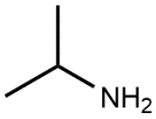
CONCEPT: NAMING AMINES

Common Naming

- Amines are compounds which have _____ alkyl groups connected to a nitrogen atom.
  - □ Amines have a unique naming system.

substituent-amine

EXAMPLE: Write a name for the following amine.



STEP 1: Identify the _____ groups connected to the nitrogen atom.

STEP 2: Name the alkyl groups alphabetically as _____.

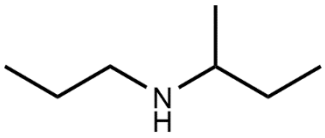
- □ If there are identical alkyl groups, use the numerical prefixes di- or tri-.

STEP 3: End the name of the compound with _____.

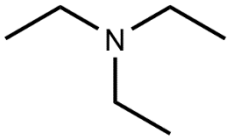
- □ Write the name without dashes or spaces.

PRACTICE: Draw structure for *tert*-butylamine.

PRACTICE: Write a name for the following amine.



PRACTICE: Name the following compound.

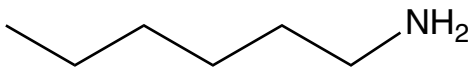


CONCEPT: NAMING AMINES

IUPAC Naming: Primary Amines

- Carbon chain named as alkane, change _____ to _____.
  - □ Use numbers to indicate location of N.

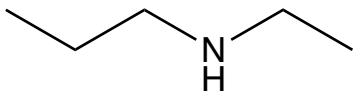
EXAMPLE: Write a systematic name for the following amine.



IUPAC Naming: Symmetrical vs Asymmetrical Amines

- Secondary and tertiary amines can be symmetrical or asymmetrical.
  - □ **Symmetrical**: _____ alkyl groups are identical.
  - □ **Asymmetrical**: at least ___ alkyl group is different.

EXAMPLE: Provide a systematic name for the following amine.



STEP 0: If symmetrical, follow steps in Common Naming.

STEP 1: If asymmetrical, identify the _____ carbon chain connected to nitrogen atom and name as amine.

- □ Use _____ location to indicate location of N.

STEP 2: Name other alkyl groups alphabetically as *N*- _____.

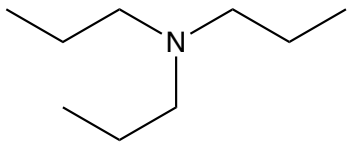
- □ If there are identical alkyl groups, use the numerical prefix di-.

STEP 3: Use _____ to separate numbers from numbers, and _____ to separate letters from numbers.

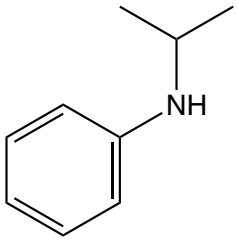
- □ Letters are not separated from letters.

CONCEPT: NAMING AMINES

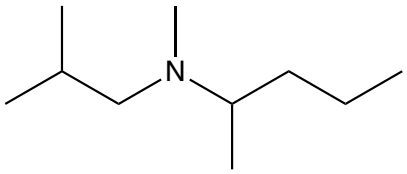
PRACTICE: Provide an IUPAC name for the following.



PRACTICE: Name molecule using IUPAC naming system.



PRACTICE: Provide a systematic name for following molecule.



PRACTICE: Provide a systematic name for following molecule.