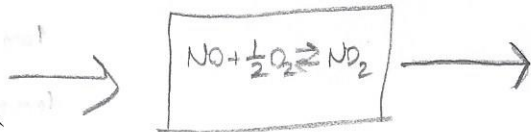


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basis: 100 mol NO

$n_{O_2}^{in}$   
 $n_{N_2}^{in}$   
 $n_{NO}^{in}$



$P = 1.0133 \text{ bar}$

$C_{NO} + C_{NO_2} = 5 \text{ ppm}$

$C_{NO} = ?$

$$K = \frac{Y_{NO_2}}{Y_{NO} Y_{O_2}^{1/2}} \cdot \frac{P}{P^{1/2}} \cdot \frac{1}{P^{1/2}}$$

$$Y_{NO} + Y_{NO_2} = 5 \times 10^{-6}$$

$$1.98 \times 10^6 = \frac{5 \times 10^{-6} - Y_{NO}}{Y_{NO} (0.21)^{1/2}} \cdot \frac{1}{1.0133^{1/2}}$$

$$9.13 \times 10^5 = \frac{5 \times 10^{-6} - Y_{NO}}{Y_{NO}}$$

$$9.13 \times 10^5 Y_{NO} = 5 \times 10^{-6} - Y_{NO}$$

$$Y_{NO} = 5.47 \times 10^{-12}$$

$\ln K = 14.5$

$$K = 1.98 \times 10^6$$