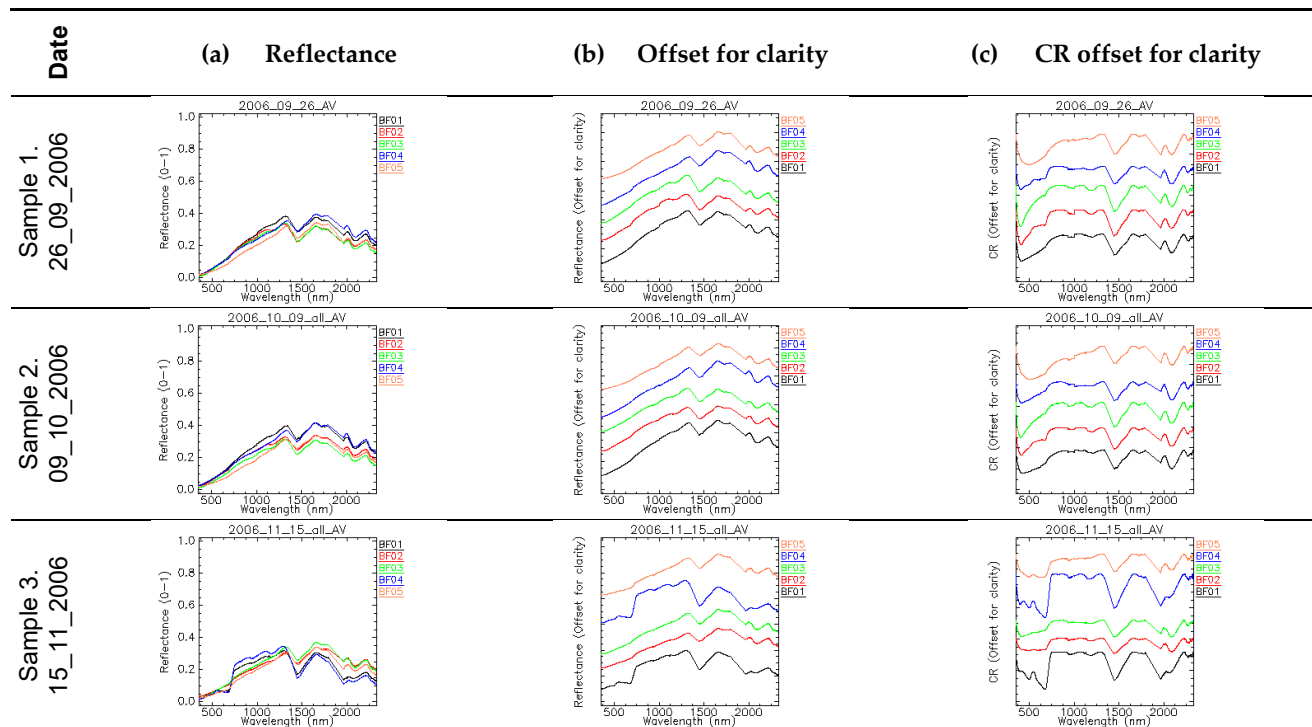


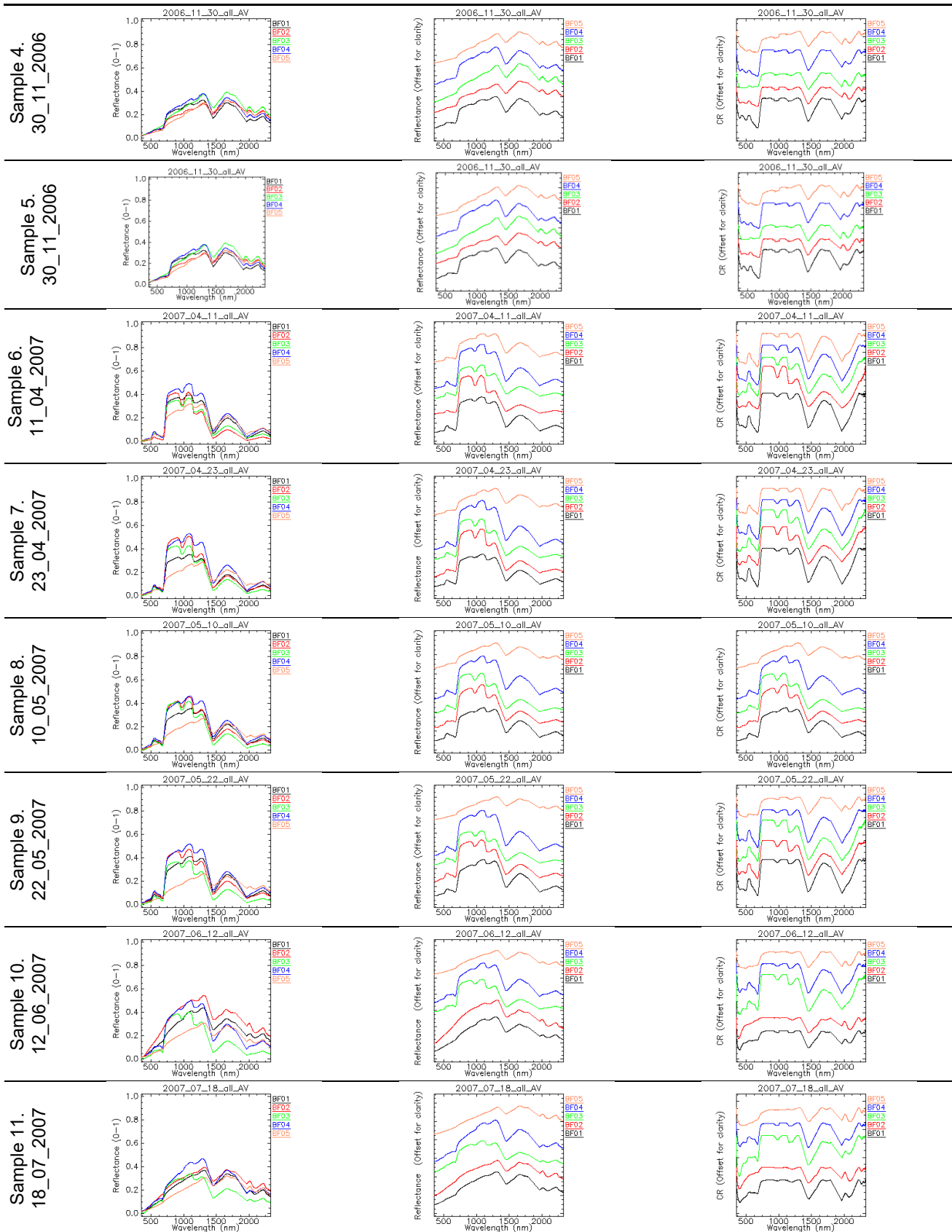
Supplementary Material

Table S1. Spectral sampling dates at Berrimah Farm.

Berrimah Farm Sampling					
Date	BF01	BF02	BF03	BF04	BF05
26/09/2006	✓	✓	✓	✓	✓
09/10/2006	✓	✓	✓	✓	✓
30/10/2006	✓	✓	✓	✓	✓
15/11/2006	✓	✓	✓	✓	✓
30/11/2006	✓	✓			
01/12/2006			✓	✓	✓
11/04/2007	✓	✓	✓	✓	
13/04/2007					✓
23/04/2007	✓	✓	✓	✓	✓
10/05/2007	✓	✓	✓	✓	✓
22/05/2007	✓	✓			
23/05/2007			✓	✓	✓
12/06/2007	✓	✓	✓	✓	✓
18/07/2007	✓	✓	✓	✓	✓
01/08/2007	✓	✓	✓	✓	✓
06/09/2007	✓	✓	✓	✓	✓
21/09/2007	✓	✓	✓	✓	✓
04/10/2007	✓	✓	✓	✓	
15/10/2007	✓	✓			
17/10/2007			✓	✓	
26/11/2007	✓	✓	✓	✓	✓

Table S2. Seventeen spectral samples over time of the five grass species. (a) Reflectance, (b) offset for clarity and (c) continuum removed (CR) offset for clarity.





