



**FIGURE S2.** (a) Back-scatter electron (BSE) image of dolomite relicts in calcite; (b) Energy-dispersive spectrum of dolomite relict (P-1) shown in (a); (c) BSE image of the carbonate intergrowth. The yellow rectangle represents the analytical area using EDS; (d) Energy-dispersive spectrum of the carbonate intergrowth (P-2) analyzed with a broad beam, corresponding to the area shown in (c).