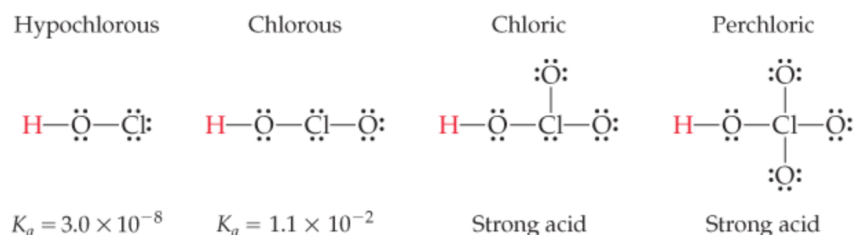


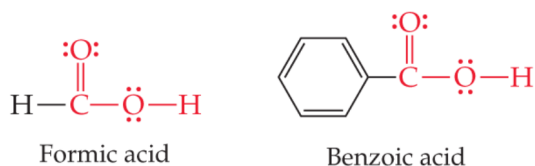
Topic 8.6 Worksheet

1. Consider HOI and HOCl. Which is a weaker acid? Justify your answer in terms of the electronegativity of the halogen.

2. Consider the four acids shown below. Explain why acidity increases as the number of oxygens added to the halogen increases in terms of electronegativity.



3. Consider the two carboxylic acids shown below. The K_a of formic acid is 1.8×10^{-4} and the K_a of benzoic acid is 6.3×10^{-5} .



- a. Which carboxylic acid is a stronger acid? Explain why in terms of molecular structure.
- b. Which conjugate base is more stable? Justify your answer by referring to the K_b .
- c. Write the equation for the reaction that occurs between benzoic acid and water.

d. Write the equation for the reaction that occurs between formic acid and water.

4. Explain why CH_3COOH is an acid while CH_3OH is not.

5. Explain why CH_3COOH is a stronger acid than $\text{CH}_3\text{CH}_2\text{COOH}$.