

Supplementary Material

Complex hyperfine-fine structure overlapping in the microwave spectrum of 3,4-lutidine

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Table S-1. Nuclear coordinates in the inertial principal axis system of 34LUT calculated at the MP2/6-31G(d,p), MP2/6-311++G(d,p) and B3LYP-D3BJ/6-311++G(d,p) levels of theory.

The atoms are numbered according to Figure 1.

	MP2/6-31G(d,p)			MP2/6-311++G(d,p)			B3LYP-D3BJ/6-311++G(d,p)		
	$a/\text{\AA}$	$b/\text{\AA}$	$c/\text{\AA}$	$a/\text{\AA}$	$b/\text{\AA}$	$c/\text{\AA}$	$a/\text{\AA}$	$b/\text{\AA}$	$c/\text{\AA}$
N1	1.917529	-0.645332	0.000049	1.921326	-0.644842	-0.001094	1.905233	-0.648914	-0.000007
C2	0.747286	-1.305305	-0.000136	0.751574	-1.305558	-0.001226	0.741917	-1.304861	-0.000107
C3	-0.514545	-0.701497	-0.000204	-0.514961	-0.702537	0.014526	-0.516723	-0.699837	-0.000049
C4	-0.571940	0.703427	-0.000109	-0.574302	0.704830	-0.013405	-0.565002	0.704834	-0.000054
C5	0.639248	1.398314	-0.000006	0.639754	1.401399	0.002700	0.647708	1.393009	0.000004
C6	1.843376	0.696114	0.000135	1.847008	0.696704	-0.000525	1.845595	0.683949	0.000122
C7	-1.760832	-1.540496	0.000173	-1.763334	-1.544548	-0.003519	-1.767689	-1.535734	0.000097
C8	-1.888854	1.428235	-0.000004	-1.895091	1.428577	0.002661	-1.877621	1.439298	-0.000037
H9	0.818525	-2.389112	-0.000193	0.823224	-2.393181	0.003553	0.809149	-2.390367	-0.000231
H10	-1.510957	-2.600169	-0.001568	-1.513587	-2.607798	0.041821	-1.524993	-2.599665	-0.001186
H11	-2.373876	-1.339845	0.879975	-2.412548	-1.309702	0.846754	-2.385759	-1.332886	0.880537
H12	-2.376143	-1.337531	-0.877492	-2.342723	-1.369552	-0.916668	-2.387342	-1.331119	-0.878794
H13	-2.481006	1.169601	0.879063	-2.454697	1.199610	0.916352	-2.475363	1.180587	0.879551
H14	-1.738019	2.506237	-0.001625	-1.748002	2.510490	-0.045863	-1.725245	2.519356	-0.001491
H15	-2.482544	1.167138	-0.877281	-2.520060	1.128459	-0.845473	-2.476740	1.178339	-0.877997
H16	0.646660	2.481751	0.000091	0.648442	2.489033	-0.003804	0.661261	2.477421	-0.000098
H17	2.789341	1.226145	0.000152	2.795962	1.229144	0.004091	2.795841	1.210074	0.000088

Table S-2. Rotational constants of 34LUT (in MHz) calculated at different levels of theory. The differences between the calculated and experimental values (in MHz) are given as ΔA , ΔB and ΔC . Σ is the sum of the absolute values of ΔA , ΔB and ΔC .

Method/Basis Set	<i>A</i>	ΔA	<i>B</i>	ΔB	<i>C</i>	ΔC	Σ
B3LYP-D3/6-31G(d,p)	3228.0	6.2	2171.8	-8.7	1319.5	-2.3	8.7
B3LYP-D3/6-31+G(d,p)	3220.9	-0.9	2168.7	-11.8	1317.2	-4.6	17.3
B3LYP-D3/6-31++G(d,p)	3220.9	-0.9	2168.8	-11.8	1317.2	-4.5	17.2
B3LYP-D3/6-311G(d,p)	3234.9	13.1	2178.7	-1.8	1323.1	1.4	16.3
B3LYP-D3/6-311+G(d,p)	3233.4	11.6	2178.0	-2.5	1322.6	0.9	15.0
B3LYP-D3/6-311++G(d,p)	3233.4	11.6	2178.0	-2.5	1322.6	0.9	15.0
B3LYP-D3/6-311G(2d,2p)	3246.0	24.2	2186.0	5.4	1327.5	5.8	35.4
B3LYP-D3/6-311+G(2d,2p)	3244.6	22.8	2185.4	4.9	1327.1	5.4	33.1
B3LYP-D3/6-311++G(2d,2p)	3244.6	22.8	2185.4	4.9	1327.1	5.4	33.1
B3LYP-D3/6-311G(df,pd)	3244.9	23.1	2186.4	5.9	1327.6	5.9	34.9
B3LYP-D3/6-311+G(df,pd)	3243.7	21.9	2185.9	5.3	1327.2	5.5	32.7
B3LYP-D3/6-311++G(df,pd)	3243.8	21.9	2185.9	5.3	1327.2	5.5	32.7
B3LYP-D3/6-311G(2df,2pd)	3249.6	27.8	2189.2	8.7	1329.3	7.6	44.1
B3LYP-D3/6-311+G(2df,2pd)	3248.1	26.2	2188.6	8.0	1328.8	7.1	41.3
B3LYP-D3/6-311++G(2df,2pd)	3248.0	26.2	2188.6	8.1	1328.8	7.1	41.4
B3LYP-D3/6-311G(3df,3pd)	3250.6	28.8	2190.0	9.5	1329.8	8.1	46.4
B3LYP-D3/6-311+G(3df,3pd)	3249.8	28.0	2189.2	8.7	1329.4	7.6	44.3
B3LYP-D3/6-311++G(3df,3pd)	3249.9	28.0	2189.2	8.7	1329.4	7.6	44.3
B3LYP-D3/cc-pVDZ	3224.7	2.9	2164.0	-16.5	1316.3	-5.5	24.9
B3LYP-D3/aug-cc-pVDZ	3223.8	2.0	2166.2	-14.3	1316.9	-4.9	21.2
B3LYP-D3/cc-pVTZ	3248.9	27.0	2189.2	8.7	1329.2	7.5	43.2
B3LYP-D3/aug-cc-pVTZ	3248.7	26.8	2189.3	8.7	1329.2	7.5	43.0
B3LYP-D3(BJ)/6-31G(d,p)	3227.0	5.2	2177.2	-3.4	1321.3	-0.5	9.1
B3LYP-D3(BJ)/6-31+G(d,p)	3219.8	-2.0	2174.2	-6.4	1319.0	-2.7	11.1
B3LYP-D3(BJ)/6-31++G(d,p)	3219.9	-1.9	2174.2	-6.3	1319.0	-2.7	10.9
B3LYP-D3(BJ)/6-311G(d,p)	3233.7	11.9	2184.2	3.7	1325.0	3.2	18.8
B3LYP-D3(BJ)/6-311+G(d,p)	3232.3	10.5	2183.5	2.9	1324.4	2.7	16.1
B3LYP-D3(BJ)/6-311++G(d,p)	3232.3	10.5	2183.5	2.9	1324.5	2.7	16.1
B3LYP-D3(BJ)/6-311G(2d,2p)	3244.8	23.0	2191.4	10.9	1329.3	7.6	41.5
B3LYP-D3(BJ)/6-311+G(2d,2p)	3243.5	21.7	2190.8	10.3	1328.9	7.2	39.2
B3LYP-D3(BJ)/6-311++G(2d,2p)	3243.5	21.7	2190.8	10.3	1328.9	7.2	39.2
B3LYP-D3(BJ)/6-311G(df,pd)	3243.8	22.0	2191.9	11.3	1329.4	7.7	41.0
B3LYP-D3(BJ)/6-311+G(df,pd)	3242.6	20.8	2191.3	10.8	1329.0	7.3	38.9
B3LYP-D3(BJ)/6-311++G(df,pd)	3242.8	20.9	2191.3	10.8	1329.0	7.3	39.0
B3LYP-D3(BJ)/6-311G(2df,2pd)	3248.5	26.7	2194.6	14.1	1331.1	9.4	50.2
B3LYP-D3(BJ)/6-311+G(2df,2pd)	3247.0	25.2	2194.0	13.5	1330.7	8.9	47.6
B3LYP-D3(BJ)/6-311++G(2df,2pd)	3247.0	25.2	2194.0	13.5	1330.7	8.9	47.6
B3LYP-D3(BJ)/6-311G(3df,3pd)	3249.6	27.7	2195.4	14.9	1331.6	9.9	52.5

