

- 7) Many complicated compounds can be synthesized using acetylides. Show the reagents needed to make the following compounds starting with acetylene and any alkyl halide.

2-hexyne

- 1) NaNH_2
- 2) $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl}$
- 3) NaNH_2
- 4) CH_3Cl

2,2-dibromohexane

- 1) NaNH_2
- 2) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$
- 3) HBr_2 (2x)

meso-2,7-dimethyl-4,5-octanediol

- 1) NaNH_2
- 2) $\text{CH}_3\text{CHCH}_2\text{Cl}$
- 3) REPEAT 1 + 2
- 4) H_2 / LINCOLN'S CATALYST
- 5) OsO_4

propanoic acid (a three carbon carboxylic acid)

- 1) NaNH_2
- 2) $\text{CH}_3\text{CH}_2\text{Cl}$
- 3) REPEAT 1 + 2
- 4) KMnO_4 (THIS ONE NOT COVERED YET)