

## High resolution spectroscopy of methyltrioxorhenium: towards the observation of parity violation in chiral molecules

C. Stoeffler et al.

### Data associated with Table I

#### 1) Assigned Microwave Lines and Fitted Molecular Parameters of the Ground State of $\text{CH}_3^{187}\text{ReO}_3$ (MHz)

Methyl rhenium trioxide  $\text{CH}_3(187)\text{ReO}_3$  T. Huet Thu Aug 12 18:15:56 2010

	<u>F2=2F'+1</u>			<u>F1=2F+1</u>			EXP.FREQ.	CALC.FREQ.	DIFF.	EXP.ERR.	EST.ERR.
	J'	K'	F2	J	K	F1					
1:	1	0	2	0	0	3	6834.21080	6834.21287	-0.00207	0.00100	0.00000
2:	1	0	4	0	0	3	6898.66370	6898.66310	0.00060	0.00100	0.00000
3:	1	0	3	0	0	3	7049.07550	7049.07403	0.00147	0.00100	0.00000
4:	2	0	2	1	0	3	13702.05500	13702.05750	-0.00250	0.00100	0.00000
5:	2	1	1	1	-1	2	13746.94030	13746.93695	0.00335	0.00100	0.00000
6:	2	-1	1	1	1	2	13746.94030	13746.93695	0.00335	0.00100	0.00000
7:	2	1	2	1	-1	2	13794.04740	13794.04830	-0.00090	0.00100	0.00000
8:	2	-1	2	1	1	2	13794.04740	13794.04830	-0.00090	0.00100	0.00000
9:	2	0	3	1	0	3	13805.30630	13805.30852	-0.00222	0.00100	0.00000
10:	2	0	1	1	0	2	13824.74830	13824.74408	0.00422	0.00100	0.00000
11:	2	1	5	1	-1	4	13824.90000	13824.89762	0.00238	0.00100	0.00000
12:	2	-1	5	1	1	4	13824.90000	13824.89762	0.00238	0.00100	0.00000
13:	2	0	4	1	0	3	13840.31860	13840.31786	0.00074	0.00100	0.00000
14:	2	1	3	1	-1	2	13844.51230	13844.51692	-0.00462	0.00100	0.00000
15:	2	-1	3	1	1	2	13844.51230	13844.51692	-0.00462	0.00100	0.00000
16:	2	0	5	1	0	4	13852.77410	13852.77155	0.00255	0.00100	0.00000
17:	2	1	3	1	-1	4	13876.13530	13876.13524	0.00006	0.00100	0.00000
18:	2	1	4	1	-1	4	13894.61460	13894.62118	-0.00658	0.00100	0.00000
19:	2	-1	4	1	1	4	13894.61460	13894.62118	-0.00658	0.00100	0.00000
20:	2	1	2	1	-1	3	13900.71520	13900.71040	0.00480	0.00100	0.00000
21:	2	0	2	1	0	2	13916.91920	13916.91866	0.00054	0.00100	0.00000
22:	2	1	3	1	-1	3	13951.18010	13951.17902	0.00108	0.00100	0.00000
23:	2	-1	3	1	1	3	13951.18010	13951.17902	0.00108	0.00100	0.00000
24:	2	0	3	1	0	4	13955.71880	13955.71945	-0.00065	0.00100	0.00000
25:	2	1	4	1	-1	3	13969.66540	13969.66497	0.00043	0.00100	0.00000
26:	2	-1	4	1	1	3	13969.66540	13969.66497	0.00043	0.00100	0.00000
27:	2	0	4	1	0	4	13990.72890	13990.72880	0.00010	0.00100	0.00000
28:	2	0	3	1	0	2	14020.16690	14020.16968	-0.00278	0.00100	0.00000

  

	NEW PARAMETER (EST. ERROR)	-- CHANGE THIS ITERATION
1	10000 A	3849.810000263( 0) -0.000000000
2	20000 B	3466.96481( 39) 0.00000
3	200 -DJ	-0.705( 50)E-03 -0.0000E-03
4	1100 -DJK	-2.208(118)E-03 0.0000E-03
5	110010000 1.5eQq	1074.81007(288) 0.00000
6	10010000 -Caa	0.05222( 37) -0.00000
7	10020000 -Cbb	0.051464( 92) -0.000000

MICROWAVE AVG = -0.000000 MHz, IR AVG = 0.00000  
 MICROWAVE RMS = 0.002743 MHz, IR RMS = 0.00000

#### 2) Assigned Microwave Lines and Fitted Molecular Parameters of the Ground State of $\text{CH}_3^{185}\text{ReO}_3$ (MHz)

Methyl rhenium trioxide  $\text{CH}_3(185)\text{ReO}_3$  Tue Aug 03 19:49:39 2010

