

CHAPTER 17 (Alcohols and Phenols - Practice Exercises) CHEM 2425

Dr. Pahlavan / Dr. Cherif / Dr. Dessens

1. Provide structures for the following IUPAC names.

a) cis -1,3-cyclohexanediol

d) 2-phenylethanol

g) 4-phenylpentanol

b) 2-phenylethanethiol

e) trans- 4,4- dimethylcyclopentanol

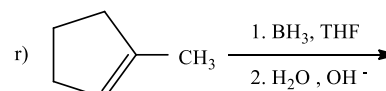
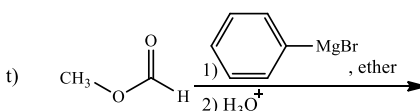
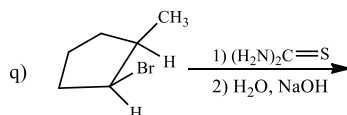
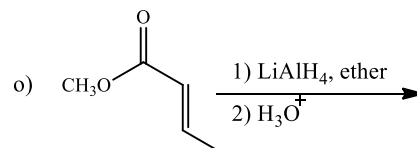
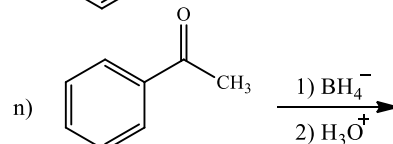
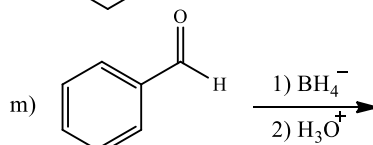
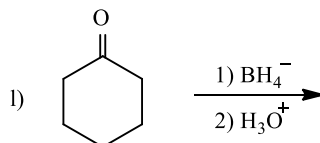
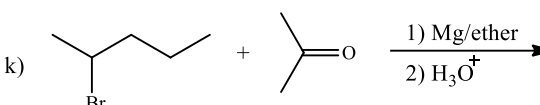
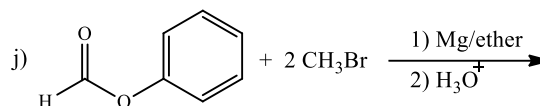
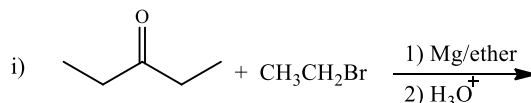
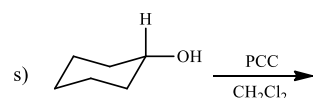
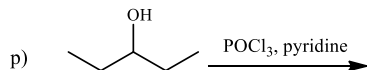
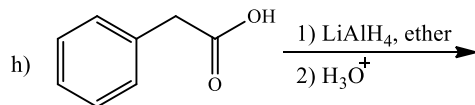
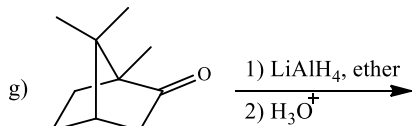
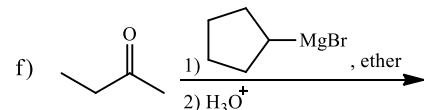
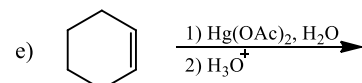
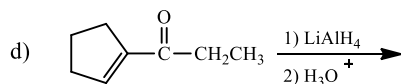
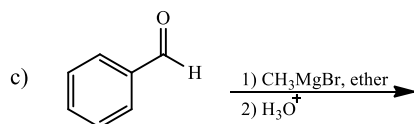
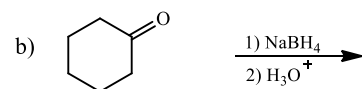
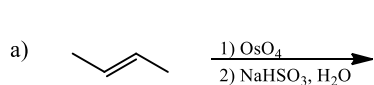
h) 2-mercaptanethanol

c) 3-pentanethiol

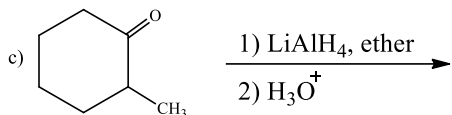
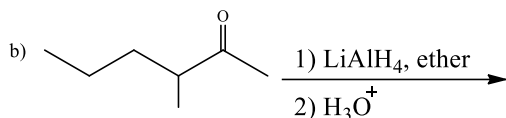
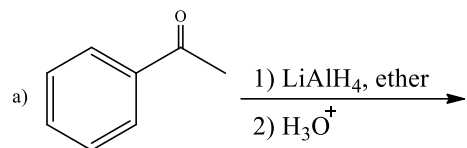
f) 3,4-dimethylpentanol

