

Le Chatelier Questions - Answers



1.



(a) $\uparrow T$							
(b) add A	shift fwd	↓	↓	↑	↑	* fwd rxn consume add A	
(c) add C	shift rev	↑	↑	↓	↓	* rev rxn consume add C	
(d) remove D	shift fwd	↓	↓	↑	↑	* fwd rxn produce D	
(e) $\uparrow P / \downarrow V$	shift rev	↑	↑	↓	↓	* few mol of gas in reactants	

2.



- a) \uparrow Temp
- b) add A
- c) add C
- d) remove D
- e) $\uparrow P / \downarrow V$

} no affect on K_{eq}

3.

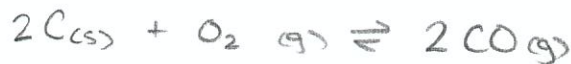


$[BrF_5] \uparrow$
 $[Br_2] \downarrow$
 $[F_2] \downarrow$

if $P \uparrow$ by $\downarrow V$

→ shift left → fewer moles of gas
 → fewer particles to collide w/ side of container
 → will result in $\downarrow P$

4.



$[O_2] \uparrow$
 $[CO] \downarrow$

if $P \uparrow$ shifts left
 → fewer moles of gas

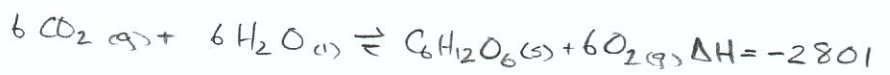




blue indicates dry air

→ if $[\text{H}_2\text{O}(\text{g})]$ is low forward rxn is favoured
 → if $[\text{H}_2\text{O}(\text{g})]$ is high rev rxn is favoured

⑥



a) $[\text{CO}_2] \uparrow$	forw	↓	↑	forward rxn consumes added CO_2
b) P_{O_2}	rev	↑	↓	rev rxn ↓ P_{O_2}
c) $\text{C}_6\text{H}_{12}\text{O}_6$ remains	—	—	—	— solid constant []
d) $\uparrow P$	—	—	—	— same # mol gas on both sides
e) $\uparrow T$	rev	↑	↓	— rev rxn endothermic consume the add E
f) catalyst	—	—	—	—