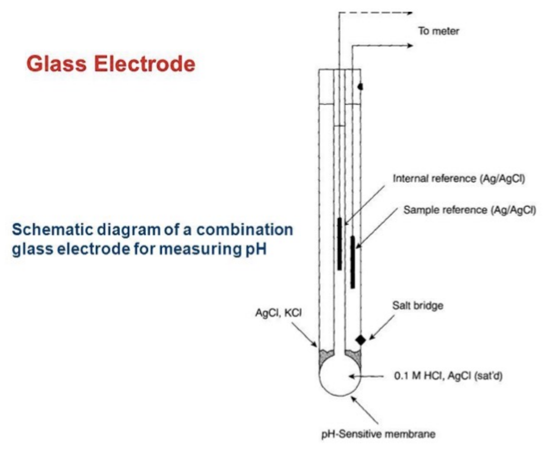
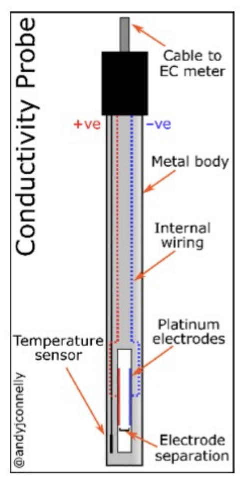
IONIZATION EQUILIBRIUM OF GLYCYLGLYCINE





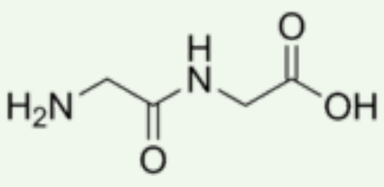
Amino acids ...

