D _{3/2} - 4f ² F _{5/2} ⁰	12.2	?

2390-2398 cm⁻¹

2391.190	?		0.2	?
2391.444	Fe	e ⁵ F ₃ - ⁵ G ₄ ⁰	2.7	?
2392.002	?		5.8	?
2392.133	?		0.1	?
2392.893	?		0.3	?
2393.372	Mg	6s ¹ S ₀ - 7p ¹ P ₁ ⁰	1.1	?
2393.529	?		0.1	?
2393.827	?		0.3	?
2393.921	Fe	4p γ ⁷ P ₄ ⁰ - e ⁷ D ₅	3.1	?
2395.157	CH	(2-1) P2F 6.5	0.3	?
2395.396	CH	(2-1) P1E 7.5	0.4	?
2395.731	CH	(2-1) P2E 6.5	0.4	?
2395.934	CH	(2-1) P1F 7.5	0.4	?
2396.526	Si	4d ¹ P ₁ ⁰ - 6p (³ / ₂ , ³ / ₂) ₂	0.8	?
2396.713	OH	(1-0) P1F 24.5	0.6	?
2397.086	?		0.3	?
2397.19	?		0.2	?
2397.30	?		0.3	?
2397.517	Si	4p ³ D ₂ - 3d ³ P ₂ ⁰	0.9	?
2397.873	OH	(1-0) P2E 23.5	0.6	?

2398-2406 cm⁻¹

2398.973	OH	(1-0)	P1E 24.5	0.7	?
2399.14	?			0.1	
2399.31	CH	(3-2)	P2F 2.5	bs 0.1	
2399.422	Fe			6.1	
2399.55	CH	(3-2)	P2E 2.5	bs 0.1	
2399.733	OH	(1-0)	P2F 23.5	0.6	
2400.351	?			0.1	
2400.456	?			0.1	
2400.606	?			0.3	
2401.10	CH	(3-2)	P1F 3.5	0.2	
2401.706	?			0.5	
2402.39	?			0.1	
2402.447	?			0.1	
2402.658	?			0.2	
2402.912	OH	(3-2)	P1F 19.5	0.3	
2404.051	?			0.5	
2404.662	OH	(3-2)	P1E 19.5	0.6	
2404.711	OH	(3-2)	P2E 18.5	0.4	

2406-2414 cm⁻¹

2406.104	OH	(3-2)	P2F 18.5	0.4	
2406.829	CH	(1-0)	P2F 9.5	0.3	
2406.992	CH	(1-0)	P1E 10.5	0.4	
2407.205	?			0.3	?
2407.59	?			0.1	?
2407.700	CH	(1-0)	P2E 9.5	0.3	
2407.795	CH	(1-0)	P1F 10.5	0.4	
2408.338	?			0.1	
2408.524	?			1.9	
2409.228	?			1.4	
2409.738	?			0.1	
2409.905	?			0.1	
2410.016	Si	4d ¹ F ₃ - 5f [2 ₂] ₃		0.9	
2410.63	Fe			b	
2410.662	Si	4d ³ P ₁ - 4f ² [2 ₂] ₁ ' ₂		5.8	
2411.695	Si	4d ¹ F ₃ - 5f [3 ₂] ₃		0.4	
2413.110	?			0.1	
2413.360	Si	4d ¹ F ₃ - 5f ² [3 ₂] ₄		7.8	
2413.665	?			0.1	

2414-2422 cm⁻¹

2414.112	?		0.1	?
2414.782	?		0.3	?
2415.23	OH	P1F 16.5	0.2	
2415.281	Fe		5.5	
2415.480	?		0.3	?
2415.543	?		0.2	?
2416.572	?		2.5	?
2416.672	OH	P1E 16.5	0.2	
2416.859	Fe		6.4	
2417.112	?		0.1	?
2417.662	OH	P2E 15.5	0.2	
2418.74	OH	P2F 15.5	0.2	
2419.056	Si	4d ³ P ₂ - 4f ² [2 ₂ ¹] ₃	13.0	
2419.398	?		0.1	?
2419.979	Si	4d ³ P ₂ - 4f ² [2 ₂ ¹] ₂	0.2	

2422-2430 cm⁻¹

2422.29	?		0.1	?
2422.263	?		0.4	?
2422.73	Cr	a ⁵ F ₅ - z ⁵ D ₄	0.4	
2423.674	?		0.3	?
2423.882	?		0.3	?
2423.92	?		0.2	?
2424.878	Si	5s ¹ P ₁ - 5p ³ P ₀	2.6	
2426.277	?		0.3	?
2426.445	?		0.3	?
2427.318	?		0.1	?
2427.720	?		0.1	?
2428.036	CH	(2-1) P2F 5.5	0.2	
2428.367	CH	(2-1) P1E 6.5	0.4	
2428.528	CH	(2-1) P2E 5.5	0.3	
2428.825	CH	(2-1) P1F 6.5	0.4	
2429.641	?		0.4	?

2430-2438 cm⁻¹

2430.129	?			0.1	?
2431.696	OH	(2-1)	P1F 21.5	0.8	
2431.949	?			0.3	?
2432.02	?			0.3	?
2432.476				b 7.2	
2432.511	Mg	5d ³ D _{1,2,3} - 7f ³ F ⁰ _{2,3,4}		b 7.2	
2432.564				7.4	
2433.175	OH	(2-1)	P2E 20.5	0.6	
2433.261	?			0.2	?
2433.451	?			0.7	?
2433.667	OH	(2-1)	P1E 21.5	0.7	
2434.29	?			0.3	?
2434.32	?			0.2	?
2434.390	?			0.5	?
2434.55	?			0.3	?
2434.759	OH	(2-1)	P2F 20.5	0.7	
2434.85	?			0.2	?
2435.42	?			0.1	?
2435.571	?			0.2	?
2435.843	?			0.8	?
2435.900	?			0.3	?
2436.063	?			0.4	?
2437.670	?			0.1	?
2437.883	Fe			7.6	

2438-2446 cm⁻¹

2438.21	?			0.2	?
2438.341	?			1.0	?
2438.42	?			0.2	?
2438.806	?			0.5	?
2439.137	?			1.1	?
2440.377	?			0.2	?
2440.667	Si	5p ¹ P ₁ - 6s ($\frac{1}{2}, \frac{1}{2}$) ⁰		0.6	
2440.814	?			0.1	?
2440.980	?			0.2	?
2442.029	?			0.3	?
2442.916	Fe	v ³ F ⁰ ₄ - f ³ D ₃		0.9	
2443.192	CH	(1-0)	P2F 8.5	0.6	
2443.361	CH	(1-0)	P1E 9.5	0.4	
2443.57	?			0.6	?
2443.664	?			0.3	?
2443.797	?			0.1	?
2443.947	CH	(1-0)	P2E 8.5	0.3	
2444.092	CH	(1-0)	P1F 9.5	0.3	
2444.15	?			0.2	?
2444.292	?			0.2	?
2444.499	?			0.1	?
2444.65	?			0.1	?
2445.480	?			0.6	?
2445.603	?			0.1	?
2445.971	?			9.2	?
2445.971	Si	4d ³ D ₃ - 5f [$\frac{3}{2}$] ⁴		b	

2446-2454 cm⁻¹

2446.29	?		0.1	?
2447.044	C	4p ³ P ₂ - 5s ³ P ⁰ ₂	0.4	
2447.38	?		0.4	
2447.824	?		0.3	
2448.327	?		0.3	
2448.56	?		0.3	
2448.602	?		0.4	
2449.087	Si	5p ³ P ₂ - nd a ³ P ⁰ ₂	7.0	
2449.850	Na	4f ² F ⁰ _{5/2,7/2} - 5d ² D _{3/2,5/2}	0.4	
2450.39	?		0.2	
2450.452	?		1.1	
2450.574	?		0.3	
2450.65	?		0.1	
2450.77	?		0.3	
2450.986	C	3d ³ P ⁰ ₁ - 4p ¹ D ₂	3.4	
2451.08	?		bs 0.1	
2452.176	?		0.3	
2452.24	?		0.1	
2452.290	?		0.2	
2452.415	?		0.4	
2453.110	?		0.4	
2453.30	S(?)	5p ³ P ₂ - 6s ³ S ⁰ ₁	<<1	
2453.355	OH	(1-0) P1F 23.5	0.8	

2454-2462 cm^{-1}

2454.405	OH	(3-2)	P1F 18.5	0.6	?
2454.471	?			0.4	
2454.591	OH	(1-0)	P2E 22.5	0.8	
2455.533	OH	(1-0)	P1E 23.5	0.8	
2455.95	?			0.6	
2456.081	OH	(3-2)	P1E 18.5	0.5	
2456.370	OH	(3-2)	P2E 17.5	b 0.4	
2456.370	OH	(1-0)	P2F 22.5	b 0.8	
2456.554	Fe	$v^5P_3 - f^5D_4$		1.5	
2456.890	?			0.1	
2457.074	Si	$4d^3P_0 - 4f^2[1\frac{1}{2}]'_1$		7.6	
2457.24	?			0.1	
2457.591	?			0.3	
2457.666	OH	(3-2)	P2F 17.5	bs 0.5	
2457.69	Si	$4d^3P_0 - 4f^2[1\frac{1}{2}]_2$		b <<1	
2457.761	Si	$5s^1P_1 - 5p^3P_1$		5.2	
2458.792	C	$3d^3P_2 - 4p^1D_2$		1.9	
2458.983	?			0.4	
2459.24	?			0.4	
2459.474	?			0.4	
2459.677	?			0.3	
2459.760	?			0.3	
2459.84	?			0.3	
2460.01	CH	(2-1)	P2F 4.5	b 0.2	
2460.135	Fe			10.2	
2460.270	?			s 0.3	
2460.44	CH	(2-1)	P2E 4.5	0.4	
2460.51	CH	(2-1)	P1E 5.5	b 0.3	
2460.547	?			b 0.3	
2460.894	CH	(2-1)	P1F 5.5	0.4	
2461.75	?			0.3	
2461.943	?			0.4	

2462-2470 cm⁻¹

2462.020	?			0.4	?
2462.13	?			0.3	?
2462.527	Si	4f [1½]' ₂ - 5g [2½]		0.3	
2462.603	?			0.8	?
2462.86	?			0.3	?
2463.233	Si	4f [1½]' ₂ - 5g [2½]'		10.9	
2463.30	?			bs <1	
2463.46	OH	(4-3) P1F 15.5		bs 0.2	
2463.70	?			bs <0.3	
2463.852	Si	4f [1½]' ₁ - 5g [2½]'		9.2	
2464.095	Si	4d ³ D ₂ - 3d ³ P ₁		bs 0.7	
2464.095	Fe	e ⁵ P ₃ - ⁵ D ₄			
2464.20	?			0.1	?
2464.812	OH	(4-3) P1E 15.5		0.2	
2466.133	OH	(4-3) P2E 14.5		0.2	
2466.57	Fe			bs	
2466.612	Si	5s ³ P ₁ - 5p ¹ P ₁		6.7	
2467.15	OH	(4-3) P2F 14.5		bs 0.2	
2467.75	H	(4-5) broad		14.2	
2468.540	Si	5p ³ S ₁ - nd a ³ P ₁		6.1	
2469.004	?			0.1	?
2469.198	Fe	t ⁵ D ₄ - h ⁵ D ₃		0.5	
2469.585	?			0.3	?

2470-2478 cm⁻¹

2470.994	?			0.4	?
2472.611	Na	4f ² F ⁰ - 5g ² G		11.0	
2473.13	?			0.2	?
2473.20	?			0.1	?
2473.720	?			0.3	?
2474.096	Fe	5p x ⁵ P ₂ - e ⁵ D ₂		0.3	
2475.510	?			0.2	?
2475.80	?			0.2	?
2476.065	Fe			3.8	
2476.223	C	4f [2½]' ₂ - 5g [3½]'		2.3	
2476.365	C	4f [2½]' ₃ - 5g [3½]'		1.6	
2477.479	?			0.1	?
2477.54	?			0.1	?

2486-2494 cm⁻¹

2486.263	?			2.0	?
2486.645	?			1.0	?
2487.038	Fe			1.2	
2487.160	?			s 0.6	?
2487.23	OH			bs 0.7	
2487.279	Si	(2-1)	P2E 19.5	3.5	
2487.390	?	4f [4 $\frac{1}{2}$] ⁴	- 5g [4 $\frac{1}{2}$] ⁴	0.9	?
2487.518	OH	(2-1)	P1E 20.5	0.8	
2487.784	?			0.3	?
2487.910	?			0.8	?
2488.290	?			1.1	?
2488.382	?			0.4	?
2488.743	OH	(2-1)	P2F 19.5	0.8	
2488.862	Si	5p ³ D ₂	- 6s ($\frac{3}{2}$, $\frac{1}{2}$) ⁰	1.6	
2489.286	Si	5s ³ P ₂	- 5p ³ D ₂	5.1	
2489.448	K	4f ² F _{5/2,7/2}	- 5g ² G _{7/2,9/2}	2.3	
2489.84	?			0.3	?
2490.043	?			3.1	?
2490.218	Si	4d ³ P ₁	- 4f ² [1 $\frac{1}{2}$] ¹	6.6	
2490.539	?			0.5	
2490.70	?			bs <<1	?
2490.76	Si	4f [4 $\frac{1}{2}$] ⁵	- 5g [4 $\frac{1}{2}$] ⁴	bs <1	
2490.839	Si	4d ³ P ₁	- 4f ² [1 $\frac{1}{2}$] ²	9.5	
2491.019	CH	(2-1)	P2F 3.5	b 0.2	
2491.33	CH	(2-1)	P1E 4.5	0.2	
2491.832	CH	(2-1)	P2E 3.5	0.3	
2492.007	?			0.8	?
2492.127	CH	(2-1)	P1F 4.5	0.4	
2492.365	Cr	b ⁵ D ₃	- z ⁵ P ₂	0.3	
2492.496	?			0.1	?
2493.136	Fe	v ⁵ F ₄	- f ⁵ D ₄	b <1	
2493.136	Si	5p ¹ P ₁	- 6s ($\frac{1}{2}$, $\frac{1}{2}$) ⁰	5.3	
2493.465	?			0.4	?
2493.573	C	3d ³ D ₂	- 4p ³ D ₂	0.6	
2493.98	?			0.2	?

2494-2502 cm⁻¹

2494.080	C	4p ³ P ₂ - 4d ³ D ₂ ⁰	0.9	?
2494.407	C	4p ³ P ₁ - 4d ³ D ₁ ⁰	1.2	?
2494.55	?		0.5	?
2494.64	?		0.2	?
2494.819	?		1.2	?
2495.041	?		0.6	?
2495.220	?		0.6	?
2495.436	?		1.1	?
2495.645	?		2.3	?
2495.772	Sc	Y ⁴ F _{9/2} ⁰ - e ⁴ F _{7/2}	0.6	?
2495.843	?		0.7	?
2496.099	?		4.9	?
2496.738	?		1.5	?
2497.001	?		0.5	?
2497.11	?		0.9	?
2497.203	?		0.9	?
2497.300	?		bs 0.3	?
2497.341	?		0.5	?
2497.638	?		0.5	?
2497.823	?		2.0	?
2497.872	?		2.0	?
2498.013	Ca	6d ³ D ₃ - 8f ³ F ₄ ⁰	0.9	?
2498.16	?		0.1	?
2498.42	?		0.6	?
2498.530	?		0.4	?
2498.647	?		0.5	?
2498.78	?		0.1	?
2498.877	?		0.2	?
2499.102	C	4f [³ ₂] ⁴ ' ₄ - 5g [⁴ ₂] ¹ ' ₄	bs 1.2	?
2499.207	Si	4d ³ D ₃ ⁰ - 5f [⁴ ₂] ¹ ' ₄	1.8	?
2499.358	C	4f [³ ₂] ¹ ' ₃ - 5g [⁴ ₂] ¹ ' ₄	7.2	?
2499.545	Si	4d ³ P ₂ ⁰ - 4f ² [¹ ₂] ¹ ' ₁	1.3	?
2499.735	Ti(?)		2.4	?
2500.027	?		5.2	?
2500.162	Si	4d ³ P ₂ ⁰ - 4f ² [¹ ₂] ¹ ' ₂	6.4	?
2500.375	Fe		5.7	?
2500.540	?		5.0	?
2500.609	Si	5p ³ S ₁ - 4d a ³ P ₀	5.9	?
2500.848	?		1.2	?
2500.95	C	4f [³ ₂] ¹ ' ₄ - 5g [⁴ ₂] ¹ ' ₄	b 6.1	?
2500.98	C	4f [³ ₂] ¹ ' ₃ - 5g [⁴ ₂] ¹ ' ₄	b 6.1	?
2501.14	?		bs <1	?
2501.262	?		1.1	?
2501.618	?		0.1	?
2501.796	Ti(?)		1.7	?
2501.893	?		1.1	?

2502-2510 cm⁻¹

2502.04	?				0.1	?
2502.127	Cr	b 4s ⁵ D ₂ - z 4p ⁵ P ₁			1.1	
2502.213	?				0.5	
2502.332	?				3.8	
2502.415	?				0.8	
2502.552	?				0.2	
2502.777	Si	5p ¹ D ₂ - 5d ¹ D ₂ , 4d ¹ P ₁ ⁰ - 5f ² [2 ₂ ¹] ₂			8.4	
2503.002	?				0.4	
2503.178	?				1.4	
2503.242	?				1.3	
2503.595	?				1.0	
2503.721	?				0.2	
2503.994	CH	(4-3) R1F 6.5			0.3	
2504.393	CH	(4-3) R2E 5.5			0.4	
2504.393	CH	(4-3) R1E 6.5			0.4	
2504.542	?				1.3	
2504.803	C	4p ³ P ₂ - 4d ³ D ₃			2.0	
2505.050	?				2.2	
2505.12	Cr	b 4s ⁵ D ₄ - z 4p ⁵ P ₃			0.3	
2505.325	OH	(3-2) P1F 17.5			0.5	
2505.383	?				1.1	
2505.51	?				0.3	
2505.579	Fe	c ³ F ₄ - z ³ G ₅			4.2	
2505.689	?				1.2	
2505.838	?				1.0	
2505.943	?				0.4	
2506.059	?				1.8	
2506.181	?				2.4	
2506.275	?				0.3	
2506.344	?				0.8	
2506.406	?				0.5	
2506.498	?				1.8	
2506.771	?				2.4	
2506.894	OH	(3-2) P1E 17.5			0.4	
2507.003	C	4f [2 ₂ ¹] ₂ - 5g [3 ₂ ¹]			5.4	
2507.109	C	4f [2 ₂ ¹] ₃ - 5g [3 ₂ ¹]			2.0	
2507.260	?				0.8	
2507.367	?				1.1	
2507.43	OH	(3-2) P2E 16.5			0.5	
2507.505	?				1.0	
2507.55	?				0.3	
2507.628	?				2.1	
2507.875	?				0.8	
2508.022	?				1.9	
2508.100	?				4.9	
2508.157	?				4.7	
2508.22	?				0.3	
2508.445	?				4.7	
2508.66	OH	(3-2) P2F 16.5			0.5	
2508.697	Fe				3.6	
2508.78	?				0.1	
2508.929	Na	4d ² D _{3/2,5/2} - 5f ² F _{5/2,7/2} ⁰			6.3	
2509.053	?				1.0	
2509.160	C	4p ³ P ₀ - 4d ³ D ₁			3	

2502-2510 cm^{-1} (Continued)

2509.35	?			0.2	?
2509.562	?			2.0	?
2509.63	OH	(1-0)	P1F 22.5	b 1	
2509.678	?			b 0.6	?
2509.79	?			0.2	?
2509.832	?			0.2	?
2509.926	?			0.2	?

2510-2518 cm⁻¹

2510.09	?				0.2	?
2510.288	?				3.8	?
2510.753	?				3.2	?
2510.874	?				0.5	?
2510.953	OH	(4-3)	P1F 14.5		b 0.2	
2510.953	OH	(1-0)	P2E 21.5		b 1	
2511.067	?				0.4	?
2511.211	?				2.8	?
2511.36	?				0.1	?
2511.504	?				4.4	?
2511.737	OH	(1-0)	P1E 22.5		b 1	
2511.830	?				4.1	?
2512.026	?				0.2	?
2512.22	OH	(4-3)	P1E 14.5		bs 0.2	
2512.395	Si	4f [4 ₂ ¹] ₄ - 5g [5 ₂ ¹] ₁ '			10.7	
2512.597	?				b 2*	?
2512.66	OH	(1-0)	P2F 21.5		bs 1	
2512.777	?				1.5	?
2512.898	?				3.1	?
2513.019	?				1.0	?
2513.116	?				0.4	?
2513.273	?				0.5	?
2513.587	CH	(1-0)	P2F 6.5		0.4	
2513.656	?				0.3	?
2513.857	CH	(1-0)	P1E 7.5		b <1	
2513.90	OH	(4-3)	P2E 13.5		b 0.2	
2513.970	Ti				2.0	
2514.180	CH	(1-0)	P2E 6.5		b <1	
2514.423	CH	(1-0)	P1F 7.5		0.6	
2514.851	OH	(4-3)	P2F 13.5		0.2	
2515.376	Cr	b 4s ⁵ D ₁ - z 4p ⁵ P ₁			0.4	
2515.890	Si	4f [4 ₂ ¹] ₅ - 5g [5 ₂ ¹] ₁ '			12.4	
2516.096	Fe	4p x ⁵ P ₁ ⁰ - e ⁵ D ₀			bs <1	
2516.365	C	3d ³ D ₃ ⁰ - 4p ³ D ₃			0.7	?
2516.44	?				0.1	?
2516.650	?				1.1	?
2517.230	?				0.3	?
2517.92	?				0.2	?

2518-2526 cm^{-1}

2518.08	?			0.2	?
2518.644	Si	4f [2 $\frac{1}{2}$] $'_2$ - 5g [3 $\frac{1}{2}$] $'$		10.9	
2518.862	?			s 0.1	?
2518.93	?			0.1	?
2519.576	Si	4f [2 $\frac{1}{2}$] $'_3$ - 5g [3 $\frac{1}{2}$] $'$		11.5	
2519.91	?			0.1	?
2520.037	CH	(4-3) R1F 7.5		0.3	
2520.194	?			1.1	?
2520.331	CH	(4-3) R2E 6.5		0.3	
2520.455	CH	(4-3) R1E 7.5		0.5	
2520.553	?			0.6	?
2520.67	CH	(2-1) P2F 2.5		0.1	
2520.756	CH	(4-3) R2F 6.5		0.3	
2520.81	?			0.1	?
2520.91	CH	(2-1) R2E 2.5		0.1	
2521.380	?			1.5	?
2521.609	?			0.7	?
2521.702	?			0.1	?
2522.046	?			0.2	?
2522.373	CH	(2-1) P1E 3.5		0.3	
2522.472	?			0.1	?
2522.58	CH	(2-1) P1F 3.5		0.2	
2522.672	?			0.5	?
2522.91	?			0.1	?
2523.34	?			0.1	?
2523.78	Ca(?)	6p 3P_2 - 6d 3D_2		0.3	
2524.265	?			0.1	?
2524.531	?			0.6	?
2525.689	Ca	6p 3P_2 - 6d 3D_3		4.2	
2525.890	?			0.1	?

2526-2534 cm^{-1}

2526.304	?		0.1	?
2527.569	?		0.2	?
2528.078	?		0.1	?
2528.594	Fe	4p x $^5P^0_3$ - e 5D_3	0.9	
2528.71	Fe(?)	5s e 5D_3 - 4p w $^5G^0_4$	0.4	
2529.468	?		0.1	?
2530.308	Ca	6p $^3P^0_1$ - 6d 3D_1	4.6	
2530.308	Si	4d $^3D^0_2$ - 5f $[3^1_2]'$ ₃	b	
2530.422	?		s 0.3	?
2530.839	Fe(?)		b 7.8	
2530.839	Ca(?)	4f $^1F^0_3$ - 5g 1G_4	b 7.8	
2531.140	?		0.5	?
2531.266	?		0.1	?
2531.637	Si	4d $^1D^0_2$ - 4f $^2[3^1_2]'$ ₃	7.9	
2531.74	Ca	6p $^3P^0_1$ - 6d 3D_2	bs	
2532.487	?		0.1	?
2533.067	?		0.3	?
2533.132	?		0.1	?
2533.668	Si	4d $^1D^0_2$ - 4f $^2[3^1_2]'$ ₄	1.2	

2534-2542 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Species	Intensity
2534.162	6p ³ P ₀ - 6d ³ D ₁	Ca	0.6
2534.261		?	0.1
2534.435		?	1.7
2534.513		?	s 0.2
2534.743	(4-3) R1F 8.5	CH	0.3
2534.874		?	0.5
2534.98	(4-3) R2E 7.5	CH	bs 0.3
2535.069		Cr	1.1
2535.196	v ⁵ P ₂ - f ⁵ D ₂	Fe	0.8
2535.196	(4-3) R1E 8.5	CH	0.6
2535.410	5s ³ P ₀ - 5p ¹ P ₁	Si	2.8
2535.44	(4-3) R2F 7.5	CH	bs <<1
2535.764		?	0.8
2535.830		?	0.6
2536.426		?	0.5
2536.784		?	2.7
2537.08		?	0.1
2537.193		?	0.9
2537.786		?	0.3
2538.872		?	1.1
2539.080	(2-1) P1F 19.5	OH	1.0
2539.551		?	0.1
2539.730		?	1.5
2539.938		Cr	0.9
2540.017		?	0.1
2540.60	(2-1) P2F 1.5	CH	0.1
2540.71	(2-1) P2E 1.5	CH	0.1
2540.798	(2-1) P2E 18.5	OH	0.8
2540.885	(2-1) P1E 19.5	OH	0.9
2541.121		?	0.8
2541.337		?	0.2
2541.483		Fe	4.8
2541.652	4d ³ D ₁ - 5f ² [₂ '] ₂	Si	4.4

2542-2550 cm⁻¹

2542.038	?						0.5	?
2542.214	Si	5p ³ P ₂ - nd a ³ P ₁					4.0	
2542.214	OH	(2-1)	P2F 18.5			b 1		
2542.397	?					0.2		
2542.54	?					0.1		
2542.602	?					0.1		
2542.96	?					0.2		
2543.037	?					0.7		
2543.265	?					0.2		
2543.412	Si	4f [2 ₃] ¹ ₂ - 5g [2 ₃] ¹				b 0.2		
2543.50	?					2.8		
2543.686	?					b 0.5		
2543.807	?					0.5		
2544.156	?					0.3		
2544.342	Si	4f [2 ₃] ¹ ₃ - 5g [2 ₃] ¹				0.1		
2544.44	?					3.7		
2545.221	?					bs 0.1		
2545.453	Fe	(9/2) 4f [1 ₁] ₁ - (9/2) 5g [1 ₁] ₁				0.1		
2545.617	Fe	(9/2) 4f [1 ₁] ₂ - (9/2) 5g [2 ₁] ₂				1.5		
2545.72	?					0.8		
2545.820	?					1.0		
2545.87	?					s 0.2		
2546.343	Si	4p ³ D ₁ - 3d ³ P ₁				0.1		
2546.40	Fe	e ⁵ G ₆ - ⁵ G ₆ ⁰				0.4		
2546.629	Fe	(9/2) 4f [1 ₁] ₁ - (9/2) 5g [1 ₁] ₁				b <1		
2546.74	?					1.3		
2547.095	?					s 0.1		
2547.22	?					0.2		
2547.382	Fe	(9/2) 4f [1 ₁] ₂ - (9/2) 5g [1 ₁] ₂				0.1		
2547.581	CH	(1-0)	P2F 5.5			2.1		
2547.820	?					0.5		
2547.939	CH	(1-0)	P1E 6.5			0.4		
2548.038	?					0.5		
2548.08	CH	(1-0)	P2E 5.5			0.1		
2548.13	CH	(4-3)	R1F 9.5			0.3		
2548.340	CH	(4-3)	R2E 8.5			0.3		
2548.414	CH	(1-0)	P1F 6.5			bs 0.3		
2548.414	?					b 0.5		
2548.553	Fe	(9/2) 4f [1 ₁] ₂ - (9/2) 5g [1 ₁] ₂				1.4		
2548.622	CH	(4-3)	R1E 9.5			1.7		
2548.795	?					0.3		
2548.825	CH	(4-3)	R2F 8.5			bs 0.8		
2549.090	?					bs <<1		
2549.233	?					0.4		
						0.3		

2550-2558 cm⁻¹

2550.158	?								0.4	?
2550.206	?								0.4	?
2550.270	?								0.1	?
2550.35	?								0.2	?
2550.737	?								0.3	?
2550.84	?								0.6	?
2550.883	Fe	(9/2)	4f [7 $\frac{1}{2}$] _{8,7}	-	(9/2)	5g [6 $\frac{1}{2}$]			0.8	?
2551.670	?								0.3	?
2552.37	CH	(2-1)		P1E	2.5			bs	0.2	
2552.486	Fe	(9/2)	4f [7 $\frac{1}{2}$] _{8,7}	-	(9/2)	5g [7 $\frac{1}{2}$]			3.5	
2552.51	CH	(2-1)		P1F	2.5			b	0.1	
2552.719	?								0.6	?
2553.541	?								0.1	?
2553.714	Fe	(9/2)	4f [2 $\frac{1}{2}$] ₂	-	(9/2)	5g [3 $\frac{1}{2}$]			1.4	
2553.935	CH	(3-2)		R1F	2.5				0.3	
2554.040	Fe	(3/2)	4f [3 $\frac{1}{2}$] ₃	-	(3/2)	5g [3 $\frac{1}{2}$]			0.5	
2554.129	CH	(3-2)		R1E	2.5				0.1	
2554.581	?								0.4	?
2555.219	Fe	(3/2)	4f [3 $\frac{1}{2}$] ₄	-	(3/2)	5g [3 $\frac{1}{2}$]			1.1	
2555.558	Sc(?)		Y ⁴ F _{9/2} ⁰	-	e ⁴ F _{9/2}				5	
2555.558	Fe	(3/2)	4f [3 $\frac{1}{2}$] ₃	-	(3/2)	5g [4 $\frac{1}{2}$]				
2555.558	OH	(3-2)		P1F	16.5			b	0.5	
2555.777	Fe	(9/2)	4f [2 $\frac{1}{2}$] ₂	-	(9/2)	5g [2 $\frac{1}{2}$]			2.1	
2555.992	Fe	(9/2)	4f [2 $\frac{1}{2}$] ₃	-	(9/2)	5g [3 $\frac{1}{2}$]			2.1	
2555.992	CH	(3-2)		R2E	1.5			b <<1		
2556.20	CH	(3-2)		R2F	1.5			bs <<1		
2556.328	Al		4f ² F _{5/2} ⁰	-	5g ² G _{7/2}				10.1	
2556.374	Al		4f ² F _{7/2} ⁰	-	5g ² G _{9/2}				10.9	
2556.721	Fe	(3/2)	4f [3 $\frac{1}{2}$] ₄	-	(3/2)	5g [4 $\frac{1}{2}$]			4.7	
2556.943	Fe	(9/2)	4f [7 $\frac{1}{2}$] _{8,7}	-	(9/2)	5g [8 $\frac{1}{2}$]			11.3	
2557.06	OH	(3-2)		P1E	16.5			bs	0.5	
2557.38	?								0.3	?
2557.448	?								0.1	?
2557.53	Fe	(9/2)	4f [2 $\frac{1}{2}$] ₂	-	(9/2)	5g [1 $\frac{1}{2}$]		s	2.1	
2557.583	Si		4f [3 $\frac{1}{2}$] ₄	-	5g [3 $\frac{1}{2}$] _{3,4}				2.5	
2557.63	OH	(4-3)		P1F	13.5			bs	0.3	
2557.89	OH	(3-2)		P2E	15.5			b	0.5	
2557.913	Si		4f [3 $\frac{1}{2}$] ₄	-	5g [4 $\frac{1}{2}$]				12.4	

2558-2566 cm⁻¹

2558.044	Fe	(9/2) 4f [2 ₂] ₃ - (9/2) 5g [2 ₂]	bs 1 ⁺	?
2558.20	?		bs 0.1	
2558.817	OH	P1E 13.5	0.3	
2559.040	OH	P2F 15.5	0.4	
2559.15	?		0.3	
2559.49	?		b 0.3	
2559.58	?		1.8	
2559.61	Si	4f [3 ₂] ₃ - 5g [3 ₂]	1.9	
2559.81	Fe	(9/2) 4f [2 ₂] ₃ - (9/2) 5g [1 ₂]	bs 1	
2559.930	Si	4f [3 ₂] ₃ - 5g [4 ₂]	12.1	
2559.930	Fe	(5/2) 4f [3 ₂] ₃ - (5/2) 5g [2 ₂]	b	
2560.167	CH	(4-3) R1F 10.5	bs 0.2	
2560.362	CH	(4-3) R2E 9.5	0.4	
2560.689	CH	(4-3) R1E 10.5	0.3	
2560.869	CH	(4-3) R2F 9.5	b 0.3	
2560.925	OH	(4-3) P2E 12.5	0.2	
2561.048	Fe	(3/2) 4f [2 ₂] ₃ - (3/2) 5g [2 ₂]	0.7	
2561.224	Fe	(5/2) 4f [3 ₂] ₃ - (5/2) 5g [3 ₂]	1.4	
2561.776	OH	(4-3) P2F 12.5	s 0.2	
2561.849	Fe	3d ⁶ 4s4d e ⁵ G ₆ - 3d ⁷ 5p ⁵ F ^o ₅	1.2	
2562.101	Fe	(5/2) 4f [4 ₂] ₄ - (5/2) 5g [5 ₂]	b 6.9	
2562.101	Fe	(5/2) 4f [3 ₂] ₃ - (5/2) 5g [4 ₂]	b 6.9	
2562.20	?		bs 0.1	
2562.352	Fe	(5/2) 4f [4 ₂] ₄ - (5/2) 5g [4 ₂]	1.4	
2562.901	Fe	(5/2) 4f [3 ₂] ₄ - (5/2) 5g [3 ₂]	1.8	
2563.058	?		0.2	
2563.174	?		0.2	
2563.415	Fe	(5/2) 4f [4 ₂] ₅ - (5/2) 5g [5 ₂]	7.0	
2563.516	Fe	(7/2) 4f [1 ₂] ₂ - (7/2) 5g [2 ₂]	1.5	
2563.645	Fe	(7/2) 4f [6 ₂] ₆ - (7/2) 5g [5 ₂]	b 0.7	
2563.645	Fe	(5/2) 4f [4 ₂] ₅ - (5/2) 5g [4 ₂]	0.7	
2563.773	Fe	(5/2) 4f [3 ₂] ₄ - (5/2) 5g [4 ₂]	5.7	
2563.773	Fe	(3/2) 4f [2 ₂] ₂ - (3/2) 5g [3 ₂]	b	
2563.90	Fe	(7/2) 4f [1 ₂] ₂ - (7/2) 5g [1 ₂]	bs 1.2	
2563.90	Fe	(7/2) 4f [6 ₂] ₆ - (7/2) 5g [6 ₂]	s 1.2	
2564.095	Fe	(7/2) 4f [1 ₂] ₂ - (7/2) 5g [1 ₂]	1.2	
2564.539	?		0.1	
2564.763	Fe	(7/2) 4f [6 ₂] ₆ - (7/2) 5g [7 ₂]	9.3	
2564.763	Fe	(7/2) 4f [6 ₂] ₇ - (7/2) 5g [6 ₂]	b	
2564.763	Fe	(1/2) 4f [3 ₂] ₃ - (1/2) 5g [4 ₂]	b	
2564.763	Fe	(1/2) 4f [3 ₂] ₃ - (1/2) 5g [3 ₂]	b	
2564.90	Fe	(7/2) 4f [2 ₂] ₂ - (7/2) 5g [3 ₂]	bs 0.2	
2565.22	Fe	(9/2) 4f [3 ₂] ₃ - (9/2) 5g [4 ₂]	b 2.2	
2565.22	Si	4d ³ D ^o ₂ - 5f ² [2 ₂] ₃ '	2.2	
2565.333	Fe	(7/2) 4f [2 ₂] ₂ - (7/2) 5g [2 ₂]	b 6.1	
2565.333	Fe	(3/2) 4f [2 ₂] ₃ - (3/2) 5g [3 ₂]	6.1	
2565.508	OH	(1-0) P1F 21.5	1.1	
2565.606	Fe	(7/2) 4f [6 ₂] ₇ - (7/2) 5g [7 ₂]	8.4	
2565.723	Fe	(7/2) 4f [2 ₂] ₂ - (7/2) 5g [1 ₂]	s 1.4	
2565.858	?		0.7	
2565.972	Si	4d ³ D ^o ₂ - 5f ² [2 ₂] ₂ '	1.3	

2566-2574 cm⁻¹

2566.092	?								0.4	?
2566.343	Fe	(1/2)	4f [2 ₂] ₂	-	(1/2)	5g [3 ₂]			2.9	
2566.559	Fe	(9/2)	4f [3 ₂] ₄	-	(9/2)	5g [4 ₂]			6.1	
2566.559	Fe	(1/2)	4f [3 ₂] ₄	-	(1/2)	5g [4 ₂]			b	
2566.559	Fe	(5/2)	4f [2 ₂] ₃	-	(5/2)	5g [2 ₂]			b	
2566.559	Fe	(1/2)	4f [3 ₂] ₄	-	(1/2)	5g [3 ₂]			b	
2566.656	Fe	(1/2)	4f [2 ₂] ₃	-	(1/2)	5g [3 ₂]			2.7	
2566.772	Si(?)	4p ¹ P ₁	-	3d ³ F ₂					1.2	
2566.928	OH	(1-0)		P2E	20.5				1.1	
2567.004	Fe	(5/2)	4f [2 ₂] ₂	-	(5/2)	5g [1 ₂]			0.5	
2567.203	Fe	(7/2)	4f [3 ₂] ₃	-	(7/2)	5g [4 ₂]			3.0	
2567.203	Fe	(9/2)	4f [3 ₂] ₃	-	(9/2)	5g [3 ₂]			b	
2567.306	?								s 0.1	?
2567.472	Fe	(7/2)	4f [2 ₂] ₃	-	(7/2)	5g [3 ₂]			1.2	
2567.537	OH	(1-0)		P1E	21.5				bs 1	
2567.614	Fe	(7/2)	4f [3 ₂] ₃	-	(7/2)	5g [3 ₂]			2.1	
2567.676	?								2.3	?
2567.840	Fe	(7/2)	4f [3 ₂] ₄	-	(7/2)	5g [4 ₂]			4.7	
2567.840	Fe(?)	3d ⁵ 4s ² 4p v ⁵ P ₃	-	3d ⁶ 4s4d f ⁵ D ₃					b 4.7	
2567.91	Fe	(5/2)	4f [2 ₂] ₃	-	(5/2)	5g [3 ₂]			bs 0.2	
2567.91	Fe	(7/2)	4f [2 ₂] ₃	-	(7/2)	5g [2 ₂]			bs 0.2	
2568.054	Fe	(7/2)	4f [3 ₂] ₃	-	(7/2)	5g [2 ₂]			2.0	
2568.199	Fe	(7/2)	4f [3 ₂] ₄	-	(7/2)	5g [3 ₂]			1.1	
2568.287	Ti	a ³ D ₁	-	z ³ D ₁					b 1.5	
2568.287	Fe	(5/2)	4f [2 ₂] ₂	-	(5/2)	5g [2 ₂]			b 1.5	
2568.287	Fe	(7/2)	4f [2 ₂] ₃	-	(7/2)	5g [1 ₂]			b 1.5	
2568.487	Fe	(9/2)	4f [3 ₂] ₄	-	(9/2)	5g [3 ₂]			3.2	
2568.562	OH	(1-0)		P2F	20.5				bs 1	
2569.006	Fe	(7/2)	4f [5 ₂] ₅	-	(7/2)	5g [5 ₂]			1.9	
2569.16	Fe	(7/2)	4f [5 ₂] ₅	-	(7/2)	5g [4 ₂]			s 0.1	
2569.292	Fe	(9/2)	4f [3 ₂] ₃	-	(9/2)	5g [2 ₂]			b	
2569.292	Fe	(7/2)	4f [5 ₂] ₅	-	(7/2)	5g [6 ₂]			6.3	
2569.614	Fe	(7/2)	4f [4 ₂] ₄	-	(7/2)	5g [5 ₂]			b 2.1	
2569.614	Fe	(5/2)	4f [2 ₂] ₂	-	(5/2)	5g [3 ₂]			b 2.1	
2569.769	Fe	(7/2)	4f [4 ₂] ₄	-	(7/2)	5g [4 ₂]			2.9	
2570.022	Fe	(7/2)	4f [5 ₂] ₆	-	(7/2)	5g [5 ₂]			s 1 ⁺	
2570.109	Fe	(7/2)	4f [4 ₂] ₄	-	(7/2)	5g [3 ₂]			b	
2570.109	Fe	(5/2)	4f [5 ₂] ₅	-	(5/2)	5g [6 ₂]			5.4	
2570.308	Fe	(7/2)	4f [5 ₂] ₆	-	(7/2)	5g [6 ₂]			6.3	
2570.554	Fe	(5/2)	4f [1 ₂] ₂	-	(5/2)	5g [1 ₂]			2.1	
2570.554	Fe	(9/2)	4f [3 ₂] ₄	-	(9/2)	5g [2 ₂]			b	
2570.85	CH	(4-3)		R1F	11.5				bs <<1	
2571.005	Si	4f [2 ₂] ₂	-	5g [3 ₂]					12.1	
2571.005	Fe	(7/2)	4f [4 ₂] ₅	-	(7/2)	5g [5 ₂]			b	
2571.147	Fe	(5/2)	4f [5 ₂] ₆	-	(5/2)	5g [6 ₂]			b 7.8	
2571.147	Fe	(7/2)	4f [4 ₂] ₅	-	(7/2)	5g [4 ₂]			b	
2571.392	CH	(4-3)		R1E	11.5				0.3	
2571.547	CH	(4-3)		R2F	10.5				0.3	
2571.547	Fe	(7/2)	4f [4 ₂] ₅	-	(7/2)	5g [3 ₂]			b	
2571.739	Fe	(3/2)	4f [4 ₂] ₄	-	(3/2)	5g [5 ₂]			5.2	
2571.816	Fe	(5/2)	4f [1 ₂] ₂	-	(5/2)	5g [2 ₂]			2.0	
2572.101	Si	4f [2 ₂] ₃	-	5g [3 ₂]					11.3	
2572.23	Fe	(5/2)	4f [5 ₂] ₅	-	(5/2)	5g [5 ₂]			s 0.5	
2572.750	?								0.2	
2572.880	Fe	(3/2)	4f [4 ₂] ₅	-	(3/2)	5g [5 ₂]			6.4	
2573.052	?								1.0	?
2573.138	Fe	(9/2)	4f [6 ₂] ₆	-	(9/2)	5g [6 ₂]			2.1	

2573.266	Si(?)	4p 1S_0 - 3d $^3D^0_1$			b 1.3
2573.266	Fe	(5/2) 4f $[5\frac{1}{2}]_6$ -	(5/2) 5g $[5\frac{1}{2}]$		b 1.3
2573.395	Fe	(3/2) 4f $[1\frac{1}{2}]_2$ -	(3/2) 5g $[2\frac{1}{2}]$		1.0
2573.395	Fe	(9/2) 4f $[6\frac{1}{2}]_6$ -	(9/2) 5g $[5\frac{1}{2}]$		b
2573.658	?				0.2

2574-2582 cm⁻¹

2574.330	CH	(4-3)	R1F 23.5	0.3	
2574.37	CH	(4-3)	R2E 22.5	0.2	
2574.58	CH	(4-3)	R1E 23.5	b 0.3	
2574.58	CH	(4-3)	R2F 22.5	b 0.3	
2574.763	Fe	(9/2)	4f [6 $\frac{1}{2}$] ₆ - (9/2)	5g [7 $\frac{1}{2}$]	7.4
2574.958	Fe	(9/2)	4f [4 $\frac{1}{2}$] ₄ - (9/2)	5g [5 $\frac{1}{2}$]	3.9
2575.160	Fe	(9/2)	4f [4 $\frac{1}{2}$] ₅ - (9/2)	5g [5 $\frac{1}{2}$]	4.7
2575.508	Fe	(9/2)	4f [6 $\frac{1}{2}$] ₇ - (9/2)	5g [6 $\frac{1}{2}$]	3.2
2575.763	Fe	(9/2)	4f [6 $\frac{1}{2}$] ₇ - (9/2)	5g [5 $\frac{1}{2}$]	0.3
2576.012	Fe	(3/2)	4f [4 $\frac{1}{2}$] ₄ - (3/2)	5g [4 $\frac{1}{2}$]	0.4
2576.07	CH	(3-2)	R1F 3.5	0.3	
2576.30	CH	(3-2)	R1E 3.5	bs <<1	
2576.359	Fe	(9/2)	4f [4 $\frac{1}{2}$] ₄ - (9/2)	5g [4 $\frac{1}{2}$]	3.4
2576.50	?	(9/2)	4f [4 $\frac{1}{2}$] ₅ - (9/2)	5g [4 $\frac{1}{2}$]	bs 1
2576.557	Fe	(9/2)	4f [4 $\frac{1}{2}$] ₅ - (9/2)	5g [4 $\frac{1}{2}$]	4.0
2576.661	?				2.1
2576.893	?				2.0
2577.004	?				s 0.2
2577.139	Fe	(9/2)	4f [6 $\frac{1}{2}$] ₇ - (9/2)	5g [7 $\frac{1}{2}$]	8.0
2577.139	Fe	(3/2)	4f [4 $\frac{1}{2}$] ₅ - (3/2)	5g [4 $\frac{1}{2}$]	b
2577.139	CH	(3-2)	R2E 2.5	b <<1	
2577.269	?				s 0.2
2577.393	CH	(3-2)	R2F 2.5	b <<1	
2577.932	?				0.4
2578.320	Fe	(9/2)	4f [4 $\frac{1}{2}$] ₄ - (9/2)	5g [3 $\frac{1}{2}$]	1.0
2578.542	Fe	(9/2)	4f [5 $\frac{1}{2}$] ₅ - (9/2)	5g [6 $\frac{1}{2}$]	6.0
2578.542	Fe	(9/2)	4f [4 $\frac{1}{2}$] ₅ - (9/2)	5g [3 $\frac{1}{2}$]	b
2578.790	Fe	(9/2)	4f [5 $\frac{1}{2}$] ₅ - (9/2)	5g [5 $\frac{1}{2}$]	3.6
2580.13	CH	(4-3)	R1F 12.5	bs <<1	
2580.203	Fe	(9/2)	4f [5 $\frac{1}{2}$] ₅ - (9/2)	5g [4 $\frac{1}{2}$]	4.3
2580.27	CH	(4-3)	R2E 11.5	bs <<1	
2580.65	CH	(1-0)	P2F 4.5	bs <1	
2580.742	Fe	(9/2)	4f [5 $\frac{1}{2}$] ₆ - (9/2)	5g [6 $\frac{1}{2}$]	6.6
2580.81	CH	(4-3)	R2F 11.5	bs <<1	
2580.987	Fe	(9/2)	4f [5 $\frac{1}{2}$] ₆ - (9/2)	5g [5 $\frac{1}{2}$]	3.5
2581.06	CH	(1-0)	P2E 4.5	bs <1	
2581.200	CH	(1-0)	P1E 5.5	0.3	
2581.42	?				2.3
2581.581	CH	(1-0)	P1F 5.5	0.4	
2581.778	?				0.2
2581.86	?				0.1

