HOMEWORK ASSIGNMENT #3 ORGANIC CHEMISTRY II

(alkynes, ch 9)

(due Wed 15 February )

**Your name :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (20 points total)**

**3.1 . a) Name or draw us: (6 pts)**





1,1-dichloropropyne \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Common name

**4-bromo-2-pentyn-1-ol**





**1-cyclohexyl-1-hexyne \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**(use `old’ system c.f. p. 255)**

**3.2 Write down the steps for the classical Bertholet synthesis of ethyne. (1 pt)**

**3.3. Starting from 1-butanol, suggest a route to 1-butyne (2 pts)**

**3.4. If we start with the compound below, predict all the possible products of reacting it with KOH/ ethanol (2 pts)**



**c) Which is the most acidic H in the list below : (1 pt)**

i) **H**-CH2CH3 ii) **H-**CH=CH2 iii) **H**-C≡CH iv) **H**-C≡C-CH3

**4.3) Fill-in (8 points/1 point each correct filled-in box )**

Zn/H+

A) CH3COOH + HCOOH

H2SO4/HgSO4

B) 1-BUTYNE

major

C) (E)-4-METHYL-2-PENTENE

NaNH2

D) in NH3(liq) HC≡C-C3H7 + NaBr



E)



+ 2HBr