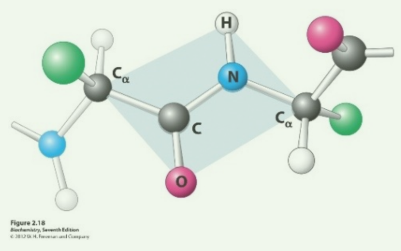
DIPEPTIDE OF GLYCINE

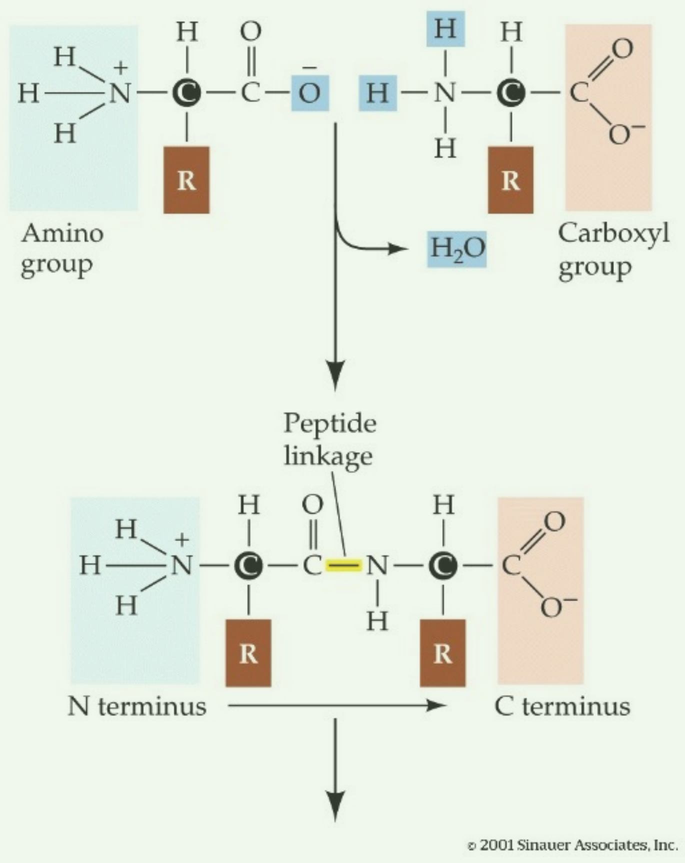
Glycylglycine

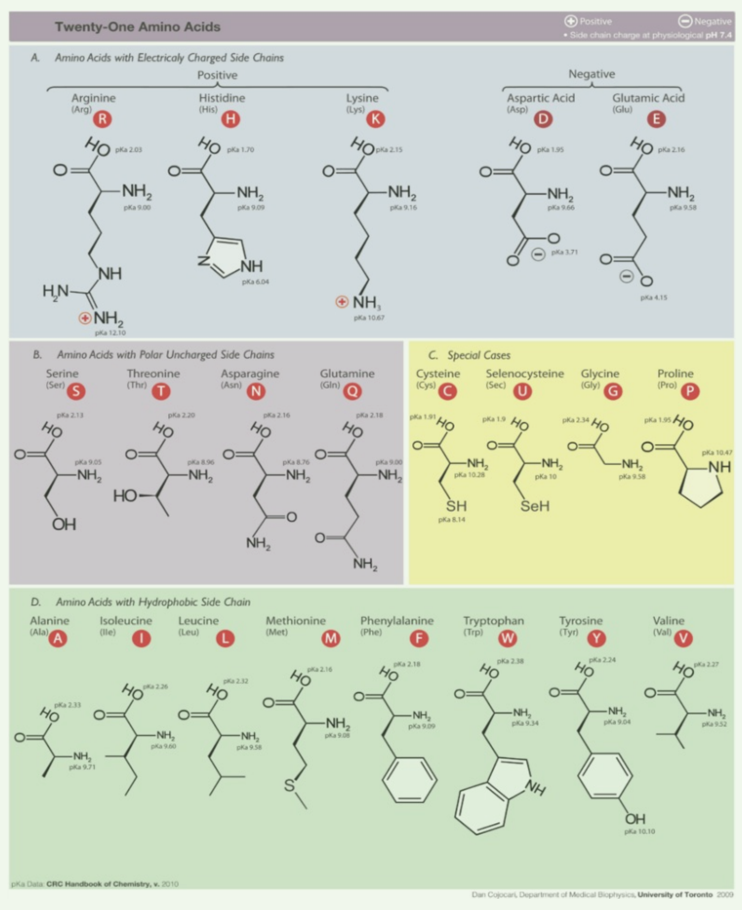
Other names

- Diglycine
- Diglycocoll
- Glycine dipeptide
- N-Glycylglycine2-[(2-Aminoacetyl)amino]acetic acid (IUPAC)







