HOMEWORK ASSIGNMENT #4 ORGANIC CHEMISTRY II

**Alkyne roadmaps ; alkadiene electronic follies**

(due Friday 27 February)

**Your name :\_\_\_\_\_\_\_\_\_answers\_\_\_\_\_\_\_\_\_\_\_\_\_*\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (21 points total)**

**4.1. 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**

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



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





?

**E-4-octene**

E-only 4-octene

**4.2. alkadiene resonance behaviors**

non-industrial route to ethyne

