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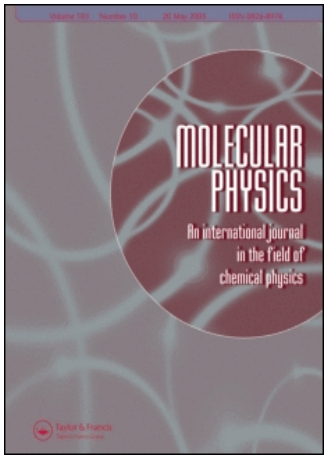

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High resolution Fourier transform spectrum of water between 2930 and 4255 cm^{-1}

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High resolution Fourier transform spectrum of water between 2930 and 4255 cm^{-1}

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The water vapour spectrum recorded with a resolution of 5×10^{-3} cm^{-1} between 2930 cm^{-1} and 4255 cm^{-1} on a Fourier transform spectrometer is presented. Wavenumbers, attributions and equivalent widths of about 1500 lines are given. Lines of the $2\nu_2$, ν_1 and ν_3 bands of H_2 ^{16}O, lines of the hot band $\nu_2+\nu_3-\nu_2$ of H_2 ^{16}O and lines of the ν_1 and ν_3 bands of H_2 ^{18}O and H_2 ^{17}O are observed.

1. INTRODUCTION

The development of the high resolution Fourier transform spectrometer at the Laboratory Aimé Cotton [1, 2] for the near infra-red has provided a powerful new tool for studying the vibration–rotation absorption spectra of molecules. With the ' third generation ' interferometer, it is now possible to record one million of spectral elements in seven hours. The limit of resolution, corresponding to the maximum path difference (2 m) is 5×10^{-3} cm^{-1}. The spectrometer operates in the near infra-red between 0·8 μ and 3·5 μ. It is able to work in vacuum [3, 4], and this allows us to record the water vapour spectrum in the region 2930–4255 cm^{-1} at low pressure. We present here this spectrum, which has been analysed to obtain accurate values of the rotational levels of the (000), (020), (100) and (001) vibrational states of H_2 ^{16}O [5].

2. EXPERIMENTAL

We shall give here only details pertinent for this study. A complete description of the experimental conditions can be found in reference [3]. The white light source is an iodine quartz lamp. The water vapour was introduced under a pressure $P=1$ torr‡ in an absorption cell producing a path length $L=8$ m. The spectrum computed from an interferogram including 870 000 samples recorded in 6 hours is calibrated by the 3·5 μ super-radiant line of Xe (note that only one standard is necessary to get a linear wavenumber scale covering the whole spectrum).

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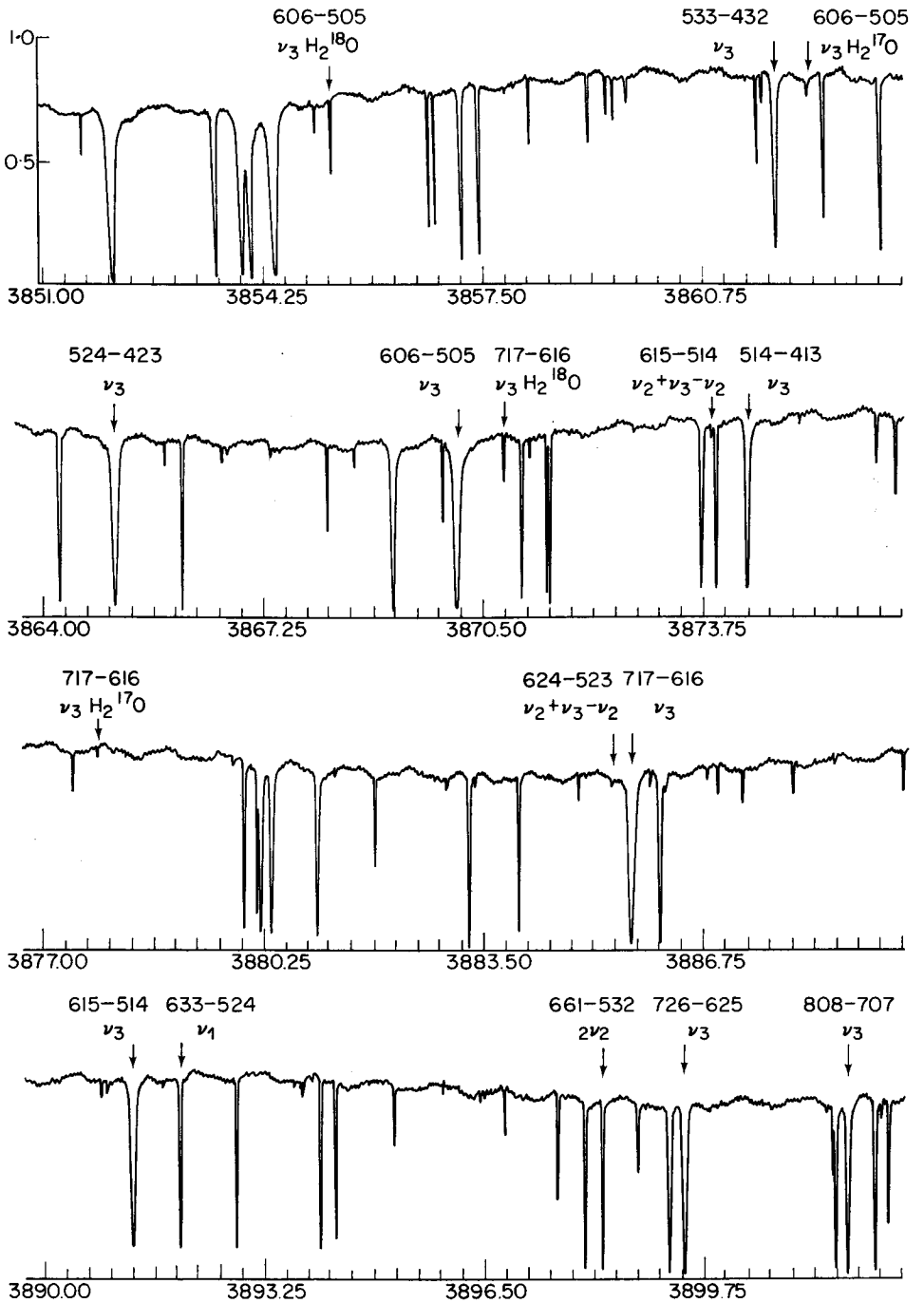
‡ Torr$\approx$133 N m^{-2}=133 Pa.



Fourier transform interferometer spectrum of water molecule.

The Fourier transform programme has been developed in CIRCE† by Delouis [6]. It gives a ' primary spectrum ' (870 000 points in this case) from which automatic wavenumber or intensity measurements can be made. A small

† Centre Inter Régional de Calcul Electronique.

part (3850–3900 cm^{-1}) of the computed spectrum is shown in the figure. A programme also written by Delouis has been used to record the wavenumber of any line.

The determination of the absolute wavenumbers depends on the precision of the Xe reference line and on several instrumental factors [4]. An upper bound of such an uncertainty is about 3×10^{-3} cm^{-1}. However, the precision on the wavenumbers relative to each other is smaller since the r.m.s. scatter estimated in [5] is about $0{\cdot}5 \times 10^{-3}$ cm^{-1}.

The equivalent width W of any line has been calculated using a programme from Chauville. The precision on the measurement of W deserves a few comments.

We can see on the figure two different periodic fluctuations of the background. They have respectively periods of about 0·9 cm^{-1} and 16·0 cm^{-1} and correspond to modulations of about 5 per cent and 15 per cent. These fluctuations come from channelled spectra due to the filter used to select the spectral range of interest. They have practically no importance on the measurement of the wavenumbers but they affect strongly the equivalent width which depends on the value of the level of the base line. We have made a correction for these fluctuations but they remain a source of error.

The automatic determination of the base line is also complicated by noise and consequently the surface of the line can sometimes be only a first approximation.

We estimate that for an equivalent width W in the region

$$1 \times 10^{-3} \text{ cm}^{-1} \leqslant W \leqslant 50 \times 10^{-3} \text{ cm}^{-1}$$

the relative error is no more than 20 per cent. For the other lines (very weak or very strong) the accuracy may be worse.

Taking into account the low pressure of the gas ($P = 1$ torr) the width $\delta\nu$ at half height of each line is determined by the Doppler width ($\delta\nu_D \simeq 10 \times 10^{-3}$ cm^{-1} at 3500 cm^{-1}), and the instrumental profile ($\delta\nu_I = 5 \times 10^{-3}$ cm^{-1}). For non-saturated lines the observed width $\delta\nu$ is equal to 11×10^{-3} cm^{-1} (see figure 20 of reference [3]); when saturation occurs $\delta\nu$ is a function of the line intensity. For these reasons we do not give $\delta\nu$ in our data.

3. Analysis

The main purpose of this work was to determine accurate energy levels for $H_2\,{}^{16}O$ [5]. We have assigned 1310 lines of the $2\nu_2$, ν_1 and ν_3 bands of $H_2\,{}^{16}O$ and also 42 lines of the hot band $\nu_2 + \nu_3 - \nu_2$. The identification of the lines was achieved using reference [7] and the results have been checked, whenever possible, according to the Ritz combination principle.

As natural water contains isotopic species it was possible to assign

131 lines of the ν_1 and ν_3 bands of $H_2\,{}^{18}O$;

58 lines of the ν_1 and ν_3 bands of $H_2\,{}^{17}O$;

8 lines of the HD ^{16}O.

The identification of $H_2\,{}^{18}O$ and $H_2\,{}^{17}O$ lines was made using the results of reference [8] and the empirical isotopic rule

$$\nu(H_2\,{}^{16}O) - \nu(H_2\,{}^{17}O) = 0{\cdot}529(\nu(H_2\,{}^{16}O) - \nu(H_2\,{}^{18}O)).$$

Finally 14 lines were left unassigned.

A line listing including wavenumber, assignment and equivalent width is presented in the table.

4. Conclusion

We have reported here the experimental spectrum of water between 2930 and 4255 cm^{-1}. We are listing only observed lines, that is lines intense enough in the experimental conditions ($P = 1$ torr, $L = 8$ m) to be distinguished from noise. For most of the lines our wavenumbers have an accuracy about of $0{\cdot}5 \times 10^{-3}$ cm^{-1} relative to each other. However, for reasons explained above the absolute wavenumbers are only known within 3×10^{-3} cm^{-1}. The experimental equivalent width for lines neither too weak nor too strong should have an accuracy better than 20 per cent.

The experimental spectra have been thoroughly investigated, since only 14 lines out of 1563 remain unassigned. Because of the excellent quality of the spectrum it has been possible to obtain precise values of the rotational levels of the (000), (020), (100), (001) vibrational states of $H_2\,{}^{16}O$.

List of the lines of water vapour between 2930 and 4255 cm^{-1}.
The meaning of the different columns is

No.: Vibrational assignment of the band; consisting of two numbers corresponding to the upper and lower vibrational states with the correspondence
0 for (000), 1 for (010), 2 for (020), 3 for (100), 4 for (001), 7 for (011).

ν^{obs}: wavenumber of the observed transition in cm^{-1}.

$J'K_a'K_c'\ J''K_a''K_c''$: rotational quantum numbers of the upper and lower levels.

$\delta = \nu^{calc} - \nu^{obs}$ in units of 10^{-3} cm^{-1}, where ν^{calc} is the wavenumber of the transition calculated from levels given in reference [5]; followed by

g: statistical weight of the line.
When $g = 0$ the letter
A means that the line is blended and that its wavenumber has been calculated.
B means that the line has not been automatically pointed by the programme and its wavenumber has been obtained by hand on the drawing of the spectrum (its accuracy is $\pm 0{\cdot}005$ cm^{-1}).

W: equivalent width in units of 10^{-3} cm^{-1}.

I: isotopic species.

0 for $H_2\,{}^{16}O$, 1 for $H_2\,{}^{17}O$, 2 for $H_2\,{}^{18}O$, 3 for $HD\,{}^{16}O$.