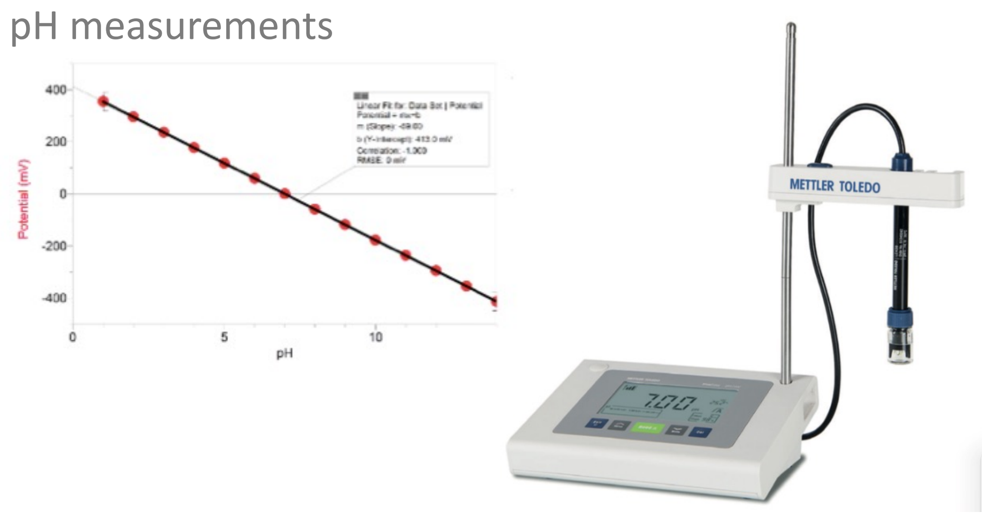


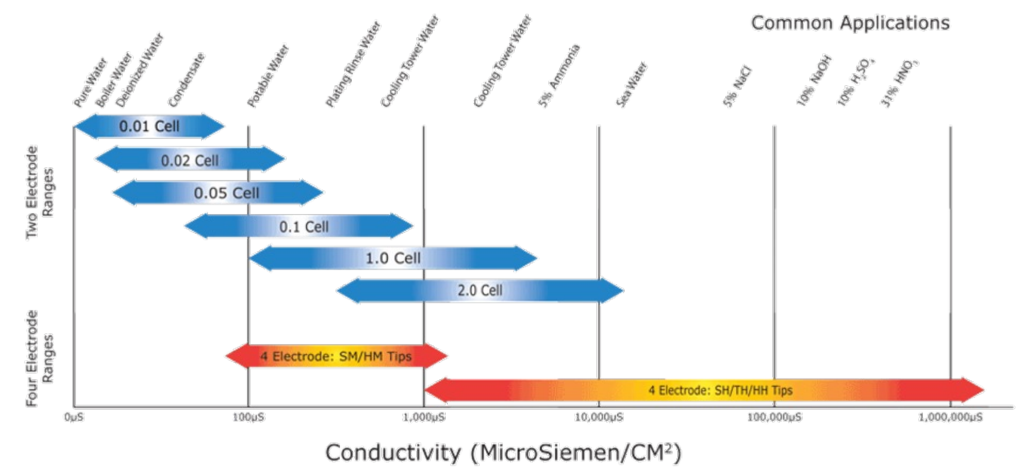
	Acid	Molecular Formula	Structural Formula*	K_a	pK_a†
Stronger acid	Hydrochloric	HCl	H—Cl	2×10^{6}	−6.3
	Nitrous	HNO_2	H—O—N=O	4.5×10^{-4}	3.35
	Hydrofluoric	HF	H—F	3.5×10^{-4}	3.46
	Acetylsalicylic (aspirin)	$C_9H_8O_4$		3.0×10^{-4}	3.52
	Formic	HCO_2H	H—C(=O)—O—H	1.8×10^{-4}	3.74
	Ascorbic (vitamin C)	$C_6H_8O_6$		8.0×10^{-5}	4.10
	Benzoic	$C_6H_5CO_2H$		6.5×10^{-5}	4.19
	Acetic	CH_3CO_2H	CH_3—C(=O)—O—H	1.8×10^{-5}	4.74
	Hypochlorous	HOCl	H—O—Cl	3.5×10^{-8}	7.46
Weaker acid	Hydrocyanic	HCN	H—C≡N	4.9×10^{-10}	9.31
	Methanol	CH_3OH	CH_3—O—H	2.9×10^{-16}	15.54

* The proton that is transferred to water when the acid dissociates is shown in color. † $pK_a = -\log K_a$.

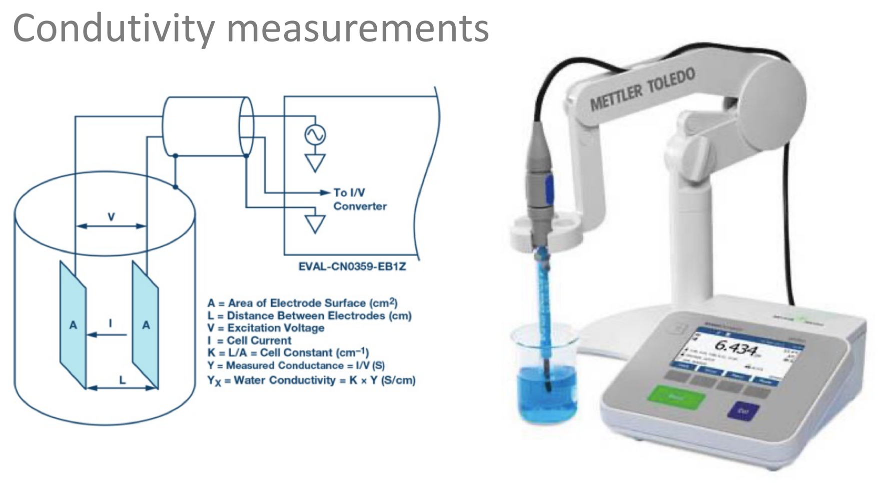
	Acid, HA		Base, A^-		
Stronger acid	$HClO_4$, HCl, H_2SO_4, HNO_3	Strong acids. 100% dissociated in aqueous solution.	ClO_4^-, Cl^-, HSO_4^-, NO_3^-	Very weak bases. Negligible tendency to be protonated in aqueous solution.	Weaker base
	H_3O^+		H_2O		
	HSO_4^-, H_3PO_4, HNO_2, HF, CH_3CO_2H, H_2CO_3, H_2S, NH_4^+, HCN, HCO_3^-	Weak acids. Exist in solution as a mixture of HA, A^-, and H_3O^+.	SO_4^{2-}, $H_2PO_4^-$, NO_2^-, F^-, $CH_3CO_2^-$, HCO_3^-, HS^-, NH_3, CN^-, CO_3^{2-}	Weak bases. Moderate tendency to be protonated in aqueous solution.	
	H_2O		OH^-		
Weaker acid	NH_3, OH^-, H_2	Very weak acids Negligible tendency to dissociate.	NH_2^-, O^{2-}, H^-	Strong bases. 100% protonated in aqueous solution.	Stronger base

