

Name: \_\_\_\_\_

**SCH 4U - Organic Test #2**

1. Oxidations and Reductions are common reactions in organic chemistry. Whether an oxidation or reduction has occurred is often described in terms of loss or gain of oxygen or hydrogen. Fill in the blanks in the following table with either the word "loss" or "gain" as appropriate. If you do not remember this information from the reaction package, you may wish to write out an oxidation or reduction reaction to help with this determination (see below).

	oxygen	hydrogen
oxidation		
reduction		

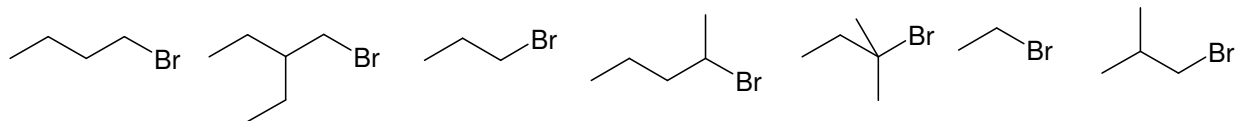
Oxidations and reductions are often reversible reactions. Illustrate this point with an oxidation sequence and reduction sequence, both of which involve a second degree alcohol (could even be the same alcohol!!)

2. Briefing explain what each of the following mean:

conjugated double bond ring system	
electronic resonance	
resonance stability	
delocalized electrons	

What effect does the above have on the relative reactivity of aromatic ring compounds? Why?

3. Organize the following structures (write the structures out in order) in order of decreasing reactivity toward nucleophilic attack of the halogen. The "degree" of each alkyl bromide may be of interest in the is question.



Name of property you have used: \_\_\_\_\_

Definition: \_\_\_\_\_

\_\_\_\_\_

Primary Factor: \_\_\_\_\_

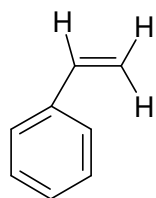
Secondary Factor \_\_\_\_\_

4. Would you expect naphthalene ( $C_{10}H_8$ ) to be soluble in hexane? Why? Would you expect naphthalene to be soluble in water? Why?

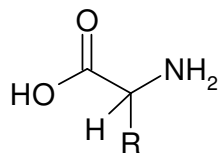
	solubility (yes or no)	explanation
hexane		
water		

5. For the following monomers, write:
- whether the monomer will undergo an addition or condensation polymerization
  - a polymer structure that is at least four monomer units long
  - necessary reaction condition for addition reactions
  - stable by-product for condensation reactions

Type: \_\_\_\_\_



Type: \_\_\_\_\_



6. Complete each reaction sequence to the best of your ability. This includes reaction condition under the arrow if necessary. If more than one reactant or product is expected, include the alternatives. The marking scheme may help with this.

