


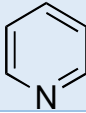
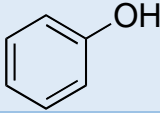
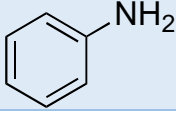

## PHAR1812 Notes

- Define drug & the physicochemical properties
- Identify functional groups in drugs
- Define acids and bases
- Understand concepts of strong acid/weak acid; strong base/weak base; conjugate acids and bases
- Write dissociation equation described by drug's pKa

### Molecular Properties

- **Drug:** chemical that benefits humanity.
- Knowledge of chemical structure and physiochemical properties leads us to understand:
  - Drug action, drug discovery and development.
  - Pharmacodynamics (what drug does to body?).
  - Pharmacokinetics (what body does to drug?).
  - Stability (important for drug formulation).
  - Development of analytical methods.

### Functional Groups

Name	Structure	Acid/Base/Neutral
Alkane (alkyl)	$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$	Neutral
Alkene (alkenyl)	$\text{CH}_3\text{CH}_2\text{CH}=\text{CH}_2$	Neutral
Alkyne (alkynyl)	$\text{CH}_2\text{CH}_3\text{C}\equiv\text{CH}$	Neutral
Benzene (Phenyl) (Aromatic, Aryl)		Neutral
Pyridine (Aromatic)		Basic
Alkyl alcohol	$\text{CH}_3\text{CH}_2\text{CH}_2\text{-OH}$	Neutral
Aromatic alcohol Phenol		Acidic
Alkyl amine	Secondary (2°) $\text{H}_3\text{C-N-CH}_2\text{CH}_3$ Primary (1°) $\text{H}_3\text{C-NH}_2$ Tertiary (3°) $\text{H}_3\text{C-N-CH}_3$	Basic
Aryl amine		Neutral
Carbonyl Containing CPDs		Neutral
Aldehyde	$\text{CH}_3\text{CH}_2\text{-C(=O)-H}$	Neutral
Ketone	$\text{CH}_3\text{CH}_2\text{-C(=O)-CH}_3$	Neutral

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