

Supplementary material 2. Sub-interval partitions

Table 1. Ten sub partitions in MIR and NIR region

Sub-interval	MIR		NIR	
	Start(cm ⁻¹) ^a	End(cm ⁻¹) ^b	Start(cm ⁻¹)	End(cm ⁻¹)
1	4000	3645	12493.3	11606.2
2	3644	3290	11598.4	10711.3
3	3289	2935	10703.6	9816.4
4	2934	2580	9808.7	8921.6
5	2579	2225	8913.9	8034.4
6	2224	1870	8026.7	7147.3
7	1869	1515	7139.6	6260.2
8	1514	1160	6252.4	5373.0
9	1159	805	5365.3	4485.9
10	804	450	4478.1	3598.7

^a Start refers to the wavenumber that corresponding Sub-interval begins; ^b End refers to the wavenumber that corresponding Sub-interval finished.

Table 2. Fifteen sub partitions in MIR and NIR region

Sub-interval	MIR		NIR	
	Start(cm ⁻¹)	End(cm ⁻¹)	Start(cm ⁻¹)	End(cm ⁻¹)
1	4000	3764	12493.3	11907.0
2	3763	3527	11899.3	11313.0
3	3526	3290	11305.3	10719.0
4	3289	3053	10711.3	10125.0
5	3052	2816	10117.3	9531.0
6	2815	2579	9523.3	8937.0
7	2578	2342	8929.3	8343.0
8	2341	2105	8335.3	7749.0
9	2104	1868	7741.3	7155.0
10	1867	1631	7147.3	6561.0
11	1630	1394	6553.3	5967.0
12	1393	1158	5959.3	5373.0
13	1157	922	5365.3	4779.0
14	921	686	4771.3	4185.0
15	685	450	4177.3	3598.7

Table 3. Twenty sub partitions in MIR and NIR region

Sub-interval	MIR		NIR	
	Start(cm ⁻¹)	End(cm ⁻¹)	Start(cm ⁻¹)	End(cm ⁻¹)
1	4000	3823	12493.3	12053.6
2	3822	3645	12045.9	11606.2
3	3644	3467	11598.4	11158.7
4	3466	3289	11151.0	10711.3
5	3288	3111	10703.6	10263.9
6	3110	2933	10256.2	9816.4
7	2932	2755	9808.7	9369.0
8	2754	2577	9361.3	8921.6
9	2576	2399	8913.9	8474.2
10	2398	2221	8466.4	8026.7
11	2220	2043	8019.0	7579.3
12	2042	1866	7571.6	7131.9
13	1865	1689	7124.2	6684.4
14	1688	1512	6676.7	6237.0
15	1511	1335	6229.3	5797.3
16	1334	1158	5789.6	5357.6
17	1157	981	5349.9	4917.9
18	980	804	4910.2	4478.1
19	803	627	4470.4	4038.4
20	626	450	4030.7	3598.7

Table 4. Twenty-five sub partitions in MIR and NIR region

Sub-interval	MIR		NIR	
	Start(cm ⁻¹)	End(cm ⁻¹)	Start(cm ⁻¹)	End(cm ⁻¹)
1	4000	3859	12493.3	12138.4
2	3857	3716	12130.7	11775.9
3	3715	3574	11768.2	11413.3
4	3573	3432	11405.6	11050.7
5	3431	3290	11043.0	10695.9
6	3289	3148	10688.2	10341.0
7	3147	3006	10333.3	9986.2
8	3005	2864	9978.4	9631.3
9	2863	2722	9623.6	9276.4
10	2721	2580	9268.7	8921.6
11	2579	2438	8913.9	8566.7
12	2437	2296	8559.0	8211.9
13	2295	2154	8204.2	7857.0
14	2153	2012	7849.3	7502.2
15	2011	1870	7494.4	7147.3
16	1869	1728	7139.6	6792.4
17	1727	1586	6784.7	6437.6
18	1585	1444	6429.9	6082.7
19	1443	1302	6075.0	5727.9
20	1301	1160	5720.2	5373.0
21	1159	1018	5365.3	5018.2
22	1017	876	5010.4	4663.3
23	875	734	4655.6	4308.4
24	733	592	4300.7	3953.6
25	591	450	3945.9	3598.7