i) cis -1,3-pentanediol

2. For each of the reactions shown below, draw the structure of the major organic product.

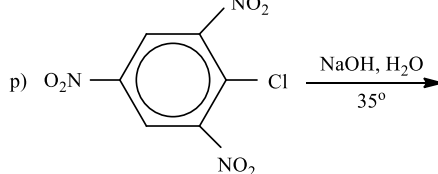
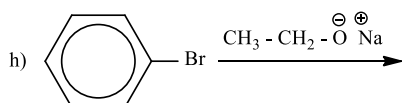
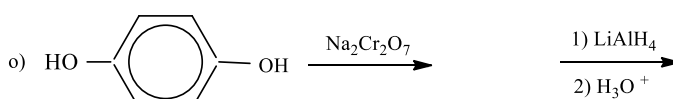
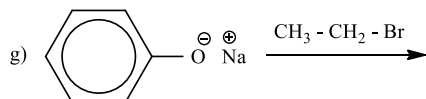
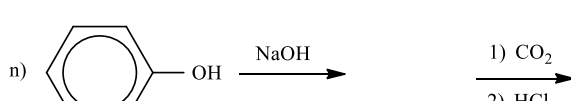
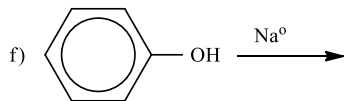
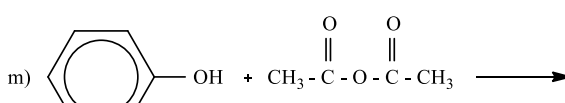
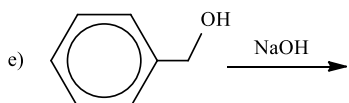
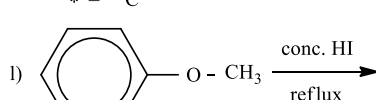
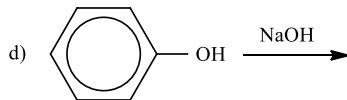
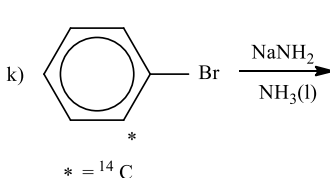
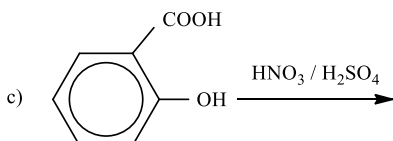
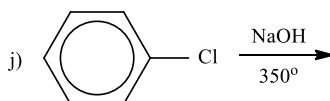
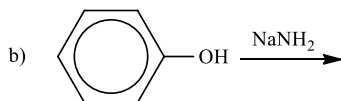
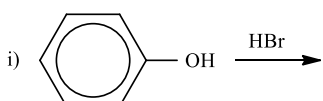
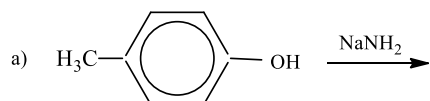


3. For the following synthesis problems, show the structure of the carbonyl compound necessary to produce the desired product. Clearly show stereochemistry when appropriate.



