Supplementary Materials

NIR-MID Reflectance and Emissivity Study at Different Temperatures of Sodium Carbonate Minerals: Spectra Characterization and Implication for Remote Sensing Identification

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Table S1. Band positions in the emissivity spectra collected at 603 K for all the investigated samples. The areas, FWHM, depths are reported. Absorption band assignments were made following De Angelis et al. [18], Frost and Palmer [42], Clark [43], Zhu et al. [44] and Adler and Kerr [58]. Arb.u. namely arbitrary unit. The – symbol for Δ FWHM/T and Δ depth/T represent temperature dependence of FWHM and depth.

Mineral Name	CO_3^{2-} Fundametals				CO_3^{2-} Overtones	H-O-H Bands	Analised	Area $(cm^{-1})^2$	Δ area $(cm^{-1})/T$	FWHM (cm^{-1})	Δ FWHM $(cm^{-1})/T$	Depth (arb.u.)	Δ depth (arb.u.)/T X 10^{-4}
	ν_1	ν_2	ν_3	ν_4									
Natrite				669			X	0.54128	2-.0882 ×	36.66038	0.01285	0.01356	−9.52 ×
Na_2CO_3				796			X	4.0658	10^{-4}	134.8481	−0.03056	0.03473	10^{-6}
		860							−0.00319				2−.303 ×
		954											10^{-5}
	994												
	1078												
			1178										
			1242										
			1508				X	4.75495		111.3396	−0.01152	0.03711	
						1764	X	1.00145	−0.00459	25.60353	0.03533	0.03361	
						1993	X	9.25547	1.362×10^{-5}	307.6997	−0.31267	0.04428	2-.452 ×
					2275		X	13.1294	−0.02804	312.0811	−0.48061	0.0451	10^{-5}
					2647				−0.04561				2-.01 ×
					2838								10^{-5}
					2947								−1.266 ×
						3215	X	8.84404		32.1500	0.00212	0.06046	10^{-4}
									−0.0058				−1.214 ×
													10^{-4}

												−4.155 × 10^{-5}
Thermonatrite $Na_2CO_3 \cdot H_2O$				641								
				663			X	2.03477	2.1359 × 10^{-4}	45.97276	0.03558	−0.04838	−3.43 × 10^{-6}
		788					X	13.2658		126.5364	−0.09561	−0.10943	
	1114								−0.00834				/
	1167												
			1238										
			1421										
			1511										
						1755	X	0.57661		173.5775	0.07518	−0.01313	
						1959	X	27.5534	−0.00168	235.4368	−0.03186	−0.12477	/
						2014			−0.00841				−4.084 × 10^{-5}
					2293		X	25.285		255.3974	−0.1158	−0.10804	
					2683		X	20.4399	−0.01316	175.8912	−0.0771	−0.11187	
					2893				0.00235				1.342 × 10^{-5}
						3157	X	13.6229		266.7428	−0.25739	−0.05765	
									−0.01411				4.613 × 10^{-5}
													−4.018 × 10^{-5}
Trona $Na_3(CO_3)(HCO_3) \cdot 2(H_2O)$				664			X	2.63357	−0.00128	40.92987	0.00742	0.06694	−4.442 × 10^{-5}
		781					X	12.512	−4.693 × 10^{-5}	126.9876	−0.06315	0.10933	
		858											−4.693 × 10^{-5}
	1033												
	1090												
	1179												
			1238										
			1425										
			1505										
						1769	X	0.50597		27.59862	0.36161	0.0149	
						1974	X	31.2187	/	236.9563	−0.03015	0.14358	

	2266		X	28.1301	/	278.1888	−0.11771	0.11731	−8.911 × 10^{-5}
	2688		X	10.5715	−0.01687	164.1323	−0.08505	0.0627	
		3213	X	8.35887	−5.1521 × 10^{-4}	152.7873	−0.03102	0.05688	/
					−0.00798				−3.976 × 10^{-5}
									2.41×10^{-5}
									-4.387×10^{-5}