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
20	2933.73057	6	3	4	7	4	3	-1.728	100		2.36	0
20	2935.19287	4	1	4	5	2	3	0.618	100		4.56	0
20	2954.15421	9	0	9	10	1	10	-0.229	100		3.90	0
20	2961.71168	5	3	3	6	4	2	0.435	100		3.89	0
20	2966.00699	5	3	2	6	4	3	-0.693	100		7.35	0
20	2973.25227	4	2	3	5	3	2	-0.247	100		6.28	0
20	2974.59000	8	0	8	9	1	9	-0.638	100		2.43	0
20	2975.08385	8	1	8	9	0	9	0.197	100		4.35	0
20	2977.94354	5	2	3	6	3	4	0.055	100		6.55	0
20	2980.38721	5	4	1	6	5	2	0.430	100		4.83	0
20	2981.14375	6	5	2	7	6	1	0.383	100		1.41	0
20	2984.21167	3	1	3	4	2	2	0.018	100		4.10	0
20	2987.52451	4	3	2	5	4	1	0.321	100		11.33	0
20	2988.61301	4	3	1	5	4	2	-0.542	100		4.64	0
20	2991.97022	4	2	2	5	3	3	1.011	100		4.44	0
20	2992.65318	8	2	7	9	1	8	0.455	100		1.92	0
20	2993.73692	7	1	6	8	2	7	-0.796	100		3.79	0
20	2994.44665	7	0	7	8	1	8	-0.061	100		8.46	0
20	2995.45486	7	1	7	8	0	8	0.082	100		4.39	0
20	3003.47448	6	1	5	7	2	6	-0.713	100		2.28	0
20	3003.83789	3	2	2	4	3	1	0.157	100		5.92	0
20	3004.68605	4	4	1	5	5	0	0.180	100		10.28	0
20	3004.70183	4	4	0	5	5	1	0.358	100		3.43	0
20	3005.44512	5	5	1	6	6	0		0	A	3.25	0
20	3005.45388	5	5	0	6	6	1	0.776	10		3.25	0
20	3009.65188	8	1	8	8	2	7	0.238	100		2.06	0
20	3010.23233	3	2	1	4	3	2	0.055	100		14.34	0
20	3011.27770	7	2	6	8	1	7	-0.655	100		1.55	0
20	3012.37660	3	3	1	4	4	0	0.062	100		5.64	0
20	3012.53122	3	3	0	4	4	1	-0.094	10		13.25	0
20	3012.54303	5	1	4	6	2	5		0	A	13.25	0
20	3013.57329	6	0	6	7	1	7	-0.297	100		6.22	0
20	3015.61537	6	1	6	7	0	7	0.130	100		13.79	0
20	3022.36630	4	1	3	5	2	4	-0.052	100		6.06	0
20	3025.76106	2	1	2	3	2	1	-0.061	100		12.23	0
20	3030.72652	2	2	1	3	3	0	0.042	100		15.76	0
20	3031.73437	5	0	5	6	1	6	-0.122	100		15.06	0
20	3031.95627	6	2	5	7	1	6	0.340	100		5.66	0
20	3031.99150	2	2	0	3	3	1	-0.132	100		8.53	0
20	3034.26429	3	1	2	4	2	3	-0.256	100		13.70	0
20	3034.39468	7	0	7	7	1	6	0.272	100		3.45	0
20	3035.78344	5	1	5	6	0	6	0.022	100		7.71	0
20	3048.67276	4	0	4	5	1	5	-0.263	100		10.89	0
20	3048.94743	6	1	6	6	2	5	-0.076	100		5.82	0
20	3049.04431	2	1	1	3	2	2	0.070	100		9.74	0
20	3055.61004	5	2	4	6	1	5	0.076	100		3.23	0
20	3056.35694	4	1	4	5	0	5	-0.782	100		17.62	0
20	3057.14635	6	0	6	6	1	5	0.338	100		4.66	0
20	3059.92898	1	1	1	2	2	0	0.218	100		9.11	0
20	3061.23012	9	1	8	9	2	7	-1.566	1		1.01	0
20	3064.40425	3	0	3	4	1	4	0.124	100		21.41	0
20	3065.61794	8	2	7	8	3	6	-0.710	100		2.15	0
20	3066.27082	5	1	5	5	2	4	0.239	100		3.87	0
20	3067.01181	1	1	0	2	2	1	0.009	100		18.27	0
20	3077.47318	7	2	6	7	3	5	0.102	100		1.51	0
20	3077.93833	3	1	3	4	0	4	-0.008	100		12.04	0
20	3079.52904	5	0	5	5	1	4	0.117	100		12.03	0
20	3079.68289	2	0	2	3	1	3	-0.330	100		13.31	0
20	3081.34197	4	1	4	4	2	3	-0.185	100		13.23	0
20	3082.55485	6	3	4	7	2	5	1.190	100		1.82	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
20	3082.60702	4	2	3	5	1	4	-0.262	100		9.44	0
20	3087.19212	6	2	5	6	3	4	-0.045	100		5.37	0
20	3093.68936	3	1	3	3	2	2	0.343	100		6.58	0
20	3094.54767	5	2	4	5	3	3	-0.241	100		3.85	0
20	3095.94508	1	0	1	2	1	2	0.065	100		19.53	0
20	3096.92630	7	1	6	7	2	5	0.180	100		5.75	0
20	3099.54761	4	2	3	4	3	2	-0.183	100		10.56	0
20	3099.80071	4	0	4	4	1	3	0.127	100		8.50	0
20	3101.15585	2	1	2	3	0	3	-0.142	100		17.11	0
20	3101.87740	8	3	6	8	4	5	0.245	100		1.22	0
20	3102.46180	3	2	2	3	3	1	-0.409	100		3.95	0
20	3103.01553	2	1	2	2	2	1	0.140	100		12.07	0
20	3105.87003	7	3	5	7	4	4	1.052	1		1.15	0
20	3107.33061	3	2	1	3	3	0	-0.122	100		9.95	0
20	3108.24135	6	3	4	6	4	3	-0.264	100		4.18	0
20	3109.37779	5	3	3	5	4	2	0.237	100		2.15	0
20	3109.75820	4	3	2	4	4	1	0.058	100		4.63	0
20	3110.30790	6	1	5	6	2	4	0.421	100		4.80	0
20	3110.59366	4	3	1	4	4	0	-0.937	100		1.96	0
20	3112.09661	4	2	2	4	3	1	0.325	100		5.44	0
20	3112.18349	3	2	2	4	1	3	0.122	100		3.84	0
20	3112.38988	5	3	2	5	4	1	0.162	100		5.44	0
20	3114.49282	0	0	0	1	1	1	0.0	100		10.07	0
20	3115.87705	3	0	3	3	1	2	-0.025	100		19.64	0
20	3116.01382	6	3	3	6	4	2	-0.721	100		1.32	0
20	3116.62393	9	2	7	9	3	6	-0.430	1		0.78	0
20	3116.71953	5	3	3	6	2	4	-0.488	10		1.24	0
20	3118.10976	5	2	3	5	3	2	0.331	100		10.52	0
20	3118.94413	5	1	4	5	2	3	-0.129	100		14.72	0
20	3119.18207	2	1	1	2	2	0	-0.239	100		8.10	0
20	3121.59921	7	3	4	7	4	3	0.155	100		2.56	0
20	3122.47037	3	1	2	3	2	1	-0.161	100		18.99	0
20	3122.79559	4	1	3	4	2	2	0.104	100		10.20	0
20	3123.06815	8	2	6	8	3	5	-0.402	1		0.85	0
20	3123.13041	6	2	4	6	3	3	-0.558	100		4.16	0
20	3125.13179	7	2	5	7	3	4	0.160	100		4.68	0
20	3126.00270	1	1	1	2	0	2	-0.184	100		7.42	0
20	3126.56861	8	4	5	8	5	4	-1.475	1		0.82	0
20	3126.78532	2	0	2	2	1	1	-0.001	100		13.36	0
20	3126.91009	5	4	1	5	5	0		0	A	4.04	0
20	3126.91425	6	4	3	6	5	2	1.596	1		4.04	0
20	3127.41927	6	4	2	6	5	1	0.792	1		0.55	0
20	3128.55866	7	4	3	7	5	2	-0.239	100		1.32	0
20	3133.06997	1	0	1	1	1	0	-0.065	100		19.85	0
20	3142.77964	2	2	1	3	1	2	0.028	100		6.34	0
20	3151.35513	4	3	2	5	2	3	0.287	100		2.96	0
20	3163.82749	3	1	3	2	2	0	-0.335	100		1.28	0
20	3167.91073	3	2	1	4	1	4	0.213	100		4.13	0
20	3169.31576	4	2	2	5	1	5	-1.600	100		0.83	0
20	3169.54784	4	1	4	3	2	1	0.120	100		1.73	0
20	3169.81899	5	3	2	6	2	5	0.667	100		2.09	0
20	3173.15761	6	4	3	7	3	4	0.397	1		1.25	0
20	3174.93200	2	2	0	3	1	3	0.078	100		1.55	0
20	3178.11935	1	1	0	1	0	1	-0.009	100		21.01	0
20	3179.66902	5	2	3	6	1	6	0.897	10		0.79	0
20	3182.51792	4	3	1	5	2	4	0.291	100		0.98	0
20	3184.73173	3	3	1	4	2	2	-0.135	10		1.29	0
20	3184.82385	2	0	2	1	1	1	0.331	100		7.26	0
20	3185.25498	2	1	1	2	0	2	0.169	100		13.05	0
20	3196.09356	1	1	1	0	0	0	-0.033	100		9.58	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
20	3196.64451	4	2	3	3	3	0	1.020	10(		1.21	0
20	3197.86505	3	1	2	3	0	3	-0.132	100		18.37	0
20	3199.72433	3	1	2	2	2	1	0.550	100		5.63	0
20	3200.27722	3	3	0	4	2	3	-0.637	100		1.21	0
30	3203.46480	8	7	2	9	8	1	0.726	1		0.55	0
20	3209.74654	3	0	3	2	1	2	-0.098	100		19.43	0
20	3210.71953	4	2	2	3	3	1	0.749	10		0.76	0
20	3214.12313	2	1	2	1	0	1	0.063	100		20.65	0
20	3216.52213	4	1	3	4	0	4	0.198	100		8.38	0
40	3218.75470	6	5	1	7	7	0	2.477	10		0.90	0
20	3219.38379	3	2	1	3	1	2	-0.196	100		18.80	0
20	3220.44245	4	2	2	4	1	3	0.050	100		9.85	0
20	3222.03466	2	2	0	2	1	1	0.177	100		9.56	0
30	3225.70630	7	1	6	8	4	5	-0.254	10		0.93	0
30	3226.06799	7	0	7	8	3	6	0.471	10		1.45	0
20	3227.35977	6	2	5	5	3	2	-1.198	10		1.06	0
20	3227.46511	5	2	3	5	1	4	-0.284	100		15.72	0
30	3229.03855	8	6	3	9	7	2	-0.389	10		2.15	0
30	3229.05500	8	6	2	9	7	3		0	B	0.72	0
20	3229.90049	3	1	3	2	0	2	-0.018	100		15.34	0
40	3230.42077	8	4	4	9	6	3	-0.677	10		0.81	0
30	3230.98272	7	7	1	8	8	0	0.0	1		1.89	0
30	3230.98272	7	7	0	8	8	1	-0.073	10		1.89	0
20	3232.27396	4	1	3	3	2	2	-0.251	100		3.98	0
20	3233.01919	4	0	4	3	1	3	0.136	100		10.90	0
40	3236.40098	9	2	8	10	4	7	-1.165	10		1.23	0
20	3236.64900	2	2	1	2	1	2	0.085	100		16.31	0
20	3237.95042	4	4	1	5	3	2	0.143	100		0.92	0
20	3240.10695	5	1	4	5	0	5	-0.279	100		13.13	0
20	3241.77387	6	2	4	6	1	5	-0.716	100		3.69	0
30	3243.04573	8	2	7	9	3	6	-0.675	100		1.28	0
20	3244.40606	5	2	3	4	3	2	-0.565	100		2.88	0
20	3244.94244	4	1	4	3	0	3	0.229	100		20.09	0
20	3245.40220	3	2	2	3	1	3	-0.099	100		6.86	0
40	3247.36230	7	4	4	8	6	3	0.728	100		1.16	0
40	3251.51500	7	4	3	8	6	2		0	B	1.20	0
20	3254.14838	5	0	5	4	1	4	0.005	100		19.94	0
20	3254.62500	6	3	4	5	4	1		0	B	0.61	0
30	3256.08527	7	6	2	8	7	1	-0.736	1		2.81	0
30	3256.08527	7	6	1	8	7	2	-0.816	10		2.81	0
20	3257.22614	4	2	3	4	1	4	-0.155	100		13.72	0
30	3258.07329	8	5	4	9	6	3	0.445	100		1.41	0
20	3260.42740	5	1	5	4	0	4	-0.261	100		11.19	0
30	3262.51699	6	1	5	7	4	4	0.817	1		0.81	0
20	3263.27483	7	2	5	7	1	6	-0.216	100		3.84	0
20	3265.09189	5	1	4	4	2	3	0.408	100		8.42	0
20	3266.38558	6	1	5	6	0	6	-0.127	100		2.48	0
20	3270.42657	7	3	4	7	2	5	-0.007	100		3.63	0
20	3271.01965	6	3	3	6	2	4	0.376	100		3.14	0
20	3271.89070	5	2	4	5	1	5	-0.342	100		3.97	0
20	3273.42697	6	0	6	5	1	5	-0.041	100		6.61	0
20	3273.77400	2	2	1	1	1	0	-0.155	100		13.52	0
40	3275.17571	6	4	2	7	6	1	0.347	100		2.52	0
20	3276.22059	5	3	2	5	2	3	0.039	100		10.52	0
20	3276.51105	6	1	6	5	0	5	-0.054	100		16.73	0
30	3278.62073	6	0	6	7	3	5	0.473	1		0.71	0
30	3279.09602	8	4	5	9	5	4	0.081	100		2.84	0
20	3280.07382	2	2	0	1	1	1	-0.122	100		9.99	0
20	3280.70942	6	2	4	5	3	3	1.046	100		1.22	0
20	3282.94703	4	3	1	4	2	2	0.627	100		4.87	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
30	3283.06163	6	6	0	7	7	1	0.736	1		6.03	0
30	3283.06163	6	6	1	7	7	0	-1.273	10		6.03	0
30	3283.76305	8	3	6	9	4	5	0.286	100		2.26	0
30	3284.20000	7	5	3	8	6	2		0	B	1.38	0
30	3284.22429	7	5	2	8	6	3	0.117	100		4.03	0
40	3286.17000	8	0	8	9	2	7		0	B	1.27	0
20	3288.48238	3	3	0	3	2	1	0.378	100		9.73	0
20	3288.91845	6	2	5	6	1	6	-0.053	100		6.19	0
20	3290.33500	8	2	6	8	1	7		0	B	0.68	0
20	3291.35695	7	0	7	6	1	6	-0.211	100		12.87	0
20	3291.88410	9	3	6	9	2	7	0.0	10		0.87	0
20	3292.50463	3	2	2	2	1	1	0.230	100		9.05	0
30	3292.81155	5	1	4	6	4	3		0	A	8.16	0
20	3292.82221	7	1	7	6	0	6	-0.082	100		8.16	0
20	3293.09288	7	1	6	7	0	7	0.151	100		3.70	0
30	3294.05724	8	4	4	9	5	5	0.191	100		0.78	0
20	3294.20966	3	3	1	3	2	2	-0.050	100		4.62	0
20	3296.11132	7	3	4	6	4	3	0.289	1		0.50	0
20	3296.87263	6	1	5	5	2	4	0.419	100		4.53	0
20	3297.50413	4	3	2	4	2	3	-0.415	100		10.60	0
40	3298.10688	7	3	5	8	5	4	-0.134	100		5.00	0
40	3300.21471	5	4	2	6	6	1	-0.389	100		2.39	0
40	3300.50143	5	4	1	6	6	0	-0.485	10		1.12	0
30	3303.07514	7	2	6	8	3	5	-0.766	100		2.30	0
20	3303.28403	5	3	3	5	2	4	-0.260	100		3.56	0
20	3307.68713	7	2	6	7	1	7	1.034	100		1.33	0
30	3308.07788	7	4	4	8	5	3	0.180	100		2.88	0
20	3308.31944	8	0	8	7	1	7	0.638	100		4.37	0
20	3308.69881	4	2	3	3	1	2	-0.174	100		16.63	0
20	3309.00946	8	1	8	7	0	7	-0.435	100		8.69	0
30	3310.52602	6	5	2	7	6	1	-0.182	100		8.73	0
30	3310.53529	6	5	1	7	6	2		0	A	8.73	0
20	3312.05488	6	3	4	6	2	5	-0.434	100		5.96	0
20	3313.25296	3	2	1	2	1	2	0.051	100		14.00	0
30	3313.39409	6	1	6	7	2	5	-0.493	100		4.21	0
30	3317.27863	7	4	3	8	5	4	0.660	100		4.36	0
20	3318.50991	7	2	5	6	3	4	0.170	100		1.58	0
20	3323.01819	5	2	4	4	1	3	0.508	100		6.32	0
20	3324.00657	7	3	5	7	2	6	0.582	100		1.37	0
20	3324.54123	9	0	9	8	1	8	0.229	100		5.76	0
20	3324.86705	9	1	9	8	0	8	0.0	100		3.15	0
30	3326.04252	7	3	5	8	4	4	0.020	100		2.90	0
20	3326.42442	7	1	6	6	2	5	0.465	100		6.51	0
40	3326.79562	7	1	7	8	3	6	0.841	100		2.02	0
30	3327.32982	5	0	5	6	3	4	-0.281	100		4.49	0
20	3327.57097	8	2	7	8	1	8		0	A	6.53	0
40	3327.58825	6	3	4	7	5	3	-0.415	100		6.53	0
40	3329.64440	7	2	6	8	4	5	-0.133	100		3.89	0
30	3334.62901	6	4	3	7	5	2	-0.099	100		12.71	0
20	3336.71343	6	2	5	5	1	4	-0.123	100		10.70	0
30	3336.84599	5	5	1	6	6	0	-0.363	1		15.54	0
30	3336.84599	5	5	0	6	6	1	0.220	10		15.54	0
30	3336.89741	9	3	6	10	4	7	0.880	100		1.44	0
20	3338.98578	8	3	6	8	2	7	0.360	100		1.31	0
20	3340.14051	10	0	10	9	1	9	0.0	10		1.20	0
20	3340.29838	10	1	10	9	0	9	0.0	100		2.94	0
40	3341.38294	8	1	7	9	3	6	0.574	100		1.96	0
30	3342.29444	6	4	2	7	5	3	0.333	100		2.11	0
