EXERCISE #9: Allylic resonances

Organic Chem II Alfred State College

9.1. Draw other possible resonances and decide if they are equivalent, more stable

or less stable





less stable (2o🡪1o)



equivalent



more stable (2o🡪3o)

9.2 Draw all the other possible radicals that can form and decide whether or not another *equivalent* resonance structure exists for each species.  
 equivalent *resonances ? other resonance structure(s)*





yes no





yes no





yes no





yes no





yes no

not symmetric symmetric resonance



yes no



9.3 Circle the compounds below that will yield the same carbocation on ionization (=removal of halogen)

A D





**A D**

**9.4a. Draw all 4 possible carbocations formed with Br – in the proposed decomposition below.**

**A *Possible carbocations***







**+ Br-**





**9.4b Which is the most likely to form ?**

**9.5. For the compound below, which allylic site, A or B, will be more likely to lose H radical and form a symmetric radical allyl ? Draw the final preferred radical allyl**







**B**

**=**

**A**

**9.6 For the compound below, identify the site (A-C)most likely to lose H radical and form**

**symmetric radical allyl. Sketch the final preferred radical allyl.**

**C**







**=**

**A B**

**(see Problems 10.5-10.7 for more practice with radical allylic shifts)**