**Drawing Bond-Line Structures of Organic Molecules**
**L. Cabana, Fall 1999**

Chemists routinely draw the structures of organic molecules as "Bond-Line Structures". This format simplifies Lewis Dot Structures in several ways:

1) **unshared electron pairs are omitted**

   **Exception:** unshared pairs are sometimes drawn when explaining "reaction mechanisms"

2) **H atoms bonded to C are omitted** (assume enough H atoms bonded to total 4 bonds)

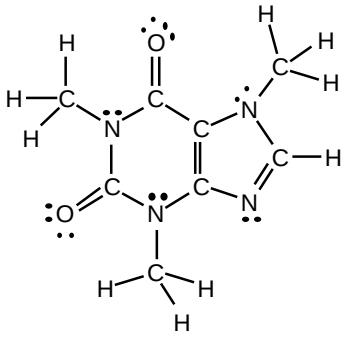
   **Exception:** H atoms on terminal C atoms are often shown (i.e., $-CH_3$, $=CH_2$, $\equiv CH$ )

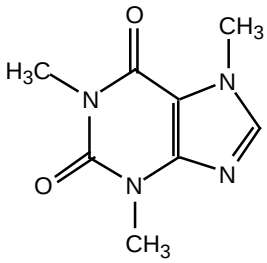
3) **for H bonded to any element, the bond is omitted** (e.g., $-O-H$ becomes $-OH$ )

4) **C atoms are indicated by "corners" on the molecular "skeleton"**

   **Exception:** Terminal C atoms are usually shown (for clarity)

Examples:





**Caffeine**

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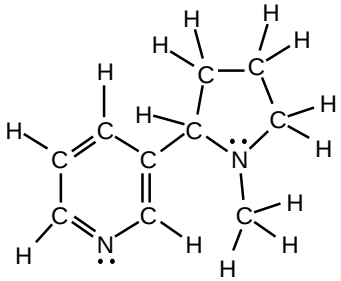

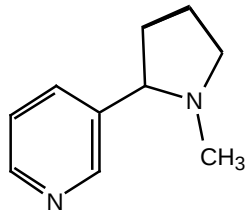

**Nicotine**

**Exam 3 Extra Credit:** Memorize and draw any***** two molecules on the "Pleasing Aromas" list (or from the examples above) for 3 points extra credit each (percentage points).
Each structure must be drawn in two ways (as above): as a Bond-Line structure, and as the complete Lewis dot structure (all atoms, bonds, and unshared electron pairs shown). Also give the common name of the aroma (e.g., "*popcorn*" instead of "methyl 2-pyridyl ketone").

*** Two exceptions which are not eligible:**
1. *coffee* aroma (too easy)
2. either *garlic* or *onion* aroma may be chosen, but not both (these two are too similar)