20	3346.03695	7	4	3	7	3	4	0.265	100		2.05	0
30	3348.44298	8	3	5	9	4	6	0.348	100		1.14	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3349.86321	7	0	7	8	2	6	-0.739	100		1.01	0
20	3351.26234	7	2	6	6	1	5	-0.481	100		2.73	0
20	3353.22802	8	1	7	7	2	6	0.0	10		1.34	0
20	3353.66085	4	2	2	3	1	3	0.139	100		4.22	0
20	3354.50344	6	4	2	6	3	3	0.353	10		1.05	0
20	3355.18501	11	0	11	10	1	10	0.0	100		1.89	0
20	3355.26500	11	1	11	10	0	10		0	B	1.01	0
40	3355.70599	5	3	3	6	5	2	-0.044	100		13.29	0
20	3356.53045	8	2	6	7	3	5	0.402	1		0.73	0
30	3357.03417	6	2	5	7	3	4	0.157	100		10.88	0
40	3359.51971	5	3	2	6	5	1	0.208	100		8.69	0
20	3360.17473	5	4	1	5	3	2	-0.302	100		4.71	0
30	3361.67253	6	3	4	7	4	3	0.269	100		14.30	0
30	3362.28324	7	3	4	8	4	5	0.387	100		7.22	0
20	3362.93309	4	4	0	4	3	1	-0.116	100		1.99	0
20	3364.24610	4	4	1	4	3	2	-0.133	100		5.19	0
40	3364.28937	4	0	4	5	4	1	0.692	10		1.00	0
20	3364.34706	3	3	1	2	2	0	0.002	100		9.91	0
40	3364.82774	8	2	6	9	4	5	-0.731	100		2.34	0
20	3364.90517	5	4	2	5	3	3	-0.567	100		1.32	0
20	3365.73716	3	3	0	2	2	1	0.269	100		18.02	0
20	3366.53629	6	4	3	6	3	4	-0.153	100		4.16	0
20	3367.51908	8	2	7	7	1	6	0.255	100		5.03	0
30	3367.64272	5	4	1	6	5	2	-0.197	100		13.16	0
40	3368.81907	6	2	5	7	4	4	0.291	100		5.78	0
30	3369.15426	5	4	2	6	5	1	0.117	100		3.06	0
20	3369.75665	12	1	12	11	0	11	0.0	1		0.65	0
20	3369.87000	7	4	4	7	3	5		0	B	0.82	0
30	3371.04882	4	0	4	5	3	3	0.107	100		2.01	0
30	3374.68274	5	1	5	6	2	4	0.201	100		3.32	0
20	3375.62070	8	4	5	8	3	6	-2.749	1		0.76	0
20	3377.54964	9	1	8	8	2	7	0.016	100		2.34	0
30	3378.06406	12	1	12	13	0	13	0.0	100		1.33	0
30	3378.43863	11	1	10	12	2	11	0.0	1		0.96	0
40	3379.12332	6	1	6	7	3	5	0.640	100		2.13	0
30	3380.46710	6	3	3	7	4	4	0.233	100		4.47	0
40	3383.07555	4	3	2	5	5	1	0.089	100		6.28	0
40	3384.38703	4	3	1	5	5	0	0.083	100		14.34	0
20	3385.35206	9	2	8	8	1	7	0.0	1		0.58	0
30	3385.60204	10	3	8	11	2	9	-2.144	1		1.38	0
20	3385.70982	4	3	2	3	2	1	0.070	100		13.92	0
30	3391.57136	9	2	7	10	3	8	0.042	100		3.00	0
20	3392.42511	4	3	1	3	2	2	0.562	100		7.58	0
30	3392.50700	5	3	3	6	4	2	-0.249	100		11.70	0
30	3392.72553	4	4	0	5	5	1	-0.435	100		10.60	0
30	3392.94156	4	4	1	5	5	0	0.048	100		19.00	0
20	3393.42796	9	2	7	8	3	6	0.430	1		0.79	0
40	3396.17378	7	2	5	8	4	4	-0.210	100		1.82	0
30	3397.21309	5	3	2	6	4	3	0.264	100		20.88	0
20	3397.38351	5	3	2	5	0	5	-0.211	100		0.90	0
40	3398.81316	7	1	6	8	3	5	0.263	100		2.36	0
30	3400.65146	10	1	9	11	2	10	1.577	10		0.91	0
30	3401.05336	11	0	11	12	1	12	0.0	100		2.64	0
30	3401.09250	11	1	11	12	0	12	0.0	100		1.09	0
30	3401.49980	10	2	9	11	1	10	0.277	100		2.29	0
20	3402.08368	5	2	3	4	1	4	0.373	100		4.50	0
30	3403.58301	5	2	4	6	3	3	-0.100	100		9.53	0
20	3403.71358	5	3	3	4	2	2	-0.364	100		4.69	0
20	3404.14608	10	2	9	9	1	8	0.0	100		2.26	0
30	3406.67392	8	2	6	9	3	7	0.470	100		2.39	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
30	3408.85569	3	0	3	4	3	2	-0.223	100		4.46	0
30	3412.47000	9	3	7	10	2	8		0	B	0.46	0
40	3413.06743	6	0	6	7	2	5	-0.116	100		6.35	0
30	3417.17771	7	1	6	7	4	3	-0.012	1		0.38	0
20	3418.45572	6	3	4	5	2	3	-0.302	100		6.58	0
40	3419.46185	6	2	4	7	4	3	0.563	100		7.19	0
30	3419.95026	7	2	5	8	3	6	0.111	100		11.03	0
30	3420.49808	4	3	2	5	4	1	-0.211	100		21.61	0
30	3421.73881	4	3	1	5	4	2	0.193	100		16.41	0
30	3422.33272	9	1	8	10	2	9	0.077	100		5.85	0
20	3422.36889	5	3	2	4	2	3	0.036	100		9.50	0
40	3423.11672	11	5	7	12	5	8	0.0	10		0.87	0
30	3423.24496	10	0	10	11	1	11	0.036	100		2.88	0
30	3423.27772	10	1	10	11	0	11	-0.271	100		6.28	0
30	3424.08667	9	2	8	10	1	9	-0.185	100		1.77	0
40	3427.91723	5	1	5	6	3	4	-0.090	100		11.14	0
20	3430.84230	7	3	5	6	2	4	-0.593	100		0.71	0
30	3431.06464	4	1	4	5	2	3	0.110	100		14.52	0
30	3432.83029	6	2	4	7	3	5	-0.467	100		8.05	0
30	3435.98099	10	5	6	11	4	7	-0.468	100		1.78	0
40	3436.29080	13	1	12	14	1	13	0.0	1		0.81	0
40	3436.44000	12	2	10	13	2	11		0	B	1.28	0
20	3437.40100	7	5	2	7	4	3	-0.767	100		0.92	0
40	3437.47625	10	6	4	11	6	5	-0.012	100		1.10	0
40	3437.77000	11	3	8	12	3	9		0	B	0.65	0
40	3438.19032	5	2	3	6	4	2	0.396	100		3.16	0
40	3438.44686	11	4	8	12	4	9	0.0	100		1.77	0
40	3438.64076	14	0	14	15	0	15	0.0	1		0.94	0
40	3438.64076	14	1	14	15	1	15	0.0	1		0.94	0
30	3439.19500	5	1	4	5	4	1		0	B	0.80	0
20	3439.58055	6	5	1	6	4	2	1.198	10		0.90	0
40	3439.76000	9	8	2	10	8	3		0	B	0.71	0
40	3439.76000	9	8	1	10	8	2		0	B	0.71	0
40	3439.93793	4	2	3	5	4	2	0.181	10		0.91	0
20	3440.17163	5	5	0	5	4	1	-0.132	100		2.14	0
20	3440.39045	5	5	1	5	4	2	-1.184	1		0.60	0
20	3440.61318	6	5	2	6	4	3	0.051	100		1.61	0
20	3441.32550	8	5	4	8	4	5	-1.096	1		0.51	0
30	3442.07689	8	3	6	9	2	7	0.570	100		3.86	0
20	3442.17710	8	3	6	7	2	5	-0.605	100		1.41	0
30	3442.50324	4	2	3	5	3	2	-0.215	100		17.33	0
40	3442.78235	7	4	4	7	6	1	-1.401	1		0.85	0
40	3443.10253	10	5	5	11	5	6	0.019	100		2.74	0
30	3443.20350	8	1	7	9	2	8	-0.279	100		5.45	0
30	3445.15769	9	0	9	10	1	10	-0.236	100		13.92	0
30	3445.21965	9	1	9	10	0	10	-0.217	100		7.03	0
40	3446.31000	6	4	2	6	6	1		0	B	0.92	0
30	3446.88457	8	2	7	9	1	8	0.075	100		10.46	0
30	3446.94144	5	2	3	6	3	4	0.217	100		20.33	0
30	3447.07711	3	3	1	4	4	0	-0.178	100		18.83	0
30	3447.23730	3	3	0	4	4	1	-0.098	100		27.18	0
40	3448.40044	6	1	5	7	3	4	0.278	100		10.82	0
40	3448.69714	10	5	6	11	5	7	0.0	10		1.13	0
40	3453.13000	9	7	3	10	7	4		0	B	0.73	0
40	3455.78111	4	2	2	5	4	1	0.450	100		7.47	0
40	3456.25432	10	4	6	11	4	7	0.468	100		3.64	0
30	3456.75000	10	1	10	10	2	9		0	B	0.70	0
20	3457.58441	6	3	3	5	2	4	0.344	100		2.40	0
20	3458.05112	6	2	4	5	1	5	2.275	10		0.76	0
40	3458.54540	12	2	11	13	2	12	0.0	1		3.51	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-8} cm^{-1})	I
40	3458.54540	12	1	11	13	1	12	0.0	10		3.51	0
40	3458.59549	11	2	9	12	2	10	0.0	100		1.76	0
40	3458.76047	11	3	9	12	3	10	0.0	100		4.02	0
40	3460.40911	10	3	7	11	3	8	0.046	100		7.56	0
40	3460.59457	13	0	13	14	0	14	0.0	1		3.59	0
40	3460.59457	13	1	13	14	1	14	0.0	10		3.59	0
20	3461.10492	4	3	2	3	0	3	-0.321	100		1.27	0
20	3461.34426	4	4	1	3	3	0	-0.190	100		14.26	0
20	3461.55656	4	4	0	3	3	1	-0.242	100		7.28	0
40	3461.69898	10	4	7	11	4	8	0.0	100		1.83	0
30	3462.59132	4	2	2	5	3	3	-0.222	100		17.70	0
30	3462.81483	7	1	6	8	2	7	-0.289	100		15.86	0
40	3464.38032	9	6	3	10	6	4	0.164	10		0.95	0
40	3464.66812	9	6	4	10	6	5	0.111	100		2.93	0
20	3466.10273	8	4	4	9	1	9	0.889	100		4.47	0
30	3466.89465	8	1	8	9	0	9	-0.016	100		17.49	0
30	3467.14830	8	0	8	9	1	9	-0.503	100		7.80	0
30	3467.49507	5	0	5	5	3	2	0.965	100		2.48	0
40	3468.55846	3	2	2	4	4	1	0.164	100		3.89	0
30	3470.34100	7	2	6	8	1	7	0.241	100		7.92	0
40	3470.56451	9	4	5	10	4	6	-0.103	100		3.85	0
40	3471.70567	9	3	7	9	5	4	-0.115	1		0.72	0
40	3471.79463	9	5	4	10	5	5	-0.010	100		2.73	0
40	3473.29268	4	1	4	5	3	3	0.788	100		2.19	0
40	3473.36943	5	0	5	6	2	4	0.290	100		6.15	0
30	3473.47500	8	4	5	9	3	6		0	B	0.62	0
40	3474.73771	9	5	5	10	5	6	0.455	100		7.64	0
40	3474.78406	3	2	1	4	4	0	-0.131	100		2.07	0
30	3474.90612	7	3	5	8	2	6	0.521	100		1.82	0
30	3475.03296	3	2	2	4	3	1	0.033	100		20.16	0
30	3479.36633	9	1	9	9	2	8		0	A	5.05	0
40	3479.37055	8	7	1	9	7	2	0.130	10		5.05	0
40	3479.37055	8	7	2	9	7	3	-0.140	1		5.05	0
30	3479.64314	7	5	2	7	6	1	-0.812	100		0.84	0
30	3480.22054	10	2	9	10	3	8	-0.277	100		0.88	0
40	3480.39532	10	2	8	11	2	9	0.021	100		9.35	0
40	3480.59483	11	2	10	12	2	11	0.0	10		9.76	0
40	3480.59483	11	1	10	12	1	11	0.0	1		9.76	0
30	3480.62767	9	0	9	9	1	8	-0.074	10		3.14	0
30	3480.65408	6	1	5	7	2	6	-0.203	100		11.74	0
30	3480.76040	3	1	3	4	2	2	-0.142	100		12.59	0
40	3480.88592	10	3	8	11	3	9	0.0	100		4.56	0
30	3481.66141	6	5	2	6	6	1	0.429	100		1.53	0
30	3482.24699	3	2	1	4	3	2	0.081	100		24.80	0
40	3482.48158	12	0	12	13	0	13	0.0	10		8.68	0
40	3482.48158	12	1	12	13	1	13	0.0	1		8.68	0
40	3484.13156	9	3	6	10	3	7	0.0	100		10.34	0
20	3485.02974	5	4	2	4	3	1	0.567	100		5.09	0
40	3485.74079	9	4	6	10	4	7	-0.126	100		11.36	0
20	3486.46996	5	4	1	4	3	2	-0.128	100		9.86	0
30	3487.82195	10	1	9	10	2	8	-1.577	10		1.10	0
30	3488.02222	7	0	7	8	1	8	-0.017	100		16.58	0
30	3488.32062	7	1	7	8	0	8	-0.362	100		14.23	0
40	3488.35039	5	1	4	6	3	3	0.097	100		10.65	0
40	3490.55506	7	1	7	7	3	4	0.842	100		1.82	0
40	3491.00978	8	6	2	9	6	3	-0.498	100		6.60	0
40	3491.10168	8	6	3	9	6	4	0.128	100		2.91	0
30	3491.17465	4	0	4	4	3	1	-0.020	10		0.99	0
30	3491.89543	9	5	5	10	4	6	1.033	10		1.73	0
40	3493.43810	7	3	5	7	5	2	0.108	100		3.19	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
30	3495.17722	6	2	5	7	1	6	-0.229	100		17.61	0
30	3496.62476	5	1	4	6	2	5	0.149	100		21.68	0
20	3497.43985	5	3	3	4	0	4	0.0	1		0.77	0
40	3498.60221	6	3	4	6	5	1	0.070	100		1.77	0
40	3499.74684	8	5	3	9	5	4	-0.047	100		12.32	0
20	3499.92512	7	3	4	6	2	5	-0.151	100		2.38	0
30	3500.87274	9	2	8	9	3	7	0.711	10		0.70	0
40	3501.06278	8	5	4	9	5	5	-0.181	100		5.15	0
30	3501.22653	8	4	5	8	5	4	0.270	100		2.00	0
30	3501.46269	8	1	8	8	2	7	0.016	100		6.65	0
40	3501.56791	8	4	4	9	4	5	0.064	100		16.59	0
40	3501.82550	9	2	7	10	2	8	0.272	100		10.75	0
40	3502.22839	5	3	3	5	5	0	0.010	100		4.76	0
40	3502.40902	10	1	9	11	1	10	-0.931	10		15.62	0
40	3502.41903	10	2	9	11	2	10		0	A	15.62	0
40	3502.87495	9	3	7	10	3	8	-0.070	100		17.02	0
30	3503.27618	2	2	1	3	3	0	-0.181	100		31.70	0
20	3503.42256	8	4	4	8	1	7	0.655	1		0.91	0
40	3504.16577	11	1	11	12	1	12	2.137	1		17.33	0
40	3504.16577	11	0	11	12	0	12		0	A	17.33	0
30	3504.34280	7	4	4	7	5	3	-0.237	100		1.49	0
30	3504.46689	8	0	8	8	1	7	0.503	100		2.13	0
30	3504.75015	2	2	0	3	3	1	0.077	100		22.17	0
40	3505.55497	7	7	0	8	7	1	0.515	1		3.83	0
40	3505.55497	7	7	1	8	7	2	0.682	10		3.83	0
30	3505.86534	6	4	3	6	5	2	0.203	100		6.17	0
30	3505.95209	3	0	3	3	3	0	1.480	10		1.56	0
40	3506.07847	5	3	2	5	5	1	0.711	100		2.56	0
20	3506.70250	6	4	3	5	3	2	0.133	100		5.38	0
30	3508.83628	6	0	6	7	1	7	-0.195	100		18.36	0
40	3509.42164	8	3	5	9	3	6	-0.165	100		23.03	0
30	3509.55985	6	1	6	7	0	7	0.297	100		25.74	0
30	3510.49995	6	3	4	7	2	5	0.048	100		3.74	0
40	3510.65306	8	4	5	9	4	6	0.057	100		10.46	0
30	3511.59422	4	1	3	5	2	4	-0.169	100		18.82	0
20	3512.08445	6	4	2	5	3	3	-0.043	100		2.04	0
30	3512.61017	7	4	3	7	5	2	0.583	100		1.39	0
40	3513.07121	3	1	3	4	3	2	0.377	100		11.58	0
30	3513.31000	6	4	2	6	5	1		0	B	0.62	0
30	3513.83236	7	4	4	8	3	5	0.0	100		2.43	0
30	3514.04550	9	1	8	9	2	7	0.154	100		2.62	0
30	3514.16503	5	4	1	5	5	0	-0.052	100		2.45	0
40	3517.42652	7	6	1	8	6	2	0.0	10		4.52	0
40	3517.45019	7	6	2	8	6	3	0.074	100		9.70	0
20	3518.44738	6	6	1	6	5	2	0.140	10		0.96	0
20	3518.52309	6	6	0	6	5	1	2.825	1		0.94	0
40	3518.99208	4	1	3	5	3	2	0.282	100		20.49	0
30	3519.03220	9	4	5	9	5	4	2.040	1		0.48	0
30	3519.84818	8	2	7	8	3	6	0.059	100		5.84	0
20	3520.23754	7	2	5	6	1	6	-1.138	10		0.76	0
40	3521.11525	7	2	6	7	4	3	0.669	100		5.05	0
30	3521.29020	8	3	6	8	4	5	-0.133	100		4.05	0
30	3522.22612	5	2	4	6	1	5	0.091	100		13.02	0
30	3522.74077	2	1	2	3	2	1	0.079	100		21.91	0
30	3522.77532	7	1	7	7	2	6	0.438	100		5.21	0
40	3523.14091	8	2	6	9	2	7	0.223	100		22.84	0