pH measurements

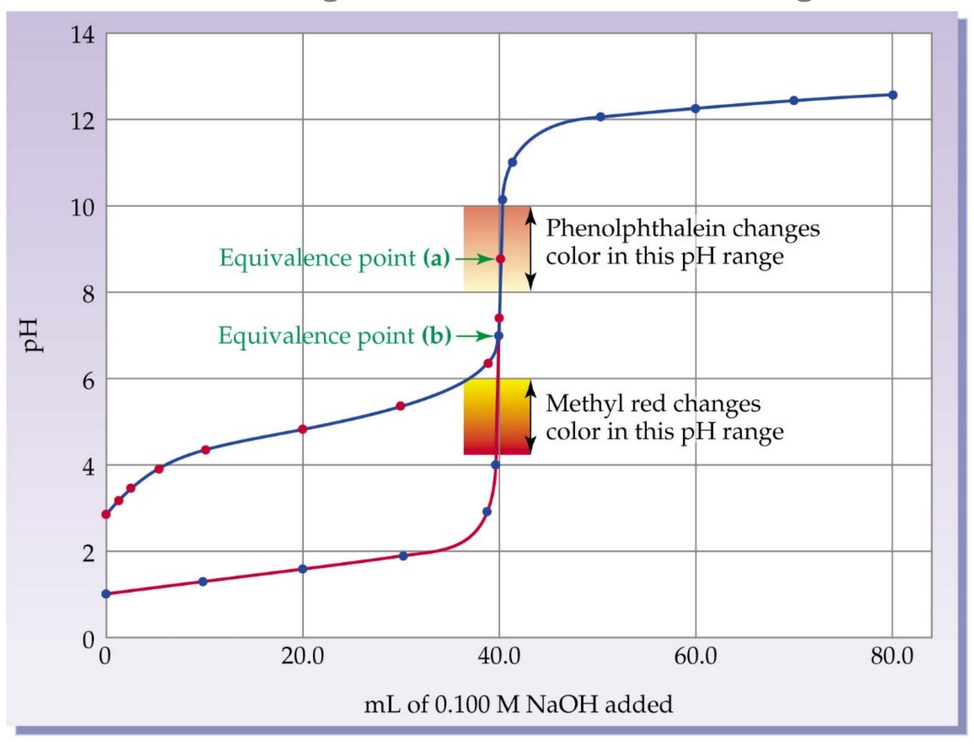


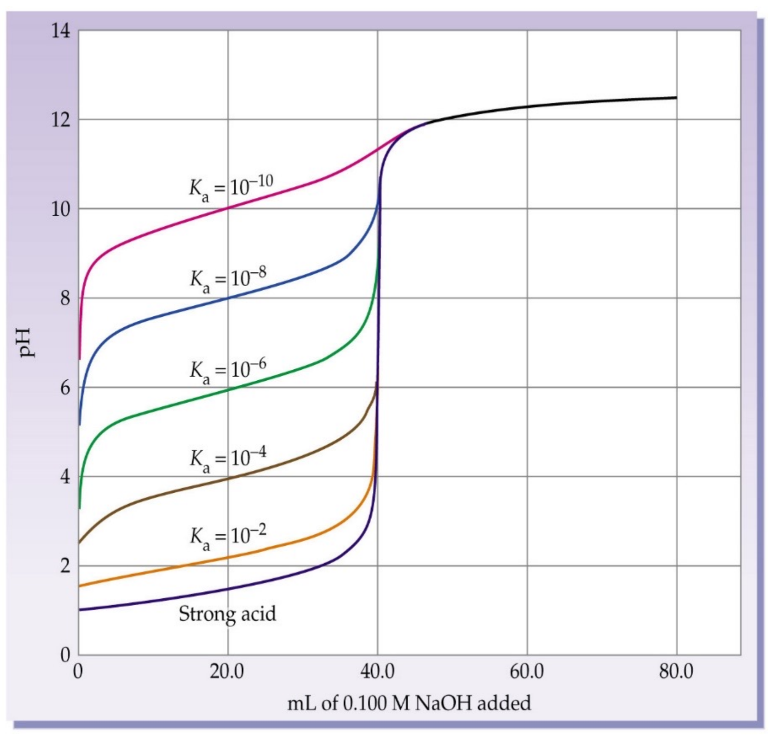


Condutivity measurements



Titration of a strong and weak acid with a strong base





Titration of a diprotic acid with a strong base