	<u>F2=2F'+1</u>			<u>F1=2F+1</u>			EXP.FREQ.	CALC.FREQ.	DIFF.	EXP.ERR.	EST.ERR.
	J'	K'	F2	J	K	F1					
1:	1	0	2	0	0	3	6828.78270	6828.78445	-0.00175	0.00100	0.00000
2:	1	0	4	0	0	3	6896.85030	6896.85022	0.00008	0.00100	0.00000
3:	1	0	3	0	0	3	7055.81220	7055.81053	0.00167	0.00100	0.00000
4:	2	0	2	1	0	3	13693.02400	13693.02337	0.00063	0.00100	0.00000
5:	2	1	1	1	-1	2	13740.49430	13740.49521	-0.00091	0.00100	0.00000
6:	2	1	2	1	-1	2	13790.33260	13790.33190	0.00070	0.00100	0.00000
7:	2	-1	2	1	1	2	13790.33260	13790.33190	0.00070	0.00100	0.00000
8:	2	0	3	1	0	3	13802.16800	13802.16801	-0.00001	0.00100	0.00000
9:	2	0	1	1	0	2	13822.65960	13822.65336	0.00624	0.00100	0.00000

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10:	2	1	5	1	-1	4	13822.82130	13822.82022	0.00108	0.00100	0.00000
11:	2	-1	5	1	1	4	13822.82130	13822.82022	0.00108	0.00100	0.00000
12:	2	0	4	1	0	3	13839.08760	13839.09216	-0.00456	0.00100	0.00000
13:	2	1	3	1	-1	2	13843.59960	13843.60357	-0.00397	0.00100	0.00000
14:	2	-1	3	1	1	2	13843.59960	13843.60357	-0.00397	0.00100	0.00000
15:	2	0	5	1	0	4	13852.25860	13852.25603	0.00257	0.00100	0.00000
16:	2	1	3	1	-1	4	13877.01580	13877.01920	-0.00340	0.00100	0.00000
17:	2	1	4	1	-1	4	13896.56420	13896.56531	-0.00111	0.00100	0.00000
18:	2	-1	4	1	1	4	13896.56420	13896.56531	-0.00111	0.00100	0.00000
19:	2	1	2	1	-1	3	13903.01690	13903.01164	0.00526	0.00100	0.00000
20:	2	-1	2	1	1	3	13903.01690	13903.01164	0.00526	0.00100	0.00000
21:	2	0	2	1	0	2	13920.04980	13920.04945	0.00035	0.00100	0.00000
22:	2	1	3	1	-1	3	13956.28490	13956.28331	0.00159	0.00100	0.00000
23:	2	-1	3	1	1	3	13956.28490	13956.28331	0.00159	0.00100	0.00000
24:	2	0	3	1	0	4	13961.12340	13961.12833	-0.00493	0.00100	0.00000
25:	2	1	4	1	-1	3	13975.83020	13975.82943	0.00077	0.00100	0.00000
26:	2	-1	4	1	1	3	13975.83020	13975.82943	0.00077	0.00100	0.00000
27:	2	0	4	1	0	4	13998.05390	13998.05248	0.00142	0.00100	0.00000
28:	2	0	3	1	0	2	14029.19240	14029.19410	-0.00170	0.00100	0.00000

		NEW PARAMETER (EST. ERROR) -- CHANGE THIS ITERATION	
1	10000	A	3849.810000000( 0) 0.000000000
2	20000	B	3467.04957( 39) 0.00000
3	200	-DJ	-0.755( 50)E-03 -0.000E-03
4	1100	-DJK	-1.971(118)E-03 -0.000E-03
5	110010000	1.5eQq	1135.77262(288) 0.00000
6	10010000	-Caa	0.05066( 37) 0.00000
7	10020000	-Cbb	0.051165( 92) -0.000000

MICROWAVE AVG = -0.000000 MHz, IR AVG = 0.00000  
MICROWAVE RMS = 0.002792 MHz, IR RMS = 0.00000

### 3) Assigned Microwave and Infrared Lines and Fitted Molecular Parameters of the Ground State and of the $\nu_{11}=1$ Vibrational State of $\text{CH}_3^{187}\text{ReO}_3$ ( $\zeta$ fixed to 0)

Methyl rhenium trioxide  $\text{CH}_3(187)\text{ReO}_3$  T. Huet Mon Sep 06 15:37:45 2010

