HOMEWORK ASSIGNMENT #4 ORGANIC CHEMISTRY II

**Alkyne reactions and roadmaps:**  (due Wed 22 February )

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

**4.1) 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

**4.2. Alkyne roadmaps (4 pts each/12 pts total)**

**a) Make propanoic acid starting from ethanol and ethyne :**





?

**Propanoic acid**

1. **Make 2-hexanone from 1-butene and ethyne:**



?



**2-hexanone**

1. **Make E-4-octene from 1-propanol and ethanol :**

**(hint: devise a path from ethanol to ethyne first)**





?

**E-4-octene**