

## Relative Acid/Base Strengths -- in Conjugate Pairs

	<u>Acid</u>	<u>Base</u>	
Strong Acids	HClO <sub>4</sub> H <sub>2</sub> SO <sub>4</sub> HI HBr HCl HNO <sub>3</sub>	ClO <sub>4</sub> <sup>-</sup> HSO <sub>4</sub> <sup>-</sup> I <sup>-</sup> Br <sup>-</sup> Cl <sup>-</sup> NO <sub>3</sub> <sup>-</sup>	too weak (to act as bases in aqueous sol'n)
	H <sub>3</sub> O <sup>+</sup> H <sub>2</sub> SO <sub>3</sub> HSO <sub>4</sub> <sup>-</sup> H <sub>3</sub> PO <sub>4</sub> HNO <sub>2</sub> HF	H <sub>2</sub> O HSO <sub>3</sub> <sup>-</sup> SO <sub>4</sub> <sup>-2</sup> H <sub>2</sub> PO <sub>4</sub> <sup>-</sup> NO <sub>2</sub> <sup>-</sup> F <sup>-</sup>	
Increasing ACID Strength	HCOOH CH <sub>3</sub> COOH	HCOO <sup>-</sup> CH <sub>3</sub> COO <sup>-</sup>	Increasing BASE Strength
Weak Acids	Al(H <sub>2</sub> O) <sub>6</sub> <sup>+3</sup> H <sub>2</sub> CO <sub>3</sub> H <sub>2</sub> S H <sub>2</sub> PO <sub>4</sub> <sup>-</sup> NH <sub>4</sub> <sup>+</sup> HCO <sub>3</sub> <sup>-</sup> CH <sub>3</sub> NH <sub>3</sub> <sup>+</sup> HPO <sub>4</sub> <sup>-2</sup> H <sub>2</sub> O	Al(H <sub>2</sub> O) <sub>5</sub> (OH) <sup>+2</sup> HCO <sub>3</sub> <sup>-</sup> HS <sup>-</sup> HPO <sub>4</sub> <sup>-2</sup> NH <sub>3</sub> CO <sub>3</sub> <sup>-2</sup> CH <sub>3</sub> NH <sub>2</sub> PO <sub>4</sub> <sup>-3</sup> OH <sup>-</sup>	
too weak (to act as acids in aqueous sol'n)		HS <sup>-</sup> NH <sub>3</sub> OH <sup>-</sup>	Strong Bases