B3LYP-D3(BJ)/6-311+G(3df,3pd)	3248.9	27.1	2194.6	14.1	1331.2	9.5	50.7
B3LYP-D3(BJ)/6-311++G(3df,3pd)	3249.0	27.1	2194.6	14.1	1331.2	9.5	50.7
B3LYP-D3(BJ)/cc-pVDZ	3224.2	2.4	2169.2	-11.3	1318.1	-3.6	17.3
B3LYP-D3BJ/aug-cc-pVDZ	3223.3	1.5	2171.5	-9.0	1318.7	-3.0	13.5
B3LYP-D3(BJ)/cc-pVTZ	3247.8	25.9	2194.6	14.1	1331.0	9.3	49.3
B3LYP-D3BJ/aug-cc-pVTZ	3247.6	25.8	2194.7	14.2	1331.0	9.3	49.3
CAM-B3LYP-D3(BJ)/6-311G(d,p)	3256.2	34.4	2199.4	18.9	1334.3	12.6	65.9
CAM-B3LYP-D3(BJ)/6-311+G(d,p)	3255.0	33.2	2198.7	18.2	1333.8	12.1	63.5
CAM-B3LYP-D3(BJ)/6-311++G(d,p)	3255.0	33.2	2198.7	18.2	1333.8	12.1	63.5
CAM-B3LYP-D3(BJ)/cc-pVDZ	3245.1	23.2	2184.6	4.0	1327.2	5.5	32.7
CAM-B3LYP-D3BJ/aug-cc-pVDZ	3244.7	22.9	2186.8	6.2	1327.9	6.2	35.3
CAM-B3LYP-D3(BJ)/cc-pVTZ	3270.9	49.1	2209.8	29.2	1340.5	18.7	97.0
CAM-B3LYP-D3BJ/aug-cc-pVTZ	3270.8	49.0	2209.8	29.3	1340.5	18.7	97.0
CCSD/cc-pVDZ	3191.4	-30.4	2147.9	-32.6	1305.0	-16.7	79.7
M06-2X/6-31G(d,p)	3252.1	30.3	2183.5	3.0	1327.8	6.1	39.4
M06-2X/6-31+G(d,p)	3245.5	23.7	2180.9	0.4	1325.8	4.1	28.2
M06-2X/6-31++G(d,p)	3245.6	23.8	2180.9	0.4	1325.8	4.1	28.3
M06-2X/6-311G(d,p)	3260.1	38.2	2187.9	7.3	1330.7	9.0	54.5
M06-2X/6-311+G(d,p)	3258.9	37.1	2187.1	6.6	1330.3	8.6	52.3
M06-2X/6-311++G(d,p)	3259.1	37.3	2187.1	6.6	1330.3	8.6	52.5
M06-2X/6-311G(2d,2p)	3272.1	50.2	2194.0	13.5	1334.9	13.2	76.9
M06-2X/6-311+G(2d,2p)	3271.1	49.3	2193.5	12.9	1334.5	12.8	75.0
M06-2X/6-311++G(2d,2p)	3271.1	49.3	2193.5	12.9	1334.5	12.8	75.0
M06-2X/6-311G(df,pd)	3269.2	47.4	2193.6	13.1	1334.4	12.6	73.1
M06-2X/6-311+G(df,pd)	3268.5	46.7	2193.1	12.5	1334.0	12.3	71.5
M06-2X/6-311++G(df,pd)	3268.7	46.9	2193.1	12.6	1334.1	12.3	71.8
M06-2X/6-311G(2df,2pd)	3275.5	53.7	2196.5	15.9	1336.4	14.6	84.2
M06-2X/6-311+G(2df,2pd)	3274.5	52.7	2195.9	15.3	1336.0	14.2	82.2
M06-2X/6-311++G(2df,2pd)	3274.4	52.6	2195.9	15.4	1336.0	14.2	82.2
M06-2X/6-311G(3df,3pd)	3276.5	54.7	2196.7	16.2	1336.6	14.9	85.8
M06-2X/6-311+G(3df,3pd)	3276.1	54.3	2196.0	15.4	1336.3	14.5	84.2
M06-2X/6-311++G(3df,3pd)	3276.1	54.3	2196.0	15.4	1336.3	14.5	84.2
M06-2X/cc-pVDZ	3250.3	28.5	2177.0	-3.5	1325.3	3.6	35.6
M06-2X/aug-cc-pVDZ	3251.7	29.9	2178.1	-2.4	1325.9	4.2	36.5
M06-2X/cc-pVTZ	3276.5	54.6	2196.6	16.1	1336.6	14.8	85.5
M06-2X/aug-cc-pVTZ	3276.3	54.5	2196.8	16.3	1336.6	14.9	85.7
MN15/6-31G(d,p)	3244.1	22.3	2178.0	-2.6	1324.4	2.7	27.6
MN15/6-31+G(d,p)	3235.4	13.6	2175.3	-5.3	1322.1	0.3	19.2
MN15/6-31++G(d,p)	3235.3	13.5	2175.3	-5.2	1322.1	0.3	19.0
MN15/6-311G(d,p)	3256.6	34.8	2186.3	5.7	1329.5	7.8	48.3
MN15/6-311+G(d,p)	3256.1	34.3	2185.3	4.8	1329.1	7.4	46.5
MN15/6-311++G(d,p)	3256.2	34.4	2185.3	4.8	1329.1	7.4	46.6
MN15/6-311G(2d,2p)	3269.1	47.3	2191.4	10.8	1333.4	11.7	69.8
MN15/6-311+G(2d,2p)	3268.1	46.3	2190.7	10.1	1333.0	11.2	67.6

MN15/6-311++G(2d,2p)	3268.2	46.4	2190.6	10.1	1333.0	11.3	67.8
MN15/6-311G(df,pd)	3269.0	47.2	2194.6	14.1	1334.6	12.9	74.2
MN15/6-311+G(df,pd)	3268.6	46.8	2193.7	13.2	1334.2	12.5	72.5
MN15/6-311++G(df,pd)	3268.6	46.8	2193.6	13.1	1334.2	12.5	72.4
MN15/6-311G(2df,2pd)	3274.1	52.3	2194.6	14.1	1335.4	13.7	80.1
MN15/6-311+G(2df,2pd)	3273.0	51.2	2194.0	13.5	1335.0	13.3	78.0
MN15/6-311++G(2df,2pd)	3273.1	51.3	2194.1	13.5	1335.0	13.3	78.1
MN15/6-311G(3df,3pd)	3278.2	56.4	2196.7	16.2	1336.9	15.1	87.7
MN15/6-311+G(3df,3pd)	3277.3	55.5	2195.8	15.3	1336.4	14.7	85.5
MN15/6-311++G(3df,3pd)	3277.4	55.6	2195.9	15.3	1336.4	14.7	85.6
MN15/cc-pVDZ	3245.7	23.9	2171.6	-9.0	1322.5	0.8	33.7
MN15/aug-cc-pVDZ	3246.5	24.6	2173.8	-6.7	1323.5	1.7	33.0
MN15/cc-pVTZ	3277.0	55.1	2195.6	15.0	1336.2	14.5	84.6
MN15/aug-cc-pVTZ	3279.1	57.2	2196.5	15.9	1336.9	15.2	88.3
PBE0-D3/6-31G(d,p)	3198.5	-23.3	2155.4	-25.2	1308.7	-13.0	61.5
PBE0-D3/6-31+G(d,p)	3191.1	-30.7	2152.8	-27.7	1306.6	-15.1	73.5
PBE0-D3/6-31++G(d,p)	3191.2	-30.6	2152.9	-27.7	1306.6	-15.1	73.4
PBE0-D3/6-311G(d,p)	3206.6	-15.3	2163.5	-17.1	1313.0	-8.7	41.1
PBE0-D3/6-311+G(d,p)	3204.7	-17.1	2162.9	-17.6	1312.5	-9.2	43.9
PBE0-D3/6-311++G(d,p)	3204.7	-17.1	2162.9	-17.6	1312.5	-9.2	43.9
PBE0-D3/6-311G(2d,2p)	3215.5	-6.3	2169.1	-11.5	1316.5	-5.2	23.0
PBE0-D3/6-311+G(2d,2p)	3214.0	-7.8	2168.8	-11.8	1316.1	-5.6	25.2
PBE0-D3/6-311++G(2d,2p)	3214.0	-7.8	2168.8	-11.8	1316.1	-5.6	25.2
PBE0-D3/6-311G(df,pd)	3215.8	-6.0	2170.2	-10.3	1317.0	-4.7	21.0
PBE0-D3/6-311+G(df,pd)	3214.1	-7.8	2169.8	-10.8	1316.6	-5.2	23.8
PBE0-D3/6-311++G(df,pd)	3214.3	-7.5	2169.8	-10.8	1316.6	-5.1	23.4
PBE0-D3/6-311G(2df,2pd)	3219.5	-2.3	2172.2	-8.4	1318.3	-3.4	14.1
PBE0-D3/6-311+G(2df,2pd)	3217.8	-4.0	2171.8	-8.7	1317.9	-3.9	16.6
PBE0-D3/6-311++G(2df,2pd)	3217.7	-4.1	2171.8	-8.7	1317.9	-3.9	16.7
PBE0-D3/6-311G(3df,3pd)	3221.0	-0.8	2173.2	-7.3	1318.9	-2.8	10.9
PBE0-D3/6-311+G(3df,3pd)	3220.4	-1.4	2172.6	-8.0	1318.6	-3.1	12.5
PBE0-D3/6-311++G(3df,3pd)	3220.5	-1.3	2172.5	-8.0	1318.6	-3.1	12.4
PBE0-D3/cc-pVDZ	3196.3	-25.5	2149.6	-31.0	1306.4	-15.3	71.8
PBE0-D3/aug-cc-pVDZ	3195.3	-26.5	2151.3	-29.2	1306.8	-14.9	70.6
PBE0-D3/cc-pVTZ	3218.8	-3.0	2172.4	-8.1	1318.3	-3.4	14.5
PBE0-D3/aug-cc-pVTZ	3218.5	-3.3	2172.5	-8.1	1318.2	-3.5	14.9
ωB97X-D/6-31G(d,p)	3244.0	22.2	2184.7	4.2	1326.9	5.2	31.6
ωB97X-D/6-31+G(d,p)	3238.6	16.8	2182.4	1.9	1325.2	3.5	22.2
ωB97X-D/6-31++G(d,p)	3238.7	16.9	2182.4	1.9	1325.2	3.5	22.3
ωB97X-D/6-311G(d,p)	3252.8	31.0	2191.2	10.7	1330.8	9.1	50.8
ωB97X-D/6-311+G(d,p)	3251.6	29.8	2190.7	10.1	1330.4	8.6	48.5
ωB97X-D/6-311++G(d,p)	3251.6	29.8	2190.7	10.1	1330.4	8.6	48.5
ωB97X-D/6-311G(2d,2p)	3263.3	41.5	2197.6	17.1	1334.8	13.1	71.7
ωB97X-D/6-311+G(2d,2p)	3262.2	40.4	2197.3	16.7	1334.5	12.7	69.8

