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On the effects of mineral surfaces on nucleation and transformation of ikaite (CaCO3 x 6H2O)

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Ikaite (CaCO3 x 6H2O) is a widespread mineral in cold regions of Earth. Furthermore, it plays a key role as a precursor of more stable calcium carbonates. However, the formation and transformation conditions of ikaite, especially for the heterogeneous case, are not well constrained. Using Cryo-Mixed-Batch-Reactor experiments and in-situ flow-through Cryo-Atomic-Force-Microscopy (CAFM), we investigated the effect of mineral substrates on the nucleation of ikaite and its subsequent disintegration.

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