

"TRY YOURSELF" PROBLEM FROM STUDY SECTION 7.4

Try Yourself 7.4 a

The reaction $\text{N}_2(\text{g}) + \text{O}_2(\text{g}) \rightleftharpoons 2\text{NO}(\text{g})$ contributes to air pollution whenever a fuel is burned in air at high temperature. At 1500 K, $K = 1.0 \times 10^{-5}$. Suppose a sample of air has $[\text{N}_2] = 0.80 \text{ M}$ and $[\text{O}_2] = 0.20 \text{ M}$ before any reaction occurs. Calculate the equilibrium concentrations of reactants and products at 1500 K.