ω B97X-D/6-311++G(2d,2p)	3262.2	40.4	2197.3	16.7	1334.5	12.7	69.8
ω B97X-D/6-311G(df,pd)	3262.1	40.3	2197.8	17.2	1334.7	13.0	70.5
ω B97X-D/6-311+G(df,pd)	3261.2	39.4	2197.4	16.9	1334.4	12.7	69.0
ω B97X-D/6-311++G(df,pd)	3261.2	39.4	2197.4	16.9	1334.4	12.7	69.0
ω B97X-D/6-311G(2df,2pd)	3266.6	44.7	2200.5	20.0	1336.4	14.6	79.3
ω B97X-D/6-311+G(2df,2pd)	3265.3	43.5	2200.1	19.6	1336.0	14.3	77.4
ω B97X-D/6-311++G(2df,2pd)	3265.4	43.6	2200.2	19.6	1336.0	14.3	77.5
ω B97X-D/6-311G(3df,3pd)	3267.9	46.0	2201.2	20.7	1336.9	15.1	81.8
ω B97X-D/6-311+G(3df,3pd)	3267.3	45.5	2200.6	20.1	1336.6	14.8	80.4
ω B97X-D/6-311++G(3df,3pd)	3267.4	45.5	2200.6	20.1	1336.6	14.8	80.4
ω B97X-D/cc-pVDZ	3237.6	15.8	2177.8	-2.7	1323.5	1.8	20.3
ω B97X-D/aug-cc-pVDZ	3240.1	18.3	2179.1	-1.4	1324.4	2.7	22.4
ω B97X-D/cc-pVTZ	3266.8	45.0	2201.1	20.5	1336.6	14.9	80.4
ω B97X-D/aug-cc-pVTZ	3267.4	45.6	2201.3	20.7	1336.8	15.1	81.4
MP2/6-31G(d,p)	3230.3	8.5	2176.8	-3.8	1321.6	-0.1	12.4
MP2/6-31+G(d,p)	3221.4	-0.4	2172.1	-8.4	1318.5	-3.2	12.0
MP2/6-31++G(d,p)	3221.2	-0.6	2172.1	-8.4	1318.5	-3.2	12.2
MP2/6-311G(d,p)	3225.6	3.8	2168.2	-12.3	1317.9	-3.9	20.0
MP2/6-311+G(d,p)	3221.6	-0.2	2166.5	-14.0	1316.6	-5.1	19.3
MP2/6-311++G(d,p)	3220.8	-1.0	2166.6	-13.9	1316.5	-5.2	20.1
MP2/6-311G(2d,2p)	3245.7	23.9	2178.9	-1.7	1324.8	3.1	28.7
MP2/6-311+G(2d,2p)	3243.3	21.4	2177.7	-2.8	1324.0	2.3	26.5
MP2/6-311++G(2d,2p)	3243.0	21.2	2177.8	-2.8	1324.0	2.3	26.3
MP2/6-311G(df,pd)	3245.3	23.5	2183.0	2.5	1326.5	4.8	30.8
MP2/6-311+G(df,pd)	3241.2	19.4	2181.2	0.7	1325.2	3.5	23.6
MP2/6-311++G(df,pd)	3241.6	19.8	2181.0	0.5	1325.2	3.5	23.8
MP2/6-311G(2df,2pd)	3258.5	36.7	2188.7	8.2	1330.7	8.9	53.8
MP2/6-311+G(2df,2pd)	3255.7	33.9	2187.3	6.8	1329.7	7.9	48.6
MP2/6-311++G(2df,2pd)	3255.6	33.7	2187.3	6.8	1329.7	7.9	48.4
MP2/6-311G(3df,3pd)	3255.9	34.1	2186.2	5.6	1329.3	7.6	47.3
MP2/6-311+G(3df,3pd)	3254.3	32.5	2184.9	4.3	1328.6	6.8	43.6
MP2/6-311++G(3df,3pd)	3254.4	32.6	2184.9	4.3	1328.6	6.8	43.7
MP2/cc-pVDZ	3201.2	-20.6	2148.7	-31.9	1306.8	-14.9	67.4
MP2/aug-cc-pVDZ	3197.1	-24.7	2144.8	-35.7	1304.7	-17.0	77.4
MP2/cc-pVTZ	3251.9	30.1	2185.3	4.8	1328.3	6.6	41.5
MP2/aug-cc-pVTZ	3252.4	30.6	2183.5	2.9	1327.8	6.0	39.5
Experimental	3221.8		2180.5		1321.7		

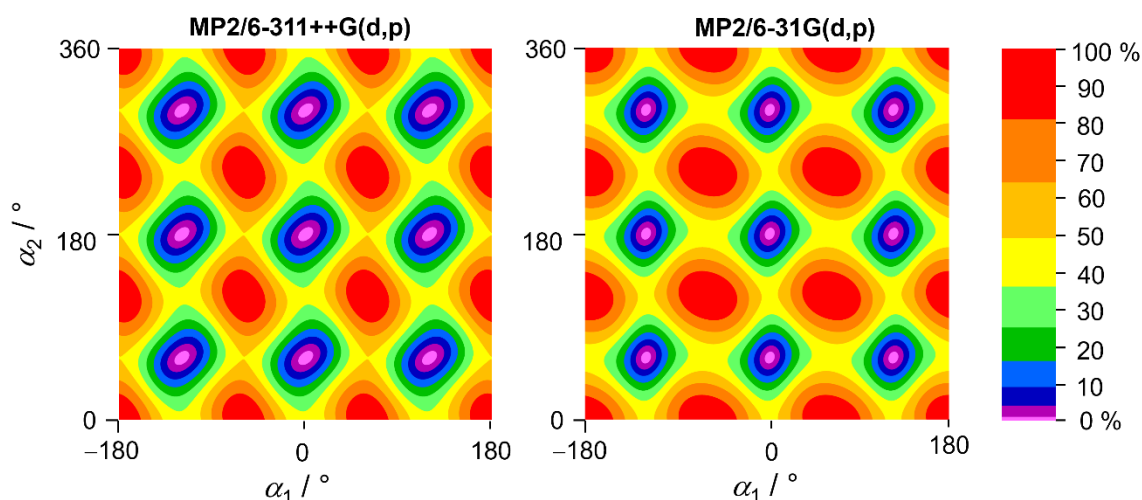


Figure S-1: The potential energy surfaces of 34LUT as a function of the two dihedral angles $\alpha_1 = \angle(\text{C}_2, \text{C}_3, \text{C}_7, \text{H}_{10})$ and $\alpha_2 = \angle(\text{C}_5, \text{C}_4, \text{C}_8, \text{H}_{14})$, describing the torsion of the two inequivalent methyl groups. The angles α_1 and α_2 were varied in steps of 10° while all other geometry parameters were optimized at the MP2/6-311++G(d,p) and MP2/6-31G(d,p) levels. The numbers in the color code indicate the energy in percent with respect to the lowest energy conformation at $E_{\min} = -326.012384$ Hartree (0%) for the former and -325.897960 Hartree for the latter level. The respective energy maximum is at $E_{\max} = -326.008088$ Hartree and -325.893489 Hartree (100%).

The potential energy points calculated at the MP2/6-311++G(d,p) level were parametrized with a 2D Fourier expansion as:

$$\begin{aligned}
 V(\alpha) = & -326.010524 \text{ Hartree} - \frac{262.1 \text{ cm}^{-1}}{2} \cos(3\alpha_1) - \frac{211.9 \text{ cm}^{-1}}{2} \cos(3\alpha_2) \\
 & + \frac{18.6 \text{ cm}^{-1}}{2} \cos(6\alpha_1) + \frac{10.1 \text{ cm}^{-1}}{2} \cos(6\alpha_2) + 30.9 \text{ cm}^{-1} \cdot \cos(3\alpha_1) \cos(3\alpha_2) \\
 & - 71.4 \text{ cm}^{-1} \cdot \sin(3\alpha_1) \sin(3\alpha_2)
 \end{aligned}$$

and those calculated at the MP2/6-31G(d,p) level with:

$$\begin{aligned}
 V(\alpha) = & -325.896164 \text{ Hartree} - \frac{199.4 \text{ cm}^{-1}}{2} \cos(3\alpha_1) - \frac{214.3 \text{ cm}^{-1}}{2} \cos(3\alpha_2) \\
 & - \frac{23.1 \text{ cm}^{-1}}{2} \cos(6\alpha_1) + 25.1 \text{ cm}^{-1} \cdot \cos(3\alpha_1) \cos(3\alpha_2) - 40.7 \text{ cm}^{-1} \\
 & \cdot \sin(3\alpha_1) \sin(3\alpha_2).
 \end{aligned}$$

Table S-3. Observed frequencies ($\nu_{\text{obs.}}$) of 34LUT. The $\nu_{\text{obs.}} - \nu_{\text{calc.}}$ values are obtained with the program *XIAM*.

N°	J	K_a	K_c	F	J	K_a	K_c	F	<i>Species</i>	ν_{obs} / MHz	$\nu_{\text{obs}} - \nu_{\text{calc}}$ / kHz
	Upper level				Lower level						
1	1	0	1	1	0	0	0	0	(00)	3501.4617	−1.6
	1	0	1	1	0	0	0	1	(00)	3501.4617	−1.6
	1	0	1	2	0	0	0	1	(00)	3502.4532	−2.6
	1	0	1	1	0	0	0	0	(01)	3501.4507	1.1
	1	0	1	1	0	0	0	1	(01)	3501.4507	1.1
	1	0	1	2	0	0	0	1	(01)	3502.4445	2.3
	1	0	1	1	0	0	0	0	(10)	3501.4342	2.2
	1	0	1	1	0	0	0	1	(10)	3501.4342	2.2
	1	0	1	2	0	0	0	1	(10)	3502.4264	1.8
	1	0	1	1	0	0	0	0	(11)	3501.4176	1.2
	1	0	1	1	0	0	0	1	(11)	3501.4176	1.2
	1	0	1	2	0	0	0	1	(11)	3502.4264	17.5
	1	0	1	1	0	0	0	0	(12)	3501.4176	−2.9
	1	0	1	1	0	0	0	1	(12)	3501.4176	−2.9
	1	0	1	2	0	0	0	1	(12)	3502.4264	13.3
2	1	1	1	1	0	0	0	0	(00)	4543.7067	10.9
	1	1	1	1	0	0	0	1	(00)	4543.7067	10.9
	1	1	1	2	0	0	0	1	(00)	4543.7231	15.6
	1	1	1	1	0	0	0	0	(01)	4543.6361	−1.7
	1	1	1	1	0	0	0	1	(01)	4543.6361	−1.7
	1	1	1	2	0	0	0	1	(01)	4543.6665	16.9
	1	1	1	1	0	0	0	0	(10)	4543.5101	−1.8
	1	1	1	1	0	0	0	1	(10)	4543.5101	−1.8
	1	1	1	2	0	0	0	1	(10)	4543.5170	−6.5
	1	1	1	1	0	0	0	0	(11)	4543.4271	−5.4
	1	1	1	1	0	0	0	1	(11)	4543.4271	−5.4
	1	1	1	2	0	0	0	1	(11)	4543.4390	−5.1
	1	1	1	1	0	0	0	0	(12)	4543.4714	−3.9
	1	1	1	1	0	0	0	1	(12)	4543.4714	−3.9
	1	1	1	2	0	0	0	1	(12)	4543.4842	−2.8
3	2	0	2	1	1	0	1	0	(00)	6649.1858	−2.3
	2	0	2	1	1	0	1	1	(00)	6651.6704	0.8
	2	0	2	2	1	0	1	2	(00)	6648.7514	−8.0
	2	0	2	3	1	0	1	2	(00)	6649.9982	6.0
	2	0	2	1	1	0	1	0	(01)	6649.1535	−8.2
	2	0	2	1	1	0	1	1	(01)	6651.6509	7.8
	2	0	2	2	1	0	1	2	(01)	6648.7219	−11.1
	2	0	2	3	1	0	1	2	(01)	6649.9706	4.9
	2	0	2	1	1	0	1	0	(10)	6649.1121	−9.3
	2	0	2	1	1	0	1	1	(10)	6651.6104	7.5

