

V. Observed and fitted positions of the **nu_4** excited state, assuming gnd state fitted to combination differences from JILA data alone (nu_3 and nu_4 bands)

Residual std dev: 0.0028

Excited state (v=1): Gnd State (v=0):

J'	Ka'	Kc'	J''	Ka''	Kc''	Observed [cm ⁻¹]	Calculated [cm ⁻¹]	Obs- Calc [cm ⁻¹]	Weighting factors
P									
Branch:									
4	0	4	5	0	5	3066.3841	3066.3852	-0.0011	1
4	1	4	5	1	5	3066.3949	3066.3978	-0.0029	1
5	0	5	6	0	6	3066.2656	3066.2672	-0.0016	1
5	1	4	6	1	5	3066.1275	3066.1293	-0.0018	1
5	1	5	6	1	6	3066.2721	3066.2739	-0.0017	1
5	2	4	6	2	5	3066.1769	3066.1786	-0.0016	1
6	0	6	7	0	7	3066.1469	3066.1483	-0.0013	1
6	1	5	7	1	6	3066.0068	3066.007	-0.0002	1
6	1	6	7	1	7	3066.15	3066.1515	-0.0015	1
6	2	5	7	2	6	3066.0442	3066.0452	-0.001	1
7	0	7	8	0	8	3066.0268	3066.0286	-0.0018	1
7	1	6	8	1	7	3065.8899	3065.8909	-0.001	1
7	1	7	8	1	8	3066.0301	3066.0301	0	1
7	2	6	8	2	7	3065.9138	3065.9159	-0.0021	1
8	0	8	9	0	9	3065.9099	3065.9085	0.0013	1
8	1	7	9	1	8	3065.7739	3065.7756	-0.0017	1
8	1	8	9	1	9	3065.9099	3065.9091	0.0007	1
8	2	7	9	2	8	3065.7878	3065.7899	-0.0021	1
9	0	9	10	0	10	3065.7867	3065.7882	-0.0015	1
9	1	8	10	1	9	3065.6573	3065.6589	-0.0015	1
9	1	9	10	1	10	3065.7867	3065.7885	-0.0018	1
9	2	8	10	2	9	3065.6656	3065.6663	-0.0007	1
10	0	10	11	0	11	3065.6656	3065.6679	-0.0023	1
10	1	9	11	1	10	3065.5392	3065.5405	-0.0014	1
10	1	10	11	1	11	3065.6656	3065.668	-0.0024	1
10	2	9	11	2	10	3065.5435	3065.5441	-0.0007	1
11	0	11	12	0	12	3065.5452	3065.5476	-0.0024	1
11	1	10	12	1	11	3065.4209	3065.4212	-0.0002	1
11	1	11	12	1	12	3065.5452	3065.5476	-0.0025	1
11	2	10	12	2	11	3065.4209	3065.4228	-0.0019	1

12	0	12	13	0	13	3065.4253	3065.4273	-0.002	1
12	1	11	13	1	12	3065.2955	3065.3013	-0.0058	1
12	1	12	13	1	13	3065.4252	3065.4273	-0.0021	1
12	2	11	13	2	12	3065.2955	3065.302	-0.0066	1
13	0	13	14	0	14	3065.2984	3065.3071	-0.0088	1
13	1	12	14	1	13	3065.1792	3065.1811	-0.0019	1
13	1	13	14	1	14	3065.2984	3065.3071	-0.0088	1
13	2	12	14	2	13	3065.1792	3065.1815	-0.0023	1
14	0	14	15	0	15	3065.184	3065.187	-0.003	1
14	1	13	15	1	14	3065.0605	3065.0609	-0.0004	1
14	1	14	15	1	15	3065.184	3065.187	-0.003	1
14	2	13	15	2	14	3065.0605	3065.0611	-0.0006	1
15	0	15	16	0	16	3065.064	3065.067	-0.0029	1
15	1	15	16	1	16	3065.064	3065.067	-0.0029	1

