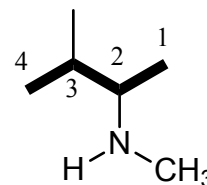
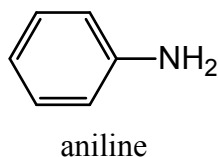
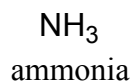
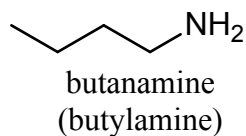
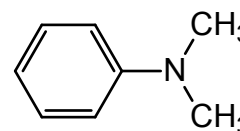
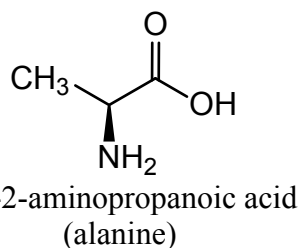
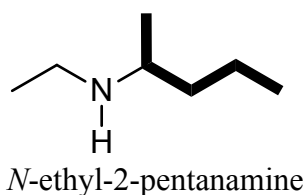


Chapter 22 (Klein) Amines

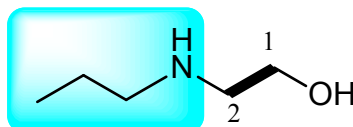
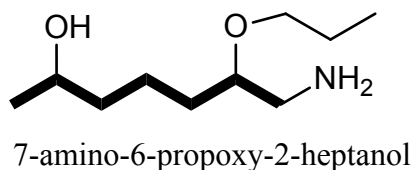
IUPAC: Identify the parent carbon chain. Drop the alkane "e" and add "amine" to give "**alkanamine**." List other alkyl groups as *N*-substituents. Those with simple alkyl groups are commonly called "**alkylamines**." If a higher priority functional group is present, the NH₂ is referred to as an "amino" substituent.

SkillBuilder 22.1

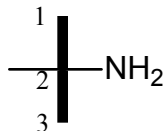
IUPAC: *N*-methyl-3-methyl-2-butanamine
(or *N*,3-dimethyl-2-butanamine)



IUPAC: *N,N*-dimethylaniline



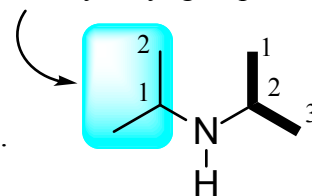
IUPAC: 2-(propylamino)ethanol



IUPAC: 2-methyl-2-propanamine

Common: *t*-butylamine

1-methylethyl group



Draw diisopropylamine.

What is its IUPAC name?

N-(1-methylethyl)-2-propanamine

Classification of amines (each can be alkyl or aryl):

Primary (1°, RNH ₂)	Secondary (2°, R ₂ NH)	Tertiary (3°, R ₃ N)	Quaternary Salt (R ₄ N ⁺)
CH ₃ —NH ₂	CH ₃ —NH—CH ₃	(CH ₃ CH ₂) ₃ N	CH ₃ —N ⁺ (CH ₃) ₃ I [−]
methylamine (methanamine)	dimethylamine (<i>N</i> -methylmethanamine)	triethylamine (<i>N,N</i> -diethylethanamine)	tetramethylammonium iodide

Chapter 22
Outline

I. Nomenclature and Classification (22.2)
 II. Properties of Amines (22.3)
 III. Reactions of Amines
 A. Hofmann Elimination (22.9)
 B. Nucleophilic rxns (22.8)
 C. Nitrosation (22.10, 22.11)
 D. Imines and Enamines (19.6)

IV. Preparation of Amines
 (22.4 - 22.7)
 A. via Amides
 B. via Nitriles
 C. Gabriel Synthesis
 D. via Nitro compounds
 E. via Azides
 V. Biological Amines (22.1)