

Exam 3 Chem 3045 Friday , 12/4/1998

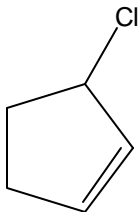
ANSWERS:

1) acetylene, sp C-H bond is shorter than sp<sup>3</sup> C-H bond.

2) a) optically active

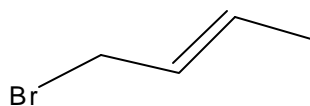
b) cis/trans isomers

3)



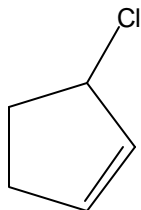
The product is formed via the allyl carbocation intermediate.

4) Homolytic cleavage of the C-Br bond can occur to form a stable allyl radical and a bromine radical. The bromine radical can recombine with either side of the allyl radical to form the original product and also the 1-bromo-2-butene (cis and trans). The trans form is drawn below.

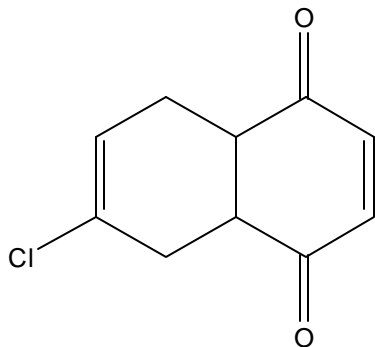


5)

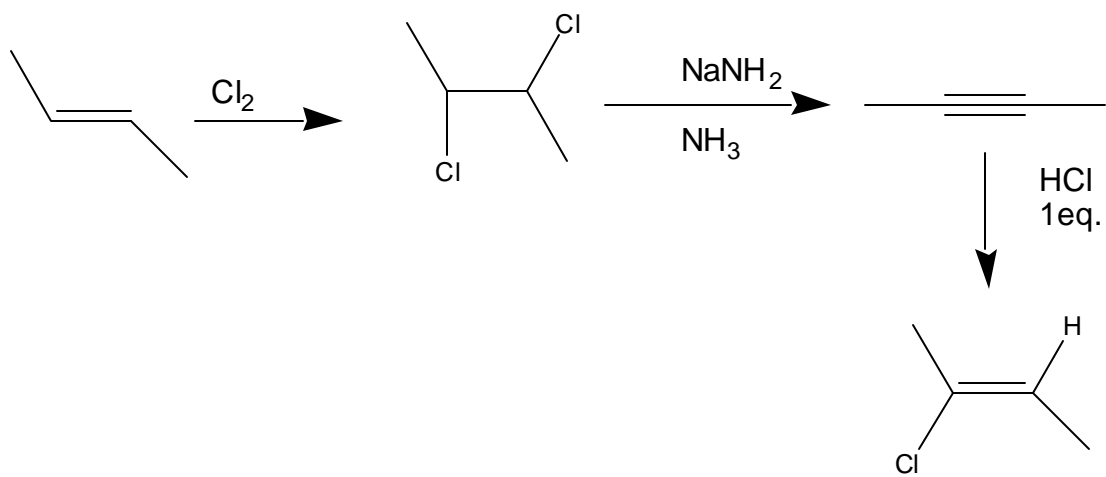
a)



b)



6. a)



b) not on this exam.