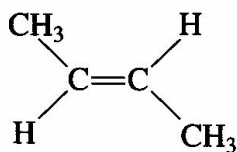


REVIEW QUESTIONS

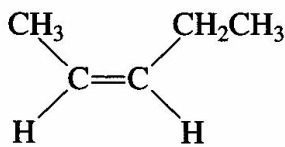
Chapter 20

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

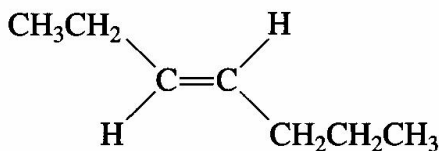
a)

trans-2-butene

b)

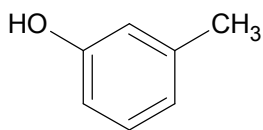
cis-2-pentene

c)

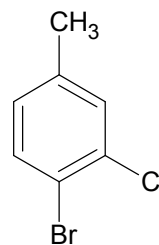
trans-3-heptene

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

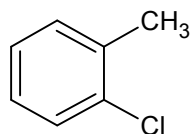
a)

3-hydroxytoluene or
m-hydroxytoluene

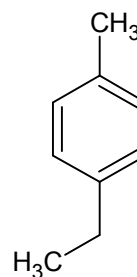
c)

4-bromo-3-chlorotoluene or
p-bromo-m-chlorotoluene

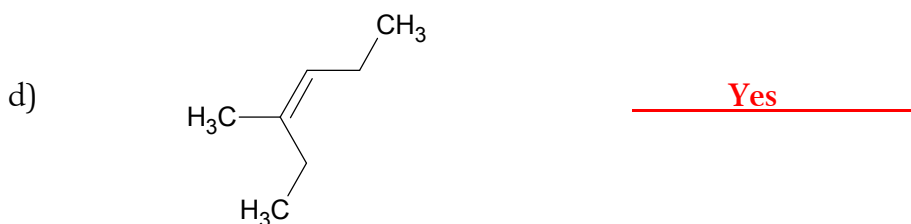
b)

2-chlorotoluene or
o-chlorotoluene

d)

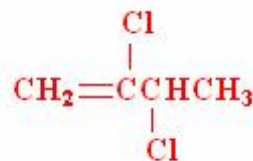
4-ethyltoluene or
p-ethyltoluene

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

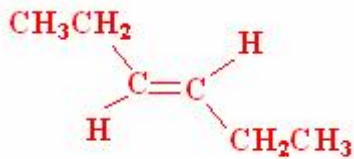


4. Write condensed structural formula for each compound below:

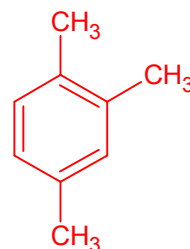
a) 2,3-dichloro-1-butene



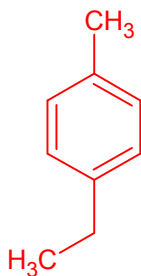
b) *trans*-3-hexene



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.

