HOMEWORK ASSIGNMENT #4 ORGANIC CHEMISTRY II

 **Alkyne-based roadmaps**

 (due Wed 22 Feb )

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

**4 points per correct (plausible) synthesis**

**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**

**d) Make butanal from ethanol :**







  **Butanal**

**e) Make 2,2-dichlorobutane from ethanol**







 **2,2-dichlorobutane**