

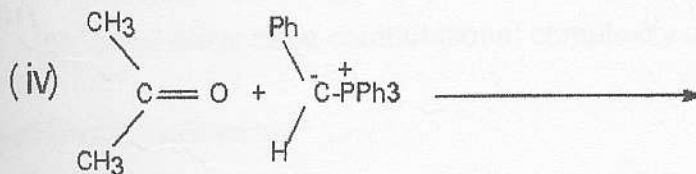
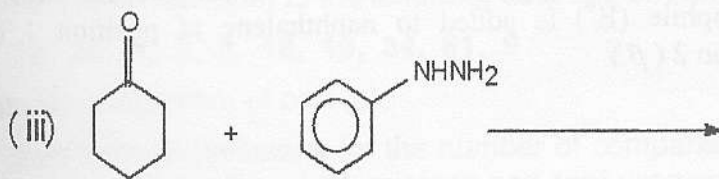
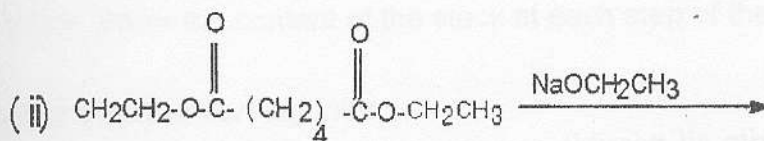
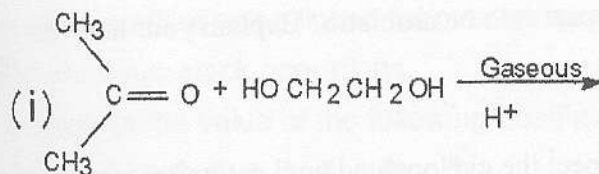


EASTERN UNIVERSITY, SRI LANKA
FIRST SEMESTER SECOND EXAMINATION IN SCIENCE
2006/2007 (Dec.2008)
CH 204 REACTION MECHANISM AND AROMATICITY

Time: One hour

Answer all questions

- a) For each of the following reactions, give the structure of the major product that would be formed and suggested plausible mechanisms for the reactions involved in the formation of these major products.



(4x25 marks)

2) a) State Huckel's rule and explain it using benzene as an example. (15 marks)

b) i) Use the polygon and circle method to outline the π molecular orbitals of cyclopentadienyl anion and explain, on this basis, whether cyclopentadienyl anion is aromatic or not. (15 marks)

ii) What electron distribution would you expect for the cyclopentadiene (05 marks)

iii) Would you expect it to be aromatic? Explain your answer (05 marks)

iv) Would you expect the cyclopentadienyl cation to be aromatic on the basis of Huckel's rule? (10 marks)

c) i) Write all possible resonance structure of the intermediates when an electrophile (E^+) is added to naphthalene at position 1 (α) and position 2 (β). (40 marks)

ii) Explain why position 1 (α) is more favoured than position 2 (β) towards is electrophilic substitution reaction in naphthalene (10 marks)