

19P313

(Pages: 3)

Name.....

Reg. No.....

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2020

(CBCSS-PG)

CC19P CH3 E01 - SYNTHETIC ORGANIC CHEMISTRY

(Chemistry)

(2019 Admission Regular)

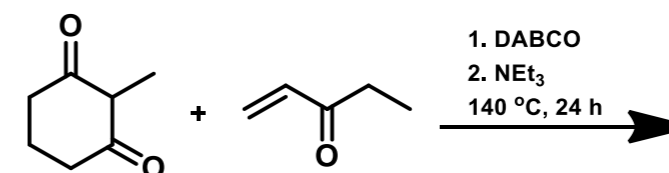
Time : Three Hours

Maximum : 30 Weightage

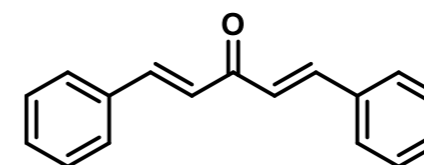
Section A

Answer any *eight* questions. Each question carries 1 weightage.

1. Suggest a method for the synthesis of benzimidazole.
2. Give the product and suggest the steps involved in it.



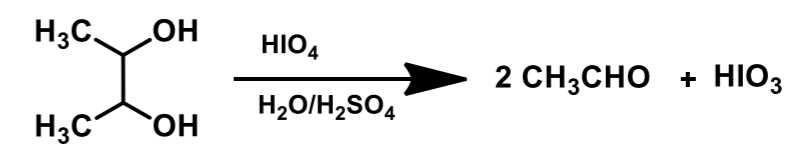
3. How will you synthesize the following compound from benzaldehyde and acetone?



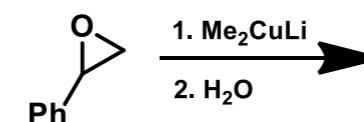
4. Predict the products of the following reactions.



5. Give the mechanism for the following transformation.



6. Give the product with mechanism of the following transformation.

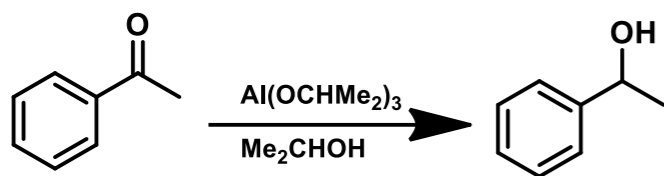


7. Suggest a synthesis and an application of benzene tricarbonyl chromium complex.

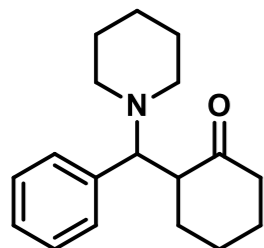
(1)

Turn Over

8. Give the mechanism of the following conversion.



9. Write a retrosynthetic analysis of the following compound



10. Give a method for the synthesis of oxepines.

(8 x 1 = 8 Weightage)

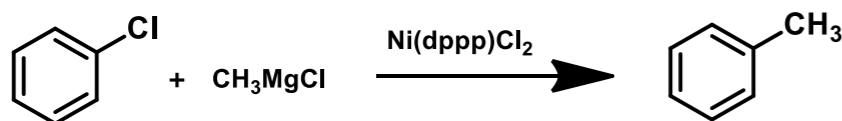
Section B

Answer any *six* questions. Each question carries 2 weightage.