4	2	0	2	2	1	0	1	1	(10)	6649.6935	8.2
	2	0	2	2	1	0	1	2	(10)	6648.7030	10.3
	2	0	2	3	1	0	1	2	(10)	6649.9231	-2.3
	2	0	2	1	1	0	1	0	(11)	6649.1024	8.7
	2	0	2	1	1	0	1	1	(11)	6651.5795	4.3
	2	0	2	2	1	0	1	1	(11)	6649.6615	3.8
	2	0	2	2	1	0	1	2	(11)	6648.6757	10.7
	2	0	2	3	1	0	1	2	(11)	6649.8948	-3.0
	2	0	2	1	1	0	1	0	(12)	6649.1024	6.3
	2	0	2	1	1	0	1	1	(12)	6651.5950	17.3
	2	0	2	2	1	0	1	1	(12)	6649.6615	1.4
	2	0	2	2	1	0	1	2	(12)	6648.6757	8.2
	2	0	2	3	1	0	1	2	(12)	6649.8948	-5.5
	2	1	2	1	1	0	1	0	(00)	7186.3842	-1.1
	2	1	2	1	1	0	1	1	(00)	7188.8557	-11.2
	2	1	2	2	1	0	1	1	(00)	7187.1908	-2.2
	2	1	2	2	1	0	1	2	(00)	7186.1982	-2.1
	2	1	2	3	1	0	1	2	(00)	7187.2694	-7.1
	2	1	2	1	1	0	1	0	(01)	7186.3288	-1.6
	2	1	2	1	1	0	1	1	(01)	7188.8114	-0.5
	2	1	2	2	1	0	1	1	(01)	7187.1346	-3.3
	2	1	2	2	1	0	1	2	(01)	7186.1437	-1.6
	2	1	2	3	1	0	1	2	(01)	7187.2202	-1.2
	2	1	2	1	1	0	1	0	(10)	7186.2356	12.8
	2	1	2	1	1	0	1	1	(10)	7188.7259	21.6
	2	1	2	2	1	0	1	1	(10)	7187.0502	19.8
	2	1	2	2	1	0	1	2	(10)	7186.0541	16.3
	2	1	2	3	1	0	1	2	(10)	7187.1077	-6.2
	2	1	2	1	1	0	1	0	(11)	7186.1634	1.3
	2	1	2	1	1	0	1	1	(11)	7188.6392	-4.4
	2	1	2	2	1	0	1	1	(11)	7186.9652	-4.5
	2	1	2	2	1	0	1	2	(11)	7185.9707	-6.3
	2	1	2	3	1	0	1	2	(11)	7187.0480	-5.2
	2	1	2	1	1	0	1	0	(12)	7186.1815	7.9
	2	1	2	1	1	0	1	1	(12)	7188.6585	3.4
	2	1	2	2	1	0	1	1	(12)	7186.9850	3.9
	2	1	2	2	1	0	1	2	(12)	7185.9911	2.6
	2	1	2	3	1	0	1	2	(12)	7187.0682	3.5
5	2	1	1	1	1	1	0	0	(00)	7865.0396	4.2
	2	1	1	2	1	1	0	1	(00)	7862.5492	5.1
	2	1	1	2	1	1	0	2	(00)	7863.5473	-1.1
	2	1	1	3	1	1	0	2	(00)	7863.5378	2.0
	2	1	1	1	1	1	0	0	(01)	7864.9963	3.3
	2	1	1	2	1	1	0	1	(01)	7862.5020	0.3
	2	1	1	2	1	1	0	2	(01)	7863.5077	1.7
	2	1	1	3	1	1	0	2	(01)	7863.4899	-3.5

6	2	1	1	1	1	1	0	0	(10)	7864.9313	3.8
	2	1	1	1	1	1	0	1	(10)	7862.4100	-6.6
	2	1	1	2	1	1	0	1	(10)	7862.4405	4.3
	2	1	1	2	1	1	0	2	(10)	7863.4345	-6.1
	2	1	1	3	1	1	0	2	(10)	7863.4314	3.4
	2	1	1	1	1	1	0	0	(11)	7864.8737	4.5
	2	1	1	2	1	1	0	1	(11)	7862.3819	3.8
	2	1	1	2	1	1	0	2	(11)	7863.3752	-7.2
	2	1	1	3	1	1	0	2	(11)	7863.3752	5.4
	2	1	1	1	1	1	0	0	(12)	7864.9028	1.8
	2	1	1	1	1	1	0	1	(12)	7862.3825	-7.6
	2	1	1	2	1	1	0	1	(12)	7862.4100	0.3
	2	1	1	2	1	1	0	2	(12)	7863.4184	4.3
	2	1	1	3	1	1	0	2	(12)	7863.4019	0.5
	2	1	2	1	1	1	1	0	(00)	6146.6033	-1.6
	2	1	2	1	1	1	1	1	(00)	6146.6347	0.3
	2	1	2	2	1	1	1	1	(00)	6144.9560	-4.4
	2	1	2	2	1	1	1	2	(00)	6144.9508	2.2
	2	1	2	3	1	1	1	2	(00)	6146.0228	-1.9
	2	1	2	1	1	1	1	0	(01)	6146.5917	-2.6
	2	1	2	1	1	1	1	1	(01)	6146.6275	3.7
	2	1	2	2	1	1	1	1	(01)	6144.9560	6.2
	2	1	2	2	1	1	1	2	(01)	6144.9279	-10.1
	2	1	2	3	1	1	1	2	(01)	6146.0228	8.7
	2	1	2	1	1	1	1	0	(10)	6146.5917	-3.5
	2	1	2	1	1	1	1	1	(10)	6146.6275	3.0
	2	1	2	2	1	1	1	1	(10)	6144.9560	5.5
	2	1	2	2	1	1	1	2	(10)	6144.9279	-10.9
	2	1	2	3	1	1	1	2	(10)	6146.0228	7.9
	2	1	2	1	1	1	1	0	(11)	6146.5917	-6.5
	2	1	2	1	1	1	1	1	(11)	6146.6275	0.0
	2	1	2	2	1	1	1	1	(11)	6144.9560	2.5
	2	1	2	2	1	1	1	2	(11)	6144.9508	9.0
	2	1	2	3	1	1	1	2	(11)	6146.0228	4.9
	2	1	2	1	1	1	1	0	(12)	6146.5711	0.2
	2	1	2	1	1	1	1	1	(12)	6146.5946	-5.7
	2	1	2	2	1	1	1	1	(12)	6144.9279	1.6
	2	1	2	2	1	1	1	2	(12)	6144.9152	0.6
	2	1	2	3	1	1	1	2	(12)	6145.9927	1.9
7	2	2	1	3	1	1	0	2	(00)	10987.5285	-1.4
	2	2	1	2	1	1	0	1	(01)	10987.3841	-3.1
	2	2	1	3	1	1	0	2	(01)	10987.3334	5.4
8	3	0	3	2	2	0	2	2	(00)	9364.7596	8.5
	3	0	3	3	2	0	2	3	(00)	9361.5513	7.6
	3	0	3	4	2	0	2	3	(00)	9363.0045	-1.9
	3	0	3	2	2	0	2	1	(01)	9362.8017	1.5

9	3	0	3	2	2	0	2	2	(01)	9364.7238	6.0
	3	0	3	3	2	0	2	3	(01)	9361.5184	8.1
	3	0	3	4	2	0	2	3	(01)	9362.9708	-2.3
	3	0	3	2	2	0	2	1	(10)	9362.7410	-2.3
	3	0	3	2	2	0	2	2	(10)	9364.6527	-8.2
	3	0	3	3	2	0	2	3	(10)	9361.4440	-9.6
	3	0	3	4	2	0	2	3	(10)	9362.9183	2.1
	3	0	3	2	2	0	2	2	(11)	9364.6165	-10.6
	3	0	3	3	2	0	2	3	(11)	9361.4102	-9.5
	3	0	3	4	2	0	2	3	(11)	9362.8840	1.5
	3	0	3	2	2	0	2	2	(12)	9364.6165	-11.5
	3	0	3	3	2	0	2	3	(12)	9361.4102	-10.4
	3	0	3	4	2	0	2	3	(12)	9362.8840	0.7
	3	0	3	2	2	1	2	1	(00)	8825.6354	-0.8
	3	0	3	2	2	1	2	2	(00)	8827.3075	-2.7
	3	0	3	3	2	1	2	2	(00)	8825.3334	-2.2
	3	0	3	3	2	1	2	3	(00)	8824.2567	-2.7
	3	0	3	4	2	1	2	3	(00)	8825.7196	-2.5
	3	0	3	2	2	1	2	1	(01)	8825.6354	4.0
	3	0	3	2	2	1	2	2	(01)	8827.3075	2.1
	3	0	3	3	2	1	2	2	(01)	8825.3334	2.6
	3	0	3	3	2	1	2	3	(01)	8824.2567	2.1
	3	0	3	4	2	1	2	3	(01)	8825.7196	2.3
	3	0	3	2	2	1	2	1	(10)	8825.6354	-6.5
	3	0	3	2	2	1	2	2	(10)	8827.3075	-8.3
	3	0	3	3	2	1	2	2	(10)	8825.3334	-7.8
	3	0	3	3	2	1	2	3	(10)	8824.2567	-8.4
	3	0	3	4	2	1	2	3	(10)	8825.7196	-8.2
	3	0	3	2	2	1	2	1	(11)	8825.6354	-5.8
	3	0	3	2	2	1	2	2	(11)	8827.3075	-7.6
	3	0	3	3	2	1	2	2	(11)	8825.3334	-7.1
	3	0	3	3	2	1	2	3	(11)	8824.2567	-7.7
	3	0	3	4	2	1	2	3	(11)	8825.7196	-7.5
	3	0	3	2	2	1	2	1	(12)	8825.6354	2.5
	3	0	3	2	2	1	2	2	(12)	8827.3075	0.6
	3	0	3	3	2	1	2	2	(12)	8825.3334	1.1
	3	0	3	3	2	1	2	3	(12)	8824.2567	0.5
	3	0	3	4	2	1	2	3	(12)	8825.7196	0.7
10	3	1	3	2	2	1	2	2	(00)	9030.0828	7.6
	3	1	3	3	2	1	2	2	(00)	9028.1378	4.2
	3	1	3	3	2	1	2	3	(00)	9027.0597	2.2
	3	1	3	4	2	1	2	3	(00)	9028.4975	1.8
	3	1	3	2	2	1	2	1	(01)	9028.3804	-2.0
	3	1	3	2	2	1	2	2	(01)	9030.0572	0.8
	3	1	3	3	2	1	2	2	(01)	9028.1161	1.3
	3	1	3	3	2	1	2	3	(01)	9027.0390	0.3