40	3523.97302	9	1	8	10	1	9	-0.470	100		14.89	0
40	3524.10186	9	2	8	10	2	9	-0.152	100		22.93	0
40	3524.83581	8	3	6	9	3	7	-0.127	100		16.01	0
20	3525.02220	7	4	4	6	3	3	0.0	10		1.35	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3525.63886	10	1	10	11	1	11	-0.476	1		22.62	0
40	3525.63886	10	0	10	11	0	11	0.749	10		22.62	0
30	3526.39222	9	5	4	10	4	7	0.030	10		2.49	0
40	3527.00860	7	5	2	8	5	3	0.061	10		36.80	0
30	3527.03155	3	1	2	4	2	3	-0.851	100		36.80	0
40	3527.49548	7	5	3	8	5	4	-0.024	100		17.78	0
30	3527.97052	7	0	7	7	1	6	0.046	100		10.99	0
40	3528.12054	4	0	4	5	2	3	0.108	100		19.21	0
30	3529.05635	5	0	5	6	1	6	-0.489	100		26.66	0
30	3529.22194	8	5	4	9	4	5	-0.324	100		7.32	0
30	3530.07403	7	3	5	7	4	4	0.196	100		3.30	0
30	3530.76030	5	1	5	6	0	6	-0.228	100		21.58	0
40	3531.37536	7	4	3	8	4	4	-0.130	100		16.83	0
40	3533.52515	9	1	9	10	1	10		10		0.98	2
40	3534.26895	6	1	6	6	3	3	0.285	100		2.56	0
30	3536.18491	6	3	4	6	4	3	0.133	100		12.35	0
40	3536.26617	7	4	4	8	4	5	-0.020	100		24.70	0
40	3536.52594	7	3	4	8	3	5	0.067	10		24.18	0
30	3536.53748	7	2	6	7	3	5		0	A	24.18	0
40	3536.87000	11	0	11	11	2	10		0	B	0.88	0
40	3537.17092	11	1	11	11	1	10		0	A	3.33	0
40	3537.17384	8	3	5	8	5	4		0	A	3.33	0
30	3537.73079	9	6	3	10	5	6	-1.846	10		0.90	0
40	3538.78331	6	2	5	6	4	2	-0.251	100		5.12	0
20	3539.37735	8	4	5	7	3	4	0.042	100		1.27	0
20	3539.41537	7	4	3	6	3	4	-0.026	100		3.03	0
20	3539.61655	6	3	4	5	0	5	1.538	100		1.08	0
30	3540.17269	5	3	3	5	4	2	-0.027	100		7.74	0
30	3540.67668	8	1	7	8	2	6	0.467	100		2.75	0
30	3542.73113	4	3	2	4	4	1	0.166	100		12.86	0
30	3542.89168	6	1	6	6	2	5	0.322	100		15.41	0
40	3543.01945	3	1	2	4	3	1	0.325	100		11.53	0
30	3543.59705	5	3	2	5	4	1	0.049	100		14.83	0
40	3543.65946	6	6	0	7	6	1	-0.367	10		13.99	0
40	3543.66294	6	6	1	7	6	2		0	A	13.99	0
30	3543.71889	4	3	1	4	4	0	0.369	100		7.16	0
30	3544.16310	2	1	1	3	2	2	0.270	100		18.25	0
40	3545.03796	7	2	5	8	2	6	-0.290	100		22.82	0
40	3545.22341	8	1	7	9	1	8	-0.306	100		28.95	0
40	3545.55169	8	2	7	9	2	8	-0.155	100		19.46	0
20	3545.99296	9	6	3	10	3	8	0.440	100		1.92	0
40	3546.50030	6	4	2	7	4	3		1		0.60	2
40	3546.89500	9	0	9	10	0	10		0	B	36.72	0
40	3546.89761	9	1	9	10	1	10	1.081	10		36.72	0
40	3547.15778	7	3	5	8	3	6	-0.219	100		26.80	0
30	3547.51500	5	3	3	6	2	4		0	B	0.60	0
40	3548.35734	2	1	2	3	3	1	0.268	100		5.38	0
30	3548.39165	4	0	4	5	1	5	0.205	100		22.07	0
30	3548.51881	8	5	3	9	4	6	-0.740	10		2.32	0
30	3550.20388	9	4	5	10	3	8	-0.315	100		1.23	0
30	3550.41244	6	2	5	6	3	4	0.016	100		17.10	0
30	3550.43103	6	3	3	6	4	2		0	A	17.10	0
30	3551.85762	4	2	3	5	1	4	0.140	100		21.33	0
30	3552.10789	6	4	3	7	3	4	-0.185	100		23.86	0
30	3552.22791	4	1	4	5	0	5	-0.490	100		34.30	0
30	3552.40971	6	0	6	6	1	5	0.070	100		9.28	0
30	3552.80709	8	4	4	9	3	7	-0.204	100		4.66	0
40	3553.41236	7	2	6	8	2	7		100		1.43	2
40	3553.73807	6	5	1	7	5	2	-0.181	10		27.47	0
30	3553.75528	7	3	4	7	4	3		0	A	27.47	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3553.87967	6	5	2	7	5	3	0.082	100		14.79	0
40	3554.34951	6	2	4	7	2	5		100		1.99	2
40	3554.44453	8	0	8	9	0	9		100		0.96	2
30	3554.77982	9	2	7	9	3	6	0.587	100		2.54	0
40	3555.13210	5	2	4	5	4	1	1.170	10		0.72	0
30	3557.12985	1	1	1	2	2	0	-0.119	100		23.31	0
30	3557.29730	1	1	0	2	2	1		10		0.64	2
30	3557.55217	8	3	5	8	4	4	0.341	100		1.22	0
30	3557.99866	9	3	6	9	4	5	0.257	100		2.50	0
40	3559.11499	10	0	10	10	2	9	0.114	100		4.17	0
40	3559.73711	10	1	10	10	1	9	0.161	100		1.27	0
40	3560.13292	6	4	2	7	4	3	-0.009	100		39.81	0
30	3561.16361	5	2	4	5	3	3	-0.086	100		10.67	0
30	3561.24774	5	1	5	5	2	4	-0.071	100		11.64	0
40	3561.91790	4	2	3	4	4	0	0.467	10		0.79	0
40	3562.32030	6	4	3	7	4	4	-0.151	100		20.79	0
20	3562.36951	5	5	1	4	4	0	0.012	100		3.18	0
20	3562.40487	5	5	0	4	4	1	0.055	100		7.04	0
	3563.18933								100		2.24	
30	3563.59013	1	1	0	2	2	1	-0.291	100		43.44	0
40	3563.96631	2	1	1	3	3	0	0.847	100		16.26	0
30	3564.06067	7	5	3	8	4	4	0.150	100		3.90	0
20	3564.68998	6	6	1	7	3	4	-0.299	100		17.36	0
40	3565.67267	6	3	3	7	3	4	-0.215	100		33.88	0
30	3566.00496	7	1	6	7	2	5	-0.064	100		12.50	0
40	3566.08050	7	1	6	8	1	7	-0.211	100		27.40	0
30	3566.33063	7	4	3	8	3	6	-0.524	100		19.50	0
30	3566.53365	3	0	3	4	1	4	0.375	100		36.50	0
40	3566.75280	7	2	6	8	2	7	-0.038	100		44.00	0
40	3567.92235	8	0	8	9	0	9		0	A	58.94	0
40	3567.93592	8	1	8	9	1	9		0	A	58.94	0
40	3568.08359	5	1	5	5	3	2	0.047	100		12.27	0
40	3568.28983	6	2	4	7	2	5	-0.218	100		58.72	0
30	3568.79852	4	2	3	4	3	2	-0.091	100		22.22	0
40	3570.54039	6	3	4	7	3	5	0.345	100		33.98	0
30	3572.74892	8	2	6	8	3	5	-0.323	100		2.48	0
20	3572.86057	7	6	1	8	3	6	0.020	10		0.76	0
40	3572.94955	6	1	5	7	1	6		100		2.02	2
30	3573.12754	7	5	2	8	4	5	-0.011	100		9.55	0
30	3573.65616	3	2	2	3	3	1	0.177	100		12.59	0
40	3574.24935	6	2	5	7	2	6		1		0.53	2
30	3574.48706	3	1	3	4	0	4	-0.168	100		24.34	0
40	3574.92141	5	4	2	6	4	3		10		1.50	2
40	3575.05007	3	0	3	4	2	2	0.186	100		17.35	0
40	3575.12740	7	0	7	8	0	8		10		0.52	2
40	3575.16901	7	1	7	8	1	8		100		1.92	2
30	3576.85088	5	0	5	5	1	4	-0.110	100		20.61	0
30	3577.21312	4	1	4	4	2	3	-0.073	100		22.58	0
40	3578.01434	4	2	2	4	4	1	0.647	100		4.60	0
40	3579.07357	5	2	3	6	2	4		10		0.91	2
30	3579.34507	3	2	1	3	3	0	0.103	100		21.14	0
40	3580.06540	5	5	0	6	5	1	0.326	100		15.37	0
40	3580.09465	5	5	1	6	5	2	-0.281	100		21.70	0
40	3581.04062	9	0	9	9	2	8	0.234	100		3.98	0
40	3581.12814	10	1	9	10	3	8	0.135	100		3.43	0
40	3581.54970	5	4	2	6	4	3		1		0.46	1
40	3581.89324	7	1	7	8	1	8		1		0.52	1
40	3582.36878	9	1	9	9	1	8	0.052	100		10.30	0
40	3582.45597	5	3	3	6	3	4		100		1.87	2
30	3582.71671	4	2	2	4	3	1	0.092	100		15.90	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g	W (10^{-3} cm^{-1})	I
30	3583.37832	3	2	2	4	1	3	0.238	100	10.78	0
30	3583.66351	2	0	2	3	1	3	0.020	100	25.19	0
30	3583.70977	7	2	5	7	3	4	0.042	100	13.20	0
30	3585.24779	6	4	2	7	3	5	−0.116	100	19.94	0
40	3585.85605	5	2	3	5	4	2	0.579	100	3.37	0
40	3586.54398	6	1	5	7	1	6	−0.598	100	53.48	0
40	3586.60360	5	3	2	6	3	3	0.049	100	30.18	0
40	3586.95512	6	2	5	7	2	6	0.311	100	35.95	0
20	3586.99741	6	5	2	5	4	1	−0.434	100	5.08	0
30	3587.10823	5	2	3	5	3	2	−0.076	100	18.75	0
20	3587.24778	6	5	1	5	4	2	−0.120	100	1.61	0
30	3587.48847	6	1	5	6	2	4	−0.038	100	10.89	0
40	3587.77917	5	4	1	6	4	2	0.009	100	32.85	0
30	3587.97547	6	2	4	6	3	3	−0.372	100	8.82	0
40	3588.54732	5	4	2	6	4	3	0.098	100	39.18	0
40	3588.71055	7	0	7	8	0	8	0.077	100	72.70	0
40	3588.75010	7	1	7	8	1	8	0.104	100	72.70	0
40	3589.59183	10	2	9	10	2	8	−0.247	100	1.12	0
40	3589.72429	10	2	8	10	4	7	−0.404	100	1.63	0
30	3590.23841	3	1	3	3	2	2	−0.137	100	17.87	0
30	3590.43139	6	3	3	7	2	6		10	1.00	2
30	3590.68189	2	1	2	3	0	3		1	0.63	2
30	3590.86300	7	6	2	8	5	3	−0.507	10	0.63	0
30	3591.60888	7	6	1	8	5	4	−0.062	100	2.46	0
30	3592.01742	4	0	4	4	1	3		10	0.55	2
30	3592.01742	5	3	2	6	2	5		10	0.55	2
40	3593.19779	5	2	3	6	2	4	−0.146	100	36.12	0
40	3593.41938	4	1	4	4	3	1	−0.208	100	1.82	0
30	3593.79069	5	0	5	4	3	2	0.749	1	0.77	0
40	3593.97444	6	2	4	6	4	3	0.217	100	10.47	0
30	3594.06120	1	0	1	2	1	2		1	0.74	2
40	3595.32633	5	3	3	6	3	4	−0.093	100	48.39	0
30	3595.48287	6	5	2	7	4	3	−0.178	100	11.51	0
40	3595.55280	6	0	6	7	0	7		100	3.76	2
40	3595.66493	6	1	6	7	1	7		10	1.48	2
30	3596.23787	5	4	2	6	3	3	0.237	100	26.95	0
30	3598.13560	2	1	2	3	0	3	−0.042	100	42.70	0
30	3598.60350	6	3	3	7	2	6	−0.097	100	23.20	0
40	3598.91004	9	2	7	9	4	6	−0.589	100	1.82	0
30	3598.97658	6	5	1	7	4	4	−0.163	100	5.05	0
71	3599.05718	4	2	2	5	2	3		10	1.31	0
30	3599.39204	7	3	4	8	2	7	0.082	100	12.20	0
30	3599.52021	4	0	4	4	1	3	−0.015	100	18.00	0
40	3599.79456	5	2	4	6	2	5		100	2.65	2
30	3599.99557	2	1	2	2	2	1	−0.050	100	25.20	0
40	3600.20514	7	2	5	7	4	4	0.116	100	4.67	0
40	3600.72376	4	4	0	5	4	1		1	0.74	2
40	3600.75931	9	1	8	9	3	7	0.206	100	3.30	0
30	3600.95753	1	0	1	2	1	2	−0.030	100	42.68	0
30	3601.02679	5	3	2	6	2	5	−0.077	100	35.38	0
40	3601.98138	6	0	6	7	0	7		10	1.07	1
40	3602.35347	8	2	6	8	4	5	0.270	100	7.55	0
40	3602.49032	8	0	8	8	2	7	0.084	100	18.39	0
30	3603.02581	5	1	4	5	2	3	0.071	100	26.44	0
20	3604.00533	5	5	0	5	2	3	2.250	1	1.53	0
40	3604.24316	4	3	1	5	3	2		100	2.41	2
40	3605.25520	8	1	8	8	1	7	0.321	100	8.91	0
40	3605.38284	4	2	2	5	2	3		100	4.39	2
40	3606.99360	5	1	4	6	1	5	0.188	100	41.77	0
30	3607.26279	5	4	1	6	3	4	0.024	100	32.64	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-6} cm^{-1})	I
71	3607.42065	4	1	3	5	1	4		100		1.27	0
40	3607.82762	4	3	2	5	3	3		10		1.09	2
40	3608.04468	11	3	9	11	3	8	-0.458	10		1.04	0
30	3608.76567	3	1	2	3	2	1		1		0.63	2
30	3608.94336	8	3	5	9	2	8	0.780	1		1.41	0
40	3609.23347	6	0	6	7	0	7	0.395	100		70.10	0
40	3609.33909	6	1	6	7	1	7	-0.248	100		47.75	0
40	3610.16927	3	1	3	3	3	0	0.420	100		8.35	0
20	3610.76500	7	5	3	6	4	2		0	B	1.04	0
20	3611.91171	7	5	2	6	4	3	0.767	100		1.99	0
30	3612.02343	4	1	3	4	2	2	0.067	100		19.63	0
40	3612.07071	4	2	2	5	2	3		10		1.32	1
40	3612.56263	5	2	4	6	2	5	0.255	100		76.22	0
40	3613.05686	2	0	2	3	2	1	0.469	100		27.20	0
30	3614.30081	2	1	1	2	2	0	0.011	100		18.79	0
40	3614.38014	4	1	3	5	1	4		100		5.59	2
40	3614.51000	4	4	0	5	4	1	-0.075	100		44.80	0
40	3614.70227	4	4	1	5	4	2	-0.279	100		25.21	0
30	3615.23651	3	1	2	3	2	1	0.364	100		38.49	0
30	3615.32876	2	2	1	3	1	2	0.346	100		13.60	0
30	3615.64488	4	3	1	5	2	4	-0.134	100		9.00	0
40	3615.67149	5	0	5	6	0	6		1		2.22	2
40	3615.81462	9	2	8	9	2	7	-0.054	100		8.11	0
40	3615.93370	5	1	5	6	1	6		100		5.78	2
40	3617.65164	4	3	1	5	3	2	-0.194	100		48.20	0
30	3618.00653	3	0	3	3	1	2	0.146	100		34.35	0
	3618.03918								1		3.61	
40	3618.18695	8	1	7	8	3	6	-0.251	100		15.44	0
30	3618.22740	6	6	0	7	5	3	1.980	10		1.06	0
40	3619.61223	4	2	2	5	2	3	-0.084	100		79.92	0
30	3619.91636	0	0	0	1	1	1	0.0	100		20.97	0
40	3620.04093	4	2	3	5	2	4		100		1.72	2
40	3620.94430	4	1	3	5	1	4		10		0.98	1
40	3621.18063	4	3	2	5	3	3	0.091	100		27.62	0
40	3622.38407	5	1	5	6	1	6		10		1.72	1
40	3623.16563	7	0	7	7	2	6	0.497	100		14.19	0
30	3623.20300	1	1	1	2	0	2	0.049	100		17.61	0
30	3624.12420	5	5	1	6	4	2	-0.339	100		3.93	0
71	3625.12743	3	3	1	4	3	2		1		0.74	0
30	3625.17927	5	5	0	6	4	3	0.037	100		9.69	0
30	3626.20622	4	4	1	5	3	2	-0.278	100		31.98	0
	3627.78338								1		0.43	
40	3628.34760	4	1	3	5	1	4	-0.504	100		91.63	0
40	3628.69822	7	1	7	7	1	6	0.347	100		22.52	0
40	3629.44690	5	0	5	6	0	6	-0.049	100		46.70	0
40	3629.64366	5	1	5	6	1	6	-0.198	100		86.07	0
71	3629.90396	4	0	4	5	0	5		100		2.02	0
71	3630.14891	4	1	4	5	1	5		1		0.62	0
30	3630.76629	2	0	2	2	1	1	-0.001	100		24.39	0
30	3630.83045	4	4	0	5	3	3	-0.273	100		22.48	0
30	3631.02613	1	0	1	1	1	0		1		0.84	2
	3631.99463								1			
40	3632.27671	7	1	6	7	3	5	-0.184	100		13.64	0
40	3632.41437	3	3	0	4	3	1		10		0.82	2
20	3632.79496	8	5	4	7	4	3	1.096	1		0.80	0
40	3632.87041	3	2	1	4	2	2		100		2.23	2
40	3633.57366	3	3	1	4	3	2		100		2.41	2
40	3633.84374	4	2	3	5	2	4	0.115	100		34.35	0
30	3634.98251	3	3	0	4	2	3	0.148	100		8.00	0
40	3635.41668	4	0	4	5	0	5		100		7.49	2