Phenols

4. Write structural formulas for important products.

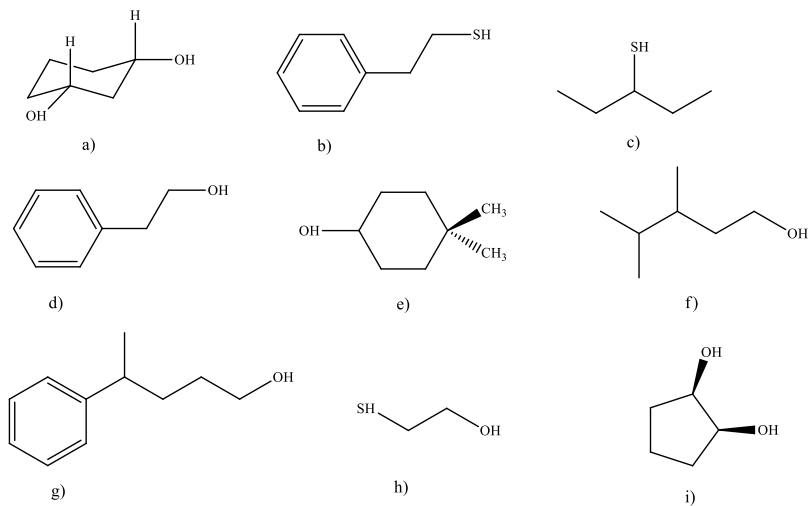


Answers

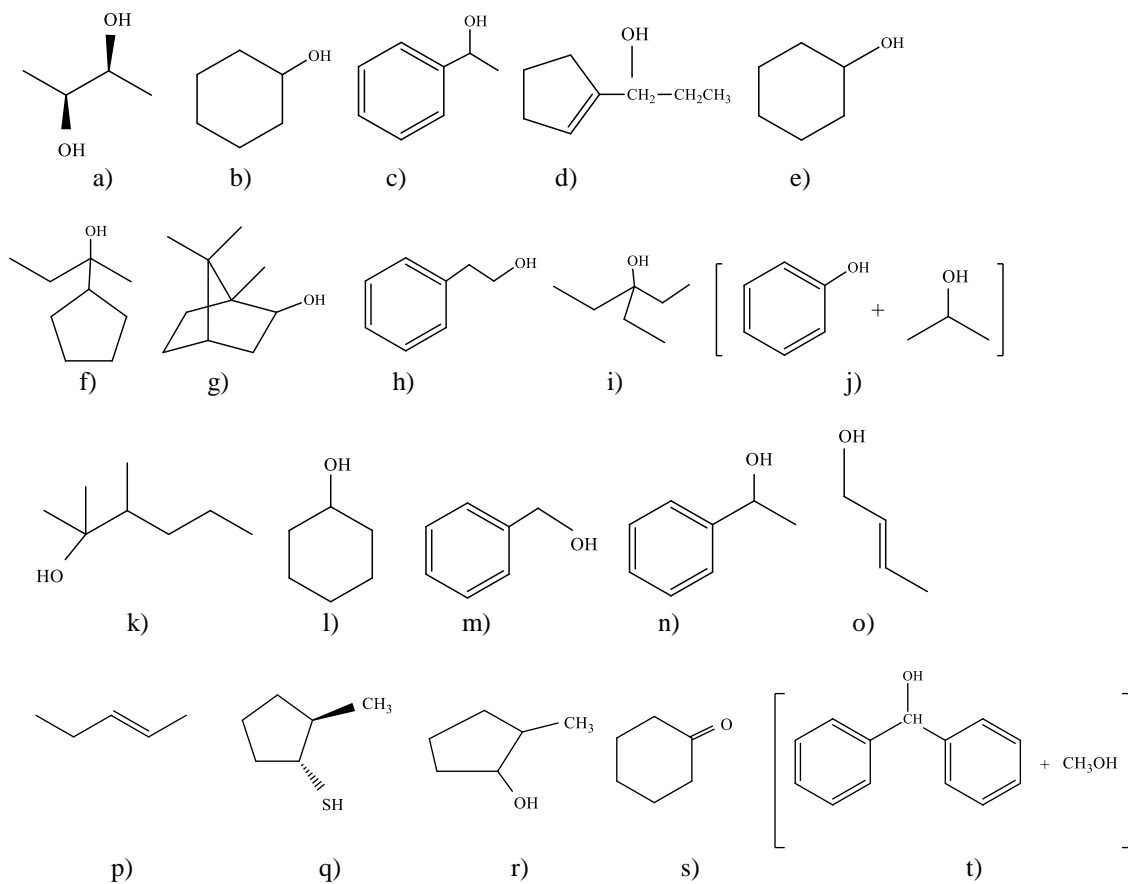
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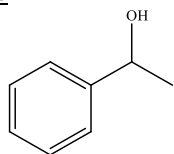
1. Structures



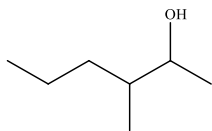
2. Major organic product.



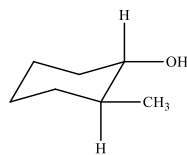
3. Synthesis



a)

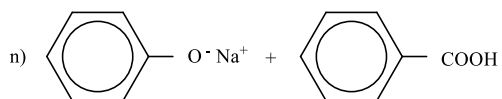
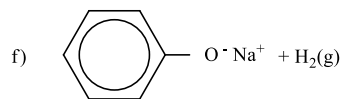
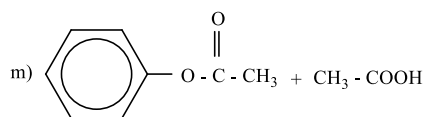
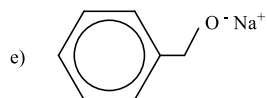
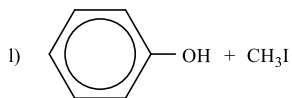
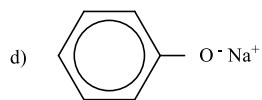
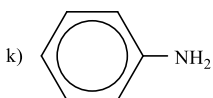
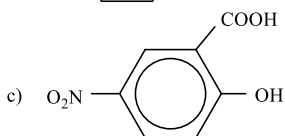
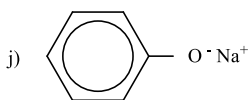
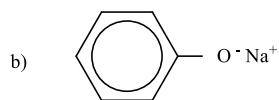
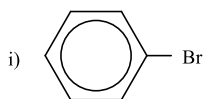
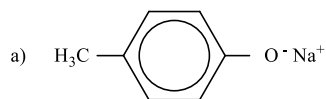


b)



c)

4. Products



(with Na or NaH)