11	3	1	3	4	2	1	2	3	(01)	9028.4771	0.2
	3	1	3	2	2	1	2	1	(10)	9028.3581	-1.1
	3	1	3	2	2	1	2	2	(10)	9030.0346	1.4
	3	1	3	3	2	1	2	2	(10)	9028.0945	3.0
	3	1	3	3	2	1	2	3	(10)	9027.0176	2.1
	3	1	3	4	2	1	2	3	(10)	9028.4559	2.2
	3	1	3	2	2	1	2	1	(11)	9028.3408	-2.4
	3	1	3	2	2	1	2	2	(11)	9030.0193	2.1
	3	1	3	3	2	1	2	2	(11)	9028.0786	3.0
	3	1	3	3	2	1	2	3	(11)	9027.0021	2.7
	3	1	3	4	2	1	2	3	(11)	9028.4397	2.1
	3	1	3	2	2	1	2	1	(12)	9028.3336	-4.0
	3	1	3	2	2	1	2	2	(12)	9030.0117	0.0
	3	1	3	3	2	1	2	2	(12)	9028.0701	0.1
	3	1	3	3	2	1	2	3	(12)	9026.9931	-0.8
	3	1	3	4	2	1	2	3	(12)	9028.4314	-0.8
	3	2	2	2	2	1	1	1	(00)	13631.0991	-2.2
	3	2	2	2	2	1	1	2	(00)	13631.0791	-2.6
	3	2	2	3	2	1	1	2	(00)	13631.0791	-2.6
	3	2	2	3	2	1	1	3	(00)	13631.0991	4.8
	3	2	2	4	2	1	1	3	(00)	13631.0991	4.8
	3	2	2	2	2	1	1	1	(01)	13630.9294	-1.5
	3	2	2	2	2	1	1	2	(01)	13630.9095	-1.7
	3	2	2	3	2	1	1	2	(01)	13630.9095	-1.7
	3	2	2	3	2	1	1	3	(01)	13630.9294	5.5
	3	2	2	4	2	1	1	3	(01)	13630.9294	5.5
	3	2	2	2	2	1	1	1	(10)	13630.5613	-12.8
	3	2	2	2	2	1	1	2	(10)	13630.5414	-13.1
	3	2	2	3	2	1	1	2	(10)	13630.5414	-13.1
	3	2	2	3	2	1	1	3	(10)	13630.5613	-5.8
	3	2	2	4	2	1	1	3	(10)	13630.5613	-5.8
	3	2	2	2	2	1	1	1	(11)	13630.3558	-1.3
	3	2	2	2	2	1	1	2	(11)	13630.3338	-3.6
	3	2	2	3	2	1	1	2	(11)	13630.3338	-3.6
	3	2	2	3	2	1	1	3	(11)	13630.3558	5.7
	3	2	2	4	2	1	1	3	(11)	13630.3558	5.7
	3	2	2	2	2	1	1	1	(12)	13630.4477	-2.5
	3	2	2	2	2	1	1	2	(12)	13630.4291	-1.5
	3	2	2	3	2	1	1	2	(12)	13630.4291	-1.5
	3	2	2	3	2	1	1	3	(12)	13630.4477	4.5
	3	2	2	4	2	1	1	3	(12)	13630.4477	4.5
12	3	2	1	2	2	2	0	1	(00)	11651.5630	1.7
	3	2	1	3	2	2	0	2	(00)	11650.1338	4.4
	3	2	1	3	2	2	0	3	(00)	11651.3503	-11.8
	3	2	1	4	2	2	0	3	(00)	11651.0006	-1.7
	3	2	1	2	2	2	0	1	(01)	11651.4898	1.9

13	3	2	1	2	2	2	0	2	(01)	11649.5906	20.2
	3	2	1	3	2	2	0	2	(01)	11650.0579	1.8
	3	2	1	4	2	2	0	3	(01)	11650.9368	7.8
	3	2	1	3	2	2	0	2	(10)	11649.8287	-7.3
	3	2	1	4	2	2	0	3	(10)	11650.7036	-5.2
	3	2	1	4	2	2	0	3	(12)	11650.7859	-3.0
	4	0	4	3	3	0	3	2	(00)	11928.4178	1.2
	4	0	4	3	3	0	3	3	(00)	11930.3851	-6.1
	4	0	4	4	3	0	3	3	(00)	11928.3323	5.2
	4	0	4	4	3	0	3	4	(00)	11926.8590	-5.4
	4	0	4	5	3	0	3	4	(00)	11928.5018	-4.5
	4	0	4	3	3	0	3	2	(01)	11928.3900	5.7
	4	0	4	3	3	0	3	3	(01)	11930.3554	-3.6
	4	0	4	4	3	0	3	3	(01)	11928.2964	1.5
	4	0	4	4	3	0	3	4	(01)	11926.8288	-3.3
	4	0	4	5	3	0	3	4	(01)	11928.4732	-0.8
	4	0	4	3	3	0	3	2	(10)	11928.3323	3.5
	4	0	4	3	3	0	3	3	(10)	11930.3037	0.3
	4	0	4	4	3	0	3	3	(10)	11928.2378	-1.5
	4	0	4	4	3	0	3	4	(10)	11926.7772	0.6
	4	0	4	5	3	0	3	4	(10)	11928.4178	-0.8
	4	0	4	3	3	0	3	2	(11)	11928.2964	0.0
	4	0	4	3	3	0	3	3	(11)	11930.2734	2.4
	4	0	4	4	3	0	3	3	(11)	11928.2112	4.3
	4	0	4	4	3	0	3	4	(11)	11926.7461	1.9
	4	0	4	5	3	0	3	4	(11)	11928.3900	3.9
	4	0	4	3	3	0	3	2	(12)	11928.2964	-0.3
	4	0	4	3	3	0	3	3	(12)	11930.2734	2.0
	4	0	4	4	3	0	3	3	(12)	11928.2112	4.0
	4	0	4	4	3	0	3	4	(12)	11926.7461	1.6
	4	0	4	5	3	0	3	4	(12)	11928.3900	3.5
14	4	1	4	3	3	0	3	2	(00)	11991.2956	-0.6
	4	1	4	3	3	0	3	3	(00)	11993.2652	-5.6
	4	1	4	4	3	0	3	3	(00)	11991.1923	-18.7
	4	1	4	4	3	0	3	4	(00)	11989.7425	-5.9
	4	1	4	5	3	0	3	4	(00)	11991.3815	-5.3
	4	1	4	3	3	0	3	2	(01)	11991.2585	0.0
	4	1	4	3	3	0	3	3	(01)	11993.2290	-4.2
	4	1	4	4	3	0	3	3	(01)	11991.1634	-10.0
	4	1	4	4	3	0	3	4	(01)	11989.7073	-3.5
	4	1	4	5	3	0	3	4	(01)	11991.3462	-2.9
	4	1	4	3	3	0	3	2	(10)	11991.1923	2.5
	4	1	4	3	3	0	3	3	(10)	11993.1627	-1.8
	4	1	4	4	3	0	3	3	(10)	11991.1034	-1.3
	4	1	4	4	3	0	3	4	(10)	11989.6421	0.1
	4	1	4	5	3	0	3	4	(10)	11991.2956	15.1

