Fig. S1. Diagramatic representation of aragonite (A) and calcite (B) crystals with colour-coded crystallographic planes [colours in crystallographic maps (Figs. 2 and 3 of text) relate to the axis normal to the plane of view].

Fig. S2. Illustration of construction of pole figures based on crystallographic planes [pole figures (Figs. 2 and 3 of text) are in reference to the \{0001\} plane of calcite]. RD, TD and ND = reference, tangential and normal direction respectively. Red circles in pole figure represent projections to the northern hemisphere of poles to the plane while the white circles are the equivalent southern hemisphere projections.