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g	W (10^{-3} cm^{-1})	I
71	3636.23423	3	2	2	4	2	3		10	0.95	0
40	3637.15202	4	1	4	5	1	5		100	2.88	2
40	3637.22544	3	1	2	4	1	3		100	3.11	2
30	3638.08223	1	0	1	1	1	0	0.030	100	32.67	0
40	3639.57900	3	2	1	4	2	2		1	0.58	1
30	3639.92563	3	2	1	4	1	4		0 A	18.14	0
30	3639.93384	4	2	2	5	1	5	0.187	10	18.14	0
40	3641.64268	3	1	2	3	3	1	0.439	100	9.49	0
40	3641.77843	6	1	5	6	3	4	0.417	100	24.05	0
40	3641.93298	4	0	4	5	0	5		100	2.06	1
40	3642.29802	3	2	2	4	2	3		100	5.61	2
40	3642.56603	6	0	6	6	2	5	-0.311	100	25.84	0
40	3643.02536	8	2	7	8	2	6	0.101	100	7.61	0
40	3643.32937	1	0	1	2	2	0	0.024	100	17.09	0
40	3643.39959	4	1	4	5	1	5		1	1.08	1
40	3643.87141	3	1	2	4	1	3		1	0.73	1
40	3645.28749	4	1	3	4	3	2	0.275	100	23.90	0
40	3645.93128	5	1	4	5	3	3	-0.179	100	17.64	0
40	3646.46380	3	3	0	4	3	1	-0.057	100	29.35	0
40	3647.13863	3	2	1	4	2	2	0.233	100	46.60	0
40	3647.55305	3	3	1	4	3	2	0.183	100	49.10	0
30	3647.69113	2	2	0	3	1	3	-0.193	10	0.68	0
30	3648.66809	5	2	3	6	1	6	-0.111	100	19.68	0
40	3648.87875	3	2	2	4	2	3		10	1.56	1
40	3649.28271	4	0	4	5	0	5	0.608	100	114.37	0
40	3650.63637	4	1	4	5	1	5	0.027	100	56.07	0
40	3651.36553	3	1	2	4	1	3	-0.190	100	47.50	0
71	3651.54650	3	1	3	4	1	4		100	2.46	0
40	3652.91260	6	1	6	6	1	5	-0.063	100	18.07	0
71	3654.31934	2	2	0	3	2	1		10	1.42	0
40	3654.80613	3	0	3	4	0	4		100	3.70	2
40	3655.75809	7	2	6	7	2	5		100	2.52	2
40	3656.30398	3	2	2	4	2	3	0.100	100	97.92	0
40	3656.73492	3	1	3	4	1	4		100	8.37	2
40	3659.93508	5	0	5	5	2	4	-0.632	100	23.41	0
30	3660.37507	3	1	3	2	2	0	0.655	100	2.11	0
40	3660.70082	2	2	0	3	2	1		100	4.28	2
40	3661.37173	3	0	3	4	0	4		1	0.66	1
30	3661.67543	5	1	5	4	2	2	1.685	10	0.89	0
40	3661.77633	2	1	1	3	1	2		100	8.21	2
30	3663.04448	6	2	4	7	1	7	0.225	100	3.07	0
40	3663.32129	3	1	3	4	1	4		100	1.98	1
20	3664.96971	6	6	1	5	5	0	0.264	100	1.66	0
20	3665.08546	6	6	0	5	5	1	-0.283	10	1.29	0
40	3665.32204	2	2	1	3	2	2		100	1.86	2
30	3665.41880	4	1	4	3	2	1	0.422	100	3.95	0
30	3665.82921	5	3	2	4	4	1	1.316	10	1.22	0
30	3665.89606	4	2	3	3	3	0	0.472	100	2.74	0
40	3666.08415	9	3	7	9	3	6	-0.265	100	7.80	0
40	3667.40219	2	2	0	3	2	1		10	1.01	1
40	3668.47182	2	1	1	3	1	2		100	1.76	1
40	3668.77702	3	0	3	4	0	4	-0.130	100	71.01	0
71	3668.93964	2	0	2	3	0	3		1	3.15	0
40	3669.94326	7	2	6	7	2	5	-0.143	100	23.09	0
40	3670.75122	3	1	3	4	1	4	-1.075	100	137.51	0
40	3674.26940	4	0	4	4	2	3	-0.455	100	30.86	0
40	3674.34752	2	0	2	3	0	3		100	9.26	2
30	3674.69707	1	1	0	1	0	1	0.291	100	29.09	0
40	3674.95887	2	2	0	3	2	1	-0.553	100	76.22	0
40	3676.02048	2	1	1	3	1	2	-0.217	100	102.23	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3677.17599	2	1	2	3	1	3		100		3.60	2
40	3677.43858	5	1	5	5	1	4	-0.208	100		31.59	0
40	3679.43656	2	2	1	3	2	2	0.063	100		38.87	0
30	3680.37442	2	1	1	2	0	2	-0.281	100		23.36	0
40	3680.97625	2	0	2	3	0	3		100		2.22	1
30	3681.29000	5	2	4	4	3	1		0	B	0.73	0
30	3681.33963	4	2	2	3	3	1	0.517	100		1.73	0
40	3681.54674	10	8	2	10	8	3	0.0	1		0.94	0
71	3681.71223	1	1	0	2	1	1		1		0.76	0
30	3681.90497	7	2	5	8	1	8	-0.856	100		2.99	0
30	3682.56930	6	3	4	5	4	1	-0.512	10		1.17	0
40	3683.81500	2	1	2	3	1	3		0	B	0.76	1
40	3683.93508	7	1	7	6	3	4	-1.048	100		1.23	0
40	3684.24429	9	8	1	9	8	2	0.0	1		3.10	0
40	3684.24429	9	8	2	9	8	1	-0.073	10		3.10	0
40	3684.52825	3	0	3	3	2	2	0.021	100		26.00	0
40	3686.45073	6	2	5	5	4	2	-1.759	1		0.34	0
40	3686.71272	8	8	1	8	8	0	0.0	1		6.99	0
40	3686.71272	8	8	0	8	8	1	0.0	10		6.99	0
40	3687.51266	1	1	0	2	1	1		100		2.56	2
40	3688.45213	2	0	2	3	0	3	-0.092	100		126.79	0
30	3688.80517	2	0	2	1	1	1	-0.019	100		13.69	0
71	3689.90798	1	0	1	2	0	2		1		0.99	0
40	3690.31232	2	0	2	2	2	1	-0.320	100		25.16	0
20	3690.37765	7	6	1	6	5	2	0.0	10		1.47	0
30	3690.63157	3	1	2	3	0	3	0.013	100		26.40	0
40	3690.90951	8	3	6	8	3	5	0.380	100		7.61	0
30	3691.06254	4	2	2	4	1	3	-0.173	100		10.94	0
40	3691.29863	2	1	2	3	1	3	-0.312	100		66.43	0
30	3691.39841	3	2	1	3	1	2	-0.130	100		23.88	0
40	3691.85000	6	1	6	5	3	3	-0.151	100		1.17	0
30	3692.49107	3	1	2	2	2	1	0.475	100		11.30	0
71	3692.69995	1	1	1	2	1	2		100		2.48	0
30	3693.29399	1	1	1	0	0	0	0.070	100		20.40	0
40	3693.79027	6	2	5	6	2	4	-0.284	100		1.92	0
40	3694.23000	1	1	0	2	1	1		0	B	0.45	1
40	3694.29000	10	7	4	10	7	3		0	B	0.91	0
40	3694.35249	10	7	3	10	7	4	0.0	1		1.35	0
40	3694.37866	5	1	5	4	3	2	0.381	100		3.91	0
30	3694.79382	2	2	0	2	1	1	-0.124	100		16.26	0
40	3695.16327	1	0	1	2	0	2		100		4.42	2
40	3695.62823	7	2	6	6	4	3	-0.067	100		1.28	0
30	3696.46297	5	2	3	5	1	4	-0.082	100		29.12	0
40	3696.88739	9	7	2	9	7	3	0.140	1		5.52	0
40	3696.88739	9	7	3	9	7	2	0.259	10		5.52	0
40	3697.99684	1	1	1	2	1	2		100		7.00	2
30	3698.10000	6	3	3	5	4	2		0	B		0
40	3699.26845	8	7	2	8	7	1	0.360	1		14.03	0
40	3699.26845	8	7	1	8	7	2	0.392	10		14.03	0
40	3699.49568	11	5	7	11	5	6	-1.864	1		0.88	0
30	3700.03672	7	3	5	6	4	2	1.204	1		0.50	0
71	3700.72939	3	1	3	3	1	2		1		0.84	0
40	3701.43145	7	7	0	7	7	1	-0.515	1		20.99	0
40	3701.43145	7	7	1	7	7	0	-0.682	10		20.99	0
40	3701.60389	11	6	6	11	6	5	1.224	1		0.77	0
40	3701.76554	4	1	4	4	1	3	-0.803	100		95.30	0
40	3701.80580	1	1	0	2	1	1	0.184	100		95.30	0
40	3701.85500	1	0	1	2	0	2		0	B		1
30	3702.58276	7	3	4	7	2	5	-0.282	100		16.63	0
40	3702.90345	2	2	1	2	2	0		1		0.63	3

