20P313 (Pages: 3) Name……..……

Reg. No……..…

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS-PG)

(Regular/Supplementary/Improvement)

CC19P CHE3 E01 - SYNTHETIC ORGANIC CHEMISTRY

(Chemistry)

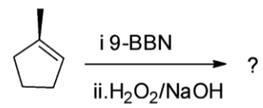
(2019 Admission onwards)

Time: Three Hours Maximum: 30 Weightage

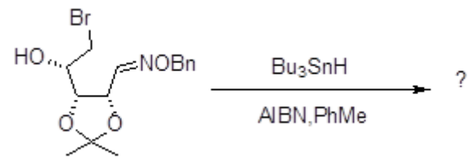
Section A

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

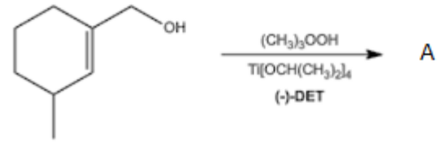
1. Predict the stereo chemical mechanism for the following:



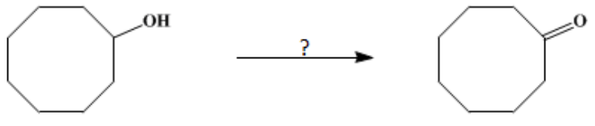
2. Predict Product of the following reaction



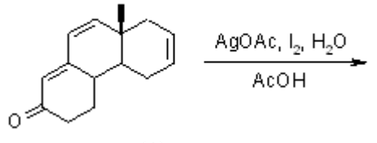
3. How do you synthesise Indole?
4. Predict the product of the following:



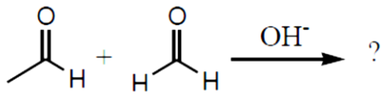
5. Complete the reaction:



6. Predict the product of the following reaction with mechanism.

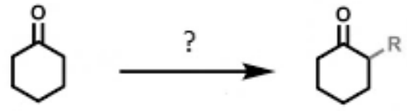


7. Complete the reaction:



8. Complete the following reaction:

9. Suggest reagents for the reaction and explain mechanism



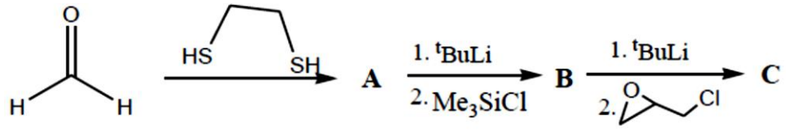
10. How do you synthesize tetrazole?

(8 × 1 = 8 Weightage)

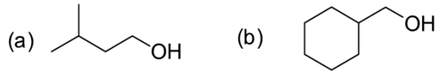
Section B

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

11. Find A, B and C

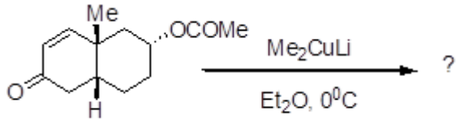


12. Suggest alkenes to be used for the preparation of following alcohols by hydroboration oxidation?

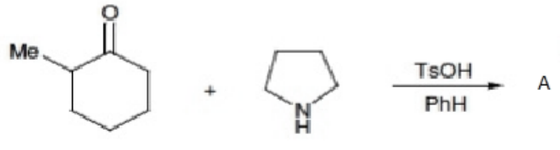


13. Write retrosynthetic analysis of Corey Lactone.

14. Predict the product of the following reaction with mechanism.



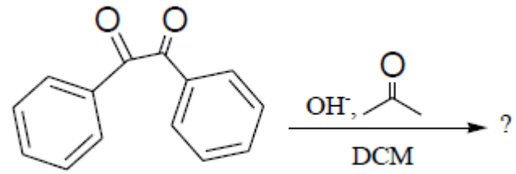
15. Predict the product and explain mechanism



(3)

16. Explain Palladium catalyzed allylic coupling and its importance in synthetic perspective?

17. Explain the reaction and find the product formed.



18. Discuss the application of Diborane

(6 × 2 =12 Weightage)

Section C

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

19. Explain the reaction mechanism and one example each for (a) Negishi (b) Hiyama, (c) Kumada coupling reactions.

20. Write short notes on Phase transfer catalysis with suitable examples.

21. Write retrosynthetic analysis of (a) Longifolene (b) Djerassi Prelog Lactone.

22. Explain the synthesis of (a) Quinoline (b) Benzoxazole

(2 × 5 = 10 Weightage)

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