

Faculty of Science

Chemistry Department

(May 2019)

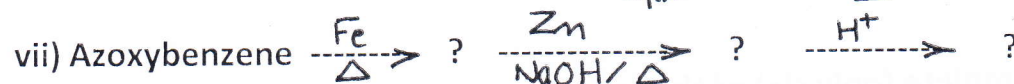
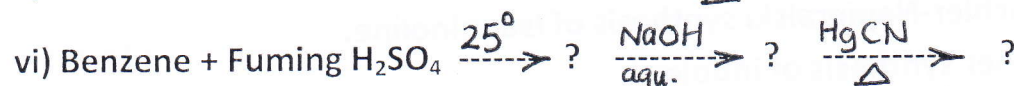
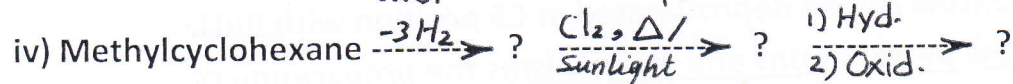
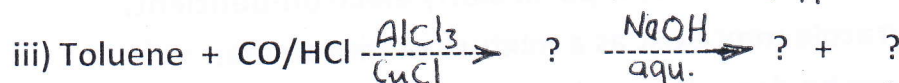
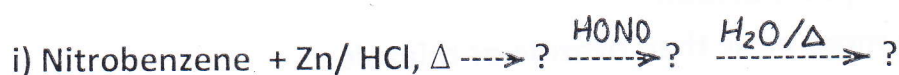
Time: 2 hr.

Final Examination for Applied Industrial Chemistry Students

(Chem 202, Organic Chemistry)

Section A (Aromatic Chemistry) (25 Marks)

1) a) Complete five only of the following equations: (15 Marks)



2) a) Predict the major product(s) would be obtained when two only from the following compounds are mononitrated: (4 Marks)

i) Benzotrichloride

ii) P-Toluenesulphonic acid

iii) P- Nitro diphenyl

iv) P-Toluidine

b) NH_4^+ cation group substituent in benzene is considered as a deactivating group, while methoxy group is an activating one. Explain this statement. (2 Marks)

c) Show by equations how can you syntheses Two only of the following (4 Marks)

i) 2,4,6-Tribromo nitrobenzene

ii) 3-Chloro-4-nitrobenzaldehyde

iii) 3,5-Dichloro bromobenzene

أنظر ملف الصيغة مع فضلك