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-5} cm^{-1})	g		W (10^{-5} cm^{-1})	I
30	3703.58938	5	3	3	6	0	6	1.429	10		1.44	0
40	3703.66500	2	2	0	2	2	1		0	B	0.50	3
40	3703.81543	6	3	3	7	1	6	-0.311	100		1.27	0
40	3704.67445	1	1	1	2	1	2		100		1.76	1
40	3705.08873	5	2	4	5	2	3		100		0.98	2
40	3705.35533	10	6	5	10	6	4	-0.164	10		0.86	0
30	3705.43828	6	3	3	6	2	4	-0.322	100		18.40	0
30	3705.49110	4	3	2	5	0	5	0.025	100		3.93	0
40	3705.68316	8	0	8	7	2	5	-2.401	1		0.98	0
30	3705.75014	4	1	3	4	0	4	-0.010	100		16.89	0
30	3706.41718	8	3	5	8	2	6	-0.568	100		2.47	0
40	3706.55170	10	6	4	10	6	5	-0.099	100		2.21	0
30	3706.61890	6	2	4	6	1	5	-0.500	100		10.62	0
30	3706.66681	6	3	4	7	0	7	-0.262	100		2.92	0
40	3706.84133	9	4	6	9	4	5	-0.040	100		9.19	0
30	3707.42752	5	3	2	5	2	3	0.165	100		4.64	0
40	3707.68034	3	1	3	3	1	2		100		2.65	2
40	3708.25815	9	6	4	9	6	3	0.010	100		7.14	0
40	3708.59763	9	6	3	9	6	4	-0.145	100		3.39	0
30	3709.19863	2	2	1	2	1	2	-0.108	100		22.44	0
40	3709.40270	1	0	1	2	0	2	0.012	100		85.93	0
40	3709.77800	10	5	6	10	5	5	0.102	10		1.24	0
40	3710.70562	8	6	3	8	6	2	-0.128	100		8.19	0
40	3710.78157	8	6	2	8	6	3	-0.799	100		15.77	0
40	3710.91759	7	3	5	7	3	4	-0.588	100		24.62	0
30	3711.10303	2	1	2	1	0	1	0.013	100		32.42	0
40	3711.45395	6	5	1	6	5	2		10		0.68	2
30	3711.87654	3	0	3	2	1	2	-0.447	100		30.19	0
40	3712.20535	1	1	1	2	1	2	0.065	100		117.73	0
	3712.42760								10		1.16	
71	3712.70941	0	0	0	1	0	1		100		1.61	0
40	3712.87151	7	6	2	7	6	1	-3.325	1		32.75	0
40	3712.87873	7	6	1	7	6	2		0	A	32.75	0
40	3712.99259	5	5	1	5	5	0		10		3.31	2
40	3712.99259	5	5	0	5	5	1		10		3.31	2
30	3713.15863	3	3	1	4	0	4	-0.132	10		0.68	0
30	3713.40460	5	2	3	4	3	2	-1.042	10		4.38	0
30	3713.41257	9	4	5	9	3	6		0	A	4.38	0
40	3713.96818	7	4	4	7	4	3		1		0.26	2
30	3713.96818	3	3	0	3	2	1		1		0.26	2
40	3714.51500	3	1	3	3	1	2		1		0.45	1
40	3714.78953	6	6	1	6	6	0		0	A	33.23	0
40	3714.79558	6	6	0	6	6	1	-0.487	10		33.23	0
	3714.88142								10		1.54	
30	3716.07500	4	3	1	4	2	2		0	B	0.39	0
40	3716.16026	9	5	5	9	5	4	-0.347	100		10.10	0
30	3716.31361	9	3	6	9	2	7	-0.569	100		2.68	0
30	3716.59740	3	2	2	3	1	3	-0.353	100		15.91	0
40	3717.81198	0	0	0	1	0	1		100		7.37	2
30	3718.88100	8	4	4	8	3	5	0.094	100		3.69	0
40	3718.96395	5	2	4	5	2	3	-0.093	100		39.80	0
40	3719.76240	8	4	5	8	4	4	-0.100	100		11.29	0
40	3720.13170	8	5	4	8	5	3	0.261	100		9.40	0
40	3721.16429	5	4	2	5	4	1		10		3.30	2
30	3721.50140	4	1	3	3	2	2	0.112	100		6.26	0
40	3721.51944	9	5	4	9	5	5		0	A	0.0	0
40	3721.72471	5	4	1	5	4	2		10		1.01	2
30	3721.85238	7	2	5	7	1	6	0.097	100		11.05	0
40	3721.87777	8	5	3	8	5	4	-0.278	100		17.61	0
40	3722.10908	5	3	3	5	3	2		100		2.16	2

