

Supplemental Data Figure Captions

Supplemental Data Figure DR1. Results of electron dispersive X-ray analysis from two representative crystal sets. One area of tangential crystals (that of Figure 2F) appears to have a relatively greater Sr concentration, whereas another with radial crystals (in Figure 2I) has a more pronounced Mg peak, with less Sr. See text for discussion.

Supplemental Data Figure DR2. Global-scale patterns in chemical oceanography. The location of Aitutaki Atoll is indicated on both figures by the white star. A) Ocean pH. Note that Aitutaki lies in an area of abnormally high pH, some of the highest in the tropical oceans. From the Royal Society (2005). B) Total alkalinity (August). Note that total alkalinity is elevated around Aitutaki, as in the Bahamas. From Lee et al. (2006).



