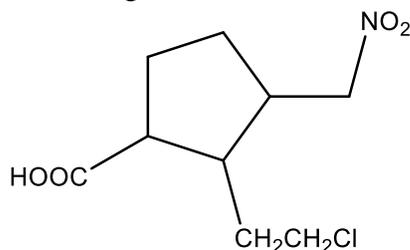


## Chemistry 2500 (Fall 2017): Assignment #1 – Lewis Structures

1. Draw the proper Lewis Structure (line structures and other condensed forms are not acceptable) for the following molecules. Be sure to draw all lone pairs, use appropriate bond angles and indicate the hybridization of each atom which is not hydrogen.
  - a) 3,7-dimethylnonane
  - b) 5-mercapto-2-methyl-3-hexynoic acid
  - c) 5-methyl-6-hexen-2-one
  - d) 3-cyano-2-isopropyl-4-methylhexanal
2. Suggest a reasonable Lewis Structure (line structures and other condensed forms are not acceptable) for each of the following. Be sure to draw all lone pairs, use appropriate bond angles and indicate the hybridization of each atom which is not hydrogen.
  - a)  $\text{HN}_3$
  - b)  $\text{H}_2\text{CN}^+\text{CH}_2$
  - c)  $\text{CH}_3\text{CH}_2\text{CON}(\text{CH}_3)_2$
  - d) 2-aminobenzoic acid
3. Draw the fully expanded Lewis Structure (line structures and other condensed forms are not acceptable) for the following. Be sure to include all charges and lone pairs.



4. Suggest a reasonable Lewis Structure (line structures and other condensed forms are not acceptable) for each of the following. Be sure to draw all lone pairs, use appropriate bond angles and indicate the hybridization of each atom which is not hydrogen.
  - a)  $\text{N}_2\text{O}_2$
  - b)  $\text{CO}$
  - c) 2-nitropropane
  - d)  $\text{CH}_3\text{CH}_2\text{NCO}$
  - e)  $\text{CO}_2$
  - f) 3-methoxybenzaldehyde
  - g) Z-bromochloroethylene