J'	K'	el'	<u>F2=2F'+1</u>	J	K	el	<u>F1=2F+1</u>	EXP.FREQ.	DIFF.	EXP.ERR.
1	0	0	2	0	0	3	3	6834.21080	-0.00207	0.00100
1	0	0	4	0	0	3	3	6898.66370	0.00060	0.00100
1	0	0	3	0	0	3	3	7049.07550	0.00147	0.00100
2	0	0	2	1	0	3	3	13702.05500	-0.00250	0.00100
2	1	0	1	1	1	0	2	13746.94030	0.00335	0.00100
2	1	0	2	1	1	0	2	13794.04740	-0.00090	0.00100
2	0	0	3	1	0	3	3	13805.30630	-0.00221	0.00100
2	0	0	1	1	0	2	2	13824.74830	0.00422	0.00100
2	1	0	5	1	1	0	4	13824.90000	0.00237	0.00100
2	0	0	4	1	0	3	3	13840.31860	0.00074	0.00100
2	1	0	3	1	1	0	2	13844.51230	-0.00462	0.00100
2	0	0	5	1	0	4	4	13852.77410	0.00255	0.00100
2	1	0	3	1	1	0	4	13876.13530	0.00005	0.00100
2	1	0	4	1	1	0	4	13894.61460	-0.00659	0.00100
2	1	0	2	1	1	0	3	13900.71520	0.00479	0.00100
2	0	0	2	1	0	2	2	13916.91920	0.00054	0.00100
2	1	0	3	1	1	0	3	13951.18010	0.00107	0.00100
2	0	0	3	1	0	4	4	13955.71880	-0.00065	0.00100
2	1	0	4	1	1	0	3	13969.66540	0.00043	0.00100
2	0	0	4	1	0	4	4	13990.72890	0.00010	0.00100
2	0	0	3	1	0	2	2	14020.16690	-0.00278	0.00100
20	1	1	21	20	0	0	21	29257646.61000	-0.02451	0.01000
20	1	1	20	20	0	0	20	29257646.91000	-0.08177	0.01000
20	1	1	22	20	0	0	22	29257648.50200	0.08441	0.01000
20	1	1	19	20	0	0	19	29257649.27000	0.07182	0.01000
20	1	1	23	20	0	0	23	29257652.61000	-0.03453	0.01000
20	1	1	18	20	0	0	18	29257652.96000	-0.01543	0.01000
12	0	2	13	12	1	0	13	29257810.00000	3.52396	6.20000
12	0	2	12	12	1	0	12	29257810.00000	3.35036	6.20000
12	0	2	14	12	1	0	14	29257810.00000	3.03475	6.20000
12	0	2	11	12	1	0	11	29257810.00000	2.66061	6.20000
12	0	2	15	12	1	0	15	29257810.00000	1.72027	6.20000
12	0	2	10	12	1	0	10	29257810.00000	1.58745	6.20000
19	-1	1	20	19	0	0	20	29257792.00000	4.19379	4.30000
19	-1	1	19	19	0	0	19	29257792.00000	3.80698	4.30000
19	-1	1	18	19	0	0	18	29257792.00000	1.54369	4.30000
19	-1	1	21	19	0	0	21	29257792.00000	2.39200	4.30000
19	-1	1	22	19	0	0	22	29257792.00000	-1.92435	4.30000

