

Le Chatelier's Principle

For the following equilibrium reactions, indicate whether the disturbance will cause the reaction will shift to the left or to the right.

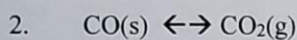


The pressure is decreased

shift right (need to create more gas (product) to $\uparrow P$)

The volume is increased

shift right ($\uparrow V$ will $\downarrow P$ ~ need to make more gas (product) to $\uparrow P$)

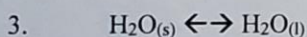


The temperature is doubled

shift right (rxn is endothermic in forward direction \therefore addition of heat pushes rxn right ~)

Carbon dioxide gas is removed

shift right (to replenish what has been removed (product))



The pressure is increased

No shift ~ only gaseous state is stressed by ΔP

The temperature is decreased

shift left ~ forward rxn is endothermic \therefore if $\downarrow T$ rxn will drive left (move in exothermic direction to "replenish" heat)