

Shivaji University, Kolhapur

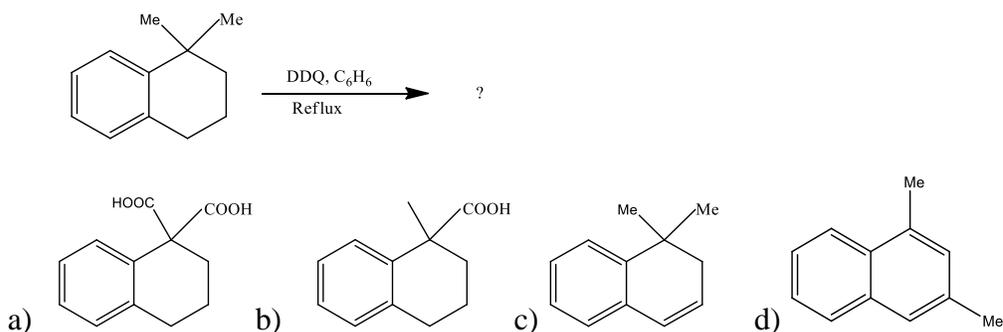
Department of Applied Chemistry

M.Sc.II, Sem-IV, Online Examination Oct. 2020

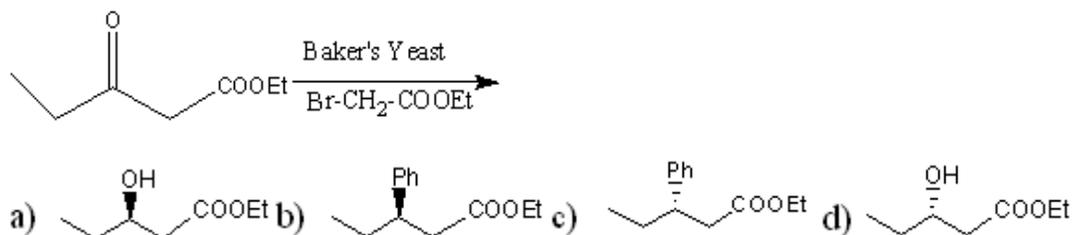
1. Which one of the following are used as phase transfer catalysts?

- a) Fullerene
- b) Annulene
- c) Long chain alkynes
- d) Crown ethers

2. Identify the major product in the following reaction.



3. Predict the product with stereochemistry of following reaction?



4. The reversal of polarity of the carbonyl carbon atom is called-----.

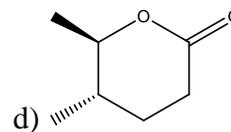
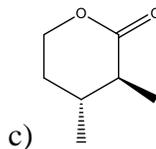
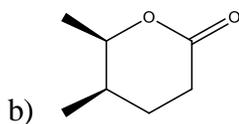
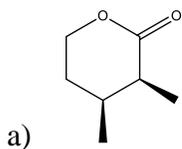
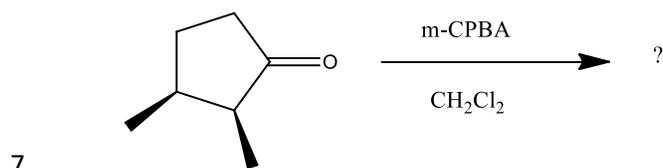
- a) polar
- b) umpolung
- c) ketone
- d) aldehyde

5. α -Pinene is a.....

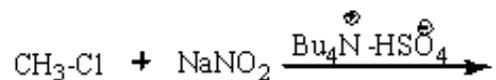
- a) Monoterpenoid
- b) Bicyclic in nature
- c) Acyclic in nature
- d) Both a & b

6. Which one of the following correctly represents the formation of endo product from Diels-Alder reaction of cyclopentadiene and maleic anhydride at room temperature?