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19	-1	1	17	19	0	0	17	29257792.00000	-2.29841	4.30000
12	8	2	15	13	9	0	16	972.7221430	-0.0019919	-0.0034000
12	8	2	11	13	9	0	12	972.7221430	-0.0023083	-0.0034000
12	8	2	14	13	9	0	15	972.7221430	-0.0024160	-0.0034000
12	8	2	12	13	9	0	13	972.7221430	-0.0025357	-0.0034000
12	8	2	13	13	9	0	14	972.7221430	-0.0025840	-0.0034000
11	8	2	9	12	9	0	10	972.9571760	-0.0009208	-0.0034000
11	8	2	14	12	9	0	15	972.9571760	-0.0009696	-0.0034000
11	8	2	10	12	9	0	11	972.9571760	-0.0013153	-0.0034000
11	8	2	13	12	9	0	14	972.9571760	-0.0014123	-0.0034000
11	8	2	11	12	9	0	12	972.9571760	-0.0015503	-0.0034000
11	8	2	12	12	9	0	13	972.9571760	-0.0015939	-0.0034000
11	5	2	9	12	6	0	10	973.0385330	0.0042475	-0.0034000
11	5	2	14	12	6	0	15	973.0385330	0.0041463	-0.0034000
11	5	2	10	12	6	0	11	973.0385330	0.0038970	-0.0034000
11	5	2	13	12	6	0	14	973.0385330	0.0037095	-0.0034000
11	5	2	11	12	6	0	12	973.0385330	0.0036514	-0.0034000
11	5	2	12	12	6	0	13	973.0385330	0.0035678	-0.0034000
10	8	2	8	11	9	0	9	973.1907010	-0.0012078	-0.0034000
10	8	2	13	11	9	0	14	973.1907010	-0.0012372	-0.0034000
10	8	2	9	11	9	0	10	973.1907010	-0.0016151	-0.0034000
10	8	2	12	11	9	0	13	973.1907010	-0.0016786	-0.0034000
10	8	2	10	11	9	0	11	973.1907010	-0.0018447	-0.0034000
10	8	2	11	11	9	0	12	973.1907010	-0.0018733	-0.0034000
10	5	2	8	11	6	0	9	973.2713050	0.0032552	-0.0034000
10	5	2	13	11	6	0	14	973.2713050	0.0031382	-0.0034000
10	5	2	9	11	6	0	10	973.2713050	0.0028559	-0.0034000
10	5	2	12	11	6	0	13	973.2713050	0.0026395	-0.0034000
10	5	2	10	11	6	0	11	973.2713050	0.0025752	-0.0034000
10	5	2	11	11	6	0	12	973.2713050	0.0024787	-0.0034000
10	2	2	8	11	3	0	9	973.3458830	0.0008942	-0.0034000
10	2	2	13	11	3	0	14	973.3458830	0.0007797	-0.0034000
10	2	2	9	11	3	0	10	973.3458830	0.0007036	-0.0034000
10	2	2	10	11	3	0	11	973.3458830	0.0005306	-0.0034000
10	2	2	12	11	3	0	13	973.3458830	0.0004934	-0.0034000
10	2	2	11	11	3	0	12	973.3458830	0.0004369	-0.0034000
9	8	2	12	10	9	0	13	973.4257330	0.0002122	-0.0034000
9	8	2	7	10	9	0	8	973.4257330	0.0001964	-0.0034000
9	8	2	11	10	9	0	12	973.4257330	-0.0001870	-0.0034000
9	8	2	8	10	9	0	9	973.4257330	-0.0002038	-0.0034000
9	8	2	10	10	9	0	11	973.4257330	-0.0003945	-0.0034000
9	8	2	9	10	9	0	10	973.4257330	-0.0004014	-0.0034000
9	5	2	7	10	6	0	8	973.5033240	0.0017401	-0.0034000
9	5	2	12	10	6	0	13	973.5033240	0.0016082	-0.0034000
9	5	2	8	10	6	0	9	973.5033240	0.0012879	-0.0034000
9	5	2	11	10	6	0	12	973.5033240	0.0010437	-0.0034000
9	5	2	9	10	6	0	10	973.5033240	0.0009705	-0.0034000
9	5	2	10	10	6	0	11	973.5033240	0.0008617	-0.0034000
9	2	2	7	10	3	0	8	973.5786550	0.0001321	-0.0034000
9	2	2	12	10	3	0	13	973.5786550	-0.0000147	-0.0034000
9	2	2	8	10	3	0	9	973.5786550	-0.0001058	-0.0034000
9	2	2	9	10	3	0	10	973.5786550	-0.0003232	-0.0034000
9	2	2	11	10	3	0	12	973.5786550	-0.0003737	-0.0034000
9	2	2	10	10	3	0	11	973.5786550	-0.0004426	-0.0034000
8	8	2	8	9	9	0	8	973.6577530	0.0020189	-0.0034000
8	8	2	9	9	9	0	9	973.6577530	-0.0003732	-0.0034000
8	8	2	11	9	9	0	12	973.6577530	-0.0011567	-0.0034000
8	8	2	10	9	9	0	11	973.6577530	-0.0014304	-0.0034000
8	8	2	6	9	9	0	7	973.6577530	-0.0012718	-0.0034000
8	8	2	9	9	9	0	10	973.6577530	-0.0016518	-0.0034000
8	8	2	8	9	9	0	9	973.6577530	-0.0017380	-0.0034000
8	8	2	7	9	9	0	8	973.6577530	-0.0016260	-0.0034000
8	8	2	10	9	9	0	10	973.6577530	-0.0035992	-0.0034000
8	5	2	6	9	6	0	7	973.7345900	-0.0003056	-0.0034000
8	5	2	11	9	6	0	12	973.7345900	-0.0004458	-0.0034000
8	5	2	7	9	6	0	8	973.7345900	-0.0008120	-0.0034000
8	5	2	10	9	6	0	11	973.7345900	-0.0010724	-0.0034000
8	5	2	8	9	6	0	9	973.7345900	-0.0011624	-0.0034000
8	5	2	9	9	6	0	10	973.7345900	-0.0012784	-0.0034000
7	5	2	7	8	6	0	7	973.9711290	0.0033235	-0.0034000
7	5	2	5	8	6	0	6	973.9711290	0.0031218	-0.0034000
7	5	2	10	8	6	0	11	973.9711290	0.0029961	-0.0034000
7	5	2	6	8	6	0	7	973.9711290	0.0025674	-0.0034000
7	5	2	8	8	6	0	8	973.9711290	0.0025044	-0.0034000
7	5	2	9	8	6	0	10	973.9711290	0.0023307	-0.0034000
7	5	2	7	8	6	0	8	973.9711290	0.0022009	-0.0034000
7	5	2	8	8	6	0	9	973.9711290	0.0020955	-0.0034000

