



**Supplementary Figure S2.** Diffraction data of powdered samples from bottom types (a) black domes, (b) black semi-cohesive mat, (c) floccules, (d) orange/brown bulbous mat, (e) orange gel mat with black pinnacles, and (f) spar measured using a Rigaku D/MAX Rapid micro diffractometer with an imaging plate detector. XRD patterns produced, after background subtraction, were qualitatively matched to theoretical mineral d-spacing reference patterns the International Center for Diffraction Data libraries and/or user libraries developed from reference materials using Jade 9 software.