2582-2590 cm⁻¹

2582.143	Si	4f [3 $\frac{1}{2}$] ₄ - 5g [4 $\frac{1}{2}$] ₁ '	12.2	?
2582.18	Ti	a ³ D ₂ - z ³ D ₂ ⁰	bs	
2582.363	Si	4p ³ D ₁ - 3d ³ P ₀ ⁰	0.9	
2582.363	Fe	(9/2) 4f [5 $\frac{1}{2}$] ₆ - (9/2) 5g [4 $\frac{1}{2}$] ₁	b 0.9	
2582.567	Al	5s ² S _{1/2} - 5p ² P _{1/2} ⁰	9.5	
2582.725	?		s 0.1	
2583.356	C	3d ³ F ₀ ² - 4p ³ D ₁	1.4	
2583.559	CH	(4-3) R1F 23.5	0.3	
2583.637	CH	(4-3) R2E 22.5	0.3	
2583.87	CH	(4-3) R1E 23.5	bs <<1	
2583.87	CH	(4-3) R2F 22.5	bs <<1	
2584.04	?		bs 0.2	
2584.200	Si	4f [3 $\frac{1}{2}$] ₃ - 5g [4 $\frac{1}{2}$] ₁ '	11.3	?
2584.34	?		bs 0.2	
2584.660	C	3d ³ F ₀ ⁴ - 4p ³ D ₃	2.0	
2584.95	Mg	6s ³ S ₁ - 7p ³ P ₀ ⁰	0.5	
2585.224	Mg	6s ³ S ₁ - 7p ³ P ₁ ⁰	1.1	
2585.508	?		bs 0.3	
2585.76	C	3d ³ F ₀ ³ - 4p ³ D ₂	s 1 ⁺	
2585.85	Ti	a ³ D ₃ - z ³ D ₃ ³	bs	
2585.96	Mg	6s ³ S ₁ - 7p ³ P ₂ ⁰	bs	
2586.006	Mg	4f ³ F ₀ ⁴ - 5g ³ G _{3,4,5}	19	
2586.047	Mg	4f ³ F ₃ ⁰ - 5g ³ G _{3,4}		
2586.10	Mg	4f ³ F ₂ ⁰ - 5g ³ G ₃		
2586.320	Mg	4f ¹ F ₃ ⁰ - 5g ¹ G ₄	18.5	
2586.900	?		0.3	
2587.952	?		0.8	
2588.012	CH	(4-3) R1F 13.5	b 0.2	
2588.128	CH	(4-3) R2E 12.5	0.4	
2588.472	Al	5s ² S _{1/2} - 5p ² P _{3/2} ⁰	12.5	
2588.546	Si	5p ³ P ₁ ⁰ - nd a ³ P ₂ ⁰	8.4	
2588.675	CH	(4-3) R2F 12.5	s 0.2	
2588.76	?		0.1	

a-4

2590-2598 cm⁻¹

2590.22	?					0.1	?
2590.888	Si	4d ³ D ₀ - 5f [1 ¹] ₁				0.5	
2590.94	?					0.2	?
2591.124	CH	(4-3)	R1F 22.5			0.2	
2591.186	CH	(4-3)	R2E 21.5			0.2	
2591.407	Si	4d ³ D ₀ - 5f ² [1 ¹] ₂				1.5	
2591.484	CH	(4-3)	R1E 22.5			bs <<1	
2591.53	CH	(4-3)	R2F 21.5			bs <1	
2591.987	OH	(2-1)	P1F 18.5			1.4	
2592.30	?					s 0.1	?
2592.489	Si	4f [3 ¹] ₄ - 5g [3 ¹] ₁				5.0	
2593.704	OH	(2-1)	P1E 18.5			1.1	
2593.854	OH	(2-1)	P2E 17.5			1.0	
2594.283	?					0.1	?
2594.445	CH	(4-3)	R1F 14.5			b 0.3	
2594.54	CH	(4-3)	R2E 13.5			b <1	
2594.553	Si	4f [3 ¹] ₃ - 5g [3 ¹] ₁				4.4	
2594.553	Fe(?)					b	
2594.994	CH	(4-3)	R1E 14.5			0.5	
2595.092	CH	(4-3)	R2F 13.5			b 0.4	
2595.185	?					3.0	?
2595.185	OH	(2-1)	P2F 17.5			b 1	
2595.35	?					0.2	?
2596.76	?					0.2	?
2596.874	CH	(3-2)	R1F 4.5			0.6	
2596.986	?					0.4	?
2597.04	CH	(4-3)	R1F 21.5			b <<1	
2597.11	CH	(4-3)	R2E 20.5			b <<1	
2597.171	CH	(3-2)	R1E 4.5			b <1	
2597.479	CH	(4-3)	R1E 21.5			b <<1	
2597.522	Ca	6p ¹ P ₀ - 6s ¹ S ₀				b	
2597.522	CH	(4-3)	R2F 20.5			b <<1	
2597.56	CH	(3-2)	R2E 3.5			bs <1	
2597.901	CH	(3-2)	R2F 3.5			0.4	

2598-2606 cm⁻¹

2598.252	?				0.2	?
2599.388	CH	(4-3)	R1F 15.5		0.5	
2599.478	CH	(4-3)	R2E 14.5		0.4	
2599.929	CH	(4-3)	R1E 15.5		0.4	
2600.019	CH	(4-3)	R2F 14.5		0.4	
2600.803	?				0.1	?
2600.965	?				2.0	?
2601.054	?				0.2	?
2601.386	CH	(4-3)	R1F 20.5		0.4	
2601.424	CH	(4-3)	R2E 19.5		0.3	
2601.806	CH	(4-3)	R1E 20.5		0.4	
2601.85	CH	(4-3)	R2F 19.5		0.4	
2601.992	?				1.6	?
2602.853	CH	(4-3)	R1F 16.5		0.5	
2602.932	CH	(4-3)	R2E 15.5		0.6	
2603.379	CH	(4-3)	R1E 16.5		0.5	
2603.477	CH	(4-3)	R2F 15.5		0.5	
2603.477	OH	(4-3)	P1F 12.5		0.4	
2604.076	CH	(4-3)	R1F 19.5		0.3	
2604.149	CH	(4-3)	R2E 18.5		0.3	
2604.234	?				0.2	?
2604.563	OH	(4-3)	P1E 12.5		0.6	
2604.563	CH	(4-3)	R1E 19.5		b <1	
2604.61	CH	(4-3)	R2F 18.5		b 0.4	
2604.801	CH	(4-3)	R1F 17.5		0.5	
2604.878	CH	(4-3)	R2E 16.5		0.4	
2605.019	?				0.3	?
2605.138	OH	(3-2)	P1F 15.5		0.5	
2605.22	CH	(4-3)	R1F 18.5		b <1	
2605.29	Fe(?)	t ⁵ D ₃ - h ⁵ D ₂			b 1	
2605.30	CH	(4-3)	R2E 17.5		b <1	
2605.30	CH	(4-3)	R1E 17.5		b <1	
2605.402	CH	(4-3)	R2F 16.5		0.4	
2605.713	CH	(4-3)	R1E 18.5		0.5	
2605.780	CH	(4-3)	R2F 17.5		0.4	

2606-2614 cm⁻¹

2606.004	?			0.1	?
2606.54	OH	(3-2)	P1E 15.5	bs 0.5	
2606.609	Si	4d ¹ D ₂ - 4f ² [2 ₂ '] ₃		2.4	
2606.934	?			0.3	?
2607.185	OH	(4-3)	P2E 11.5	b 0.3	
2607.539	Si	4d ¹ D ₂ - 4f ² [2 ₂ '] ₂		5.8	
2607.701	OH	(3-2)	P2E 14.5	0.5	
2607.790	?			0.1	?
2607.825	?			0.1	?
2607.877	?			0.5	?
2607.94	OH	(4-3)	P2F 11.5	0.2	
2607.998	?			0.1	?
2608.191	?			0.5	?
2608.749	OH	(3-2)	P2F 14.5	0.5	
2609.797	?			0.3	?
2611.344	?			0.3	?
2611.684	?			0.5	?
2611.943	?			0.6	?
2612.712	CH	(1-0)	P2F 3.5	0.2	
2613.068	CH	(1-0)	P2E 3.5	0.2	
2613.617	CH	(1-0)	P1E 4.5	0.3	
2613.919	CH	(1-0)	P1F 4.5	0.3	

2614-2622 cm⁻¹

2615.714	Si	4d ³ D ₂ - 5f[1 ₂ '] ₂		0.5	
2615.876	?			0.8	?
2616.431	CH	(3-2)	R1F 5.5	0.4	
2616.800	CH	(3-2)	R1E 5.5	0.5	
2616.920	CH	(3-2)	R2E 4.5	0.3	
2617.23	?			s 0.2	?
2617.301	CH	(3-2)	R2F 4.5	b <1	
2617.301	?			b 1.0	?
2619.10	CH	(3-2)	R2F 30.5	b <<1	
2619.10	CH	(3-2)	R1E 31.5	b <<1	
2619.137	C	3d ³ F ₃ - 4p ³ D ₃		b 0.8	
2619.165	Si	5p ³ D ₂ - 6s (³ / ₂ , ¹ / ₂) ₁		b 0.8	
2619.31	CH	(3-2)	R2E 30.5	b 0.4	
2619.31	CH	(3-2)	R1F 31.5	b 0.4	
2620.59	?			0.4	?
2620.686	?			0.1	?
2620.83	?			s 0.1	?
2620.881	?			s 0.1	?
2620.947	C(?)	5s ³ P ₂ - 5f [2 ₂] ₃		b 1.5	
2620.947	OH	(1-0)	P1F 20.5	b 1 ⁺	
2621.047	C(?)	5s ³ P ₂ - 5f [2 ₂] ₂		0.6	

2622-2630 cm⁻¹

2622.474	OH	(1-0)	P2E 19.5	1.1	?
2622.614	?			0.2	
2622.890	OH	(1-0)	P1E 20.5	1.3	
2624.035	OH	(1-0)	P2F 19.5	1.2	?
2624.714	?			0.3	?
2625.173	?			0.3	?
2627.514	?			0.3	?

2630-2638 cm⁻¹

2630.122	Mg	6p ³ P ₁ - 9s ³ S ₁		0.6	?
2630.822	?			0.3	
2630.978	?			0.1	?
2631.082	?			0.2	?
2631.42	Mg	6p ³ P ₂ - 9s ³ S ₁		0.5	
2631.462	?			b 0.2	?
2634.529	?			0.1	?
2634.725	CH	(3-2)	R1F 6.5	0.5	
2635.09	CH	(3-2)	R2E 5.5	b <1	
2635.12	CH	(3-2)	R1E 6.5	b <1	
2635.517	CH	(3-2)	R2F 5.5	0.5	
2635.517	C(?)	3d ³ F ₂ - 4p ³ D ₃		b	?
2636.129	?			0.2	?
2637.29	?			s 0.2	?
2637.324	?			0.3	?
2637.648	?			0.1	?
2637.75	?			0.1	?

2638-2646 cm⁻¹

2639.178	?				0.2	
2639.287	CH	(3-2)	R1E 30.5		b 0.3	
2639.287	CH	(3-2)	R2F 29.5		b 0.3	
2639.388	CH	(3-2)	R1F 30.5		b 0.4	
2639.388	CH	(3-2)	R2E 29.5		b 0.4	
2641.183	?				0.8	
2642.15	?				0.2	
2642.729	?				0.4	
2643.44	CH	(1-0)	P2F 2.5		b <<1	
2643.469	Ti				2.5	
2643.69	CH	(1-0)	P2E 2.5		0.2	
2644.307	OH	(2-1)	PIF 17.5		1.1	
2644.685	?				1.1	
2645.241	CH	(1-0)	P1E 3.5		0.2	
2645.470	CH	(1-0)	PIF 3.5		0.2	
2645.942	OH	(2-1)	P1E 17.5		1.1	

2646-2654 cm⁻¹

2646.346	OH	(2-1)	P2E 16.5		1.0	
2647.38	C	4p ³ S ₁ - 5s ³ P ₁			0.6	
2647.614	OH	(2-1)	P2F 16.5		0.9	
2648.441	OH	(4-3)	PIF 11.5		0.3	
2649.43	OH	(4-3)	P1E 11.5		0.3	
2649.634	?				0.3	
2651.741	CH	(3-2)	R1F 7.5		0.6	
2652.039	CH	(3-2)	R2E 6.5		0.5	
2652.180	CH	(3-2)	R1E 7.5		0.6	
2652.497	CH	(3-2)	R2F 6.5		0.5	
2652.63	OH	(4-3)	P2E 10.5		0.1	
2653.178	C	4s ³ P ₂ - 4p ³ D ₂			1.0	
2653.33	OH	(4-3)	P2F 10.5		s 0.1	
2653.463	?				0.5	
2653.50	?				0.4	
2653.58	?				s 0.2	
2653.979	OH	(3-2)	PIF 14.5		0.4	

2654-2662 cm⁻¹

2654.098	?			0.1	?
2654.22	?			0.1	?
2654.298	Fe			0.7	
2654.830	?			0.2	?
2655.287	OH		PIE 14.5	0.5	
2656.821	OH		P2E 13.5	0.5	
2656.881	CH		R1F 1.5	0.1	
2657.00	CH		R1E 1.5	0.1	
2657.69	CH		R1E 29.5	b 0.8	
2657.69	CH		R1F 29.5	b 0.8	
2657.69	CH		R2E 28.5	b 0.8	
2657.69	CH		R2F 28.5	b 0.8	
2657.803	OH		P2F 13.5	0.5	
2658.41	Si		5p ³ D ₁ - 6s ($\frac{3}{2}, \frac{1}{2}$) ₁ ⁰	3.8	
2659.562	C(?)		5s ³ P ₁ - 5f [2 $\frac{1}{2}$] ₂	0.5	?
2661.431	?			0.1	?
2661.567	?			0.6	?

2662-2670 cm⁻¹

2662.803	?			0.2	?
2663.812	?			0.3	?
2664.435	Si		5s ³ P ₁ - 5p ³ D ₁	3.3	
2664.73	CH		(1-0) P2F 1.5	0.1	
2664.88	CH		(1-0) P2E 1.5	0.1	
2665.693	C(?)		4s ³ P ₁ - 4p ³ D ₁	0.8	?
2666.449	?			0.4	?
2667.116	?			0.4	?
2667.23	?			0.2	?
2667.454	CH		(3-2) R1F 8.5	0.7	
2667.701	CH		(3-2) R2E 7.5	0.5	
2667.923	CH		(3-2) R1E 8.5	0.6	
2668.196	CH		(3-2) R2F 7.5	0.6	
2669.00	CH		(2-1) R2E 0.5	0.1	
2669.121	CH		(2-1) R2F 0.5	b 0.1	?
2669.121	?			1.8	?
2669.542	?			bs 0.5	?
2669.795	Si		5s ³ P ₂ - 5p ³ D ₃	18.3	?
2669.99	?			bs 0.1	?

2670-2678 cm⁻¹

2670.58	Si	4d ¹ F ₃ - 5f [3 $\frac{1}{2}$] ⁴	0.3	
2670.886	Si	5s ¹ P ₁ ⁰ - 5p ³ S ₁	0.4	
2673.40	H	(5-8) Broad	3	
2674.262	CH	(3-2) R1F 28.5	b 0.6	
2674.262	CH	(3-2) R2E 27.5	b 0.6	
2674.28	Fe(?)	e ⁵ F ₄ - 5p ⁷ F ₅	b	
2674.284	CH	(3-2) R1E 28.5	b 0.6	
2674.284	CH	(3-2) R2F 27.5	b 0.6	
2675.900	OH	(1-0) P1F 19.5	b 1.6	
2676.184	?		0.3	?
2676.336	CH	(1-0) P1E 2.5	b 0.2	
2676.518	CH	(1-0) P1F 2.5	b 0.2	
2676.939	Mg	5f ³ F _{2,3,4} - 8d ³ D _{1,2,3}	b 3.4	
2676.939	K	5p ² P _{3/2} ⁰ - 4d ² D _{5/2}	b 3.4	
2677.470	?		1.1	?
2677.53	C	4s ³ P ₀ ⁰ - 4p ³ D ₁	b	
2677.555	OH	(1-0) P2E 18.5	b 1.3	
2677.765	OH	(1-0) P1E 19.5	1.4	

2678-2686 cm⁻¹

2678.011	K	5p ² P _{3/2} ⁰ - 4d ² D _{3/2}	0.3	
2679.034	OH	(1-0) P2F 18.5	1.3	
2679.82	?		0.5	?
2680.797	?		0.3	?
2680.920	?		0.3	?
2681.296	?		0.2	?
2681.648	CH	(2-1) R1F 2.5	0.4	
2681.67	Si	5p ³ P ₁ ⁰ - 4d ³ P ₁ ⁰	b	
2681.846	CH	(2-1) R1E 2.5	b 0.2	
2681.846	CH	(3-2) R1F 9.5	0.8	
2682.051	CH	(3-2) R2E 8.5	0.5	
2682.356	CH	(3-2) R1E 9.5	0.6	
2682.577	CH	(3-2) R2F 8.5	0.6	
2683.50	Al	5d ² D _{5/2} ⁰ - 7p ² P _{3/2} ⁰	0.3	
2683.54	?		0.3	?
2683.75	CH	(2-1) R2E 1.5	0.2	
2683.873	?		0.9	?
2683.980	CH	(2-1) R2F 1.5	0.2	
2684.519	C	4s ³ P ₁ ⁰ - 4p ³ D ₂	2.6	
2684.94	?		0.2	?
2685.30	?		0.2	?
2685.62	?		0.3	?
2685.97	Al	5d ² D _{3/2} ⁰ - 7p ² P _{1/2} ⁰	bs <<1	

2686-2694 cm⁻¹

2686.023	C	4p ³ S ₁ - 5s ³ P ₀	1.2	
2686.518	C	4s ³ P ₀ - 4p ³ D ₃	3.6	
2687.086	?		0.3	?
2688.400	Fe		0.5	
2688.622	?		0.6	?
2689.069	CH	(3-2) R2E 26.5	b 0.6	
2689.069	CH	(3-2) R1F 27.5	b 0.6	
2689.181	CH	(3-2) R1E 27.5	b 0.6	
2689.181	CH	(3-2) R2F 26.5	b 0.6	
2689.415	?		1.2	?
2691.144	?		0.3	?
2691.76	C	5s ³ P ₀ - 5f [2 $\frac{1}{2}$] ₂	5.1	
2691.76	Mg	5g ^{1,3} G - 8h ^{1,3} H ⁰	b	
2692.42	OH	(4-3) P1F 10.5	0.1	
2693.172	?		0.5	?
2693.328	OH	(4-3) P1E 10.5	0.2	
2693.878	?		0.3	?

2694-2702 cm⁻¹

2694.788	Fe	e ⁵ D ₀ - v ⁵ P ₁	0.9	
2694.893	CH	(3-2) R1F 10.5	0.7	
2695.072	CH	(3-2) R2E 9.5	0.6	
2695.415	CH	(3-2) R1E 10.5	0.7	
2695.602	CH	(3-2) R2F 9.5	0.7	
2696.00	OH	(2-1) P1F 16.5	bs 1 ⁺	
2696.059	Fe		10.7	
2696.770	K	5p ² P ₀ ^{1/2} - 4d ² D _{3/2}	1.9	
2697.267	OH	(4-3) P2E 9.5	0.2	
2697.547	OH	(2-1) P1E 16.5	1.3	
2697.879	OH	(4-3) P2F 9.5	b 0.3	
2698.23	Si	3s ³ p ³ ³ D ₃ - 3s ² 3p4p ³ D ₁	b	
2698.237	OH	(2-1) P2E 15.5	1.2	
2698.37	?		0.9	?
2698.93	?		0.1	?
2699.426	OH	(2-1) P2F 15.5	1.2	
2699.43	Fe(?)	z ³ D ₁ - b ¹ D ₂	b	

2702-2710 cm⁻¹

2702.033	OH	(3-2)	P1F 13.5	0.7
2702.184	CH	(3-2)	R1F 26.5	b 0.6
2702.184	CH	(3-2)	R2E 25.5	b 0.6
2702.208	Ti(?)	4s a ³ D ₂ - 4p z ³ D ₃		b <1
2702.360	CH	(3-2)	R1E 26.5	b 0.7
2702.360	CH	(3-2)	R2F 25.5	b 0.7
2703.254	OH	(3-2)	P1E 13.5	0.7
2703.685	Si	5s ³ P ₁ - 5p ³ D ₂		17.6
2703.849	Ca	4f ³ F ₄ - 5g ³ G ₅		10.7
2704.286	Ca	4f ³ F ₃ - 5g ³ G ₄		8.6
2704.605	Ca	4f ³ F ₂ - 5g ³ G ₃		8.0
2704.794	CH	(2-1)	R1F 3.5	0.6
2705.052	CH	(2-1)	R1E 3.5	0.6
2705.123	?			0.1
2705.214	OH	(3-2)	P2E 12.5	0.7
2705.897	CH	(2-1)	R2E 2.5	0.3
2706.112	OH	(3-2)	P2F 12.5	0.6
2706.186	CH	(2-1)	R2F 2.5	0.3
2706.555	CH	(3-2)	R1F 11.5	0.7
2706.709	CH	(3-2)	R2E 10.5	0.7
2707.110	CH	(3-2)	R1E 11.5	0.8
2707.267	CH	(3-2)	R2F 10.5	0.7
2707.687	?			0.5
2708.106	CH	(2-1)	R1E 34.5	b 0.2
2708.106	CH	(2-1)	R2F 33.5	b 0.2
2708.537	CH	(2-1)	R1F 34.5	b 0.3
2708.537	CH	(2-1)	R2E 33.5	b 0.3
2709.318	?			0.3

2710-2718 cm⁻¹

2710.161	?			0.1	?
2712.20	?			0.1	?
2712.852	?			0.4	?
2713.618	CH	(3-2)	R2E 24.5	b 0.6	
2713.618	CH	(3-2)	R1F 25.5	b 0.6	
2713.73	?			0.1	?
2713.850	CH	(3-2)	R1E 25.5	b 0.8	
2713.850	CH	(3-2)	R2F 24.5	b 0.8	
2714.228	?			0.2	?
2714.320	?			0.1	?
2714.575	Si	5p ³ P ₀ - 4d ³ P ₁		2.0	
2715.502	Mg	5p ³ P ₂ - 5d ³ D _{2,3}		19.3	
2715.711	?			s 0.1	?
2716.42	?			0.1	?
2716.659	?			0.7	?
2716.834	CH	(3-2)	R1F 12.5	0.9	
2716.962	CH	(3-2)	R2E 11.5	0.8	
2717.410	CH	(3-2)	R1E 12.5	0.8	
2717.532	CH	(3-2)	R2F 11.5	0.9	

2718-2726 cm⁻¹

2718.165	Mg	5p ³ P ₁ - 5d ³ D _{1,2}		17.3	?
2718.604	?			0.1	?
2718.728	?			0.3	?
2719.319	Si	5p ³ D ₃ - nd a ³ P ₂		bs 1.2	
2719.474	Mg	5p ³ P ₀ - 5d ³ D ₁		12.2	
2719.63	?			s 0.3	?
2720.039	?			0.1	?
2722.100	?			0.3	?
2723.342	CH	(3-2)	R1F 24.5	b 0.6	
2723.383	CH	(3-2)	R2E 23.5	b 0.6	
2723.665	CH	(3-2)	R1E 24.5	bs <1	
2723.665	CH	(3-2)	R2F 23.5	bs <1	
2723.839	Si	4d ¹ F ₃ - 5f ² [4 ₂] ₄		9.3	
2724.105	?			0.2	?
2724.78	?			0.1	?
2725.259	?			0.5	?
2725.672	CH	(3-2)	R1F 13.5	0.8	
2725.799	CH	(3-2)	R2E 12.5	0.8	

2726-2734 cm⁻¹

2726.256	CH	(3-2)	R1E 13.5	0.9
2726.38	CH	(3-2)	R2F 12.5	b 0.9
2726.453	Si	3s3p ³ ³ D ₂ - 3s ² 3p4p ³ D ₁		4.9
2726.621	CH	(2-1)	R1F 4.5	0.6
2726.720	?			0.3
2726.927	CH	(2-1)	R1E 4.5	0.6
2727.09	?			0.2
2727.335	CH	(2-1)	R2E 3.5	0.6
2727.609	?			s 0.2
2727.660	CH	(2-1)	R2F 3.5	0.6
2728.73	?			0.7
2728.80	Al	5f ² F ⁰ - 8g ² G		bs 0.4
2729.703	Fe	e ⁵ D ₁ - v ⁵ F ⁰ ₂		0.2
2729.703	CH	(1-0)	Q22EF 1.5	b 0.1
2729.859	CH	(1-0)	Q11EF 2.5	bs 0.1
2729.933	?			1.6
2730.177	CH	(1-0)	Q22FE 1.5	0.1
2730.331	C(?)	5s ³ P ⁰ ₁ - 5f [2 ₁ '] ₂		b 1.6
2730.331	OH	(1-0)	P1F 18.5	b 1.6
2730.561	K	5p ² P ⁰ _{3/2} - 6s ² S _{1/2}		1.0
2731.182	?			0.7
2731.455	CH	(3-2)	R1F 23.5	b 0.6
2731.455	CH	(3-2)	R2E 22.5	b 0.6
2731.748	CH	(1-0)	Q11FE 1.5	0.1
2731.820	CH	(3-2)	R1E 23.5	b 0.8
2731.820	CH	(3-2)	R2F 22.5	b 0.8
2732.040	Fe	⁵ P ⁰ ₃ - f ⁵ D ₂		1.2
2732.119	OH	(1-0)	P1E 18.5	b 2.9
2732.119	OH	(1-0)	P2E 17.5	b 2.9
2732.332	CH	(2-1)	R2F 32.5	b 0.3
2732.332	CH	(2-1)	R1E 33.5	b 0.3
2732.64	CH	(2-1)	R1F 33.5	b 0.4
2732.64	CH	(2-1)	R2E 32.5	b 0.4
2732.907	?			0.1
2733.087	CH	(3-2)	R1F 14.5	bs 0.9
2733.19	CH	(3-2)	R2E 13.5	b 0.9
2733.232	Si	5s ³ P ⁰ ₁ - 5p ³ D ₁		14.8
2733.530	OH	(1-0)	P2F 17.5	b 1.8
2733.661	CH	(3-2)	R1E 14.5	0.9
2733.775	CH	(3-2)	R2F 13.5	0.9

2734-2742 cm⁻¹

2734.882	?			0.1	?
2735.433	OH	(4-3)	P1F 9.5	0.3	
2736.248	OH	(4-3)	P1E 9.5	0.2	
2737.934	CH	(3-2)	R1F 22.5	0.7	
2737.963	CH	(3-2)	R2E 21.5	0.7	
2738.26	?			0.2	
2738.356	CH	(3-2)	R1E 22.5	b 0.9	
2738.356	CH	(3-2)	R2F 21.5	b 0.9	
2739.021	CH	(3-2)	R1F 15.5	0.7	
2739.115	CH	(3-2)	R2E 14.5	0.7	
2739.603	CH	(3-2)	R1E 15.5	0.8	
2739.699	CH	(3-2)	R2F 14.5	0.8	
2739.799	?			0.3	
2740.641	?			0.1	
2740.745	?			1.5	
2741.049	OH	(4-3)	P2E 8.5	0.2	
2741.23	?			0.1	
2741.30	?			0.4	
2741.394	Fe	⁷ P ₄ ⁰ - e ⁷ D ₄		2.7	
2741.566	OH	(4-3)	P2F 8.5	bs 0.4	
				2.7	
				0.2	

2742-2750 cm^{-1}

2742.618	?					0.3	?
2742.787	CH	(3-2)	R1F 21.5			0.7	
2742.832	CH	(3-2)	R2E 20.5			0.7	
2743.113	?					0.1	
2743.226	Fe	$e \text{ } ^5\text{D}_4 - w \text{ } ^5\text{G}^0_5$				3.1	
2743.226	CH	(3-2)	R1E 21.5		b <1		
2743.27	CH	(3-2)	R2F 20.5		b <1		
2743.479	CH	(3-2)	R1F 16.5		0.9		
2743.562	CH	(3-2)	R2E 15.5		0.9		
2743.778	?				bs 0.3		
2743.890	Si	$3s3p^3 \text{ } ^3\text{D}^0_1 - 3s^23p \text{ } 4p \text{ } ^3\text{D}_1$			6.9		
2744.044	CH	(3-2)	R1E 16.5		0.8		
2744.130	CH	(3-2)	R2F 15.5		0.8		
2744.239	?				0.4		
2745.665	?				0.8		
2746.06	CH	(3-2)	R1F 20.5		b <1		
2746.10	C(?)	$5s \text{ } ^3\text{P}^0_1 - 5f \text{ } [1^1_2]_1$			b		
2746.110	CH	(3-2)	R2E 19.5		b <1		
2746.23	C(?)	$5s \text{ } ^3\text{P}^0_1 - 5f \text{ } [1^1_2]_2$			bs <<1		
2746.43	CH	(3-2)	R1F 17.5		bs <1		
2746.52	CH	(3-2)	R2E 16.5		bs <1		
2746.53	CH	(3-2)	R1E 20.5		b <1		
2746.57	CH	(3-2)	R2F 19.5		b <1		
2746.582	Si	$5p \text{ } ^3\text{P}^0_0 - nd \text{ } a \text{ } ^3\text{P}^0_0$			6		
2746.98	CH	(3-2)	R1E 17.5		bs <1		
2747.027	OH	(2-1)	P1F 15.5		b 1.5		
2747.05	CH	(3-2)	R2F 16.5		bs <1		
2747.185	CH	(2-1)	R1F 5.5		b 0.8		
2747.543	Na	$4d \text{ } ^2\text{D}_{3/2} - 6p \text{ } ^2\text{P}^0_{1/2}$			b		
2747.543	CH	(2-1)	R1E 5.5		b 0.8		
2747.686	CH	(2-1)	R2E 4.5		0.8		
2747.737	CH	(3-2)	R1F 19.5		b <1		
2747.792	CH	(3-2)	R2E 18.5		b <1		
2747.852	CH	(3-2)	R1F 18.5		b <1		
2747.919	CH	(3-2)	R2E 17.5		b <1		
2748.068	CH	(2-1)	R2F 4.5		0.8		
2748.240	CH	(3-2)	R1E 19.5		0.9		
2748.30	CH	(3-2)	R2F 18.5		b <1		
2748.333	?				b 1.2		
2748.39	CH	(3-2)	R1E 18.5		b <1		
2748.46	CH	(3-2)	R2F 17.5		b <1		
2748.472	OH	(2-1)	P1E 15.5		b 1.5		
2748.680	?				0.1		
2748.81	?				0.2		
2749.090	?				0.3		
2749.259	OH	(3-2)	P1F 12.5		b 0.7		
2749.491	OH	(2-1)	P2E 14.5		1.5		

2750-2758 cm⁻¹

2750.41	OH	(3-2)	P1E 12.5	b	0.7	
2750.596	OH	(2-1)	P2F 14.5		1.5	
2750.798	?				0.4	?
2751.837	Si	nd a ³ P ₂ - 6f [2 _{1/2}] ₃			0.3	
2752.151	?				1.4	?
2752.855	OH	(3-2)	P2E 11.5		0.5	
2753.664	OH	(3-2)	P2F 11.5		0.6	
2754.376	Fe			b		
2754.376	Si	4d ¹ F ₃ - 5f ² [1 _{1/2}] ₃		b	6.8	
2754.64	?				0.1	?
2754.740	CH	(2-1)	R1E 32.5	b	0.5	
2754.740	CH	(2-1)	R2F 31.5	b	0.5	
2754.983	CH	(2-1)	R1F 32.5	b	0.4	
2754.983	CH	(2-1)	R2E 31.5	b	0.4	
2755.356	?				0.2	?
2756.22	?				0.2	?

2758-2766 cm⁻¹

2758.240	?				0.1	?
2758.94	Si	5p ³ S ₁ - 5d ¹ D ₂			1.1	
2759.077	C	4p ³ P ₂ - 4d ³ P ₂			1.7	
2759.92	Si	3d ³ D ₃ - 5p ³ D ₂			4.4	
2760.41	?				0.7	?
2761.82	?				0.4	?
2763.35	?				0.2	?
2763.683	?				0.4	?
2764.401	?				0.2	?

2766-2774 cm⁻¹

2766.475	CH	(2-1)	R1F 6.5		0.9	
2766.597	?				0.4	?
2766.84	CH	(2-1)	R2E 5.5	b	1	
2766.84	Fe			b	1	
2766.88	CH	(2-1)	R1E 6.5	b	1	
2767.282	CH	(2-1)	R2F 5.5		0.6	
2772.05	?				0.4	?
2772.10	C	4p ³ P ₂ - 4d ³ P ₁			0.3	
2773.173	Si	3d ³ D ₂ - 5p ³ D ₁			3.7	
2773.876	Fe	v ⁵ F ₄ - e ⁵ G ₅			1.1	

2774-2782 cm⁻¹

2775.419	CH	(2-1)	R1E 31.5	b 0.4	?
2775.419	CH	(2-1)	R2F 30.5	b 0.4	
2775.560	CH	(2-1)	R1F 31.5	b 0.5	
2775.560	CH	(2-1)	R2E 30.5	b 0.5	
2776.889	Al	6s ² S _{1/2} - 7p ² P _{3/2} ⁰		0.2	?
2777.253	?			0.2	
2777.32	C	4p ³ P ₁ - 4d ³ P ₂ ⁰		0.2	
2777.379	OH	(4-3)	P1F 8.5	0.2	
2777.542	?			0.4	
2778.069	OH	(4-3)	P1E 8.5	0.2	
2778.40	?			0.2	
2780.36	?			0.4	
2780.44	Ca	4s4d ³ D ₃ - 3d4p ¹ F ₃		b <1	
2780.473	Si	3s 3p ³ ³ D ₃ ⁰ - 3s ² 3p 4p ³ D ₂		6.3	
2780.721	Fe	e ⁵ D ₁ - v ⁵ P ₁ ⁰		1.7	
2781.80	?			0.1	
2781.958	?			0.5	

2782-2790 cm⁻¹

2782.630	?			0.4	?
2783.395	?			0.2	
2783.44	?			0.3	
2783.943	OH	(4-3)	P2E 7.5	0.2	
2784.187	OH	(1-0)	P1F 17.5	1.9	
2784.36	?			1.5	
2784.37	OH	(4-3)	P2F 7.5	bs 0.2	
2784.475	CH	(2-1)	R1F 7.5	1.2	
2784.765	CH	(2-1)	R2E 6.5	0.7	
2784.926	CH	(2-1)	R1E 7.5	0.9	
2784.98	CH	(1-0)	R1F 1.5	bs 0.2	
2785.06	?			0.1	
2785.108	CH	(1-0)	R1E 1.5	0.1	
2785.244	CH	(2-1)	R2F 6.5	1.1	
2785.880	OH	(1-0)	P1E 17.5	1.9	
2786.152	OH	(1-0)	P2E 16.5	1.8	
2786.39	?			0.2	
2786.46	?			0.4	
2787.470	OH	(1-0)	P2F 16.5	1.7	
2787.73	?			0.1	
2787.89	Fe			b	
2787.896	Si	4f [3 ₁] ₃ - 5d ³ D ₃ ⁰		1.0	
2788.458	?			0.1	
2789.054	Fe	e ⁵ D ₂ - v ⁵ F ₃		1.4	

2790-2798 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Species	Intensity	Other
2790.326	4p ³ P ₁ - 4d ³ P ⁰ ₁	C	0.5	
2790.46		?	0.1	?
2790.56		?	0.1	?
2790.61		?	0.1	?
2790.68		?	s 0.4	?
2790.774		?	2.2	?
2790.911		?	0.2	?
2791.026		?	0.5	?
2791.106		?	1.6	?
2791.490		?	1.4	?
2791.598		?	2.5	?
2792.20		?	0.1	?
2792.37		?	0.2	?
2792.554		?	0.1	?
2793.000	3d ³ D ⁰ ₁ - 5p ³ D ₁	Si	1.5	
2793.373		?	0.1	?
2793.63		?	0.8	?
2793.762		?	1.4	?
2794.096		?	5.9	?
2794.345		CH	b 1	R2F 29.5
2794.345		CH	b 1	R1E 30.5
2794.428		CH	b 0.7	R1F 30.5
2794.428		CH	b 0.7	R2E 29.5
2794.91		?	0.3	?
2795.04		?	0.3	?
2795.39		?	s 0.2	?
2795.492	e ⁵ D ₁ - x ³ P ⁰ ₂	Fe(?)	0.8	
2795.628	(3-2) P1F 11.5	OH	0.6	
2796.638	4d ¹ P ⁰ ₁ - 5f ² [2 ₂] ¹ ₂	Si	1.5	
2796.638	(3-2) P1E 11.5	OH	b 0.7	
2796.900	(1-0) R2E 0.5	CH	0.1	
2797.01	(1-0) R2F 0.5	CH	0.1	
2797.322	(2-1) P1F 14.5	OH	1.5	
2797.650		?	0.9	?
2797.98		?	0.3	?

2798-2806 cm⁻¹

2798.03	?				0.5	?
2798.692	OH	(2-1)	P1E 14.5		1.5	
2799.700	OH	(3-2)	P2E 10.5		0.7	
2800.063	OH	(2-1)	P2E 13.5		1.2	
2800.420	OH	(3-2)	P2F 10.5		0.7	
2800.566	Si	5s ³ P ₂ - 5p ³ P ₁			2.6	
2801.087	OH	(2-1)	P2F 13.5		1.4	
2801.155	Fe	3d ⁶ 4s4p x ⁵ P ₁ - e ⁵ D ₂			b 1.3	
2801.155	CH	(2-1)	R1F 8.5		b 1	
2801.390	CH	(2-1)	R2E 7.5		0.8	
2801.654	CH	(2-1)	R1E 8.5		1.0	
2801.920	CH	(2-1)	R2F 7.5		0.8	
2803.690	?				0.1	?
2804.411	?				0.3	?
2805.08	C	4p ³ P ₀ - 4d ³ P ₀			0.3	

2806-2814 cm⁻¹

2807.38	?				0.1	?
2807.526	?				0.8	?
2807.672	?				0.1	?
2808.699	Si	3s3p ³ ³ D ₁ - 4p ³ D ₂			9.3	
2809.624	?				2.3	?
2809.99	Si	6p (³ / ₂ , ³ / ₂) ³ D ₃ - 7d ³ F ₄			1.8	?
2810.347	?				0.4	?
2810.801	CH	(1-0)	R1F 2.5		0.3	
2811.008	CH	(1-0)	R1E 2.5		0.3	
2811.279	?				0.8	?
2811.557	CH	(2-1)	R1E 29.5			
2811.557	CH	(2-1)	R1F 29.5			
2811.557	CH	(2-1)	R2E 28.5			
2811.557	CH	(2-1)	R2F 28.5			
2811.695	?					
2812.427	Si	3d ³ D ₂ - 5p ³ D ₂			0.1	?
2812.605	?				3.3	
2812.969	CH	(1-0)	R2E 1.5		0.2	?
2813.203	CH	(1-0)	R2F 1.5		0.3	
2813.724	?				0.3	?
2813.952	?				0.3	?

2814-2822 cm⁻¹

2815.384	?			0.4	?
2815.41	?			0.4	?
2815.775	?			0.3	?
2815.968	?			0.4	?
2816.518	CH	(2-1)	R1F 9.5	b 1.6	
2816.718	CH	(2-1)	R2E 8.5	1.2	
2817.048	CH	(2-1)	R1E 9.5	1.0	
2817.048	Fe	v ⁵ F ₅ ⁰ - f ⁵ D ₄		b 1	
2817.268	CH	(2-1)	R2F 8.5	0.9	?
2817.556	?			0.3	?
2817.95	?			1.1	?
2818.166	OH	(4-3)	P1F 7.5	0.1	
2818.766	OH	(4-3)	P1E 7.5	0.1	
2818.897	?			0.8	?
2821.039	?			0.8	?
2821.299	?			4.7	?
2821.846	?			1.5	?

2822-2830 cm^{-1}

2822.00	?		0.2	?
2822.12	?		bs 0.3	?
2822.207	?		2.4	?
2823.15	Fe	(two peaks)	2.7	
2823.539	?		s 0.2	?
2823.61	?		s 0.4	?
2823.699	?		3.8	?
2823.968	?		0.2	?
2824.22	?		0.2	?
2824.676	?		2.7	?
2824.746	Mg	4d 3D_1 - 6p 3P_0	bs 0.4	
2824.83	?		bs 0.4	?
2825.174	?		0.5	?
2825.431	Mg	4d 3D_2 - 6p 3P_1	2.7	
2825.65	?		0.2	?
2825.707	?		0.5	?
2825.81	?		0.2	?
2825.99	OH	(4-3) P2E 6.5	0.1	
2826.135	Si	3s3p 3D_1 - 4p 3D_2	3.2	
2826.267	?		0.1	?
2826.328	?		0.7	?
2826.34	OH	(4-3) P2F 6.5	b 0.1	
2826.510	?		1.1	?
2826.686	?		bs 0.4	?
2826.783	Mg	4d 3D_3 - 6p 3P_2	4.6	
2826.990	CH	(2-1) R1F 28.5	b 0.9	
2826.990	CH	(2-1) R2E 27.5	b 0.9	
2827.066	CH	(2-1) R1E 28.5	b 0.9	
2827.066	CH	(2-1) R2F 27.5	b 0.9	
2827.363	?		1.0	?
2828.260	?		2.6	?
2828.654	?		0.7	?
2828.884	?		0.5	?
2829.566	Fe	e 5D_2 - v 5P_2	2.3	

2830-2838 cm⁻¹

2830.310	Si	4f [3½] ₄ - 5g [4½] ₁ '	3.4	?
2830.459	?		0.1	
2830.510	CH	(2-1) R1F 10.5	1.0	
2830.685	CH	(2-1) R2E 9.5	0.9	
2830.996	?		2.1	
2831.073	CH	(2-1) R1E 10.5	b 0.9	
2831.260	CH	(2-1) R2F 9.5	0.9	
2831.85	?		0.3	
2831.893	?		0.3	
2832.330	Si	4f [3½] ₃ - 5g [4½] ₁ '	2.5	
2832.449	?		0.1	
2833.854	?		2.6	
2834.56	?		0.2	
2834.694	?		3.9	
2834.983	CH	(1-0) R1F 3.5	0.5	
2835.220	CH	(1-0) R1E 3.5	bs 0.5	
2835.312	?		1.4	
2835.378	?		1.2	
2835.651	?		0.1	
2836.118	CH	(1-0) R2E 2.5	0.4	
2836.225	?		0.3	
2836.387	CH	(1-0) R2F 2.5	0.4	
2837.433	OH	(1-0) P1F 16.5	2.1	
2837.66	?		s 0.3	
2837.836	Si	3d ¹ D ₂ ⁰ - 4p ¹ D ₂	14.2	

2838-2846 cm⁻¹

2838.14	?				0.1	?
2838.50	?				0.4	?
2839.027	OH	(1-0)	P1E 16.5		2.2	
2839.584	OH	(1-0)	P2E 15.5		1.9	
2839.990	?				0.4	?
2840.190	?				0.3	?
2840.650	Si	4f [3 $\frac{1}{2}$] ₄ - 5g [3 $\frac{1}{2}$]'			1.0	
2840.736	CH	(2-1)	R1F 27.5	b 1		
2840.736	CH	(2-1)	R2E 26.5	b 1		
2840.819	OH	(1-0)	P2F 15.5	2.2		
2840.875	CH	(2-1)	R1E 27.5	b 1		
2840.905	CH	(2-1)	R2F 26.5	b 1		
2841.026	OH	(3-2)	P1F 10.5	0.6		
2841.452	Fe	e ⁵ D ₀ - v ⁵ F ₁		1.5		
2841.965	OH	(3-2)	P1E 10.5	b 0.8		
2842.445	?			s 0.3		?
2842.548	?			3.8		?
2842.69	Si	4f [3 $\frac{1}{2}$] ₃ - 5g [3 $\frac{1}{2}$]'		bs		
2843.132	CH	(2-1)	R1F 11.5	1.1		
2843.283	CH	(2-1)	R2E 10.5	1.1		
2843.712	CH	(2-1)	R1E 11.5	1.1		
2843.879	CH	(2-1)	R2F 10.5	1.0		
2844.334	Si	6p ³ D ₂ - 7d ³ F ₀ ³		1.4		
2844.674	?			3.2		?
2845.092	?			0.3		?
2845.67	?			bs 0.3		?
2845.714	OH	(3-2)	P2E 9.5	b 0.6		
2845.86	?			0.1		?
2845.94	?			0.1		?

