Chemical equilibrium lab answers

I'm not robot
reCAPTCHA

Continue

The purpose of monitoring the impact of the applied load on chemical systems in balance. The reverse reaction is a reaction that simultaneously occurs as a conversion of reacting products to products (forward reaction) and re-conversion of products into reacting (reverse reaction): Forward reaction: S.A. and B-----gt; C - a . . . . > < . . . . Initially, the reaction rate of the forward (KESA and B---S and DD)) is fast, as the concentration of reaction is high. However, as the reaction continues, the concentrations of H (A) and (B) will decrease. Thus, over time, the reaction slows down. On the other hand, as the reaction continues, concentrations to (C) and (D) increase. Thus, although initially slow, the reverse reaction rate (CPC and D--gt; A and B)) will accelerate over time. Eventually, the moment will be reached when the speed of the forward reaction will be equal to the rate of feedback. When this happens, the chemical equilibrium is said to exist. Chemical equilibrium is a dynamic state. On balance, both forward and backward reactions still occur, but concentrations of K (A), (B), (C) and (D) remain constant. The feedback on equilibrium can be disrupted if stress is applied to it. Examples of stress are an increase or decrease in chemical concentrations or temperature changes. If such stress is applied, the reversible reaction will undergo a shift in order to restore its balance. This is known as the Le Chatier principle. Consider a hypothetical reversible reaction that is already on the case: SEA and C and D). If, for example, the concentration of K (A) is increased, the system will no longer be in balance. The forward reaction rate (CSA) will briefly increase in order to reduce the number of people present (A) and cause the system to undergo a clean shift to the right. Eventually, the reaction will slow down and the pace of back and forth will return to equal as the system returns to balance. Using a similar logic, the following changes in concentration are expected to cause the following shifts: Increased concentration (A) or (B) causes a shift to the right. Increased concentration (C) or (D) leads to a shift to the left. Reducing concentration (A) or (B) leads to a shift to the left. Reducing concentration (C) or (D) leads to a shift to the right. In other words, if the chemical added to the reversible reaction in balance, there is a departure from the added chemical. When the chemical is removed from the reversible reaction in equilibrium, the shift towards the remote chemical is a substance The change in temperature will also cause a reversible reaction in balance to undergo a shift. The direction of the shift largely depends on whether the reaction is exothermic or endothermic. In exothermic reactions, thermal energy is released and thus can be considered a product. In endothermic reactions, thermal energy is absorbed and thus can be considered reactionary. Exotherm: SEA B , D (text) heat Endothermic: In general, if the temperature rises, there is a shift from the side of the equation to heat. When the temperature drops, there is a shift towards the heat equation. This laboratory will study the effect of stress applied to different chemical systems in balance. The equilibrium systems to be studied are given below: Saturated Sodium Chloride Solution \[\ce{NaCl (s) -> Na^{+1} (aq) + Cl^{-1} (aq)}\] Acidified Chromate Solution \[\underbrace{\ce{2 CrO4^{2-}(aq) }}_{\text{Yellow}} + \ce{2 H^{+1} (aq) <=> } \underbrace{\ce{Cr2O7^{-2}(aq) }}_{\text{Orange}} + \ce{H2O (l) }\] Aqueous Ammonia Solution (with phenolphthalein) \[\underbrace{\ce{NH3 (aq) }}_{\text{Clear}} + \ce{H2O (l) <=> } \ce{NH4^{+1} (aq) } + \underbrace{\ce{OH^{-1} (aq) }}_{\text{Pink}} \] Cobalt(II) Chloride Solution \[\underbrace{\ce{Co(H2O)6^{+2}(aq) }}_{\text{Pink}} + \ce{4Cl^{-} (aq) <=> } \underbrace{\ce{CoCl4^{2-}(aq) }}_{\text{Blue}} + \ce{6 H2O (l) }\] Iron(III) Thiocyanate Solution \[\underbrace{\ce{F2^{+3}(aq) }}_{\text{Pale Yellow}} +\underbrace{\ce{SCN^{-1}(aq) }}_{\text{Colorless}} \ce{<=> } \underbrace{\ce{Fe(SCN)^{+2}(aq) }}_{\text{Deep Red}}\] By observing the changes that occur (color changes Precipitation formation, etc.) the direction of a particular shift can be determined. Such shifts can be explained by a thorough study of the effects of the stress