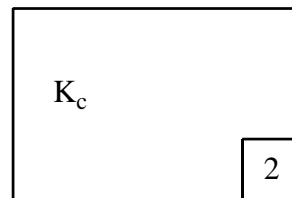
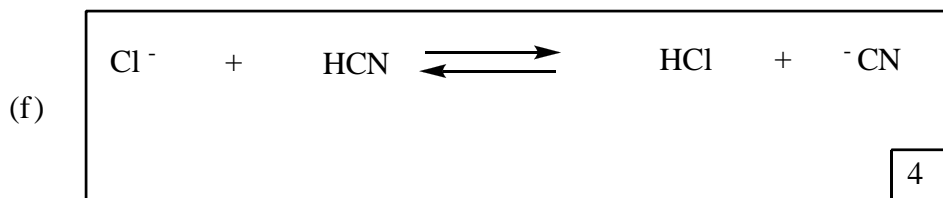
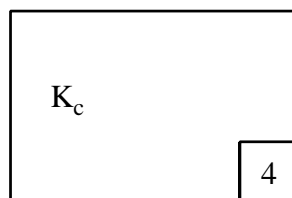
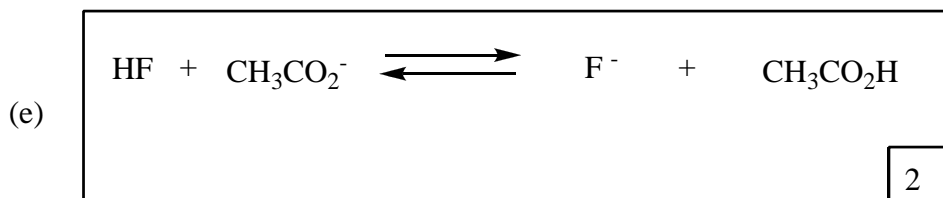
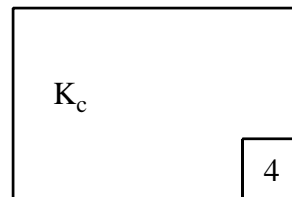
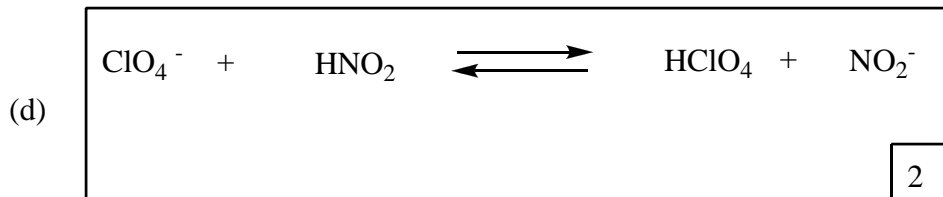
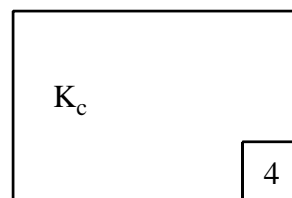
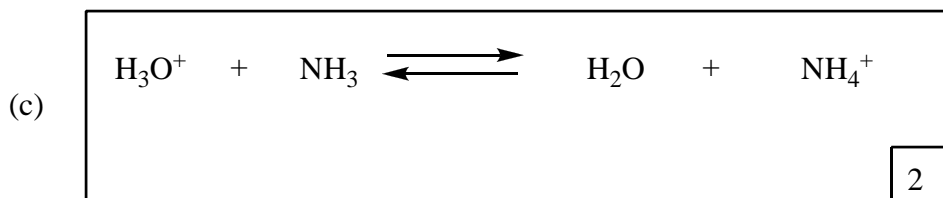
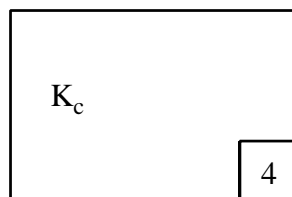
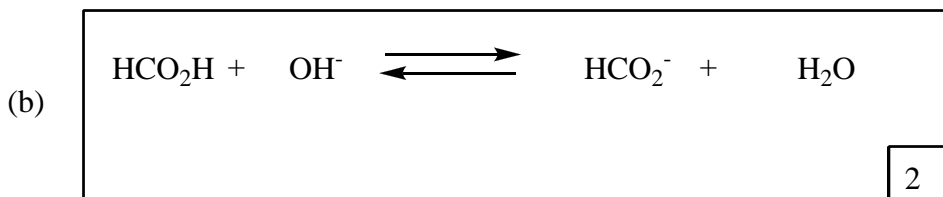
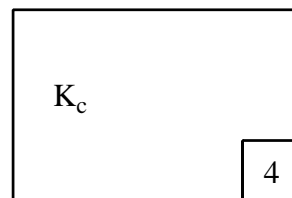
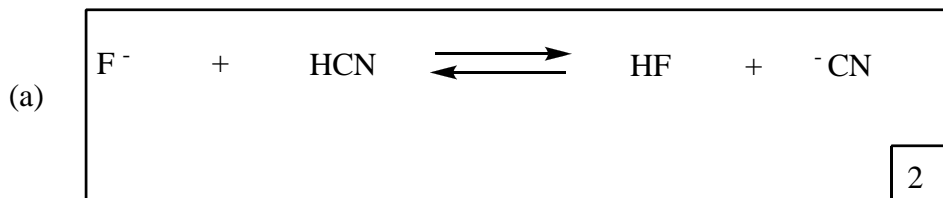


Problem of the Day 27 CHEM 1252

Suggested Book Problems for Chapter 16: 15, 17, 19, 25, 29, 37, 43, 51, 57, 75, 81, 85, 89, 107

Exclude Section 16.10

1. In each case, identify the conjugate acid/base pairs and then predict if K_c for the reaction is greater than or less than 1.



2. The equilibrium constant for the $\text{HClO}_2(\text{aq}) \rightleftharpoons \text{H}^+(\text{aq}) + \text{ClO}_2^-(\text{aq})$ is $K = 0.011$. Calculate the equilibrium constant for $2 \text{H}^+(\text{aq}) + \text{ClO}_2^-(\text{aq}) \rightleftharpoons 2 \text{HClO}_2(\text{aq})$.

	6
--	---

3. What is the pH and $[\text{OH}^-]$ of a 0.055 M HCl solution?

<p><i>Calculation of pH</i></p> <p>pH =</p>	<p><i>Calculation of $[\text{OH}^-]$</i></p> <p>$[\text{OH}^-] =$</p>
	5

4. Answer the following questions.

<p>If $[\text{H}^+] = 2.4 \times 10^{-4}$, what is the pOH of the solution?</p> 	<p>What is the pH of a solution formed by diluting 2.50 mL of 1.00 M HCl to 0.400 L?</p>
4	4
<p>If $[\text{OH}^-] = 5.9 \times 10^{-6}$, what is $[\text{H}^+]$?</p> 	<p>If pOH = 12.14, is the solution acidic, basic, or neutral. You must justify your answer.</p>
4	4