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3722.22288	3	1	3	3	1	2	-0.084	100		44.45	0
71	3722.32721	3	3	1	3	3	0		100		2.39	0
71	3722.69154	3	3	0	3	3	1		10		0.44	0
71	3722.75564	4	3	1	4	3	2		10		0.57	0
40	3722.82717	7	5	3	7	5	2	-0.251	100		23.99	0
40	3722.87199	4	4	0	4	4	1		100		5.17	2
30	3723.18845	3	3	0	3	2	1	0.384	100		1.71	0
40	3723.27371	7	5	2	7	5	3	-0.546	100		19.32	0
40	3723.37900	10	5	5	10	5	6	-0.289	100		2.72	0
30	3723.83215	8	3	6	9	0	9	1.660	1		0.35	0
40	3723.95624	2	1	2	2	1	1		100		1.59	2
30	3724.18882	5	1	4	5	0	5	-0.269	100		19.10	0
40	3724.54477	0	0	0	1	0	1		100		1.50	1
40	3724.89418	6	5	2	6	5	1	0.017	100		25.30	0
40	3724.97479	6	5	1	6	5	2	-0.269	100		32.40	0
40	3725.68616	6	3	4	6	3	3	-0.149	100		19.27	0
30	3726.44925	3	1	3	2	0	2	-0.208	100		21.02	0
30	3726.47738	4	2	3	4	1	4	-0.393	100		21.12	0
40	3726.61682	5	5	1	5	5	0		0	A	49.86	0
40	3726.62498	5	5	0	5	5	1		0	A	49.86	0
40	3727.00571	4	3	1	5	1	4	0.471	100		3.37	0
40	3727.63387	5	4	2	5	4	1		1		0.95	1
40	3727.73824	7	4	4	7	4	3	-0.438	100		19.95	0
40	3728.17916	5	4	1	5	4	2		1		0.40	1
71	3728.86346	2	2	1	2	2	0		10		1.25	0
30	3728.90952	3	3	1	3	2	2	0.360	100		2.75	0
71	3729.25644	1	1	1	1	1	0		100		2.45	0
40	3729.33000	4	4	1	4	4	0		0	B	0.44	1
40	3729.39315	4	4	0	4	4	1		10		0.77	1
40	3730.00063	7	0	7	6	2	4	0.052	100		0.92	0
30	3730.09007	7	4	3	7	3	4	-0.523	100		19.63	0
40	3730.11892	3	2	2	3	2	1		100		6.23	2
30	3730.47679	4	3	2	4	2	3	-0.038	100		13.73	0
40	3730.55788	3	3	1	3	3	0		100		8.29	2
40	3730.68004	4	3	1	4	3	2		100		3.72	2
40	3731.02116	3	3	0	3	3	1		100		3.56	2
71	3731.35006	2	2	0	2	2	1		100		2.58	0
40	3732.13539	0	0	0	1	0	1	0.0	100		98.78	0
40	3732.28397	6	4	3	6	4	2	-0.123	100		24.89	0
40	3732.50363	8	3	5	7	5	2	1.680	10		0.36	0
30	3732.73898	4	0	4	3	1	3	-0.295	100		17.86	0
30	3734.07822	5	3	3	5	2	4	0.186	100		5.74	0
40	3734.27335	4	2	3	4	2	2	-0.049	100		35.06	0
40	3734.64563	6	4	2	6	4	3	-0.475	100		31.66	0
40	3734.93129	5	4	2	5	4	1	-0.127	100		59.38	0
40	3734.96000	1	1	1	1	1	0		0	B	10.48	2
40	3735.29486	2	2	1	2	2	0		100		3.83	2
40	3735.40721	7	4	3	7	4	4	-0.294	100		17.02	0
40	3735.44538	5	4	1	5	4	2	-0.289	100		24.63	0
40	3735.49282	5	3	3	5	3	2	-0.086	100		30.55	0
30	3735.56009	4	4	1	5	1	4	0.580	100		0.65	0
71	3735.91000	3	2	1	3	2	2		0	B	0.24	0
40	3736.68303	4	4	1	4	4	0	-0.783	100		42.58	0
40	3736.74442	4	4	0	4	4	1	-1.068	100		78.60	0
40	3736.88307	3	2	2	3	2	1		10		1.16	1
40	3736.97976	4	3	1	4	3	2		1		0.55	1
40	3737.18373	3	3	1	3	3	0		100		1.98	1
40	3737.63316	3	3	0	3	3	1		1		0.56	1
40	3738.02409	2	2	0	2	2	1		100		9.44	2
40	3738.40096	2	1	2	2	1	1	0.117	100		44.10	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
30	3738.50632	5	2	4	5	1	5	0.133	100		8.43	0
40	3739.09484	8	4	4	8	4	5	-0.136	100		16.30	0
30	3739.99859	6	3	4	6	2	5	-0.187	100		12.48	0
30	3740.01546	8	2	6	8	1	7		0	A	12.40	0
40	3740.35858	6	2	4	5	4	1	-0.178	100		2.97	0
30	3740.39335	6	4	2	6	3	3	-0.401	100		19.00	0
40	3740.77459	4	2	2	5	0	5	0.226	100		5.36	0
30	3740.81390	4	1	4	3	0	3	0.031	100		26.00	0
40	3740.86476	3	2	1	4	0	4	0.736	100		5.08	0
40	3741.30686	4	3	2	4	3	1	-0.436	100		34.42	0
40	3741.71643	1	1	1	1	1	0		100		1.86	1
40	3742.00627	2	2	1	2	2	0		10		1.19	1
30	3742.09706	4	4	1	4	3	2		10		0.79	2
40	3742.38582	4	1	3	3	3	0	0.048	100		8.52	0
40	3742.57381	3	2	1	3	2	2		100		2.06	2
30	3743.56537	6	1	5	6	0	6	0.193	100		5.90	0
40	3743.94745	4	3	1	4	3	2	-0.600	100		68.71	0
40	3744.18499	5	3	2	5	3	3	-0.727	100		25.11	0
40	3744.51097	3	2	2	3	2	1	-0.714	100		91.58	0
40	3744.65180	3	3	1	3	3	0	-0.464	100		113.60	0
	3745.00923								1		1.50	
40	3745.08751	3	3	0	3	3	1	-0.423	100		51.04	0
30	3745.48570	6	4	3	6	3	4	0.135	100		15.29	0
30	3745.55351	6	2	4	5	3	3	2.202	100		3.60	0
40	3746.13196	9	4	5	9	4	6	0.272	100		2.53	0
40	3746.26994	6	3	3	6	3	4		10		0.57	2
30	3746.32334	2	2	1	1	1	0	-0.057	100		24.42	0
30	3747.42957	5	4	1	5	3	2	-0.259	100		33.48	0
30	3747.49352	5	1	5	4	0	4		100		3.19	2
30	3748.21047	7	3	5	7	2	6	-0.173	100		2.38	0
40	3748.96648	6	0	6	5	2	3	0.211	100		7.20	0
30	3749.17413	5	1	4	4	2	3	0.048	100		15.31	0
40	3749.33024	1	1	1	1	1	0	-0.065	100		126.12	0
40	3749.57437	2	2	1	2	2	0	-0.296	100		87.86	0
30	3750.28000	8	4	5	8	3	6		0	B	0.30	0
40	3750.35263	2	2	0	3	0	3	0.395	100		12.29	0
30	3750.95635	4	4	0	4	3	1	-0.469	100		26.80	0
71	3751.10940	2	1	1	2	1	2		10		1.34	0
30	3751.47009	5	0	5	4	1	4	-0.093	100		23.36	0
40	3751.89174	3	0	3	2	0	2		1		0.46	3
40	3751.92116	4	2	2	4	2	3		100		2.67	2
30	3752.13895	6	2	5	6	1	6	-0.172	100		12.50	0
40	3752.21331	2	2	0	2	2	1	-0.322	100		130.92	0
30	3752.50111	4	4	1	4	3	2	0.235	100		31.13	0
30	3752.83249	2	2	0	1	1	1	0.067	100		18.10	0
30	3753.65327	10	5	6	10	4	7	-0.880	1		0.52	0
30	3753.81894	5	4	2	5	3	3	-0.219	100		30.23	0
40	3754.66560	3	0	3	2	2	0	0.123	100		11.44	0
40	3754.80937	3	3	0	4	1	3	-0.062	100		1.02	0
30	3755.02935	9	4	6	9	3	7	-0.949	1		0.36	0
30	3755.40382	5	1	5	4	0	4	-0.071	100		17.70	0
40	3755.67066	2	1	1	2	1	2		100		3.89	2
40	3756.61745	3	2	1	3	2	2	-0.573	100		54.06	0
30	3757.62873	8	5	3	8	4	4	0.0	100		3.30	0
20	3758.06785	6	6	1	6	3	4	-0.039	100		16.40	0
30	3758.39844	8	3	6	8	2	7	0.122	100		2.92	0
40	3758.42500	4	2	2	4	2	3		0	B	0.83	1
30	3758.62011	9	2	7	9	1	8	-0.113	100		2.04	0
40	3759.05057	6	3	3	6	3	4	0.014	100		35.04	0
40	3759.84503	1	1	0	1	1	1	-0.184	100		77.74	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
71	3760.12511	1	0	1	0	0	0		1		0.63	0
40	3760.36363	5	0	5	4	2	2	0.264	100		7.64	0
40	3761.14718	4	1	4	3	1	3		1		0.62	3
30	3761.58500	8	3	5	7	4	4		0	B		0
30	3761.66400	10	4	7	10	3	8		0	B		0
30	3762.17129	7	1	6	7	0	7	0.157	100		7.33	0
40	3762.35489	2	1	1	2	1	2		10		0.94	1
40	3762.47503	4	0	4	3	2	1	0.091	100		21.86	0
30	3763.69990	3	2	2	2	1	1	-0.094	100		18.75	0
40	3764.45500	6	2	4	7	0	7		0	B		0
30	3764.59909	7	5	2	7	4	3	0.091	100		13.21	0
40	3764.87472	4	0	4	3	0	3		1		0.46	3
40	3765.09050	1	0	1	0	0	0		100		2.35	2
40	3765.76051	4	2	2	4	2	3	-0.066	100		51.80	0
40	3766.05629	5	1	4	4	3	1	0.515	100		6.83	0
30	3766.74906	8	5	4	8	4	5	-0.714	10		10.78	0
30	3766.75236	7	2	6	7	1	7		0	A	10.78	0
	3767.13413								10		0.57	
30	3767.46439	9	5	5	9	4	6	-0.102	100		2.11	0
30	3768.09240	7	5	3	7	4	4	0.106	100		6.32	0
30	3768.68990	6	0	6	5	1	5	0.121	100		12.16	0
30	3768.94028	6	5	1	6	4	2	-0.165	100		9.51	0
40	3769.88984	2	1	1	2	1	2	-0.160	100		75.12	0
40	3769.98911	7	3	4	7	3	5		0	A	25.62	0
30	3769.99493	6	5	2	6	4	3		0	A	25.62	0
40	3770.16857	7	2	5	6	4	2	0.384	100		1.32	0
30	3770.45577	6	1	6	5	0	5	-0.126	100		20.95	0
30	3771.56326	5	5	0	5	4	1	-0.208	100		17.90	0
30	3771.78963	5	5	1	5	4	2	0.143	100		10.80	0
40	3771.86061	1	0	1	0	0	0		10		0.45	1
40	3773.89688	5	1	5	4	1	4		1		0.36	3
40	3773.92688	10	4	6	10	4	7	-0.225	100		3.07	0
30	3774.05312	6	1	5	5	2	4	0.040	100		5.74	0
71	3776.44513	2	1	2	1	1	1		100		1.26	0
30	3777.08748	7	2	5	6	3	4	0.462	100		1.28	0
30	3777.94955	4	2	3	3	1	2	0.088	100		22.94	0
40	3778.34022	4	4	0	5	2	3	0.291	100		0.46	0
30	3779.15047	9	6	3	9	5	4	0.223	100		1.92	0
40	3779.49376	1	0	1	0	0	0	-0.037	100		54.96	0
30	3779.52530	8	1	7	8	0	8		0	A	54.96	0
40	3779.76259	5	2	3	5	2	4	-0.218	100		29.57	0
30	3781.80144	8	2	7	8	1	8	0.542	100		3.24	0
40	3781.94525	8	1	7	7	3	4	0.890	10		15.77	0
40	3781.94525	6	1	5	5	3	2	0.094	100		15.77	0
40	3781.99542	2	1	2	1	1	1		100		3.00	2
71	3782.17932	2	0	2	1	0	1		100		2.74	0
30	3782.62819	10	3	8	10	2	9	2.144	1		0.51	0
30	3783.73045	8	6	2	8	5	3	-0.217	100		1.19	0
40	3784.34967	6	2	4	6	2	5		10		0.89	2
30	3784.46069	8	6	3	8	5	4	-0.002	100		3.54	0
40	3784.58406	3	1	2	3	1	3	-0.231	100		35.01	0
30	3784.93243	7	0	7	6	1	6	-0.077	100		15.47	0
30	3785.26775	3	2	1	2	1	2	-0.054	100		25.00	0
30	3785.68752	7	1	7	6	0	6	-0.076	100		8.13	0
40	3786.22464	8	3	5	8	3	6	0.020	100		17.14	0
40	3786.93037	2	0	2	1	0	1		10		14.00	2
30	3786.94000	7	6	1	7	5	2		0	B	14.00	0
30	3787.12652	7	6	2	7	5	3	0.476	100		2.28	0
40	3787.42133	7	1	6	6	3	3	0.471	100		4.05	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3787.51000	5	1	4	4	1	3		0	B	0.50	3
71	3787.66624	2	1	1	1	1	0		100		2.79	0
40	3788.33601	6	0	6	5	0	5		1		0.51	3
40	3788.78380	2	1	2	1	1	1		10		0.69	1
40	3788.81000	11	4	7	11	4	8		0	B		0
40	3788.91196	4	1	3	4	1	4		100		1.30	2
30	3789.24403	6	6	0	6	5	1	-0.205	100		3.01	0
30	3789.27755	6	6	1	6	5	2	0.152	100		7.20	0
30	3789.63483	5	2	4	4	1	3	-0.037	100		11.21	0
40	3792.63595	2	1	1	1	1	0		100		7.21	2
40	3793.74027	2	0	2	1	0	1		100		2.64	1
40	3793.82499	8	2	6	7	4	3	0.402	100		3.52	0
30	3795.50308	7	1	6	6	2	5	0.222	100		6.79	0
30	3795.79933	9	1	8	9	0	9	-0.646	100		1.11	0
71	3796.08307	3	1	3	2	1	2		100		2.66	0
40	3796.44001	2	1	2	1	1	1	-0.072	100		68.42	0
40	3797.78849	6	2	4	6	2	5	-0.473	100		21.47	0
40	3798.52500	4	3	2	5	1	5		0	B		0
30	3798.58337	3	3	0	3	0	3	0.172	100		1.51	0
30	3799.04750	3	3	1	2	2	0	-0.169	100		17.92	0
40	3799.39405	2	1	1	1	1	0		100		1.59	1
20	3799.83523	8	4	4	7	1	7	-0.896	100		2.53	0
30	3799.93346	6	2	5	5	1	4	0.228	100		15.09	0
30	3800.44411	3	3	0	2	2	1	-0.606	100		30.41	0
40	3801.41958	2	0	2	1	0	1	-0.057	100		149.42	0
40	3801.57451	3	1	3	2	1	2		100		11.61	2
40	3802.96616	4	1	3	4	1	4	0.164	100		38.91	0
30	3803.83291	7	7	0	7	6	1	0.034	100		2.42	0
40	3804.58101	3	2	2	3	0	3		10		0.92	2
40	3806.04985	9	3	6	9	3	7	0.056	100		3.69	0
40	3806.11294	3	0	3	2	0	2		100		4.50	2
30	3806.21317	8	2	6	7	3	5	-1.469	10		0.83	0
40	3807.01491	2	1	1	1	1	0	-0.470	100		113.78	0
40	3807.44265	3	2	2	2	2	1		100		5.69	2
40	3808.01781	9	2	7	8	4	4	0.824	10		0.49	0
40	3808.39796	3	1	3	2	1	2		100		2.62	1
30	3809.80075	4	3	1	4	0	4	0.075	100		2.03	0
30	3810.32553	7	2	6	6	1	5	0.525	100		3.84	0
40	3810.82351	10	2	8	9	4	5	1.002	10		0.50	0
30	3811.80000	10	2	9	10	1	10		0	B		0
40	3812.54600	3	2	1	2	2	0		100		2.36	2
71	3812.66112	3	1	2	2	1	1		100		1.67	0
40	3812.99003	3	0	3	2	0	2		10		1.13	1
71	3813.49253	4	1	4	3	1	3		100		1.14	0
30	3813.98099	8	1	7	7	2	6	-0.187	100		2.05	0
40	3814.17223	3	2	2	2	2	1		100		1.09	1
30	3815.54469	9	0	9	8	1	8	0.243	100		4.47	0
40	3815.64716	2	2	1	2	0	2	0.232	100		19.32	0
30	3815.68820	9	1	9	8	0	8	0.217	100		2.09	0
30	3815.91244	4	2	2	3	1	3		10		0.71	2
40	3816.09185	3	1	3	2	1	2	0.363	100		129.33	0
40	3817.23982	3	1	2	2	1	1		100		3.89	2
40	3818.34136	7	2	5	7	2	6	-0.034	100		15.98	0
30	3818.68287	4	3	2	3	2	1	0.058	100		26.88	0
71	3818.77430	4	0	4	3	0	3		100		2.97	0
40	3819.90466	3	2	2	3	0	3	0.304	100		35.44	0
40	3820.73924	3	0	3	2	0	2	-0.200	100		75.17	0
40	3820.80000	4	1	4	3	1	3		0	B	0.0	2
30	3821.75035	8	2	7	7	1	6		0	A	92.58	0
40	3821.76478	3	2	2	2	2	1	0.146	100		92.58	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3823.12670	4	0	4	3	0	3		100		10.52	2
40	3823.27442	5	1	4	5	1	5	-0.390	100		27.34	0
40	3824.03031	3	1	2	2	1	1		100		1.32	1
30	3824.28109	4	2	2	3	1	3	-0.233	100		20.86	0
30	3825.55271	4	3	1	3	2	2	-0.503	100		24.77	0
40	3826.20200	5	2	4	5	0	5		1			2
40	3826.33166	4	3	2	3	3	1		100		1.56	2
40	3826.75457	3	2	1	2	2	0	-0.241	100		48.09	0
40	3827.37732	4	1	4	3	1	3		100		1.14	1
40	3827.50416	10	3	7	10	3	8	0.235	100		3.09	0
40	3827.66451	4	3	1	3	3	0		100		2.82	2
40	3827.99998	4	2	3	4	0	4	-0.046	100		24.52	0
30	3828.59069	5	3	2	5	0	5	-0.335	100		15.53	0
40	3829.45297	4	2	3	3	2	2		100		2.77	2
40	3830.05661	4	0	4	3	0	3		100		2.63	1
30	3830.15269	10	0	10	9	1	9	-0.363	10		0.59	0
30	3830.21856	10	1	10	9	0	9	0.271	100		1.33	0
30	3830.36634	9	1	8	8	2	7	0.415	100		1.16	0
40	3831.68693	3	1	2	2	1	1	-0.342	100		81.56	0
71	3831.96666	5	1	5	4	1	4		100		2.19	0
71	3833.69134	4	2	2	3	2	1		100		1.87	0
40	3834.01854	4	3	1	3	3	0		10		1.09	1
	3834.14407								1		0.48	
30	3834.21339	9	2	8	8	1	7	1.135	10		0.59	0
30	3834.50781	5	3	3	4	2	2	0.042	100		12.91	0
71	3834.69053	5	0	5	4	0	4		1		0.69	0
40	3834.98303	4	1	4	3	1	3	0.196	100		85.90	0
71	3835.87216	4	1	3	3	1	2		100		2.67	0
40	3836.16306	4	2	3	3	2	2		10		0.97	1
40	3837.45180	5	1	5	4	1	4		100		8.76	2
40	3837.87025	4	0	4	3	0	3	-0.421	100		156.04	0
40	3839.28460	5	0	5	4	0	4		100		3.70	2
40	3839.46234	8	2	6	8	2	7	-0.105	100		18.39	0
40	3839.74243	4	2	2	3	2	1		100		6.47	2
40	3839.85803	4	1	3	3	1	2		100		8.45	2
40	3839.93011	4	3	2	3	3	1	-0.341	100		37.21	0
40	3840.12613	5	2	4	5	0	5	0.397	100		33.45	0
40	3841.04516	4	3	1	3	3	0	-0.207	100		50.74	0
71	3841.64617	5	2	4	4	2	3		10		1.50	0
71	3841.69588	5	3	3	4	3	2		10		1.50	0
40	3843.31298	5	4	2	4	4	1		100		1.55	2
40	3843.50529	6	1	5	6	1	6	-0.120	100		28.18	0
40	3843.75140	4	2	3	3	2	2	-0.084	100		52.44	0
30	3843.84883	5	3	2	4	2	3		100		2.24	2
40	3844.32884	6	3	4	6	1	5	0.472	100		16.16	0
30	3844.35502	11	0	11	10	1	10		0	A	16.16	0
40	3844.84746	5	3	3	5	1	4	0.009	100		23.99	0
40	3846.24417	5	0	5	4	0	4		10		0.76	1
30	3846.39918	6	3	4	5	2	3	0.195	100		15.39	0
40	3846.42789	4	2	2	3	2	1		10		2.10	1
40	3846.71295	4	1	3	3	1	2		100		2.52	1
30	3847.27000	10	2	9	9	1	8		0	B	0.22	0
40	3848.54704	5	3	3	4	3	2		100		3.28	2
40	3849.05962	7	3	5	7	1	6	0.047	100		18.25	0
30	3849.57964	4	4	0	3	3	1	-0.415	1		47.97	0
30	3849.59826	4	4	1	3	3	0	1.188	10		47.97	0
40	3849.65187	4	3	2	4	1	3	0.119	100		12.35	0
40	3849.86721	6	2	5	6	0	6	-0.093	100		18.80	0
71	3850.30622	6	0	6	5	0	5		100		1.75	0
40	3851.62543	5	2	4	4	2	3		100		3.88	2