2846-2854 cm⁻¹

2846.05	?			0.1	?
2846.233	?			s 0.1	?
2846.36	OH		P2F 9.5	b 0.7	
2846.374	Si		4d ¹ P ₁ ⁰ - 5f ² [1 ₂] ₂	b 2.5	
2846.591	?			2.8	?
2846.856	OH		(2-1) P1F 13.5	1.7	
2847.372	Si		5p ¹ D ₂ - 5d ³ F ₂ ⁰	1.0	
2848.119	OH		(2-1) P1E 13.5	1.6	
2848.651	?			b 0.4	?
2848.727	?			0.5	?
2848.975	?			0.2	?
2849.064	?			0.4	?
2849.489	Al		4f ² F _{7/2} ⁰ - 6d ² D _{5/2}	5.2	?
2849.808	?			0.1	?
2849.930	OH		(2-1) P2E 12.5	1.6	
2850.137	?			0.2	?
2850.187	?			0.4	?
2850.862	OH		(2-1) P2F 12.5	1.5	
2850.994	?			1.0	?
2852.659	?			0.5	?
2852.816	CH		(2-1) R1F 26.5	b 0.8	
2852.816	CH		(2-1) R2E 25.5	b 0.8	
2853.033	CH		(2-1) R1E 26.5	b 0.9	
2853.033	CH		(2-1) R2F 25.5	b 0.9	

2854-2862 cm⁻¹

2854.084	Si	4f [2½] ₂ - 5g [3½]'			
2854.340	CH	(2-1)	R1F 12.5		2.6
2854.475	CH	(2-1)	R2E 11.5		1.1
2854.945	CH	(2-1)	R1E 12.5		1.1
2855.084	CH	(2-1)	R2F 11.5		1.2
2855.167	Si	4f [2½] ₃ - 5g [3½]'			b 1.1
2856.238	Si	5p ¹ P ₁ - 6s (½, ½) ⁰ ₁			4.3
2856.585	?				7.5
2856.653	Fe	v ⁵ F ₃ - e ⁵ G ₄			1.4
2857.610	?				1.7
2857.72	OH	(4-3)	P1F 6.5		2.8
2857.814	CH	(1-0)	R1F 4.5		0.1
2858.062	?				0.7
2858.143	CH	(1-0)	R1E 4.5		2.0
2858.23	OH	(4-3)	P1E 6.5		bs 0.6
2858.547	CH	(1-0)	R2E 3.5		0.1
2858.891	CH	(1-0)	R2F 3.5		0.5
2859.048	Fe	v ⁵ P ₁ ⁰ - e ⁵ S ₂			0.5
2859.112	?				0.4
2859.388	?				0.8
2859.69	?				0.5
2860.837	?				0.2
2861.421	?				1.1
					0.3
					?
					?
					?
					?
					?
					?

2862-2870 cm⁻¹

2862.139	Mg	6p ³ P ₂ - 8d ³ D ₃	1.9	?
2862.411	?		0.6	?
2863.095	?		2.0	?
2863.223	CH	(2-1) R1F 25.5	b 1	
2863.223	CH	(2-1) R2E 24.5	b 1	
2863.46	Mg	6p ³ P ₁ - 8d ¹ D ₂	bs	
2863.516	CH	(2-1) R1E 25.5	b	
2863.516	CH	(2-1) R2F 24.5	b	
2864.124	Mg	6p ³ P ₀ - 8d ¹ D ₁	1.5	
2864.124	CH	(2-1) R1F 13.5	b 1.2	
2864.256	CH	(2-1) R2E 12.5	1.1	
2864.322	?		0.5	?
2864.737	CH	(2-1) R1E 13.5	1.2	
2864.856	CH	(2-1) R2F 12.5	1.1	
2865.824	?		0.6	?
2866.231	?		0.1	?
2866.346	?		0.4	?
2866.77	CH	(1-0) R2F 33.5	bs 0.1	
2866.77	CH	(1-0) R1E 34.5	bs 0.1	
2866.828	?		1.2	?
2866.902	?		0.8	?
2867.026	?		0.6	?
2867.157	CH	(1-0) R2E 33.5	b <<1	
2867.157	CH	(1-0) R1F 34.5	b <<1	
2867.17	OH	(4-3) P2E 5.5	b 0.1	
2867.396	OH	(4-3) P2F 5.5	0.1	
2868.67	Fe	e ⁵ D ₃ - v ⁵ F ₄	2.2	
2869.104	?		0.6	?
2869.309	Fe	⁵ H ₅ - e ⁵ G ₅	2.0	

2870-2878 cm⁻¹

2870.758	?		0.6	?
2871.995	CH	(2-1) R1F 24.5	0.8	
2872.019	CH	(2-1) R2E 23.5	0.8	
2872.352	CH	(2-1) R1E 24.5	b 1	
2872.352	CH	(2-1) R2F 23.5	b 1	
2872.464	CH	(2-1) R1F 14.5	1.1	
2872.53	Fe	e ⁵ G ₄ - ⁵ G ₃	b 1 ⁺	
2872.567	CH	(2-1) R2E 13.5	1.1	
2873.005	?		1.7	?
2873.074	CH	(2-1) R1E 14.5	b 1.1	
2873.184	CH	(2-1) R2F 13.5	1.1	
2873.381	?		0.3	?
2874.781	?		0.3	?
2876.054	?		0.9	?
2876.292	?		0.2	?

2878-2886 cm⁻¹

2878.721	?				0.3	?
2878.856	Si	4f [2½] ₂ - 5g [2½]'			0.5	
2879.147	CH	(2-1) R1F 23.5			1.1	
2879.17	CH	(2-1) R2E 22.5			1.0	
2879.328	CH	(2-1) R1F 15.5			b 1.3	
2879.37	CH	(1-0) R1F 5.5			b 0.8	
2879.41	CH	(2-1) R2E 14.5			b 1.3	
2879.554	CH	(2-1) R1E 23.5			b 1.1	
2879.554	CH	(2-1) R2F 22.5			b 1.1	
2879.759	CH	(1-0) R1E 5.5			0.8	
2879.892	CH	(1-0) R2E 4.5			bs 1	
2879.942	CH	(2-1) R1E 15.5			b	
2879.942	Si	4f [2½] ₃ - 5g [2½]'			b	
2880.029	CH	(2-1) R2F 14.5			1.2	
2880.282	CH	(1-0) R2F 4.5			0.7	
2883.057	C	3d ¹ D ₂ - 4p ¹ P ₁			1.8	?
2883.97	?				0.2	?
2884.104	?				2.1	?
2884.373	?				0.9	?
2884.684	CH	(2-1) R1F 22.5			b 1	
2884.684	CH	(2-1) R2E 21.5			b 1	
2884.70	CH	(2-1) R1F 16.5			b 1	
2884.782	CH	(2-1) R2E 15.5			b 1.1	
2885.113	CH	(2-1) R1E 22.5			1.1	
2885.14	CH	(2-1) R2F 21.5			1.0	
2885.313	CH	(2-1) R1E 16.5			1.2	
2885.390	CH	(2-1) R2F 15.5			b 1.3	
2885.438	OH	(3-2) P1F 9.5			bs 0.5	

2886-2894 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Transition	Intensity	Other
2886.288	OH	(3-2)	P1E 9.5	0.6
2886.806	?			0.3
2888.068	?			1.0
2888.57	CH	(2-1)	R1F 17.5	b 1*
2888.57	CH	(2-1)	R1F 21.5	b 1*
2888.640	CH	(2-1)	R2E 20.5	b 1*
2888.640	CH	(2-1)	R2E 16.5	b 1*
2889.06	CH	(2-1)	R1E 21.5	b 1
2889.158	CH	(2-1)	R1E 17.5	b 1*
2889.158	CH	(2-1)	R2F 20.5	b 1
2889.236	CH	(2-1)	R2F 16.5	1.0
2889.864	CH	(1-0)	R1E 33.5	b 0.3
2889.864	CH	(1-0)	R2F 32.5	b 0.3
2890.007	OH	(1-0)	P1F 15.5	2.2
2890.153	CH	(1-0)	R1F 33.5	b 0.3
2890.153	CH	(1-0)	R2E 32.5	b 0.3
2890.90	OH	(3-2)	P2E 8.5	b 0.5
2890.923	CH	(2-1)	R1F 20.5	b 1*
2890.923	CH	(2-1)	R1F 18.5	b 1*
2890.986	CH	(2-1)	R2E 19.5	b 1*
2890.986	CH	(2-1)	R2E 17.5	b 1*
2891.45	OH	(3-2)	P2F 8.5	bs 0.6
2891.46	CH	(2-1)	R1E 20.5	b 1
2891.46	CH	(2-1)	R1E 18.5	b 1
2891.507	OH	(1-0)	P1E 15.5	b 2*
2891.507	CH	(2-1)	R2F 19.5	b 1
2891.507	CH	(2-1)	R2F 17.5	b 1
2891.694	CH	(2-1)	R1F 19.5	1.1
2891.757	Fe	⁵ H ₄ - e ⁵ G ₅		b 1.2
2891.757	CH	(2-1)	R2E 18.5	b 1.2
2892.241	CH	(2-1)	R1E 19.5	1.0
2892.303	CH	(2-1)	R2F 18.5	1.1
2892.387	OH	(1-0)	P2E 14.5	2.1
2892.893	?			0.2
2893.540	OH	(1-0)	P2F 14.5	2.0
2893.940	Fe	c ³ F ₄ - z ³ G ₄		0.6

2894-2902 cm⁻¹

2895.569	OH	(2-1)	P1F 12.5	1.5	
2895.96	OH	(4-3)	P1F 5.5	0.1	
2896.35	OH	(4-3)	P1E 5.5	0.1	
2896.742	OH	(2-1)	P1E 12.5	1.4	?
2898.111	?			0.5	?
2898.141	?			0.5	
2899.036	OH	(2-1)	P2E 11.5	1.3	
2899.652	CH	(1-0)	R1F 6.5	0.8	
2899.83	Si	5p ³ D ₂ - 4d a ³ P ₂ ⁰		b 1.7	
2899.884	OH	(2-1)	P2F 11.5	b 1*	
2900.04	CH	(1-0)	R2E 5.5	b 0.9	
2900.08	CH	(1-0)	R1E 6.5	b 1.0	
2900.494	CH	(1-0)	R2F 5.5	0.9	

2902-2910 cm⁻¹

2902.243	?			0.5	?
2902.392	?			0.2	?
2903.446	?			0.8	?
2904.545	?			0.8	?
2904.973	Fe	e ⁵ D ₁ - v ⁵ F ₂		2.2	
2905.256	Fe	e ⁵ D ₃ - v ⁵ F ₃ ⁰		2.9	
2905.820	?			2.2	?
2905.917	?			bs 0.4	?
2906.547	Fe	e ⁵ G ₅ - ⁵ G ₄ ⁰		1.0	
2907.379	Si	5p ¹ D ₂ - 5d ³ F ₃ ⁰		0.7	
2907.50	OH	(4-3)	P2E 4.5	b 0.1	
2907.585	?			2.3	?
2907.64	OH	(4-3)	P2F 4.5	b 0.1	
2908.197	?			3.5	?
2908.337	?			s 0.1	?
2909.704	?			0.1	?

2910-2918 cm⁻¹

2910.071	?			0.1	?
2910.337	?			0.3	?
2910.594	Fe	f ⁵ F ₅ - ⁵ F ₅ ⁰		0.7	?
2911.095	?			0.2	?
2911.235	CH	(1-0)	R1E 32.5	b 0.4	
2911.235	CH	(1-0)	R2F 31.5	b 0.4	
2911.418	CH	(1-0)	R1F 32.5	b 0.4	
2911.418	CH	(1-0)	R2E 31.5	b 0.4	
2911.850	?			0.2	?
2913.34	?			0.2	?
2913.983	?			0.4	?
2914.39	?			0.4	?
2916.836	Fe	v ⁵ F ₅ ⁰ - e ⁵ G ₆		2.0	?
2916.97	?			0.2	?
2917.144	S	5s ³ S ₁ - 5p ³ P ₂		1.8	?

2918-2926 cm⁻¹

2918.151	S	5s ³ S ₁ - 5p ³ P ₁		5.0	
2918.628	CH	(1-0)	R1F 7.5	1.1	
2918.84	?			s 0.3	?
2918.925	CH	(1-0)	R2E 6.5	0.9	
2919.110	CH	(1-0)	R1E 7.5	1.1	
2919.423	CH	(1-0)	R2F 6.5	1.0	
2919.68	NH	(3-2)	R1 4	b 0.1	
2919.721	?			0.9	?
2919.73	NH	(3-2)	R2 3	b	
2919.83	NH	(3-2)	R3 2	b <0.1	
2920.04	?			0.5	?
2920.22	S	5s ³ S ₁ - 5p ³ P ₀		0.3	?
2921.055	?			0.3	?
2921.168	?			0.2	?
2921.913	?			0.6	?
2924.490	?			1.4	?
2924.556	?			s 0.2	?
2925.390	?			1.5	?

2926-2934 cm⁻¹

2926.557	C(?)	4p ³ D ₃ - 4d ³ F ⁰ ₃	0.6	
2927.054	Si	5s ¹ P ⁰ ₁ - 5p ¹ D ₂	18.3	
2927.432	?		0.3	?
2927.685	?		0.5	?
2928.094	Na	4p ² P ⁰ _{3/2} - 5s ² S _{1/2}	12.4	
2928.772	OH	(3-2) P1F 8.5	0.5	
2929.110	Fe	e ⁵ D ₄ - v ⁵ F ⁰ ₅	2.8	
2929.524	OH	(3-2) P1E 8.5	0.6	
2929.717	?		1.4	?
2930.858	CH	(1-0) R1E 31.5	b 0.5	
2930.858	CH	(1-0) R2F 30.5	b 0.5	
2930.994	CH	(1-0) R1F 31.5	b 0.5	
2930.994	CH	(1-0) R2E 30.5	b 0.5	
2931.90	?		0.3	?
2931.947	?		0.2	?
2932.224	?		0.3	?
2932.298	?		0.7	?
2932.83	?		0.3	?
2933.052	?		0.3	?
2933.09	OH	(4-3) P1E 4.5	<0.1	
2933.690	Na	4p ² P ⁰ _{1/2} - 5s ² S _{1/2}	7.6	

2934-2942 cm⁻¹

2934.147	?		0.3	?
2934.697	C	4p ¹ P ₁ - 4d ¹ D ⁰ ₂	3.6	
2935.250	OH	(3-2) P2E 7.5	0.4	
2935.591	?		0.7	?
2935.670	OH	(3-2) P2F 7.5	0.6	
2936.274	CH	(1-0) R1F 8.5	1.1	
2936.530	CH	(1-0) R2E 7.5	1.0	
2936.606	?		0.1	?
2936.804	CH	(1-0) R1E 8.5	1.1	
2937.058	CH	(1-0) R2F 7.5	1.0	
2938.703	?		1.5	?
2939.000	?		0.1	?
2939.083	Si	5p ³ D ₁ - 4d a ³ P ⁰ ₂	1.9	
2939.557	?		0.6	?
2940.028	Si	5s ³ P ⁰ ₂ - 5p ³ P ₂	19.9	
2940.229	?		2.3	?
2940.445	Si	3d ³ D ⁰ ₃ - 5p ³ D ₃	8.0	
2940.592	?		0.8	?
2941.865	Fe		b	
2941.865	OH	(1-0) P1F 14.5	2.4	

2942-2950 cm⁻¹

2942.33	?			bs 1.3	?
2942.441	Si	3s 3p ³ 3D ₃ - 4p 3D ₃		14.8	
2942.91	NH	(3-2) R1 5		0.1	
2943.011	NH	(3-2) R3 4		0.2	
2943.273	OH	(1-0) P1E 14.5		2.8	
2943.392	OH	(2-1) P1F 11.5		1.5	
2943.694	Mg	3d 1D ₂ - 4p 1P ₁		26.0	
2944.476	OH	(2-1) P1E 11.5		bs 1 ⁺	
2944.516	OH	(1-0) P2E 13.5		2.6	
2945.573	OH	(1-0) P2F 13.5		2.2	
2946.129	C	4p 3D ₂ - 4d 3F ₂		0.5	
2946.62	?			0.1	?
2946.750	?			1.8	?
2946.99	OH	(4-3) P2E 3.5		<0.1	
2947.03	OH	(4-3) P2F 3.5		0.1	
2947.356	OH	(2-1) P2E 10.5		1.4	
2947.565	?			0.4	?
2948.109	OH	(2-1) P2F 10.5		1.4	
2948.525	?			6.1	?
2948.71	?			0.3	?
2948.746	?			0.4	?
2948.854	CH	(1-0) R2F 29.5			
2948.854	CH	(1-0) R1E 30.5		b 1.0	
2948.854	CH	(1-0) R1F 30.5			
2948.854	CH	(1-0) R2E 29.5			
2949.300	?			0.8	?

2950-2958 cm⁻¹

2950.296	?					0.1	?
2950.703	?					0.3	?
2951.04	Ti(?)	3d ⁴ b ³ G ₅ - x ³ H ₅ ⁰				0.4	
2951.147	C	4p ³ D ₂ - 5s ³ P ₁ ⁰				1.4	
2951.290	?					0.3	?
2952.581	CH	(1-0)	R1F 9.5			1.1	?
2952.693	?					0.3	
2952.790	CH	(1-0)	R2E 8.5			1.0	
2953.144	CH	(1-0)	R1E 9.5			1.1	
2953.362	CH	(1-0)	R2F 8.5			1.1	
2953.602	?					0.9	?
2955.781	?					0.9	?
2955.997	Fe	e ⁵ D ₂ - v ⁵ P ₁ ⁰				2.6	
2956.16	?					s 0.3	?
2956.237	Fe	3d ⁵ 4s ² 4p y ⁷ P ₃ ⁰ - e ⁷ D ₄				3.0	
2956.470	C	4p ³ D ₃ - 5s ³ P ₂ ⁰				2.2	
2956.79	?					s 0.2	?
2956.961	C	4s ³ P ₂ ⁰ - 4p ³ S ₁				b 3.2	
2956.961	Al(?)	5d ² D _{5/2} - 6f ² F _{7/2} ⁰					
2957.152	?						
2957.621	C	4p ³ D ₁ - 5s ³ P ₀ ⁰				0.1	?
						1.2	

2958-2966 cm⁻¹

2958.152	?					0.8	?
2958.419	Si	6s (¹ / ₂ , ¹ / ₂) ₁ ⁰ - 7p (¹ / ₂ , ³ / ₂) ₂				0.5	
2959.676	Si	6s (³ / ₂ , ¹ / ₂) ₁ ⁰ - 7p (³ / ₂ , ³ / ₂) ₂				0.6	
2959.982	C	4p ³ D ₂ - 4d ³ F ₃ ⁰				4.9	
2960.090	?					s 0.2	?
2960.20	?					0.1	?
2960.509	?					0.2	?
2960.76	?					0.2	?
2960.899	?					0.3	?
2960.97	Al	5d ² D _{3/2} - 6f ² F _{5/2} ⁰				0.6	
2961.175	?					0.4	?
2962.89	?					0.2	?
2963.328	Fe(?)	e ⁵ S ₂ - ⁵ P ₂ ⁰				0.5	
2963.980	C	4p ³ D ₃ - 4d ³ F ₄ ⁰				6.0	
2964.43	?					0.4	?
2964.658	NH	(3-2)	R1 6			b 0.1	
2964.658	NH	(3-2)	R2 5			b 0.1	
2964.72	NH	(3-2)	R3 4			0.1	
2964.989	C	4p ³ D ₁ - 4d ³ F ₂ ⁰				4.1	
2965.087	CH	(1-0)	R2E 28.5			b 0.7	
2965.11	CH	(1-0)	R1E 29.5			bs	
2965.11	CH	(1-0)	R2F 28.5			bs	
2965.51	?					0.2	?

29666-2974 cm⁻¹

2966.080	?					0.3	?
2966.184	?					0.4	?
2966.940	?					0.3	?
2967.120	Mg		5d ³ D _{1,2,3} - 8f ³ F ⁰ _{2,3,4}			5.8	
2967.374	?					0.2	?
2967.532	CH	(1-0)	R1F 10.5			1.3	
2967.698	CH	(1-0)	R2E 9.5			1.2	
2968.105	CH	(1-0)	R1E 10.5			1.3	
2968.300	CH	(1-0)	R2F 9.5			1.4	
2969.198	Na		5p ² P ⁰ _{3/2} - 7s ² S _{1/2}			0.4	
2969.426	?					0.1	?
2969.991	C(?)		4p ³ D ₁ - 5s ³ P ₁			0.6	
2970.669	Si		3s3p ³ ³ D ⁰ ₂ - 4p ³ D ₃			3.9	
2970.980	OH	(3-2)	P1F 7.5			0.6	
2971.616	OH	(3-2)	P1E 7.5			0.5	
2971.66	Na		5p ² P ⁰ _{1/2} - 7s ² S _{1/2}			0.4	
2972.081	Si		5p ³ P ₁ - 5d ¹ D ⁰ ₂			3.4	
2973.324	?					0.3	?

2974-2982 cm⁻¹

2975.013	?					0.1	?
2975.157	?					0.3	?
2975.512	?					0.3	?
2975.55	?					0.3	?
2977.103	?					0.1	?
2977.33	?					0.1	?
2978.686	OH	(3-2)	P2E 6.5			0.4	
2979.041	OH	(3-2)	P2F 6.5			0.4	
2979.595	CH	(1-0)	R1F 28.5		b	0.7	
2979.595	CH	(1-0)	R2E 27.5		b	0.7	
2979.707	CH	(1-0)	R1E 28.5		b	0.8	
2979.707	CH	(1-0)	R2F 27.5		b	0.8	
2980.026	?					2.8	?
2980.178	Fe		v ⁵ F ⁰ ₂ - e ⁵ G ₃			0.5	?
2980.458	?					0.2	?
2981.069	CH	(1-0)	R1F 11.5			1.4	
2981.212	CH	(1-0)	R2E 10.5			1.4	
2981.682	CH	(1-0)	R1E 11.5			1.4	
2981.843	CH	(1-0)	R2F 10.5			1.4	

2982-2990 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Species	Reference	Notes
2982.066	5s ³ P ₁ - 5p ³ P ₀	Si		12.7
2982.313		?		s 0.3
2982.980		?		0.4
2983.664		?		2.0
2984.85	(3-2) NH		R1 7	0.4
2984.891	(3-2) NH		R2 6	0.6
2984.91	(3-2) NH		R3 5	0.3
2985.467	v ⁵ P ₂ - e ⁵ S ₂	Fe		1.9
2986.400		?		0.9
2988.29	4s ³ P ₁ - 4p ³ S ₁	C		2.1
2989.780	4p ³ D ₂ - 5s ³ P ₂	C		0.9
2989.824		?		0.8

2990-2998 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Species	Reference	Notes
2990.278	(2-1) OH		P1F 10.5	1.5
2991.180	?			0.2
2991.259	(2-1) OH		P1E 10.5	1.5
2991.403	?			1.3
2992.042	?			0.2
2992.454	(1-0) CH		R1F 27.5	b 0.8
2992.454	(1-0) CH		R2E 26.5	b 0.8
2992.641	(1-0) CH		R1E 27.5	b 1.1
2992.641	(1-0) CH		R2F 26.5	b 1.1
2992.950	(1-0) OH		P1F 13.5	b 2 ⁺
2992.950	3d ³ D ₂ - 5p ³ D ₃	Si		b 3.9
2992.950	5p ³ D ₂ - 4d a ³ P ₁	Si		b 3.9
2993.203	(1-0) CH		R1F 12.5	1.4
2993.326	(1-0) CH		R2E 11.5	1.5
2993.826	(1-0) CH		R1E 12.5	1.5
2993.970	(1-0) CH		R2F 11.5	1.5
2994.177	?			0.5
2994.265	(1-0) OH		P1E 13.5	2.6
2994.651	?			2.2
2994.856	(2-1) OH		P2E 9.5	1.3
2995.521	(2-1) OH		P2F 9.5	1.3
2995.927	(1-0) OH		P2E 12.5	2.5
2996.898	(1-0) OH		P2F 12.5	2.3
2997.329	Ti(?) 3d ⁴ b ³ G ₅ - x ³ H ₆	Ti(?)		0.4
2997.443	?			0.1
2997.876	?			0.7

2998-3006 cm⁻¹

Wavenumber (cm ⁻¹)	Species	Transition	Line Strength	Notes	Lines
2998.06	C	4p ³ S ₁ - 4d ³ P ₂	1.5		2 lines
2998.269	?		0.1		?
2998.310	?		0.3		?
2998.527	?		0.1		?
3000.069	C	4s ³ P ₀ - 4p ³ S ₁	0.9		?
3000.671	?		0.2		?
3002.83	?		1.5		?
3003.436	?		0.5		?
3003.47	NH	(3-2) R1 8	0.4		
3003.50	NH	(3-2) R2 7	0.4		
3003.54	NH	(3-2) R3 6	<0.1		
3003.673	CH	(1-0) R1F 26.5	b 1		
3003.673	CH	(1-0) R2E 25.5	b 1		
3003.761	?		2.1		?
3003.909	CH	(1-0) R1F 13.5	b 1*		
3003.909	CH	(1-0) R1E 26.5			
3003.909	CH	(1-0) R2F 25.5			
3003.996	CH	(1-0) R2E 12.5	1.3		?
3004.370	?		0.1		
3004.529	CH	(1-0) R1E 13.5	1.4		
3004.648	CH	(1-0) R2F 12.5	1.2		
3004.761	?		0.3		?
3005.32	?		0.3		?
3005.523	?		0.1		?
3005.572	?		0.2		?

3006-3014 cm⁻¹

3006.284	?				0.2	?
3006.39	?				bs 0.2	?
3006.469	?				2.6	?
3006.550	?				bs 0.1	?
3007.32	?				0.2	?
3007.635	?				2.3	?
3008.493	?				1.3	?
3008.992	Si			4d ³ F ₂ - 6p ($\frac{1}{2}$, $\frac{1}{2}$) ₁	1.1	?
3009.433	?				0.4	?
3010.559	?				0.1	?
3010.96	?				0.2	?
3011.050	C				0.7	several lines
3011.881	Mg				b 21	
3011.975	Mg			4d ³ D _{1,2,3} - 5f ³ F _{2,3,4}		
3012.051	Mg					
3011.94	OH			(3-2) P1F 6.5	b 0.4	
3012.449	?				bs 0.1	?
3012.489	OH			(3-2) P1E 6.5	bs 0.4	
3012.693	?				bs 0.4	?
3012.990	?				0.3	?
3013.114	CH				1.6	
3013.219	CH			(1-0) R1F 14.5		
3013.219	CH			(1-0) R2E 13.5		
3013.219	CH			(1-0) R1E 25.5	b 1.9	
3013.219	CH			(1-0) R2E 24.5		
3013.33	Si			6s ($\frac{1}{2}$, $\frac{1}{2}$) ₂ - 7p ($\frac{3}{2}$, $\frac{1}{2}$) ₂	b 0.3	
3013.570	CH			(1-0) R1E 25.5	b	
3013.570	CH			(1-0) R2F 24.5	b	
3013.696	Si			5s ³ P ₂ - 5p ³ S ₁	18.0	
3013.76	CH			(1-0) R1E 14.5	b	
3013.863	CH			(1-0) R2F 13.5	bs	

3014-3022 cm⁻¹

3014.24	C	4p ³ D ₃ - 4d ³ D ₃ ⁰	2.2	
3014.722	?		0.2	?
3014.972	Si	5s ³ P ₁ ⁰ - 5p ³ P ₁	14.8	
3016.023	?		0.8	?
3017.54	C	3d ³ D ₁ ⁰ - 4p ³ P ₀	0.6	2 lines
3018.16	C	3d ³ D ₂ ⁰ - 4p ³ P ₁	1.6	2 lines
3018.824	?		0.1	?
3019.542	Fe(?)	v ⁵ F ₁ ⁰ - e ⁵ G ₂	0.7	
3020.526	NH	(3-2) R1 9	b 0.3	
3020.526	NH	(3-2) R2 8	b 0.3	
3020.55	NH	(3-2) R3 7	b 0.3	
3020.853	CH	(1-0) R1F 15.5	1.6	
3020.946	CH	(1-0) R2E 14.5	1.3	
3021.166	CH	(1-0) R1F 24.5	b 1.1	
3021.166	CH	(1-0) R2E 23.5	b 1.1	
3021.28	OH	(3-2) P2E 5.5	0.3	
3021.544	CH	(1-0) R1E 15.5		
3021.544	CH	(1-0) R1E 24.5	b 2.1	
3021.554	OH	(3-2) P2F 5.5		
3021.56	CH	(1-0) R2F 23.5		
3021.599	CH	(1-0) R2F 14.5	bs	
3021.757	?		0.4	?

3022-3030 cm⁻¹

3022.039	?		0.3	?
3025.14	?		0.2	?
3025.498	?		0.7	?
3025.794	C	3d ³ D ₃ ⁰ - 4p ³ P ₂	2.4	
3025.834	?		2.5	?
3025.922	?		2.8	?
3026.400	?		0.3	?
3026.573	?		0.4	?
3027.099	CH	(1-0) R1F 16.5	1.2	
3027.185	CH	(1-0) R2E 15.5	1.2	
3027.473	CH	(1-0) R1F 23.5	b 1.2	
3027.473	CH	(1-0) R2E 22.5	b 1.2	
3027.750	CH	(1-0) R1E 16.5	1.3	
3027.824	CH	(1-0) R2F 15.5	1.1	
3027.915	CH	(1-0) R1E 23.5	b 1.3	
3027.915	CH	(1-0) R1F 22.5	b 1.3	
3028.388	?		1.0	?
3029.108	?		2.3	?
3029.704	?		0.2	?

3030-3038 cm⁻¹

3031.82	CH	(1-0)	R1F 17.5	b 1 ⁺	
3031.898	CH	(1-0)	R2E 16.5	b 1 ⁺	
3032.063	?			2.5	?
3032.164	CH	(1-0)	R1F 22.5	b 1 ⁺	
3032.200	CH	(1-0)	R2E 21.5	b 1 ⁺	
3032.300	C	3d ³ D ₁ ⁰ - 4p ³ P ₁		b 0.3	
3032.462	CH	(1-0)	R1E 17.5	b 1 ⁺	
3032.532	CH	(1-0)	R2F 16.5	b 1 ⁺	
3032.648	CH	(1-0)	R1E 22.5	b 1.2	
3032.648	CH	(1-0)	R2F 21.5	b 1.2	
3032.648	Na(?)	5f ² F _{5/2,7/2} ⁰ - 9d ² D _{3/2,5/2}		b	
3033.08	H	(5-9)	broad		
3033.439	?			0.8	?
3035.016	CH	(1-0)	R1F 18.5	1.3	
3035.089	CH	(1-0)	R2E 17.5	1.1	
3035.252	CH	(1-0)	R1F 21.5	b 1.4	
3035.252	CH	(1-0)	R2E 20.5	b 1.4	
3035.635	CH	(1-0)	R1E 18.5	b 1.1	
3035.689	CH	(1-0)	R2F 17.5	b 1	
3035.783	CH	(1-0)	R1E 21.5	b 1.2	
3035.783	CH	(1-0)	R2F 20.5	b 1.2	
3035.91	NH	(3-2)	R1 10	b 0.3	
3035.93	NH	(3-2)	R2 9	b 0.3	
3035.97	NH	(3-2)	R3 8	0.1	
3036.176	OH	(2-1)	P1F 9.5	1.4	
3036.427	C	3d ³ D ₂ ⁰ - 4p ³ P ₂		0.3	
3036.677	CH	(1-0)	R1F 19.5	bs 1 ⁺	
3036.68	Si	4f ² [3 ₂] ₃ - 7s (₂ , ₁) ₂ ⁰		b	
3036.734	CH	(1-0)	R2E 18.5	b 1 ⁺	
3036.734	CH	(1-0)	R1F 20.5	b 1 ⁺	
3036.795	CH	(1-0)	R2E 19.5	b 1 ⁺	
3036.795	C	4p ³ D ₂ - 4d ³ D ₂ ⁰		b	
3037.054	OH	(2-1)	P1E 9.5	1.4	
3037.127	Si	nd a ³ P ₂ ⁰ - 6f [2 ₂] ₃		0.4	
3037.25	CH	(1-0)	R1E 19.5	bs 2	
3037.298	CH	(1-0)	R1E 20.5	b 2 ⁺	
3037.298	CH	(1-0)	R2F 18.5	b 2 ⁺	
3037.34	CH	(1-0)	R2F 19.5	bs 2 ⁺	
3037.439	?			0.1	?
3037.568	?			0.1	?
3037.683	?			0.1	?
3037.738	?			0.2	?

3038-3046 cm⁻¹

3038.05	?			0.3	?
3038.192	?			1.4	?
3038.509	?			0.2	?
3038.560	?			0.4	?
3038.600	?			0.5	?
3038.76	Si	6s ($\frac{3}{2}, \frac{1}{2}$) ₂ - 7p ($\frac{3}{2}, \frac{1}{2}$) ₁		0.4	?
3039.95	?			0.2	
3041.505	OH	(2-1) P2E 8.5		1.1	
3042.074	OH	(2-1) P2F 8.5		1.1	
3043.215	OH	(1-0) P1F 12.5		2.4	
3043.994	?			0.1	?
3044.074	?			0.1	?
3044.431	OH	(1-0) P1E 12.5		b 2*	
3044.539	Fe			6.6	
3045.783	Si	4d ³ F ₃ - 6p ($\frac{1}{2}, \frac{3}{2}$) ₂		3.7	

3046-3054 cm⁻¹

3046.589	OH	(1-0) P2E 11.5		2.5	
3046.676	Fe(?)	e ⁵ F ₅ - ⁷ F ₅		0.2	?
3046.708	?			0.1	
3046.876	Si	4f [2 $\frac{1}{2}$] ₃ - 6d ¹ D ₂ ⁰		1.4	?
3047.230	?			0.7	
3047.464	OH	(1-0) P2F 11.5		2.4	?
3047.926	?			0.4	?
3048.124	?			1.0	?
3049.023	?			0.4	?
3049.20	?			0.2	?
3049.29	?			0.4	?
3049.580	Fe	v ⁵ F ₃ - e ⁵ G ₄		0.8	
3049.652	NH	(3-2) R1 11	bs	0.3	
3049.652	NH	(3-2) R2 10	bs	0.3	
3049.652	NH	(3-2) R3 9	bs	0.3	
3050.40	?			0.3	?
3050.896	Si	5s ³ P ₀ - 5p ³ P ₀		0.7	?
3051.508	?			0.1	
3051.58	OH	(3-2) P1F 5.5	b	0.3	
3052.005	OH	(3-2) P1E 5.5	b	0.3	
3052.09	?		s	0.3	?
3052.15	Mg	5g ^{1,3} G - 9h ^{1,3} H ⁰	s	0.4	
3052.76	?			0.3	?
3053.014	?			0.3	?

3054-3062 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Intensity
3061.602	Fe	2.0
3061.674	NH	bs 0.2
3061.674	NH	bs 0.2
3061.674	NH	bs 0.2

e ⁵D₃ - v ⁵F₃
 (3-2) R1 12
 (3-2) R2 11
 (3-2) R3 10

3062-3070 cm⁻¹

3063.050	OH	0.3
3063.23	OH	0.2
3063.950	?	0.2
3066.467	?	0.3

(3-2) P2E 4.5
 (3-2) P2F 4.5

3070-3078 cm⁻¹

3070.169	?	1.6
3071.443	?	0.5
3071.956	NH	b 0.4
3071.956	NH	b 0.4
3071.956	NH	b 0.4
3072.984	?	s 0.4
3073.069	?	2.2
3075.47	?	0.5
3075.527	?	0.4
3076.02	?	0.3
3076.306	?	0.3
3076.350	?	0.3

(3-2) R1 13
 (3-2) R2 12
 (3-2) R3 11

3078-3086 cm⁻¹

3080.470	NH	b 0.4
3080.470	NH	b 0.4
3080.470	NH	b 0.4
3080.995	OH	1.2
3081.776	OH	1.1
3083.542	?	0.1
3083.768	Si	11.2
3084.537	?	2.8
3084.962	Mg	0.2

(3-2) R1 14
 (3-2) R2 13
 (3-2) R3 12
 (2-1) P1F 8.5
 (2-1) P1E 8.5

5s ³P⁰ - 5p ³P₁
 6p ³P₂ - 10s ³S₁

3086-3094 cm⁻¹

3086.066	?					0.5	?
3086.248	?					0.3	?
3086.539	?					1.0	?
3086.660	?					s 0.3	?
3087.165	NH	(3-2)	R1 15			b 0.5	
3087.165	NH	(3-2)	R2 14			b 0.5	
3087.165	NH	(3-2)	R3 13			b 0.5	
3087.312	OH	(2-1)	P2E 7.5			1.1	
3087.518	?					0.3	?
3087.694	?					s 0.3	?
3087.778	OH	(2-1)	P2F 7.5			1.1	
3087.867	?					1.5	?
3089.765	OH	(3-2)	P1F 4.5			b 0.2	
3089.979	?					0.1	?
3090.116	OH	(3-2)	P1E 4.5			0.2	
3092.002	NH	(3-2)	R2 15			b 0.4	
3092.002	NH	(3-2)	R3 14			b 0.4	
3092.05	NH	(3-2)	R1 16			<0.1	
3092.24	?					0.1	?
3092.359	Mg	5d ¹ D ₂ - 7f ¹ F ₃				1.2	
3092.478	?					0.1	?
3092.602	OH	(1-0)	P1F 11.5			2.6	
3093.720	OH	(1-0)	P1E 11.5			2.5	

3094-3102 cm⁻¹

3094.77	Mg	5d ¹ D ₂ - 8p ¹ P ₁				0.6	
3094.981	NH	(3-2)	R1 17			b 0.4	
3094.981	NH	(3-2)	R2 16			b 0.4	
3094.981	NH	(3-2)	R3 15			b 0.4	
3095.177	?					0.3	?
3095.206	?					0.4	?
3096.07	NH	(3-2)	R1 18			b <<1	
3096.07	NH	(3-2)	R2 17			b <<1	
3096.07	NH	(3-2)	R3 16			b <<1	
3096.09	Fe	v ⁵ F ₃ - e ⁵ G ₃				0.8	
3096.445	OH	(1-0)	P2E 10.5			2.3	
3097.004	?					0.3	?
3097.236	OH	(1-0)	P2F 10.5			2.4	
3097.585	?					0.8	?
3097.752	Fe	v ⁵ F ₅ - e ⁵ G ₅				0.4	
3098.213	?					0.3	?
3098.469	?					0.4	?
3099.385	?					0.6	?

3102-3110 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Intensity
3102.118	e ⁵ D ₃ - v ⁵ P ₂	6.9
3102.23	?	s 0.1
3102.720	3d ¹ D ₂ - 4p ³ D ₁	2.5
3104.042	(3-2) P2E	0.2
3104.094	(3-2) P2F	0.1
3106.075	?	0.3
3106.494	?	0.1
3106.568	?	0.3
3106.612	?	0.5
3108.002	?	bs 0.3
3108.099	C(?)	2.3
3109.722	?	0.5
3109.750	?	0.5
3109.83	?	0.2

3110-3118 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Intensity
3110.27	?	0.3
3110.631	Si 3d ³ D ₁ - 5p ³ P ₀	5.7
3111.10	?	0.3
3111.250	?	0.3
3114.608	?	0.5
3114.799	Si 4d ³ F ₂ - 6p (¹ / ₂ , ³ / ₂) ₁	1.1
3115.684	?	0.3

3118-3126 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Intensity
3118.518	?	5.6
3119.448	?	0.8
3120.529	?	0.2
3120.639	?	0.2
3120.877	Si 4d ³ F ₄ - 6p (³ / ₂ , ³ / ₂) ₃	4.6
3123.711	Si 3d ³ D ₂ - 5p ³ P ₁	9.6
3124.069	?	0.3
3124.666	OH (2-1)	1.1
3125.339	OH (2-1) P1E	1.1
		7.5
		7.5

3126-3134 cm^{-1}

3126.374	OH	(3-2)	P1F 3.5	0.1	
3126.61	OH	(3-2)	P1E 3.5	0.1	
3127.54	?			0.2	?
3127.610	?			0.3	?
3131.288	?			0.3	?
3132.082	?			1.5	?
3132.234	OH	(2-1)	P2E 6.5	1.0	
3132.612	OH	(2-1)	P2F 6.5	1.0	

3134-3142 cm^{-1}

3135.126	?			0.9	?
3136.906	Si	5p 1P_1 - 4d a $^3P^0_2$		4.0	
3138.269	?			0.3	?
3141.047	OH	(1-0)	P1F 10.5	2.5	

3142-3150 cm^{-1}

3142.060	OH	(1-0)	P1E 10.5	2.6	
3142.617	?			0.6	?
3142.859	?			0.3	?
3143.537	Si	3d $^3D^0_1$ - 5p 3P_1		7.5	
3144.207	OH	(3-2)	P2E 2.5	0.1	
3144.234	OH	(3-2)	P2F 2.5	0.1	
3145.493	OH	(1-0)	P2E 9.5	2.3	
3146.189	OH	(1-0)	P2F 9.5	2.2	
3146.453	?			0.3	?

3150-3158 cm⁻¹

3150.595	?	0.3	?
3150.716	?	0.4	?
3150.968	?	1.4	?
3151.148	?	1.1	?
3151.561	?	1.0	?
3153.274	?	1.9	?
3154.432	Si	9.2	?
3155.439	?	0.2	?
3157.540	Fe	0.9	

5s ³P₁ - 5p ³P₂

3158-3166 cm⁻¹

3158.711	Cr	1.5	
3159.946	Cr	2.9	
3160.755	?	0.1	?
3162.005	?	2.5	?
3162.633	?	0.3	?
3163.374	?	0.1	?
3164.417	K	1.1	
3164.52	?	0.3	?

3d ²D_{3/2} - 5p ²P_{1/2}

3166-3174 cm⁻¹

3166.571	?	0.3	?
3166.677	?	3.0	?
3166.727	?	bs 0.3	?
3167.105	OH	1.0	
3167.668	OH	1.0	
3167.900	?	0.3	?
3168.683	?	0.6	?
3170.58	NH	0.2	
3170.61	NH	0.1	
3170.642	NH	0.1	
3172.523	?	s 0.2	?
3172.867	Si	24.2	
3173.338	?	s 0.2	?
3173.841	?	0.3	?

(2-1) P1F 6.5
(2-1) P1E 6.5

(2-1) R1 8
(2-1) R2 7
(2-1) R3 6

4p ¹D₂ - 3d ¹F₃

3174-3182 cm⁻¹

3176.314	OH	(2-1)	P2E 5.5	b 1	?
3176.314	?			b 2.0	
3176.609	OH	(2-1)	P2F 5.5	0.8	?
3177.158	?			0.2	?
3177.198	?			0.3	?
3177.231	?			0.1	?
3177.523	Fe			0.8	
3177.709	C		e ⁵ D ₃ - v ⁵ P ₂ ⁰ 4s ³ P ₂ ⁰ - 4p ³ P ₁	1.7	?
3177.91	?			0.3	?
3178.081	?			0.3	?
3178.852	?			0.7	?
3179.588	?			0.3	?
3180.391	?			0.2	?
3181.942	?			0.2	?

3182-3190 cm⁻¹

3182.26	?			bs 0.4	?
3182.327	Fe		v ⁵ P ₃ ⁰ - e ⁵ S ₂	3.8	
3182.448	?			0.3	?
3183.165	K		3d ² D _{3/2} - 5p ² P _{3/2} ⁰	0.3	?
3183.477	?			0.2	?
3183.51	?			0.2	?
3185.464	K		3d ² D _{5/2} - 5p ² P _{3/2} ⁰	1.7	?
3185.743	?			0.7	?
3187.264	?			0.8	?
3187.687	?			0.4	?
3188.063	?			0.2	?
3188.483	OH	(1-0)	P1F 9.5	2.4	
3188.944	NH	(2-1)	R1 9	0.2	
3188.994	NH	(2-1)	R2 8	0.3	
3189.03	NH	(2-1)	R3 7	0.1	
3189.396	OH	(1-0)	P1E 9.5	b 2 ⁺	
3189.396	Fe			b 4.2	

3190-3198 cm⁻¹

3191.329	?		0.5	?
3191.72	?		0.1	?
3191.77	?		0.3	?
3191.828	?		0.3	?
3192.216	?		0.2	?
3192.91	?		0.3	?
3193.687	OH	(1-0) P2E 8.5	2.1	
3194.284	C	4s ³ P ₁ - 4p ³ P ₀	b 3.4	
3194.284	OH	(1-0) P2F 8.5	b 2 ⁺	
3195.054	?		1.2	?
3195.943	C	4s ³ P ₂ - 4p ³ P ₂	3.5	
3196.02	?		bs 0.3	?
3196.726	?		0.2	?
3197.442	?		0.1	?
3197.766	?		s 0.3	?
3197.955	Si	4p ¹ D ₂ - 3d ¹ P ₁	18.8	

3198-3206 cm⁻¹

3198.140	?		s 0.2	?
3199.215	?		0.2	?
3200.009	?		0.3	?
3200.050	?		0.9	?
3201.968	?		0.4	?
3202.813	?		0.3	?
3203.29	?		0.1	?
3203.515	?		0.9	?
3203.723	?		0.2	?
3204.223	?		0.3	?
3205.552	?		0.1	?
3205.693	NH	(2-1) R1 10	0.1	
3205.73	NH	(2-1) R2 9	0.3	
3205.759	Fe	3d ⁸ c ³ F ₄ - z ³ G ₃ ⁰	b 0.4	
3205.759	NH	(2-1) R3 8	b 0.2	

3206-3214 cm⁻¹

3206.057	?			0.1	?
3206.477	?			0.5	?
3206.791	?			0.2	?
3208.099	?			s 0.3	?
3208.178	OH		P1F 5.5	1.0	
3208.467	S		5s ⁵ S ₂ - 5p ⁵ P ₁	2.1	
3208.558	K		4d ² D _{3/2} - 5f ² F _{5/2} ⁰	s 0.4	
3208.638	OH		(2-1) P1E 5.5	1.0	
3208.961	?			bs 0.1	?
3209.05	C		4s ³ P ₁ ⁰ - 4p ³ P ₁	1.1	
3209.449	Mg		4p ¹ P ₁ ⁰ - 5s ¹ S ₀	24.5	
3209.681	K		4d ² D _{5/2} - 5f ² F _{7/2} ⁰	bs	
3210.086	?			0.3	?
3210.119	?			0.3	?
3210.679	Si		3d ³ D ₃ - 5p ³ P ₂	15.3	
3211.746	?			0.4	?
3211.881	?			0.1	?
3212.143	S		5s ⁵ S ₂ - 5p ⁵ P ₂	3.2	

3214-3222 cm⁻¹

3214.093	?			0.1	?
3216.26	?			0.3	?
3216.30	Mg		6s ¹ S ₀ - 8p ¹ P ₁ ⁰	0.2	
3216.981	?			0.3	?
3217.777	?			0.8	?
3217.886	?			0.3	?
3218.071	?			s 0.2	?
3218.173	S		5s ⁵ S ₂ - 5p ⁵ P ₃	4.0	
3218.34	?			0.2	?
3218.429	?			0.3	?
3218.480	?			0.4	?
3218.780	?			0.2	?
3219.591	OH		(2-1) P2E 4.5	0.8	
3219.751	OH		(2-1) P2F 4.5	0.6	
3219.795	?			0.4	?
3220.00	?			0.2	?
3220.816	C		4s ³ P ₀ ⁰ - 4p ³ P ₁		
3220.816	NH		(2-1) R1 11	b 1.4	
3220.816	NH		(2-1) R2 10		
3220.839	NH		(2-1) R3 9		
3221.80	?			b 0.4	?
3221.82	?			b 0.4	?

