647510 **MSC3ORSC0210** **Seat No :_____**

M.Sc.(Chem.) Semester - 3 (*CBCS*) Examination
Oct/Nov-2022 (OLD COURSE)
ORGANIC SYNTHESIS- A DISCONNECTION APPROACH (CORE)

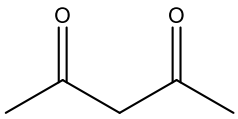
Time: 2:30 Hours **Marks: 70**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

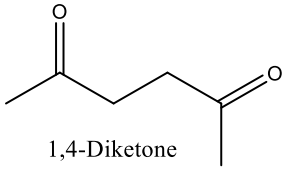
Q.1 Answer any seven of the following ten questions. [14]

1. Define Synthon and Target molecule with example.
2. Give Disconnection analysis and synthesis of following target molecule



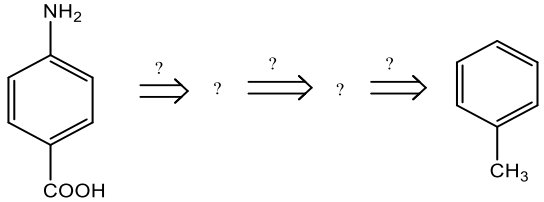
1,3-Diketone

3. Write the good criteria for disconnection?
4. Define umpolung, consonant and dissonant polarity.
5. Give Disconnection analysis and synthesis of following target molecule

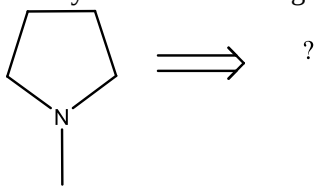


1,4-Diketone

6. Identify the strategy and synthons in following reaction



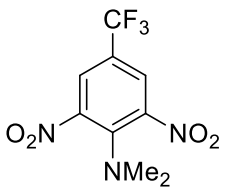
7. What property should have a protecting group?
8. Write the correct synthon of following disconnection.



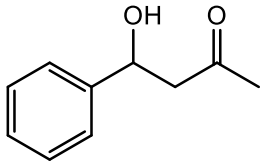
9. Functional groups conferring electrophilic character to the attached carbon (+) are known to _____ of groups.
10. Which disconnection strategy is used when two heteroatoms are joined to same carbon atom?

Q.2 Answer any two of the following three questions. [14]

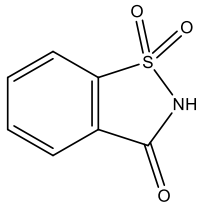
1. Discuss Disconnection analysis of



2. Give Disconnection analysis and synthesis of



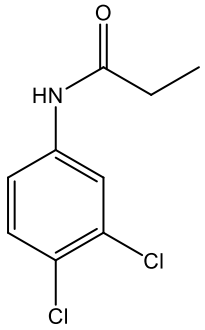
3. Give Disconnection analysis and synthesis of



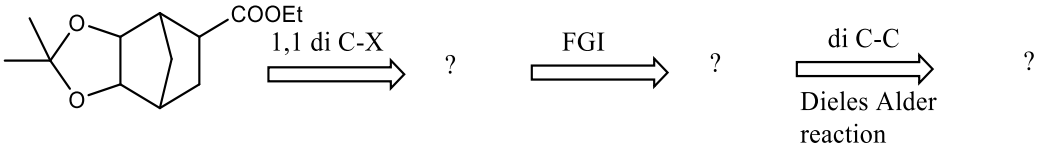
saccharine

Q.3 Answer the following questions. [14]

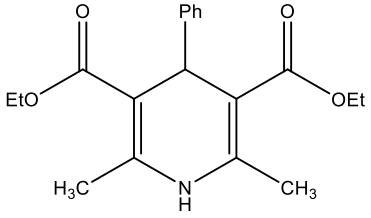
1. Give the disconnection and synthesis of following TM



2. Identify the intermediates of disconnection and give its synthesis.



3. Discuss retro synthesis of following



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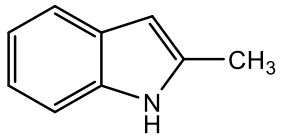
OR

