Academic Year : 2011-2012
Second Term
Date : 19/6/2012
Time : 2 hrs

Final Exam : Special Organic Chemistry
Agricultural Biotechnology Program
(3rd Level)
Total Degree : 60
The exam in one paper

Mansoura University
Faculty of Agricultural
Agric. Chem. Dept.

Answer the following questions

Question:1 (15 degree/3 for each part)

a- Discuss in detail the mechanism of Fries rearrangement on phenol (in the presence of CH_3-Cocl,Hcl,$AlCl_3$)

b- What is phenolic hydroxy group ?

c- Explain the resonance hybride of phenol

d- Describe two methods of preparation of phenol

e- What happens when phenol is treated with:

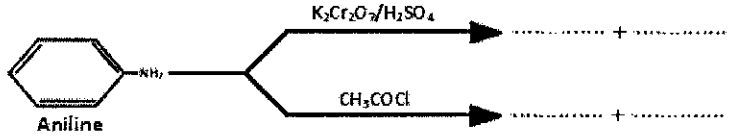
(i) NH_3 in the presence of $zncl_2$ as a catalyst

(ii) Exess of bromine Br_2 (iii) Nitric acid HNO_3

Question:2 (15 degree/3 for each part)

a- How is tertiary amine prepared by Hofmann reaction for elimination amines on the following compound "Ethyl dimethy isopropyl ammonium Iodide" in the presence of AgOH, pyrolysis (explain with equations)

b- Complete the following reactions with writting the name and structure for the products



c- Digsccuss the importance of acetylation reaction in aromatic primary amine such as aniline (explain with equations)

d- Give a precise defination of alkaloids

e- What are the common features of alkaloids

Question:3 (15 degree/3 for each part)

a- Write the structural formula ,name and physiological activity of any two alkaloids .

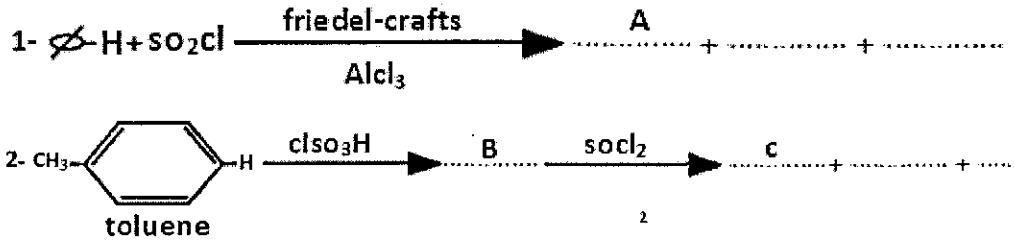
b- Describe the nature accurrence of alkaloids in plant ,what are the plant acids which contain the salt of alkaloids

c- What are the names of sulphur compounds derived from the following corresponding oxygenated compounds:

(i) CH_3- CO-CH_3 (ii) CH_3-CHO (iii) CH_3-COOH

d- Give two methods of prepration of alkane thiol

e- Complete the following reactions and writting the name of products A, B and C



Question:4 (15 degree/5 for each part)

a- Starting with o-toluene sulphonic acid,how can you pereper saccharine (in the presence of $KMno_4$/OH,$socl_2$,NH_3,pyrolysis,Δ)

b- Write the structure of two types of sulpha drugs .

c- Starting with phosphoric acid or trisodium phosphate Na_3po_4, how can you prepare Triethyl phosphate by one method.

With my best wishes

H.B Hamad
prof.Dr/Hassan Barakat

M. Sanad
Dr/Mostafa Ibrahim Sanad