*I-1 ____C ____NC
**I-2 ____C ____NC

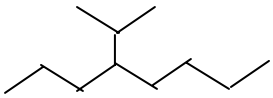
Chemistry 251
Worksheet 2

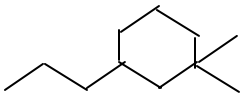
Name: _____

A. (2.0 pts.) Give the IUPAC name for each of the following compounds.

*1. $CH_3CHCH_2CH_2CHCH_2CH_3$ (with CH_3 branches) _____

2. $(CH_3)_3CCH_2CH_2CH(CH_3)_2$ _____

3.  _____

4.  _____

**B. (1.5 pts.) Draw the condensed structural formulas and give IUPAC names for 3 if the possible structural isomers of C_8H_{18}.

C. (1.5 pts.) Draw structural formulas and give IUPAC names for 3 of the possible cyclic isomers of C_8H_{16}.

D. (2.0 pts.) Give the structural formula for each of the following compounds.

1. 2,3,4-trimethylpentane.

2. 2,3,3,4-tetramethylhexane.

3. 2,2,6,6,7-pentamethyloctane.

4. cyclopentylcyclohexane.

E. (2.0 pts.) Classify each of the following conversions as oxidation, reduction, or neither.

1. $CH_3CH_2OH \rightarrow CH_3CHO$

2. $CH_4 \rightarrow CO_2$

3. $CH_3CH_2COOH \rightarrow CH_3CH_2CHO$

4. $CH_3CH_2OH \rightarrow CH_3OCH_3$

F. (1.0 pts.) Using the following table, arrange the compounds in order of decreasing stability.

Compound	Heat of Combustion (kJ/mol)
Octane	5471
2,2-dimethylhexane	5458
2-methylheptane	5466
2,2,3,3-tetramethylbutane	5452

G. (1.0 bonus pts.) Give the functional group present in each of the following compounds.

1. $(CH_3)_2C=C(CH_3)_2$

2. $CH_3CH_2CH_2COOH$