3222-3230 cm^{-1}

3222.109	?			0.3	?
3225.979	?			0.2	?
3226.86	?			0.3	?
3227.284	?			0.5	?
3227.311	C		$4s^3P_1 - 4p^3P_2$	1.4	
3227.448	?			0.3	?
3227.543	Fe		$3d^54s^24p^1Y^7F^0_3 - e^1D_3$	3.9	
3227.543	Fe		$v^5F^0_3 - g^5D_4$	3.9	
3227.633	?			0.2	?
3228.097	Si		$5s^3P_1 - 5p^3S_1$	2.5	

3230-3238 cm^{-1}

3230.97	?			0.1	?
3234.225	NH		R1 12	0.7	
3234.225	NH		R2 11	0.7	
3234.252	NH		R3 10	0.5	
3234.698	?			0.2	?
3234.841	OH		P1F 8.5	2	
3234.841	Fe			7.1	
3235.652	OH		P1E 8.5	2.2	
3237.229	Si		$5p^3P_2 - 5d^3F^0_3$	1.2	
3237.504	?			0.3	?

3238-3246 cm⁻¹

3238.750	?			0.3	?
3239.238	?			0.6	?
3239.617	Ca	4d ¹ D ₂ - 4p ¹ F ₃ ⁰		9.3	
3240.23	C(?)	3d ¹ F ₃ - 4p ¹ D ₂		3.4	
3240.443	?			0.1	?
3241.027	OH	(1-0) P2E 7.5		2.0	
3241.521	OH	(1-0) P2F 7.5		1.9	
3243.049	Ca	6s ¹ S ₀ - 4p ¹ P ₁ ⁰		1.6	
3243.311	Fe	e ⁵ D ₃ - x ³ P ₂ ⁰		1.7	
3244.204	?			0.3	?
3244.297	?			0.2	?
3244.406	?			0.2	?
3244.467	?			0.2	?
3244.538	Mg	6p ³ P ₂ - 9d ³ D ₃		s 0.2	?
3244.67	?			0.9	?
3244.950	Si	4f [₄₂] ¹ ₄ - 6d ³ F ₃ ⁰		0.3	?
3245.36	?			0.2	?
3245.481	?			0.4	?
3245.559	?			0.2	?
3245.662	?			s 0.3	?
3245.766	?			5.7	?
3245.902	NH	(2-1) R2 12			
3245.902	NH	(2-1) R1 13			
3245.902	NH	(2-1) R3 11			
3245.902			bs 1		

3246-3254 cm⁻¹

3247.786	OH	(2-1) P1F 4.5		0.7	
3248.131	OH	(2-1) P1E 4.5		0.7	
3252.089	?			0.1	?
3252.991	Fe	e ⁵ D ₄ - v ⁵ F ₄ ⁰		1.8	
3253.906	?			0.3	?
3253.951	Si	4d ³ F ₃ ⁰ - 6p (₂ , ₂) ₃		0.4	

3254-3262 cm⁻¹

3255.512	?		0.2	?
3255.818	NH	(2-1)		
3255.818	NH	(2-1)	b 0.8	
3255.818	NH	(2-1)		
3257.083	?		3.7	?
3257.191	?		s 0.3	?
3258.927	?		s 0.2	?
3259.019	Si	4p ¹ S ₀ - 5s ¹ P ₁	2.6	
3261.298	?		0.1	?
3261.348	?		0.3	?
3261.396	?		0.1	?

3262-3270 cm⁻¹

3262.074	OH	(2-1)	0.6	
3262.176	OH	(2-1)	0.4	
3263.168	Si	3d ³ D ₂ - 5p ³ P ₂	7.4	
3263.357	Ca	5d ¹ D ₂ - 6f ¹ F ₃	s 0.4	
3263.497	?		0.3	?
3263.957	NH	(2-1)		
3263.957	NH	(2-1)	b 0.8	
3263.957	NH	(2-1)		
3264.341	?		0.2	?
3265.733	?		0.3	?
3268.416	NH	(2-1)	b 0.3	
3268.416	NH	(2-1)	b 0.3	
3268.471	NH	(2-1)	b 0.3	
3269.861	Si	5s ³ P ₀ - 5p ¹ D ₂	0.9	

3270-3278 cm⁻¹

3270.272	NH	(2-1)	R3 14	b 0.7	?
3270.272	NH	(2-1)	R2 15		
3270.272	NH	(2-1)	R1 16		
3270.845	?			0.3	?
3273.128	?			0.3	?
3273.461	Fe			6.9	
3273.668	NH	(2-1)	R3 19	b 0.3	
3273.668	NH	(2-1)	R2 20	b 0.3	
3274.755	NH	(2-1)	R3 15		
3274.755	NH	(2-1)	R2 16	b 0.7	
3274.755	NH	(2-1)	R1 17		
3276.300	?			0.4	?
3276.775	NH	(2-1)	R2 19		
3276.80	NH	(2-1)	R3 18	b 0.1	
3276.854	NH	(2-1)	R1 20	0.3	
3277.155	?			0.1	?
3277.358	NH	(2-1)	R3 16		
3277.358	NH	(2-1)	R2 17		
3277.358	NH	(2-1)	R1 18	b 0.6	

3278-3286 cm⁻¹

3278.073	NH	(2-1)	R3 17	b 0.6	
3278.073	NH	(2-1)	R2 18		
3278.073	NH	(2-1)	R1 19		
3279.930	?			1.0	?
3280.034	OH	(1-0)	P1F 7.5	2.0	?
3280.274	?			0.4	
3280.744	OH	(1-0)	P1E 7.5	2.0	?
3282.376	?			0.1	
3282.987	Si			1.8	?
3283.263	?			0.3	?
3283.35	?			0.5	?
3283.641	?			0.6	?
3283.731	?			0.2	?
3283.920	?			1.6	?
3284.300	?			0.3	?
3285.758	OH	(2-1)	P1F 3.5	0.3	

3286-3294 cm⁻¹

3286.025	OH	(2-1)	P1E 3.5	0.4	?	
3286.962	?			0.2	?	
3287.132	?			0.3	?	
3287.406	?			s 0.3	?	
3287.483	OH	(1-0)	P2E 6.5	2.1	?	
3287.875	OH	(1-0)	P2F 6.5	2.0	?	
3289.093	?			s 0.4	?	
3289.421	?			bs 0.3	?	
3289.581	Fe	e ⁵ D ₄ - v ⁵ P ₃			13.7	?
3289.752	?			s 0.2	?	
3290.926	?			0.5	?	
3293.171	?			0.3	?	

3294-3302 cm⁻¹

3295.791	?			0.7	?
3297.701	?			0.3	?
3299.23	?			0.2	?
3299.468	?			0.4	?

3302-3310 cm⁻¹

3302.845	Mg	5p ¹ P ₁ - 7s ¹ S ₀		3.8	?
3303.743	?			0.3	?
3303.81	OH	(2-1)	P2F 2.5	b 0.6	?
3303.83	OH	(2-1)	P2E 2.5	b 0.6	?
3304.107	?			1.5	?
3305.828	?			0.6	?
3306.323	Fe			4.1	?
3306.770	Fe			3.2	?
3306.895	?			0.4	?
3307.339	?			0.2	?
3309.460	?			0.4	?
3309.75	?			s 0.2	?

3310-3318 cm⁻¹

3310.675	?					0.2	?
3310.82	Ca	6p ¹ P ₁ - 6d ¹ D ₂				1.1	
3313.15	?					1.9	
3314.57	?					0.1	
3314.66	?					0.2	
3314.92	Si	4f [3 $\frac{1}{2}$] ¹ ₃ - 6d ³ F ⁰ ₂				0.4	
3315.63	?					0.6	
3315.85	NH	(1-0)	R1	7		0.1	
3315.90	NH	(1-0)	R2	6		0.1	
3315.94	NH	(1-0)	R3	5		0.1	
3316.07	CO	(12-10)	P72			0.1	
3316.51	?					0.2	
3316.65	Si	5p ³ P ₁ - 5d ³ F ⁰ ₂				3.3	
3316.69	Mg	5p ¹ P ₁ - 6d ¹ D ₂				3.3	
3316.94	?					0.3	

3318-3326 cm⁻¹

3318.01	Fe	v ³ F ⁰ ₃ - f ³ F ₄				0.6	
3319.50	?					0.2	
3321.09	?					0.3	
3322.01	OH	(2-1)	P1F	2.5		0.2	
3322.02	?					1.3	
3322.15	OH	(2-1)	P1E	2.5		0.2	
3322.52	?					0.2	
3322.606	Si	5p ³ D ₁ - 5d ¹ D ⁰ ₂				0.8	
3322.974	?					0.2	
3323.101	?					0.2	
3323.242	?					0.1	
3323.976	OH	(1-0)	P1F	6.5		1.7	
3323.976	Si	6s ($\frac{1}{2}, \frac{1}{2}$) ⁰ ₁ - 7p ($\frac{3}{2}, \frac{1}{2}$) ₁				b	
3324.16	CO	(12-10)	P71			0.1	
3324.575	OH	(1-0)	P1E	6.5		1.6	
3324.720	?					0.4	
3324.94	?					0.1	

3326-3334 cm⁻¹

3330.01	CO	(13-11)	P64	0.1	
3330.199	?			0.2	?
3332.21	CO	(12-10)	P70	0.2	
3332.551	?			0.4	?
3333.087	Mg	5d ³ D _{1,2,3} - 9f ³ F _{2,3,4}		b 3 ⁺	
3333.087	OH	(1-0)	P2E 5.5	b 1 ⁺	
3333.382	OH	(1-0)	P2F 5.5	1.9	

3334-3342 cm⁻¹

3334.28	?			0.1	?
3336.251	?			0.2	?
3336.60	?			0.2	?
3336.79	?			bs <1	?
3336.836	Si	3d ³ D ₂ - 5p ³ S ₁		4.6	
3337.043	?			3.4	?
3337.11	NH	(1-0)	R1 8	bs <<1	
3337.168	NH	(1-0)	R2 7	bs 0.3	
3337.168	NH	(1-0)	R3 6	bs 0.3	
3337.58	CO	(13-11)	P63	0.2	
3338.616	?			0.4	?
3338.74	Fe	v ⁵ F ₃ - f ⁵ F ₄		0.5	
3340.19	CO	(12-10)	P69	0.1	
3340.32	?			0.1	?
3340.38	?			0.1	?
3340.50	?			0.5	?

3342-3350 cm⁻¹

3342.52	?			0.1	?
3342.568	CO	(9-7)	P86	0.1	?
3344.06	?			0.1	?
3344.40	Na	5p ² P _{3/2} - 6d ² D _{5/2,3/2}		1.4	?
3344.60	?			0.1	?
3344.65	OH	(2-1)	P2E 1.5	0.3	
3344.78	OH	(2-1)	P2F 1.5	0.2	
3344.89	?			0.2	
3345.99	?			0.3	?
3346.53	?			0.2	?
3346.815	Mg	4f ¹ F ₃ - 6d ¹ D ₂		b 3.8	
3346.815	Na	5p ² P _{1/2} - 6d ² D _{3/2}		b	
3346.815	CO	(10-8)	P80	b <0.1	
3348.10	CO	(12-10)	P68	0.1	

3350-3358 cm⁻¹

3351.301	?			0.2	?
3351.398	?			0.3	?
3351.51	?			0.1	?
3351.59	CO	(9-7)	P85	0.1	
3352.56	CO	(13-11)	P61	0.2	
3353.66	?			0.2	
3354.20	?			0.1	?
3354.24	?			0.1	?
3354.404	Fe	v ⁵ F ₁ - f ⁵ F ₂		0.5	
3354.72	?			0.3	?
3355.45	CO	(10-8)	P79	0.1	
3355.96	CO	(12-10)	P67	0.1	
3356.65	Si	3d ³ D ₁ - 5p ³ S ₁		1.7	
3356.76	NH	(1-0)	R1 9	b 0.5	
3356.80	NH	(1-0)	R2 8	b 0.5	
3356.80	NH	(1-0)	R3 7	b 0.5	
3356.92	CO	(11-9)	P73	0.1	
3357.115	Fe	f ⁵ D ₃ - ⁵ D ₃ ⁰		1.1	

3358-3366 cm⁻¹

3359.601	?			0.3	?
3359.72	?			0.3	?
3359.824	?			1.9	?
3359.90	?			0.1	?
3359.95	CO	(13-11)	P60	0.1	
3360.56	CO	(9-7)	P84	0.2	
3360.60	?			0.4	?
3360.855	?			2.9	?
3362.363	?			0.3	?
3363.75	CO	(12-10)	P66	0.2	
3364.04	CO	(10-8)	P78	bs 0.1	
3364.099	Si	6p ³ D ₂ - 8d ³ F ₂ ⁰		2.1	
3364.48	?			0.3	?
3365.108	CO	(11-9)	P72	0.1	
3365.256	Fe	v ⁵ F ₂ ⁰ - f ⁵ F ₃		0.6	
3365.36	?			0.3	?
3365.61	?			0.3	?
3365.73	?			0.1	?

3366-3374 cm⁻¹

3366.548	OH	(1-0)	P1F 5.5	b 1*	
3367.041	OH	(1-0)	P1E 5.5	1.5	
3367.286	CO	(13-11)	P59	0.3	
3367.466	?			0.2	?
3368.33	?			0.4	?
3368.38	?			0.2	?
3368.437	?			0.2	?
3368.642	?			1.9	?
3369.39	?			0.3	?
3369.49	CO	(9-7)	P83	0.1	
3369.96	?			0.3	?
3370.57	CO	(15-13)	P44	0.2	
3370.68	?			0.1	?
3371.110	?			0.9	?
3371.49	CO	(12-10)	P65	0.2	
3372.56	CO	(10-8)	P77	0.1	
3373.248	Fe			b 6.1	
3373.248	Si	6p ³ D ₁ - 8d ³ F ₂ ⁰		b	
3373.248	CO	(11-9)	P71	b 0.2	

3374-3382 cm^{-1}

3374.26	CO	(14-12)	P51	<0.1	
3374.56	CO	(13-11)	P58	0.2	
3374.67	?			0.4	?
3374.808	NH	(1-0)	R1 10	b 0.7	
3374.808	NH	(1-0)	R2 9	b 0.7	
3374.83	NH	(1-0)	R3 8	b 0.7	
3375.41	CO	(7-5)	P93	<0.1	
3375.93	CO	(6-4)	P98	0.2	
3376.021	?			0.9	?
3376.834	CO	(15-13)	P43	0.2	
3377.881	OH	(1-0)	P2E 4.5	1.4	
3378.077	OH	(1-0)	P2F 4.5	1.2	
3378.35	CO	(9-7)	P82	0.1	
3378.53	?			0.1	?
3379.16	CO	(12-10)	P64	0.3	
3379.20	?			s 0.2	
3380.549	?			0.2	?
3381.011	?			0.5	?
3381.047	CO	(10-8)	P76	b 0.3	
3381.31	CO	(11-9)	P70	b 0.2	
3381.31	?			b 0.5	?
3381.40	?			0.2	?
3381.761	CO	(13-11)	P57	0.3	
3381.95	?			0.1	?

3382-3390 cm⁻¹

3382.39	?				0.3	?
3382.43	Si	4f [2 ₂] ₃ - 6d ¹ D ⁰ ₂			0.4	
3382.595	Fe	3d ⁵ 4s ² 4p Y ⁷ P ⁰ ₂ - e ⁷ D ₃			2.0	
3383.000	?				0.3	
3383.036	?				0.5	
3383.43	?				0.1	
3383.61	?				0.2	
3383.91	Fe	v ⁵ P ⁰ ₃ - g ⁵ D ₄			0.6	
3384.80	?				0.2	
3384.93	CO	(7-5)	P92		0.1	
3385.689	?				0.3	
3386.78	CO	(12-10)	P63		0.4	
3387.14	CO	(9-7)	P81		0.1	
3387.25	?				0.3	
3387.31	?				0.2	
3387.54	?				0.2	
3387.68	CO	(14-12)	P49		0.2	
3388.910	CO	(13-11)	P56		0.2	
3389.149	CO	(15-13)	P41		0.3	
3389.326	CO	(11-9)	P69		0.2	
3389.429	CO	(10-8)	P75		0.1	
3389.632	?				1.4	
3389.74	?				0.3	
3389.91	?				0.2	

3390-3398 cm⁻¹

3391.183	NH	(1-0)	R1 11	b 1	?
3391.183	NH	(1-0)	R2 10	b 1	?
3391.21	NH	(1-0)	R3 9	bs <1	
3391.42	?			0.3	
3391.55	?			0.4	
3391.58	CO	(8-6)	P86	b 0.1	
3391.64	CO	(16-14)	P32	0.3	?
3392.98	?			0.3	
3393.109	Si	3d ¹ P ⁰ ₁ - 5p ¹ P ₁		0.3	?
3393.20	?			0.2	?
3393.27	?			0.3	?
3393.42	?			0.4	?
3393.59	?			0.2	?
3393.864	?			2.5	?
3394.29	CO	(14-12)	P48	0.2	
3394.331	CO	(12-10)	P62	0.3	
3394.38	CO	(7-5)	P91	0.1	
3394.75	?			0.3	?
3395.09	?			0.4	?
3395.170	?			0.3	?
3395.22	CO	(15-13)	P40	0.2	
3395.46	?			0.3	?
3395.54	CO	(6-4)	P96	0.1	
3395.883	CO	(9-7)	P80	0.1	
3395.997	CO	(13-11)	P55	0.3	
3397.28	CO	(11-9)	P68	b 0.3	
3397.440	Fe	3d ⁸ c ³ F ₂ - Y ³ F ₃		7.6	
3397.792	CO	(10-8)	P74	0.2	

3398-3406 cm⁻¹

3398.055	?			1.1	?
3400.555	?			0.7	?
3400.65	CO	(8-6)	P85	0.1	
3400.83	CO	(14-12)	P47	0.2	
3401.22	CO	(15-13)	P39	0.2	
3401.817	CO	(12-10)	P61	0.4	
3402.48	CO	(16-14)	P30	0.3	
3403.023	CO	(13-11)	P54	b 0.4	
3403.279	?			13.5	?
3403.78	CO	(7-5)	P90	0.2	
3404.57	CO	(9-7)	P79	0.2	
3404.646	Ca	3d4p ³ P ⁰ ₂ - 4s5d ³ D ₂		1.0	
3405.184	CO	(11-9)	P67	0.3	
3405.254	CO	(6-4)	P95	0.3	
3405.64	Cr			b 2.3	
3405.659	Si	4f [4 ₂] ['] ₅ - 6d ³ F ⁰ ₄		b 2.3	
3405.847	NH	(1-0)	R1 12	b 1	
3405.847	NH	(1-0)	R2 11	b 1	
3405.87	NH	(1-0)	R3 10	b 1	

3406-3414 cm⁻¹

3406.082	CO	(10-8)	P73	0.4	
3407.16	CO	(15-13)	P38	0.3	
3407.32	CO	(14-12)	P46	b 0.2	
3407.332	Ca	3d4p ³ P ₂ - 4s5d ³ D ₃		3.8	
3407.616	OH	(1-0)	P1F 4.5	1.2	
3407.681	Ca	3d4p ³ P ₁ - 4s5d ³ D ₁		bs 0.5	
3407.80	CO	(16-14)	P29	0.4	
3407.985	OH	(1-0)	P1E 4.5	1.3	
3408.672	?			0.6	?
3409.242	CO	(12-10)	P60	0.4	
3409.30	?			b 0.2	?
3409.401	Ca	3d4p ³ P ₁ - 4s5d ³ D ₂		1.9	
3409.613	Ca	3d4p ³ P ₀ - 4s5d ³ D ₁		1.2	
3409.66	CO	(8-6)	P84	b 0.1	
3409.98	CO	(13-11)	P53	0.2	
3411.322	?			1.4	?
3412.997	CO	(11-9)	P66	0.4	
3413.03	CO	(15-13)	P37	bs 0.3	
3413.10	CO	(7-5)	P89	0.2	
3413.18	CO	(9-7)	P78	0.4	
3413.74	CO	(14-12)	P45	0.2	

3414-3422 cm⁻¹

3414.350	Ca	5s ¹ S ₀ - 5p ¹ P ₁		18.3	
3414.73	?			0.4	?
3414.91	CO	(6-4)	P94	0.2	
3416.24	?			0.8	?
3416.61	CO	(12-10)	P59	0.3	
3416.884	CO	(13-11)	P52	b 0.4	
3416.884	?			b 0.8	?
3417.14	?			0.3	?
3417.19	?			0.3	?
3417.47	?			bs 0.3	?
3417.552	Ca	5d ³ D ₃ - 5f ³ F ₄		1.8	
3418.215	?			0.7	?
3418.615	CO	(8-6)	P83	0.2	
3418.803	NH	(1-0)	R1 13	b 1	
3418.803	NH	(1-0)	R2 12	b 1	
3418.837	NH	(1-0)	R3 11	b 1	
3418.84	CO	(15-13)	P36	bs 0.2	
3420.09	CO	(14-12)	P44	bs 0.3	
3420.38	?			0.4	?
3420.701	?			0.8	?
3420.772	CO	(11-9)	P65	0.5	
3421.20	?			0.3	?
3421.44	?			0.4	?
3421.748	CO	(9-7)	P77	0.4	
3421.929	OH	(1-0)	P2E 2.5	1.0	

3422-3430 cm⁻¹

3422.011	OH	(1-0)	P2F 2.5	1.0	
3422.12	?			0.3	?
3422.38	CO	(7-5)	P88	0.3	
3422.48	CO	(10-8)	P71	0.4	
3423.70	CO	(13-11)	P51	0.4	
3423.85	?			0.3	?
3423.92	CO	(12-10)	P58	0.4	
3424.51	CO	(6-4)	P93	0.2	
3424.59	CO	(15-13)	P35	0.2	
3424.99	CO	(5-3)	P98	0.2	
3426.36	?			bs 0.3	?
3426.39	CO	(14-12)	P43	b 0.2	
3426.439	Fe	3d ⁵ 4s ² 4p y 7p ⁰ ₃ - e 7D ₂		1.6	
3427.50	CO	(8-6)	P82	b 0.2	
3428.484	CO	(11-9)	P64	0.6	
3429.259	?			0.5	?
3429.400	Si	6p 3D ₃ - 8d 3F ⁰ ₄		s 0.5	
3429.568	C	4s 1P ⁰ ₁ - 4p 1D ₂		6.3	

3430-3438 cm⁻¹

3430.010	NH	(1-0)	R1 14		
3430.010	NH	(1-0)	R2 13	b 1	
3430.010	NH	(1-0)	R3 12		
3430.25	CO	(9-7)	P76	0.4	
3430.27	CO	(15-13)	P34	s 0.2	
3430.467	NH	(1-0)	R3 23	b 0.4	
3430.47	CO	(13-11)	P50	b 0.4	
3430.50	NH	(1-0)	R2 24	b 0.4	
3430.54	NH	(1-0)	R1 25		
3430.58	CO	(10-8)	P70	0.2	
3431.18	CO	(12-10)	P57	0.4	
3431.29	?			0.3	?
3431.44	?			0.5	?
3431.61	CO	(7-5)	P87	0.3	
3432.275	Ti	a 3H ₄ - z 3G ⁰ ₃		1.7	
3432.62	CO	(14-12)	P42	0.2	
3433.045	?			1.9	?
3433.511	?			2.9	?
3434.046	CO	(6-4)	P92	0.3	
3434.07	CO	(4-2)	P102	<0.1	
3434.716	?			0.4	?
3434.86	CO	(5-3)	P97	0.3	
3434.88	CO	(15-13)	P33	0.2	
3436.135	CO	(11-9)	P63	b 0.6	
3436.33	CO	(8-6)	P81	0.2	
3437.198	CO	(13-11)	P49	0.4	

3438-3446 cm⁻¹

3438.35	CO	(12-10)	P56	0.4	
3438.630	CO	(10-8)	P69	0.4	
3438.695	CO	(9-7)	P75	0.4	
3438.79	CO	(14-12)	P41	b 0.4	
3439.439	NH	(1-0)	R2 14		
3439.439	NH	(1-0)	R1 15	b 1 ⁺	
3439.439	NH	(1-0)	R3 13		
3440.14	NH	(1-0)	R3 22	b 0.3	
3440.18	NH	(1-0)	R2 23		
3440.20	NH	(1-0)	R1 24		
3440.641	Si	5s ¹ P ₁ ⁰ - 5p ¹ S ₀		8.9	
3440.77	CO	(7-5)	P86	0.2	
3441.440	CO	(15-13)	P32	0.3	
3441.70	?			0.3	?
3442.165	?			7.5	?
3443.532	CO	(6-4)	P91	0.3	
3443.718	CO	(11-9)	P62	0.6	
3443.839	CO	(13-11)	P48	0.4	
3444.19	CO	(4-2)	P101	<0.1	
3444.68	CO	(5-3)	P96	b 0.3	
3444.710	?			4.0	?
3444.89	CO	(14-12)	P40	0.2	
3445.104	CO	(8-6)	P80	0.3	
3445.464	CO	(12-10)	P55	0.5	
3445.932	Fe	e ⁵ D ₄ - v ⁵ F ₃ ⁰		0.7	

3446-3454 cm⁻¹

3446.607	CO	(10-8)	P68	0.5	
3446.92	CO	(15-13)	P31	0.1	
3446.969	?			s 0.4	?
3447.024	OH	(1-0)	P1F 3.5	b 1	
3447.064	NH	(1-0)	R2 15		
3447.064	NH	(1-0)	R3 14	b 1 ⁺	
3447.064	NH	(1-0)	R1 16		
3447.064	CO	(9-7)	P74	b 0.5	
3447.219	Ti	a ³ H ₅ - z ³ G ₄		2.4	
3447.31	OH	(1-0)	P1E 3.5	b 1	
3447.81	NH	(1-0)	R3 21	b 0.5	
3447.85	NH	(1-0)	R2 22	b 0.5	
3447.88	NH	(1-0)	R1 23	b 0.5	
3448.75	Si	6p ³ D ₂ - 8d ³ F ₃		0.7	
3449.866	CO	(7-5)	P85	0.3	
3450.419	CO	(13-11)	P47	b 0.5	?
3450.48	?			0.5	
3450.93	CO	(14-12)	P39	b 0.3	
3451.25	CO	(11-9)	P61	0.6	
3452.326	CO	(15-13)	P30	0.3	
3452.534	CO	(12-10)	P54	0.5	
3452.724	?			0.3	?
3452.847	NH	(1-0)	R3 15		
3452.847	NH	(1-0)	R2 16	b 1.2	
3452.847	NH	(1-0)	R1 17		
3452.969	CO	(6-4)	P90	0.4	
3453.524	NH	(1-0)	R3 20	b 0.8	
3453.524	NH	(1-0)	R2 21	b 0.8	
3453.563	NH	(1-0)	R1 22	b 0.8	
3453.817	CO	(8-6)	P79	0.3	

3454-3462 cm⁻¹

3454.102	?			0.8	?
3454.25	CO	(4-2)	P100	0.1	
3454.43	CO	(5-3)	P95	0.3	
3454.541	CO	(10-8)	P67	0.4	
3455.289	Fe	w ⁵ D ₃ - e ⁵ F ₄		1.9	
3455.391	CO	(9-7)	P73	0.5	
3455.70	?			0.5	?
3455.862	?			0.5	?
3456.016	?			0.5	?
3456.801	NH	(1-0)	R3 16		
3456.801	NH	(1-0)	R2 17	b 0.9	
3456.801	NH	(1-0)	R1 18		
3456.894	CO	(14-12)	P38	0.3	
3456.94	CO	(13-11)	P46	0.4	
3457.242	NH	(1-0)	R3 19	b 0.7	
3457.242	NH	(1-0)	R2 20	b 0.7	
3457.28	NH	(1-0)	R1 21	0.3	
3457.698	CO	(15-13)	P29	0.4	
3458.701	CO	(11-9)	P60	0.5	
3458.843	NH	(1-0)	R3 17		
3458.843	NH	(1-0)	R2 18	b 1.1	
3458.843	NH	(1-0)	R1 19		
3458.91	CO	(7-5)	P84	0.3	
3459.009	NH	(1-0)	R3 18		
3459.009	NH	(1-0)	R2 19	b 1	
3459.009	NH	(1-0)	R1 20		
3459.106	?			0.3	?
3459.535	CO	(12-10)	P53	0.5	
3459.92	?			0.5	?
3461.783	?			0.4	?

3462-3470 cm⁻¹

3462.147	Ni(?)	5p w ³ P ₂ - 6s g ³ D ₃	b	
3462.147	C(?)	3d ³ D ₂ - 4p ¹ D ₂	1.9	
3462.337	CO	(6-4) P89	0.4	
3462.41	CO	(10-8) P66	0.5	
3462.49	CO	(8-6) P78	bs 0.4	?
3462.54	?		0.4	
3462.81	CO	(14-12) P37	0.4	
3462.81	CO	(3-1) P104	b <<1	
3462.98	CO	(15-13) P28	0.3	
3463.247	?		15.4	?
3463.389	CO	(13-11) P45	b 0.5	
3463.648	CO	(9-7) P72	0.6	?
3463.80	?	(5-3) P94	0.4	
3464.12	CO	(4-2) P99	0.3	?
3464.171	?		0.9	
3464.27	CO	(1-0) P2F 2.5	0.1	?
3465.17	?	(1-0) P2E 2.5	0.4	
3465.25	OH		b 1	
3465.27	OH		b 1	
3465.74	?		s 0.4	?
3465.851	?		9.9	?
3466.101	CO	(11-9) P59	0.6	
3466.184	?		0.4	?
3466.457	CO	(12-10) P52	0.7	
3467.90	CO	(7-5) P83	0.4	
3468.148	?	(15-13) P27	1.4	?
3468.20	CO		bs <<1	
3468.26	?		0.4	?
3468.392	Fe	f ⁵ D ₄ - ⁵ D ₃	0.6	
3468.65	CO	(14-12) P36	0.2	
3469.213	C(?)	4p ¹ P ₁ - 4d ¹ P ₁	2.6	
3469.236	?		0.6	?
3469.431	CO	(13-11) P44	b 0.6	
3469.797				

3470-3478 cm⁻¹

3470.07	?			0.5	?
3470.215	CO	(10-8)	P65	0.6	
3470.711	?			0.4	?
3471.08	CO	(8-6)	P77	0.6	
3471.261	?			0.3	?
3471.65	CO	(6-4)	P88	0.4	
3471.859	CO	(9-7)	P71	0.6	
3473.074	CO	(3-1)	P103	0.3	
3473.324	CO	(12-10)	P51	0.9	
3473.36	CO	(15-13)	P26	0.3	
3473.453	CO	(11-9)	P58	0.8	
3473.748	CO	(5-3)	P93	0.5	
3473.939	?			0.3	?
3474.21	CO	(4-2)	P98	0.1	
3474.434	CO	(14-12)	P35	0.3	
3474.528	?			0.4	?
3476.126	CO	(13-11)	P43	0.7	
3476.339	?			s 0.3	?
3476.511	?			0.4	?
3476.80	?			0.7	?
3476.83	CO	(7-5)	P82	0.7	
3477.800	?			1.2	?
3477.971	CO	(10-8)	P64	0.7	

3478-3486 cm⁻¹

3478.224	?			5.0	?
3478.35	?			s 0.4	?
3478.44	CO	(15-13)	P25	s 0.3	
3479.62	CO	(8-6)	P76	b 1	
3480.008	CO	(9-7)	P70	0.6	
3480.135	CO	(12-10)	P50	0.9	
3480.14	CO	(14-12)	P34	b 0.3	
3480.738	CO	(11-9)	P57	1.1	
3480.886	CO	(6-4)	P87	0.4	
3481.17	Fe	v ⁵ F ₃ - f ⁵ F ₃		bs <1	
3481.277	?			8.4	?
3481.49	?			0.3	?
3481.690	?			0.4	?
3481.861	?			4.3	?
3482.397	CO	(13-11)	P42	0.7	
3483.33	CO	(5-3)	P92	b 0.4	
3483.381	?			12.7	?
3483.47	CO	(15-13)	P24	bs <<1	
3484.12	CO	(4-2)	P97	0.2	
3484.442	?			0.4	?
3484.584	OH	(1-0)	PIF 2.5	0.4	
3484.75	OH	(1-0)	PIE 2.5	b 0.4	
3485.109	?			0.4	?
3485.229	?			0.9	?
3485.644	CO	(10-8)	P63	1.0	
3485.692	CO	(7-5)	P81	0.6	
3485.81	CO	(14-12)	P33	b 0.3	
3485.986	?			1.5	?

3486-3494 cm⁻¹

3486.682	?			0.4	?
3486.868	CO	(12-10)	P49	0.8	
3487.512	?			0.7	?
3487.943	CO	(11-9)	P56	0.6	
3488.10	CO	(9-7)	P69	b 0.7	
3488.10	CO	(8-6)	P75	b 1	
3488.434	CO	(15-13)	P23	b <<1	
3488.593	CO	(13-11)	P41	0.7	
3490.101	CO	(6-4)	P86	0.4	
3490.68	?			0.3	?
3491.097	?			0.4	?
3491.38	CO	(14-12)	P32	0.3	
3492.842	CO	(5-3)	P91	0.4	
3493.093	Fe			6.1	
3493.258	CO	(10-8)	P62	0.9	
3493.31	CO	(15-13)	P22	0.3	
3493.45	CO	(3-1)	P101	0.1	
3493.566	CO	(12-10)	P48	0.8	
3493.953	CO	(4-2)	P96	0.3	

3494-3502 cm⁻¹

3494.10	?			0.4	?
3494.375	?			0.3	?
3494.490	CO	(7-5)	P80	0.8	
3494.73	CO	(13-11)	P40	bs <1	
3494.781	?			2.0	?
3495.107	CO	(11-9)	P55	0.8	
3496.112	CO	(9-7)	P68	0.8	?
3496.24	?			0.5	
3496.376	Fe	5p ⁷ P ₃ - g ⁷ D ₄		6.4	?
3496.43	?			s 5.5	
3496.52	CO	(8-6)	P74	b 1	
3496.91	CO	(14-12)	P31	0.3	?
3497.06	?			0.4	
3497.640	Fe	5p ⁷ F ₄ - g ⁷ D ₅		4.1	?
3498.003	?			0.4	
3498.142	CO	(15-13)	P21	0.3	
3499.242	CO	(6-4)	P85	0.4	
3500.182	CO	(12-10)	P47	0.8	?
3500.245	?			0.3	?
3500.33	?			0.4	
3500.823	CO	(13-11)	P39	b <1	
3500.823	CO	(10-8)	P61	1.3	
3501.49	?			0.7	?

3502-3510 cm⁻¹

3502.203	CO	(11-9)	P54	1.1	
3502.312	CO	(5-3)	P90	0.4	
3502.374	CO	(14-12)	P30	0.4	
3502.611	?			0.3	?
3502.90	CO	(15-13)	P20	0.3	
3503.242	CO	(7-5)	P79	0.7	
3503.447	?			4.7	?
3503.55	CO	(3-1)	P100	bs <<1	
3503.612	Fe	5p ⁷ P ₂ - g ⁷ D ₃		2	
3503.74	CO	(4-2)	P95	0.4	
3504.064	CO	(9-7)	P67	0.8	
3504.171	?			2.3	?
3504.882	CO	(8-6)	P73	0.8	
3505.94	?			bs 0.5	?
3506.011	Fe	w ⁵ D ₄ - e ⁵ F ₅		4.3	
3506.734	CO	(12-10)	P46	0.7	
3506.827	CO	(13-11)	P38	0.7	
3507.366	?			s 0.6	?
3507.453	Si	5p ³ D ₃ - 5d ³ F ₃		4.3	
3507.59	CO	(15-13)	P19	s 0.3	
3507.75	CO	(14-12)	P29	b <<1	
3507.758	OH	(1-0)	P2F 1.5	b 0.5	
3507.83	OH	(1-0)	P2E 1.5	b 0.5	
3508.324	CO	(6-4)	P84	b <1	
3508.324	CO	(10-8)	P60	b 1.3	
3509.24	CO	(11-9)	P53	0.8	

3510-3518 cm⁻¹

3511.71	CO	(5-3)	P89	b 0.4	
3511.941	CO	(7-5)	P78	0.9	
3511.98	CO	(9-7)	P66	0.9	
3512.21	CO	(15-13)	P18	< 0.1	
3512.756	CO	(13-11)	P37	0.6	
3512.99	?			0.5	?
3513.066	CO	(14-12)	P28	0.3	
3513.17	CO	(8-6)	P72	b 1	
3513.234	CO	(12-10)	P45	0.7	
3513.47	CO	(4-2)	P94	0.4	
3513.60	CO	(3-1)	P99	0.1	
3513.707	?			0.4	?
3514.840	?			1.7	?
3515.098	?			5.4	?
3515.759	CO	(10-8)	P59	1.1	
3516.12	?			0.4	?
3516.20	CO	(11-9)	P52	0.8	
3516.427	?			0.3	?
3516.77	CO	(15-13)	P17	0.3	
3517.21	Fe	u ⁵ D ₃ - f ⁵ D ₃		0.4	
3517.322	CO	(6-4)	P83	0.6	

3518-3526 cm⁻¹

3518.337	CO	(14-12)	P27	b	0.3	?
3518.546	?				0.5	
3518.642	CO	(13-11)	P36		0.8	?
3519.305	?				0.3	
3519.654	CO	(12-10)	P44		0.8	
3519.816	CO	(9-7)	P65		0.9	
3519.98	?				0.3	
3520.432	Si	5p ¹ P ₁ - 5d ¹ D ₂		16.2		
3520.432	C	3d ¹ P ₁ - 4p ¹ S ₀		b		
3520.56	CO	(7-5)	P77	bs	1	
3521.059	CO	(5-3)	P88		0.6	
3521.26	CO	(15-13)	P16		0.3	
3521.406	Fe	u ⁵ D ₁ - f ⁵ D ₂		b		
3521.406	CO	(8-6)	P71		0.8	
3523.106	CO	(11-9)	P51	bs	1	
3523.132	CO	(4-2)	P93		0.4	
3523.132	CO	(10-8)	P58	b	1.3	
3523.533	CO	(14-12)	P26		0.3	
3523.55	CO	(3-1)	P98	b	0.3	
3523.692	?				0.4	?
3523.805	SiIII(?)	6f ² F _{5/2} - 7g ² G _{7/2}			0.4	
3523.980	SiIII(?)	6f ² F _{7/2} - 7g ² G _{9/2}			0.3	
3524.453	CO	(13-11)	P35		0.8	
3524.56	?				0.3	?
3525.409	?				0.5	?
3525.673	CO	(15-13)	P15		0.2	

3526-3534 cm⁻¹

3526.028	CO	(12-10)	P43		0.9	
3526.29	CO	(6-4)	P82		0.8	
3527.59	CO	(9-7)	P64	b	1	
3527.95	?				0.4	?
3528.642	CO	(14-12)	P25		0.4	
3529.140	CO	(7-5)	P76	b	1	
3529.306	?				0.6	?
3529.580	CO	(8-6)	P70		0.9	
3529.676	?				2.0	?
3529.947	CO	(11-9)	P50		1.1	
3530.03	CO	(15-13)	P14		0.2	
3530.210	CO	(13-11)	P34		0.8	
3530.345	CO	(5-3)	P87		0.6	
3530.452	CO	(10-8)	P57		1.2	
3532.033	?				0.3	?
3532.325	CO	(12-10)	P42		0.8	
3532.613	?				0.5	?
3532.74	CO	(4-2)	P92		0.4	
3533.51	CO	(3-1)	P97		0.2	
3533.699	CO	(14-12)	P24		0.4	
3533.998	Fe	u ⁵ D ₄ - f ⁵ D ₄			2.3	

3534-3542 cm⁻¹

3534.33	CO	(15-13)	P13	0.3	?
3534.927	?			1.0	
3535.184	CO	(6-4)	P81	0.8	
3535.308	CO	(9-7)	P63	1.1	
3535.900	CO	(13-11)	P33	0.8	
3536.271	?			0.9	
3536.731	CO	(11-9)	P49	1.2	
3537.56	?			0.4	
3537.65	CO	(7-5)	P75	1.1	
3537.708	CO	(8-6)	P69	b 1	
3537.708	CO	(10-8)	P56	b 1 ⁺	
3538.53	CO	(15-13)	P12	bs <<1	
3538.566	CO	(12-10)	P41	b 1	
3538.70	CO	(14-12)	P23	b <<1	
3538.737	?			3.7	
3539.566	CO	(5-3)	P86	0.7	
3540.36	?			0.5	
3540.509	Si	3d ³ D ₃ - 5p ¹ D ₂		3.4	
3540.70	?			0.5	
3541.507	CO	(13-11)	P32	0.4	

3542-3550 cm⁻¹

3542.30	CO	(4-2)	P91	0.4	
3542.68	CO	(15-13)	P11	bs <<1	
3542.703	?			0.5	
3542.977	CO	(9-7)	P62	b 1 ⁺	
3543.39	CO	(3-1)	P96	s 0.2	
3543.443	CO	(11-9)	P48	1.0	
3543.62	CO	(14-12)	P22	0.3	
3544.029	CO	(6-4)	P80	0.8	
3544.737	CO	(12-10)	P40	0.9	
3544.894	CO	(10-8)	P55	1.2	
3545.452	?			3.7	
3545.759	CO	(8-6)	P68	1.2	
3546.112	CO	(7-5)	P74	1.1	
3546.76	CO	(15-13)	P10	<0.1	
3547.074	CO	(13-11)	P31	bs <1	
3547.134	Ti	a ³ H ₆ - z ³ G ₅		2.8	
3548.240	?			0.8	
3548.477	CO	(14-12)	P21	b <<1	
3548.74	CO	(5-3)	P85	0.7	

3550-3558 cm⁻¹

3550.095	CO	(11-9)	P47	1.0	
3550.568	CO	(9-7)	P61	1.2	
3550.66	?			0.9	?
3550.78	CO	(15-13)	P9	0.1	
3550.853	CO	(12-10)	P39	1.0	
3550.99	?			0.2	?
3551.10	?			0.4	?
3551.190	?			0.5	?
3551.339	Ti	a ³ H ₄ - z ³ G ₄		1.0	
3551.793	CO	(4-2)	P90	0.5	
3552.014	CO	(10-8)	P54	1.0	
3552.492	?			0.5	?
3552.555	CO	(13-11)	P30	0.4	
3552.818	CO	(6-4)	P79	1.0	
3552.985	CO	(2-0)	P100	0.1	
3553.20	CO	(3-1)	P95	0.3	
3553.280	CO	(14-12)	P20	0.3	
3553.602	?			b 0.3	
3553.754	CO	(8-6)	P67	0.8	?
3554.05	?			1.1	
3554.502	CO	(7-5)	P73	0.3	?
3554.70	?			1.0	
3554.72	CO	(15-13)	P8	0.3	?
3555.18	?			0.1	
3555.486	?			0.3	?
3556.30	?			2.1	?
3556.49	?			0.2	?
3556.692	CO	(11-9)	P46	0.4	?
3556.81	?			1.0	
3556.882	CO	(12-10)	P38	0.4	?
3557.84	CO	(5-3)	P84	1.0	
3557.971	CO	(13-11)	P29	0.4	?
				1.0	
				s 0.4	
				1.0	
				1.0	
				b <1	

3558-3566 cm⁻¹

3558.00	CO	(14-12)	P19	b <<1	
3558.108	CO	(9-7)	P60	1.2	
3558.245	?			0.3	?
3558.60	CO	(15-13)	P7	0.1	
3559.088	CO	(10-8)	P53	1.2	
3559.34	?			0.4	?
3560.73	?			0.4	?
3561.23	CO	(4-2)	P89	b 0.6	
3561.541	CO	(6-4)	P78	1.0	
3561.692	CO	(8-6)	P66	1.2	
3562.486	?			s 0.7	?
3562.599	Fe	u ⁵ D ₂ ⁰ - f ⁵ D ₂		6.0	
3562.66	CO	(14-12)	P18	bs <<1	
3562.826	CO	(7-5)	P72	b 1	
3562.861	CO	(12-10)	P37	b 1	
3562.95	CO	(3-1)	P95	0.5	
3563.214	CO	(11-9)	P45	1.1	
3563.322	CO	(13-11)	P28	0.7	
3565.577	CO	(9-7)	P59	b 1.4	

3566-3574 cm⁻¹

3566.091	CO	(10-8)	P52	1.3	
3566.908	CO	(5-3)	P83	0.9	
3567.240	CO	(14-12)	P17	0.3	
3567.636	?			1.2	?
3568.171	?			0.7	?
3568.532	?			0.6	?
3568.632	CO	(13-11)	P27	b <1	
3568.663	?			bs 1	?
3568.788	CO	(12-10)	P36	1.0	
3569.22	?			s 0.5	?
3569.354	?			6.1	?
3569.577	CO	(8-6)	P65	b 1 ⁺	
3569.677	CO	(11-9)	P44	1.3	
3570.220	CO	(6-4)	P77	1.1	
3570.61	CO	(4-2)	P88	b <1	
3571.109	CO	(7-5)	P71	1.1	
3571.215	?			3.5	?
3571.78	CO	(14-12)	P16	0.4	
3571.903	Fe	w ⁵ D ₂ ⁰ - e ⁵ F ₃		1.4	
3572.40	?			0.5	?
3572.67	CO	(3-1)	P93	0.4	
3572.991	CO	(9-7)	P58	1.4	
3573.036	CO	(10-8)	P51	1.4	
3573.10	CO	(2-0)	P98	0.1	
3573.854	CO	(13-11)	P26	0.7	

