



FIGURE 4.4. Equilibrium predictions for the $\text{CO}_2\text{-H}_2\text{O-CaCO}_3$ system. (A) The pH of pure water versus the logarithm of the partial pressure of CO_2 gas ($\log p\text{CO}_2$) in contact with that water at $T = 25^\circ\text{C}$ and 1 atmosphere total pressure in equilibrium with calcite. The dotted line shows the current atmospheric $p\text{CO}_2$ of $\sim 10^{-3.4}$ atmospheres. (B) The molality of Ca^{2+} versus $\log p\text{CO}_2$ for pure water in equilibrium with calcite at $T = 25^\circ\text{C}$ and 1 atmosphere total pressure.