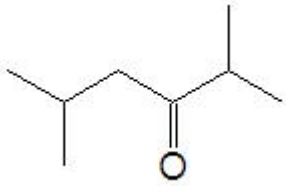
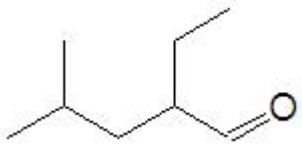
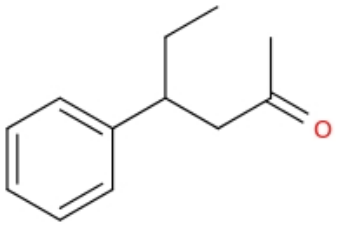
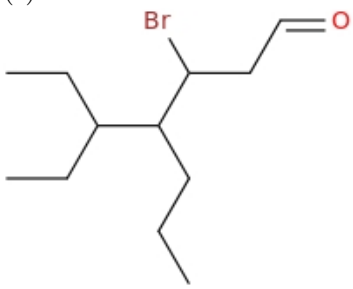
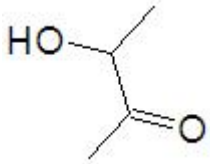
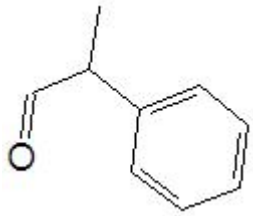
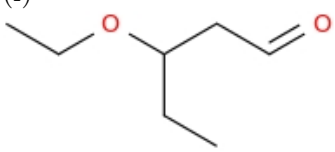
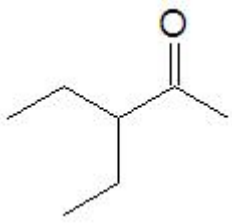
CHE 102 - Homework - Ch 23a

p. 603-607 **Aldehydes and Ketones - Naming/Drawing/IMF's** Score: _____/55

Name: _____ Date: _____

[20 pt] 1. Name the following molecules using IUPAC nomenclature:

(a) 	(b) 
(c) $CH_3CH_2CHBrCH_2CHO$	(d) 
(e) $CH_3(CH_2)_3CH_2COCH_2CH_2CH_3$	(f) 
(g) 	(h) 
(i) 	(j) 

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[20 pt] 2. Draw the following molecules using line drawing or lewis structures.

(a) benzealdehyde

(b) 2-phenyl-4-octanone

(c) 3-ethyl-4-methylpentanal

(d) 2,4-dimethyl-3-hexanone

(e) 3-methoxypentanal

(f) 1-chloro-2-butanone

(g) 4-hydroxypentanal

(h) 3-pentanol

(i) 3,3-dichloro-2-pentanone

(j) 4-ethoxy-2-hydroxy-3-phenyldecanal

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[3 pt] 3. What are the requirements for hydrogen bonding? In the list below, DRAW each molecule **AND** circle the molecules that are capable of hydrogen bonds between the two molecules:

Butane, 1-Butene, 1-Butyne, 1-Butanol, Ethoxyethane, Butanal, Butanone.

[6 pt] 4. Draw each molecule in the space provided. Circle the compound in the following pairs that has the higher boiling point. Explain.

(a) 2-hexanone or 2,5-hexanedione

(b) 2-pentanone or 2-pentanol

(c) propanone or butanone

[6 pt] 5. Draw each molecule in the space provided. Circle the compound in the following pairs that has the higher solubility in water. Explain.

(a) 2-hexanone or 2,5-hexanedione

(b) propane or propanal

(c) heptanal or ethanal