3574-3582 cm⁻¹

3574.641	CO	(12-10)	P35	0.8	?
3575.141	?			0.4	?
3575.269	?			0.5	
3575.90	CO	(5-3)	P82	0.9	
3576.083	CO	(11-9)	P43	1.1	
3576.233	CO	(14-12)	P15	0.3	
3577.391	CO	(8-6)	P64	1.2	
3578.739	?			0.3	
3578.810	CO	(6-4)	P76	1.0	
3579.01	CO	(13-11)	P25	0.6	
3579.325	CO	(7-5)	P70	1.1	
3579.622	?			0.3	
3579.927	CO	(10-8)	P50	b 1.3	
3579.927	CO	(4-2)	P87	b <1	
3579.987	?			s 0.3	
3580.332	CO	(9-7)	P57	1.3	
3580.414	CO	(12-10)	P34	0.9	
3580.63	CO	(14-12)	P14	b 0.4	
3581.417	?			s 0.4	
3581.497	Fe	3d ⁵ 4s ² 4p y ⁷ P ₂ - e ⁷ D ₂		3.2	
3581.66	Si	4f [2 ₂] ¹ ₂ - 6g [3 ₂] ¹		s 0.3	

3582-3590 cm⁻¹

3582.30	CO	(3-1)	P92	0.4	
3582.415	Fe	e ⁵ F ₂ - u ⁵ F ₃		b 2	
3582.415	CO	(11-9)	P42	b 1 ⁺	
3582.453	?			bs 0.4	
3582.537	Si	4f [2 ₂] ¹ ₃ - 6g [3 ₂] ¹		0.5	
3583.05	CO	(2-0)	P97	0.1	
3583.11	?			0.6	
3583.42	?			0.4	
3584.122	CO	(13-11)	P24	0.7	
3584.844	CO	(5-3)	P81	0.9	
3584.94	CO	(14-12)	P13	0.4	
3585.136	CO	(8-6)	P63	1.3	
3586.143	CO	(12-10)	P33	b 1	
3586.143	?			b 2.6	
3586.740	CO	(10-8)	P49	1.2	
3587.370	CO	(6-4)	P75	1.3	
3587.480	CO	(7-5)	P69	1.5	
3587.631	CO	(9-7)	P56	1.5	
3588.70	CO	(11-9)	P41	b 1 ⁺	
3588.75	CO	(16-14)	R21	0.2	
3589.149	CO	(13-11)	P23	b <1	
3589.200	CO	(14-12)	P12	b <<1	
3589.200	CO	(4-2)	P86	b <1	
3589.830	Si	4d ³ F ₂ - 6p (₂ , ₃) ₂		1.0	

3590-3598 cm⁻¹

3590.46	CO	(16-14)	R22	0.2	?
3590.597	?			0.5	
3591.271	?			0.4	?
3591.801	CO	(12-10)	P32	1.1	
3591.894	CO	(3-1)	P91	0.6	
3592.10	CO	(16-14)	R23	0.3	
3592.830	CO	(8-6)	P62	1.4	
3592.93	CO	(2-0)	P96	0.1	
3593.070	?			0.6	?
3593.325	Fe	e ⁵ F ₂ - t ⁵ D ₂ ⁰		3.7	
3593.38	CO	(14-12)	P11	bs <<1	
3593.491	CO	(10-8)	P48	1.4	
3593.66	CO	(16-14)	R24	0.2	
3593.69	?			s 0.4	?
3593.723	CO	(5-3)	P80	0.9	?
3593.968	?			4.8	
3594.09	CO	(13-11)	P22	b <1	?
3594.70	?			0.4	
3594.849	CO	(9-7)	P55	b 1.7	
3594.905	CO	(11-9)	P40	b 1 ⁺	
3595.15	CO	(16-14)	R25	0.3	
3595.568	CO	(7-5)	P68	b 1 ⁺	
3595.850	CO	(6-4)	P74	1.2	
3596.56	CO	(16-14)	R26	0.3	
3597.382	CO	(12-10)	P31	1.1	
3597.491	CO	(14-12)	P10	0.4	
3597.652	?			1.6	?
3597.92	CO	(16-14)	R27	0.2	

3598-3606 cm⁻¹

3598.044	?				0.4	?
3598.396	CO	(4-2)	P85		b 0.8	
3598.396	Ti	a ³ H ₅ - z ³ G ⁰ _s			b 1.5	
3598.991	CO	(13-11)	P21		0.7	
3599.18	CO	(16-14)	R28		0.2	
3599.644	?				3.7	
3599.71	?				s 0.3	
3599.791	?				0.7	
3600.174	CO	(10-8)	P47		1.2	
3600.38	CO	(16-14)	R29		0.2	
3600.467	CO	(8-6)	P61		1.4	
3601.044	CO	(11-9)	P39		b 1 ⁺	
3601.420	CO	(3-1)	P90		0.7	
3601.50	CO	(16-14)	R30		b 0.4	
3601.54	CO	(14-12)	P9		0.3	
3602.020	CO	(9-7)	P54		1.7	
3602.495	Mg	5p ³ P ⁰ ₂ - 7s ³ S ₁			8.3	
3602.54	CO	(5-3)	P79		bs 1	
3602.61	?				bs 0.3	
3602.80	CO	(2-0)	P95		0.1	
3602.915	CO	(12-10)	P30		1.1	
3602.998	?				0.4	
3603.52	CO	(16-14)	R32		0.3	
3603.597	CO	(7-5)	P67		1.4	
3603.825	CO	(13-11)	P20		0.7	
3604.28	CO	(6-4)	P73		1.1	
3604.40	CO	(16-14)	R33		0.2	
3604.91	?				0.2	
3604.96	?				0.3	
3605.132	Mg	5p ³ P ⁰ ₁ - 7s ³ S ₁			5.1	
3605.52	CO	(14-12)	P8		0.3	
3605.650	?				0.3	
3605.855	Fe	e ⁵ F ₃ - t ⁵ D ⁰ ₃			4.6	
3605.97	CO	(16-14)	R35		0.2	

3606-3614 cm⁻¹

3606.08	Fe	e ⁵ F ₁ - u ⁵ F ₀ ²	b 1	?
3606.167	?		0.4	
3606.44	Mg	5p ³ P ₀ - 7s ³ S ₁	b <1	
3606.527	Fe	e ⁵ F ₁ - t ⁵ D ₁	3.5	
3606.801	CO	(10-8) P46	1.2	
3607.126	CO	(11-9) P38	b 1 ⁺	
3607.126	Fe	v ⁵ P ₀ ² - g ⁵ D ₃	b 2 ⁺	
3607.554	CO	(4-2) P84	0.8	
3607.78	?		0.3	
3608.043	CO	(8-6) P60	1.6	
3608.20	?		0.3	
3608.376	CO	(12-10) P29	1.1	
3608.411	?		0.8	
3608.589	CO	(13-11) P19	0.9	
3609.00	?		0.4	
3609.122	CO	(9-7) P53	1.7	
3609.43	CO	(14-12) P7	b 0.2	
3610.410	?		0.3	
3610.896	CO	(3-1) P89	bs <1	
3610.991	?		2.6	
3611.10	?		0.3	
3611.305	CO	(5-3) P78	1.0	
3611.575	CO	(7-5) P66	1.3	
3612.59	CO	(2-0) P94	b 0.1	
3612.65	CO	(6-4) P72	1.3	
3612.81	Si	3d ³ D ₁ ⁰ - 5p ¹ D ₂	1.2	
3613.143	CO	(11-9) P37	b 1 ⁺	
3613.27	CO	(14-12) P6	b 0.2	
3613.27	CO	(13-11) P18	b 0.9	
3613.368	CO	(10-8) P45	1.5	
3613.77	CO	(12-10) P28	1.0	

3614-3622 cm⁻¹

3615.121	Fe	5p ⁷ P ₄ - g ⁷ D ₅		
3615.543	CO	(8-6)	P59	9.6
3616.155	CO	(9-7)	P52	1.5
3616.43	CO	(15-13)	R10	1.8
3616.49	?			0.2
3616.627	CO	(4-2)	P83	b 0.3
3617.04	CO	(14-12)	P5	0.9
3617.903	CO	(13-11)	P17	0.2
3618.547	?			0.8
3618.98	CO	(15-13)	R11	0.3
3619.092	CO	(11-9)	P36	0.1
3619.092	CO	(12-10)	P27	b 1 ⁺
3619.146	?			b 1
3619.473	CO	(7-5)	P65	s 0.5
3619.864	CO	(10-8)	P44	1.5
3620.003	CO	(5-3)	P77	1.6
3620.307	CO	(3-1)	P88	b 1
3620.75	CO	(14-12)	P4	0.6
3620.959	CO	(6-4)	P71	0.2
3621.44	CO	(15-13)	R12	1.5
3621.471	?			0.3
				0.3

3622-3630 cm⁻¹

3622.33	CO	(2-0)	P93	0.2	
3622.46	CO	(13-11)	P16	0.7	
3622.988	CO	(8-6)	P58	1.8	
3623.138	CO	(9-7)	P51	1.8	?
3623.290	?			1.6	?
3623.45	?			0.4	
3623.84	CO	(15-13)	R13	b <<1	
3624.348	CO	(12-10)	P26	1.0	
3624.382	CO	(14-12)	P3	b 0.1	
3624.982	CO	(11-9)	P35	1.4	
3625.154	Si	5p ¹ D ₂ - 5d ¹ F ₃		3.1	
3625.514	Fe	w ⁵ D ₁ - e ⁵ F ₂		0.8	
3625.666	CO	(4-2)	P82	bs 1	
3625.912	Fe	e ⁵ F ₃ - u ⁵ F ₄		1.3	
3626.16	CO	(15-13)	R14	0.3	
3626.30	CO	(10-8)	P43	b 1.6	
3626.93	?			0.8	?
3626.96	CO	(13-11)	P15	b <1	
3627.325	CO	(7-5)	P64	b 1 ⁺	
3627.752	?			0.4	?
3627.948	Si	5p ³ D ₂ - 5d ³ F ₂		3.7	
3627.948	CO	(14-12)	P2	b 0.1	
3628.42	CO	(15-13)	R15	b <<1	
3628.648	CO	(5-3)	P76	b 1	
3628.86	?			0.7	?
3629.208	CO	(6-4)	P70	1.5	
3629.55	CO	(12-10)	P25	b 1	
3629.661	CO	(3-1)	P87	0.7	

3630-3638 cm⁻¹

3630.048	CO	(9-7)	P50	1.8
3630.159	Si	3d ¹ P ₁ - 5p ³ D ₂	3	
3630.375	CO	(8-6)	P57	1.9
3630.61	CO	(15-13)	R16	0.2
3630.794	CO	(11-9)	P34	1.3
3631.37	CO	(13-11)	P14	0.5
3631.44	CO	(14-12)	P1	0.1
3632.001	CO	(2-0)	P92	0.2
3632.669	CO	(10-8)	P42	1.6
3632.72	CO	(15-13)	R17	bs <<1
3634.636	CO	(4-2)	P81	1.1
3634.676	CO	(12-10)	P24	0.9
3634.75	CO	(15-13)	R18	0.3
3635.068	?			0.4
3635.118	CO	(7-5)	P63	1.8
3635.731	CO	(13-11)	P13	0.5
3636.553	CO	(11-9)	P33	1.4
3636.72	CO	(15-13)	R19	b <<1
3636.906	CO	(9-7)	P49	b 2
3636.981	Si	4d ³ D ₂ - 6f [₂ ¹] ₃	3.7	
3637.227	CO	(5-3)	P75	1.2
3637.393	CO	(6-4)	P69	1.8
3637.52	?			0.8
3637.698	CO	(8-6)	P56	2.0

3638-3646 cm⁻¹

3638.608	CO	(15-13)	R20	0.2
3638.697	Fe	e ⁵ F ₄ - u ⁵ F ₅	1.6	
3638.82	?		0.2	
3638.96	CO	(3-1)	P86	b <1
3638.977	CO	(10-8)	P41	2.1
3639.746	CO	(12-10)	P23	0.9
3640.022	CO	(13-11)	P12	0.5
3640.43	CO	(15-13)	R21	0.3
3641.62	CO	(2-0)	P91	0.3
3642.17	CO	(15-13)	R22	0.2
3642.241	CO	(11-9)	P32	1.4
3642.851	CO	(7-5)	P62	1.7
3643.550	CO	(4-2)	P80	1.1
3643.687	CO	(9-7)	P48	1.9
3643.846	CO	(15-13)	R23	b <<1
3644.24	CO	(13-11)	P11	0.5
3644.746	CO	(12-10)	P22	1.1
3644.963	CO	(8-6)	P55	2.0
3645.222	CO	(10-8)	P40	2.0
3645.222	Fe	u ⁵ D ₄ - f ⁵ D ₃	b	
3645.45	CO	(15-13)	R24	s 0.2
3645.525	CO	(6-4)	P68	1.8
3645.746	CO	(5-3)	P74	1*

3646-3654 cm⁻¹

3646.966	CO	(15-13)	R25	0.1	
3647.871	CO	(11-9)	P31	1.5	
3647.871	Si	4d ³ P ⁰ - 6p ($\frac{1}{2}, \frac{1}{2}$) ₁	P85	b	
3648.19	CO	(3-1)	P10	0.6	
3648.40	CO	(13-11)	R26	0.4	
3648.42	CO	(15-13)	P21	0.2	
3649.665	CO	(12-10)	R27	1.0	
3649.80	CO	(15-13)		0.2	
3649.956	?			0.4	?
3650.22	?			0.4	?
3650.413	CO	(9-7)	P47	1.8	
3650.512	CO	(7-5)	P61	1.6	
3650.937	Si	5p ³ D ₃ - 5d ³ F ⁴	R28	18.7	
3651.10	CO	(15-13)	P39	bs <<1	
3651.404	CO	(10-8)	P54	2	
3652.163	CO	(8-6)	R29	2.1	
3652.33	CO	(15-13)	P79	0.2	
3652.398	CO	(4-2)	P9	1.2	
3652.47	CO	(13-11)	P30	0.4	
3653.429	CO	(11-9)	R30	1.2	
3653.48	CO	(15-13)	P67	s 0.1	
3653.584	CO	(6-4)		1.7	
3653.90	?			0.2	?
3653.95	CO	(14-12)	R5	0.1	

3654-3662 cm⁻¹

3654.209	CO	(5-3)	P73	1.3	
3654.536	CO	(12-10)	P20	1.0	
3654.57	CO	(15-13)	R31	s <<1	
3654.683	?			0.4	?
3655.246	Si	3d ¹ F ₃ - 5p ³ D ₂		2.5	
3655.57	CO	(15-13)	R32	0.2	
3656.258	?			3.4	?
3656.49	CO	(13-11)	P8	b 0.4	
3656.50	CO	(15-13)	R33	b <<1	
3656.88	CO	(14-12)	R6	0.1	
3657.075	CO	(9-7)	P46	1.8	
3657.355	CO	(15-13)	R34	b <<1	
3657.384	CO	(3-1)	P84	b <1	
3657.527	CO	(10-8)	P38	2.0	
3657.73	CO	(15-13)	R55	0.2	
3658.126	CO	(7-5)	P60	b 2	
3658.13	CO	(15-13)	R35	bs <<1	
3658.334	?			0.4	?
3658.48	CO	(15-13)	R54	0.2	
3658.562	?			2.0	?
3658.838	CO	(15-13)	R36	0.2	
3658.923	CO	(11-9)	P29	1.2	
3659.16	CO	(15-13)	R53	0.2	
3659.301	CO	(8-6)	P53	2.3	
3659.33	CO	(12-10)	P19	b 1	
3659.47	CO	(15-13)	R37	0.2	
3659.75	CO	(14-12)	R7	b <<1	
3659.77	CO	(15-13)	R52	b 0.3	
3660.023	CO	(15-13)	R38	b <<1	
3660.27	CO	(15-13)	R51	b <<1	
3660.43	CO	(13-11)	P7	0.3	
3660.50	CO	(15-13)	R39	b <<1	
3660.70	CO	(2-0)	P89	0.3	
3660.72	CO	(15-13)	R50	b <<1	
3660.90	CO	(15-13)	R40	0.2	
3661.087	CO	(15-13)	R49	0.3	
3661.194	CO	(4-2)	P78	b 1 ⁺	
3661.23	CO	(15-13)	R41	s 0.2	
3661.38	CO	(15-13)	R48	0.1	
3661.48	CO	(15-13)	R42	0.2	
3661.59	CO	(15-13)	R47	b <<1	
3661.590	CO	(6-4)	P66	2.2	
3661.66	CO	(15-13)	R43	bs <<1	
3661.76	CO	(15-13)	R46		
3661.76	CO	(15-13)	R44	b 0.3	
3661.76	CO	(15-13)	R45		

3662-3670 cm⁻¹

3662.123	?			0.3	?
3662.46	?			0.4	?
3662.53	CO	(14-12)	R8	0.1	
3662.612	CO	(5-3)	P72	1.3	
3663.570	CO	(10-8)	P37	1.7	
3663.675	CO	(9-7)	P45	2.1	
3664.062	CO	(12-10)	P18	0.9	
3664.31	CO	(13-11)	P6	bs <<1	
3664.35	CO	(11-9)	P28	1.3	
3664.679	?			1.4	?
3665.24	CO	(14-12)	R9	0.1	
3665.664	CO	(7-5)	P59	2.1	
3666.371	CO	(8-6)	P52	2.1	
3666.501	CO	(3-1)	P83	0.6	
3667.00	?			bs 0.5	?
3667.193	Si	5p ³ D ₁ - 5d ³ F ₂		13.9	?
3667.51	?			0.3	?
3667.90	CO	(14-12)	R10	0.1	
3668.124	CO	(13-11)	P5	0.2	
3668.711	CO	(12-10)	P17	0.8	
3669.545	CO	(6-4)	P65	b 2*	
3669.55	CO	(10-8)	P36	b 2	
3669.719	CO	(11-9)	P27	1.6	
3669.823	?			0.6	?
3669.933	CO	(4-2)	P77	1.2	

3670-3678 cm⁻¹

3670.14	CO	(2-0)	P88	bs 0.1	
3670.208	CO	(9-7)	P44	1.9	
3670.47	CO	(14-12)	R11	<<1	
3670.949	CO	(5-3)	P71	1*	
3671.86	CO	(13-11)	P4	0.2	
3672.84	?			0.5	?
3672.975	CO	(14-12)	R12	0.2	
3673.147	CO	(7-5)	P58	2.4	
3673.321	CO	(12-10)	P16	0.8	
3673.383	CO	(8-6)	P51	2.5	
3673.796	Fe	v ⁵ P ₂ - e ⁵ P ₃		4.3	
3674.831	K	5s ² S _{1/2} - 5p ² P _{1/2}		2	
3675.02	CO	(11-9)	P26	b 1*	
3675.41	CO	(14-12)	R13	0.2	
3675.48	CO	(10-8)	P35	1.8	
3675.566	CO	(3-1)	P82	b 1	
3676.681	CO	(9-7)	P43	2.2	
3677.098	?			2.6	?
3677.426	CO	(6-4)	P64	2.3	
3677.78	CO	(14-12)	R14	0.3	
3677.839	CO	(12-10)	P15	0.8	

3678-3686 cm⁻¹

3678.607	CO	(4-2)	P76	1.4
3678.690	?			0.3
3679.13	CO	(13-11)	P2	0.1
3679.230	CO	(5-3)	P70	1.8
3679.52	CO	(2-0)	P87	b <<1
3680.06	CO	(14-12)	R15	b <<1
3680.250	CO	(11-9)	P25	1.4
3680.330	CO	(8-6)	P50	2.5
3680.330	Fe	e ⁵ F ₃ - 5 ⁰ ₃		b
3680.564	CO	(7-5)	P57	2.4
3681.334	CO	(10-8)	P34	2.1
3681.334	Fe	e ³ F ₃ - t ³ D ⁰ ₃		b
3682.28	CO	(14-12)	R16	b <<1
3682.307	CO	(12-10)	P14	0.8
3682.65	CO	(13-11)	P1	0.1
3683.088	CO	(9-7)	P42	2.4
3684.428	CO	(14-12)	R17	0.3
3684.56	CO	(3-1)	P81	1.0
3685.250	CO	(6-4)	P63	2.3
3682.414	CO	(11-9)	P24	1.2

?

3686-3694 cm⁻¹

3686.50	CO	(14-12)	R18	0.3
3686.689	CO	(12-10)	P13	0.7
3687.129	CO	(10-8)	P33	2.0
3687.219	CO	(8-6)	P49	b 3
3687.219	CO	(4-2)	P75	b 1 ⁺
3687.454	CO	(5-3)	P69	1.8
3687.92	CO	(7-5)	P56	b 2 ⁺
3687.947	Si	5p ³ D ₂ - 5d ³ F ⁰ ₃		16.8
3688.492	CO	(14-12)	R19	<<1
3688.86	CO	(2-0)	P86	0.4
3689.430	CO	(9-7)	P41	2.2
3690.42	CO	(14-12)	R20	b <<1
3690.518	CO	(11-9)	P23	1.3
3690.662	?			1.4
3691.01	CO	(12-10)	P12	0.7
3692.275	CO	(14-12)	R21	0.4
3692.522	?			3.7
3692.852	CO	(10-8)	P32	2.4
3693.017	CO	(6-4)	P62	2.4
3693.51	CO	(3-1)	P80	bs 1
3693.586	K	5s ² S _{1/2} - 5p ² P ⁰ _{3/2}		4.2
3693.768	CaII	4d ² D _{3/2} - 5p ² P ⁰ _{1/2}		15

?

?

3694-3702 cm⁻¹

3694.043	CO	(8-6)	P48	3.0
3694.05	CO	(14-12)	R22	b <1
3694.17	CO	(14-12)	R68	<<1
3695.224	CO	(7-5)	P55	2.7
3695.27	CO	(12-10)	P11	b <1
3695.547	CO	(11-9)	P22	1.2
3695.620	CO	(5-3)	P68	2.1
3695.709	CO	(9-7)	P40	2.0
3695.76	CO	(14-12)	R23	b <1
3695.777	CO	(4-2)	P74	b 1 ⁺
3696.08	CO	(13-11)	R2	0.1
3697.396	CO	(14-12)	R24	0.4
3697.62	CO	(14-12)	R66	<<1
3698.109	?			1.7
3698.13	CO	(2-0)	P85	b <1
3698.513	CO	(10-8)	P31	2.3
3698.677	Fe	e ⁵ F ₄ - t ⁵ D ₄		4.6
3698.954	CO	(14-12)	R25	0.4
3699.20	CO	(14-12)	R65	<<1
3699.26	CO	(13-11)	R3	0.2
3699.455	CO	(12-10)	P10	0.6
3700.438	CO	(14-12)	R26	0.4
3700.509	CO	(11-9)	P21	1.3
3700.715	CO	(6-4)	P61	b 3
3700.72	CO	(14-12)	R64	b <<1
3700.798	CO	(8-6)	P47	2.7
3700.852	CO	(14-12)	R27	b <1
3701.92	CO	(9-7)	P39	2 ⁺

3702-3710 cm⁻¹

3702.15	CO	(14-12)	R63	0.1	
3702.302	Fe	³ F ₄ ⁰ - f ⁵ D ₄		1.5	
3702.40	CO	(3-1)	P79	bs 1	
3702.455	Ti	a ³ H ₄ - z ³ G ₅ ⁰		b	
3702.455	CO	(7-5)	P54	2.9	?
3702.888	?			0.4	?
3702.991	?			1.4	?
3703.02	?			s 0.9	?
3703.185	CO	(14-12)	R28	0.6	
3703.50	CO	(14-12)	R62	0.1	
3703.56	CO	(12-10)	P9	0.5	
3703.724	CO	(5-3)	P67	2.3	
3704.111	CO	(10-8)	P30	2.1	
3704.28	CO	(4-2)	P73	1.5	
3704.455	CO	(14-12)	R29	0.6	
3704.78	CO	(14-12)	R61	b <<1	
3705.402	CO	(13-11)	R5	b <<1	
3705.402	CO	(11-9)	P20	1.4	
3705.642	CO	(14-12)	R30	0.6	
3705.97	CO	(14-12)	R60	0.2	
3706.76	CO	(14-12)	R31	0.6	
3707.10	CO	(14-12)	R59	0.2	
3707.260	?			0.5	?
3707.34	CO	(2-0)	P84	0.5	
3707.496	CO	(8-6)	P46	2.6	
3707.62	CO	(12-10)	P8	0.4	
3707.79	CO	(14-12)	R32	0.6	
3708.078	CO	(9-7)	P38	2.6	
3708.12	CO	(14-12)	R58	bs <<1	
3708.350	CO	(6-4)	P60	3.0	
3708.37	CO	(13-11)	R6	b <<1	
3708.668	Fe	u ⁵ D ₁ ⁰ - f ⁵ D ₀		1.7	
3708.767	CO	(14-12)	R33	0.5	
3708.98	?			0.4	?
3709.08	CO	(14-12)	R57	0.2	
3709.230	?			9.6	?
3709.636	CO	(7-5)	P53	b 3 ⁺	
3709.636	CO	(10-8)	P29	b 2 ⁺	
3709.66	CO	(14-12)	R34	bs <1	
3709.957	CO	(14-12)	R56	0.3	

3710-3718 cm⁻¹

3710.235	CO	(11-9)	P19	1.3
3710.47	CO	(14-12)	R35	bs <1
3710.544	Fe	5p ⁷ P ₂ - g ⁷ D ₂		5.6
3710.75	CO	(14-12)	R55	0.3
3711.21	CO	(14-12)	R36	b <1
3711.233	CO	(3-1)	P78	b 1 ⁺
3711.27	CO	(13-11)	R7	bs <1
3711.47	CO	(14-12)	R54	0.2
3711.60	CO	(12-10)	P7	0.4
3711.764	CO	(5-3)	P66	2.2
3711.87	CO	(14-12)	R37	bs <1
3711.94	Fe	3d ⁵ 4s ² 4p y ⁷ P ₂ - e ⁷ D ₁		2.4
3712.11	CO	(14-12)	R53	0.2
3712.46	CO	(14-12)	R38	0.5
3712.68	CO	(14-12)	R52	bs <<1
3712.718	CO	(4-2)	P72	1.8
3712.97	CO	(14-12)	R39	b <1
3713.16	CO	(14-12)	R51	0.2
3713.41	CO	(14-12)	R40	0.5
3713.573	CO	(14-12)	R50	0.3
3713.77	CO	(14-12)	R41	0.4
3713.908	CO	(14-12)	R49	b 0.3
3713.908	?			b 0.9
3714.062	CO	(14-12)	R42	bs <<1
3714.09	CO	(13-11)	R8	b <1
3714.14	CO	(8-6)	P45	b 3
3714.15	CO	(14-12)	R48	b <<1
3714.15	CO	(9-7)	P37	b 3
3714.26	CO	(14-12)	R43	0.3
3714.33	CO	(14-12)	R47	0.3
3714.409	CO	(14-12)	R44	bs <<1
3714.44	CO	(14-12)	R46	b <<1
3714.44	CO	(14-12)	R45	b <<1
3715.006	CO	(11-9)	P18	1.3
3715.109	CO	(10-8)	P28	2.2
3715.52	CO	(12-10)	P6	0.4
3715.929	CO	(6-4)	P59	3.0
3716.501	CO	(2-0)	P83	0.6
3716.737	CO	(7-5)	P52	3.0
3716.85	CO	(13-11)	R9	0.6
3717.074	?			0.4

3718-3726 cm⁻¹

3718.13	CO	(13-11)	R81	0.1
3719.355	CO	(12-10)	P5	b 0.4
3719.528	Fe	e ⁵ F ₂ - 7 ⁰ ₂		5.7
3719.528	CO	(13-11)	R10	b <1
3719.70	CO	(11-9)	P17	b 1.2
3719.739	Si	4d ³ F ⁰ ₄ - 5f ² [2 ¹] ₃		b
3719.739	CO	(5-3)	P65	2.4
3719.853	?			0.5
3719.998	CO	(3-1)	P77	1.1
3720.186	CO	(9-7)	P36	1.1
3720.218	Fe	e ⁵ F ₁ - t ⁵ D ⁰		b 3
3720.506	CO	(10-8)	P27	b 3
3720.697	CO	(8-6)	P44	1.9
3720.90	CO	(13-11)	R80	3.2
3721.097	CO	(4-2)	P71	0.1
3721.610	?			1.7
3722.14	CO	(13-11)	R11	1.1
3723.037	Si	4d ³ F ⁰ ₄ - 5f [3 ¹] ₄		0.8
3723.12	CO	(12-10)	P4	0.9
3723.448	CO	(6-4)	P58	0.2
3723.448	Fe	e ⁵ F ₁ - u ⁵ P ⁰ ₂		2.8
3723.60	CO	(13-11)	R79	b
3723.784	CO	(7-5)	P51	0.1
3724.323	CO	(11-9)	P16	3.2
3724.489	Fe	e ⁵ F ₁ - u ⁵ F ⁰ ₁		1.2
3724.679	CO	(13-11)	R12	0.7
3725.602	CO	(2-0)	P82	0.6
3725.83	CO	(10-8)	P26	0.6
				2.4

3726-3734 cm⁻¹

3726.140	CO	(9-7)	P35	2.5	
3726.22	CO	(13-11)	R78	0.2	
3726.788	?			0.7	?
3727.15	CO	(13-11)	R13	bs 1	
3727.209	CO	(8-6)	P43	3.1	
3727.209	Si	5p ³ D ₁ - 5d ³ F ₃		b	
3727.661	CO	(5-3)	P64	2.6	
3728.717	CO	(3-1)	P76	1.2	
3728.74	CO	(13-11)	R77	0.2	
3728.885	CO	(11-9)	P15	1.1	
3729.408	CO	(4-2)	P70	2.0	
3729.551	CO	(13-11)	R14	0.6	
3729.801	Fe	v ⁵ P ₁ - e ⁵ P ₁		2.6	
3730.464	CO	(12-10)	P2	0.1	
3730.767	CO	(7-5)	P50	3.4	
3730.905	CO	(6-4)	P57	3.2	
3731.09	?			bs 2	?
3731.109	CO	(10-8)	P25	2.4	
3731.18	CO	(13-11)	R76	0.3	
3731.866	CO	(13-11)	R15	0.5	
3732.029	CO	(9-7)	P34	2.6	
3733.387	CO	(11-9)	P14	1 ⁺	
3733.56	CO	(13-11)	R75	0.3	
3733.659	CO	(8-6)	P42	3.2	

3734-3742 cm⁻¹

3734.04	CO	(12-10)	P1	0.1	
3734.123	CO	(13-11)	R16	0.5	
3734.64	CO	(2-0)	P81	0.6	
3735.52	CO	(5-3)	P63	3	
3735.85	CO	(13-11)	R74	0.3	
3736.302	CO	(13-11)	R17	bs 1	
3736.302	CO	(10-8)	P24	2.6	
3736.926	?			0.6	?
3737.358	CO	(3-1)	P75	1.4	
3737.67	CO	(4-2)	P69	b 2	
3737.69	CO	(7-5)	P49	b 3 ⁺	
3737.81	CO	(11-9)	P13	bs 1	
3737.86	CO	(9-7)	P33	3	
3738.04	CO	(13-11)	R73	0.3	
3738.302	CO	(6-4)	P56	3.3	
3738.398	CO	(13-11)	R18	b 1	
3740.031	CO	(8-6)	P41	3 ⁺	
3740.16	CO	(13-11)	R72	0.3	
3740.26	?			0.3	?
3740.444	CO	(13-11)	R19	0.5	
3741.443	CO	(10-8)	P23	2.3	

3742-3750 cm⁻¹

3742.17	CO	(11-9)	P12	1.3
3742.21	CO	(13-11)	R71	b <<1
3742.405	CO	(13-11)	R20	0.6
3743.317	CO	(5-3)	P62	3.3
3743.615	CO	(2-0)	P80	b <1
3743.615	CO	(9-7)	P32	3
3744.17	CO	(13-11)	R70	<<1
3744.29	CO	(13-11)	R21	1
3744.550	CO	(7-5)	P48	3.7
3745.630	CO	(6-4)	P55	3.5
3745.859	CO	(4-2)	P68	2.2
3745.959	CO	(3-1)	P74	1.2
3746.06	CO	(13-11)	R69	0.5
3746.11	CO	(13-11)	R22	1
3746.344	CO	(8-6)	P40	3.2
3746.453	CO	(11-9)	P11	b 1
3746.508	CO	(10-8)	P22	1.9
3747.84	CO	(13-11)	R68	b <1
3747.84	CO	(13-11)	R23	b 1
3748.389	?			1.2
3748.671	Fe	5p ⁷ F ^o ₅ - g ⁷ D ₅		2.7
3749.317	CO	(9-7)	P31	2.6
3749.510	CO	(13-11)	R24	1
3749.55	CO	(13-11)	R67	b <1

?

3750-3758 cm⁻¹

Wavenumber (cm ⁻¹)	Assignment	Transition	Intensity	Other
3750.028	Fe	3d ⁸ c ³ F ₃ - Y ³ F ₃	27.1	
3750.200	?		s 0.3	?
3750.674	CO	(11-9) P10	0.9	
3750.81	CO	(12-10) R3	<<1	
3751.05	CO	(5-3) P61	3	
3751.11	CO	(13-11) R25	bs 1	
3751.19	CO	(13-11) R66	0.5	
3751.344	CO	(7-5) P47	3*	
3751.501	CO	(10-8) P21	1.9	
3752.104	Si	3s3p ³ ³ D ₁ - 3s ² 3p4p ³ P ₀	19.1	
3752.54	CO	(2-0) P79	1	
3752.591	CO	(8-6) P39	3*	
3752.63	CO	(13-11) R26	bs 1	
3752.75	CO	(13-11) R65	b <1	
3752.831	CaII	4d ² D _{5/2} - 5p ² P _{3/2}	20.5	
3752.90	CO	(6-4) P54	bs 3*	
3753.95	CO	(12-10) R4	<<1	
3754.000	CO	(4-2) P67	2.4	
3754.076	CO	(13-11) R27	b 0.8	
3754.22	CO	(13-11) R64	0.5	
3754.370	?		0.4	?
3754.453	?		2.3	?
3754.484	CO	(3-1) P73	b 1*	
3754.83	CO	(11-9) P9	0.8	
3754.948	CO	(9-7) P30	2.6	
3755.452	CO	(13-11) R28	1	
3755.63	CO	(13-11) R63	0.5	
3755.853	Fe	3d ⁸ c ³ F ₂ - Y ³ F ₂	24.9	
3756.438	CO	(10-8) P20	1.8	
3756.75	CO	(13-11) R29	1	
3756.94	CO	(13-11) R62	0.5	
3757.029	CO	(12-10) R5	<<1	
3757.540	?		0.4	?
3757.97	CO	(13-11) R30	1	

3758-3766 cm⁻¹

3758.070	CO	(7-5)	P46	3.7
3758.18	CO	(13-11)	R61	0.6
3758.731	CO	(5-3)	P60	3.2
3758.787	CO	(8-6)	P38	3.3
3758.91	CO	(11-9)	P8	0.7
3759.12	CO	(13-11)	R31	1
3759.33	CO	(13-11)	R60	0.6
3759.94	Fe	v ⁵ P ₁ - g ⁵ D ₂	3	3
3760.026	CO	(12-10)	R6	<<1
3760.103	CO	(6-4)	P53	3.5
3760.196	CO	(13-11)	R32	0.8
3760.41	CO	(13-11)	R59	0.6
3760.515	CO	(9-7)	P29	2.6
3761.19	CO	(13-11)	R33	0.8
3761.303	CO	(10-8)	P19	1.8
3761.414	CO	(2-0)	P78	b 1
3761.414	CO	(13-11)	R58	b <1
3762.068	CO	(4-2)	P66	2.4
3762.12	CO	(13-11)	R34	bs 1
3762.347	CO	(13-11)	R57	0.7
3762.93	CO	(11-9)	P7	b <1
3762.956	CO	(3-1)	P72	b 1*
3762.96	CO	(12-10)	R7	b <<1
3762.96	CO	(13-11)	R35	b 1
3763.183	CO	(13-11)	R56	0.8
3763.749	CO	(13-11)	R36	1
3763.94	CO	(13-11)	R55	0.6
3764.322	?			0.6
3764.442	CO	(13-11)	R37	0.9
3764.630	CO	(13-11)	R54	0.7
3764.744	CO	(7-5)	P45	3.8
3764.905	CO	(8-6)	P37	3.4
3765.07	Fe	e ³ F ₃ - u ³ D ₂	b	b
3765.07	CO	(13-11)	R38	0.9
3765.242	CO	(13-11)	R53	<1
3765.61	CO	(13-11)	R39	0.8
3765.76	CO	(13-11)	R52	<1
3765.82	CO	(12-10)	R8	<<1

?

3766-3774 cm⁻¹

3766.014	CO	(9-7)	P28		2.6
3766.091	CO	(13-11)	R40	b 1	
3766.091	Mg	4f ³ F ⁰ _{2,3,4} - 6d ³ D _{1,2,3}		4.3	
3766.10	CO	(10-8)	P18	b 2	
3766.222	CO	(13-11)	R51	s <1	
3766.345	CO	(5-3)	P59	3.1	
3766.48	CO	(13-11)	R41	0.6	
3766.59	CO	(13-11)	R50	0.6	
3766.79	CO	(13-11)	R42	bs <1	
3766.88	CO	(11-9)	P6	b <1	
3766.89	CO	(13-11)	R49	b <1	
3766.973	Fe	f ⁵ D ₃ - ⁵ D ⁰ ₄		b	
3766.973	Si	3s3p ³ ³ D ⁰ ₂ - 3s ² 3p4p ³ P ₁		23.2	
3767.04	CO	(13-11)	R43	bs <1	
3767.11	CO	(13-11)	R48	b <1	
3767.21	CO	(13-11)	R44	b <1	
3767.247	CO	(13-11)	R47	b <1	
3767.247	CO	(6-4)	P52	b 4	
3767.31	CO	(13-11)	R45	b <1	
3767.31	CO	(13-11)	R46	b <1	
3768.608	CO	(12-10)	R9	0.8	
3768.815	?			0.6	?
3770.09	CO	(4-2)	P65	2*	
3770.20	CO	(2-0)	P77	0.8	
3770.756	CO	(11-9)	P5	0.6	
3770.836	CO	(10-8)	P17	1.8	
3770.956	CO	(8-6)	P36	3.5	
3771.33	CO	(12-10)	R10	b <1	
3771.354	CO	(7-5)	P44	4	
3771.36	CO	(3-1)	P71	b 2	
3771.446	CO	(9-7)	P27	2.6	
3772.047	CaII	4d ² D _{3/2} - 5p ² P ⁰ _{3/2}		5.9	
3772.783	?			0.4	?
3773.363	?			0.4	?
3773.898	CO	(5-3)	P58	3.3	
3773.975	CO	(12-10)	R11	0.8	

3774-3782 cm⁻¹

3774.336	CO	(6-4)	P51	3.9	?
3774.448	?			0.4	
3774.48	?			0.3	
3774.56	CO	(11-9)	P4	0.3	
3775.498	CO	(10-8)	P16	2.0	
3775.649	?			0.4	
3775.834	Si	4d ¹ F ₃ - 6f [3 ₂] ₄		4.3	
3776.412	Fe	5p ⁷ P ₃ - g ⁷ D ₃		7.0	
3776.549	CO	(12-10)	R12	b <1	
3776.717	?			1.1	
3776.813	CO	(9-7)	P26	2.7	
3776.954	CO	(8-6)	P35	3.4	
3777.599	Fe	v ⁵ P ₁ - e ⁵ P ₂		4.1	
3777.784	?			0.4	
3777.891	CO	(7-5)	P43	3.8	
3778.03	Al	5d ² D _{5/2} - 7f ² F _{7/2} ⁰		b	
3778.040	CO	(4-2)	P64	b 3	
3778.30	CO	(11-9)	P3	0.3	
3778.951	CO	(2-0)	P76	0.9	
3779.05	CO	(12-10)	R13	1	
3779.11	?			1	
3779.718	CO	(3-1)	P70	2	
3780.093	CO	(10-8)	P15	1.6	
3780.81	?			0.5	
3781.35	CO	(6-4)	P50	b 4	
3781.39	CO	(5-3)	P57	b 3*	
3781.474	CO	(12-10)	R14	0.9	
3781.97	CO	(11-9)	P2	0.2	

3782-3790 cm^{-1}

3782.114	Al	5d $^2D_{3/2}$ - 7f $^2F^{\circ}_{5/2}$	b	
3782.114	CO	(9-7) P25	2.8	
3782.881	CO	(8-6) P34	3 ⁺	
3783.234	?		0.5	?
3783.844	CO	(12-10) R15	1.1	
3784.37	CO	(7-5) P42	b 4	
3784.402	Si	3s3p ³ $^3D^{\circ}_1$ - 3s ² 3p4p 3P_1	17.6	
3784.626	CO	(10-8) P14	1 ⁺	
3784.934	?		0.7	?
3785.57	CO	(11-9) P1	0.1	
3785.938	CO	(4-2) P63	3.1	
3786.124	CO	(12-10) R16	1.2	
3787.35	CO	(9-7) P24	2.6	
3787.64	CO	(2-0) P75	bs 1	
3787.878	Mg	4p $^1P^{\circ}_1$ - 4d 1D_2	29.0	
3788.01	CO	(3-1) P69	bs 2	
3788.310	CO	(6-4) P49	4	
3788.34	CO	(12-10) R17	b 1	
3788.452	?		0.5	?
3788.740	CO	(8-6) P33	4.1	
3788.816	CO	(5-3) P56	3.6	
3789.08	CO	(10-8) P13	1.5	

3790-3798 cm⁻¹

3790.483	CO	(12-10)	R18	1.3	
3790.783	Fe	e ⁵ F ₂ - u ⁵ F ₂ ⁰		b	
3790.783	CO	(7-5)	P41	b 4 ⁺	
3790.956	?			2.1	?
3791.177	Fe	e ⁵ F ₂ - t ⁵ D ₁ ⁰		2.4	
3791.533	?			0.3	?
3792.04	CO	(12-10)	R73	<0.1	
3792.521	CO	(9-7)	P23	b 3	
3792.55	CO	(12-10)	R19	bs 1	
3792.56	CO	(11-9)	R0	b <<1	
3793.472	CO	(10-8)	P12	1.3	
3793.771	CO	(4-2)	P62	3.1	
3794.12	CO	(12-10)	R72	<0.1	
3794.540	CO	(8-6)	P32	4	
3794.540	CO	(12-10)	R20	b 1	
3794.728	?			0.2	?
3794.833	?			0.3	?
3794.933	?			2.8	?
3795.203	CO	(6-4)	P48	4.1	
3795.95	CO	(11-9)	R1	<<1	
3796.13	CO	(12-10)	R71	b <<1	
3796.181	CO	(5-3)	P55	b 4.1	
3796.181	Si	4d ³ P ₂ ⁰ - 6p ($\frac{1}{2}, \frac{3}{2}$) ₁		b	
3796.247	CO	(3-1)	P68	b 2	
3796.25	CO	(2-0)	P74	b 1	
3796.462	CO	(12-10)	R21	1	
3796.132	CO	(7-5)	P40	4.4	
3796.623	CO	(9-7)	P22	2.9	
3796.800	CO	(10-8)	P11	1.4	

3798-3806 cm⁻¹

3799.05	CO	(12-10)	R70	0.3
3798.321	CO	(12-10)	R22	1.2
3799.27	CO	(11-9)	R2	<<1
3799.358	Fe(?)			1.3
3799.90	CO	(12-10)	R69	<<1
3800.10	CO	(12-10)	R23	b 1
3800.13	Si	4f [1½]' ₂ - 6g [2½]'		b 2
3800.268	CO	(8-6)	P31	3*
3800.712	Si	4f [1½]' ₁ - 6g [2½]'		2.2
3801.54	CO	(4-2)	P61	3*
3801.665	CO	(12-10)	R68	0.5
3801.800	CO	(12-10)	R24	1.1
3802.037	CO	(6-4)	P47	4*
3802.06	CO	(10-8)	P10	b 1
3802.525	CO	(11-9)	R3	<<1
3802.656	CO	(9-7)	P21	2.5
3803.34	CO	(12-10)	R67	b <1
3803.419	CO	(7-5)	P39	4*
3803.42	CO	(12-10)	R25	b 1
3803.491	CO	(5-3)	P54	4.0
3803.779	?			0.6
3804.413	CO	(3-1)	P67	2
3804.82	CO	(2-0)	P73	0.9
3804.940	CO	(12-10)	R66	b <1
3804.980	CO	(12-10)	R26	1.0
3805.696	CO	(11-9)	R4	<1
3805.934	CO	(8-6)	P30	3*

?

3806-3814 cm⁻¹

3806.241	CO	(10-8)	P9	1
3806.457	CO	(12-10)	R65	b <1
3806.457	CO	(12-10)	R27	b 1
3807.626	CO	(9-7)	P20	2*
3807.866	CO	(12-10)	R28	b 1
3807.90	CO	(12-10)	R64	b <1
3808.26	H	(4-6)		Broad
3808.804	CO	(6-4)	P46	bs 4
3808.804	CO	(11-9)	R5	b <1
3809.20	CO	(12-10)	R29	bs 1
3809.252	CO	(4-2)	P60	3*
3809.26	CO	(12-10)	R63	b <1
3809.635	CO	(7-5)	P38	4
3810.369	CO	(10-8)	P8	1
3810.463	CO	(12-10)	R30	0.8
3810.55	CO	(12-10)	R62	s <1
3810.730	CO	(5-3)	P53	3.8
3811.035	?			0.4
3811.535	CO	(8-6)	P29	3*
3811.643	CO	(12-10)	R31	0.9
3811.742	CO	(12-10)	R61	0.6
3811.84	CO	(11-9)	R6	<1
3812.53	CO	(3-1)	P66	b 2*
3812.53	CO	(9-7)	P19	b 2*
3812.543	Fe	3d ³ c ³ F ₄ - y ³ F ₄		26*
3812.750	CO	(12-10)	R32	1.0
3812.87	CO	(12-10)	R60	<1
3813.340	CO	(2-0)	P72	0.9
3813.549	?			0.6
3813.796	CO	(12-10)	R33	1
3813.92	CO	(12-10)	R59	<1
3813.997	Na	4f ² F _{5/2,7/2} - 6g ² G _{7/2,9/2}		4

?