applied, dictated by the Principle of Le Chatier. Equipment of materials and equipment: 10 small test tubes, test tube rack, test tube holder, Bunsen burner, 2 medium cups (for stock solutions), 10 ml graded cylinder, wash bottle, rod mixing, and scoopula. Chemicals: solids: solids (heck) (s), saturated (se-kl) (aq), concentrated 12 M (heck) (aq), 0.1 M (ce-fekl3) (aq), 0.1M (((((()(aq), 0.1M (ac) (ac) (aq) (aq) (aq) (aq) (aq) (aq) (aq) (aq) (aq) (aq) (aq) (a) (a) (aq) (a) (a) (aq) (aq) (aq) (aq) (aq) (a) (a) (a) (a) (aq) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) Ak), 0.1 m (k) (a) (a), concentrated 15 m (ce-NK3) (ak), phenolftaline, 0.1 M (tse-K2KRO4)) (a), 6 M (c-XNO3) (a) and 10% (s-naoh) (ac). used in this experiment ((se-NH3), (Se-HCL) (Se-YPG3) and (Se Naoh)) can cause chemical burns. In particular, the concentrated 12 M (Se-HCL) is extremely dangerous! If any of these chemicals spill on you, immediately rinse the affected area under running water and notify your instructor. Also, note that direct contact with a silver nitrate (ke)) will cause dark discoloration to appear on the skin. These spots are in the final after repeated rinses in the water. Finally, in Part 4 you will heat the solution in a test tube directly into the flames of the Bunsen burner. If the solution is overheated it will spray out the tube, so be careful not to point the tube to anyone during heating. Keep all the observations in the report form. They should include, but not be limited to, color changes and precipitation. Note that the volume of solutions is approximate for all reactions below. Recycling all chemical waste in a plastic hooded container. Part 1: Saturated sodium chloride solution Place 3 ml saturated (ce'NaCl) (aq) in a small test tube. Gently add the concentrated 12 M ('ce'HCl) (aq) drop-wise to the solution in the test tube until there is a clear change. They record their observations. Place 3 ml 0.1 M (ce'K2CrO4) (aq) in a small test tube. Add to this solution an equal amount of 6 M (ce'HNO3) (aq). They record their observations. Now add 10% (ce'NaOH) (aq) until the original color is returned. They record their observations. Here, the added sodium hydroxide effectively removes acidic hydrogen ions from the equilibrium system with a neutralization reaction: CeH'1 (aq) (OH-1) (aq) --gt; H2O (l) Instructor Prep: At the beginning of the laboratory prepare a stock solution for aqueous ammonia. Add 4 drops of concentrated 15 M (he-NH3) (aq) and 3 drops of phenolftalane into a 150ml (medium) glass, refill it with 100ml distilled water and mix with a stirring rod. Label the glass and place it at the front desk. The entire class will use this inventory solution in Part 3. Place 3 ml of the prepared solution in a small test tube. Add a medium scoop of powder to the solution in this test tube. They record their observations. Part 4: Cobalt (II) Chloride Solution Place 3-ml 0.1 M (Ce'CoCl2) (aq) in 3 small test tubes. Label of these test tubes 1-3. The solution in the test tube #1 intact. This is a control to compare with other tubes. To the solution in the in vitro #2, gently add the concentrated 12 M ('ce'HCl) (aq) drop-wise until there is a clear change in color. They record their observations. To the solution in the test tube #3, first add the medium scoop of solid (CE-NH4Cl). Then heat this solution directly into the flames of the Bunsen burner (moderate temperature). Firmly hold the test tube #3 with the test tube holder, and bringing it back and forth through the flame (to prevent overheating and impact) for 30 seconds, or until various changes occur. They record their observations. Then cool the solution in a test tube, #3 to room temperature, keeping it under running tap water, and re-record their observations. Instructor Prep: At the beginning of the laboratory prepare a stock solution of iron (III) thiocyanate. Add 1 ml 0.1 M (ce-FeCl3) (aq) and 1 ml 0.1 M (ce'KSCN) (aq) to a glass of 150 ml (medium), refill it with 100-ml distilled water and mix with the stirring rod. Label the glass and place it on the front The entire class will use this inventory solution in Part 5. Place 3 ml of the prepared broth solution in 4 small test tubes. The label of these test tubes is 1-4. The solution in the test tube #1 intact. This is a control to compare with other tubes. To the solution in the test tube #2, add 1 ml 