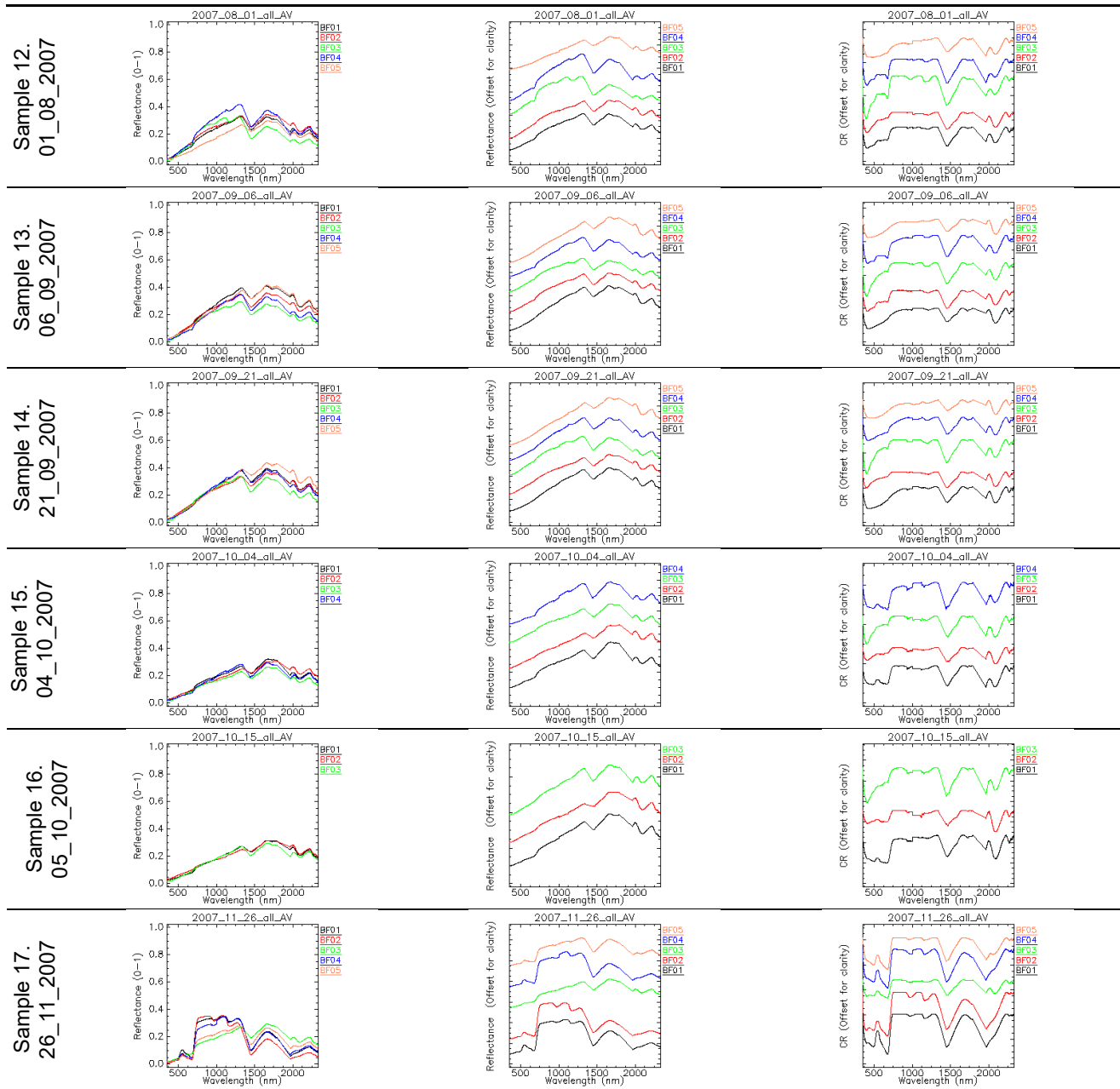
