Grossmont College Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chemistry 102, Spring 2017

Quiz 3b (27 points) Date: \_\_\_\_\_\_\_\_\_\_\_\_

1. (5 points) Identify the circled functional groups found in the compound below.

Alkene Alkyne Ether Alcohol Thiol Aldehyde

Amine Carboxylic acid Ester Aromatic Amide Ketone

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_



2. (6 points) Draw the **line angle structures** for 3 structural isomers with molecular formula C4H8 that contains in alkene.

3. (6 points) Name or draw each of the following.

*cis*-1-butyl-3-propylcyclopentane (no Haworth)



Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

1. (10 points) In the structure a) determine how many primary, secondary, tertiary and quaternary carbons are present b) Draw in condensed notation c) place an asterisks by each asymmetric carbon(s) (chiral centers) in the structure below d) give the molecular formula

Primary \_\_\_\_\_\_\_ secondary\_\_\_\_\_\_\_ tertiary\_\_\_\_\_\_\_ quaternary\_\_\_\_\_\_\_



Condensed notation

Molecular Formula\_\_\_\_\_\_\_\_\_\_\_