**Conjugate Pairs Practice Questions**

REMEMBER…The Bronsted-Lowry Theory States

* Bases accept H+ and acids donate H+
* A conjugate base is what remains after the acid gives up H+.
* A conjugate acid is what is formed when a base accepts a proton.

**Directions:** Identify the acid, base, conjugate acid, and conjugate base.

* + HClO4(aq) + H2O(l) ⇄ H3O+(aq) + ClO4–(aq)
    1. Which compound will donate a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    2. What does the compound look like after it donates a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    3. Which compound will accept a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    4. What does the compound look like after it accepts a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    5. Identify the acid, base, conjugate acid, conjugate base below

|  |  |  |  |
| --- | --- | --- | --- |
| Acid | Conjugate Base | Base | Conjugate Acid |
|  |  |  |  |

* + H2SO3(aq) + H2O(l) ⇄ H3O+(aq) + HSO3–(aq)
    1. Which compound will donate a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    2. What does the compound look like after it donates a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    3. Which compound will accept a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    4. What does the compound look like after it accepts a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    5. Identify the acid, base, conjugate acid, conjugate base below

|  |  |  |  |
| --- | --- | --- | --- |
| Acid | Conjugate Base | Base | Conjugate Acid |
|  |  |  |  |

* + HC2H3O2(aq) + H2O(l) ⇄ H3O+(aq) + C2H3O2–(aq)
    1. Which compound will donate a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    2. What does the compound look like after it donates a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    3. Which compound will accept a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    4. What does the compound look like after it accepts a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    5. Identify the acid, base, conjugate acid, conjugate base below

|  |  |  |  |
| --- | --- | --- | --- |
| Acid | Conjugate Base | Base | Conjugate Acid |
|  |  |  |  |

* + H2S(g) + H2O(l) ⇄ H3O+(aq) + HS–(aq)
    1. Which compound will donate a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    2. What does the compound look like after it donates a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    3. Which compound will accept a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    4. What does the compound look like after it accepts a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    5. Identify the acid, base, conjugate acid, conjugate base below

|  |  |  |  |
| --- | --- | --- | --- |
| Acid | Conjugate Base | Base | Conjugate Acid |
|  |  |  |  |

* + HF(aq) + HSO3–(aq) ⇄ F–(aq) + H2SO3(aq)
    1. Which compound will donate a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    2. What does the compound look like after it donates a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    3. Which compound will accept a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    4. What does the compound look like after it accepts a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    5. Identify the acid, base, conjugate acid, conjugate base below

|  |  |  |  |
| --- | --- | --- | --- |
| Acid | Conjugate Base | Base | Conjugate Acid |
|  |  |  |  |

* + HNO2(aq) + HS–(aq) ⇄ NO2–(aq) + H2S(aq)
    1. Which compound will donate a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    2. What does the compound look like after it donates a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    3. Which compound will accept a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    4. What does the compound look like after it accepts a proton? \_\_\_\_\_\_\_\_\_\_\_\_
    5. Identify the acid, base, conjugate acid, conjugate base below

|  |  |  |  |
| --- | --- | --- | --- |
| Acid | Conjugate Base | Base | Conjugate Acid |
|  |  |  |  |