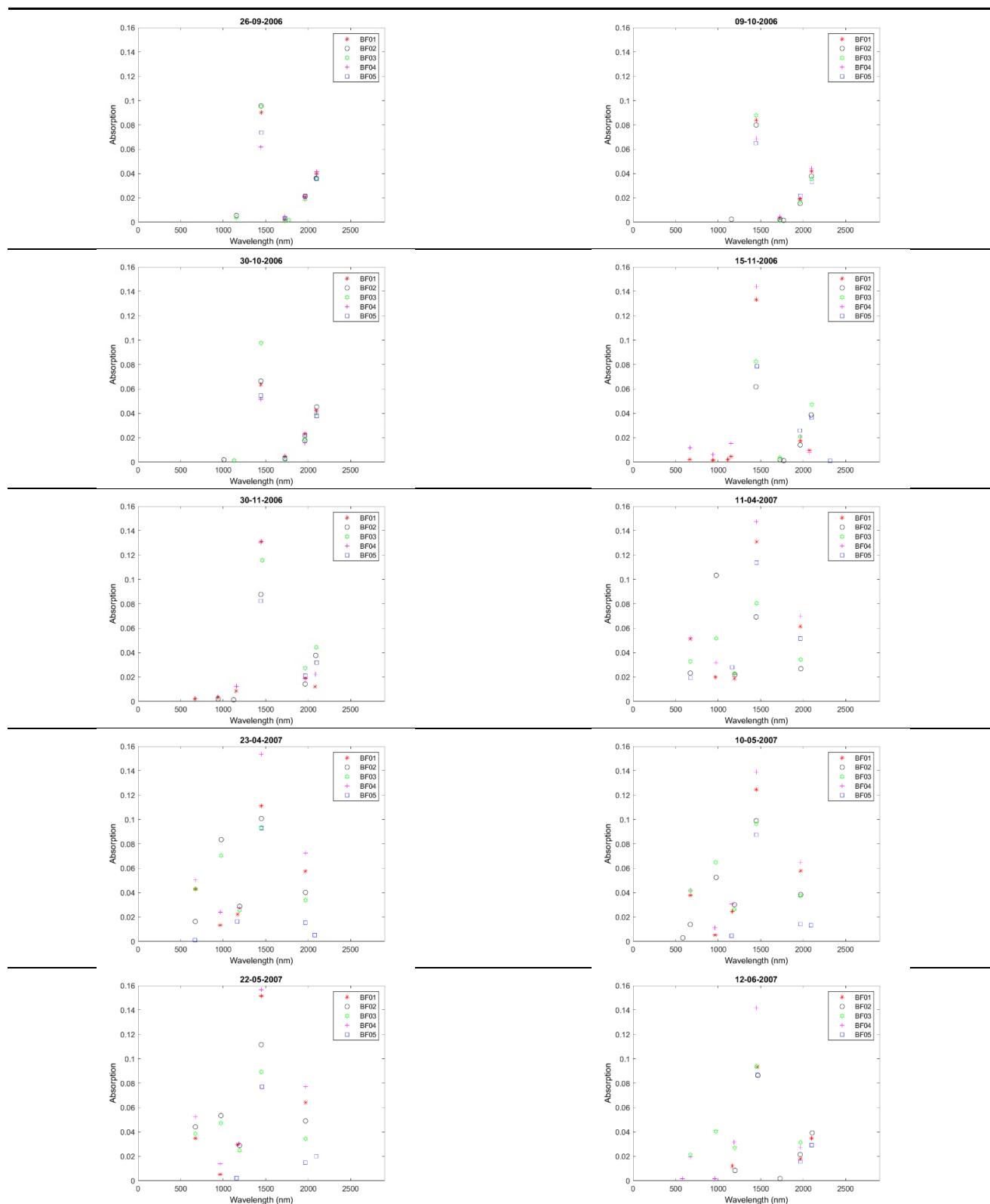