15	4	1	4	3	3	0	3	2	(11)	11991.1634	11.8
	4	1	4	3	3	0	3	3	(11)	11993.1270	0.7
	4	1	4	4	3	0	3	3	(11)	11991.0687	2.1
	4	1	4	4	3	0	3	4	(11)	11989.6051	1.3
	4	1	4	5	3	0	3	4	(11)	11991.2585	16.3
	4	1	4	3	3	0	3	2	(12)	11991.1634	10.7
	4	1	4	3	3	0	3	3	(12)	11993.1270	−0.4
	4	1	4	4	3	0	3	3	(12)	11991.0687	1.0
	4	1	4	4	3	0	3	4	(12)	11989.6051	0.2
	4	1	4	5	3	0	3	4	(12)	11991.2585	15.2
	4	0	4	3	3	1	3	2	(00)	11725.6520	0.5
	4	0	4	3	3	1	3	3	(00)	11727.5943	1.2
	4	0	4	4	3	1	3	3	(00)	11725.5329	3.8
	4	0	4	4	3	1	3	4	(00)	11724.0923	1.5
	4	0	4	5	3	1	3	4	(00)	11725.7333	0.6
	4	0	4	3	3	1	3	2	(01)	11725.6310	−2.3
	4	0	4	3	3	1	3	3	(01)	11727.5744	−0.5
	4	0	4	4	3	1	3	3	(01)	11725.5126	1.8
	4	0	4	4	3	1	3	4	(01)	11724.0728	0.3
	4	0	4	5	3	1	3	4	(01)	11725.7137	−0.8
	4	0	4	3	3	1	3	2	(10)	11725.6145	3.0
	4	0	4	3	3	1	3	3	(10)	11727.5550	1.9
	4	0	4	4	3	1	3	3	(10)	11725.4920	3.0
	4	0	4	4	3	1	3	4	(10)	11724.0535	2.8
	4	0	4	5	3	1	3	4	(10)	11725.6943	1.7
	4	0	4	3	3	1	3	2	(11)	11725.5958	1.4
	4	0	4	3	3	1	3	3	(11)	11727.5346	−1.3
	4	0	4	4	3	1	3	3	(11)	11725.4728	0.9
	4	0	4	4	3	1	3	4	(11)	11724.0318	−1.9
	4	0	4	5	3	1	3	4	(11)	11725.6719	−3.6
	4	0	4	3	3	1	3	2	(12)	11725.5958	3.8
	4	0	4	3	3	1	3	3	(12)	11727.5346	1.1
	4	0	4	4	3	1	3	3	(12)	11725.4728	3.3
	4	0	4	4	3	1	3	4	(12)	11724.0318	0.5
16	4	0	4	5	3	1	3	4	(12)	11725.6719	−1.2
	4	1	3	3	3	1	2	2	(00)	14697.5423	−1.5
	4	1	3	3	3	1	2	3	(00)	14697.9960	−3.6
	4	1	3	4	3	1	2	3	(00)	14697.2626	3.3
	4	1	3	5	3	1	2	4	(00)	14697.5077	−2.8
	4	1	3	3	3	1	2	2	(01)	14697.4607	0.8
	4	1	3	3	3	1	2	3	(01)	14697.9140	−1.9
	4	1	3	4	3	1	2	3	(01)	14697.1952	19.6
	4	1	3	5	3	1	2	4	(01)	14697.4257	−1.0
	4	1	3	3	3	1	2	2	(10)	14697.3333	5.3
	4	1	3	3	3	1	2	3	(10)	14697.7854	1.5
	4	1	3	4	3	1	2	3	(10)	14697.0439	0.4

17	4	1	3	5	3	1	2	4	(10)	14697.2933	−1.5
	4	1	3	3	3	1	2	2	(11)	14697.2487	7.8
	4	1	3	3	3	1	2	3	(11)	14697.7050	8.3
	4	1	3	4	3	1	2	3	(11)	14696.9617	5.4
	4	1	3	5	3	1	2	4	(11)	14697.2136	6.0
	4	1	3	3	3	1	2	2	(12)	14697.2487	1.0
	4	1	3	3	3	1	2	3	(12)	14697.7050	1.4
	4	1	3	4	3	1	2	3	(12)	14696.9617	−1.5
	4	1	3	5	3	1	2	4	(12)	14697.2136	−0.9
	4	1	4	3	3	1	3	2	(00)	11788.5276	−3.5
	4	1	4	3	3	1	3	3	(00)	11790.4728	0.0
	4	1	4	4	3	1	3	3	(00)	11788.4136	0.6
	4	1	4	4	3	1	3	4	(00)	11786.9731	−1.7
	4	1	4	5	3	1	3	4	(00)	11788.6120	−1.3
	4	1	4	3	3	1	3	2	(01)	11788.4994	−8.1
	4	1	4	3	3	1	3	3	(01)	11790.4465	−2.6
	4	1	4	4	3	1	3	3	(01)	11788.3865	−2.8
	4	1	4	4	3	1	3	4	(01)	11786.9494	−1.7
	4	1	4	5	3	1	3	4	(01)	11788.5871	−2.4
	4	1	4	3	3	1	3	2	(10)	11788.4734	0.9
	4	1	4	3	3	1	3	3	(10)	11790.4160	1.9
	4	1	4	4	3	1	3	3	(10)	11788.3588	4.5
	4	1	4	4	3	1	3	4	(10)	11786.9188	2.6
	4	1	4	5	3	1	3	4	(10)	11788.5598	5.2
	4	1	4	3	3	1	3	2	(11)	11788.4498	0.1
	4	1	4	3	3	1	3	3	(11)	11790.3913	0.0
	4	1	4	4	3	1	3	3	(11)	11788.3343	2.8
	4	1	4	4	3	1	3	4	(11)	11786.8941	0.8
	4	1	4	5	3	1	3	4	(11)	11788.5342	2.5
	4	1	4	3	3	1	3	2	(12)	11788.4498	1.7
	4	1	4	3	3	1	3	3	(12)	11790.3913	1.6
	4	1	4	4	3	1	3	3	(12)	11788.3343	4.4
	4	1	4	4	3	1	3	4	(12)	11786.8941	2.4
	4	1	4	5	3	1	3	4	(12)	11788.5342	4.1
18	4	2	3	3	3	1	2	2	(00)	15849.1010	−12.4
	4	2	3	4	3	1	2	3	(00)	15848.9522	5.6
	4	2	3	5	3	1	2	4	(00)	15849.1010	−3.3
	4	2	3	3	3	1	2	2	(01)	15848.9522	−4.6
	4	2	3	4	3	1	2	3	(01)	15848.7952	5.2
	4	2	3	5	3	1	2	4	(01)	15848.9522	4.6
	4	2	3	3	3	1	2	2	(10)	15848.6440	−5.2
	4	2	3	4	3	1	2	3	(10)	15848.4768	−5.6
	4	2	3	5	3	1	2	4	(10)	15848.6356	−4.4
	4	2	3	3	3	1	2	2	(11)	15848.4768	−1.6
19	4	2	3	5	3	1	2	4	(11)	15848.4637	−5.5
	4	2	2	3	3	2	1	2	(00)	15778.4967	0.1

20	4	2	2	4	3	2	1	3	(00)	15778.0344	5.9
	4	2	2	5	3	2	1	4	(00)	15778.3723	-2.0
	4	2	2	3	3	2	1	2	(01)	15778.4205	2.9
	4	2	2	4	3	2	1	3	(01)	15777.9442	-5.4
	4	2	2	5	3	2	1	4	(01)	15778.3023	7.0
	4	2	2	4	3	2	1	3	(10)	15777.8294	-8.0
	4	2	2	5	3	2	1	4	(10)	15778.1772	-6.0
	4	2	2	3	3	2	1	2	(11)	15778.2045	5.6
	4	2	2	4	3	2	1	3	(11)	15777.7368	6.1
	4	2	2	5	3	2	1	4	(11)	15778.0670	-9.5
	4	2	2	3	3	2	1	2	(12)	15778.2543	0.0
	4	2	2	4	3	2	1	3	(12)	15777.7714	-14.8
	4	2	2	5	3	2	1	4	(12)	15778.1170	-14.9
	4	2	3	3	3	2	2	2	(00)	13721.5821	-8.3
	4	2	3	4	3	2	2	3	(00)	13720.9680	0.2
	4	2	3	5	3	2	2	4	(00)	13721.4655	2.4
	4	2	3	3	3	2	2	2	(01)	13721.5401	-2.2
	4	2	3	4	3	2	2	3	(01)	13720.9229	3.3
	4	2	3	5	3	2	2	4	(01)	13721.4172	2.3
	4	2	3	3	3	2	2	2	(10)	13721.5079	5.3
21	4	2	3	4	3	2	2	3	(10)	13720.8877	7.8
	4	2	3	5	3	2	2	4	(10)	13721.3830	7.8
	4	2	3	3	3	2	2	2	(11)	13721.4655	-13.9
	4	2	3	4	3	2	2	3	(11)	13720.8620	5.3
	4	2	3	5	3	2	2	4	(11)	13721.3547	2.7
	4	2	3	3	3	2	2	2	(12)	13721.4172	-12.2
	4	2	3	4	3	2	2	3	(12)	13720.8124	5.7
	4	2	3	5	3	2	2	4	(12)	13721.3088	6.8
	4	3	1	3	3	3	0	2	(00)	15038.9976	-0.2
	4	3	1	4	3	3	0	3	(00)	15037.7909	-1.5
22	4	3	1	5	3	3	0	4	(00)	15038.6460	2.1
	4	3	1	3	3	3	0	2	(01)	15038.6950	-10.2
	4	3	1	4	3	3	0	3	(01)	15037.4911	-8.9
	4	3	1	5	3	3	0	4	(01)	15038.3473	-4.0
	4	3	2	3	3	3	1	2	(00)	14512.7753	4.6
	4	3	2	4	3	3	1	3	(00)	14511.4691	-2.6
	4	3	2	5	3	3	1	4	(00)	14512.3953	-4.3
	4	3	2	3	3	3	1	2	(01)	14512.9645	3.2
	4	3	2	4	3	3	1	3	(01)	14511.6661	4.0
	4	3	2	5	3	3	1	4	(01)	14512.5933	3.1
23	5	0	5	4	4	0	4	4	(00)	14524.5720	-3.2
	5	0	5	5	4	0	4	4	(00)	14522.4417	0.7
	5	0	5	5	4	0	4	5	(00)	14520.7938	-5.3
	5	0	5	6	4	0	4	5	(00)	14522.5683	-3.9
	5	0	5	4	4	0	4	4	(01)	14524.5415	-4.0
	5	0	5	5	4	0	4	4	(01)	14522.4044	-6.8

