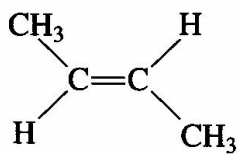


**REVIEW QUESTIONS**

## Chapter 20

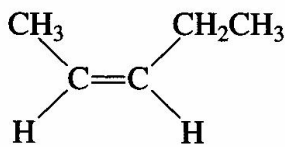
1. Identify each of the isomers below as cis- or trans- and name using the IUPAC system:

a)



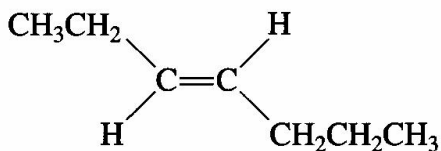
\_\_\_\_\_

b)



\_\_\_\_\_

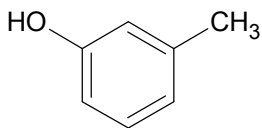
c)



\_\_\_\_\_

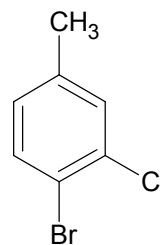
2. Name each aromatic compound shown below as a toluene derivative:

a)



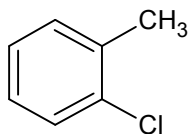
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c)



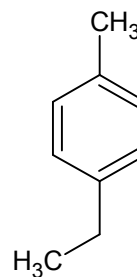
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b)



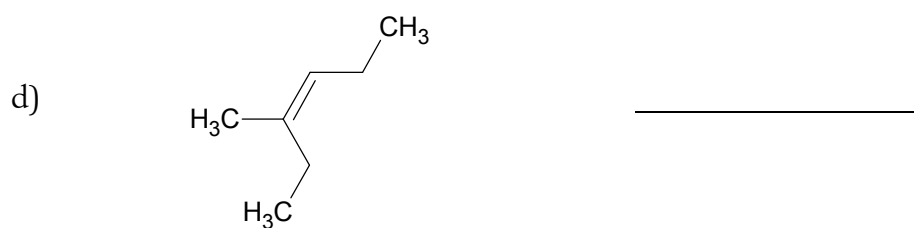
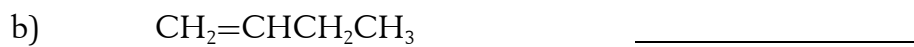
\_\_\_\_\_

d)



\_\_\_\_\_

3. For each compound shown below, determine if a cis/trans isomer is possible or not.



4. Write condensed structural formula for each compound below:

a) 2,3-dichloro-1-butene

b) *trans*-3-hexene

c) 1,2,4-trimethylbenzene

d) *p*-ethyltoluene

5. Complete each of the reactions shown below. If reactions produce more than one isomer, draw structure and name each isomer.

