CHAPTER OVERVIEW

14: REACTIONS OF ALCOHOLS

Learning Objectives

After reading this chapter and completing ALL the exercises, a student can be able to

- predict the products, specify the reagents, and determine the mechanism of the reactions of alcohols with

  a. hydrohalic acids (refer to section 14.1)
  b. phosphorous halides (refer to section 14.2)
  c. thionyl chloride (refer to section 14.2)
  d. carboxylic acids, acid chlorides, and tosyl choride (refer to section 14.3)
  e. dehydrating reagents – H_2SO_4/heat or $POCl_3$/pyridine (refer to section 14.4)
  f. oxidizing agents (refer to section 14.6)
  g. sodium and potassium (refer to section 14.11)

- apply the most efficient and effective oxidizing agents (refer to section 14.6)
- determine the alcohol classification using laboratory experiments (refer to section 14.7)
- predict the products and specify the reagents of alcohol protecting group reactions (refer to section 14.9)
- predict the products and specify the reagents for diol cleavage reactions (refer to section 14.10)
- predict the products, specify the reagents for alkoxide ion reactions (refer to section 14.11)
- describe selected alcohol oxidation reactions in biology (refer to section 14.12)
- determine multiple-step synthetic pathways using alcohols (chapters 1-10 and 13-14)

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