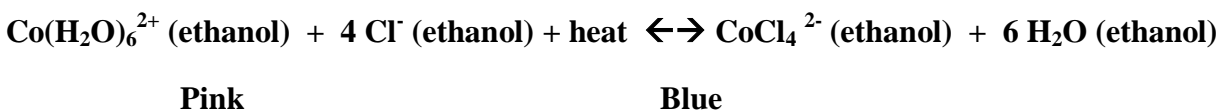


Name: _____ Period: _____ Date: _____

Ms. Randall Regents Chemistry

Demo: Le Chatelier's and Equilibrium

Le Chatelier's Principle If a dynamic equilibrium is disturbed by changing the conditions, the position of equilibrium moves to counteract the change.



Predict the effect that the following changes will have on the equilibrium system:

1. If HCl is added (source of Cl⁻ ions) then...
2. If H₂O is added then...
3. If silver nitrate (AgNO₃) is added (hint: silver ions and chloride ions form an insoluble precipitate.) then...
4. If acetone is added (hint: to remove the last traces of water from glassware, chemists use acetone) then...
5. If heat is added to the reaction then...
6. If heat is removed from the reaction then...

Observations:

<i>System Stress</i>	<i>Observation(color)</i>	<i>Shift(left toward products/right toward reactants)</i>
Add HCl		
Add H ₂ O		
Add AgNO ₃		
Add acetone		
Add heat		
Remove heat		

Explain:

Le Chatelier's Principle is used to predict how a change in pressure, volume, concentration, or temperature will affect chemical _____. Knowing the impact on equilibrium allows chemists to manipulate the

_____ reaction. For example, a chemist might apply Le Chatelier's Principle to maximize yield from a reaction. If the concentration of a reactant is increased, the equilibrium position shifts to use up the added reactants by producing more _____ (reactants/products).

If the pressure on an equilibrium system is _____ (increased/decreased) then the equilibrium position shifts to reduce the pressure. If the volume of a gaseous equilibrium system is reduced (equivalent to an increase in pressure) then the equilibrium position shifts to _____ (increase/decrease) the volume (equivalent to a decrease in pressure) If the temperature of an endothermic equilibrium system is increased, the equilibrium position shifts to _____ (use up/release) the heat by producing more _____ (reactants/products). If the temperature of an exothermic equilibrium system is increased, the equilibrium position shifts to _____ (use up/release) the heat by producing more _____ (reactants/products).