?

3814-3822 cm^{-1}

3814.417	CO	(10-8)	P7	1	
3814.745	CO	(12-10)	R34	1 ⁺	
3814.81	CO	(11-9)	R7	<1	
3814.877	CO	(12-10)	R58	0.6	
3815.503	CO	(6-4)	P45	4.6	
3815.63	CO	(12-10)	R35	1 ⁺	
3815.77	CO	(12-10)	R57	b 0.6	
3815.795	CO	(7-5)	P37	4.3	
3816.44	CO	(12-10)	R36	1.0	
3816.57	CO	(12-10)	R56	0.7	
3816.900	CO	(4-2)	P59	3.6	
3817.072	CO	(8-6)	P28	3.6	
3817.172	CO	(12-10)	R37	1.1	
3817.299	CO	(12-10)	R55	0.7	
3817.362	CO	(9-7)	P18	2.5	
3817.705	CO	(11-9)	R8	0.7	
3817.835	CO	(12-10)	R38	0.9	
3817.910	CO	(5-3)	P52	4.6	
3817.95	CO	(12-10)	R54	bs <1	
3818.20	?			0.5	?
3818.40	CO	(10-8)	P6	b <1	
3818.42	CO	(12-10)	R39	b 1	
3818.53	CO	(12-10)	R53	0.7	
3818.82	?	Broad		3	?
3818.92	CO	(12-10)	R40	1	
3819.015	CO	(12-10)	R52	0.8	
3819.346	CO	(12-10)	R41	1	
3819.434	CO	(12-10)	R51	0.8	
3819.705	CO	(12-10)	R42	0.9	
3819.775	CO	(12-10)	R50	1	
3819.98	CO	(12-10)	R43	1	
3820.042	CO	(12-10)	R49	1	
3820.191	CO	(12-10)	R44	b 1	
3820.224	CO	(12-10)	R48	b 1	
3820.310	CO	(12-10)	R45	b 1	
3820.310	Fe	$v^3F_0 - f^3F_3$		b 2 ⁺	
3820.33	CO	(12-10)	R47	b 1	
3820.35	CO	(12-10)	R46	b 1	
3820.53	CO	(11-9)	R9	bs 1	
3820.574	CO	(3-1)	P65	2.6	
3820.760	?			0.5	?
3821.785	CO	(2-0)	P71	b 1 ⁺	
3821.89	CO	(7-5)	P36	4.0	

3822-3830 cm⁻¹

3822.137	CO	(9-7)	P17	b 2 ⁺	
3822.137	CO	(6-4)	P44	b 4 ⁺	
3822.31	CO	(10-8)	P5	0.6	
3822.539	CO	(8-6)	P27	3.5	
3823.286	CO	(11-9)	R10	1.0	
3824.488	CO	(4-2)	P58	3.8	
3825.026	CO	(5-3)	P51	4.6	
3825.968	CO	(11-9)	R11	1.0	
3826.16	CO	(10-8)	P4	0.6	
3826.83	CO	(9-7)	P16	2 ⁺	
3827.025	?			0.5	?
3827.315	?			0.4	?
3827.92	CO	(7-5)	P35	b 4 ⁺	
3827.94	CO	(8-6)	P26	b 4	
3828.566	CO	(3-1)	P64	3.2	
3828.566	CO	(11-9)	R12	b 1	
3828.722	CO	(6-4)	P43	4.9	
3829.54	CO	(11-9)	R80	0.1	
3829.935	CO	(10-8)	P3	0.5	

3830-3838 cm⁻¹

3830.162	CO	(2-0)	P70	1.8	
3830.19	?			b 1 ⁺	?
3831.08	?			0.4	?
3831.117	CO	(11-9)	R13	1.1	
3831.301	?			0.4	?
3831.347	?			0.4	?
3831.458	Si	5p ³ D ₂ - 5d ³ F ₄		b	
3831.458	CO	(9-7)	P15	2.2	
3832.007	CO	(4-2)	P57	4.1	
3832.086	CO	(5-3)	P50	4.7	
3832.17	CO	(11-9)	R79	0.2	
3832.860	Fe	w ⁵ D ₃ - e ⁵ F ₃		0.6	
3833.282	CO	(8-6)	P25	4.0	
3833.49	?			0.3	?
3833.57	CO	(11-9)	R14	1.1	
3833.63	CO	(10-8)	P2	0.3	
3833.879	CO	(7-5)	P34	4.3	
3834.70	CO	(11-9)	R78	0.2	
3834.859	Fe	4s4p x ⁵ F ₃ - e ⁵ D ₄		0.3	
3835.236	CO	(6-4)	P42	4.7	
3835.967	CO	(11-9)	R15	1 ⁺	
3836.023	CO	(9-7)	P14	2.1	
3836.489	CO	(3-1)	P63	3	
3837.16	CO	(11-9)	R77	0.3	
3837.27	CO	(10-8)	P1	<0.1	

3838-3846 cm⁻¹

3838.295	CO	(11-9)	R16	1.3	
3838.49	CO	(2-0)	P69	bs 1 ⁺	
3838.552	CO	(8-6)	P24	3.7	?
3838.802	?			1 ⁺	
3839.073	CO	(5-3)	P49	4.9	?
3839.369	?			1.1	
3839.479	CO	(4-2)	P56	4.0	
3839.55	CO	(11-9)	R76	0.3	
3839.779	CO	(7-5)	P33	b 4 ⁺	
3839.779	?			7.2	?
3840.52	CO	(9-7)	P13	b 2 ⁺	
3840.52	Fe	v ⁵ F ₄ - g ⁵ D ₃		b	
3840.54	CO	(11-9)	R17	bs 1 ⁺	
3841.684	CO	(6-4)	P41	4.7	?
3841.798	?			1.8	
3841.84	CO	(11-9)	R75	b 0.4	
3842.178	?			1.2	?
3842.719	CO	(11-9)	R18	2	
3843.61	C	4f [3 ₂] ₄ - 6g [4 ₂]		2 ⁺	
3843.754	CO	(8-6)	P23	4	
3843.754	C	4f [3 ₂] ₃ - 6g [4 ₂]		b	
3844.06	CO	(11-9)	R74	0.4	
3844.108	CaII	6s ² S _{1/2} - 6p ² P _{3/2}		2.7	
3844.33	CO	(10-8)	R0	b <<1	
3844.356	CO	(3-1)	P62	2.6	
3844.823	CO	(11-9)	R19	1.4	
3844.95	CO	(9-7)	P12	2	
3845.17	?			0.5	?
3845.609	CO	(7-5)	P32	4.8	

3846-3854 cm⁻¹

3846.001	CO	(5-3)	P48	5.3	
3846.19	CO	(11-9)	R73	0.5	
3846.434	Fe	5p ⁷ P ⁰ - g ⁷ D ₁		7.7	?
3846.49	?			s 2	
3846.762	CO	(2-0)	P68	1.4	
3846.85	CO	(11-9)	R20	b 1 ⁺	
3846.874	CO	(4-2)	P55	b 4 ⁺	
3847.419	?			0.5	?
3847.76	CO	(10-8)	R1	0.3	
3848.066	CO	(6-4)	P40	5.2	
3848.23	CO	(11-9)	R72	0.5	
3848.802	CO	(11-9)	R21	1.4	
3848.894	CO	(8-6)	P22	3 ⁺	
3849.019	Fe	5p ⁷ F ⁰ - g ⁷ D ₃		0.6	
3849.306	CO	(9-7)	P11	1.8	?
3849.469	?			0.5	
3850.21	CO	(11-9)	R71	0.5	?
3850.380	?			0.5	
3850.561	C	4f [2 ₂ ¹] - 6g [3 ₂ ¹]		0.7	
3850.69	CO	(11-9)	R22	1.6	
3851.050	Na	4d ² D _{3/2,5/2} - 6f ² F ⁰ _{5/2,7/2}		2 ⁺	
3851.11	CO	(10-8)	R2	b <1	
3851.375	CO	(7-5)	P31	4.8	
3851.52	?			0.8	?
3851.651	?			0.6	?
3851.982	?			0.6	?
3852.10	CO	(11-9)	R70	0.6	
3852.17	CO	(3-1)	P61	2 ⁺	
3852.508	CO	(11-9)	R23	1.6	
3852.78	Si	4d ³ F ⁰ - 5f [2 ₂ ¹] ₃		0.4	
3852.87	CO	(5-3)	P47	5	
3853.044	Fe	w ⁵ D ₂ ⁰ - e ⁵ F ₂		<1	
3853.436	Si	4f [4 ₂ ¹] ₄ - 6g [5 ₂ ¹] ₁		7	
3853.598	CO	(9-7)	P10	1 ⁺	
3853.90	CO	(11-9)	R69	0.6	
3853.958	CO	(8-6)	P21	3.7	

3854-3862 cm⁻¹

3854.22	CO	(4-2)	P54	b 4*
3854.24	CO	(11-9)	R24	bs 2
3854.388	CO	(6-4)	P39	5.5
3854.388	CO	(10-8)	R3	b <1
3854.76	?			0.5
3854.964	CO	(2-0)	P67	1.6
3855.32	?			0.4
3855.62	CO	(11-9)	R68	0.6
3855.908	CO	(11-9)	R25	1.7
3856.139	Si	4d ³ F ₃ - 5f ² [3 ₂] ₄		8.0
3856.230	Fe	v ⁵ P ₂ - e ⁵ P ₁		bs 1*
3856.87	?			bs 1*
3856.924	Si	4f [4 ₂] ₅ - 6g [5 ₂] ₁ '		9*
3857.077	CO	(7-5)	P30.	s 5
3857.28	CO	(11-9)	R67	0.7
3857.50	CO	(11-9)	R26	1.7
3857.605	CO	(10-8)	R4	0.7
3857.818	CO	(9-7)	P9	1.5
3858.839	CO	(11-9)	R66	0.8
3858.970	CO	(8-6)	P20	3.6
3859.016	CO	(11-9)	R27	bs 2
3859.67	CO	(5-3)	P46	5.3
3859.907	CO	(3-1)	P60	3.1
3860.32	CO	(11-9)	R65	0.9
3860.452	CO	(11-9)	R28	2.0
3860.645	CO	(6-4)	P38	5.5
3860.76	CO	(10-8)	R5	0.8
3861.327	?			2.0
3861.496	CO	(4-2)	P53	4.5
3861.73	CO	(11-9)	R64	0.9
3861.813	CO	(11-9)	R29	1.8
3861.973	CO	(9-7)	P8	1.6

3862-3870 cm⁻¹

3862.711	CO	(7-5)	P29	4.7	
3863.06	CO	(11-9)	R63	1.0	
3863.111	CO	(2-0)	P66	b 2	
3863.111	CO	(11-9)	R30	b 2	
3863.539	Fe	e ⁵ F ₃ - u ⁵ F ⁰ ₃		3.4	
3863.818	CO	(10-8)	R6	0.9	
3863.904	CO	(8-6)	P19	3.2	
3864.146	?			0.4	?
3864.31	CO	(11-9)	R62	b 1	
3864.331	CO	(11-9)	R31	2	
3864.94	?			0.6	?
3865.465	Si	4f [2½]’ ₂ - 6g [3½]’		6.7	
3865.47	CO	(11-9)	R32	b 2	
3865.47	CO	(11-9)	R61	b 1	
3865.938	?			0.4	?
3866.06	CO	(9-7)	P7	bs 1 ⁺	
3866.150	?			6.6	?
3866.402	CO	(5-3)	P45	b 5 ⁺	
3866.402	Si	4f [2½]’ ₃ - 6g [3½]’		8 ⁺	
3866.55	CO	(11-9)	R33	1.9	
3866.56	CO	(11-9)	R60	b 1	
3866.66	?			bs 2 ⁺	?
3866.760	Si	3s3p ³ D ⁰ ₃ - 4p ³ P ₂		25	
3866.83	CO	(10-8)	R7	bs 1	
3866.838	CO	(6-4)	P37	5 ⁺	
3867.54	CO	(11-9)	R34	b 2	
3867.58	CO	(11-9)	R59	b 1	
3867.597	CO	(3-1)	P59	b 4	
3868.207	?			s 0.5	?
3868.281	CO	(7-5)	P28	4.7	
3868.465	CO	(11-9)	R35	b 2	
3868.50	CO	(11-9)	R58	bs 1	
3868.589	C	3p ³ P ₂ - 2s2p ³ P ₁ ⁰		2 ⁺	
3868.708	CO	(4-2)	P52	5	
3868.774	CO	(8-6)	P18	bs 3	
3869.30	CO	(11-9)	R36	b 2	
3869.356	CO	(11-9)	R57	1 ⁺	
3869.57	?			0.4	?
3869.754	CO	(10-8)	R8	1	
3869.882	C	3p ³ P ₂ - 2s2p ³ P ₂ ⁰		7.5	
3869.93	CO	(10-8)	R85	<<1	

3870-3878 cm⁻¹

3870.068	CO	(11-9)	R37	b 2
3870.08	CO	(9-7)	P6	b 1+
3870.13	CO	(11-9)	R56	b 1+
3870.37	?			0.4
3870.655	Fe	v ⁵ P ₃ - e ⁵ P ₃		5.4
3870.767	C(?)	3p ³ P ₂ - 2s2p ³ ³ p ⁰		b
3870.767	CO	(11-9)	R38	b 2
3870.82	CO	(11-9)	R55	1.2
3871.19	CO	(2-0)	P65	2
3871.375	CO	(11-9)	R39	1.9
3871.446	CO	(11-9)	R54	1.4
3871.921	CO	(11-9)	R40	2.0
3871.972	CO	(11-9)	R53	1.5
3872.38	CO	(11-9)	R41	b 2+
3872.429	CO	(11-9)	R52	2
3872.613	CO	(10-8)	R9	1.3
3872.773	CO	(11-9)	R42	b 2+
3872.81	CO	(11-9)	R51	b 2
3872.94	CO	(10-8)	R84	b <<1
3872.964	CO	(6-4)	P36	5.3
3873.084	CO	(5-3)	P44	b 6
3873.084	CO	(11-9)	R43	b 2+
3873.12	CO	(11-9)	R50	b 2
3873.209	?			0.3
3873.33	CO	(11-9)	R44	b 2+
3873.34	CO	(11-9)	R49	b 2+
3873.49	CO	(11-9)	R45	b 2+
3873.49	CO	(11-9)	R48	b 2+
3873.57	CO	(11-9)	R46	b 2+
3873.57	CO	(11-9)	R47	b 2+
3873.571	CO	(8-6)	P17	b 3
3873.78	CO	(7-5)	P27	4.8
3874.03	CO	(9-7)	P5	1
3874.46	Fe	e ⁵ F ₃ - t ⁵ D ₂		5
3875.216	CO	(3-1)	P58	3.7
3875.398	CO	(10-8)	R10	1.3
3875.83	CO	(10-8)	R83	b <<1
3875.859	CO	(4-2)	P51	5.1
3877.91	Si	4d ¹ D ₂ - 6p ($\frac{1}{2}, \frac{1}{2}$) ₁		b
3877.91	CO	(9-7)	P4	b 1

3878-3886 cm⁻¹

3878.113	CO	(10-8)	R11	1.4
3878.309	Fe(?)	f ⁵ D ₄ - ⁵ D ⁰ ₄		b
3878.309	CO	(8-6)	P16	3.0
3878.456	Fe	w ⁵ D ⁰ ₄ - e ⁵ F ₄		0.6
3878.68	CO	(10-8)	R82	0.3
3879.026	CO	(6-4)	P35	5.8
3879.222	CO	(2-0)	P64	b 2
3879.222	CO	(7-5)	P26	b 5
3879.695	CO	(5-3)	P43	6.0
3880.762	CO	(10-8)	R12	1.5
3881.44	CO	(10-8)	R81	0.4
3881.506	?			0.5
3881.71	CO	(9-7)	P3	0.5
3882.775	CO	(3-1)	P57	3.5
3882.954	CO	(4-2)	P50	b 5*
3882.98	CO	(8-6)	P15	bs 3
3883.35	CO	(10-8)	R13	1*
3883.91	?			1.1
3884.11	CO	(10-8)	R80	0.5
3884.596	CO	(7-5)	P25	4.9
3885.025	CO	(6-4)	P34	6.0
3885.46	CO	(9-7)	P2	0.4
3885.83	CO	(10-8)	R14	1.6

3886-3894 cm⁻¹

3886.249	CO	(5-3)	P42	6.6	
3886.677	?			1.4	?
3886.70	CO	(10-8)	R79	0.5	
3887.178	CO	(2-0)	P63	2.0	
3887.574	CO	(8-6)	P14	2.8	
3888.11	Ca	4f ¹ F ₀ ³ - 6g ¹ G ₄		2.6	
3888.262	CO	(10-8)	R15	1 ⁺	
3888.262	Si	4d ³ P ₀ ⁰ - 6p (¹ / ₂ , ¹ / ₂) ₀		b	
3889.071	C	3p ³ P ₁ - 2s 2p ³ ³ P ₁		3	
3889.12	CO	(9-7)	P1	bs <<1	
3889.19	CO	(10-8)	R78	0.5	
3889.303	Fe	(9/2)4f[1½] ₁ - (9/2)6g[2½]		0.5	
3889.901	CO	(7-5)	P24	5.0	
3889.984	CO	(4-2)	P49	b 5 ⁺	
3889.984	?			7 ⁺	?
3890.275	CO	(3-1)	P56	4	
3890.363	C	3p ³ P ₁ - 2s 2p ³ ³ P ₂		4	
3890.363	Fe	(9/2)4f[1½] ₁ - (9/2)6g[1½]		b	
3890.616	CO	(10-8)	R16	2.0	
3890.958	CO	(6-4)	P33	6.1	
3890.958	Al	5p ² P _{3/2} ⁰ - 6d ² D _{5/2}		b	
3891.209	C	3p ³ P ₁ - 2s2p ³ ³ P ₀		4	
3891.62	CO	(10-8)	R77	0.6	
3891.808	?			0.3	?
3892.10	CO	(8-6)	P13	2 ⁺	
3892.39	Fe	(9/2)4f[1½] ₂ - (9/2)6g[1½]		0.4	
3892.726	CO	(5-3)	P41	6.6	
3892.91	CO	(10-8)	R17	2	
3893.08	?			0.4	?
3893.970	CO	(10-8)	R76	0.6	

3894-3902 cm⁻¹

3894.07	?				0.5	?
3894.478	Al(?)	5p ² P _{1/2} - 6d ² D _{3/2}			0.8	
3894.51	?				0.7	?
3894.989	Si	3s3p ³ ³ D ₂ - 4p ³ P ₂			18.3	
3895.08	CO	(2-0) P62			b 2	
3895.12	CO	(10-8) R18			b 2	
3895.138	CO	(7-5) P23			5	
3896.22	CO	(10-8) R75			0.7	
3896.25	CO	(9-7) R0			s 0.1	
3896.57	CO	(8-6) P12			2.4	
3896.58	Fe(?)	z ⁵ H ₄ - e ⁵ F ₅			b	
3896.825	CO	(6-4) P32			6.1	
3896.941	CO	(4-2) P48			5.7	
3897.252	CO	(10-8) R19			2.2	
3897.458	?				0.4	?
3897.709	CO	(3-1) P55			4.1	
3898.40	CO	(10-8) R74			0.7	
3898.494	?				b 1	?
3898.856	?				0.6	?
3898.99	?				s 0.4	?
3899.132	Ca	5p ³ P ₂ - 6s ³ S ₁			16.8	
3899.15	CO	(5-3) P40			b 6 ⁺	
3899.31	Ti	a ¹ H ₅ - z ¹ G ₄			b	
3899.31	CO	(10-8) R20			b 2	
3899.715	CO	(9-7) R1			0.3	
3899.94	Fe	(9/2)4f[7½] _{8,7} - (9/2)6g[7½]			0.4	?
3900.16	?				0.3	
3900.312	CO	(7-5) P22			5.0	
3900.312	Fe	(9/2)4f[2½] ₂ - (9/2)6g[3½]			b	
3900.312	Fe	(3/2)4f[3½] ₃ - (3/2)6g[3½]			b	
3900.49	CO	(10-8) R73			0.7	
3900.965	CO	(8-6) P11			2.4	
3901.304	CO	(10-8) R21			2.4	
3901.304	Fe	(3/2)4f[3½] ₃ - (3/2)6g[4½]			b	
3901.467	C	3p ³ P ₀ - 2s2p ³ ³ P ₁			3.3	
3901.467	Fe	(9/2)4f[2½] ₂ - (9/2)6g[2½]			b	
3901.467	Fe	(3/2)4f[3½] ₄ - (3/2)6g[3½]			b	

3902-3910 cm⁻¹

3902.33	Al	4f ² F _{5/2,7/2} ⁰ - 6g ² G _{7/2,9/2}	9 ⁺
3902.33	Fe	(3/2)4f[3½] ₄ - (3/2)6g[4½]	b
3902.52	CO	(10-8) R72	b 1
3902.530	Fe	(9/2)4f[7½] _{7,8} - (9/2)6g[8½]	b 3 ⁺
3902.530	Fe	(9/2)4f[2½] ₃ - (9/2)6g[3½]	b 3 ⁺
3902.627	CO	(6-4) P31	6
3902.927	CO	(2-0) P61	2.0
3903.11	CO	(9-7) R2	0.4
3903.226	CO	(10-8) R22	2.1
3903.558	Si	4f [3½] ₄ - 6g [4½]	10
3903.558	C(?)	3p ³ P ₀ - 2s 2p ³ ³ P ₀	b
3903.841	CO	(4-2) P47	6
3903.841	Fe	(9/2)4f[2½] ₃ - (9/2)6g[2½]	b
3904.015	Fe	v ⁵ P ₂ ⁰ - e ⁵ P ₂	1.4
3904.436	?		b 2 ⁺
3904.44	CO	(10-8) R71	b 1
3905.07	CO	(10-8) R23	b 2
3905.081	CO	(3-1) P54	b 5
3905.289	CO	(8-6) P10	b 2 ⁺
3905.419	CO	(7-5) P21	bs 5
3905.505	CO	(5-3) P39	b 7
3905.583	Si	4f [3½] ₃ - 6g [4½]	b 7 ⁺
3906.30	CO	(10-8) R70	0.9
3906.418	CO	(9-7) R3	0.6
3906.843	CO	(10-8) R24	2.4
3908.07	CO	(10-8) R69	1.1
3908.363	CO	(6-4) P30	6.2
3908.46	Fe	(5/2)4f[3½] ₃ - (5/2)6g[4½]	bs 0.3
3908.46	Fe	(5/2)4f[4½] ₄ - (5/2)6g[5½]	bs 0.3
3908.545	Si	3d ¹ P ₁ ⁰ - 5p ³ P ₀	b 5.5
3908.545	CO	(10-8) R25	b 3
3908.74	CO	(9-7) R90	0.2
3909.139	Fe	e ⁵ F ₂ - u ⁵ F ₁	3.6
3909.139	Fe	(3/2)4f[2½] ₃ - (3/2)6g[2½]	b
3909.549	CO	(8-6) P9	2.3
3909.67	CO	(9-7) R4	0.6
3909.76	CO	(10-8) R68	1.2
3909.843	Fe	(5/2)4f[4½] ₅ - (5/2)6g[5½]	1.1
3909.843	Fe	(5/2)4f[4½] ₅ - (5/2)6g[4½]	b

3910-3918 cm⁻¹

3910.03	Fe	(3/2)4f[2½] ₂ - (3/2)6g[3½]	b	0.6
3910.03	Fe	(5/2)4f[3½] ₄ - (5/2)6g[4½]	b	0.6
3910.166	CO	(10-8) R26	2 ⁺	
3910.166	Fe	(7/2)4f[1½] ₂ - (7/2)6g[2½]	b	
3910.32	Fe	(7/2)4f[1½] ₂ - (7/2)6g[1½]	0.3	
3910.459	CO	(7-5) P20	4.6	
3910.683	CO	(4-2) P46	6.7	
3910.69	CO	(2-0) P60	b	2
3910.920	Fe	(7/2)4f[6½] ₆ - (7/2)6g[6½]	0.3	
3911.383	C(?)	4s 1P ⁰ ₁ - 4p 1S ₀	b	1.5
3911.383	CO	(10-8) R67	b	1.5
3911.383	Fe	(7/2)4f[6½] ₆ - (7/2)6g[7½]	b	
3911.540	Fe	(3/2)4f[2½] ₃ - (3/2)6g[3½]	b	3
3911.540	Fe	(1/2)4f[3½] ₃ - (1/2)6g[4½]	b	3
3911.540	Fe	(1/2)4f[3½] ₃ - (1/2)6g[3½]	b	3
3911.715	CO	(10-8) R27	2 ⁺	
3911.715	Fe	(7/2)4f[6½] ₇ - (7/2)6g[6½]	b	
3911.795	CO	(5-3) P38	7	
3911.795	Fe	(7/2)4f[2½] ₂ - (7/2)6g[3½]	b	
3912.13	CO	(9-7) R89	0.2	
3912.244	Fe	(7/2)4f[6½] ₇ - (7/2)6g[7½]	2 ⁺	
3912.400	CO	(3-1) P53	b	5
3912.400	Si	3s 3P ³ 3D ⁰ ₁ - 4p 3P ₂	b	
3912.582	?		0.5	
3912.63	Fe	(9/2)4f[3½] ₃ - (9/2)6g[4½]	0.5	
3912.849	CO	(9-7) R5	1.0	
3912.910	CO	(10-8) R66	1 ⁺	
3913.02	Fe	(1/2)4f[2½] ₂ - (1/2)6g[3½]	0.3	
3913.193	CO	(10-8) R28	2.7	
3913.390	Fe	(1/2)4f[3½] ₄ - (1/2)6g[4½]	b	1.4
3913.390	Fe	(1/2)4f[3½] ₄ - (1/2)6g[3½]	b	1.4
3913.478	Fe	(1/2)4f[2½] ₃ - (1/2)6g[3½]	0.6	
3913.743	CO	(8-6) P8	2.0	
3913.743	Fe	(5/2)4f[2½] ₃ - (5/2)6g[2½]	b	
3913.743	Fe	(9/2)4f[3½] ₃ - (9/2)6g[3½]	b	
3913.921	Fe	(9/2)4f[3½] ₄ - (9/2)6g[4½]	0.5	
3914.034	CO	(6-4) P29	6.1	
3914.170	?		0.5	
3914.285	Fe	(7/2)4f[3½] ₃ - (7/2)6g[4½]	s	0.4
3914.352	CO	(10-8) R65	1.4	
3914.352	Fe	(7/2)4f[2½] ₃ - (7/2)6g[3½]	b	
3914.520	Fe	(5/2)4f[2½] ₃ - (5/2)6g[3½]	bs	0.5
3914.520	Fe	(7/2)4f[3½] ₃ - (7/2)6g[3½]	b	
3914.520	Fe	(7/2)4f[2½] ₃ - (7/2)6g[2½]	b	
3914.602	CO	(10-8) R29	2.7	
3914.77	Fe	(7/2)4f[3½] ₄ - (7/2)6g[4½]	1.0	
3915.088	Fe	(9/2)4f[3½] ₄ - (9/2)6g[3½]	b	1.0
3915.088	Fe	(7/2)4f[3½] ₄ - (7/2)6g[3½]	b	1.0
3915.428	CO	(7-5) P19	4.7	
3915.43	CO	(9-7) R88	b	<<1
3915.43	Fe	(5/2)4f[2½] ₂ - (5/2)6g[2½]	b	
3915.729	CO	(10-8) R64	1.4	
3915.934	CO	(10-8) R30	2.9	
3915.95	CO	(9-7) R6	b	1 ⁺
3916.291	Fe	(5/2)4f[2½] ₂ - (5/2)6g[3½]	b	1.7
3916.291	Fe	(7/2)4f[5½] ₅ - (7/2)6g[6½]	b	1.7
3916.944	Fe	(7/2)4f[4½] ₄ - (7/2)6g[5½]	bs	0.4

3916.944	Fe	(7/2)4f[4½] ₄	- (7/2)6g[4½]	bs 0.4
3917.025	CO	(10-8)	R63	bs 1+
3917.079	Si	4f [2½] ₂	- 6g [3½]	5
3917.175	CO	(10-8)	R31	bs 3
3917.175	Fe	(7/2)4f[5½] ₆	- (7/2)6g[5½]	b
3917.175	Fe	(7/2)4f[5½] ₆	- (7/2)6g[6½]	b
3917.456	CO	(4-2)	P45	6+
3917.456	Fe	(5/2)4f[5½] ₅	- (5/2)6g[6½]	b
3917.857	CO	(8-6)	P7	2

3918-3926 cm⁻¹

3918.022	CO	(5-3)	P37	7
3918.196	Si	4f [2 $\frac{1}{2}$] ₃ - 6g [3 $\frac{1}{2}$]		7*
3918.196	Fe	(7/2)4f[4 $\frac{1}{2}$] ₅ - (7/2)6g[5 $\frac{1}{2}$]		b
3918.196	Fe	(7/2)4f[4 $\frac{1}{2}$] ₅ - (7/2)6g[4 $\frac{1}{2}$]		b
3918.23	CO	(10-8)	R62	b 1*
3918.23	Fe	(5/2)4f[1 $\frac{1}{2}$] ₂ - (5/2)6g[1 $\frac{1}{2}$]		b
3918.356	CO	(10-8)	R32	3
3918.424	CO	(2-0)	P59	2
3918.424	Fe	(5/2)4f[5 $\frac{1}{2}$] ₆ - (5/2)6g[6 $\frac{1}{2}$]		b
3918.64	CO	(9-7)	R87	0.3
3918.64	Fe	(5/2)4f[5 $\frac{1}{2}$] ₅ - (5/2)6g[5 $\frac{1}{2}$]		b 0.3
3918.994	CO	(9-7)	R7	1.7
3918.994	Fe	(5/2)4f[1 $\frac{1}{2}$] ₂ - (5/2)6g[2 $\frac{1}{2}$]		b
3919.246	Fe	(3/2)4f[4 $\frac{1}{2}$] ₄ - (3/2)6g[5 $\frac{1}{2}$]		1.2
3919.365	CO	(10-8)	R61	s 2
3919.46	CO	(10-8)	R33	b 3
3919.481	Ca	5p ³ P ⁰ - 6s ³ S ₁		10*
3919.641	CO	(6-4)	P28	b 6
3919.641	CO	(3-1)	P52	b 5
3919.641	Fe	(5/2)4f[5 $\frac{1}{2}$] ₆ - (5/2)6g[5 $\frac{1}{2}$]		b
3920.331	CO	(7-5)	P18	b 4*
3920.331	Fe	(3/2)4f[4 $\frac{1}{2}$] ₅ - (3/2)6g[5 $\frac{1}{2}$]		b 2*
3920.41	CO	(10-8)	R60	3
3920.496	CO	(10-8)	R34	b 2*
3921.248	Fe	(9/2)4f[6 $\frac{1}{2}$] ₆ - (9/2)6g[6 $\frac{1}{2}$]		0.5
3921.39	CO	(10-8)	R59	b 2*
3921.442	Si	4d ³ P ⁰ - 6p ($\frac{1}{2}$, $\frac{1}{2}$) ₀		b
3921.442	CO	(10-8)	R35	2.8
3921.442	Fe	(3/2)4f[1 $\frac{1}{2}$] ₂ - (3/2)6g[2 $\frac{1}{2}$]		b
3921.77	CO	(9-7)	R86	0.3
3921.77	Fe	(3/2)4f[4 $\frac{1}{2}$] ₄ - (3/2)6g[4 $\frac{1}{2}$]		b
3921.914	CO	(8-6)	P6	2
3921.962	CO	(9-7)	R8	2
3922.198	Fe	(9/2)4f[6 $\frac{1}{2}$] ₆ - (9/2)6g[7 $\frac{1}{2}$]		1.2
3922.30	CO	(10-8)	R58	b 2*
3922.31	CO	(10-8)	R36	b 3
3922.93	Fe	(9/2)4f[4 $\frac{1}{2}$] ₄ - (9/2)6g[5 $\frac{1}{2}$]		b 0.7
3922.93	Fe	(3/2)4f[4 $\frac{1}{2}$] ₅ - (3/2)6g[4 $\frac{1}{2}$]		b
3923.11	CO	(10-8)	R57	b 2*
3923.117	CO	(10-8)	R37	b 3
3923.117	Fe	(9/2)4f[4 $\frac{1}{2}$] ₅ - (9/2)6g[5 $\frac{1}{2}$]		b
3923.608	Fe	(9/2)4f[6 $\frac{1}{2}$] ₇ - (9/2)6g[6 $\frac{1}{2}$]		0.5
3923.769	Fe	(9/2)4f[4 $\frac{1}{2}$] ₄ - (9/2)6g[4 $\frac{1}{2}$]		s 0.3
3923.847	CO	(10-8)	R56	b 2*
3923.847	CO	(10-8)	R38	b 3
3923.847	Fe	(9/2)4f[4 $\frac{1}{2}$] ₅ - (9/2)6g[4 $\frac{1}{2}$]		b
3924.17	CO	(4-2)	P44	b 6*
3924.18	CO	(5-3)	P36	b 7
3924.508	Fe	v ⁵ P ⁰ - g ⁵ D ₁		b
3924.508	CO	(10-8)	R39	b 3
3924.508	CO	(10-8)	R53	b 2*
3924.508	Fe	(9/2)4f[6 $\frac{1}{2}$] ₇ - (9/2)6g[7 $\frac{1}{2}$]		b
3924.84	CO	(9-7)	R85	b <<1
3924.849	CO	(9-7)	R9	1.8
3925.083	CO	(10-8)	R40	b 3
3925.083	CO	(10-8)	R54	b 2*
3925.177	CO	(7-5)	P17	b 4

3925.177
3925.583
3925.583
3925.90

CO
CO
CO
CO

(6-4)
(10-8)
(10-8)
(8-6)

P27
R41
R53
P5

b 6
b 3
b 3
1.1

3926-3934 cm⁻¹

3926.006	CO	(10-8)	R42	b 3	
3926.006	CO	(10-8)	R52	b 3	
3926.080	CO	(2-0)	P58	2.2	
3926.356	CO	(10-8)	R43	b 3	
3926.356	CO	(10-8)	R51	b 2*	
3926.45	?			bs 0.2	?
3926.550	Ca	5p ³ P ₁ - 6s ³ S ₁		4*	
3926.625	CO	(10-8)	R44	b 3	
3926.625	CO	(10-8)	R50	b 2*	
3926.625	Fe	(9/2)4f[5½] ₅ - (9/2)6g[6½]		b	
3926.82	CO	(10-8)	R49	b 2*	
3926.82	Fe	(9/2)4f[5½] ₅ - (9/2)6g[5½]		b	
3926.825	CO	(10-8)	R45	b 3	
3926.83	CO	(3-1)	P51	b 5	
3926.94	Fe(?)	v ⁵ F ₃ - g ⁵ D ₂		b	
3926.94	CO	(10-8)	R46	b 3*	
3926.94	CO	(10-8)	R48	b 3*	
3926.96	CO	(10-8)	R47	b 3*	
3927.07	?			0.4	?
3927.218	?			0.5	?
3927.675	CO	(9-7)	R10	1.9	
3927.79	CO	(9-7)	R84	0.4	
3928.351	?			0.9	?
3928.70	?			0.4	?
3928.825	Fe	(9/2)4f[5½] ₆ - (9/2)6g[6½]		2.0	
3928.966	Fe	(9/2)4f[5½] ₆ - (9/2)6g[5½]		0.7	
3929.409	Al(?)	3s3p ² ⁴ P _{1/2} - 4p ² P _{1/2}		1.8	
3929.809	CO	(8-6)	P4	1	
3929.942	CO	(7-5)	P16	4.1	
3930.055	?			0.3	?
3930.281	CO	(5-3)	P35	6.8	
3930.424	CO	(9-7)	R11	2.2	
3930.660	CO	(6-4)	P26	b 6	
3930.68	CO	(9-7)	R83	b <1	
3930.811	CO	(4-2)	P43	6.6	
3931.07	Si	4d ³ F ₂ - 5f ² [2½] ₃		0.3	
3932.011	Si	4d ³ F ₂ - 5f ² [2½] ₂		0.5	
3932.755	Si	4d ³ F ₂ - 5f ² [3½] ₃		6*	
3933.107	CO	(9-7)	R12	2.2	
3933.48	CO	(9-7)	R82	b <1	
3933.541	Si	4f [3½] ₄ - 6g [4½] ₁		8	
3933.65	CO	(8-6)	P3	b <1	
3933.672	CO	(2-0)	P57	2*	
3933.95	CO	(3-1)	P50	bs 5	

3934-3942 cm⁻¹

Wavenumber (cm ⁻¹)	Element	Transition	Line Strength	Notes
3934.053	Mg	4f ³ F ^o ₄ - 6g ³ G _{3,4,5}		
3934.11	Mg	4f ³ F ^o ₃ - 6g ³ G _{3,4}		broad 19
3934.15	Mg	4f ³ F ^o ₂ - 6g ³ G ₃		
3934.366	Mg	4f ¹ F ^o ₃ - 6g ¹ G ₄		9
3934.641	CO	(7-5) P15		bs 4
3935.588	Si	4f [3 ₂] ¹ ₃ - 6g [4 ₂] ¹ ₁ '		7*
3935.71	CO	(9-7) R13		bs 2*
3936.059	CO	(6-4) P25		6.0
3936.20	CO	(9-7) R81		b <1
3936.314	CO	(5-3) P34		7.2
3937.394	CO	(4-2) P42		6.9
3937.43	CO	(8-6) P2		b <1
3938.152	?			0.9
3938.248	CO	(9-7) R14		2.4
3938.833	CO	(9-7) R80		bs 1
3939.005	Fe	5p ⁷ P ^o ₄ - g ⁷ D ₄		14*
3939.005	Sc(?)	a ² P _{3/2} - y ² P ^o _{3/2}		b
3939.205	?			1.0
3939.277	CO	(7-5) P14		4.2
3940.704	CO	(9-7) R15		2.5
3941.019	CO	(3-1) P49		5.0
3941.13	CO	(8-6) P1		<<1
3941.207	CO	(2-0) P56		2.5
3941.38	CO	(9-7) R79		b 1
3941.396	CO	(6-4) P24		b 6*

3942-3950 cm⁻¹

Wavenumber (cm ⁻¹)	Element	Transition	Line Strength	Notes
3942.283	CO	(5-3) P33		7.5
3943.099	CO	(9-7) R16		2.6
3943.843	CO	(7-5) P13		4.2
3943.843	CO	(9-7) R78		b 1
3943.913	CO	(4-2) P41		6.9
3945.417	CO	(9-7) R17		2.7
3946.00	CO	(8-6) R95		0.2
3946.237	CO	(9-7) R77		0.9
3946.674	CO	(6-4) P23		6.4
3946.858	?			0.4
3947.664	CO	(9-7) R18		2.8
3948.018	CO	(3-1) P48		5.2
3948.184	CO	(5-3) P32		7.4
3948.33	CO	(8-6) R0		b <<1
3948.341	CO	(7-5) P12		3.7
3948.538	CO	(9-7) R76		1.0
3948.678	CO	(2-0) P55		2.6
3949.560	?			0.3
3949.75	CO	(8-6) R94		0.3
3949.837	CO	(9-7) R19		3.1

3950-3958 cm⁻¹

3950.367	CO	(4-2)	P40	6.8	
3950.763	CO	(9-7)	R75	1.0	
3951.83	CO	(8-6)	R1	bs <1	
3951.881	CO	(6-4)	P22	6.2	
3951.94	CO	(9-7)	R20	bs 3 ⁺	
3952.771	CO	(7-5)	P11	3.5	
3952.903	CO	(9-7)	R74	1.1	
3953.08	?			0.6	?
3953.32	?			0.4	?
3953.44	CO	(8-6)	R93	<<1	
3953.622	?			0.8	?
3953.96	CO	(9-7)	R21	bs 3 ⁺	
3954.023	CO	(5-3)	P31	7.4	
3954.955	CO	(3-1)	P47	b 5 ⁺	
3954.96	CO	(9-7)	R73	b 1 ⁺	
3955.254	CO	(8-6)	R2	0.9	
3955.461	?			0.6	?
3955.917	CO	(9-7)	R22	3.2	
3956.085	CO	(2-0)	P54	2.8	
3956.759	CO	(4-2)	P39	7.2	
3956.945	CO	(9-7)	R72	1.3	
3957.025	CO	(6-4)	P21	6.1	
3957.05	CO	(8-6)	R92	bs <1	
3957.135	CO	(7-5)	P10	3.1	
3957.65	?			0.3	?
3957.802	CO	(9-7)	R23	3.5	

3958-3966 cm⁻¹

3958.373	?				0.7	?
3958.60	CO	(8-6)	R3		1	
3958.828	Ca	5p ¹ P ₁ - 6s ¹ S ₀			8.6	
3958.84	CO	(9-7)	R71	bs 1 ⁺		
3959.606	CO	(9-7)	R24	3.6		
3959.799	CO	(5-3)	P30	7 ⁺		
3960.26	?			0.3		?
3960.56	CO	(8-6)	R91	<1		
3960.66	CO	(9-7)	R70	1.8		
3960.909	?			0.4		?
3961.112	?			0.4		?
3961.333	CO	(9-7)	R25	3 ⁺		
3961.426	CO	(7-5)	P9	3.0		
3961.82	CO	(3-1)	P46	6 ⁺		
3961.89	CO	(8-6)	R4	1.4		
3962.094	CO	(6-4)	P20	5.7		
3962.398	CO	(9-7)	R69	2		
3962.992	CO	(9-7)	R26	3.6		
3963.085	CO	(4-2)	P38	7.2		
3963.430	CO	(2-0)	P53	3.0		
3963.99	CO	(8-6)	R90	<1		
3964.064	CO	(9-7)	R68	1.6		
3964.582	CO	(9-7)	R27	3.5		
3965.098	CO	(8-6)	R5	1.5		
3965.500	CO	(5-3)	P29	7.5		
3965.642	CO	(9-7)	R67	b 2		
3965.65	CO	(7-5)	P8	b 2 ⁺		
3965.93	?			0.4		?