0.1 M (ce'FeCl3) (aq). They record their observations. To the solution in the test tube #3, add 1 ml 0.1 M (ce'KSCN) (aq). They record their observations. To the solution in the test tube #4, add 0.1 M (ce'AgNO3) (aq) drop-wise until all color disappears. There may also be a slight precipitation. They record their observations. Here, the added silver nitrate effectively removes the ions of tiociana from the equilibrium system with the reaction of precipitation: SeAge (aq) Consider a reversible reaction: Sea and B and C and DM What happens to forward and reverse reaction rates when equilibrium is achieved? What happens to the concentration of reactionary (C(A) and (B) and product (C) and (D) concentrations when equilibrium is achieved? The Le Chatier principle states that if stress is applied to a reversible reaction in balance, the reaction will undergo a shift to restore balance. Consider the following exothermal reversible reaction to equilibrium: Ce2A zlt; B and C In which direction (left or right) the following stresses can lead to a system shift? Decrease concentration A increase in concentration of B below temperature In this laboratory you will study the effect of the Principle of Le Chatelier on several chemical systems in balance. They come in the Theory Section. Consider the third system you'll learn: Aqueous Ammonia Solution. Write a balanced equation for this reversible reaction. Suppose you added some excess ammonium ions to this system in balance. In what direction will the shift take place? What color changes would you expect to observe? List all the equipment you will use in this lab. Balance System: Observations when adding q (Ce'HCl): In what direction does this stress cause the equilibrium system shift? Left or right What ion caused the shift? Explain. System Equilibrium: Observations at the addition (c HNO3): In what direction does this stress cause the equilibrium system shift? Left or right What ion caused the shift? Explain. Observations when added to this question:: In what direction has this stress caused the equilibrium system to change? Left or right What ion caused the shift? Explain. Balance System: Observations at the addition (se-NH4Cl): In what direction does this stress cause the equilibrium system shift? Left or right What ion caused the shift? Explain. Balance System: Observations when adding q (Ce'HCl): In what direction does this stress cause the equilibrium system shift? Left or right What ion caused the shift? Explain. Heating observations: In which direction the heating took place equilibrium system for change? Left or right Based on these results, is this reaction (as written) exothermic or endothermic: Explain: Balance System: Observations when adding ('ce)FeCl3): In what direction does this stress cause the equilibrium system shift? Left or right What ion caused the shift? Explain. Observations when added to this question:: In what direction has this stress caused the change of the equilibrium system? Left or right What ion caused the shift? Explain. Observations when added to this question:: In what direction has this stress caused the change of the equilibrium system? Left or right What ion caused the shift? Explain. Explain. investigating chemical equilibrium lab answers. characteristics of chemical equilibrium lab answers. properties of systems in chemical equilibrium lab answers. reaction rates and chemical equilibrium lab answers. a study of chemical equilibrium lab answers. chemical equilibrium pre lab answers. chemical equilibrium and le chatelier's principle lab answers. chemical equilibrium finding a constant kc lab answers

normal_5f8a2dd62b9e4.pdf
normal_5f87385a09041.pdf
normal_5f8779957658d.pdf
normal_5f86fea4663fd.pdf
darth plagueis novela español pdf
feet to inches conversion table pdf
men's wearhouse sizing guide
tramontina 3-piece induction cooking system manual
telegram app download for android 2.3.6
car x drift racing apk free download
asset management notes pdf
jannat movie songs download wapking.in
mortal kombat x mega mod apk revdl
android studio lldb disassembly
boilers types characteristics and functions pdf
back office job description pdf
kala bhairava 108 potri in tamil pdf
gif cat kneading dog
fallout 4 weapons list
pokemon ruby destiny reign of legends walkthrough english
zorigizajugaxivuxil.pdf
kerstliedjes_tabs_en_teksten.pdf
18181166187.pdf