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7	5	2	9	8	6	0	9	973.9711290	0.0017108	-0.0034000
7	2	2	5	8	3	0	6	974.0440110	-0.0008174	-0.0034000
7	2	2	10	8	3	0	11	974.0440110	-0.0010712	-0.0034000
7	2	2	6	8	3	0	7	974.0444010	-0.0007971	-0.0034000
7	2	2	7	8	3	0	8	974.0440110	-0.0015385	-0.0034000
7	2	2	9	8	3	0	10	974.0440110	-0.0016462	-0.0034000
7	2	2	8	8	3	0	9	974.0440110	-0.0017429	-0.0034000
6	5	2	5	7	6	0	5	974.2028650	0.0041219	-0.0034000
6	5	2	6	7	6	0	6	974.2028650	0.0031209	-0.0034000
6	5	2	7	7	6	0	7	974.2028650	0.0018201	-0.0034000
6	5	2	4	7	6	0	5	974.2028650	0.0018854	-0.0034000
6	5	2	9	7	6	0	10	974.2028650	0.0018418	-0.0034000
6	5	2	5	7	6	0	6	974.2028650	0.0013050	-0.0034000
6	5	2	8	7	6	0	9	974.2028650	0.0012129	-0.0034000
6	5	2	6	7	6	0	7	974.2028650	0.0009749	-0.0034000
6	5	2	7	7	6	0	8	974.2028650	0.0009338	-0.0034000
6	5	2	8	7	6	0	8	974.2028650	0.0001677	-0.0034000
6	5	2	9	7	6	0	9	974.2028650	-0.0018810	-0.0034000
6	4	2	4	7	5	0	5	974.2281950	0.0018754	-0.0034000
6	4	2	9	7	5	0	10	974.2281950	0.0016667	-0.0034000
6	4	2	5	7	5	0	6	974.2281950	0.0012530	-0.0034000
6	4	2	8	7	5	0	9	974.2281950	0.0008679	-0.0034000
6	4	2	6	7	5	0	7	974.2281950	0.0007996	-0.0034000
6	4	2	7	7	5	0	8	974.2281950	0.0006285	-0.0034000
6	3	2	4	7	4	0	5	974.2526780	0.0008265	-0.0034000
6	3	2	9	7	4	0	10	974.2526780	0.0005176	-0.0034000
6	3	2	5	7	4	0	6	974.2526780	0.0002436	-0.0034000
6	3	2	6	7	4	0	7	974.2526780	-0.0002512	-0.0034000
6	3	2	8	7	4	0	9	974.2526780	-0.0003171	-0.0034000
6	3	2	7	7	4	0	8	974.2526780	-0.0005004	-0.0034000
6	2	2	4	7	3	0	5	974.2769720	-0.0006041	-0.0034000
6	2	2	9	7	3	0	10	974.2769720	-0.0009474	-0.0034000
6	2	2	5	7	3	0	6	974.2769720	-0.0010657	-0.0034000
6	2	2	8	7	3	0	8	974.2769720	-0.0011303	-0.0034000
6	2	2	6	7	3	0	7	974.2769720	-0.0015191	-0.0034000
6	2	2	8	7	3	0	9	974.2769720	-0.0016850	-0.0034000
6	2	2	7	7	3	0	8	974.2769720	-0.0017947	-0.0034000
6	2	2	7	7	3	0	7	974.2769720	-0.0023119	-0.0034000
6	2	2	6	7	3	0	6	974.2769720	-0.0027288	-0.0034000
5	5	2	4	6	6	0	4	974.4354490	0.0055159	-0.0034000
5	5	2	5	6	6	0	5	974.4354490	0.0045085	-0.0034000
5	5	2	6	6	6	0	6	974.4354490	0.0027092	-0.0034000
5	5	2	8	6	6	0	9	974.4354490	0.0016997	-0.0034000
5	5	2	7	6	6	0	8	974.4354490	0.0013282	-0.0034000
5	5	2	3	6	6	0	4	974.4354490	0.0014578	-0.0034000
5	5	2	6	6	6	0	7	974.4354490	0.0009495	-0.0034000
5	5	2	4	6	6	0	5	974.4354490	0.0009069	-0.0034000
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5	5	2	7	6	6	0	7	974.4354490	-0.0002215	-0.0034000
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5	4	2	5	6	5	0	5	974.4594610	0.0011712	-0.0034000
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5	4	2	8	6	5	0	9	974.4594610	0.0002911	-0.0034000
5	4	2	6	6	5	0	6	974.4594610	0.0000696	-0.0034000
5	4	2	4	6	5	0	5	974.4594610	-0.0002720	-0.0034000
5	4	2	7	6	5	0	8	974.4594610	-0.0004992	-0.0034000
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5	4	2	7	6	5	0	7	974.4594610	-0.0012890	-0.0034000
5	3	2	3	6	4	0	4	974.4830960	-0.0013013	-0.0034000
5	3	2	8	6	4	0	9	974.4830960	-0.0016587	-0.0034000
5	3	2	4	6	4	0	5	974.4830960	-0.0019916	-0.0034000
5	3	2	5	6	4	0	5	974.4830960	-0.0022333	-0.0034000
5	3	2	5	6	4	0	6	974.4830960	-0.0025712	-0.0034000
5	3	2	7	6	4	0	8	974.4830960	-0.0026418	-0.0034000
5	3	2	6	6	4	0	6	974.4830960	-0.0027123	-0.0034000
5	3	2	7	6	4	0	7	974.4830960	-0.0028032	-0.0034000
5	3	2	6	6	4	0	7	974.4830960	-0.0028597	-0.0034000
5	2	2	8	6	3	0	8	974.5097440	0.0006901	-0.0034000
5	2	2	3	6	3	0	4	974.5097440	-0.0002876	-0.0034000
5	2	2	8	6	3	0	9	974.5097440	-0.0007589	-0.0034000
5	2	2	4	6	3	0	5	974.5097440	-0.0008639	-0.0034000
5	2	2	7	6	3	0	7	974.5097440	-0.0013811	-0.0034000
5	2	2	5	6	3	0	6	974.5097440	-0.0014538	-0.0034000
5	2	2	7	6	3	0	8	974.5097440	-0.0017127	-0.0034000
5	2	2	6	6	3	0	7	974.5097440	-0.0018312	-0.0034000
5	2	2	4	6	3	0	4	974.5097440	-0.0019142	-0.0034000