Table 5. Thirty sub partitions in MIR and NIR region

Sub-interval	MIR		NIR	
	Start(cm ⁻¹)	End(cm ⁻¹)	Start(cm ⁻¹)	End(cm ⁻¹)
1	4000	3882	12493.3	12200.2
2	3881	3763	12192.4	11899.3
3	3762	3644	11891.6	11598.4
4	3643	3525	11590.7	11297.6
5	3524	3406	11289.9	10996.7
6	3405	3287	10989.0	10695.9
7	3286	3168	10688.2	10395.0
8	3167	3049	10387.3	10094.2
9	3048	2930	10086.4	9793.3
10	2929	2811	9785.6	9492.4
11	2810	2692	9484.7	9191.6
12	2691	2574	9183.9	8890.7
13	2573	2456	8883.0	8589.9
14	2455	2338	8582.2	8289.0
15	2337	2220	8281.3	7995.9
16	2219	2102	7988.2	7702.7
17	2101	1984	7695.0	7409.6
18	1983	1866	7401.9	7116.4
19	1865	1748	7108.7	6823.3
20	1747	1630	6815.6	6530.2
21	1629	1512	6522.4	6237.0
22	1511	1394	6229.3	5943.9
23	1393	1276	5936.2	5650.7
24	1275	1158	5643.0	5357.6
25	1157	1040	5349.9	5064.4
26	1039	922	5056.7	4771.3
27	921	804	4763.6	4478.1
28	803	686	4470.4	4185.0
29	685	568	4177.3	3891.9
30	567	450	3884.1	3598.7

Table 6. Thirty-five sub partitions in MIR and NIR region

Sub-interval	MIR		NIR	
	Start(cm ⁻¹)	End(cm ⁻¹)	Start(cm ⁻¹)	End(cm ⁻¹)
1	4000	3899	12493.3	12246.4
2	3898	3797	12238.7	11991.9
3	3796	3695	11984.2	11737.3
4	3694	3593	11729.6	11482.7
5	3592	3491	11475.0	11228.2
6	3490	3389	11220.4	10973.6
7	3388	3287	10965.9	10719.0
8	3286	3185	10711.3	10464.4
9	3184	3083	10456.7	10209.9
10	3082	2981	10202.2	9955.3
11	2980	2879	9947.6	9700.7
12	2878	2777	9693.0	9446.2
13	2776	2675	9438.4	9191.6
14	2674	2573	9183.9	8937.0
15	2572	2471	8929.3	8682.4
16	2470	2369	8674.7	8427.9
17	2368	2268	8420.2	8173.3
18	2267	2167	8165.6	7918.7
19	2166	2066	7911.0	7664.2
20	2065	1965	7656.4	7409.6
21	1964	1864	7401.9	7155.0
22	1863	1763	7147.3	6900.4
23	1762	1662	6892.7	6645.9
24	1661	1561	6638.2	6391.3
25	1560	1460	6383.6	6136.7
26	1459	1359	6129.0	5882.2
27	1358	1258	5874.4	5627.6
28	1257	1157	5619.9	5373.0
29	1156	1056	5365.3	5118.4
30	1055	955	5110.7	4863.9
31	954	854	4856.2	4609.3
32	853	753	4601.6	4354.7
33	752	652	4347.0	4100.1
34	651	551	4092.4	3845.6
35	550	450	3837.9	3598.7

Table 7. Forty sub partitions in MIR and NIR region

Sub-interval	MIR		NIR	
	Start(cm ⁻¹)	End(cm ⁻¹)	Start(cm ⁻¹)	End(cm ⁻¹)
1	4000	3912	12493.3	12277.3
2	3911	3823	12269.6	12053.6
3	3822	3734	12045.9	11829.9
4	3733	3645	11822.2	11606.2
5	3644	3556	11598.4	11382.4
6	3555	3467	11374.7	11158.7
7	3466	3378	11151.0	10935.0
8	3377	3289	10927.3	10711.3
9	3288	3200	10703.6	10487.6
10	3199	3111	10479.9	10263.9
11	3110	3022	10256.2	10040.2
12	3021	2933	10032.4	9816.4
13	2932	2844	9808.7	9592.7
14	2843	2755	9585.0	9369.0
15	2754	2666	9361.3	9145.3
16	2665	2577	9137.6	8921.6
17	2576	2488	8913.9	8697.9
18	2487	2399	8690.2	8474.2
19	2398	2310	8466.4	8250.4
20	2309	2221	8242.7	8026.7
21	2220	2132	8019.0	7803.0
22	2131	2043	7795.3	7579.3
23	2042	1954	7571.6	7355.6
24	1953	1865	7347.9	7131.9
25	1864	1776	7124.2	6908.2
26	1775	1687	6900.4	6684.4
27	1686	1598	6676.7	6460.7
28	1597	1509	6453.0	6237.0
29	1508	1420	6229.3	6013.3
30	1419	1331	6005.6	5789.6
31	1330	1242	5781.9	5565.9
32	1241	1154	5558.2	5342.2
33	1153	1066	5334.4	5118.4
34	1065	978	5110.7	4894.7
35	977	890	4887.0	4678.7
36	889	802	4671.0	4462.7
37	801	714	4455.0	4246.7
38	713	626	4239.0	4030.7
39	625	538	4023.0	3814.7
40	537	450	3807.0	3598.7