Table S3. Absorption is the Band Depth of absorption. The centre points based on the CR were 430, 490, 580, 620, 660, 930, 970, 1120, 1450, 1780, 1970, 2090 and 2270 nm.



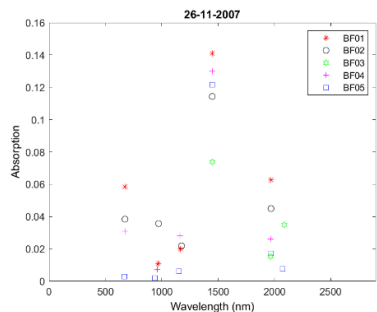
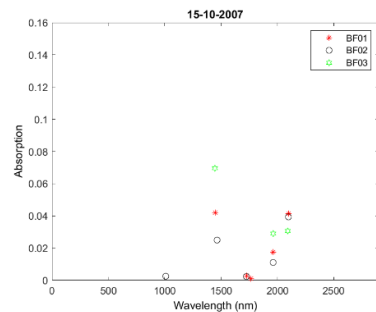
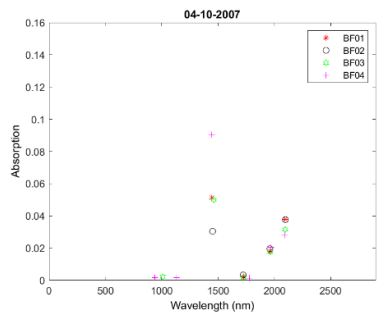
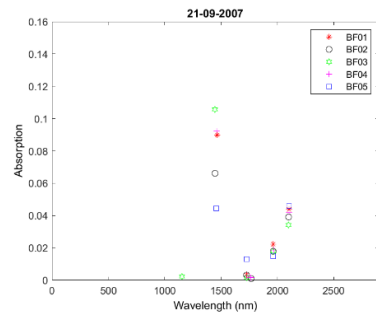
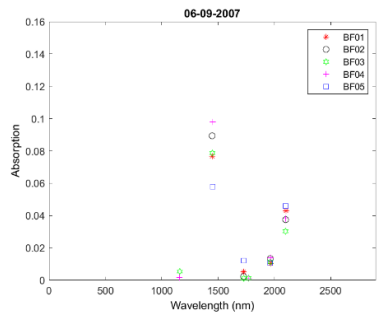
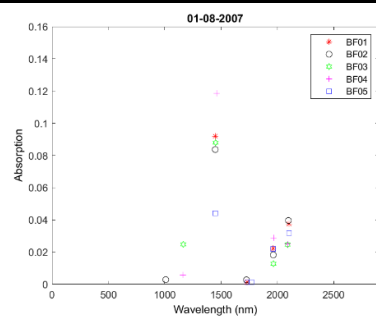
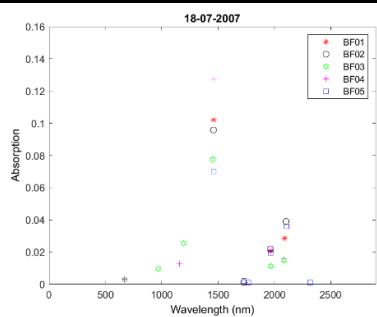


Table S4. Spectral Feature Fitting separability results (VNIR-SWIR).

2006_09_26	BF01	BF02	BF03	BF04	BF05
BF01	1	0.76	0.411	0.83	0.53
BF02	0.78	1	0.86	0.82	0.34
BF03	0.67	0.79	1	0.76	0.20
BF04	0.79	0.76	0.65	1	0.41
BF05	0.64	0.43	0.26	0.62	1
2006_10_09	BF01	BF02	BF03	BF04	BF05
BF01	1	0.76	0.68	0.79	0.24
BF02	0.76	1	0.86	0.81	0.00
BF03	0.73	0.89	1	0.79	0.00
BF04	0.76	0.78	0.71	1	0.08
BF05	0.50	0.34	0.22	0.47	1
2006_10_30	BF01	BF02	BF03	BF04	BF05
BF01	1	0.79	0.68	0.82	0.12
BF02	0.78	1	0.85	0.77	0
BF03	0.75	0.89	1	0.72	0
BF04	0.82	0.79	0.66	1	0.26
BF05	0.52	0.47	0.24	0.59	1
2006_11_15	BF01	BF02	BF03	BF04	BF05
BF01	1	0.7	0.52	0.75	0.48
BF02	0.36	1	0.79	0.21	0.47
BF03	0.13	0.82	1	0	0.38
BF04	0.80	0.70	0.54	1	0.52
BF05	0.33	0.68	0.56	0.23	1
2006_11_30	BF01	BF02	BF03	BF04	BF05
BF01	1	0.76	0.67	0.75	0.42
BF02	0.66	1	0.74	0.76	0.48
BF03	0.51	0.73	1	0.59	0.41
BF04	0.75	0.83	0.72	1	0.48
BF05	0.28	0.54	0.51	0.36	1
2007_04_11	BF01	BF02	BF03	BF04	BF05
BF01	1	0	0.18	0.70	0.53
BF02	0	1	0.282	0	0
BF03	0.176	0.097	1	0.26	0.098
BF04	0.712	0	0.195	1	0.587
BF05	0.525	0	0	0.47	1
2007_04_23	BF01	BF02	BF03	BF04	BF05
BF01	1	0	0	0.717	0.483
BF02	0.111	1	0.659	0.074	0.094
BF03	0.139	0.683	1	0.087	0.113
BF04	0.732	0	0	1	0.541
BF05	0.228	0	0	0.285	1
2007_05_10	BF01	BF02	BF03	BF04	BF05
BF01	1	0	0	0.747	0.589
BF02	0.152	1	0.601	0.316	0.296
BF03	0.103	0.655	1	0.236	0.229
BF04	0.751	0.181	0	1	0.537
BF05	0.356	0	0	0.260	1
2007_05_23	BF01	BF02	BF03	BF04	BF05
BF01	1	0.185	0	0.717	0.512
BF02	0.288	1	0.545	0.465	0.334

