

Classroom Activity Chapter 15 Number 1

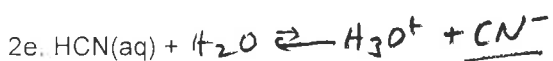
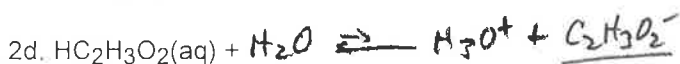
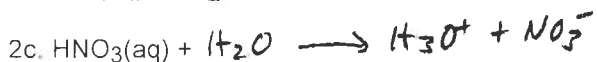
13 February 2017

1. Complete the following table for Solutions A - D

	[H ₃ O ⁺]	pH	pOH	[OH ⁻]
A	7.1 × 10 ⁻⁴ M	3,15	10,85	1,4 × 10 ⁻¹¹
B	4,2 × 10 ⁻¹⁰ M	9,38	4,62	2,4 × 10 ⁻⁵
C	1,7 × 10 ⁻¹² M	11,78	2,22	6,0 × 10 ⁻³
D	1,8 × 10 ⁻⁶	5,74	8,26	5,5 × 10 ⁻⁹ M

1b. Which solution is the most acidic? A B C D

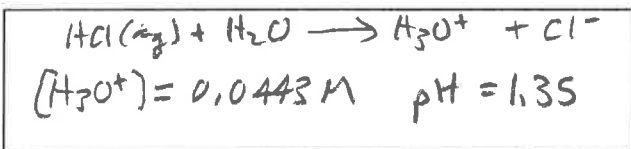
2. Each of the following is either a strong acid or weak acid. Write the equilibrium reaction using the appropriate arrows (long or long/short) for each.



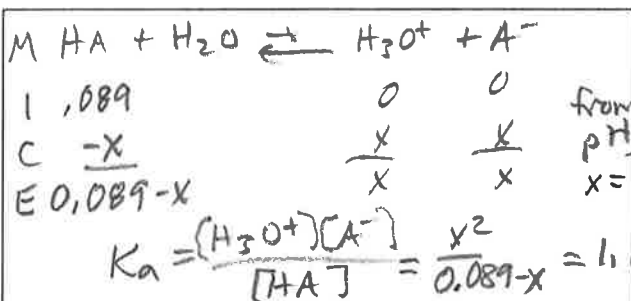
3. Underline the conjugate base for each of the weak acids in Question 2.

4. Which of the acids in Question 2 are strong electrolytes? Circle: 2a 2b 2c 2d 2e

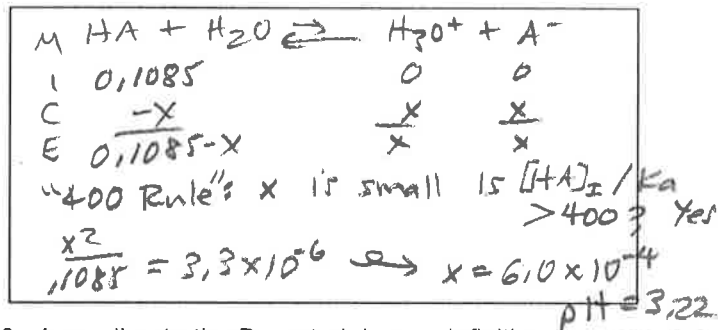
5. What is the pH of a 0.0443 M HCl(aq) solution?



6. A weak acid, HA, is prepared as a 0.089 M solution. The resulting pH is 4.93. What is the K_a for HA?



7. What is the pH of a 0.1085 M weak acid, HA, given K_a for HA = 3.3 × 10⁻⁶?



8. According to the Brønsted-Lowry definition, bases, when reacting with acids

- A. give up protons.
- B. accept protons.
- C. lose electrons.
- D. form hydronium ions.
- E. accept electrons.

9. In this reaction, which substances are bases according to the Brønsted-Lowry definition?

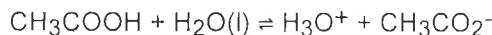


- A. HC₂H₃O₂ and H₂O
- B. HC₂H₃O₂ and C₂H₃O₂⁻
- C. H₂O and C₂H₃O₂⁻
- D. H₃O⁺ and C₂H₃O₂⁻

10. Calculate the hydroxide ion concentration in an aqueous solution that contains 3.50 × 10⁻³ M in hydronium ion.

- A. 2.86 × 10⁻⁴ M
- B. 2.86 × 10⁻¹¹ M
- C. 2.86 × 10⁻¹² M
- D. 3.50 × 10⁻¹² M

11. Determine the acid dissociation constant for a 0.100 M aqueous acetic acid solution that has a pH of 2.87. Acetic acid is a weak monoprotic acid and the equilibrium equation of interest is



- A. 1.3 × 10⁻²
- B. 1.3 × 10⁻³
- C. 1.8 × 10⁻⁵
- D. 1.8 × 10⁻⁶

