Alkenes and Alkynes Review Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ # \_\_\_\_\_\_\_

**For some of the questions, you will need to refer to the PPt (slides 1-44) and/or the book**.

1. What kind of reaction is shown below? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Name the reactant and the product. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. What kind of reactions are shown below? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Are the products saturated or unsaturated? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Name the product of the first reaction \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Name product of 2nd reaction \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Observe to 2 molecules below. Circle the hydroxyl group.



1. To the right of each, identify the 1) alcohol and 2) ether
2. Compare this molecule with the first molecule, above. Which would be more soluble and **why**?



1. A- Look at the below molecule. In terms of solubility, how would it compare to the other 2? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_B- RANK THEM from most soluble to least soluble.



1. Name the following:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Complete the following reaction (remember Markovnikov’s Rule). Name both the reactants and the products.



1. *From slide #22 in PPt: “To determine the # of stereoisomers, use the formula 2n, where*

*n = # double bonds”.*

Draw 2, 4-heptadiene and determine the # of stereoisomers:

1. Name the stereoisomers from #13.
2. Go to page 361. Explain what must happen for an optic nerve to fire and produce a visual image.

***Answer these questions regarding catalysts (see PPt and book-Chapter 7)***

1. Why are catalysts used in reactions?
2. What is activation energy? How do enzymes affect it? *\*Make sure you understand Fig 7.9*
3. A- Go to p. 222 (Chem Connections 7C). Why do solids in powder form react faster than pill form?

B- Explain how a time-released drug works.

Complete the following reactions (draw structures and name products):

1. ethylcyclopentene reacts with HBr(using a catalyst).
2. 4-isopropyl-2-octene reacts with Br2 (catalyst)
3. 1-hexene is hydrated (strong acid catalyst).



1. A. What is a terpene?

B. Draw one example of a terpene.

C. What unit repeats in all terpenes?

***Given the PRODUCT, determine the REACTANTS (presume catalysts are used)***

1. 1, 2-dichloro-1-methyl-(1)-cyclohexane \* ( ) *means the number isn’t necessary*
2.

  \* *you don’t have to name alcohols on this test*