BF03	0.118	0.618	1	0.242	0.252
BF04	0.724	0.401	0	1	0.472
BF05	0.116	0	0	0.021	1
2007_06_12	BF01	BF02	BF03	BF04	BF05
BF01	1	0.575	0	0.222	0.567
BF02	0.502	1	0	0	0.103
BF03	0.528	0.341	1	0.467	0.395
BF04	0.595	0.304	0.248	1	0.556
BF05	0.607	0.301	0	0.225	1
2007_07_18	BF01	BF02	BF03	BF04	BF05
BF01	1	0.665	0.323	0.744	0.627
BF02	0.563	1	0.172	0.341	0.449
BF03	0.575	0.601	1	0.550	0.592
BF04	0.779	0.563	0.380	1	0.592
BF05	0.564	0.506	0.123	0.448	1
2007_08_01	BF01	BF02	BF03	BF04	BF05
BF01	1	0.737	0.532	0.745	0.553
BF02	0.682	1	0.455	0.520	0.336
BF03	0.702	0.714	1	0.646	0.396
BF04	0.795	0.682	0.554	1	0.502
BF05	0.572	0.475	0.093	0.407	1
2007_09_06	BF01	BF02	BF03	BF04	BF05
BF01	1	0.722	0.451	0.664	0.840
BF02	0.713	1	0.655	0.592	0.654
BF03	0.552	0.727	1	0.360	0.517
BF04	0.765	0.724	0.452	1	0.728
BF05	0.835	0.655	0.391	0.600	1
2007_09_21	BF01	BF02	BF03	BF04	BF05
BF01	1	0.616	0.381	0.818	0.767
BF02	0.424	1	0.622	0.455	0.423
BF03	0.448	0.775	1	0.477	0.417
BF04	0.829	0.659	0.450	1	0.709
BF05	0.729	0.551	0.238	0.638	1
2007_10_04	BF01	BF02	BF03	BF04	
BF01	1	0.742	0.582	0.610	
BF02	0.588	1	0.693	0.254	
BF03	0.578	0.806	1	0.265	
BF04	0.705	0.646	0.448	1	
2007_10_15	BF01	BF02	BF03		
BF01	1	0.714	0.532		
BF02	0.515	1	0.492		
BF03	0.533	0.701	1		
2007_11_26	BF01	BF02	BF03	BF04	BF05
BF01	1	0.410	0.688	0.685	0.661
BF02	0.519	1	0.644	0.689	0.504
BF03	0.354	0.098	1	0.348	0.617
BF04	0.685	0.617	0.684	1	0.660
BF05	0.565	0.219	0.762	0.564	1

Table S5. Spectral feature Fitting separability results (350–1000 nm).