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3852.05753	5	1	5	4	1	4	0.069	100		155.18	0
30	3853.57618	5	3	2	4	2	3	-0.198	100		39.33	0
40	3853.96780	4	2	2	3	2	1	-1.181	100		101.09	0
40	3854.09040	5	0	5	4	0	4	0.127	100		88.06	0
40	3854.43924	4	1	3	3	1	2	-0.265	100		123.89	0
30	3855.04498	7	3	5	6	2	4	-0.129	100		3.17	0
40	3855.28412	6	0	6	5	0	5		100		7.58	2
71	3856.44587	5	1	4	4	1	3		1		0.84	0
40	3856.70443	3	3	1	3	1	2	0.012	100		16.20	0
30	3856.78386	5	4	1	5	1	4	0.186	100		15.24	0
40	3857.16478	5	4	2	4	4	1	-0.190	100		42.30	0
40	3857.42550	5	4	1	4	4	0	-0.153	100		30.31	0
40	3857.82791	6	5	1	5	5	0		10		0.50	2
40	3857.82791	6	5	2	5	5	1		1		0.50	2
40	3858.17669	8	3	6	8	1	7	0.067	100		7.54	0
30	3859.03641	6	4	2	6	1	5	-0.160	100		6.55	0
30	3859.30122	4	4	0	4	1	3	0.226	100		3.92	0
40	3859.40865	9	2	7	9	2	8	0.159	100		3.77	0
40	3859.61074	5	1	4	4	1	3		100		2.47	2
30	3861.51469	6	3	3	6	0	6	0.399	100		8.77	0
30	3861.58874	8	3	6	7	2	5	0.177	100		3.19	0
40	3861.78809	5	3	3	4	3	2	0.048	100		53.40	0
40	3862.26105	6	0	6	5	0	5		100		1.73	1
40	3862.49157	7	1	6	7	1	7	-0.162	100		14.96	0
40	3863.32003	2	2	0	1	0	1	0.480	100		27.57	0
40	3864.31017	5	3	2	4	3	1	-0.203	100		32.74	0
40	3865.11283	5	2	4	4	2	3	-0.676	100		86.00	0
40	3865.15541	9	4	6	9	2	7		0	A	86.00	0
40	3865.85188	5	2	3	4	2	2		100		2.49	2
40	3866.10956	7	2	6	7	0	7	0.108	100		22.00	0
40	3866.56500	5	1	4	4	1	3		0	B	0.21	1
40	3866.67840	6	2	5	5	2	4		100		1.52	2
40	3866.75872	10	4	7	10	2	8	-0.025	100		0.82	0
40	3867.40675	6	4	2	5	4	1		100		0.91	2
30	3867.52997	9	3	7	8	2	6	-0.500	1		0.20	0
30	3868.23222	7	4	3	7	1	6	-0.009	100		8.31	0
40	3868.62609	8	4	5	8	2	6	0.311	100		1.96	0
40	3869.19324	6	1	6	5	1	5	-0.462	100		54.95	0
40	3869.92328	9	3	7	9	1	8	0.195	100		8.55	0
40	3870.12954	6	0	6	5	0	5	-0.179	100		113.74	0
40	3870.82149	7	1	7	6	1	6		100		4.31	2
30	3871.08196	5	2	3	4	1	4	0.156	100		21.82	0
40	3871.19374	7	0	7	6	0	6		10		1.83	2
40	3871.45344	6	5	2	5	5	1	0.020	100		19.19	0
40	3871.49722	6	5	1	5	5	0	-0.244	100		26.21	0
30	3873.72461	5	4	1	4	3	2	0.105	100		31.81	0
71	3873.88162	6	1	5	5	1	4		100		1.33	0
30	3873.94462	5	4	2	4	3	1	-0.195	100		28.62	0
40	3874.40260	5	1	4	4	1	3	-0.230	100		53.74	0
30	3875.14556	6	4	3	5	3	2		100		1.07	2
40	3876.28345	6	1	5	5	1	4		100		4.85	2
40	3876.56494	7	4	4	7	2	5	0.061	100		7.47	0
40	3877.42534	10	2	8	10	2	9	0.439	100		4.16	0
40	3877.79434	7	1	7	6	1	6		100		1.08	1
40	3878.19000	7	0	7	6	0	6		0	B	0.43	1
71	3879.78630	7	2	6	6	2	5		100		0.69	0
40	3879.94997	6	4	3	5	4	2	-0.211	100		26.21	0
40	3880.14021	8	1	7	8	1	8	0.231	100		17.02	0
40	3880.19211	5	2	3	4	2	2	-0.292	100		34.45	0
40	3880.35467	6	2	5	5	2	4	0.044	100		33.30	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3881.02876	6	4	2	5	4	1	0.140	100		37.85	0
71	3881.27538	8	0	8	7	0	7		10		0.63	0
40	3881.87326	8	2	7	8	0	8	0.357	100		9.76	0
40	3882.93587	10	3	8	10	1	9	0.462	100		1.70	0
40	3883.26706	6	3	4	5	3	3	-0.436	100		33.19	0
40	3883.34255	6	1	5	5	1	4		10		1.15	1
40	3884.00532	7	6	1	6	6	0	0.0	1		18.80	0
40	3884.00532	7	6	2	6	6	1	-1.134	10		18.80	0
40	3884.87557	7	2	6	6	2	5		100		2.40	2
71	3885.36663	6	2	4	5	2	3		10		0.74	0
30	3885.65233	6	4	3	5	3	2		0	A	91.43	0
40	3885.66144	7	1	7	6	1	6	-1.086	100		91.43	0
40	3885.92411	6	3	3	5	3	2		100		1.41	2
40	3886.07770	7	0	7	6	0	6	0.113	100		45.56	0
30	3886.14500	8	4	4	8	1	7		0	B	1.22	0
40	3886.76427	8	1	8	7	1	7		100		0.98	2
40	3886.92347	8	0	8	7	0	7		100		2.64	2
40	3887.29036	6	4	3	6	2	4	0.414	100		3.55	0
40	3888.02756	3	3	0	3	1	3	0.237	100		3.10	0
40	3888.63499	7	4	4	6	4	3		10		1.00	2
40	3889.64412	6	2	4	5	2	3		100		3.90	2
40	3890.83559	7	3	5	6	3	4		100		1.41	2
40	3890.91884	7	1	6	6	1	5		10		1.04	2
40	3891.30015	6	1	5	5	1	4	-0.071	100		75.04	0
40	3891.73043	7	2	6	6	2	5		1		0.69	1
30	3892.00290	6	3	3	5	2	4	-0.214	100		26.30	0
40	3892.82767	3	2	1	2	0	2	-0.023	100		25.27	0
40	3893.66904	11	2	9	11	2	10	-1.577	10		0.57	0
30	3893.76804	5	5	1	4	4	0	1.989	10		0.63	0
30	3893.79633	5	5	0	4	4	1	0.149	100		1.78	0
40	3893.93502	8	0	8	7	0	7		10		0.99	1
40	3894.06372	7	5	3	6	5	2	-0.169	100		27.35	0
30	3894.07764	4	3	2	3	0	3		0	A	27.35	0
40	3894.28776	7	5	2	6	5	1	-0.151	100		17.05	0
40	3895.14448	8	7	2	7	7	1	-0.221	1		5.17	0
40	3895.14448	8	7	1	7	7	0	-0.522	10		5.17	0
40	3896.41948	11	3	9	11	1	10	-0.205	100		1.17	0
40	3896.48279	6	2	4	5	2	3		10		0.81	1
40	3896.78055	9	1	8	9	1	9	0.444	100		4.75	0
40	3897.56721	9	2	8	9	0	9	0.385	100		10.17	0
30	3897.97405	6	4	2	5	3	3	-0.487	100		19.51	0
20	3898.23454	6	6	1	5	3	2	-0.233	100		18.38	0
30	3898.74903	7	3	4	7	0	7		0	A	8.24	0
40	3898.76044	5	4	2	5	2	3	1.309	10		8.24	0
40	3899.21731	6	3	3	5	3	2	-0.229	100		45.30	0
40	3899.44192	7	2	6	6	2	5	-0.397	100		50.20	0
40	3901.52503	8	2	7	7	2	6		10		0.65	2
40	3901.62546	4	3	1	4	1	4	-0.052	100		7.65	0
40	3901.66696	8	1	8	7	1	7	-0.321	100		33.49	0
40	3901.84737	8	0	8	7	0	7	-0.060	100		48.25	0
40	3902.25028	7	4	4	6	4	3	-0.234	100		29.09	0
40	3902.33167	9	1	9	8	1	8		100		1.83	2
40	3902.39740	9	0	9	8	0	8		1		0.53	2
30	3902.44091	7	4	4	6	3	3	-0.172	100		13.09	0
40	3904.18896	6	2	4	5	2	3	0.029	100		71.39	0
40	3904.29494	7	3	5	6	3	4	0.192	100		33.25	0
40	3904.91500	8	1	7	7	1	6		100		1.34	2
40	3905.00522	9	8	1	8	8	0	0.0	1		0.86	0
40	3905.00522	9	8	2	8	8	1	0.073	10		0.86	0
40	3905.37058	7	4	3	6	4	2	0.034	100		25.31	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
30	3905.80716	9	5	4	9	2	7	0.230	10		0.58	0
40	3906.06528	7	1	6	6	1	5	-0.177	100		30.84	0
40	3906.15770	8	6	3	7	6	2	0.0	100		6.42	0
40	3906.19837	8	6	2	7	6	1	0.322	100		14.08	0
40	3909.03590	4	4	1	4	2	2	1.280	100		1.13	0
40	3909.35732	9	1	9	8	1	8		1		0.42	1
30	3910.18000	4	4	1	4	1	4	-0.096	100		2.31	0
40	3910.33215	7	2	5	6	2	4		10		0.65	2
40	3910.54033	9	5	5	9	3	6	-2.087	10		0.61	0
40	3911.14407	7	3	4	6	3	3		1		0.54	2
40	3912.70635	10	1	9	10	1	10	0.378	100		4.91	0
40	3913.02750	10	2	9	10	0	10	0.217	100		1.71	0
30	3913.42559	7	5	2	7	2	5	0.790	100		0.57	0
30	3914.03727	8	4	5	7	3	4	-0.213	100		8.39	0
40	3914.20540	4	2	2	3	0	3		1		0.57	2
40	3916.32942	8	2	7	7	2	6	-0.303	100		30.42	0
30	3916.37845	6	5	2	5	4	1	0.231	10		24.88	0
40	3916.39652	8	5	4	7	5	3	-0.055	100		24.88	0
30	3916.60570	6	5	1	5	4	2	0.327	100		4.35	0
40	3916.78607	9	7	2	8	7	1	-0.140	1		3.93	0
40	3916.78607	9	7	3	8	7	2	-0.259	10		3.93	0
40	3917.20903	8	5	3	7	5	2	-0.075	100		22.62	0
40	3917.28633	9	1	9	8	1	8	-0.161	100		38.11	0
40	3917.36317	9	0	9	8	0	8	-0.234	100		30.67	0
40	3917.57477	10	0	10	9	0	9		10		0.93	2
	3919.71949								1		0.95	
40	3920.08914	8	1	7	7	1	6	-0.336	100		44.76	0
30	3921.10256	9	4	6	8	3	5	0.049	10		0.33	0
40	3921.52500	5	3	2	5	1	5		0	B		0
30	3922.89973	6	2	4	5	1	5	-1.089	100		1.87	0
30	3923.46806	7	4	3	6	3	4	-0.384	100		25.06	0
40	3923.79434	8	4	5	7	4	4	-0.354	100		19.20	0
40	3924.37307	8	3	6	7	3	5	-0.076	100		24.77	0
40	3924.48823	4	4	0	4	2	3	0.579	100		2.58	0
40	3925.13450	7	3	4	6	3	3	-0.114	100		20.48	0
40	3925.17608	7	2	5	6	2	4	-0.199	100		30.32	0
40	3926.02589	10	8	3	9	8	2	0.0	1		0.64	0
40	3926.02589	10	8	2	9	8	1	0.0	10		0.64	0
	3926.72210								1		0.39	
40	3927.45535	8	2	6	7	2	5		1		1.01	2
40	3928.02977	9	6	4	8	6	3	-0.121	100		8.23	0
40	3928.08865	11	1	10	11	1	11	-0.315	10		0.68	0
40	3928.20104	9	6	3	8	6	2	0.128	100		3.69	0
30	3928.23544	5	3	3	4	0	4	-0.954	10		3.06	0
40	3928.23544	11	2	10	11	0	11	1.959	10		3.06	0
40	3928.51949	9	3	7	8	3	6		10		1.03	2
40	3929.35084	5	4	1	5	2	4		0	A	32.05	0
40	3929.36132	4	2	2	3	0	3	0.008	100		32.05	0
20	3929.99876	7	6	1	6	3	4	0.820	100		1.74	0
40	3930.56629	8	4	4	7	4	3	0.066	100		27.90	0
30	3931.16175	5	4	2	5	1	5	-0.100	100		0.93	0
30	3932.08107	7	3	4	6	2	5	-0.187	100		16.21	0
40	3932.13573	9	2	8	8	2	7	-0.063	100		32.42	0
40	3932.54587	10	1	10	9	1	9	-0.156	100		24.46	0
40	3932.58118	10	0	10	9	0	9	-0.189	100		29.97	0
40	3934.10077	9	1	8	8	1	7	-0.180	100		26.17	0
40	3935.13025	3	3	0	2	1	1	0.306	100		11.22	0
40	3935.63868	8	3	5	7	3	4		10		0.82	2
30	3935.80018	6	6	1	5	5	0	-0.024	100		1.19	0
30	3938.05646	7	5	3	6	4	2	-0.256	100		7.10	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	3938.09978	10	7	4	9	7	3		0	A	7.10	0
40	3938.10980	10	7	3	9	7	2	0.0	100		1.45	0
40	3938.29099	9	5	5	8	5	4	-0.378	100		16.70	0
40	3938.45822	6	4	2	6	2	5	0.295	100		2.95	0
30	3939.11160	7	5	2	6	4	3	-0.175	100		12.54	0
40	3940.30568	7	5	3	7	3	4	0.033	100		0.98	0
40	3940.58898	9	5	4	8	5	3	-0.180	100		8.28	0
40	3942.65319	8	2	6	7	2	5	-0.600	100		37.90	0
40	3942.88719	9	3	7	8	3	6	-0.120	100		26.81	0
40	3943.00801	12	1	11	12	1	12	-2.137	1		0.47	0
40	3943.07513	12	2	11	12	0	12	0.0	1		0.26	0
40	3944.36838	9	4	6	8	4	5	-0.360	100		21.38	0
40	3947.17459	10	2	9	9	2	8	0.030	100		19.86	0
40	3947.46978	11	0	11	10	0	10	0.0	1		37.11	0
40	3947.46978	11	1	11	10	1	10	-0.214	10		37.11	0
40	3948.17729	10	1	9	9	1	8	-0.420	100		25.90	0
	3949.42436								10		0.73	
40	3949.57215	10	6	5	9	6	4	0.016	100		2.02	0
40	3949.98439	8	3	5	7	3	4	-0.289	100		33.79	0
40	3950.14142	10	6	4	9	6	3	0.111	100		4.15	0
40	3950.57359	3	3	1	2	1	2	0.269	100		15.78	0
40	3951.98000	6	5	2	6	3	3		0	B		0
30	3952.34428	8	4	4	7	3	5	-0.082	100		8.13	0
40	3953.09756	4	3	1	3	1	2	0.499	100		24.77	0
40	3953.54381	7	4	3	7	2	6	-0.823	10		0.85	0
40	3955.24157	9	4	5	8	4	4	-0.155	100		11.14	0
40	3956.88252	9	2	7	8	2	6	0.215	100		21.56	0
30	3958.14186	7	6	2	6	5	1	-0.418	100		1.32	0
30	3958.17677	7	6	1	6	5	2	0.143	100		2.80	0
30	3958.22008	8	5	4	7	4	3	-0.082	100		13.83	0
	3958.39435								10		1.20	
40	3959.50293	10	5	6	9	5	5	-0.010	100		3.84	0
40	3959.72376	10	3	8	9	3	7	-0.462	100		12.51	0
40	3959.88500	5	5	1	5	3	2		0	B	0.40	0
40	3960.77642	6	3	3	6	1	6	0.486	100		1.48	0
30	3961.65283	4	4	1	3	1	2	-0.275	10		14.96	0
30	3961.66042	8	5	3	7	4	4		0	A	14.96	0
40	3961.71309	11	2	10	10	2	9	-0.196	100		18.90	0
40	3962.04064	12	0	12	11	0	11	0.0	10		22.30	0
40	3962.04064	12	1	12	11	1	11	0.0	1		22.30	0
40	3962.18719	11	1	10	10	1	9	0.032	100		11.50	0
40	3963.84236	10	4	7	9	4	6	0.014	100		8.03	0
40	3964.59437	6	5	1	6	3	4	0.443	10		0.66	0
40	3964.80039	10	5	5	9	5	4	0.070	100		9.09	0
30	3967.56219	6	3	4	5	0	5	-0.145	100		3.60	0
40	3969.13879	10	2	8	9	2	7	-0.154	100		21.58	0
40	3970.68049	11	6	6	10	6	5	-0.012	100		1.58	0
40	3972.12396	9	3	6	8	3	5	0.154	100		19.14	0
40	3972.24576	11	6	5	10	6	4	0.0	10		0.70	0
40	3972.65557	5	3	2	4	1	3	-0.038	100		15.83	0
40	3973.91877	5	2	3	4	0	4	-0.319	100		19.33	0
30	3974.75276	10	5	6	9	4	5	0.256	100		6.50	0
30	3974.96921	7	7	1	6	6	0	0.0	1		0.91	0
30	3974.96921	7	7	0	6	6	1	-0.265	10		0.91	0
40	3975.13921	11	3	9	10	3	8	0.251	100		12.86	0
40	3975.77972	12	2	11	11	2	10	0.0	100		5.14	0
40	3976.00868	12	1	11	11	1	10	0.214	10		11.19	0
40	3976.20500	8	4	4	8	2	7		0	B		0
40	3976.26357	13	0	13	12	0	12	0.0	10		13.24	0
40	3976.26357	13	1	13	12	1	12	0.0	1		13.24	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
30	3976.57347	9	5	5	8	4	4	0.001	100		6.80	0
30	3978.81412	7	2	5	6	1	6	0.144	100		2.80	0
30	3979.72039	8	3	5	7	2	6	-0.122	100		2.48	0
40	3979.76996	11	5	7	10	5	6	0.019	100		3.68	0
30	3979.79211	8	6	3	7	5	2	0.041	100		3.70	0
30	3979.99452	8	6	2	7	5	3	0.217	100		1.06	0
40	3980.83464	11	2	9	10	2	8	0.158	100		6.26	0
40	3982.06339	11	4	8	10	4	7	0.0	100		7.46	0
30	3982.28983	5	4	2	4	1	3	0.160	100		12.81	0
40	3982.87000	4	3	2	3	1	3	0.479	100		9.54	0
30	3985.02026	9	5	4	8	4	5	0.720	10		6.64	0
20	3986.00559	9	6	3	8	3	6	0.0	100		4.10	0
40	3989.45461	12	3	10	11	3	9	0.0	100		6.69	0
40	3989.45461	13	2	12	12	2	11	0.0	10		6.69	0
40	3989.56852	13	1	12	12	1	11	0.0	1		2.06	0
40	3989.82613	11	5	6	10	5	5	0.0	100		0.83	0
30	3990.21546	9	4	5	8	3	6	0.295	100		4.15	0
40	3990.27250	14	1	14	13	1	13	0.0	1		4.88	0
40	3990.27250	14	0	14	13	0	13	0.0	10		4.88	0
40	3990.71375	10	3	7	9	3	6	-0.350	100		19.04	0
30	3992.51898	4	4	0	3	1	3	0.955	100		2.00	0
40	3992.66819	12	2	10	11	2	9	0.0	100		6.26	0
30	3995.00712	6	4	3	5	1	4	-0.054	100		30.94	0
40	3995.02715	10	4	6	9	4	5	0.132	100		30.94	0
30	3997.07697	8	7	1	7	6	2	0.0	1		1.23	0
30	3997.07697	8	7	2	7	6	1	-0.073	10		1.23	0
40	3998.83221	12	4	9	11	4	8	0.0	100		0.86	0
40	3998.88796	12	5	8	11	5	7	0.0	1		0.76	0
40	4000.20500	7	3	4	7	1	7		0	B		0
30	4000.46979	9	6	4	8	5	3	0.0	100		1.13	0
30	4001.28143	9	6	3	8	5	4	-0.038	100		2.27	0
40	4002.76510	4	4	1	4	0	4	-1.287	1		0.49	0
40	4002.76510	14	2	13	13	2	12	0.0	100		0.49	0
40	4002.86043	14	1	13	13	1	12	0.0	10		1.76	0
40	4002.96778	13	3	11	12	3	10	0.0	10		2.20	0
40	4003.58894	15	1	15	14	1	14	0.0	10		1.95	0
40	4003.58894	15	0	15	14	0	14	0.0	1		1.95	0
40	4004.70238	13	2	11	12	2	10	0.0	10		0.64	0
40	4005.48675	11	3	8	10	3	7	0.0	100		4.21	0
20	4007.58875	6	6	1	5	1	4	0.292	100		6.45	0
40	4008.57156	6	3	3	5	1	4	0.255	100		22.10	0
30	4010.52257	10	5	5	9	4	6	0.0	10		0.82	0
30	4011.12243	7	3	5	6	0	6	-0.447	100		0.75	0
40	4012.69471	4	4	0	3	2	1	0.274	100		11.23	0
40	4014.08021	13	4	10	12	4	9	0.0	100		1.06	0
40	4014.45234	12	5	7	11	5	6	0.0	10		1.03	0
40	4015.38606	11	4	7	10	4	6	0.0	100		2.84	0
40	4016.74656	16	1	16	15	1	15	0.0	1		1.03	0
40	4016.74656	13	5	9	12	5	8	0.0	1		1.03	0
40	4016.74656	16	0	16	15	0	15	0.0	1		1.03	0
40	4016.81264	14	2	12	13	2	11	0.0	10		0.44	0
40	4017.03570	12	3	9	11	3	8	0.0	100		3.36	0
40	4018.51540	4	4	1	3	2	2	-0.205	100		4.53	0
30	4018.57518	9	7	2	8	6	3	0.0	10		1.26	0
40	4019.46654	5	3	3	4	1	4	0.156	100		17.25	0
30	4019.68249	10	6	5	9	5	4	0.0	100		1.48	0
30	4021.08381	7	4	4	6	1	5	0.230	100		3.52	0
30	4022.23624	10	6	4	9	5	5	0.0	1		0.58	0
40	4023.98196	10	7	4	10	5	5	0.0	1		0.49	0
40	4025.35160	6	2	4	5	0	5	0.059	100		20.20	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g		W (10^{-3} cm^{-1})	I
40	4029.77980	5	4	1	4	2	2	0.481	100		8.47	0
30	4030.56807	10	4	6	9	3	7	0.0	10		0.70	0
30	4031.40308	5	4	1	4	1	4	0.193	100		6.67	0
30	4032.63471	9	3	6	8	2	7	-0.568	100		2.32	0
40	4034.53807	12	4	8	11	4	7	0.0	100		2.26	0
30	4036.42500	8	2	6	7	1	7		0	B	0.53	0
30	4039.23500	10	7	4	9	6	3		0	B	0.87	0
30	4039.45114	10	7	3	9	6	4	0.0	1		0.46	0
30	4039.99725	11	5	6	10	4	7	0.0	10		0.91	0
30	4043.34143	11	6	5	10	5	6	0.0	100		0.94	0
40	4043.77758	7	3	4	6	1	5	0.107	100		12.22	0
40	4044.85980	6	4	2	5	2	3	-0.314	100		17.05	0
40	4044.90957	5	4	2	4	2	3	0.477	100		13.35	0
30	4052.17986	8	4	5	7	1	6	-0.139	100		4.16	0
30	4057.75649	8	3	6	7	0	7	-1.022	100		1.80	0
40	4060.37707	7	4	3	6	2	4	0.472	100		9.02	0
40	4060.60944	6	3	4	5	1	5	0.113	100		7.01	0
40	4073.85543	6	4	3	5	2	4	0.072	100		7.12	0
30	4075.31566	6	4	2	5	1	5	0.831	100		1.54	0
40	4079.39348	8	4	4	7	2	5	0.074	100		13.61	0
30	4080.21019	6	5	2	5	2	3	-0.923	10		0.72	0
40	4081.25278	7	2	5	6	0	6	0.232	100		6.67	0
40	4084.85610	5	5	0	4	3	1	-0.326	100		1.62	0
40	4086.17628	5	5	1	4	3	2	0.281	100		5.33	0
40	4088.12633	8	3	5	7	1	6	0.435	100		12.57	0
30	4088.36943	9	4	6	8	1	7	0.046	10		1.14	0
30	4093.53785	9	2	7	8	1	8	-0.516	100		0.76	0
40	4104.10553	9	4	5	8	2	6	-0.014	100		2.74	0
40	4104.76107	6	5	1	5	3	2	0.239	100		6.67	0
40	4106.02086	7	3	5	6	1	6	0.594	100		10.18	0
40	4106.06349	7	4	4	6	2	5	-0.084	100		11.89	0
30	4106.37701	9	3	7	8	0	8	0.620	1		1.00	0
30	4107.04687	8	5	4	7	2	5	0.326	10		1.38	0
40	4109.55866	6	5	2	5	3	3	-0.118	100		2.37	0
40	4121.37065	7	5	2	6	3	3	0.690	100		2.78	0
30	4125.19380	7	4	3	6	1	6	0.198	100		1.69	0
30	4125.43783	9	5	5	8	2	6	-0.258	1		0.36	0
30	4128.72197	10	4	7	9	1	8	0.0	100		0.42	0
30	4133.06692	10	5	6	9	2	7	0.220	100		2.50	0
40	4133.68343	7	5	3	6	3	4	0.412	100		5.92	0
40	4134.68735	8	5	3	7	3	4	0.399	100		4.84	0
40	4138.81860	8	2	6	7	0	7	0.541	100		7.35	0
40	4139.39119	9	3	6	8	1	7	-0.210	100		2.47	0
40	4141.92997	8	4	5	7	2	6	0.087	100		3.05	0
40	4146.34291	9	5	4	8	3	5	0.190	100		1.43	0
40	4149.51185	6	6	0	5	4	1	0.085	100		1.64	0
40	4149.73368	6	6	1	5	4	2	0.0	10		0.77	0
40	4153.34178	10	4	6	9	2	7	-0.374	100		1.68	0
40	4154.58812	8	3	6	7	1	7	-0.244	100		2.43	0
40	4159.17859	10	5	5	9	3	6	0.200	100		2.23	0
40	4159.34939	8	5	4	7	3	5	-0.025	100		1.59	0
40	4166.02214	6	4	2	5	0	5	0.016	100		0.71	0
40	4171.28500	7	6	1	6	4	2		0	B	0.64	0
40	4172.33721	7	6	2	6	4	3	0.072	100		1.56	0
40	4181.47599	9	4	6	8	2	7	0.526	100		4.19	0
40	4187.34095	9	5	5	8	3	6	0.478	100		2.64	0
40	4191.15457	8	6	2	7	4	3	0.975	100		1.52	0
40	4194.55292	10	3	7	9	1	8	0.070	100		2.27	0
40	4194.60000	8	6	3	7	4	4		0	B		0
40	4195.73103	9	2	7	8	0	8	-0.139	100		1.40	0

No.	ν^{obs}(cm^{-1})	J'	K_a'	K_c'	J''	K_a''	K_c''	δ (10^{-3} cm^{-1})	g	W (10^{-3} cm^{-1})	I
40	4204.84055	9	3	7	8	1	8	0.262	100	2.56	0
40	4216.93500	9	6	4	8	4	5		0 B	1.30	0
40	4224.34061	10	4	7	9	2	8	1.122	1	0.62	0
40	4250.89188	10	2	8	9	0	9	-0.214	1	1.42	0

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