- a) Kinetically controlled reaction
- b) Thermodynamically controlled reaction
- c) Electrochemically induced reaction
- d) Cross coupling reaction



8. What is the product of following reaction?



- a) $\text{CH}_3\text{-NO}_2$ b) $\text{CH}_3\text{-Na}$ c) $\text{CH}_3\text{-I}$ d) $\text{CH}_3\text{-Br}$

9. Camphor on treatment with NH_2OH gives.....

- a) Ketone
b) Aldehyde
c) Carboxylic acid
d) Oxime

10. In DNA, guanine pairs with.....

- a) Uracil
b) Adenine
c) Cytosine
d) Thymine

11. Which one of the following is Jones reagent ?

- a) Alkaline KMnO_4
b) CrO_3 in Pyridine
c) Na_2CrO_4
d) CrO_3 in H_2SO_4

12. Lithium diisopropylamide is prepared from diisopropylamine and butyllithium in presence of tetrahydrofuran at ----- $^\circ\text{C}$

- a) 100
b) 50
c) 0
d) 60

13. Amino acids are.....
- a) Building blocks of Nucleic acids
 - b) Building blocks of Carbohydrates
 - c) Building blocks of Proteins
 - d) Building blocks of Lipids
14. Cope reaction is -----
- a) [1-3]-sigmatropic reaction
 - b) [1-5]-sigmatropic reaction
 - c) [3-3]-sigmatropic reaction
 - d) none of these
15. Coumarin is synthesized by----
- a) Hantzsch synthesis
 - b) Reissert synthesis
 - c) Pechmann synthesis
 - d) Fischer synthesis
16. Peptide bond is a
- a) Covalent bond
 - b) Ionic bond
 - c) Metallic bond
 - d) Hydrogen bond
17. Claisen rearrangement is an example of----
- a) 1,3-sigmatropic reaction
 - b) 3,3-sigmatropic reaction
 - c) 1,7-sigmatropic reaction
 - d) none of these

18. What are the sources of Vit.C ?
- a) Lemon
 - b) Citrus fruits
 - c) Orange fruits
 - d) All of these
19. Vitamin A is also known as.....
- a) Biotin
 - b) Vit. H
 - c) Co-enzymes
 - d) Retinol
20. Which of the following is not an example of pericyclic reaction?
- a) Ene reaction
 - b) Diels-alder reaction
 - c) Shapiro reaction
 - d) Cope rearrangement
21. The reversal of polarity of the carbonyl carbon atom is called-----.
- a) polar
 - b) umpolung
 - c) ketone
 - d) aldehyde
22. What is products in Petasis reaction ?
- a) Aniline
 - b) Substituted amines
 - c) Acid
 - d) None of these
23. Which one of the following products predominates in thermodynamically controlled reaction?
- a) Product with cis stereochemistry
 - b) Product with less energy of activation
 - c) Product which is thermodynamically more stable
 - d) Product which is environmentally benign

24. Which one of the following is Jones reagent ?
- a) Alkaline KMnO_4
 - b) CrO_3 in Pyridine
 - c) Na_2CrO_4
 - d) CrO_3 in H_2SO_4
25. Emde's degradation method is adopted with bases which do not contain.....
- a) α -Hydrogen
 - b) β -Hydrogen
 - c) γ -Hydrogen
 - d) None of these
26. Which one of the following is Sarrett's reagent?
- a) CrO_3 in H_2SO_4
 - b) CrO_3 in pyridine
 - c) CrO_3 in NaOH
 - d) $\text{K}_2\text{Cr}_2\text{O}_7$
27. Which of the following annulene is aromatic?
- a) [10] annulene
 - b) [12] annulene
 - c) [16] annulene
 - d) None of these
28. Which of the following molecules find POTENT applications in molecular machines?
- a) Rotaxanes
 - b) Fullerenes
 - c) Annulenes
 - d) Crown ethers
29. Which one of the following compounds is aromatic?
- a) Cyclopentadienyl anion
 - b) Cyclopentadienyl radical
 - c) Cyclopentadienyl cation
 - d) Cyclopentadiene

30. From which prostaglandins are synthesized in the cell ?

- a) Arachidinic acid
- b) Valeric acid
- c) Uric acid
- d) None of these