2006_09_26	BF01	BF02	BF03	BF04	BF05
BF01	1	0.694	0.418	0.838	0.593
BF02	0.730	1	0.667	0.878	0.309
BF03	0.518	0.687	1	0.671	0.005
BF04	0.797	0.827	0.505	1	0.424
BF05	0.657	0.340	0.038	0.611	1
2006_10_09	BF01	BF02	BF03	BF04	BF05
BF01	1	0.671	0.525	0.823	0.692
BF02	0.666	1	0.840	0.854	0.298
BF03	0.611	0.871	1	0.813	0.231
BF04	0.788	0.827	0.727	1	0.442
BF05	0.754	0.448	0.250	0.628	1
2006_10_30	BF01	BF02	BF03	BF04	BF05
BF01	1	0.751	0.517	0.884	0.570
BF02	0.722	1	0.847	0.822	0.168
BF03	0.611	0.889	1	0.709	0.012
BF04	0.885	0.842	0.641	1	0.401
BF05	0.743	0.553	0.265	0.639	1
2006_11_15	BF01	BF02	BF03	BF04	BF05
BF01	1	0.713	0.446	0.670	0.577
BF02	0.318	1	0.729	0.312	0.823
BF03	0	0.763	1	0	0.467
BF04	0.740	0.772	0.527	1	0.648
BF05	0.401	0.895	0.637	0.366	1
2006_11_30	BF01	BF02	BF03	BF04	BF05
BF01	1	0.797	0.583	0.689	0.614
BF02	0.720	1	0.748	0.885	0.690
BF03	0.338	0.709	1	0.596	0.649
BF04	0.692	0.917	0.748	1	0.724
BF05	0.454	0.681	0.687	0.606	1
2007_04_11	BF01	BF02	BF03	BF04	BF05
BF01	1	0.119	0.518	0.784	0.841
BF02	0.301	1	0.491	0.426	0.351
BF03	0.545	0.395	1	0.536	0.611
BF04	0.797	0.317	0.536	1	0.723
BF05	0.814	0.045	0.519	0.657	1
2007_04_23	BF01	BF02	BF03	BF04	BF05
BF01	1	0.348	0.223	0.729	0.681
BF02	0.434	1	0.744	0.537	0.671
BF03	0.366	0.760	1	0.411	0.605
BF04	0.754	0.516	0.344	1	0.667
BF05	0.566	0.484	0.342	0.502	1
2007_05_10	BF01	BF02	BF03	BF04	BF05
BF01	1	0.393	0.312	0.796	0.619
BF02	0.480	1	0.660	0.512	0.706
BF03	0.471	0.695	1	0.467	0.570
BF04	0.800	0.440	0.319	1	0.625
BF05	0.445	0.501	0.186	0.444	1
2007_05_23	BF01	BF02	BF03	BF04	BF05
BF01	1	0.721	0.414	0.8777	0.575
BF02	0.747	1	0.612	0.751	0.575

BF03	0.532	0.659	1	0.477	0.547
BF04	0.881	0.734	0.363	1	0.565
BF05	0.287	0.214	0.045	0.248	1
2007_06_12	BF01	BF02	BF03	BF04	BF05
BF01	1	0.417	0.064	0.054	0.392
BF02	0.295	1	0	0	0
BF03	0.648	0.192	1	0.630	0.572
BF04	0.517	0.085	0.497	1	0.590
BF05	0.487	0.057	0.040	0.323	1
2007_07_18	BF01	BF02	BF03	BF04	BF05
BF01	1	0.563	0.629	0.710	0.661
BF02	0.441	1	0.067	0.019	0.258
BF03	0.787	0.581	1	0.641	0.534
BF04	0.747	0.399	0.454	1	0.617
BF05	0.623	0.356	0.100	0.511	1
2007_08_01	BF01	BF02	BF03	BF04	BF05
BF01	1	0.650	0.413	0.823	0.768
BF02	0.543	1	0.506	0.430	0.422
BF03	0.642	0.769	1	0.650	0.491
BF04	0.851	0.633	0.519	1	0.687
BF05	0.740	0.504	0.063	0.582	1
2007_09_06	BF01	BF02	BF03	BF04	BF05
BF01	1	0.746	0.267	0.701	0.950
BF02	0.727	1	0.464	0.656	0.757
BF03	0.397	0.590	1	0.135	0.481
BF04	0.783	0.768	0.239	1	0.779
BF05	0.943	0.742	0.280	0.651	1
2007_09_21	BF01	BF02	BF03	BF04	BF05
BF01	1	0.668	0.160	0.872	0.941
BF02	0.386	1	0.783	0.349	0.494
BF03	0.232	0.893	1	0.193	0.371
BF04	0.882	0.674	0.180	1	0.876
BF05	0.926	0.658	0.138	0.832	1
2007_10_04	BF01	BF02	BF03	BF04	
BF01	1	0.770	0.355	0.857	
BF02	0.550	1	0.755	0.349	
BF03	0.336	0.871	1	0.070	
BF04	0.893	0.752	0.326	1	
2007_10_15	BF01	BF02	BF03		
BF01	1	0.909	0.416		
BF02	0.809	1	0.560		
BF03	0.418	0.790	1		
2007_11_26	BF01	BF02	BF03	BF04	BF05
BF01	1	0.410	0.688	0.685	0.661
BF02	0.519	1	0.644	0.689	0.504
BF03	0.354	0.098	1	0.348	0.617
BF04	0.685	0.617	0.684	1	0.660
BF05	0.565	0.219	0.762	0.564	1