

## Test Review Questions: Organic

SCH4U\_2012-2013

1. What physical state would you expect an organic compound to be in if it contained 14 carbon atoms? Would it have a low or high boiling point? Explain 3
2. Use structural formulas to write a balanced equation for the reactions between: 5
  - a. cyclohexane and bromine,
  - b. cyclohexene and bromine,
  - c. ethyne and bromine,
  - d. Ethanol and acidified potassium dichromate
  - e. Butan-2-ol and acidified potassium dichromateName all products
3. Explain what is meant by the term "isomers". Illustrate your answer using the compounds with the molecular formula:  $C_3H_8O$ . 4
4. a. The molecular formula  $C_3H_8O$  can represent an alcohol or an ether. Draw structural diagrams and name each one. 4
  - b. What products would you make if each of your alcohol's from question 4 (a) and 4 (b) reacted with acidified potassium permanganate ( $KMnO_4$ )? 2
  - c. Write equations and name the products for reactions in question 4 (b). 2
5. Write the word equation for the formation of the pineapple fragrance ester called ethylbutanoate. Draw the structural formulas for the reactants and products. 3
6. Draw the structural diagrams for the product that is formed when 1-propyne reacts with each of the following reactants. Write the name beneath each product and specify the catalyst above the arrow. 12
  - a.  $H_2(g)$
  - b.  $HBr(g)$
  - c.  $H_2O$
  - d.  $Cl_2$
7. Predict the major organic product of the reaction between but-1-ene and hydrogen bromide. 2
8. How would you distinguish between 1-hexene and cyclohexane, using a simple test tube reaction? Explain the expected observations and the products. 3
9. Draw the structure of the polymer formed by the condensation reaction between the following substances: 4



10. Polyethylene terephthalate (PET) is the most important commercial polyester polymer:  
Figure 1 below:

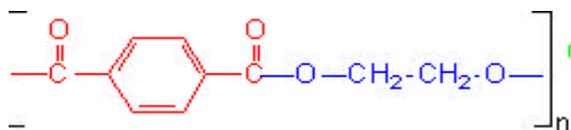
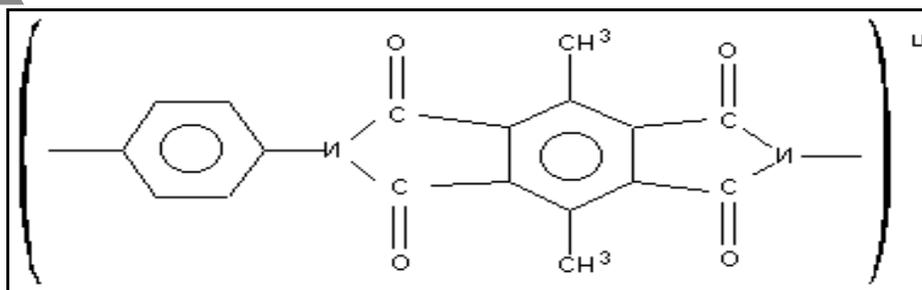


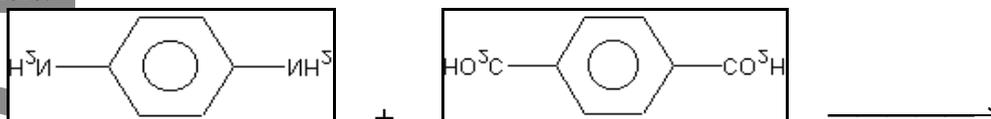
Figure 1: PET

- a. Draw structural diagrams of the monomer(s) needed to make this polymer? 2  
 b. What type of polymer is PET? 1  
 c. Name one other synthetic polymer. 1

- 11.a. Draw structural diagram of the monomer that must be used to produce the following polymer given below. 3  
 b. State what type of polymer it is.  
 c. State the conditions required to produce this polymer.



12. Kevlar, a strong polymer used in bullet proof vests, is made by the following condensation of monomers:



Write the structure for Kevlar.