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5	2	2	6	6	3	0	6	974.5097440	-0.0022466	-0.0034000
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5	1	2	4	6	2	0	5	974.5327200	-0.0035752	-0.0034000
5	1	2	8	6	2	0	9	974.5327200	-0.0036939	-0.0034000
5	1	2	5	6	2	0	6	974.5327200	-0.0040346	-0.0034000
5	1	2	7	6	2	0	8	974.5327200	-0.0043989	-0.0034000
5	1	2	6	6	2	0	7	974.5327200	-0.0044014	-0.0034000
4	3	2	3	5	4	0	3	974.7180340	0.0020668	-0.0034000
4	3	2	4	5	4	0	4	974.7180340	0.0012789	-0.0034000
4	3	2	2	5	4	0	3	974.7180340	0.0011957	-0.0034000
4	3	2	7	5	4	0	8	974.7180340	0.0009059	-0.0034000
4	3	2	5	5	4	0	5	974.7180340	0.0003515	-0.0034000
4	3	2	3	5	4	0	4	974.7180340	0.0003898	-0.0034000
4	3	2	6	5	4	0	7	974.7180340	-0.0001433	-0.0034000
4	3	2	4	5	4	0	5	974.7180340	-0.0002101	-0.0034000
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4	2	2	2	5	3	0	3	974.7423280	0.0001393	-0.0034000
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4	2	2	3	5	3	0	4	974.7423280	-0.0005783	-0.0034000
4	2	2	3	5	3	0	3	974.7423280	-0.0008566	-0.0034000
4	2	2	4	5	3	0	5	974.7423280	-0.0013406	-0.0034000
4	2	2	4	5	3	0	4	974.7423280	-0.0015892	-0.0034000
4	2	2	6	5	3	0	6	974.7423280	-0.0016699	-0.0034000
4	2	2	6	5	3	0	7	974.7423280	-0.0017284	-0.0034000
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4	2	2	5	5	3	0	5	974.7423280	-0.0019958	-0.0034000
3	3	2	2	4	4	0	2	974.9501470	0.0029459	-0.0034000
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3	3	2	1	4	4	0	2	974.9501470	0.0003290	-0.0034000
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5	1	1	5	4	0	0	5	977.1352120	0.0041613	-0.0034000
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5	1	1	5	4	0	0	4	977.1352120	0.0024801	-0.0034000
5	1	1	6	4	0	0	6	977.1352120	0.0024640	-0.0034000
5	1	1	4	4	0	0	3	977.1352120	0.0020375	-0.0034000
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5	1	1	7	4	0	0	7	977.1352120	-0.0010721	-0.0034000
5	5	1	7	4	4	0	7	977.2354960	0.0047504	-0.0034000
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5	5	1	5	4	4	0	4	977.2354960	-0.0003542	-0.0034000
5	5	1	4	4	4	0	3	977.2354960	-0.0003106	-0.0034000
5	5	1	6	4	4	0	5	977.2354960	-0.0007397	-0.0034000
5	5	1	3	4	4	0	2	977.2354960	-0.0007767	-0.0034000
5	5	1	7	4	4	0	6	977.2354960	-0.0011814	-0.0034000
5	5	1	8	4	4	0	7	977.2354960	-0.0012714	-0.0034000
5	5	1	5	4	4	0	5	977.2354960	-0.0026856	-0.0034000
5	5	1	4	4	4	0	4	977.2354960	-0.0039557	-0.0034000
5	5	1	3	4	4	0	3	977.2354960	-0.0043687	-0.0034000
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6	1	1	4	5	0	0	4	977.3646890	0.0045485	-0.0034000
6	1	1	6	5	0	0	6	977.3646890	0.0035820	-0.0034000
6	1	1	8	5	0	0	7	977.3646890	0.0026338	-0.0034000
6	1	1	7	5	0	0	6	977.3646890	0.0025558	-0.0034000
6	1	1	9	5	0	0	8	977.3646890	0.0021552	-0.0034000
6	1	1	6	5	0	0	5	977.3646890	0.0022276	-0.0034000
6	1	1	7	5	0	0	7	977.3646890	0.0017626	-0.0034000
6	1	1	5	5	0	0	4	977.3646890	0.0018980	-0.0034000
6	1	1	4	5	0	0	3	977.3646890	0.0017510	-0.0034000
6	1	1	8	5	0	0	8	977.3646890	-0.0014888	-0.0034000
6	4	1	7	5	3	0	6	977.4389840	-0.0006373	-0.0034000
6	4	1	7	5	3	0	7	977.4389840	-0.0006959	-0.0034000
6	4	1	6	5	3	0	6	977.4389840	-0.0007797	-0.0034000

