HOMEWORK ASSIGNMENT #6 ORGANIC CHEMISTRY II

**allylic chemistry, aromatic basics and on-ring reactions**

(due Friday 10 March ) 30 pts

**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1 pt)**

**6.0. Allylic Chemistry**

**Predict the most likely product of reacting the compounds below with Br2 at high temperature**

**(2 pts each/6 pts total)**







**6.1. Aromatic basics**

**Name the three criteria necessary for the property of aromaticity to exist in a molecule: (3 pts)**

**1)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Decide which of the molecules below are aromatic: (4 pts total)**

1. **1,3-butadiene YES NO**
2. **1,3-cylcobutadiene YES NO**



1. **YES NO**



1. **YES NO**

\_\_\_/14

**6.2 One Step Dancing ( 4 pts total/2 pts each)**

**Suggest a one step reaction that will result in the compound on the right**



**a)**



**b)**

**6.3 Two Step Dancing ( 6 pts/3 pts each)**

**Suggest a two step set of reactions that result in the compound on the right**



**a)**



**b)**

**6.4. Predictable Dancing 5 pts**

**What most likely forms in the reactions below ?**

**a)**



**b)**



**Which reaction is likely to be easier to run and why ? (1 pt)**

**\_\_/16**