24	5	0	5	5	4	0	4	5	(01)	14520.7653	−4.1
	5	0	5	6	4	0	4	5	(01)	14522.5353	−7.1
	5	0	5	4	4	0	4	4	(10)	14524.4985	2.9
	5	0	5	5	4	0	4	4	(10)	14522.3696	8.2
	5	0	5	5	4	0	4	5	(10)	14520.7214	1.9
	5	0	5	6	4	0	4	5	(10)	14522.4947	2.2
	5	0	5	4	4	0	4	4	(11)	14524.4670	1.2
	5	0	5	5	4	0	4	4	(11)	14522.3328	1.2
	5	0	5	5	4	0	4	5	(11)	14520.6907	1.0
	5	0	5	6	4	0	4	5	(11)	14522.4587	−4.0
	5	0	5	4	4	0	4	4	(12)	14524.4670	1.2
	5	0	5	5	4	0	4	4	(12)	14522.3328	1.2
	5	0	5	5	4	0	4	5	(12)	14520.6907	1.0
	5	0	5	6	4	0	4	5	(12)	14522.4587	−4.0
	5	1	5	4	4	0	4	3	(00)	14539.9918	9.5
	5	1	5	4	4	0	4	4	(00)	14542.0427	−3.7
	5	1	5	5	4	0	4	4	(00)	14539.9086	−4.1
	5	1	5	5	4	0	4	5	(00)	14538.2664	−4.5
	5	1	5	6	4	0	4	5	(00)	14540.0388	−4.6
	5	1	5	4	4	0	4	3	(01)	14539.9442	−6.5
	5	1	5	4	4	0	4	4	(01)	14542.0106	−4.2
	5	1	5	5	4	0	4	4	(01)	14539.8799	−1.3
	5	1	5	5	4	0	4	5	(01)	14538.2353	−4.0
	5	1	5	6	4	0	4	5	(01)	14540.0049	−6.9
	5	1	5	4	4	0	4	3	(10)	14539.9086	12.2
	5	1	5	4	4	0	4	4	(10)	14541.9621	1.6
	5	1	5	5	4	0	4	4	(10)	14539.8273	0.5
	5	1	5	5	4	0	4	5	(10)	14538.1865	1.5
	5	1	5	6	4	0	4	5	(10)	14539.9603	2.7
	5	1	5	4	4	0	4	3	(11)	14539.8799	15.1
	5	1	5	4	4	0	4	4	(11)	14541.9296	0.8
	5	1	5	5	4	0	4	4	(11)	14539.7975	2.3
	5	1	5	5	4	0	4	5	(11)	14538.1560	2.7
	5	1	5	6	4	0	4	5	(11)	14539.9280	2.1
	5	1	5	4	4	0	4	3	(12)	14539.8799	14.9
	5	1	5	4	4	0	4	4	(12)	14541.9296	0.5
	5	1	5	5	4	0	4	4	(12)	14539.7975	2.1
	5	1	5	5	4	0	4	5	(12)	14538.1560	2.5
25	5	1	5	6	4	0	4	5	(12)	14539.9280	1.9
	5	0	5	4	4	1	4	3	(00)	14459.6320	0.4
	5	0	5	4	4	1	4	4	(00)	14461.6910	−0.3
	5	0	5	5	4	1	4	4	(00)	14459.5525	−4.6
	5	0	5	5	4	1	4	5	(00)	14457.9171	−1.6
	5	0	5	6	4	1	4	5	(00)	14459.6884	−3.3
	5	0	5	4	4	1	4	3	(01)	14459.6092	2.1
	5	0	5	4	4	1	4	4	(01)	14461.6626	−4.2

26	5	0	5	5	4	1	4	4	(01)	14459.5313	−1.4
	5	0	5	5	4	1	4	5	(01)	14457.8919	−2.3
	5	0	5	6	4	1	4	5	(01)	14459.6666	−0.7
	5	0	5	4	4	1	4	3	(10)	14459.5525	−17.9
	5	0	5	4	4	1	4	4	(10)	14461.6317	1.5
	5	0	5	5	4	1	4	4	(10)	14459.4985	2.5
	5	0	5	5	4	1	4	5	(10)	14457.8603	2.7
	5	0	5	6	4	1	4	5	(10)	14459.6320	1.4
	5	0	5	4	4	1	4	3	(11)	14459.5313	−15.0
	5	0	5	4	4	1	4	4	(11)	14461.6058	−0.4
	5	0	5	5	4	1	4	4	(11)	14459.4746	2.6
	5	0	5	5	4	1	4	5	(11)	14457.8336	0.1
	5	0	5	6	4	1	4	5	(11)	14459.6092	2.7
	5	0	5	4	4	1	4	3	(12)	14459.5313	−14.3
	5	0	5	4	4	1	4	4	(12)	14461.6058	0.4
	5	0	5	5	4	1	4	4	(12)	14459.4746	3.4
	5	0	5	5	4	1	4	5	(12)	14457.8336	0.8
	5	0	5	6	4	1	4	5	(12)	14459.6092	3.5
	5	1	4	4	4	1	3	3	(00)	17398.6518	0.1
	5	1	4	4	4	1	3	4	(00)	17399.3865	−5.5
	5	1	4	5	4	1	3	4	(00)	17398.4013	−7.6
	5	1	4	6	4	1	3	5	(00)	17398.6322	−4.6
	5	1	4	4	4	1	3	3	(01)	17398.5566	2.4
	5	1	4	4	4	1	3	4	(01)	17399.2931	−1.4
	5	1	4	5	4	1	3	4	(01)	17398.3161	4.7
	5	1	4	5	4	1	3	5	(01)	17397.7201	−2.5
	5	1	4	6	4	1	3	5	(01)	17398.5382	−1.0
	5	1	4	4	4	1	3	3	(10)	17398.3918	3.6
	5	1	4	4	4	1	3	4	(10)	17399.1283	−0.2
	5	1	4	5	4	1	3	4	(10)	17398.1477	2.3
	5	1	4	5	4	1	3	5	(10)	17397.5553	−1.3
	5	1	4	6	4	1	3	5	(10)	17398.3717	−1.6
	5	1	4	4	4	1	3	3	(11)	17398.2951	5.3
	5	1	4	4	4	1	3	4	(11)	17399.0335	3.5
	5	1	4	5	4	1	3	4	(11)	17398.0522	5.3
	5	1	4	5	4	1	3	5	(11)	17397.4598	1.8
	5	1	4	6	4	1	3	5	(11)	17398.2784	3.6
	5	1	4	4	4	1	3	3	(12)	17398.2951	3.4
	5	1	4	4	4	1	3	4	(12)	17399.0335	1.6
	5	1	4	5	4	1	3	4	(12)	17398.0522	3.3
	5	1	4	5	4	1	3	5	(12)	17397.4598	−0.2
	5	1	4	6	4	1	3	5	(12)	17398.2784	1.7
27	5	1	5	4	4	1	4	3	(00)	14477.0982	−4.5
	5	1	5	4	4	1	4	4	(00)	14479.1606	−1.8
	5	1	5	5	4	1	4	4	(00)	14477.0226	−6.1
	5	1	5	5	4	1	4	5	(00)	14475.3881	−2.2

28	5	1	5	6	4	1	4	5	(00)	14477.1596	−3.3
	5	1	5	4	4	1	4	3	(01)	14477.0732	−3.3
	5	1	5	4	4	1	4	4	(01)	14479.1317	−4.6
	5	1	5	5	4	1	4	4	(01)	14476.9971	−5.5
	5	1	5	5	4	1	4	5	(01)	14475.3610	−3.2
	5	1	5	6	4	1	4	5	(01)	14477.1346	−2.2
	5	1	5	4	4	1	4	3	(10)	14477.0226	−12.7
	5	1	5	4	4	1	4	4	(10)	14479.0978	2.7
	5	1	5	5	4	1	4	4	(10)	14476.9648	3.4
	5	1	5	5	4	1	4	5	(10)	14475.3253	2.3
	5	1	5	6	4	1	4	5	(10)	14477.0982	2.6
	5	1	5	4	4	1	4	3	(11)	14476.9971	−12.3
	5	1	5	4	4	1	4	4	(11)	14479.0686	−0.6
	5	1	5	5	4	1	4	4	(11)	14476.9355	0.0
	5	1	5	5	4	1	4	5	(11)	14475.2972	0.1
	5	1	5	6	4	1	4	5	(11)	14477.0732	3.5
	5	1	5	4	4	1	4	3	(12)	14476.9971	−11.8
	5	1	5	4	4	1	4	4	(12)	14479.0686	−0.1
	5	1	5	5	4	1	4	4	(12)	14476.9355	0.5
	5	1	5	5	4	1	4	5	(12)	14475.2972	0.7
	5	1	5	6	4	1	4	5	(12)	14477.0732	4.1
	5	2	4	4	4	2	3	3	(00)	16735.2762	6.5
	5	2	4	5	4	2	3	4	(00)	16734.9344	0.8
	5	2	4	6	4	2	3	5	(00)	16735.2353	0.5
	5	2	4	4	4	2	3	3	(01)	16735.2028	−3.0
	5	2	4	5	4	2	3	4	(01)	16734.8697	0.0
	5	2	4	6	4	2	3	5	(01)	16735.1669	−4.0
	5	2	4	4	4	2	3	3	(10)	16735.1275	7.7
	5	2	4	5	4	2	3	4	(10)	16734.7890	5.3
	5	2	4	6	4	2	3	5	(10)	16735.0893	4.4
	5	2	4	4	4	2	3	3	(11)	16735.0661	3.7
	5	2	4	5	4	2	3	4	(11)	16734.7303	4.1
	5	2	4	6	4	2	3	5	(11)	16735.0135	−13.9
	5	2	4	4	4	2	3	3	(12)	16735.0383	−11.2
	5	2	4	5	4	2	3	4	(12)	16734.7144	1.0
29	5	2	4	6	4	2	3	5	(12)	16735.0135	−1.1
	6	0	6	5	5	0	5	5	(00)	17149.9260	−4.8
	6	0	6	6	5	0	5	5	(00)	17147.7396	−4.9
	6	0	6	6	5	0	5	6	(00)	17145.9658	−5.6
	6	0	6	7	5	0	5	6	(00)	17147.8371	−4.9
	6	0	6	5	5	0	5	5	(01)	17149.8990	−3.4
	6	0	6	6	5	0	5	5	(01)	17147.7099	−6.1
	6	0	6	6	5	0	5	6	(01)	17145.9394	−3.6
	6	0	6	7	5	0	5	6	(01)	17147.8106	−2.9
	6	0	6	5	5	0	5	5	(10)	17149.8551	−0.5
	6	0	6	6	5	0	5	5	(10)	17147.6690	−0.2