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6	4	1	8	5	3	0	7	977.4389840	-0.0008528	-0.0034000
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6	4	1	8	5	3	0	8	977.4389840	-0.0012725	-0.0034000
6	4	1	5	5	3	0	4	977.4389840	-0.0015005	-0.0034000
6	4	1	9	5	3	0	8	977.4389840	-0.0018335	-0.0034000
6	4	1	4	5	3	0	4	977.4389840	-0.0019071	-0.0034000
6	4	1	4	5	3	0	3	977.4389840	-0.0021854	-0.0034000
6	5	1	8	5	4	0	8	977.4661970	0.0025234	-0.0034000
6	5	1	7	5	4	0	7	977.4661970	0.0008163	-0.0034000
6	5	1	7	5	4	0	6	977.4661970	0.0003147	-0.0034000
6	5	1	6	5	4	0	5	977.4661970	0.0002656	-0.0034000
6	5	1	8	5	4	0	7	977.4661970	0.0000501	-0.0034000
6	5	1	5	5	4	0	4	977.4661970	-0.0000613	-0.0034000
6	5	1	6	5	4	0	6	977.4661970	-0.0005306	-0.0034000
6	5	1	9	5	4	0	8	977.4661970	-0.0005705	-0.0034000
6	5	1	4	5	4	0	3	977.4661970	-0.0006208	-0.0034000
6	5	1	5	5	4	0	5	977.4661970	-0.0015503	-0.0034000
6	5	1	4	5	4	0	4	977.4661970	-0.0022978	-0.0034000
6	6	1	8	5	5	0	8	977.4920920	0.0056483	-0.0034000
6	6	1	7	5	5	0	7	977.4920920	0.0009416	-0.0034000
6	6	1	6	5	5	0	5	977.4920920	0.0000354	-0.0034000
6	6	1	5	5	5	0	4	977.4920920	0.0001189	-0.0034000
6	6	1	7	5	5	0	6	977.4920920	-0.0002657	-0.0034000
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6	6	1	8	5	5	0	7	977.4920920	-0.0005614	-0.0034000
6	6	1	9	5	5	0	8	977.4920920	-0.0005516	-0.0034000
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7	1	1	9	6	0	0	8	977.5937890	0.0020259	-0.0034000
7	1	1	8	6	0	0	7	977.5937890	0.0019957	-0.0034000
7	1	1	7	6	0	0	6	977.5937890	0.0017620	-0.0034000
7	1	1	10	6	0	0	9	977.5937890	0.0016389	-0.0034000
7	1	1	6	6	0	0	5	977.5937890	0.0015019	-0.0034000
7	1	1	5	6	0	0	4	977.5937890	0.0013533	-0.0034000
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7	4	1	7	6	3	0	7	977.6692130	0.0000686	-0.0034000
7	4	1	6	6	3	0	6	977.6692130	-0.0000180	-0.0034000
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7	4	1	5	6	3	0	5	977.6692130	-0.0004532	-0.0034000
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7	5	1	7	6	4	0	7	977.6957680	0.0000182	-0.0034000
7	5	1	6	6	4	0	5	977.6957680	-0.0002526	-0.0034000
7	5	1	6	6	4	0	6	977.6957680	-0.0005906	-0.0034000
7	5	1	10	6	4	0	9	977.6957680	-0.0006442	-0.0034000
7	5	1	5	6	4	0	4	977.6957680	-0.0008297	-0.0034000
7	6	1	8	6	5	0	8	977.7212860	0.0003189	-0.0034000
7	6	1	8	6	5	0	7	977.7212860	-0.0004710	-0.0034000
7	6	1	7	6	5	0	6	977.7212860	-0.0004579	-0.0034000
7	6	1	9	6	5	0	8	977.7212860	-0.0006950	-0.0034000
7	6	1	6	6	5	0	5	977.7212860	-0.0006649	-0.0034000
7	6	1	10	6	5	0	9	977.7212860	-0.0011163	-0.0034000
7	6	1	5	6	5	0	4	977.7212860	-0.0010884	-0.0034000
7	6	1	7	6	5	0	7	977.7212860	-0.0013300	-0.0034000
7	6	1	6	6	5	0	6	977.7212860	-0.0025382	-0.0034000
8	2	2	6	7	3	0	5	977.7414370	-0.0016094	-0.0034000

