

552

Total Pages : 6

Roll No.

CHE-552

Synthetic Organic Chemistry

M.Sc. CHEMISTRY(MSCCH-12/13/16/17)

2nd Year Examination, 2021 (Winter)

Time : 2 Hours]

Max. Marks : 80

Note : This paper is of Eighty (80) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

SECTION-A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Twenty (20) marks each. Learners are required to answer any Two (02) questions only.

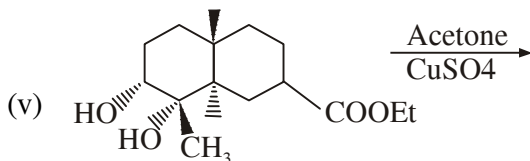
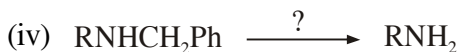
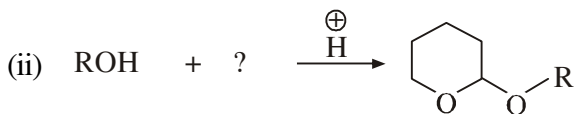
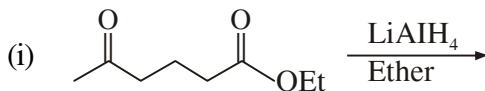
(2×20=40)

1. (a) Discuss in detail protection and deprotection of functional groups. Give use of following protecting group 15

(i) CBZ group

(ii) Tetrahydropyranyl ether group

- (b) Complete the following reactions and give suitable reagents wherever required. 05



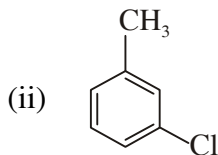
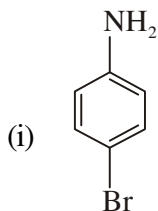
2. (a) Write notes on followings : 15

(i) Synthetic Equivalents

(ii) Retron

(iii) Order of Events

- (b) Write RetroSynthetic Analysis for 05



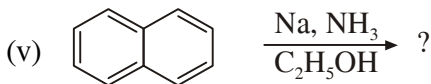
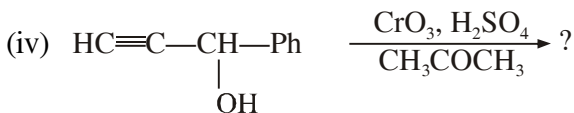
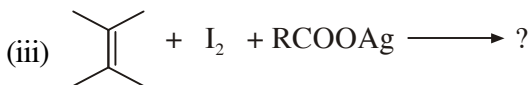
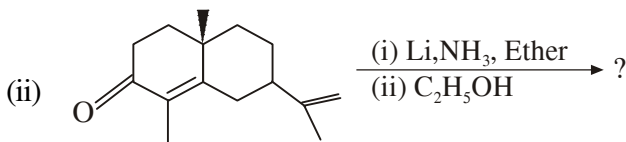
3. (a) Write explanatory notes on followings :

(i) Oppenauer Oxidation

(ii) Reduction with NaBH_4

(iii) Reductive cleavage of α substituted Ketones

(b) Complete the following reactions. 05



4. (a) Write notes on followings :

(i) Knoevenagel condensation

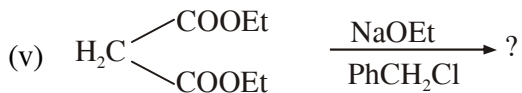
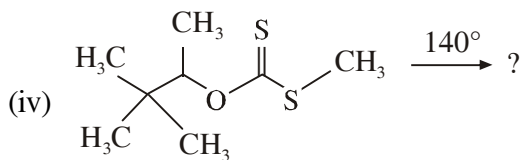
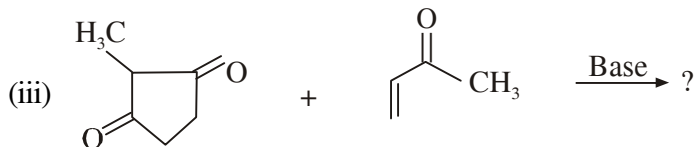
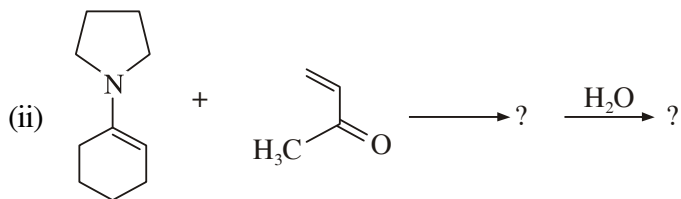
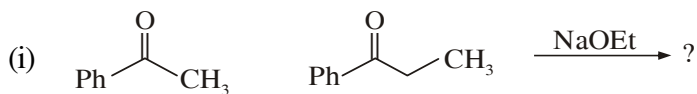
(ii) Simmons-Smith reaction

(iii) Wittig reaction

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(b) Complete the following reactions

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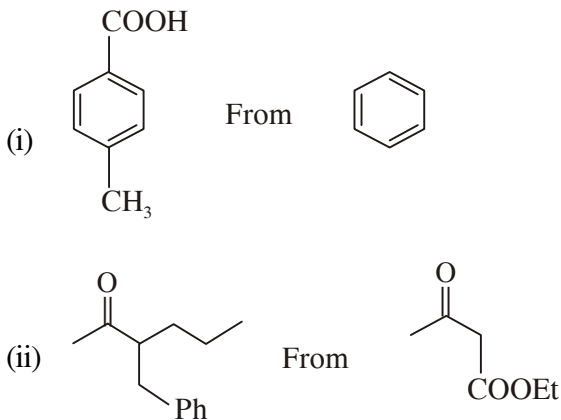
5. (a) Write detailed notes on followings :

(i) Diastereotopic Faces

(ii) Prochirality

(iii) Cram's rule

15



SECTION-B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Ten (10) marks each. Learners are required to answer any Four (04) questions only. (4×10=40)

1. Write detailed account of Heterogeneous Hydrogenation.
2. Describe synthetic applications of OrganoSilanes.
3. Discuss use of two group C-X disconnections in 1,1 and 1,2 Difunctionalised compounds in organic synthesis.
4. Give a deliberate approach on the Regioselectivity role in synthesis of Target molecule in organic synthesis.

5. Write a detailed note on Product stereoselectivity.
 6. Explain Asymmetric Diel's Alder reaction.
 7. Derive retrosynthesis of Disparlure.
 8. Write notes on followings :
 - (a) Synthesis of secondary amines.
 - (b) Cyclisation reactions.
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