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Branch:

3	0	3	2	0	2	3067.4886	3067.4872	0.0014	1
3	1	3	2	1	2	3067.4631	3067.4619	0.0012	1
4	0	4	3	0	3	3067.6125	3067.6113	0.0012	1
4	1	3	3	1	2	3067.7066	3067.7044	0.0022	1
4	1	4	3	1	3	3067.5931	3067.5913	0.0018	1
5	0	5	4	0	4	3067.7316	3067.7303	0.0013	1
5	1	5	4	1	4	3067.7194	3067.7179	0.0015	1
5	2	4	4	2	3	3067.7974	3067.7972	0.0003	1
6	0	6	5	0	5	3067.8508	3067.8489	0.0019	1
6	1	5	5	1	4	3067.9845	3067.9833	0.0012	1
6	1	6	5	1	5	3067.8438	3067.8423	0.0015	1
6	2	5	5	2	4	3067.9347	3067.9349	-0.0001	1
6	3	4	5	3	3	3067.9775	3067.9762	0.0013	1
6	4	3	5	4	2	3067.9793	3067.9791	0.0001	1
7	0	7	6	0	6	3067.9711	3067.9685	0.0026	1
7	1	6	6	1	5	3068.107	3068.1055	0.0015	1
7	1	7	6	1	6	3067.9712	3067.9653	0.0058	1
7	2	6	6	2	5	3068.0654	3068.0682	-0.0028	1
8	0	8	7	0	7	3068.092	3068.089	0.003	1
8	1	7	7	1	6	3068.2228	3068.2219	0.0009	1
8	1	8	7	1	7	3068.0882	3068.0876	0.0006	1
8	2	7	7	2	6	3068.1992	3068.1975	0.0017	1
9	0	9	8	0	8	3068.2114	3068.2101	0.0013	1
9	1	8	8	1	7	3068.3395	3068.3376	0.0019	1
9	1	9	8	1	8	3068.2114	3068.2095	0.0019	1
9	2	8	8	2	7	3068.3243	3068.3237	0.0006	1

10	0	10	9	0	9	3068.33	3068.3316	-0.0015	1
10	1	9	9	1	8	3068.4577	3068.455	0.0027	1
10	1	10	9	1	9	3068.33	3068.3313	-0.0013	1
10	2	9	9	2	8	3068.4478	3068.4478	0	1
11	0	11	10	0	10	3068.4561	3068.4532	0.0029	1
11	1	10	10	1	9	3068.5761	3068.5741	0.002	1
11	1	11	10	1	10	3068.4561	3068.4531	0.003	1
12	0	12	11	0	11	3068.5761	3068.575	0.0012	1
12	1	11	11	1	10	3068.6968	3068.6943	0.0025	1
12	1	12	11	1	11	3068.5761	3068.5749	0.0012	1
12	2	11	11	2	10	3068.6968	3068.6927	0.0041	1
13	0	13	12	0	12	3068.7022	3068.6968	0.0054	1
13	1	12	12	1	11	3068.8164	3068.8152	0.0012	1
13	1	13	12	1	12	3068.7022	3068.6968	0.0054	1
13	2	12	12	2	11	3068.8164	3068.8145	0.0019	1
14	0	14	13	0	13	3068.8238	3068.8188	0.005	1
14	1	13	13	1	12	3068.9396	3068.9365	0.0031	1
14	1	14	13	1	13	3068.8238	3068.8188	0.0051	1
14	2	12	13	2	11	3069.0594	3069.0598	-0.0003	1
14	2	13	13	2	12	3068.9396	3068.9362	0.0034	1
15	0	15	14	0	14	3068.944	3068.9408	0.0032	1
15	1	14	14	1	13	3069.0594	3069.058	0.0014	1
15	1	15	14	1	14	3068.944	3068.9408	0.0032	1
15	2	14	14	2	13	3069.0594	3069.0579	0.0016	1