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8	2	2	11	7	3	0	10	977.7414370	-0.0018603	-0.0034000
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8	2	2	8	7	3	0	7	977.7414370	-0.0031869	-0.0034000
8	2	2	9	7	3	0	8	977.7414370	-0.0033744	-0.0034000
7	7	1	9	6	6	0	9	977.7489700	0.0069342	-0.0034000
7	7	1	8	6	6	0	8	977.7489700	0.0022936	-0.0034000
7	7	1	7	6	6	0	6	977.7489700	0.0009864	-0.0034000
7	7	1	6	6	6	0	5	977.7489700	0.0010890	-0.0034000
7	7	1	8	6	6	0	7	977.7489700	0.0007439	-0.0034000
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7	7	1	5	6	6	0	5	977.7489700	-0.0036870	-0.0034000
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9	7	1	7	8	6	0	6	978.2078290	0.0007350	-0.0034000
9	8	1	9	8	7	0	8	978.2318400	-0.0009250	-0.0034000
9	8	1	10	8	7	0	9	978.2318400	-0.0009786	-0.0034000

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9	8	1	8	8	7	0	7	978.2318400	-0.0010026	-0.0034000
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9	9	1	7	8	8	0	6	978.2571710	-0.0018776	-0.0034000
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11	1	1	12	10	0	0	11	978.5052920	-0.0026934	-0.0034000
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11	1	1	9	10	0	0	8	978.5052920	-0.0030585	-0.0034000



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11	4	1	12	10	3	0	11	978.5866490	0.0010608	-0.0034000
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13	7	1	14	12	6	0	13	979.1230040	0.0024973	-0.0034000
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14	10	1	17	13	9	0	16	979.4273410	-0.0003690	-0.0034000
14	10	1	12	13	9	0	11	979.4273410	-0.0003914	-0.0034000

NEW PARAMETER (EST. ERROR) -- CHANGE THIS ITERATION

1	10000	A	3854.01(127)	0.00
2	20000	B	3466.96481( 39)	-0.00000
3	200	-DJ0	-0.705( 50)E-03	0.000E-03
4	1100	-DJK0	-2.208(118)E-03	-0.001E-03
5	2000	-DK	-0.189(100)E-36	0.000E-36
6	110010000	1.5eQq	1074.81007(288)	-0.00001
7	10010000	-Caa0	0.05222( 37)	0.00000
8	10020000	-Cbb	0.051464( 92)	-0.000000
9	11	V11	29258744.5( 91)	-0.0
10	10011	A	3851.35(112)	0.00
11	20011	B	3463.4362(224)	0.0000
12	200011	-2AZeta11	0.793(100)E-36	-0.000E-36
13	2011	-DK	-0.189(100)E-36	-0.000E-36
14	110010011	1.5eQq	1042.169( 66)	-0.0000
15	10020011	-Cbb	0.053005(149)	0.000000

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MICROWAVE RMS = 0.546983 MHz, IR RMS = 0.00170