30	6	0	6	6	5	0	5	6	(10)	17145.8959	−0.3
	6	0	6	7	5	0	5	6	(10)	17147.7678	1.0
	6	0	6	5	5	0	5	5	(11)	17149.8289	1.8
	6	0	6	6	5	0	5	5	(11)	17147.6432	2.4
	6	0	6	6	5	0	5	6	(11)	17145.8706	2.8
	6	0	6	7	5	0	5	6	(11)	17147.7409	2.6
	6	0	6	5	5	0	5	5	(12)	17149.8289	1.9
	6	0	6	6	5	0	5	5	(12)	17147.6432	2.5
	6	0	6	6	5	0	5	6	(12)	17145.8706	2.9
	6	0	6	7	5	0	5	6	(12)	17147.7409	2.7
	6	1	6	6	5	0	5	5	(00)	17152.2787	−5.9
	6	1	6	7	5	0	5	6	(00)	17152.3760	−6.1
	6	1	6	6	5	0	5	5	(01)	17152.2498	−5.8
	6	1	6	7	5	0	5	6	(01)	17152.3496	−3.5
	6	1	6	5	5	0	5	5	(10)	17154.3855	−8.3
	6	1	6	6	5	0	5	5	(10)	17152.2085	1.0
	6	1	6	7	5	0	5	6	(10)	17152.3048	−0.2
	6	1	6	5	5	0	5	5	(11)	17154.3659	1.1
	6	1	6	6	5	0	5	5	(11)	17152.1815	3.0
	6	1	6	7	5	0	5	6	(11)	17152.2788	2.8
31	6	1	6	5	5	0	5	5	(12)	17154.3659	1.1
	6	1	6	6	5	0	5	5	(12)	17152.1815	3.0
	6	1	6	7	5	0	5	6	(12)	17152.2788	2.8
	6	0	6	5	5	1	5	4	(00)	17130.3201	−5.4
	6	0	6	6	5	1	5	5	(00)	17130.2662	−6.6
	6	0	6	7	5	1	5	6	(00)	17130.3652	−5.5
	6	0	6	5	5	1	5	4	(01)	17130.2928	−6.0
	6	0	6	6	5	1	5	5	(01)	17130.2457	−0.4
	6	0	6	7	5	1	5	6	(01)	17130.3411	−2.9
	6	0	6	5	5	1	5	4	(10)	17130.2649	8.5
	6	0	6	6	5	1	5	5	(10)	17130.2045	0.8
	6	0	6	7	5	1	5	6	(10)	17130.3046	2.9
	6	0	6	5	5	1	5	4	(11)	17130.2316	1.8
	6	0	6	6	5	1	5	5	(11)	17130.1805	3.3
	6	0	6	7	5	1	5	6	(11)	17130.2797	4.6
	6	0	6	5	5	1	5	4	(12)	17130.2316	2.0
	6	0	6	6	5	1	5	5	(12)	17130.1805	3.6
	6	0	6	7	5	1	5	6	(12)	17130.2797	4.8
32	6	1	5	5	5	1	4	5	(00)	19894.0909	−2.2
	6	1	5	5	5	1	4	4	(01)	19893.0287	15.1
	6	1	5	5	5	1	4	5	(01)	19893.9986	1.9
	6	1	5	5	5	1	4	4	(10)	19892.8269	−21.0
	6	1	5	5	5	1	4	5	(10)	19893.8306	−0.4
	6	1	5	5	5	1	4	4	(11)	19892.7560	4.7
	6	1	5	5	5	1	4	5	(11)	19893.7420	7.7
	6	1	5	5	5	1	4	4	(12)	19892.7560	4.2

33	6	1	5	5	5	1	4	5	(12)	19893.7420	7.1
	6	1	6	5	5	1	5	5	(00)	17136.9931	−6.2
	6	1	6	6	5	1	5	6	(00)	17133.0342	−6.1
	6	1	6	7	5	1	5	6	(00)	17134.9049	−5.9
	6	1	6	5	5	1	5	5	(01)	17136.9686	−3.4
	6	1	6	6	5	1	5	5	(01)	17134.7839	−1.8
	6	1	6	6	5	1	5	6	(01)	17133.0102	−3.0
	6	1	6	7	5	1	5	6	(01)	17134.8808	−2.8
	6	1	6	5	5	1	5	5	(10)	17136.9280	−0.4
	6	1	6	6	5	1	5	5	(10)	17134.7430	1.0
	6	1	6	6	5	1	5	6	(10)	17132.9704	1.0
	6	1	6	7	5	1	5	6	(10)	17134.8406	0.7
	6	1	6	5	5	1	5	5	(11)	17136.9036	2.4
	6	1	6	6	5	1	5	5	(11)	17134.7182	3.4
	6	1	6	6	5	1	5	6	(11)	17132.9455	3.2
	6	1	6	7	5	1	5	6	(11)	17134.8185	5.7
	6	1	6	5	5	1	5	5	(12)	17136.9036	2.6
	6	1	6	6	5	1	5	5	(12)	17134.7182	3.6
	6	1	6	6	5	1	5	6	(12)	17132.9455	3.4
	6	1	6	7	5	1	5	6	(12)	17134.8185	5.9
34	6	2	5	5	5	2	4	4	(00)	19576.8587	0.4
	6	2	5	5	5	2	4	5	(00)	19577.8158	−1.2
	6	2	5	6	5	2	4	5	(00)	19576.6351	−0.8
	6	2	5	7	5	2	4	6	(00)	19576.8587	8.8
	6	2	5	5	5	2	4	4	(01)	19576.7767	−7.6
	6	2	5	5	5	2	4	5	(01)	19577.7440	0.9
	6	2	5	6	5	2	4	5	(01)	19576.5594	−2.6
	6	2	5	7	5	2	4	6	(01)	19576.7767	0.8
	6	2	5	5	5	2	4	4	(10)	19576.6698	−3.0
	6	2	5	5	5	2	4	5	(10)	19577.6327	1.2
	6	2	5	7	5	2	4	6	(10)	19576.6698	5.4
	6	2	5	5	5	2	4	5	(11)	19577.5601	0.5
35	6	2	5	5	5	2	4	5	(12)	19577.5601	4.5
	7	0	7	6	6	0	6	5	(00)	19785.5074	4.0
	7	0	7	7	6	0	6	6	(00)	19785.4644	0.8
	7	0	7	8	6	0	6	7	(00)	19785.5315	−7.1
	7	0	7	6	6	0	6	5	(01)	19785.4724	−3.0
	7	0	7	7	6	0	6	6	(01)	19785.4301	−5.6
	7	0	7	8	6	0	6	7	(01)	19785.5074	−3.2
	7	0	7	6	6	0	6	5	(10)	19785.4299	0.0
	7	0	7	7	6	0	6	6	(10)	19785.3897	−0.4
	7	0	7	8	6	0	6	7	(10)	19785.4647	−0.4
	7	0	7	6	6	0	6	5	(11)	19785.4054	3.4
	7	0	7	7	6	0	6	6	(11)	19785.3654	3.1
	7	0	7	8	6	0	6	7	(11)	19785.4412	4.0
	7	0	7	6	6	0	6	5	(12)	19785.4054	3.5

36	7	0	7	7	6	0	6	6	(12)	19785.3654	3.2
	7	0	7	8	6	0	6	7	(12)	19785.4412	4.1
	7	0	7	6	6	1	6	5	(00)	19780.9668	3.6
	7	0	7	7	6	1	6	6	(00)	19780.9258	2.3
	7	0	7	8	6	1	6	7	(00)	19780.9912	-7.2
	7	0	7	6	6	1	6	5	(01)	19780.9337	-2.1
	7	0	7	7	6	1	6	6	(01)	19780.8919	-4.1
	7	0	7	8	6	1	6	7	(01)	19780.9677	-3.3
	7	0	7	6	6	1	6	5	(10)	19780.8908	-0.8
	7	0	7	7	6	1	6	6	(10)	19780.8508	-1.1
	7	0	7	8	6	1	6	7	(10)	19780.9267	-0.1
	7	0	7	6	6	1	6	5	(11)	19780.8671	2.8
	7	0	7	7	6	1	6	6	(11)	19780.8278	3.2
	7	0	7	8	6	1	6	7	(11)	19780.9045	5.0
	7	0	7	6	6	1	6	5	(12)	19780.8671	2.9
37	7	0	7	7	6	1	6	6	(12)	19780.8278	3.4
	7	0	7	8	6	1	6	7	(12)	19780.9045	5.2
	7	1	7	6	6	1	6	5	(00)	19782.0891	-1.9
	7	1	7	6	6	1	6	6	(00)	19784.2688	-8.5
	7	1	7	7	6	1	6	6	(00)	19782.0534	2.1
	7	1	7	7	6	1	6	7	(00)	19780.1723	-8.4
	7	1	7	8	6	1	6	7	(00)	19782.1234	-2.8
	7	1	7	6	6	1	6	5	(01)	19782.0687	5.3
	7	1	7	6	6	1	6	6	(01)	19784.2447	-5.1
	7	1	7	7	6	1	6	6	(01)	19782.0194	-4.3
	7	1	7	7	6	1	6	7	(01)	19780.1487	-4.5
	7	1	7	8	6	1	6	7	(01)	19782.0952	-3.5
	7	1	7	6	6	1	6	5	(10)	19782.0187	-0.2
	7	1	7	6	6	1	6	6	(10)	19784.2036	-1.6
	7	1	7	7	6	1	6	6	(10)	19781.9837	4.5
	7	1	7	7	6	1	6	7	(10)	19780.1076	-1.0
	7	1	7	8	6	1	6	7	(10)	19782.0534	-0.8
	7	1	7	6	6	1	6	5	(11)	19781.9942	2.8
	7	1	7	6	6	1	6	6	(11)	19784.1813	3.5
	7	1	7	7	6	1	6	6	(11)	19781.9547	3.0
	7	1	7	7	6	1	6	7	(11)	19780.0838	2.7
	7	1	7	8	6	1	6	7	(11)	19782.0309	4.3
	7	1	7	6	6	1	6	5	(12)	19781.9942	2.9
	7	1	7	6	6	1	6	6	(12)	19784.1813	3.7
	7	1	7	7	6	1	6	6	(12)	19781.9547	3.1
	7	1	7	7	6	1	6	7	(12)	19780.0838	2.8
	7	1	7	8	6	1	6	7	(12)	19782.0309	4.4