Table 8. Forty-five sub partitions in MIR and NIR region

Sub-interval	MIR		NIR	
	Start(cm ⁻¹)	End(cm ⁻¹)	Start(cm ⁻¹)	End(cm ⁻¹)
1	4000	3922	12493.3	12300.4
2	3921	3843	12292.7	12099.9
3	3842	3764	12092.2	11899.3
4	3763	3685	11891.6	11698.7
5	3684	3606	11691.0	11498.2
6	3605	3527	11490.4	11297.6
7	3526	3448	11289.9	11097.0
8	3447	3369	11089.3	10896.4
9	3368	3290	10888.7	10695.9
10	3289	3211	10688.2	10495.3
11	3210	3132	10487.6	10294.7
12	3131	3053	10287.0	10094.2
13	3052	2974	10086.4	9893.6
14	2973	2895	9885.9	9693.0
15	2894	2816	9685.3	9492.4
16	2815	2737	9484.7	9291.9
17	2736	2658	9284.2	9091.3
18	2657	2579	9083.6	8890.7
19	2578	2500	8883.0	8690.2
20	2499	2421	8682.4	8489.6
21	2420	2342	8481.9	8289.0
22	2341	2263	8281.3	8088.4
23	2262	2184	8080.7	7887.9
24	2183	2105	7880.2	7687.3
25	2104	2026	7679.6	7486.7
26	2025	1947	7479.0	7286.2
27	1946	1868	7278.4	7085.6
28	1867	1789	7077.9	6885.0
29	1788	1710	6877.3	6684.4
30	1709	1631	6676.7	6491.6
31	1630	1552	6483.9	6298.7
32	1551	1473	6291.0	6105.9
33	1472	1394	6098.2	5913.0
34	1393	1315	5905.3	5720.2
35	1314	1236	5712.4	5527.3
36	1235	1157	5519.6	5334.4
37	1156	1078	5326.7	5141.6
38	1077	999	5133.9	4948.7
39	998	920	4941.0	4755.9
40	919	841	4748.1	4563.0
41	840	762	4555.3	4370.1
42	761	684	4362.4	4177.3
43	683	606	4169.6	3984.4
44	605	528	3976.7	3791.6
45	527	450	3783.9	3598.7

Table 9. Fifty sub partitions in MIR and NIR region

Sub-interval	MIR		NIR	
	Start(cm ⁻¹)	End(cm ⁻¹)	Start(cm ⁻¹)	End(cm ⁻¹)
1	4000	3929	12493.3	12315.9
2	3928	3858	12308.2	12130.7
3	3857	3787	12123.0	11945.6
4	3786	3716	11937.9	11760.4
5	3715	3645	11752.7	11583.0
6	3644	3574	11575.3	11405.6
7	3573	3503	11397.9	11228.2
8	3502	3432	11220.4	11050.7
9	3431	3361	11043.0	10873.3
10	3360	3290	10865.6	10695.9
11	3289	3219	10688.2	10518.4
12	3218	3148	10510.7	10341.0
13	3147	3077	10333.3	10163.6
14	3076	3006	10155.9	9986.2
15	3005	2935	9978.4	9808.7
16	2934	2864	9801.0	9631.3
17	2863	2793	9623.6	9453.9
18	2792	2722	9446.2	9276.4
19	2721	2651	9268.7	9099.0
20	2650	2580	9091.3	8921.6
21	2579	2509	8913.9	8744.2
22	2508	2438	8736.4	8566.7
23	2437	2367	8559.0	8389.3
24	2366	2296	8381.6	8211.9
25	2295	2225	8204.2	8034.4
26	2224	2154	8026.7	7857.0
27	2153	2083	7849.3	7679.6
28	2082	2012	7671.9	7502.2
29	2011	1941	7494.4	7324.7
30	1940	1870	7317.0	7147.3
31	1869	1799	7139.6	6969.9
32	1798	1728	6962.2	6792.4
33	1727	1657	6784.7	6615.0
34	1656	1586	6607.3	6437.6
35	1585	1515	6429.9	6260.2
36	1514	1444	6252.4	6082.7
37	1443	1373	6075.0	5905.3
38	1372	1302	5897.6	5727.9
39	1301	1231	5720.2	5550.4
40	1230	1160	5542.7	5373.0
41	1159	1089	5365.3	5195.6
42	1088	1018	5187.9	5018.2
43	1017	947	5010.4	4840.7
44	946	876	4833.0	4663.3
45	875	805	4655.6	4485.9
46	804	734	4478.1	4308.4
47	733	663	4300.7	4131.0
48	662	592	4123.3	3953.6
49	591	521	3945.9	3776.1
50	520	450	3768.4	3598.7