



Figure S1. Relationship between pCO<sub>2</sub> and discrete pH measurements in surface ocean water along GO-SHIP line P18, nominally 110 °W in the south Pacific. (a) Surface water pH and pCO<sub>2</sub> versus latitude with pH scale (left axis) in reverse, and (b) pCO<sub>2</sub> versus pH. The strong correspondence is apparent, and deviations from a singular relationship are due to differences in the buffering factor and alkalinity.