3966-3974 cm⁻¹

3966.097	CO	(9-7)	R28	3.5
3967.109	CO	(6-4)	P19	b 6
3967.12	CO	(9-7)	R66	b 2
3967.34	CO	(8-6)	R89	<1
3967.530	Fe(?)	v ⁵ P ⁰ - g ⁵ D ₀		b
3967.530	CO	(9-7)	R29	3.5
3968.247	CO	(8-6)	R6	1.7
3968.543	CO	(9-7)	R65	1.7
3968.635	CO	(3-1)	P45	6.2
3968.901	CO	(9-7)	R30	3.7
3969.343	CO	(4-2)	P37	7.5
3969.806	CO	(7-5)	P7	2.3
3969.88	CO	(9-7)	R64	1.9
3970.182	CO	(9-7)	R31	3.7
3970.60	CO	(8-6)	R88	0.7
3970.718	CO	(2-0)	P52	2.9
3971.140	CO	(5-3)	P28	
3971.140	CO	(9-7)	R63	b 7 ⁺
3971.315	CO	(8-6)	R7	b 2
3971.399	CO	(9-7)	R32	2
3971.759	Fe	5p ⁷ F ⁰ ₃ - g ⁷ D ₃		3.8
3972.043	CO	(6-4)	P18	12.4
3972.31	CO	(9-7)	R62	5.6
3972.538	CO	(9-7)	R33	1.9
3973.412	CO	(9-7)	R61	3.8
3973.596	CO	(9-7)	R34	2.0
3973.78	CO	(8-6)	R87	3.7
3973.894	CO	(7-5)	P6	0.8
				2.2

3974-3982 cm⁻¹

3974.317	CO	(8-6)	R8	2.3
3974.433	CO	(9-7)	R60	2.0
3974.587	CO	(9-7)	R35	3.8
3975.379	CO	(9-7)	R59	b 2
3975.379	CO	(3-1)	P44	b 6 ⁺
3975.50	CO	(9-7)	R36	bs 3 ⁺
3975.53	Fe(?)	v ⁵ F ₂ ^o - g ⁵ D ₁	b	
3975.544	CO	(4-2)	P36	8.1
3976.230	CO	(9-7)	R58	2.1
3976.340	CO	(9-7)	R37	3.7
3976.715	CO	(5-3)	P27	7.6
3976.85	?		bs 0.5	?
3976.88	CO	(8-6)	R86	b 1
3976.915	Si	5p ³ P ₁ - 5d ¹ P ₁ ^o	b	
3976.915	CO	(6-4)	P17	5.5
3977.013	CO	(9-7)	R57	2 ⁺
3977.097	CO	(9-7)	R38	3.6
3977.243	CO	(8-6)	R9	2 ⁺
3977.390	?		0.3	?
3977.717	CO	(9-7)	R56	2.4
3977.789	CO	(9-7)	R39	3.5
3977.91	CO	(7-5)	P5	b 2
3977.934	CO	(2-0)	P51	b 3
3978.341	CO	(9-7)	R55	3
3978.396	CO	(9-7)	R40	3.8
3978.89	CO	(9-7)	R54	b 2 ⁺
3978.926	CO	(9-7)	R41	b 4
3979.36	CO	(9-7)	R53	b 2 ⁺
3979.39	CO	(9-7)	R42	b 4
3979.513	?		2	?
3979.75	CO	(9-7)	R52	b 4
3979.77	CO	(9-7)	R43	b 4
3979.88	CO	(8-6)	R85	0.8
3980.07	CO	(9-7)	R51	b 4
3980.08	CO	(9-7)	R44	b 4
3980.09	CO	(8-6)	R10	b 3
3980.30	CO	(9-7)	R50	b 4
3980.30	Si	4d ³ F ₄ ^o - 5f ² [_{3/2}] ^o ₄	b	
3980.30	CO	(9-7)	R45	b 4
3980.46	CO	(9-7)	R49	b 4
3980.46	CO	(9-7)	R46	b 4
3980.53	CO	(9-7)	R48	b 4
3980.53	CO	(9-7)	R47	b 4
3981.684	CO	(4-2)	P35	8 ⁺
3981.72	CO	(6-4)	P16	bs 5
3981.860	CO	(7-5)	P4	1.6

3982-3990 cm⁻¹

3982.063	CO	(3-1)	P43	6.3	
3982.225	CO	(5-3)	P26	7.5	
3982.386	?			1.0	?
3982.82	CO	(8-6)	R84	b 1	
3982.884	CO	(8-6)	R11	2.6	
3983.038	Fe	³ F ⁰ ₄ - e ⁵ G ₅		1.3	
3983.340	Fe	5p ⁷ P ⁰ ₃ - 6s g ⁷ D ₂		10	
3983.437	Fe	e ⁵ F ₄ - t ⁵ D ⁰ ₃		8	
3983.590	?			1	?
3984.126	?			0.8	?
3984.286	Fe	5p ⁷ F ⁰ ₁ - g ⁷ D ₂		2.6	
3985.101	CO	(2-0)	P50	3.4	
3985.601	CO	(8-6)	R12	3.2	
3985.66	CO	(8-6)	R83	bs 1	
3985.747	CO	(7-5)	P3	1.2	
3986.457	CO	(6-4)	P15	4.9	
3987.368	?			0.9	?
3987.665	Si	4p ³ S ₁ - 3d ¹ P ⁰ ₁	b		
3987.665	CO	(5-3)	P25	7*	
3987.747	CO	(4-2)	P34	8.0	
3988.238	Ca	5p ¹ P ⁰ ₁ - 4p ² ¹ D ₂	12*		
3988.24	CO	(8-6)	R13	b 3*	
3988.42	CO	(8-6)	R82	0.8	
3988.681	CO	(3-1)	P42	6.8	
3989.553	CO	(7-5)	P2	1.1	

3990-3998 cm⁻¹

3990.371	?			0.3	?
3990.81	CO	(8-6)	R14	3*	
3991.04	?			0.3	?
3991.11	CO	(8-6)	R81	b 1	
3991.124	CO	(6-4)	P14	5.1	
3991.124	Na	4d ² D _{3/2,5/2} - 7p ² P ⁰ _{1/2,3/2}	b		
3991.590	?			0.4	?
3992.197	CO	(2-0)	P49	3.3	
3992.67	?			0.4	?
3993.043	Si	4d ¹ D ⁰ ₂ - 6p (¹ / ₂ , ³ / ₂) ₂	b		
3993.043	CO	(5-3)	P24	7.4	
3993.29	CO	(7-5)	P1	b 1	
3993.308	CO	(8-6)	R15	3*	
3993.70	CO	(8-6)	R80	b 1	
3993.750	CO	(4-2)	P33	8.1	
3993.86	CO	(7-5)	R97	0.1	
3995.237	CO	(3-1)	P41	7.4	
3995.237	Al	5p ² P ⁰ _{1/2} - 7s ² S _{1/2}	b		
3995.732	CO	(6-4)	P13	b 4*	
3995.732	CO	(8-6)	R16	b 3*	
3995.858	Si	4p ¹ D ₂ - 3d ³ D ⁰ ₁	3.7		
3996.22	CO	(8-6)	R79	0.9	
3997.738	?			0.7	?
3997.75	CO	(7-5)	R96	b <<1	

3998-4006 cm⁻¹

3998.087	CO	(8-6)	R17	4.0
3998.352	CO	(5-3)	P23	7.1
3998.65	CO	(8-6)	R78	1.0
3999.02	?			0.3
3999.229	CO	(2-0)	P48	3.4
3999.686	CO	(4-2)	P32	8.2
4000.262	CO	(6-4)	P12	4.4
4000.369	CO	(8-6)	R18	4.0
4000.56	CO	(7-5)	R0	0.4
4001.006	CO	(8-6)	R77	1 ⁺
4001.164	Al	5p 2p ⁰ _{3/2} - 7s 2s _{1/2}		0.6
4001.578	CO	(7-5)	R95	0.4
4001.726	CO	(3-1)	P40	7.0
4002.578	CO	(8-6)	R19	4.1
4003.27	CO	(8-6)	R76	1.1
4003.503	Fe	e 5F ₄ - u 5F ⁰ ₄		5.8
4003.593	CO	(5-3)	P22	b 7
4004.082	CO	(7-5)	R1	0.6
4004.717	CO	(8-6)	R20	b 4 ⁺
4004.72	CO	(6-4)	P11	b 4
4005.30	CO	(7-5)	R94	0.4
4005.46	CO	(8-6)	R75	1.4
4005.559	CO	(4-2)	P31	7.9

?

4006-4014 cm⁻¹

4006.202	CO	(2-0)	P47	3.9
4006.30	CO	(6-4)	R107	0.2
4006.774	CO	(8-6)	R21	4.5
4007.553	CO	(7-5)	R2	b 1
4007.553	Sc(?)	4s b ² D _{3/2} - 3d ⁴ s ⁴ p z ² F ⁰ _{5/2}		b
4007.56	CO	(8-6)	R74	b 1 ⁺
4007.684	?			0.4
4008.155	Fe	e ³ F ₄ - u ³ D ⁰ ₃		12.4
4008.155	CO	(3-1)	P39	b 7
4008.766	CO	(8-6)	R22	b 4 ⁺
4008.766	CO	(5-3)	P21	b 7
4008.954	CO	(7-5)	R93	0.6
4009.123	CO	(6-4)	P10	3.9
4009.592	CO	(8-6)	R73	1.5
4010.679	CO	(8-6)	R23	4.5
4010.933	CO	(7-5)	R3	1.4
4011.03	CO	(6-4)	R106	b <<1
4011.153	Fe	e ⁵ F ₅ - u ⁵ F ⁰ ₅		13.1
4011.366	CO	(4-2)	P30	8.0
4011.536	CO	(8-6)	R72	1.7
4012.518	Fe	Y ³ H ⁰ ₄ - e ³ G ₅		b
4012.518	Fe	V ³ G ⁰ ₄ - e ³ G ₅		b
4012.518	CO	(7-5)	R92	b <1
4012.518	CO	(8-6)	R24	b 5
4012.791	?			0.6
4013.107	CO	(2-0)	P46	3.8
4013.40	CO	(8-6)	R71	bs 2
4013.453	CO	(6-4)	P9	3.7
4013.880	CO	(5-3)	P20	6.9
4013.880	Fe	z ⁵ H ⁰ ₅ - e ⁵ F ₅		b

4014-4022 cm⁻¹

4014.26	CO	(7-5)	R4	b 1 ⁺
4014.283	CO	(8-6)	R25	5.3
4014.513	CO	(3-1)	P38	7.0
4015.185	CO	(8-6)	R70	1.7
4015.68	CO	(6-4)	R105	0.2
4015.982	CO	(8-6)	R26	5.2
4016.00	CO	(7-5)	R91	b <1
4016.89	CO	(8-6)	R69	1.9
4017.108	CO	(4-2)	P29	8.1
4017.508	CO	(7-5)	R5	b 2
4017.508	Fe			b 6.5
4017.602	CO	(8-6)	R27	5.4
4017.713	CO	(6-4)	P8	3.1
4017.96	?			0.3
4018.368	?			0.4
4018.507	CO	(8-6)	R68	1.9
4018.92	CO	(5-3)	P19	6.7
4019.147	CO	(8-6)	R28	5
4019.38	CO	(7-5)	R90	0.5
4019.952	CO	(2-0)	P45	4.1
4020.050	CO	(8-6)	R67	2.0
4020.22	CO	(6-4)	R104	0.3
4020.620	CO	(8-6)	R29	5.3
4020.685	CO	(7-5)	R6	bs 2
4020.812	CO	(3-1)	P37	7
4021.336	Mg	4p ³ P ⁰ ₂ - 5s ³ S ₁		35.0
4021.51	CO	(8-6)	R66	bs 2
4021.60	?			bs 1
4021.901	CO	(6-4)	P7	3
				?
				?

4022-4030 cm⁻¹

4022.016	CO	(8-6)	R30	5.1	?
4022.312	?			0.3	
4022.69	CO	(7-5)	R89	0.6	
4022.783	CO	(4-2)	P28	8.4	
4022.890	CO	(8-6)	R65	2.0	
4023.341	CO	(8-6)	R31	5.1	
4023.57	?			0.4	
4023.785	CO	(7-5)	R7	2.6	
4023.895	CO	(5-3)	P18	6.8	
4024.08	?			0.4	
4024.193	CO	(8-6)	R64	2.1	
4024.588	CO	(8-6)	R32	4.9	
4024.67	CO	(6-4)	R103	0.3	
4025.409	CO	(8-6)	R63	2.1	
4025.49	Si	5p ¹ D ₂ - 7s ($\frac{3}{2}, \frac{1}{2}$) ₂		0.1	
4025.763	CO	(8-6)	R33	4.9	
4025.91	CO	(7-5)	R88	0.7	
4026.023	CO	(6-4)	P6	2.6	
4026.557	CO	(8-6)	R62	2.4	
4026.731	CO	(2-0)	P44	3.7	
4026.82	CO	(7-5)	R8	b 3	
4026.862	CO	(8-6)	R34	b 5	
4026.94	?			0.3	
4027.043	CO	(3-1)	P36	7.3	
4027.621	CO	(8-6)	R61	2.6	
4027.74	?			s 0.3	
4027.77	?			s 0.3	
4027.887	CO	(8-6)	R35	bs 5	
4028.081	Mg	4p ³ P ^o ₁ - 5s ³ S ₁		32.4	
4028.392	CO	(4-2)	P27	bs 8 ⁺	
4028.604	CO	(8-6)	R60	2.5	
4028.81	CO	(5-3)	P17	b 6 ⁺	
4028.82	CO	(8-6)	R36	b 5	
4029.065	CO	(7-5)	R87	b 1	
4029.07	CO	(6-4)	R102	b <<1	
4029.22	?			0.3	
4029.504	CO	(8-6)	R59	3	
4029.703	CO	(8-6)	R37	4.8	
4029.787	CO	(7-5)	R9	3.2	

4030-4038 cm⁻¹

4030.076	CO	(6-4)	P5	2.3	?
4030.17	?			0.3	
4030.331	CO	(8-6)	R58	2.8	
4030.502	CO	(8-6)	R38	s 4.6	
4030.731	Si	4d ³ F ₄ - 5f ² [4 ₂] ₅		10.9	
4030.90	?			s 0.3	
4031.081	CO	(8-6)	R57	2.8	
4031.225	CO	(8-6)	R39	bs 4 ⁺	
4031.387	Mg	4p ³ P ₀ - 5s ³ S ₁		24.5	
4031.62	?			s 0.3	
4031.747	CO	(8-6)	R56	2.7	
4031.866	CO	(8-6)	R40	4.4	
4032.12	CO	(7-5)	R86	1.0	
4032.21	?			0.1	
4032.334	CO	(8-6)	R55	2.9	
4032.436	CO	(8-6)	R41	4.2	
4032.681	CO	(7-5)	R10	3.6	
4032.843	CO	(8-6)	R54	2.8	
4032.930	CO	(8-6)	R42	4.4	
4033.211	CO	(3-1)	P35	7.6	
4033.280	CO	(8-6)	R53	b 3	
4033.347	CO	(8-6)	R43	b 4 ⁺	
4033.35	CO	(6-4)	R101	b <<1	
4033.451	CO	(2-0)	P43	3.8	
4033.641	CO	(8-6)	R52	b 3	
4033.641	CO	(5-3)	P16	b 6	
4033.689	CO	(8-6)	R44	b 4	
4033.92	CO	(8-6)	R51	b 3	
4033.934	CO	(4-2)	P26	b 8	
4033.94	CO	(8-6)	R45	b 4	
4034.06	CO	(6-4)	P4	bs 2	
4034.12	CO	(8-6)	R50	b 3 ⁺	
4034.13	CO	(8-6)	R46	b 4	
4034.24	CO	(8-6)	R49	b 3	
4034.25	CO	(8-6)	R47	b 3 ⁺	
4034.27	CO	(8-6)	R48	b 3 ⁺	
4035.09	CO	(7-5)	R85	1.1	
4035.247	?			0.3	
4035.497	CO	(7-5)	R11	3.7	
4035.730	?			1.1	
4037.56	CO	(6-4)	R100	0.3	
4037.98	CO	(6-4)	P3	2.0	
4037.99	CO	(7-5)	R84	bs 1	

4038-4046 cm⁻¹

4038.249	CO	(7-5)	R12	4.3
4038.417	CO	(5-3)	P15	6.0
4038.57	?			0.4
4039.315	CO	(3-1)	P34	7.5
4039.414	CO	(4-2)	P25	8.3
4040.103	CO	(2-0)	P42	4.2
4040.80	CO	(7-5)	R83	1.1
4040.926	CO	(7-5)	R13	4.4
4041.51	?			1.0
4041.67	CO	(6-4)	R99	0.3
4041.82	CO	(6-4)	P2	0.9
4042.00	?			0.4
4042.40	?			0.4
4042.718	Fe	5p ⁷ F ₆ - g ⁷ D ₅		22.9
4043.119	CO	(5-3)	P14	6.1
4043.282	Fe	3d ⁶ 4s4p x ⁵ F ₂ - e ⁵ D ₃		1.8
4043.529	CO	(7-5)	R14	b 5
4043.529	CO	(7-5)	R82	b 1.2
4044.824	CO	(4-2)	P24	8.1
4045.353	CO	(3-1)	P33	7.5
4045.592	CO	(6-4)	P1	0.6
4045.71	CO	(6-4)	R98	0.4

4046-4054 cm⁻¹

4046.062	CO	(7-5)	R15	4.9
4046.17	CO	(7-5)	R81	1.2
4046.692	CO	(2-0)	P41	4.4
4047.757	CO	(5-3)	P13	5.8
4048.523	CO	(7-5)	R16	5.2
4048.730	CO	(7-5)	R80	1.4
4049.65	CO	(6-4)	R97	0.5
4050.168	CO	(4-2)	P23	7.9
4050.913	CO	(7-5)	R17	5.4
4050.913	Fe	v ⁵ P ₂ - g ⁵ D ₁		b
4051.21	CO	(7-5)	R79	1.4
4051.325	CO	(3-1)	P32	7.5
4052.325	CO	(5-3)	P12	5.4
4052.94	CO	(6-4)	R0	0.4
4053.222	CO	(2-0)	P40	b 4 ⁺
4053.222	CO	(7-5)	R18	b 5 ⁺
4053.51	CO	(6-4)	P96	0.5
4053.61	CO	(7-5)	R78	1.5

4054-4062 cm⁻¹

4054.46	?			0.4	?
4055.45	CO	(4-2)	P22	b 8	
4055.47	CO	(7-5)	R19	b 5 ⁺	
4055.826	?			s 0.4	?
4055.93	CO	(7-5)	R77	b 2	
4055.952	Fe	5p ⁷ F ⁰ ₂ - g ⁷ D ₂		11.0	
4056.503	CO	(6-4)	R1	1.2	
4056.824	CO	(5-3)	P11	5.2	
4057.135	?			s 0.3	?
4057.233	CO	(3-1)	P31	7.8	
4057.30	CO	(6-4)	R95	bs 0.6	
4057.324	Fe			bs	
4057.639	CO	(7-5)	R20	5.5	
4057.88	CO	(5-3)	R108	0.2	
4058.162	CO	(7-5)	R76	1.8	
4059.680	CO	(2-0)	P39	s 5.3	
4059.735	CO	(7-5)	R21	b 6	
4060.00	CO	(6-4)	R2	b 1 ⁺	
4060.015	Ca	4f ³ F ⁰ ₄ - 6g ³ G ₅		5.2	
4060.31	CO	(7-5)	R75	1.8	
4060.44	?			bs 0.8	?
4060.476	Ca	4f ³ F ⁰ ₃ - 6g ³ G ₄		3 ⁺	
4060.657	CO	(4-2)	P21	8.1	
4060.809	Ca	4f ³ F ⁰ ₂ - 6g ³ G ₃		2.4	
4060.99	CO	(6-4)	R94	0.6	
4061.253	CO	(5-3)	P10	4.8	
4061.55	?			0.6	?
4061.758	CO	(7-5)	R22	6.1	

4062-4070 cm⁻¹

4062.38	CO	(7-5)	R74	2.1
4062.64	CO	(5-3)	R107	0.2
4063.073	CO	(3-1)	P30	7.9
4063.424	CO	(6-4)	R3	1.8
4063.708	CO	(7-5)	R23	6.1
4064.37	CO	(7-5)	R73	2.0
4064.60	CO	(6-4)	R93	0.7
4065.59	CO	(7-5)	R24	b 6 ⁺
4065.62	CO	(5-3)	P9	bs 4 ⁺
4065.802	CO	(4-2)	P20	7.6
4066.074	CO	(2-0)	P38	4.8
4066.286	CO	(7-5)	R72	2.2
4066.771	CO	(6-4)	R4	2.1
4067.387	CO	(7-5)	R25	6.3
4067.912	?			1.0
4068.10	CO	(7-5)	R71	bs 2 ⁺
4068.13	CO	(6-4)	R92	bs <1
4068.185	Si	4p ¹ D ₂ - 3d ³ D ₃		10.2
4068.850	CO	(3-1)	P29	8.0
4069.117	CO	(7-5)	R26	6.7
4069.500	Mg	4d ¹ D ₂ - 5f ¹ F ⁰ ₃		21.5
4069.62	Mg	4d ¹ D ₂ - 5f ³ F ⁰ _{2,3}		bs
4069.857	CO	(7-5)	R70	bs 2 ⁺
4069.916	CO	(5-3)	P8	bs 4

?

4070-4078 cm⁻¹

4070.055	CO	(6-4)	R5	2.7	
4070.771	CO	(7-5)	R27	6.5	
4070.879	CO	(4-2)	P19	8.0	
4071.123	Fe	e ⁵ F ₅ - t ⁵ D ⁰ ₄	R69	15.3	
4071.521	CO	(7-5)	R69	2.4	
4071.58	CO	(6-4)	R91	0.9	
4071.77	?			0.4	?
4071.878	Fe	e ⁵ F ₃ - u ⁵ F ⁰ ₂		4.9	
4072.352	CO	(7-5)	R28	b 6 ⁺	
4072.407	CO	(2-0)	P37	bs 5	
4072.552	Fe	5p ⁷ F ⁰ ₅ - g ⁷ D ₄		20.2	?
4072.761	?			s 0.4	
4073.107	Sc	b ² D _{5/2} - z ² F ⁰ _{7/2}		b	
4073.107	CO	(7-5)	R68	2.8	
4073.268	CO	(6-4)	R6	2.8	
4073.860	CO	(7-5)	R29	6.4	
4073.95	?			0.3	?
4074.140	CO	(5-3)	P7	3.4	
4074.561	CO	(3-1)	P28	8.1	
4074.62	CO	(7-5)	R67		
4074.93	CO	(6-4)	R90	bs 2 ⁺	
4075.206	?			0.8	
4075.289	CO	(7-5)	R30	bs 1 ⁺	?
4075.289	?			b 6 ⁺	
4075.889	CO	(4-2)	P18	b 8.9	?
4076.044	CO	(7-5)	R66	7.4	
4076.409	CO	(6-4)	R7	2.8	
4076.649	CO	(7-5)	R31	3.4	
4077.390	CO	(7-5)	R65	6.4	
4077.535	?			3.1	
4077.932	CO	(7-5)	R32	0.6	?
				6.6	

4078-4086 cm⁻¹

4078.201	CO	(6-4)	R89	0.9	
4078.300	CO	(5-3)	P6	3.2	
4078.65	CO	(7-5)	R64	b 3	
4078.669	CO	(2-0)	P36	b 5	
4079.141	CO	(7-5)	R33	6.4	
4079.479	CO	(6-4)	R8	4.4	
4079.59	?			0.3	?
4079.841	CO	(7-5)	R63	3.2	
4080.025	?			0.4	?
4080.206	CO	(3-1)	P27	8.2	
4080.275	CO	(7-5)	R34	b 6 ⁺	
4080.378	Mg	4d ¹ D ₂ - 6p ¹ P ^o ₁	P17	6.3	
4080.832	CO	(4-2)	P17	7.5	
4080.948	CO	(7-5)	R62	3 ⁺	
4081.332	CO	(7-5)	R35	6.6	
4081.40	CO	(6-4)	R88	bs 1	
4081.974	CO	(7-5)	R61	3.5	
4082.313	CO	(7-5)	R36	6.7	
4082.386	CO	(5-3)	P5	b 2 ⁺	
4082.477	CO	(6-4)	R9	b 4 ⁺	
4082.575	Fe	3d ⁶ 4s4p x ⁵ F ^o ₄ - e ⁵ D ₄	R60	9.9	
4082.924	CO	(7-5)	R60	3.8	
4083.06	?			0.4	?
4083.221	CO	(7-5)	R37	6.7	
4083.530	Si	5p ¹ D ₂ - 7s (³ / ₂ , ¹ / ₂) ^o ₁	R59	2.1	
4083.794	CO	(7-5)	R59	3.9	
4083.90	?			0.2	?
4084.054	CO	(7-5)	R38	6.4	
4084.329	?			0.4	?
4084.49	CO	(6-4)	R87	1.1	
4084.583	CO	(7-5)	R58	4.0	
4084.808	CO	(7-5)	R39	6.2	
4084.878	CO	(2-0)	P35	b 5	
4085.017	Ca	4p ² ¹ D ₂ - 4s5f ¹ F ^o ₃	P35	1.5	
4085.20	CO	(2-0)	R102	0.2	
4085.295	CO	(7-5)	R57	4.0	
4085.403	CO	(6-4)	R10	4.6	
4085.489	CO	(7-5)	R40	6.2	
4085.706	CO	(4-2)	P16	7.2	
4085.786	CO	(3-1)	P26	8.0	
4085.927	CO	(7-5)	R56	4.3	

4086-4094 cm⁻¹

4086.092	CO	(7-5)	R41	6.2	
4086.406	CO	(5-3)	P4	2.1	
4086.483	CO	(7-5)	R55	4.4	
4086.623	CO	(7-5)	R42	6.2	
4086.958	CO	(7-5)	R54	4.7	
4087.072	CO	(7-5)	R43	6.1	
4087.356	CO	(7-5)	R53	4.7	
4087.447	CO	(7-5)	R44	6.1	
4087.52	CO	(6-4)	R86	bs 1	
4087.675	CO	(7-5)	R52	5.1	
4087.746	CO	(7-5)	R45	6.0	
4087.921	Fe	5p ⁷ F ₀ - g ⁷ D ₁		b 9.3	
4087.921	CO	(7-5)	R51	b 5	
4087.96	CO	(7-5)	R46	b 6	
4088.09	CO	(7-5)	R50	b 5	
4088.10	CO	(7-5)	R47	b 5 ⁺	
4088.175	CO	(7-5)	R49	b 5 ⁺	
4088.175	CO	(7-5)	R48	b 5 ⁺	
4088.260	CO	(6-4)	R11	4.9	
4088.62	?			0.3	?
4089.45	CO	(5-3)	R101	0.3	
4089.66	?			0.4	?
4089.70	?			0.4	?
4089.972	C	3d ¹ D ₂ - 4p ¹ D ₂		0.4	
4090.050	?			s 0.4	
4090.350	CO	(5-3)	P3	1.2	
4090.45	CO	(6-4)	R85	1.7	
4090.514	CO	(4-2)	P15	bs 1 ⁺	
4091.02	CO	(2-0)	P34	7.1	
4091.03	CO	(6-4)	R12	b 5	
4091.297	CO	(3-1)	P25	b 5 ⁺	
4093.31	CO	(6-4)	R84	8.0	
4093.601	Fe	Y ⁵ G ₃ - e ⁵ F ₅		1.3	
4093.62	CO	(5-3)	R100	1.4	
4093.753	CO	(6-4)	R13	b <<1	
				5.5	

4094-4102 cm⁻¹

4094.229	CO	(5-3)	P2	1.1	
4094.507	?			0.3	s
4094.600	S	3d ³ D ₃ - 5p ³ P ₂		2.5	
4095.253	CO	(4-2)	P14	6.4	
4095.691	Na	5s ² S _{1/2} - 6p ² P _{1/2} ^o		0.6	
4096.087	CO	(6-4)	R83		b 1 ⁺
4096.087	Ca	5d ¹ D ₂ - 7f ¹ F ₃ ^o			b
4096.394	CO	(6-4)	R14	5.9	
4096.743	CO	(3-1)	P24	7.8	
4096.977	Na(?)	5s ² S _{1/2} - 6p ² P _{3/2} ^o		1.0	
4097.088	CO	(2-0)	P33	5.2	
4097.71	CO	(5-3)	R99	0.3	
4098.043	CO	(5-3)	P1	0.7	
4098.779	CO	(6-4)	R82	1.6	
4098.962	CO	(6-4)	R15	6.2	
4099.925	CO	(4-2)	P13	6.3	
4100.673	?			0.5	
4100.884	Fe	v ⁵ P ₃ ^o - e ⁵ P ₂		1.1	
4101.39	CO	(6-4)	R81		bs 1 ⁺
4101.458	CO	(6-4)	R16		b 6 ⁺
4101.558	Fe	5p ⁷ F ₄ ^o - g ⁷ D ₃		18.3	
4101.70	CO	(5-3)	R98		bs <<1

4102-4110 cm⁻¹

4102.123	CO	(3-1)	P23	7.8
4102.33	S	3d ³ D ₂ - 5p ³ P ₂		0.4
4103.097	CO	(2-0)	P32	5.0
4103.302	?			s 0.2
4103.42	S	3d ³ D ₂ - 5p ³ P ₁		1.8
4103.883	CO	(6-4)	R17	7.1
4103.91	CO	(6-4)	R80	
4104.527	CO	(4-2)	P12	
4104.972	S	3d ³ D ₁ - 5p ³ P ₁		6.0
4105.453	CO	(5-3)	R0	0.5
4105.62	CO	(5-3)	R97	0.4
4105.95	CO	3d ¹ F ₃ - 5p ³ P ₂		0.6
4106.043	Si(?)	3s3p ³ ³ D ₂ - 4p ³ S ₁		bs
4106.229	CO	(6-4)	R18	9.2
4106.358	CO	(6-4)	R79	6.9
4106.753	?			1.7
4107.022	S	3d ³ D ₁ - 5p ³ P ₀		0.4
4107.436	CO	(3-1)	P22	0.5
4108.033	?			7.6
4108.26	?			0.3
4108.443	Fe	3d ⁸ c ³ F ₃ - y ³ F ₂		0.3
4108.506	CO	(6-4)	R19	9.0
4108.718	CO	(6-4)	R78	b 7 ⁺
4109.05	CO	(2-0)	P31	1.8
4109.05	CO	(5-3)	R1	b 5
4109.06	CO	(4-2)	P11	b 1
4109.447	CO	(5-3)	R96	b 5 ⁺
				0.7

4110-4118 cm⁻¹

4110.303	?				0.7	?
4110.711	CO	(6-4)	R20		7.4	
4110.784	?				1.3	?
4111.004	CO	(6-4)	R77		2.1	
4111.888	Si	4d ³ F ⁰ ₃ - 5f ² [³ / ₂] ₃			1.1	
4112.581	CO	(5-3)	R2		1.8	
4112.683	CO	(3-1)	P21		7.5	
4112.842	CO	(6-4)	R21		7.5	
4113.042	?				0.3	?
4113.19	CO	(5-3)	R95		b <1	
4113.194	CO	(6-4)	R76		b 2+	
4113.383	Si	4d ³ F ⁰ ₃ - 5f ² [³ / ₂] ₄			1.2	
4113.530	CO	(4-2)	P10		5.5	
4113.789	?				0.5	?
4114.39	CO	(4-2)	R108		0.1	
4114.907	CO	(6-4)	R22		b 7+	
4114.91	CO	(2-0)	P30		b 5	
4115.315	CO	(6-4)	R75		2.3	
4116.041	CO	(5-3)	R3		2.3	
4116.564	?				1.2	?
4116.84	CO	(5-3)	R94		b <1	
4116.886	CO	(6-4)	R23		7.9	
4117.18	Ti(?)	b ¹ G ₄ - z ¹ F ⁰ ₃			2.1	
4117.351	CO	(6-4)	R74		2.3	
4117.657	?				0.4	?
4117.862	CO	(3-1)	P20		b 7+	
4117.928	CO	(4-2)	P9		b 5	

4118-4126 cm⁻¹

4118.797	CO	(6-4)	R24	7.9
4119.13	CO	(4-2)	R107	0.2
4119.304	CO	(6-4)	R73	2.5
4119.430	CO	(5-3)	R4	2.8
4120.027	?			0.6
4120.162	Fe	5p ⁷ F ₁ - g ⁷ D ₁		8.7
4120.41	CO	(5-3)	R93	0.8
4120.635	CO	(6-4)	R25	8.0
4120.731	CO	(2-0)	P29	
4121.174	CO	(6-4)	R72	b 5
4122.053	?			2.8
4122.260	CO	(4-2)	P8	0.3
4122.399	CO	(6-4)	R26	4.4
4122.743	CO	(5-3)	R5	8.0
4122.972	CO	(6-4)	R71	3.5
4122.972	CO	(3-1)	P19	b 3
4123.485	Si	3s3p ³ ³ D ₁ - 4p ³ S ₁		b 7
4123.78	CO	(4-2)	R106	3.4
4123.899	Ti(?)	w ³ F ₄ - e ³ F ₄		0.2
4123.899	CO	(5-3)	R92	b
4124.088	CO	(6-4)	R27	0.9
4124.293	?			8.4
4124.42	Si	4p ¹ D ₂ - 5s ³ P ₁		0.8
4124.685	CO	(6-4)	R70	2.6
4125.705	CO	(6-4)	R28	3.1
4125.995	CO	(5-3)	R6	8.3
				3.7

4126-4134 cm^{-1}

4126.318	CO	(6-4)	R69	3.4
4126.474	CO	(2-0)	P28	b 5 ⁺
4126.52	CO	(4-2)	P7	bs 4
4127.246	CO	(6-4)	R29	8.5
4127.30	CO	(5-3)	R91	bs 1
4127.865	CO	(6-4)	R68	3.4
4128.019	CO	(3-1)	P18	7.5
4128.33	CO	(4-2)	R105	0.3
4128.713	CO	(6-4)	R30	8.6
4129.171	CO	(5-3)	R7	4.3
4129.336	CO	(6-4)	R67	3.5
4129.832	?			0.4
4130.105	CO	(6-4)	R31	8.3
4130.62	CO	(5-3)	R90	1.0
4130.718	CO	(4-2)	P6	b 3 ⁺
4130.72	CO	(6-4)	R66	b 3 ⁺
4131.424	CO	(6-4)	R32	8.4
4131.510	?			2.2
4132.038	CO	(6-4)	R65	3.7
4132.154	CO	(2-0)	P27	5
4132.277	CO	(5-3)	R8	4.8
4132.666	CO	(6-4)	R33	8.3
4132.803	CO	(4-2)	R104	0.4
4132.996	CO	(3-1)	P17	6.9
4133.267	CO	(6-4)	R64	3.8
4133.835	CO	(6-4)	R34	8 ⁺
4133.86	CO	(5-3)	R89	b 1
				?
				?

4134-4142 cm⁻¹

4134.417	CO	(6-4)	R63	4.0
4134.835	CO	(4-2)	P5	3.1
4134.928	CO	(6-4)	R35	8.1
4135.307	CO	(5-3)	R9	5.2
4135.487	CO	(6-4)	R62	4.1
4135.944	CO	(6-4)	R36	8.1
4136.481	CO	(6-4)	R61	4.6
4136.887	CO	(6-4)	R37	8.2
4137.010	CO	(5-3)	R88	1.1
4137.18	CO	(4-2)	R103	0.4
4137.387	?			6.9
4137.39	CO	(6-4)	R60	b 5
4137.758	CO	(6-4)	R38	b 8
4137.76	CO	(2-0)	P26	b 5
4137.905	CO	(3-1)	P16	7.1
4138.23	CO	(6-4)	R59	b 5
4138.267	CO	(5-3)	R10	b 5 ⁺
4138.544	CO	(6-4)	R39	8.0
4138.882	CO	(4-2)	P4	2.8
4138.984	CO	(6-4)	R58	5.1
4139.260	CO	(6-4)	R40	8.1
4139.659	CO	(6-4)	R57	5.4
4139.899	CO	(6-4)	R41	8.2
4140.08	CO	(5-3)	R87	1.3
4140.257	CO	(6-4)	R56	5.5
4140.460	CO	(6-4)	R42	8.0
4140.53	?			s 0.8
4140.778	CO	(6-4)	R55	5.6
4140.947	CO	(6-4)	R43	7.6
4141.06	?			0.3
4141.161	CO	(5-3)	R11	b 6
4141.217	CO	(6-4)	R54	6.0
4141.357	CO	(6-4)	R44	7.4
4141.498	CO	(4-2)	R102	s 0.4
4141.580	CO	(6-4)	R53	6.0
4141.691	CO	(6-4)	R45	7.3
4141.865	CO	(6-4)	R52	6.3
4141.947	CO	(6-4)	R46	7.4

4142-4150 cm⁻¹

4142.074	CO	(6-4)	R51	7.0	?
4142.125	CO	(6-4)	R47	b 7	
4142.21	CO	(6-4)	R50	b 7	
4142.22	CO	(6-4)	R48	b 7	
4142.25	CO	(6-4)	R49	b 7	
4142.750	CO	(3-1)	P15	6.4	
4142.877	CO	(4-2)	P3	2.0	
4143.062	CO	(5-3)	R86	1.4	
4143.316	CO	(2-0)	P25	5.5	
4143.980	CO	(5-3)	R12	6.5	
4144.73	?			0.4	?
4145.22	?			0.4	?
4145.419	?			1.7	?
4145.71	CO	(4-2)	R101	0.5	
4145.964	CO	(5-3)	R85	1.6	
4146.079	?			0.3	?
4146.378	Sc(?)	a ² P _{3/2} - Y ² D _{3/2}		1.5	
4146.726	CO	(5-3)	R13	7.0	
4146.79	CO	(4-2)	P2	bs 1 ⁺	
4147.524	CO	(3-1)	P14	6.4	
4148.18	?			0.5	?
4148.794	CO	(5-3)	R84	b 1 ⁺	
4148.794	CO	(2-0)	P24	b 5 ⁺	
4149.401	CO	(5-3)	R14	7.2	
4149.51	?			0.8	?
4149.83	CO	(4-2)	R100	0.5	

4150-4158 cm⁻¹

4150.628	CO	(4-2)	P1	0.7	?
4150.66	?			0.6	
4151.056	Fe	e ³ F ₃ - t ³ D ₂		7.3	
4151.163	?			s 0.3	
4151.297	?			0.6	
4151.52	CO	(5-3)	R83	2.0	
4152.004	CO	(5-3)	R15	8.0	
4152.231	CO	(3-1)	P13	6.1	
4153.171	?			0.4	
4153.88	CO	(4-2)	R99	0.5	
4154.19	CO	(5-3)	R82	b 2	
4154.21	CO	(2-0)	P23	b 5 ⁺	
4154.535	CO	(5-3)	R16	7.7	
4155.011	?			0.9	
4156.751	CO	(5-3)	R81	2.0	
4156.871	CO	(3-1)	P12	b 6	
4156.992	CO	(5-3)	R17	8.4	
4157.84	CO	(4-2)	R98	0.6	

4158-4166 cm⁻¹

4158.110	CO	(4-2)	R0	0.8	
4158.658	?			0.5	
4158.895	?			0.4	
4159.24	CO	(5-3)	R80	2.0	
4159.377	CO	(5-3)	R18	8.8	
4159.559	CO	(2-0)	P22	5.4	
4159.932	?			s 0.3	
4160.097	?			2 ⁺	
4161.440	CO	(3-1)	P11	5.5	
4161.65	CO	(5-3)	R79	b 2	
4161.689	CO	(5-3)	R19	9.3	
4161.71	CO	(4-2)	R97	b 0.6	
4161.75	CO	(4-2)	R1	b 1 ⁺	
4163.931	CO	(5-3)	R20	9.3	
4163.98	CO	(5-3)	R78	bs 2 ⁺	
4164.841	CO	(2-0)	P21	5.3	
4165.312	CO	(4-2)	R2	1.8	
4165.497	CO	(4-2)	R96	0.6	
4165.940	CO	(3-1)	P10	5.1	

4166-4174 cm⁻¹

4166.096	CO	(5-3)	R21	9.6
4166.222	CO	(5-3)	R77	2.4
4166.613	Si	4d ³ F ⁰ ₃ - 5f ² [4 ₂] ⁴		3.8
4168.187	CO	(5-3)	R22	9.3
4168.379	CO	(5-3)	R76	2.5
4168.806	CO	(4-2)	R3	2.3
4169.20	CO	(4-2)	R95	0.6
4170.055	CO	(2-0)	P20	5.2
4170.208	CO	(5-3)	R23	9.4
4170.374	CO	(3-1)	P9	4.6
4170.462	CO	(5-3)	R75	2.6
4170.94	?			0.3
4171.616	?			0.9
4172.154	CO	(5-3)	R24	9.3
4172.228	CO	(4-2)	R4	bs 3.3
4172.465	CO	(5-3)	R74	2.7
4172.81	CO	(4-2)	R94	b 1
4173.643	Si	4p ³ P ₂ - 3d ¹ F ⁰ ₃		10.9

4174-4182 cm⁻¹

4174.026	CO	(5-3)	R25	9.9
4174.136	?			s 1.0
4174.381	CO	(5-3)	R73	3.1
4174.740	CO	(3-1)	P8	4.6
4175.201	CO	(2-0)	P19	5.1
4175.582	CO	(4-2)	R5	3.8
4175.825	CO	(5-3)	R26	10.0
4176.140	?			s 0.5
4176.218	CO	(5-3)	R72	3.4
4176.35	CO	(4-2)	R93	0.8
4177.550	CO	(5-3)	R27	9.9
4177.975	CO	(5-3)	R71	3.6
4178.690	Fe	5p ⁷ F ⁰ ₃ - g ⁷ D ₂		10.7
4178.862	CO	(4-2)	R6	4.1
4179.036	CO	(3-1)	P7	4.3
4179.201	CO	(5-3)	R28	9.6
4179.650	CO	(5-3)	R70	3.6
4179.818	CO	(4-2)	R92	0.8
4180.281	CO	(2-0)	P18	4.9
4180.36	CO	(3-1)	R106	0.1
4180.776	CO	(5-3)	R29	9.6
4181.249	CO	(5-3)	R69	3.8
4181.705	Si	4f [3 ₂] ⁴ - 6g [4 ₂] ¹		0.8
4181.843	?			1

4182-4190 cm⁻¹

4182.074	CO	(4-2)	R7	4.9	
4182.279	CO	(5-3)	R30	9.7	
4182.762	CO	(5-3)	R68	3.7	
4183.18	CO	(4-2)	R91	0.9	
4183.262	CO	(3-1)	P6	3.5	
4183.706	CO	(5-3)	R31	10	
4183.72	Si	4f [3 $\frac{1}{2}$] ₃ - 6g [4 $\frac{1}{2}$] ₁ '	b		?
4184.196	CO	(5-3)	R67	4.0	
4184.412	?			0.5	?
4184.852	?			0.8	
4184.88	CO	(3-1)	R105	bs <<1	
4185.058	CO	(5-3)	R32	10.1	
4185.214	CO	(4-2)	R8	5.3	
4185.295	CO	(2-0)	P17	4.8	
4185.552	CO	(5-3)	R66	4.3	
4186.336	CO	(5-3)	R33	9.6	
4186.464	CO	(4-2)	R90	0.9	
4186.830	CO	(5-3)	R65	4.3	
4187.426	CO	(3-1)	P5	3.2	
4187.539	CO	(5-3)	R34	10.0	
4187.903	?			1	?
4188.022	CO	(5-3)	R64	4.5	
4188.283	CO	(4-2)	R9	5.8	
4188.667	CO	(5-3)	R35	9.9	
4188.961	?			2.0	?
4189.138	CO	(5-3)	R63	4.6	
4189.244	Fe	e ⁵ F ₃ - u ⁵ P ₂ ⁰		2.1	
4189.31	CO	(3-1)	R104	bs <<1	
4189.45	?			0.8	?
4189.66	CO	(4-2)	R89	bs 1 ⁺	
4189.719	CO	(5-3)	R36	10	

4190-4198 cm⁻¹

4190.103	Mg	5p ³ P ₂ ⁰ - 6d ³ D _{2,3}	19
4190.17	CO	(5-3) R62	b 5
4190.18	Si	4d ³ F ₂ ⁰ - 5f ² [3 ₂] ₃	b
4190.24	CO	(2-0) P16	bs 4 ⁺
4190.696	CO	(5-3) R37	9.5
4190.855	?		1
4191.130	CO	(5-3) R61	5.1
4191.280	CO	(4-2) R10	6.1
4191.509	CO	(3-1) P4	b 2.3
4191.598	CO	(5-3) R38	9.9
4191.844	Fe	5p ⁷ F ₂ ⁰ - g ⁷ D ₁	5.5
4192.009	CO	(5-3) R60	5.6
4192.424	CO	(5-3) R39	9.6
4192.78	CO	(4-2) R88	b 1 ⁺
4192.785	Mg	5p ³ P ₁ ⁰ - 6d ³ D _{1,2}	17
4192.80	CO	(5-3) R59	b 5 ⁺
4193.173	CO	(5-3) R40	9.3
4193.528	CO	(5-3) R58	5.9
4193.661	CO	(3-1) R103	b <<1
4193.848	CO	(5-3) R41	9.2
4194.069	Mg	5p ³ P ₀ ⁰ - 6d ³ D ₁	6
4194.18	CO	(5-3) R57	b 6
4194.21	CO	(4-2) R11	bs 7
4194.328	?		s 0.4
4194.445	CO	(5-3) R42	9.1
4194.732	CO	(5-3) R56	6.2
4194.966	CO	(5-3) R43	9.1
4195.118	CO	(2-0) P15	b 4 ⁺
4195.215	CO	(5-3) R55	6.6
4195.411	CO	(5-3) R44	9.1
4195.530	CO	(3-1) P3	b 2
4195.623	CO	(5-3) R54	6.7
4195.783	CO	(5-3) R45	9.1
4195.80	CO	(4-2) R87	b 1 ⁺
4195.950	CO	(5-3) R53	7.3
4196.071	CO	(5-3) R46	8.4
4196.199	CO	(5-3) R52	7.4
4196.286	CO	(5-3) R47	bs 8
4196.36	CO	(5-3) R51	bs 7 ⁺
4196.43	CO	(5-3) R48	b 8
4196.48	CO	(5-3) R50	b 8
4196.48	CO	(5-3) R49	b 8
4197.058	CO	(4-2) R12	7.2
4197.606	?		1.0
4197.923	CO	(3-1) R102	0.4

4198-4206 cm⁻¹

4198.751	CO	(4-2)	R86	1.8
4199.476	CO	(3-1)	P2	1.5
4199.839	CO	(4-2)	R13	7.8
4199.928	CO	(2-0)	P14	4.5
4200.89	Si	4f [2 ₂] ₂ - 6g [3 ₂] ₁ '		0.7
4201.617	CO	(4-2)	R85	1.9
4201.973	Si	4f [2 ₂] ₃ - 6g [3 ₂] ₁ '		1.0
4202.096	CO	(3-1)	R101	bs <<1
4202.551	CO	(4-2)	R14	8.5
4203.276	Si (?)	4d ¹ D ₂ - 6p (₂ , ₂) ₁		b 1.8
4203.276	Fe	3d ⁶ 4s4p x ⁵ F ₁ - e ⁵ D ₂		b 1.8
4203.357	CO	(3-1)	P1	s 1
4204.409	CO	(4-2)	R84	1.8
4204.668	CO	(2-0)	P13	4.1
4205.187	CO	(4-2)	R15	8.3

4206-4214 cm⁻¹

4206.19	CO	(3-1)	R100	0.4
4207.105	CO	(4-2)	R83	1.8
4207.752	CO	(4-2)	R16	9.1
4208.197	?			0.5
4209.067	?			0.4
4209.209	?			0.4
4209.342	CO	(2-0)	P12	4.1
4209.721	CO	(4-2)	R82	2.0
4210.20	CO	(3-1)	R99	b <<1
4210.246	CO	(4-2)	R17	9.2
4210.905	CO	(3-1)	R0	0.8
4212.260	CO	(4-2)	R81	1.9
4212.548	?			1.3
4212.665	CO	(4-2)	R18	9.6
4213.366	?			0.9
4213.949	CO	(2-0)	P11	4.0

4214-4222 cm⁻¹

4214.050	Fe	u ⁵ D ₄ - f ⁵ F ₅	4
4214.11	CO	(3-1) R98	bs <1
4214.343	?		0.7
4214.582	CO	(3-1) R1	1.4
4214.717	CO	(4-2) R80	2.1
4214.861	Ti	a ³ G ₃ - z ³ F ₂ ⁰	1.4
4215.012	CO	(4-2) R19	9.5
4216.595	?		1.1
4217.084	CO	(4-2) R79	2.5
4217.286	CO	(4-2) R20	9.8
4217.953	CO	(3-1) R97	0.6
4218.179	CO	(3-1) R2	2.1
4218.369	?		2.0
4218.488	CO	(2-0) P10	3.9
4219.03	Fe(?)	5p ⁷ P ₄ - g ⁷ D ₃	s 0.5
4219.174	Fe	3d ⁶ 4s4p x ⁵ F ₃ ⁰ - e ⁵ D ₃	13.5
4219.374	CO	(4-2) R78	b 2*
4219.487	CO	(4-2) R21	9.9
4221.00	?		s 0.4
4221.156	Fe	Y ⁵ G ₆ - e ⁵ F ₅	9.3
4221.58	CO	(4-2) R77	b 2*
4221.611	CO	(4-2) R22	10*
4221.706	CO	(3-1) R96	b <1
4221.706	CO	(3-1) R3	3.0

