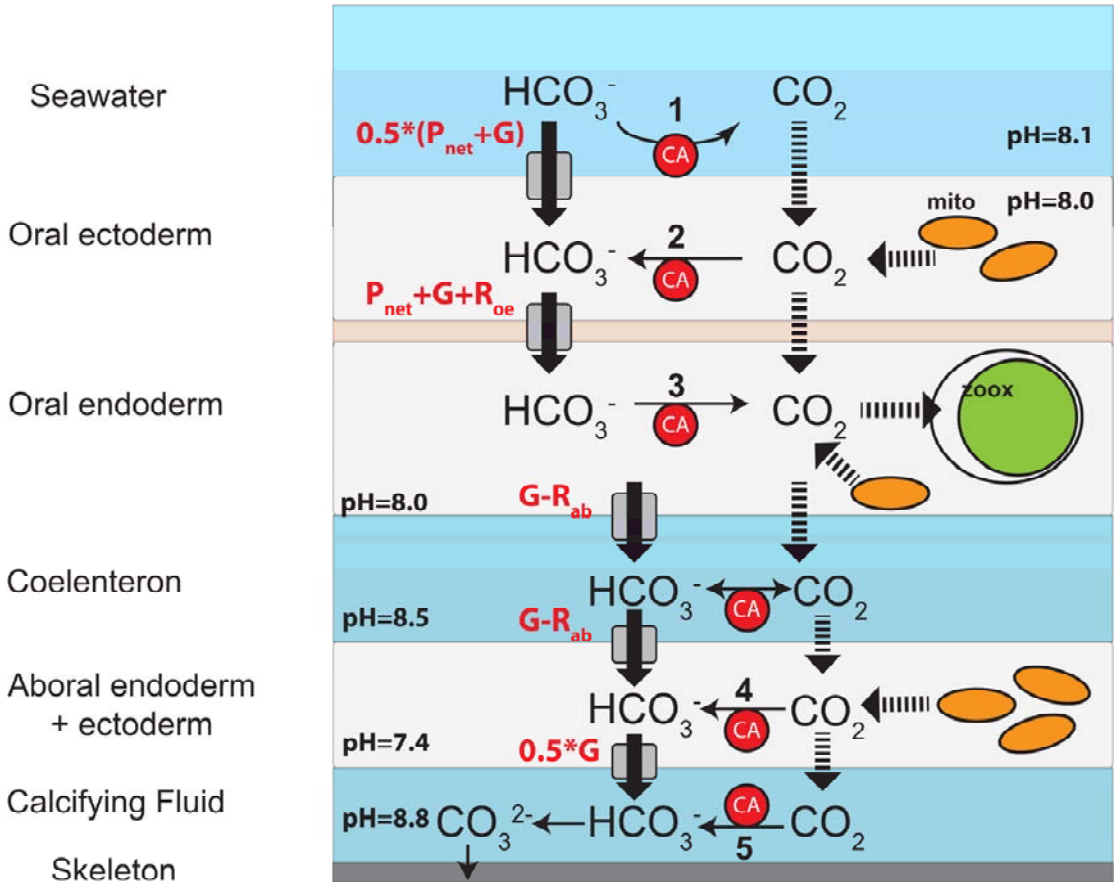

Fig. S1. Layers and fluxes in the spatially resolved model of coral C_i processing. The model considers active HCO_3^- fluxes (solid arrows, with specified rates in red text beside each arrow) and diffusive CO_2 fluxes (dashed arrows) between tissue compartments, and the production of CO_2 by mitochondrial respiration (orange ovals), consumption of CO_2 by *Symbiodinium* (green circle), and loss of CO_3^{2-} through $CaCO_3$ precipitation in the calcifying fluid. CO_2 and HCO_3^- inter-conversion in each layer is catalyzed by carbonic anhydrase (red circles) and the CO_2/HCO_3^- equilibrium is affected by pH as indicated in each layer.