Equilibrium Problem Chart

Q#	Equation	Stressor	Shift Left or Right?	★ Changes?
1	$N_{2(g)} + O_{2(g)} \rightleftharpoons 2NO_{(g)}$	↑[N_2]	R	[NO]↑ [O_2]↓
2	$H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ ★ L	↑[HI]	L	[H_2]↑ [I_2]↑
3	$CO_{(g)} + H_2O_{(g)} \rightleftharpoons CO_{2(g)} + H_{2(g)}$	↓[H_2]	R	[CO_2]↑ [H_2O]↓ [CO]↓
4	$2SO_{2(g)} + O_{2(g)} \rightleftharpoons 2SO_{3(g)}$ 3 molecules → 2 molecules	↑ total pressure	R	[SO_3]↑ [SO_2]↓ [O_2]↓
5	$3O_{2(g)} \rightleftharpoons 2O_{3(g)}$ 3 molec ← 2 molec	↓ total pressure	L	[O_2]↑ [O_3]↓
6	$H_2O_{2(\ell)} \rightleftharpoons H_{2(g)} + O_{2(g)}$ ★	↑[H_2O_2] LIQ...	no change	no change (NC)
7	$CO_{(g)} + 2H_{2(g)} \rightleftharpoons CH_3OH_{(g)}$	Add argon gas	no change	no change
8	$CH_{4(g)} + 2O_{2(g)} \rightleftharpoons CO_{2(g)} + 2H_2O_{(g)}$ + heat $\Delta H = -5$ kJ	↑T	L	[CH_4]↑ [CO_2]↓ [O_2]↑ [H_2O]↓

→ exo + endo →