4222-4230 cm⁻¹

4222.06	?		0.4
4222.950	CO	(2-0) P9	3.2
4223.673	CO	(4-2) R23	b 10*
4223.71	CO	(4-2) R76	b 2*
4224.80	?		1.3
4225.17	CO	(3-1) R4	b 3*
4225.366	CO	(3-1) R95	0.8
4225.651	CO	(4-2) R24	10.7
4225.756	CO	(4-2) R75	2.6
4227.356	CO	(2-0) P8	2.9
4227.559	CO	(4-2) R25	10.7
4227.718	CO	(4-2) R74	3.0
4228.553	CO	(3-1) R5	3.6
4228.94	CO	(3-1) R94	0.9
4229.392	CO	(4-2) R26	10.7
4229.600	CO	(4-2) R73	3.5

4230-4238 cm⁻¹

4231.151	CO	(4-2)	R27	10.9	
4231.402	CO	(4-2)	R72	3.6	
4231.682	CO	(2-0)	P7	2.7	
4231.870	CO	(3-1)	R6	4.4	
4232.44	CO	(3-1)	R93	0.7	
4232.836	CO	(4-2)	R28	10.9	
4232.988	?			0.4	?
4233.125	CO	(4-2)	R71	4.0	
4234.448	CO	(4-2)	R29	10.9	
4234.580	?			1.7	?
4234.763	CO	(4-2)	R70	4.1	
4235.114	CO	(3-1)	R7	4.9	
4235.856	CO	(3-1)	R92	0.8	
4235.95	CO	(2-0)	P6	b 2*	
4235.983	CO	(4-2)	R30	11	
4236.323	CO	(4-2)	R69	4.1	
4237.446	CO	(4-2)	R31	10.9	
4237.804	CO	(4-2)	R68	4.3	

4238-4246 cm⁻¹

4238.290	CO	(3-1)	R8	5.3	
4238.835	CO	(4-2)	R32	10.8	
4239.19	CO	(3-1)	R91	b 1	
4239.199	CO	(4-2)	R67	5	
4239.865	Si	5s ¹ P ⁰ ₁ - 4f ² [² ₂] ₂		10.7	
4240.14	CO	(2-0)	P5	b 2	
4240.146	CO	(4-2)	R33	b 11	
4240.524	CO	(4-2)	R66	4.9	
4240.524	Fe(?)	Y ⁵ G ⁰ ₃ - e ⁵ F ⁴ ₄		b	
4241.119	Fe	e ⁵ F ⁴ ₄ - u ⁵ F ⁰ ₃		2.5	
4241.387	CO	(4-2)	R34	b 11	
4241.39	CO	(3-1)	R9	b 5*	
4241.762	CO	(4-2)	R65	4.9	
4242.131	Fe	5p ⁷ D ⁰ ₄ - g ⁷ D ⁵ ₅		17.0	
4242.432	CO	(3-1)	R90	1.0	
4242.548	CO	(4-2)	R35	10.9	
4242.922	CO	(4-2)	R64	5.3	
4243.636	CO	(4-2)	R36	10.8	
4244.003	CO	(4-2)	R63	5.5	
4244.266	CO	(2-0)	P4	1.8	
4244.424	CO	(3-1)	R10	6.0	
4244.647	CO	(4-2)	R37	10.2	
4245.003	CO	(4-2)	R62	6.0	
4245.585	CO	(4-2)	R38	10.7	
4245.60	CO	(3-1)	R89	b 1	
4245.926	CO	(4-2)	R61	6.0	

4246-4254 cm⁻¹

4246.444	CO	(4-2)	R39	10.7
4246.766	CO	(4-2)	R60	6.2
4247.228	CO	(4-2)	R40	10.1
4247.385	CO	(3-1)	R11	6.6
4247.529	CO	(4-2)	R59	6.5
4247.937	CO	(4-2)	R41	10.4
4248.215	CO	(4-2)	R58	6.7
4248.321	CO	(2-0)	P3	1.3
4248.570	CO	(4-2)	R42	10.1
4248.683	CO	(3-1)	R88	s 1.2
4248.820	CO	(4-2)	R57	7.1
4249.017	?			s 0.4
4249.127	CO	(4-2)	R43	10.2
4249.350	CO	(4-2)	R56	7.1
4249.606	CO	(4-2)	R44	9.8
4249.796	CO	(4-2)	R55	7.3
4250.010	CO	(4-2)	R45	9.3
4250.168	CO	(4-2)	R54	7.7
4250.274	CO	(3-1)	R12	b 7
4250.337	CO	(4-2)	R46	b 9
4250.461	CO	(4-2)	R53	8.1
4250.586	CO	(4-2)	R47	9.0
4250.676	CO	(4-2)	R52	b 8*
4250.758	CO	(4-2)	R48	b 8*
4250.81	CO	(4-2)	R51	b 8*
4250.86	CO	(4-2)	R49	b 8*
4250.87	CO	(4-2)	R50	b 8*
4251.665	CO	(3-1)	R87	1.3
4252.293	Fe	e ³ F ₄ - t ³ D ₃		6.8
4252.30	CO	(2-0)	P2	b 1
4253.091	CO	(3-1)	R13	7.3
4253.794	?			1.2

4254-4262 cm⁻¹

4254.48	CO	(2-0)	R102	0.1
4254.581	CO	(3-1)	R86	1.5
4255.055	?			0.5
4255.835	CO	(3-1)	R14	8.0
4256.22	CO	(2-0)	P1	0.4
4257.414	CO	(3-1)	R85	1.5
4258.508	CO	(3-1)	R15	8.1
4258.63	CO	(2-0)	R101	0.2
4260.162	CO	(3-1)	R84	1.5
4260.327	?			0.4
4261.108	CO	(3-1)	R16	8.7

4262-4270 cm⁻¹

4262.67	CO	(2-0)	R100	0.3
4262.822	CO	(3-1)	R83	1.7
4263.635	CO	(3-1)	R17	9.1
4263.84	CO	(2-0)	R0	0.4
4264.18	?			0.4
4264.776	Ti	a ³ G ₄ - z ³ F ₃		1.7
4265.402	CO	(3-1)	R82	1.8
4266.090	CO	(3-1)	R18	9.1
4266.64	CO	(2-0)	R99	b 0.3
4266.64	Si	5p ³ P ₁ - 7s ($\frac{1}{2}, \frac{1}{2}$) ₁		b 0.8
4267.538	CO	(2-0)	R1	1.0
4267.904	CO	(3-1)	R81	2.0
4268.472	CO	(3-1)	R19	9.3
4269.043	?			0.6

4270-4278 cm⁻¹

4270.321	CO	(3-1)	R80	2.1
4270.51	CO	(2-0)	R98	0.3
4270.781	CO	(3-1)	R20	9.6
4271.173	CO	(2-0)	R2	1.3
4272.660	CO	(3-1)	R79	2.5
4272.81	?			1.5
4273.018	CO	(3-1)	R21	9.7
4274.32	CO	(2-0)	R97	0.3
4274.737	CO	(2-0)	R3	1.5
4274.911	CO	(3-1)	R78	2.4
4275.180	CO	(3-1)	R22	10.0
4276.145	Na	4p ² P _{3/2} - 4d ² D _{3/2}		27.5
4276.145	Na	4p ² P _{3/2} - 4d ² D _{5/2}		27.5
4277.086	CO	(3-1)	R77	2.5
4277.269	CO	(3-1)	R23	11.0

4278-4286 cm⁻¹

4278.041	CO	(2-0)	R96	0.4
4278.237	CO	(2-0)	R4	2.3
4279.174	CO	(3-1)	R76	2.7
4279.285	CO	(3-1)	R24	10.4
4281.19	CO	(3-1)	R75	b 3
4281.226	CO	(3-1)	R25	10.8
4281.66	CO	(2-0)	R5	bs 3
4281.66	CO	(2-0)	R95	bs <<1
4281.774	Na	4p ² P _{1/2} - 4d ² D _{3/2}		22.9
4283.098	CO	(3-1)	R26	b 11
4283.11	CO	(3-1)	R74	b 3
4284.70	Mg	4d ³ D _{1,2} - 7p ³ P ₁		1.0
4284.76	?			1.2
4284.890	CO	(3-1)	R27	10.7
4284.958	CO	(3-1)	R73	bs 3 ⁺
4285.011	CO	(2-0)	R6	3 ⁺
4285.21	CO	(2-0)	R94	0.4
4285.518	Mg	4d ³ D ₃ - 7p ³ P ₂		1.8

4286-4294 cm⁻¹

4286.034	Fe	w ⁵ P ₃ - f ⁵ D ₄		2.5
4286.610	CO	(3-1)	R28	10.7
4286.727	CO	(3-1)	R72	3.3
4287.248	?			0.3
4288.260	CO	(3-1)	R29	11
4288.29	CO	(2-0)	R7	b 4
4288.408	CO	(3-1)	R71	3.4
4288.67	CO	(2-0)	R93	0.6
4289.116	Fe	c ³ F ₄ - y ³ F ₃		5.9
4289.829	CO	(3-1)	R30	11.0
4290.015	CO	(3-1)	R70	3.8
4290.744	?			0.6
4291.326	CO	(3-1)	R31	10.9
4291.50	CO	(2-0)	R8	b 4
4291.54	CO	(3-1)	R69	b 4 ⁺
4292.044	CO	(2-0)	R92	0.6
4292.748	CO	(3-1)	R32	10.9
4292.983	CO	(3-1)	R68	4.3
4293.220	?			0.4

4294-4302 cm⁻¹

4294.096	CO	(3-1)	R33	10.9	
4294.344	CO	(3-1)	R67	b 4 ⁺	
4294.344	Sc	a ² P _{3/2} - Y ² D ⁰ _{5/2}		b	
4294.639	CO	(2-0)	R9	4.1	
4295.209	?			0.2	?
4295.34	CO	(2-0)	R91	b <1	
4295.368	CO	(3-1)	R34	10.9	
4295.631	CO	(3-1)	R66	4.6	
4296.565	CO	(3-1)	R35	10.9	
4296.835	CO	(3-1)	R65	5.0	
4297.692	CO	(3-1)	R36	10.9	
4297.70	CO	(2-0)	R10	b 4 ⁺	
4297.961	CO	(3-1)	R64	5.0	
4298.224	?			1.8	?
4298.552	CO	(2-0)	R90	0.7	
4298.736	CO	(3-1)	R37	10.7	
4299.003	CO	(3-1)	R63	5.3	
4299.552	?			0.3	?
4299.707	CO	(3-1)	R38	10.6	
4299.970	CO	(3-1)	R62	5.8	
4300.01	Si	5p ³ S ₁ - 5d ³ P ⁰ ₂		bs <1	
4300.458	?			2.1	?
4300.603	CO	(3-1)	R39	10.1	
4300.701	CO	(2-0)	R11	4.7	
4300.855	CO	(3-1)	R61	5.9	
4301.422	CO	(3-1)	R40	9.9	
4301.554	Fe	e ³ F ₂ - t ³ D ⁰ ₁		1.3	
4301.662	CO	(3-1)	R60	6.1	
4301.67	CO	(2-0)	R89	b <1	

4302-4310 cm⁻¹

4302.166	CO	(3-1)	R41	9.8	
4302.390	CO	(3-1)	R59	6.1	
4302.833	CO	(3-1)	R42	9.8	?
4302.95	?			bs <1	
4303.039	CO	(3-1)	R58	6.7	
4303.425	CO	(3-1)	R43	9.5	
4303.615	CO	(3-1)	R57	b 7	
4303.62	CO	(2-0)	R12	b 5	
4303.829	?			0.9	?
4303.939	CO	(3-1)	R44	9.4	
4304.103	CO	(3-1)	R56	6.8	
4304.377	CO	(3-1)	R45	9.3	
4304.515	CO	(3-1)	R55	7.4	
4304.72	CO	(2-0)	R88	b <1	
4304.738	CO	(3-1)	R46	9.2	
4304.853	CO	(3-1)	R54	7.5	
4305.024	CO	(3-1)	R47	9.0	
4305.110	CO	(3-1)	R53	7.7	
4305.233	CO	(3-1)	R48	8.9	
4305.287	Fe	$Y \ ^3H_6 - e \ ^3G_5$		b	
4305.287	CO	(3-1)	R52	b 8	
4305.36	CO	(3-1)	R49	b 8 ⁺	
4305.39	CO	(3-1)	R51	b 8 ⁺	
4305.41	CO	(3-1)	R50	b 8 ⁺	
4305.687	?			1.3	?
4306.475	CO	(2-0)	R13	5.0	
4307.48	?			0.4	?
4307.67	CO	(2-0)	R87	0.8	
4308.761	?			0.8	?
4309.254	CO	(2-0)	R14	5.5	
4309.77	?			0.4	?

4310-4318 cm⁻¹

4310.287	?				0.4	?
4310.557	CO	(2-0)	R86		0.8	?
4311.337	?				1.4	?
4311.963	CO	(2-0)	R15		6	?
4312.072	?				2.6	?
4312.98	?				0.3	?
4313.044	?				0.5	?
4313.197	?				0.4	?
4313.34	CO	(2-0)	R85		0.9	?
4314.055	Fe	e ⁵ F ₄ - u ⁵ P ₃			9.2	?
4314.597	CO	(2-0)	R16		6.0	?
4315.42	?				0.5	?
4315.605	?				0.3	?
4315.825	Fe	4s4p x ⁵ F ₂ - e ⁵ D ₂			13.3	?
4316.053	CO	(2-0)	R84		1.0	?
4317.159	CO	(2-0)	R17		6.2	?
4317.603	?				1.7	?
4317.717	?				s 0.5	?

4318-4326 cm⁻¹

4318.681	CO	(2-0)	R83		1.1	
4319.489	Fe	5p ⁷ D ₃ - g ⁷ D ₄			15.4	
4319.489	Si	5s ¹ P ₁ - 4f ² [1 ¹] ₁		b		
4319.647	CO	(2-0)	R18	bs 6 ⁺		
4320.039	Si	5s ¹ P ₁ - 4f ² [1 ¹] ₂			9.2	?
4321.046	?				0.5	
4321.221	CO	(2-0)	R82		1.2	
4322.065	CO	(2-0)	R19		6.7	
4322.985	?				0.4	?
4323.689	CO	(2-0)	R81		1.2	
4324.410	CO	(2-0)	R20		6.6	
4325.52	?				0.4	?

4326-4334 cm^{-1}

4326.07	CO	(2-0)	R80	1.5
4326.680	CO	(2-0)	R21	7.0
4328.364	CO	(2-0)	R79	1.5
4328.877	CO	(2-0)	R22	7.1
4330.581	CO	(2-0)	R78	1.6
4331.002	CO	(2-0)	R23	7.1
4332.516	?			2.2
4332.720	CO	(2-0)	R77	1.7
4333.052	CO	(2-0)	R24	7.2

4334-4342 cm^{-1}

4334.770	CO	(2-0)	R76	1.8
4335.030	CO	(2-0)	R25	7.4
4336.518	Ca(?)	3d4p $^1F^0_3$ - 4s5g 1G_4		4.1
4336.75	CO	(2-0)	R75	1.9
4336.934	CO	(2-0)	R26	7.6
4338.190	Fe			2.2
4338.644	CO	(2-0)	R74	1.9
4338.763	CO	(2-0)	R27	7.7
4339.411	Fe(?)	γ $^3H^0_4$ - e 3G_4		1.7
4340.45	CO	(2-0)	R73	bs 2
4340.519	CO	(2-0)	R28	7.5
4341.801	?			0.8

4342-4350 cm⁻¹

4342.18	CO	(2-0)	R72	b 2
4342.196	CO	(2-0)	R29	b 7+
4342.563	?			0.9
4343.810	CO	(2-0)	R30	b 7+
4343.82	CO	(2-0)	R71	b 2+
4345.338	CO	(2-0)	R31	7.8
4345.40	CO	(2-0)	R70	bs 2+
4345.61	?			0.4
4346.795	CO	(2-0)	R32	7.9
4346.89	CO	(2-0)	R69	bs 2+
4346.970	Mg	5p ¹ P ₁ - 8s ¹ S ₀		s <1
4348.178	CO	(2-0)	R33	7.6
4348.300	CO	(2-0)	R68	2.7
4348.89	?			0.6
4349.043	S	5p ⁵ P ₃ - 5d ⁵ D ₄		1
4349.26	Ni(?)	5s e ³ D ₂ - 4s4p v ³ D ₂		1
4349.485	CO	(2-0)	R34	7.8
4349.628	CO	(2-0)	R67	3.0
				(3 lines)
				(2 lines)
				?

4350-4358 cm⁻¹

4350.719	CO	(2-0)	R35	7.6
4350.875	CO	(2-0)	R66	3.1
4351.875	CO	(2-0)	R36	7.4
4352.041	CO	(2-0)	R65	3.1
4352.958	CO	(2-0)	R37	7.6
4353.131	CO	(2-0)	R64	3.4
4353.576	Ti	3d ³ 4s a ³ G ₅ - 3d ² 4s4p z ³ F ₄		2.6
4353.964	CO	(2-0)	R38	7.4
4354.145	CO	(2-0)	R63	3.5
4354.895	CO	(2-0)	R39	7.4
4355.070	CO	(2-0)	R62	3.7
4355.306	Si	5p ³ P ₂ - 7s (³ / ₂ , ¹ / ₂) ₂		3.2
4355.749	CO	(2-0)	R40	7.4
4355.920	CO	(2-0)	R61	3.9
4356.527	CO	(2-0)	R41	6.9
4356.692	CO	(2-0)	R60	4.0
4356.826	?			0.5
4357.230	CO	(2-0)	R42	7.0
4357.386	CO	(2-0)	R59	4.1
4357.857	CO	(2-0)	R43	6.8
4357.999	CO	(2-0)	R58	4.2
				?

4358-4366 cm⁻¹

4358.407	CO	(2-0)	R44	6.6	?
4358.534	CO	(2-0)	R57	4.3	?
4358.748	Si	5p ¹ D ₂ - 6d ¹ D ⁰ ₂		1	?
4358.881	CO	(2-0)	R45	6.2	
4358.99	CO	(2-0)	R56	b 4 ⁺	
4359.047	Si	4p ³ P ₀ - 3d ¹ P ⁰ ₁		7.8	
4359.276	CO	(2-0)	R46	6.1	
4359.370	CO	(2-0)	R55	4.6	
4359.595	CO	(2-0)	R47	6.0	
4359.670	CO	(2-0)	R54	5	
4359.840	CO	(2-0)	R48	b 5 ⁺	
4359.898	CO	(2-0)	R53	b 5	
4360.01	CO	(2-0)	R49	b 5 ⁺	
4360.04	CO	(2-0)	R52	b 5	
4360.10	CO	(2-0)	R50	b 5 ⁺	
4360.10	CO	(2-0)	R51	b 5 ⁺	
4360.519	?			1.0	?
4361.457	?			3.4	?
4363.161	?			0.4	?
4364.376	C	3p ¹ S ₀ - 4s ¹ P ⁰ ₁		9.3	
4364.60	Mg	4f ¹ F ⁰ ₃ - 7d ¹ D ⁰ ₂		1 ⁺	

4366-4374 cm⁻¹

4366.43	?			0.3	?
4367.25	?			0.3	?
4367.517	?			0.5	?
4367.810	S	4p ⁵ P ₃ - 4s ³ D ⁰ ₃		2.1	
4368.047	S	4p ⁵ P ₂ - 4s ³ D ⁰ ₂		1.2	
4368.960	Fe	³ F ⁰ ₃ - f ⁵ F ⁴		1.5	
4370.279	S	4p ⁵ P ₁ - 4s ³ D ⁰ ₁		0.3	
4370.321	?			0.4	?
4370.94	?			0.5	?
4371.62	?			0.3	?

4374-4382 cm⁻¹

4375.951	Fe	e ⁵ F ₅ - u ⁵ F ⁰ ₄		10.4	
4378.553	Fe	4p x ⁵ F ⁰ ₁ - e ⁵ D ⁰ ₁		10.8	
4379.124	S	4p ⁵ P ₁ - 4s ³ D ⁰ ₂		0.9	
4379.512	?			0.5	?
4379.725	Fe	v ³ G ⁰ ₅ - e ³ H ₆		0.7	
4380.489	?			0.8	
4380.744	Ca	4d ¹ D ₂ - 6p ¹ P ⁰ ₁		7.3	
4381.371	?			0.8	

4382-4390 cm⁻¹

4382.352	Fe	³ F ₄ - f ⁵ F ₅	3
4383.144	Mg	4d ³ D _{2,3} - 6f ¹ F ₃ ⁰	23*
4383.28	Mg	4d ³ D _{1,2,3} - 6f ³ F _{2,3,4} ⁰	26
4385.077	Fe	w ⁵ P ₂ ⁰ - f ⁵ D ₂	0.7
4385.738	S	4p ⁵ P ₂ - 4s ³ D ₃ ⁰	4.7
4385.79	Fe		s 4
4386.255	Fe(?)	z ⁵ H ₅ ⁰ - e ⁵ F ₄	1.7
4386.615	?		0.6
4387.645	Fe		2.3

4390-4398 cm⁻¹

4390.481	Fe	5p ³ S ₁ - 5d ³ P ₁ ⁰	4.0
4392.113	?		0.3
4392.325	?		0.9
4392.612	?		0.9
4393.652	?		0.5
4394.217	Si		1.2
4395.63	?		0.4
4396.261	Fe	5p ⁷ D ₂ ⁰ - g ⁷ D ₃	14.4
4397.302	Fe	w ⁵ P ₃ ⁰ - f ⁵ D ₃	1.9

4398-4406 cm⁻¹

4400.68	?		0.4
4402.586	S	4p ⁵ P ₃ - 3d ⁵ D ₄ ⁰	14.5
4403.620	Cr		0.7
4403.907	Al	4d ² D _{5/2} ⁰ - 7p ² P _{3/2} ⁰	0.9
4405.621	Al	4d ² D _{3/2} ⁰ - 7p ² P _{1/2} ⁰	1.0
4405.717	?		bs 0.6

4406-4414 cm⁻¹

4407.098	Fe	³ F ₂ ⁰ - f ⁵ F ₃	0.6
4409.187	?		0.4
4409.448	?		0.7
4410.747	Si	3d ¹ P ₁ ⁰ - 5p ¹ D ₂	18.8
4412.740	S	4p ⁵ P ₃ - 3d ⁵ D ₂ ⁰	b 2
4412.77	Ca	4d ¹ D ₃ - 4f ³ F ₂ ⁰	b 2
4413.085	Ca	4d ³ D ₃ - 4f ³ F ₃ ⁰	9.3
4413.556	Ca	4d ³ D ₃ - 4f ³ F ₄ ⁰	26.8

4414-4422 cm⁻¹

4414.962	S	4p ⁵ P ₃ - 3d ⁵ D ₃	6.7	
4416.91	Cr(?)		0.6	
4417.014	?		0.3	?
4417.124	?		0.4	?
4417.291	?		0.5	?
4418.17	Ni(?)	5s e ³ D ₂ - 4s4p x ³ P ₁	s 0.6	
4418.340	Ca	4d ³ D ₂ - 4f ³ F ₀ ²	b 9.3	
4418.340	Si	5p ³ S ₁ - 5d ³ P ₀	b	
4418.689	Ca	4d ³ D ₂ - 4f ³ F ₃	24.9	
4419.420	Ti	3d ³ 4s a ⁵ P ₃ - 3d ² 4s4p z ⁵ D ₂	s 0.4	
4419.692	Fe	4p x ⁵ F ₅ - e ⁵ D ₄	28.1	

4422-4430 cm⁻¹

4422.012	Ca	4d ³ D ₁ - 4f ³ F ₀ ²	22.5	
4423.290	?		0.3	?
4424.177	Ni(?)	5s e ³ D ₃ - 4s4p v ³ D ₃	1.1	?
4427.538	?		0.4	?
4427.713	?		2.2	?
4428.404	S	4p ⁵ P ₂ - 3d ⁵ D ₁	3.4	
4428.925	?		0.3	?
4429.74	?		0.4	?

4430-4438 cm⁻¹

4430.664	S	4p ⁵ P ₃ - 3d ⁵ D ₂	8.5	
4431.103	?		0.4	?
4431.817	?		0.4	?
4432.871	S	4p ⁵ P ₂ - 3d ⁵ D ₃	10.1	
4433.00	?		s <<1	?
4433.382	?		0.3	?
4435.826	Si	3d ¹ F ₀ - 5p ¹ D ₂	22.3	
4436.17	?		s 0.4	?
4437.821	?		0.6	?

4438-4446 cm⁻¹

4438.092	S	4p ⁵ P ₁ - 3d ⁵ D ⁰	3.5	?
4438.780	?		0.6	?
4438.904	?		0.6	?
4439.467	S	4p ⁵ P ₁ - 3d ⁵ D ⁰	7.3	
4439.76	?		0.4	?
4440.58	?		0.3	?
4441.090	?		0.3	?
4441.393	?		0.6	?
4441.739	S	4p ⁵ P ₁ - 3d ⁵ D ⁰	6.2	
4443.608	?		1.4	?
4444.486	Fe	u ⁵ D ⁰ ₃ - f ⁵ F ₄	3.1	

4446-4454 cm⁻¹

4448.521	Fe	5p ⁷ D ⁰ ₅ - g ⁷ D ₅	23.2	
4450.54	Fe		0.3	
4451.923	Ca(?)	3d4p ¹ F ⁰ ₃ - 4s6d ¹ D ₂	0.6	
4452.128	?		0.3	?

4454-4462 cm⁻¹

4454.321	Ti	3d ³ 4s a ⁵ P ₂ - 3d ² 4s4p z ⁵ D ⁰ ₁	0.7	?
4456.761	?		0.3	
4458.022	Fe	e ⁵ D ₄ - v ³ D ⁰ ₃	1.1	?
4458.115	?		s 0.4	?
4458.294	?		0.4	?
4458.496	?		0.8	?
4459.099	Fe	5p ⁷ D ⁰ ₁ - g ⁷ D ₂	9.9	?
4459.931	?		0.6	?
4460.374	?		1.1	?
4461.019	?		0.3	?
4461.351	?		0.4	?
4461.620	Si	5s ³ P ⁰ ₁ - 4f ² [2 ₁] ₂	0.4	?
4461.94	?		0.3	?

4462-4470 cm⁻¹

4462.554	?		0.3	?
4464.488	Fe	4s4p x ⁵ F ₁ - e ⁵ D ₀	12.0	
4465.794	?		0.3	?
4466.00	Cr(?)		bs	
4466.037	Fe	Y ⁵ G ₅ - e ⁵ F ₄	4.7	
4466.896	Fe	4s4p x ⁵ F ₄ - e ⁵ D ₃	26.0	
4467.494	?		0.3	?
4468.017	Fe	u ⁵ D ₂ - f ⁵ F ₃	2.3	
4469.919	?		0.9	?

4470-4478 cm⁻¹

4471.190	?		0.4	?
4473.231	?		0.4	?
4473.760	?		0.3	?
4474.165	Fe		2.0	

4478-4486 cm⁻¹

4480.938	Ti	3d ³ 4s a ⁵ P ₁ - 3d ² 4s4p z ⁵ D ₀	0.9	
4482.604	?		0.4	?
4484.248	?		0.4	?

4486-4494 cm⁻¹

4487.487	Ca	4s6s ³ S ₁ - 4s7p ³ P ₂	0.4	
4488.312	Ti	3d ³ 4s a ⁵ P ₃ - 3d ² 4s4p z ⁵ D ₃	2.3	
4490.648	?		0.6	?
4491.100	Fe	4s4p x ⁵ F ₂ - e ⁵ D ₁	18.3	
4491.721	Fe	4s4p x ⁵ F ₃ - e ⁵ D ₂	22.9	
4493.481	?		0.3	?

4494-4502 cm^{-1}

4494.06	?		0.4	?
4494.22	?		1.2	?
4494.469	?		0.3	?
4496.618	Ti	$3d^34s a^5P_2 - 3d^24s4p z^5D^0_2$	2.4	?
4497.400	?		0.6	?
4499.933	?		0.3	?
4501.000	Ti	$3d^34s a^5P_1 - 3d^24s4p z^5D^0_1$	1.8	

4502-4510 cm^{-1}

4502.23	AlIII(?)	$5s^1S_0 - 5p^1P^0_1$	0.4	?
4503.487	?		0.3	?
4504.389	?		0.3	?
4507.710	Fe		1.3	?
4508.51	?		0.5	?
4508.895	?		0.3	?

4510-4518 cm^{-1}

4510.018	C	$3p^3S_1 - 2s2p^3^3P^0_1$	1.1	
4511.333	C	$3p^3S_1 - 2s2p^3^3P^0_2$	2.4	
4511.916	?		0.5	?
4513.170	Si	$5p^3P_1 - 5d^3P^0_2$	1.2	?
4514.039	?		0.3	?
4515.56	?		0.3	?
4516.299	?		0.3	?
4516.79	Si	$3d^3D^0_3 - 4f^2[2^1_2]_3$	0.5	?
4517.582	?		0.4	?

4518-4526 cm^{-1}

4518.679	?		0.4	?
4519.92	?		0.3	?
4521.194	?		1	?
4523.40	?		0.3	?
4525.950	?		0.4	?

4526-4534 cm⁻¹

4526.109	?			0.4	?
4526.151	?			0.4	?
4526.988	Na	4s ² S _{1/2} - 4p ² P _{1/2}		26.3	
4527.786	Fe	u ⁵ D ₁ - f ⁵ F ₂		1.7	
4528.794	?			0.4	?
4529.276	Si	3d ³ D ₃ - 4f ² [3 ₂] ₃		7.0	
4530.050	?			0.5	?
4530.425	Co(?)	c ² D _{5/2} - y ⁴ D _{7/2}		0.3	
4530.761	Sc(?)	3d ² 4s a ⁴ F _{7/2} - 3d4s4p z ⁴ D _{5/2}		0.3	
4531.301	Si	3d ³ D ₃ - 4f ² [3 ₂] ₄		29.4	
4532.583	Na	4s ² S _{1/2} - 4p ² P _{3/2}		30.6	
4533.400	Cr(?)			b <<1	
4533.400	Sc(?)	3d ² 4s a ⁴ F _{9/2} - 3d4s4p z ⁴ D _{7/2}		b 1 ⁺	

4534-4542 cm⁻¹

4534.000	?			0.3	?
4535.925	?			1.1	?
4537.623	?			0.3	?
4539.721	Fe	v ³ G ₄ - e ³ H ₅		0.4	
4540.105	?			0.6	?
4540.478	?			0.3	?
4540.971	?			1.1	?
4541.28	?			0.5	?
4541.75	?			0.3	?

4542-4550 cm⁻¹

4542.383	?			0.5	?
4543.278	Ti	3d ³ 4s a ⁵ P ₁ - 3d ² 4s4p z ⁵ D ₂		1.5	
4543.53	?			0.4	?
4543.692	?			0.8	?
4544.427	?			1.2	?
4545.764	?			4.0	?
4546.524	?			3.7	?
4547.040	?			3.5	?
4548.31	?			1.5	?
4549.01	?			0.3	?
4549.186	?			0.3	?
4549.385	?			0.4	?
4549.803	?			0.3	?

4550-4558 cm⁻¹

4551.852	Si	5p ¹ D ₂ - 6d ³ F ₀ ²	1	
4552.82	Si	5p ³ P ₁ - 7s ($\frac{3}{2}, \frac{1}{2}$) ₁ ⁰	0.7	
4553.777	?		0.4	?
4555.024	K(?)	4d ² D _{3/2} - 6f ² F _{5/2} ⁰	0.6	?
4555.506	?		1.3	
4556.09	K(?)	4d ² D _{5/2} - 6f ² F _{7/2} ⁰	0.2	
4556.706	?		0.4	

4558-4566 cm⁻¹

4558.04	Cr		0.3	
4559.755	Si	5d ³ D ₁ - 7s ($\frac{1}{2}, \frac{1}{2}$) ₀ ⁰	2.0	
4561.527	Fe	w ⁵ P ₃ ⁰ - f ⁵ D ₂	2.0	
4561.65	?		bs 0.3	?
4563.166	Cr		0.3	
4565.506	Ti	3d ³ 4s a ⁵ P ₂ - 3d ² 4s4p z ⁵ D ₃ ⁰	3.5	
4565.648	?		0.3	?
4565.87	Fe	e ⁵ D ₄ - w ³ F ₃ ⁰	bs <1	

4566-4574 cm⁻¹

4566.017	Fe	5p ⁷ D ₄ ⁰ - g ⁷ D ₄	12.8	
4566.563	Fe	w ⁵ P ₂ ⁰ - f ⁵ D ₁	0.6	
4567.147	Fe	y ³ P ₂ ⁰ - e ³ D ₃	0.8	
4568.539	?		4.3	?
4568.96	Fe	u ⁵ D ₂ ⁰ - f ⁵ F ₂	bs 1	
4569.280	Si	3d ³ D ₂ ⁰ - 4f ² [2 $\frac{1}{2}$] ₃	26 ⁺	
4569.593	?		s 0.3	?
4569.647	?		s 0.3	?
4569.808	?		s <1	?
4570.357	Si	3d ³ D ₂ ⁰ - 4f ² [2 $\frac{1}{2}$] ₂	11.2	
4571.470	?		0.7	?
4571.682	?		1.0	?
4572.511	Fe	u ⁵ D ₄ ⁰ - f ⁵ F ₄	0.5	
4573.753	Fe		5.0	

4574-4582 cm⁻¹

4575.122	Fe	b ³ D ₃ - z ³ P ₂	2.3	?
4575.842	?		0.6	?
4576.26	?		0.4	
4577.252	Fe	u ⁵ D ₁ - f ⁵ F ₁	0.8	
4577.925	Si	5p ³ D ₂ - 7s ($\frac{1}{2}$, $\frac{1}{2}$) ₁	2.1	
4578.987	Fe		2.8	
4580.22	?		0.3	?
4581.090	?		0.3	?
4581.771	Si	3d ³ D ₂ - 4f ² [$\frac{3}{2}$] ₃ , 5s ³ P ₂ - 4f ² [$\frac{2}{2}$] ₃	24.8	

4582-4590 cm⁻¹

4582.169	?		1	?
4582.418	?		3.0	?
4582.981	Fe	u ⁵ D ₀ - f ⁵ F ₁	1.7	
4584.742	?		0.3	?
4585.078	?		0.6	?
4586.924	Fe	u ⁵ D ₃ - f ⁵ F ₃	0.8	
4587.777	?		1.8	?
4587.987	?		0.6	?
4588.23	?		0.4	?
4588.478	?		2.4	?
4589.492	Ti	3d ³ 4s a ⁵ P ₃ - 3d ² 4s4p z ⁵ D ₄	7.0	
4589.930	?		bs <<1	?

4590-4598 cm⁻¹

4590.181	Si	3d ³ D ₁ - 4f ² [$\frac{2}{2}$] ₂	27.5	
4590.181	Fe	b ³ D ₂ - z ³ P ₂	b	
4590.990	Fe(?)		0.7	?
4591.159	?		0.4	?
4592.339	?		1.4	?
4593.023	?		0.5	?
4594.48	?		0.4	?
4594.99	Fe	5p ⁷ D ₁ - g ⁷ D ₁	3.7	
4595.547	?		1.7	?
4596.927	?		0.4	?
4597.428	?		0.3	?

4598-4606 cm⁻¹

4599.529	Fe	5p ⁷ D ₃ - g ⁷ D ₃	4.9	?
4599.869	?		0.3	
4600.959	C	3d ³ P ⁰ ₁ - 4f [2 $\frac{1}{2}$] ₂	0.3	
4603.233	Fe	5p ⁷ D ⁰ ₂ - g ⁷ D ₂	1	?
4605.090	?		0.4	?
4605.545	?		0.5	?

4606-4614 cm⁻¹

4607.019	?		0.5	?
4608.740	?		bs <<1	?
4608.793	C	3d ³ P ⁰ ₂ - 4f [2 $\frac{1}{2}$] ₃	2.3	?
4609.701	?		0.5	?
4611.377	?		s 0.4	?

4614-4622 cm⁻¹

4614.076	Na(?)	4f ² F ⁰ _{5/2,7/2} - 7d ² D _{3/2,5/2}	0.6	
4616.56	H	(4-7) Very Broad	10 ⁺	
4618.063	Fe	Y ⁵ G ⁰ ₃ - e ⁵ F ₃	1	

4622-4630 cm⁻¹

4623.727	?		0.4	?
4625.544	Si	5p ³ D ₃ - 7s ($\frac{3}{2}$, $\frac{1}{2}$) ₂	5	?
4629.569	?		0.9	?
4629.720	?		0.4	?

4630-4638 cm⁻¹

4634.318	Fe		3.5	
4634.800	Ni(?)	5s e ³ D ₂ - 4s4p v ³ D ₁	1.7	
4635.680	?		0.4	?
4636.763	Fe		0.7	

4638-4646 cm⁻¹

4638.396	?		2.2	?
4638.81	?		0.4	?
4640.87	?		0.6	?
4641.378	?		1.0	?
4642.056	Mg	4f ³ F ⁰ _{2,3,4} - 7d ³ D _{1,2,3}	1.1	
4643.92	Si	5p ³ D ₃ - 5d ³ P ⁰ ₂	0.7	
4644.456	?		0.6	?
4644.946	?		2.1	?
4645.118	?		0.5	?

4646-4654 cm⁻¹

4646.625	Fe	Z ⁵ H ₄ - e ⁵ F ₃	2.4	
4648.138	?		1.3	?
4651.476	?		0.6	?
4652.132	?		1.2	?
4652.283	?		1.0	?
4652.531	Fe(?)	Y ³ H ₄ - e ³ G ₃	1.0	
4652.695	?		3.4	?

4654-4662 cm⁻¹

4654.20	Fe		0.9	
4656.521	?		2.8	?
4657.014	?		0.4	?
4658.808	Mg	5s ¹ S ₀ - 6p ¹ P ⁰ ₁	6.6	
4658.81	Cr		b <1	
4660.228	Na(?)	4d ² D _{3/2,5/2} - 7f ² F ⁰ _{5/2,7/2}	bs 0.5	
4660.355	?		1.3	?

4662-4670 cm⁻¹

4662.40	Si	4f [4 ₂] ¹ ₄ - 7g [5 ₂] ¹ ₁	2	
4663.84	?		0.5	?
4665.347	CaII	4f ² F ⁰ _{5/2} - 5d ² D _{3/2}	4	
4665.584	Fe		3	
4665.88	Si	4f [4 ₂] ¹ ₅ - 7g [5 ₂] ¹ ₁	2 ⁺	
4667.17	?		0.5	?

4670-4678 cm⁻¹

4672.171	?	4f ² F ⁰ _{7/2} - 5d ² D _{5/2}	0.6	?
4674.031	CaII		5.7	
4674.571	?		bs 0.3	?
4674.641	Al(?)	5d ² D _{5/2} - 9f ² F ⁰ _{7/2}	2.9	
4674.641	Fe(?)		b	
4677.53	Si	4f [² ₂] ¹ ₂ - 7g [³ ₂] ¹ ₁	1.4	

4678-4686 cm⁻¹

4678.436	Mg II	5s ² S _{1/2} - 5p ² P ⁰ _{3/2}	b 2.7	
4678.436	Al(?)	5d ² D _{3/2} - 9f ² F ⁰ _{5/2}	b 2.7	
4678.51	Si	4f [² ₂] ¹ ₃ - 7g [³ ₂] ¹ ₁	b	
4681.636	Si	4p ¹ D ₂ - 5s ¹ P ⁰ ₁	32	?
4682.06	?		s 1	?
4685.13	?		0.9	?

4686-4694 cm⁻¹

4687.93	?		0.5	?
4691.66	?		0.7	?

4694-4702 cm⁻¹

4694.614	C	3d ³ P ⁰ ₁ - 4f [² ₂] ¹ ₂	b 4.1	
4694.67	Fe(?)		b	
4695.393	?		0.5	?
4696.983	?		b 1.4	?
4697.013	Fe	c ³ P ₁ - z ⁵ P ⁰ ₂	b 1.4	
4698.575	Fe	e ⁵ P ₂ - 4s4f(³ ₂) [³ ₂] ₃	b 0.9	
4701.139	Fe(?)	u ⁵ D ⁰ ₂ - e ⁵ P ₃	0.7	

4702-4710 cm⁻¹

4702.383	C	3d ³ P ₂ ⁰ - 4f [2 ₂ ¹] ₃ '	10.6
4702.54	C	3d ³ P ₂ ⁰ - 4f [2 ₂ ¹] ₂ '	bs <1
4704.046	Fe		0.7
4704.83	Fe	v ³ G ₃ ⁰ - e ³ H ₄	1.3
4705.307	Ca	4f ¹ F ₃ ⁰ - 7g ¹ G ₄	1.0
4706.884	?		1.4
4707.156	Fe	x ⁵ D ₃ ⁰ - e ⁵ D ₄	13.3
4709.63	?		0.5

4710-4718 cm⁻¹

4710.011	Mg	5p ³ P ₂ ⁰ - 8s ³ S ₁	4.1
4710.30	?		1.4
4712.06	Fe	e ⁵ P ₂ - (⁵ / ₂) [2 ₂ ¹] ₂	1.8
4712.666	Mg	5p ³ P ₁ ⁰ - 8s ³ S ₁	2.4
4713.13	C	3d ³ P ₀ ⁰ - 4f [1 ₂ ¹] ₁ '	4.1
4713.875	Al	4f ² F _{5/2,7/2} ⁰ - 7g ² G _{7/2,9/2}	b 5
4713.905	Mg	5p ³ P ₀ ⁰ - 8s ³ S ₁	b
4714.71	Si	4f [3 ₂ ¹] ₄ - 7g [4 ₂ ¹]	2.6
4714.99	Fe(?)	u ⁵ D ₄ ⁰ - f ⁵ F ₃	1
4715.578	Fe		1.5
4716.69	Fe		4.6
4716.69	Si	4f [3 ₂ ¹] ₃ - 7g [4 ₂ ¹] ₁ '	b
4717.52	C	3d ³ P ₁ ⁰ - 4f [1 ₂ ¹] ₁ '	5
4717.64	C	3d ³ P ₁ ⁰ - 4f [1 ₂ ¹] ₂ '	6

4718-4726 cm⁻¹

4720.556	Fe	c ³ P ₂ - z ⁵ P ₃ ⁰	2.0
4722.85	Fe		2.9
4723.760	Al	4p ² P _{3/2} ⁰ - 5s ² S _{1/2}	29.2
4724.147	Fe	e ⁵ P ₂ - (⁵ / ₂) [1 ₂ ¹] ₁	2.5
4725.466	C	3d ³ P ₂ ⁰ - 4f [1 ₂ ¹] ₁ '	1
4725.562	C	3d ³ P ₂ ⁰ - 4f [1 ₂ ¹] ₂ '	2
4725.639	?		0.9

4726-4734 cm⁻¹

4726.995	?		0.7	?
4728.327	?		1.7	?
4729.147	?		1*	?
4729.69	?		1	?
4731.29	?		1.3	?
4732.41	Fe		2	
4732.56	Fe		3	
4732.687	Fe		4	

Y ⁵G₄ - e ⁵F₃

4734-4742 cm⁻¹

4736.895	?		2*	?
4739.095	Fe	5p ⁷ D ₂ - g ⁷ D ₁	4	
4739.603	Al	4p ² P _{1/2} - 5s ² S _{1/2}	25	
4741.558	Cr(?)		1	

4742-4750 cm⁻¹

4742.297	?		1.6	?
4745.090	?		1.5	?
4746.80	Mg	4f ³ F _{2,3,4} - 7g ³ G _{3,4,5}	17	(several lines)
4747.108	Mg	4f ¹ F ₃ - 7g ¹ G ₄	10	
4747.86	Si	4f [3 ₂] ₄ - 7g [4 ₁] ₁ '	2*	
4749.91	Si	4f [3 ₂] ₃ - 7g [4 ₁] ₁ '	2	

4750-4758 cm⁻¹

4752.38	Fe		1	
4755.36	C	3p ¹ S ₀ - 3d ¹ P ₁	8*	(several lines)

4758-4766 cm⁻¹

4758.27	?		1*	?
4762.64	Fe	c ³ F ₃ - y ³ D ₃	2*	

4766-4774 cm⁻¹

4766.64	Ca	4d ³ D ₁ - 6p ³ P ₀	1
4766.84	Ca	4d ³ D ₂ - 6p ³ P ₁	2*
4768.52	Fe		1
4769.11	Fe		b
4769.11	Ca	4d ³ D ₃ - 6p ³ P ₂	4
4770.52	Ca	4d ³ D ₁ - 6p ³ P ₁	1
4772.41	Fe	5p ⁷ D ₅ - g ⁷ D ₄	3*

4774-4782 cm⁻¹

4774.72	Ca	4d ³ D ₂ - 6p ³ P ₂	1
4777.41	Si	3d ³ D ₃ - 4f ² [3 ₂ ¹] ₃	5*
4779.46	Si	3d ³ D ₃ - 4f ² [3 ₂ ¹] ₄	27
4779.46	Fe		b
4780.45	Fe		1
4781.39	Si	4d ³ F ₃ - 7p (¹ / ₂ , ³ / ₂) ₂	<1

4782-4790 cm⁻¹

4782.13	?		2*
4785.60	Si(?)	4p ³ S ₁ - 3d ³ D ₁	8*
4787.45	Fe		2*

4790-4798 cm⁻¹

4792.92	?		2*
4794.69	?		2*
4796.97	Fe	e ³ F ₃ - ⁵ D ₄	17
4797.10	Si(?)	5s ³ P ₂ - 4f ² [2 ₂ ¹] ₂	bs 1*



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16. Abstract

During the period April 29 to May 2, 1985, the Atmospheric Trace Molecule Spectroscopy (ATMOS) experiment was operated as part of the Spacelab-3 payload of the shuttle Challenger. The principal purpose of this experiment was to study the distribution of the atmosphere's minor and trace molecular constituents. The instrument, a modified Michelson interferometer covering the frequency range from 600 to 5000 cm^{-1} at a spectral resolution of 0.01 cm^{-1} , recorded infrared absorption spectra of the Sun and of the Earth's atmosphere at times close to entry into and exit from occultation by the Earth's limb. Spectra were obtained that are free from absorptions due to constituents of the atmosphere (i.e, they are "pure solar" spectra), as well as spectra of the atmosphere itself, covering line-of-sight tangent altitudes that span the range from the lower thermosphere to the bottom of the troposphere. Volume I gives the solar spectrum from 650 to 4800 cm^{-1} , and Volume II covers the stratosphere and mesosphere for frequencies from 650 to 3350 cm^{-1} . The present volume, Volume III, serves as a key to the identification of the nearly 16,000 solar features observed in Volume I.

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