

Topics covered from Chapter 20

General

- Nomenclature (limited to those from the homework and related powerpoint slide)
- Physical properties, molecular structure, stereochemistry (sections 20.2-20.3)
- Basicity of amines (affects of resonance and induction)

Synthesis of amines

- Alkylation (SN2, disadvantage polyalkylation)
- Gabriel synthesis
- Reduction of nitro compounds
- Reductive amination
- Reduction of nitriles (CN to CH₂NH₂)
- Reduction of amides (RNHCOCH₃ to RNHCH₂CH₃)
- Hoffman rearrangement (RCONH₂ to RNH₂, removal of C=O and retention of configuration at α -carbon)
- Hydrolysis of isocyanates

Reactions of amines

- Acid-base reactions, and acid-base equilibrium
- Preparation and use of aryldiazonium compounds (slide with 6 reactions)
- Coupling reactions of aryldiazonium salts to form azo compounds
- Reactions of amines with sulfonyl chlorides to produce sulfonamides
- Hofmann elimination (E2 reaction)