

THE LAW OF MASS ACTION



FOR GASES:

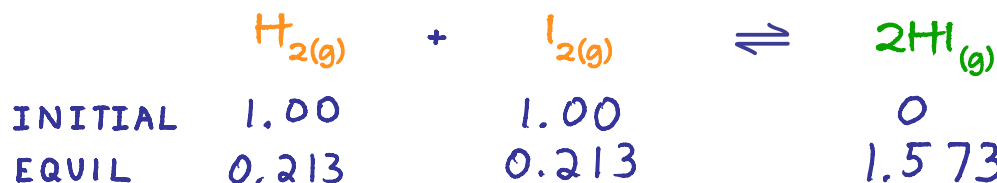
$$Q = \frac{[C]^c [D]^d}{[A]^a [B]^b} = K \quad \begin{matrix} K \text{ DEPENDS} \\ \text{ONLY ON } T \end{matrix}$$

\nwarrow IN M

$$Q = \frac{P_C^c P_D^d}{P_A^a P_B^b} = K$$

\nwarrow IN ATM

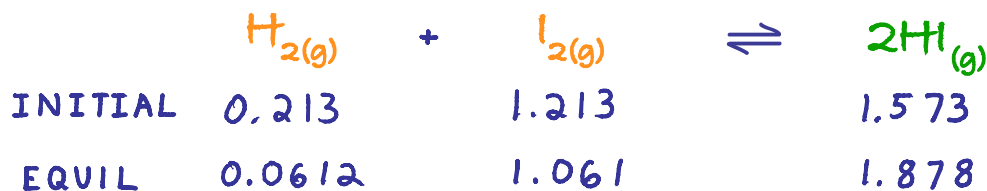
START WITH 1.00 ATM OF H_2 AND 1.00 ATM OF I_2 :



USE A TABLE
TO ORGANIZE
YOUR DATA

$$Q = \frac{P_{HI}^2}{P_{H_2} P_{I_2}} = \frac{(1.573)^2}{(0.213)(0.213)} = 54 = K$$

NOW, ADD 1.00 ATM I_2



$$Q = \frac{P_{HI}^2}{P_{H_2} P_{I_2}} = \frac{(1.878)^2}{(0.0612)(1.061)} = 54 = K$$

LAW OF MASS ACTION:
 $Q = K$ AT EQUILIBRIUM

LECHATLIER'S PRINCIPLE:

SYSTEMS WILL ALWAYS MOVE TOWARD EQUILIBRIUM

