

Relative Strengths of Conjugate Acid-Base Pairs

Alan D. Earhart

Chemistry and the Citizen and General Chemistry II

	Acids	Bases		
↑ Increasing Strength	<p>Strong acids. 100 % dissociated in dilute, aqueous solutions.</p>	<p>H₂SO₄ HNO₃ HClO₄ HCl HBr HI</p>	<p>Extremely weak bases. Negligible tendency to be protonated in dilute, aqueous solutions.</p>	
	<p>Weak acids. Partially dissociated in dilute, aqueous solutions.</p>	<p>H₃O¹⁺ HSO₄¹⁻ H₃PO₄ HNO₂ HF HC₂H₃O₂ H₂CO₃ H₂S H₂PO₄¹⁻ NH₄¹⁺ HCN HCO₃¹⁻ HS¹⁻ HPO₄²⁻</p>	<p>H₂O SO₄²⁻ H₂PO₄¹⁻ NO₂¹⁻ F¹⁻ C₂H₃O₂¹⁻ HCO₃¹⁻ HS¹⁻ HPO₄²⁻ NH₃ CN¹⁻ CO₃²⁻ S²⁻ PO₄³⁻</p>	<p>Weak bases. Partially protonated in dilute, aqueous solutions.</p>
	<p>Extremely weak acids. Negligible tendency to dissociate in dilute, aqueous solutions.</p>	<p>H₂O NH₃ OH¹⁻ H₂ CH₄</p>	<p>OH¹⁻ NH₂¹⁻ O²⁻ H¹⁻ CH₃¹⁻</p>	<p>Strong bases. 100 % protonated in dilute, aqueous solutions.</p>
			↓ Increasing Strength	

McMurry, John; Fay, Robert; Chemistry, 4th ed.; Prentice Hall: NJ, 2004, p616.

Brown, Theodore L.; LeMay, Jr., H. Eugene; Bursten, Bruce E.; Burdge, Julia R.; Chemistry: The Central Science, 9th ed.; Prentice Hall: NJ, 2004, p618.