





















Mode	Symmetry	Frequency (cm ⁻¹)	IR Intensity	Raman Intensity	Actions	
1	A'	186.84 (228.6881)	1.2426	0.6050		
2	A''	322.37 (394.5772)	2.8295	1.7119		
3	A'	370.48 (453.4661)	1.9488	2.1943		
4	A'	690.48 (845.1381)	21.3823	11.9914		
5	A'	752.15 (920.6298)	1.8564	4.4123		
6	A''	854.46 (1045.8566)	0.1048	0.2679		
7	A'	882.91 (1080.6675)	3.5893	3.5248		
8	A'	957.82 (1172.3627)	2.6063	2.8512		
9	A''	966.37 (1182.8296)	0.5488	1.4430		
10	A''	993.73 (1216.3129)	0.5846	17.6938		
11	A'	1025.68 (1255.4216)	5.0681	17.2170		
12	A'	1102.11 (1348.9757)	2.3436	3.7782		
13	A''	1113.24 (1362.5968)	0.6437	4.2162		
14	A'	1229.15 (1504.4693)	3.8885	14.2007		
15	A''	1233.64 (1509.9592)	0.1127	4.0575		
16	A''	1270.25 (1554.7760)	0.2317	11.2568		
17	A'	1300.85 (1592.2225)	47.0624	5.8721		

18	A"	1305.62 (1598.0697)	0.0460	1.5001		
19	A"	1348.71 (1650.8124)	1.0176	0.8449		
20	A'	1367.95 (1674.3609)	0.6463	2.5728		
21	A'	1473.35 (1803.3662)	0.1576	20.3287		
22	A"	1473.82 (1803.9353)	0.0336	3.6918		
23	A'	1500.83 (1837.0063)	0.5293	15.3630		
24	A'	2748.15 (3363.7030)	1.0120	22.0993		
25	A"	2753.88 (3370.7195)	0.2600	0.8631		
26	A'	2757.40 (3375.0263)	0.7482	102.0751		
27	A'	2821.91 (3453.9937)	0.3626	48.2713		
28	A'	2859.29 (3499.7399)	0.8794	26.1829		
29	A"	2863.62 (3505.0463)	0.1071	55.7785		
30	A'	2866.63	0.2535	19.9573	