CHEMISTRY CLASS – XII ALCOHOLS AND PHENOLS ASSIGNMENT NO. 6

Q1. Give IUPAC names and structures of:- (a) Isobutyl alcohol (b) Sec – butyl alcohol (c) tert-butyl alcohol (d) n-amyl alcohol e) o-cresol (f) Catechol (g) glycerol (h) picric acid (i) vinyl alcohol (j) benzyl ale (k) Aspirin (l) cyclobexyl methanol

Q2. Give reasons for the following:-

(i) Commercially carboxylic acids are not reduced to alcohols directly instead alcohols are obtained by converting them to ester followed by their reduction.

(ii) Alcohols and phenols are Bronsted acids.

(iii) Alcohols are weaker acids than water.

(iv) In esterification reaction between carboxylic and alcohol, water is removed as soon as it's formed.

(v) Esterification reaction between acid chloride and alcohol is carried out in presence of pyridine.

(vi) 3, 3-Dimethyl butan-2-ol on acid catalyzed dehydration yields an unexpected 2,3-dimethyl but 2-ene as major product.

(vii) n-hexanol is not soluble in water

(viii) Unlike most phenols, 2, 4-dinitrophenol & 2, 4, 6–trinitraphenol is soluble in aqueous sodium bicarbonate solution.

(ix) Phenol has a smaller dipole moment (1.54, 0) than methanol (1.71 D)

(x) For the prepn of alkyl halides from alcohols, through chloride is preferred over other reagents.

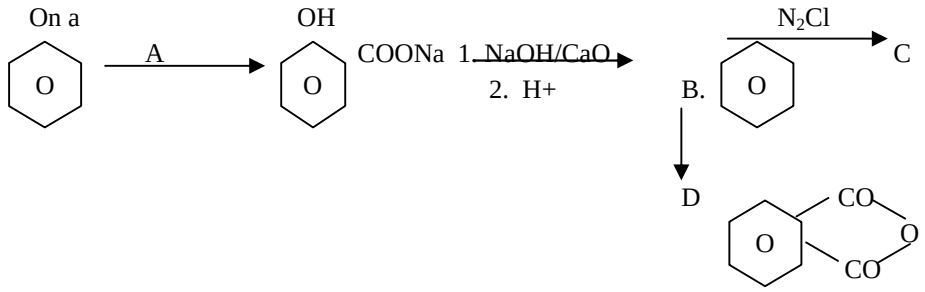
(xi) Phenols do not give protonation reactions easily.

Q3. Carry out the following conversions in 2 steps-

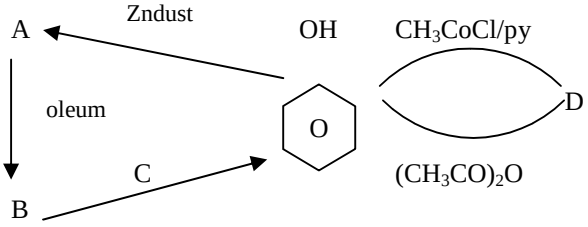
(a) Propane to propan=l-ol
(b) Benzyl chloride to benzyl alcohols
(c) Ethyl magnesium chloride to propan-l-ol.
(d) Methyl magnesium bromide to 2-methyl propan-2-ol.
(e) Phenol to picric acid.
(f) Benzene to phenol
(g) Isopropyl ale to acetone
(h) Methanol to ethane
(i) Propyne to 2-propanol
(j) Acetylene to ethanol
(k) Isopropyl ale to n-propyl bromide
(l) Propyne to 1-bromopropane

Q. Identify A, B, C, D

(a)



(b)



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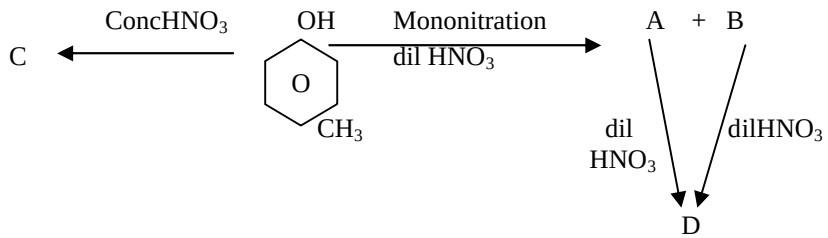

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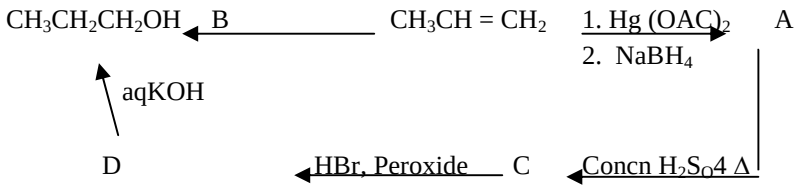
CH3CH2CH2OH
B
CH3CH = CH2
1. Hg (OAC)2
2. NaBH4
A
aqKOH
D
HBr, Peroxide
C
Concn H2SO4 Δ