

Estimate the dose of sulfuric acid required to achieve 78% water recovery rate in RO unit, Assume the acid 97% solution, alkalinity of water 330 mg/L as HCO which is equal to carbonic hardness due to calcium, $pK_2=10.33$, $pK_1=6.35$, $K_{sp}=4.95 \times 10^{-10}$, starting concentration of $H_2CO_3^*$ is negligible