11. Discuss two-group disconnection with suitable examples.

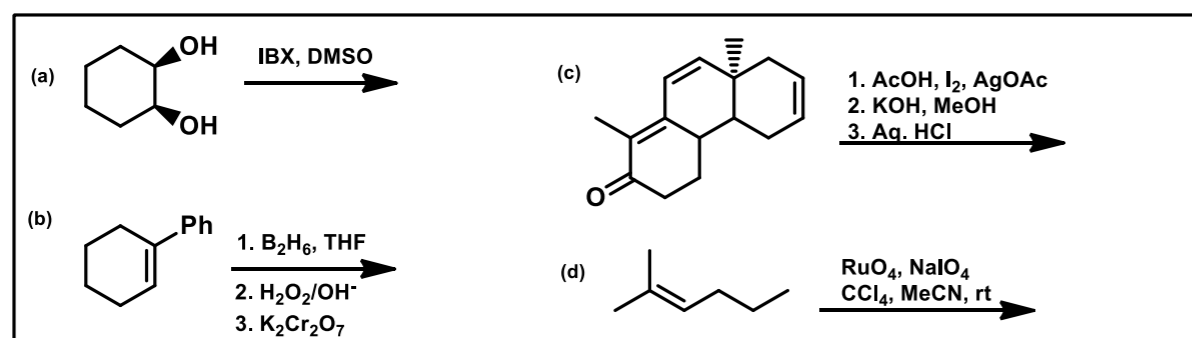
12. Write a note on protecting groups for carbonyl compounds.

13. Suggest the mechanism for the following coupling reaction.



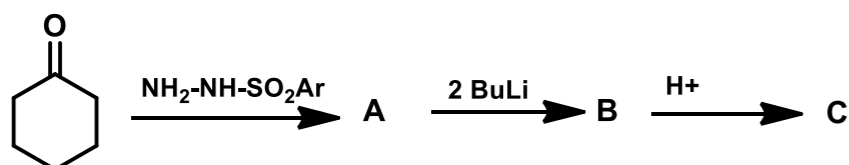
14. Illustrate Wacker oxidation using the catalytic cycle.

15. Predict the product of the following



16. Explain Sharpless asymmetric epoxidation.

17. Identify **A**, **B** and **C**. Give the mechanism for the conversions.



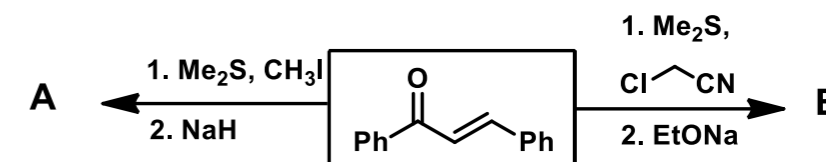
18. Write a note on phase transfer catalysis.

(6 x 2 = 12 Weightage)

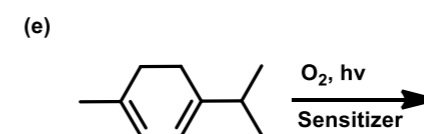
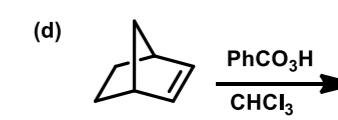
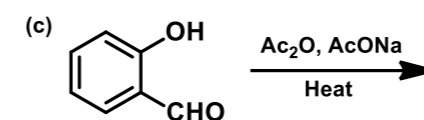
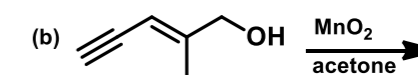
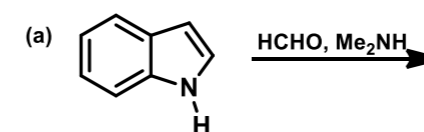
Section c

Answer any *two* questions. Each question carries 5 weightage.

19. Identify the products **A** and **B**. Give the explanation for the formation of products along with the mechanism.

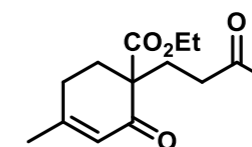


20. Predict the products of the following



21. Give the mechanism and synthetic applications of (a) Suzuki-Miyaura coupling (b) Hydroboration and (c) Gilman's reagent.

22. Using retrosynthetic approach, suggest a suitable synthesis of the following diketoester from simple starting material.



(2 x 5 = 10 Weightage)