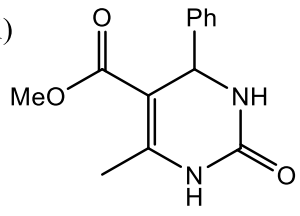
Q.3 Answer the following questions. [14]

1. Apply disconnection analysis and give synthesis of following

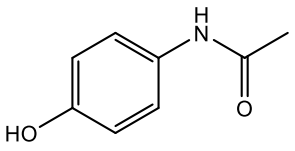
i)

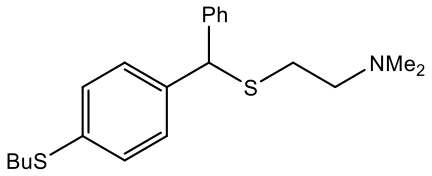


ii)



2. Explain disconnection analysis of following using Chemoselectivity strategy

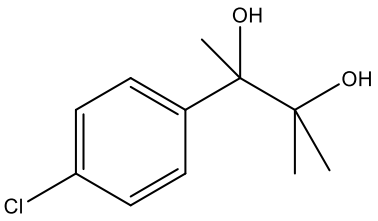




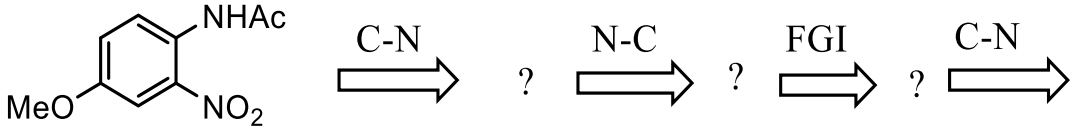
Q.4 Answer the following questions. [14]

(A) Answer any two questions of the following three questions: [10]

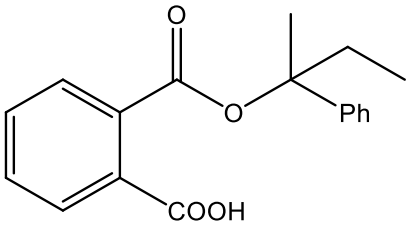
1. Give Disconnection analysis and synthesis of following applying Illogical two group disconnection strategy.



2. Identify the intermediates of following disconnection analysis



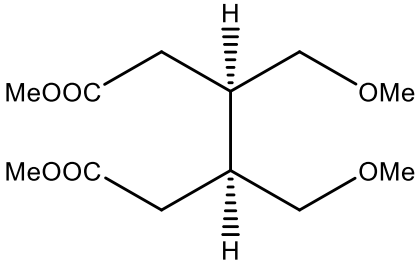
3. Give the disconnection and synthesis of following molecule



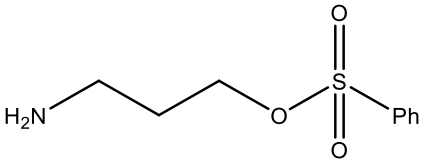
Target molecule

(B) Answer any one question of the following two questions: [04]

1. Apply reconnect strategy to following TM and give disconnection analysis.

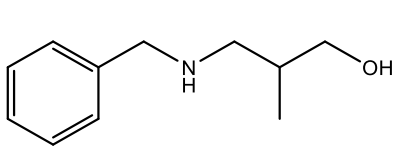


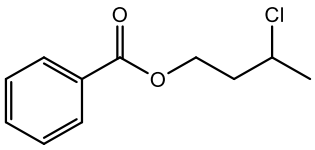
2. Give disconnection analysis of following TM



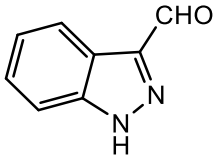
Q.5 Answer any two of the following four questions. [14]

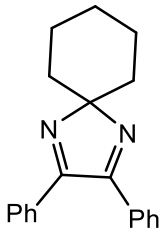
1. Apply 1,3-di C-X strategy and give synthesis of following



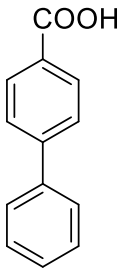


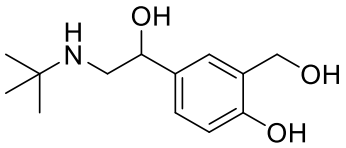
2. Give disconnection analysis and synthesis of following



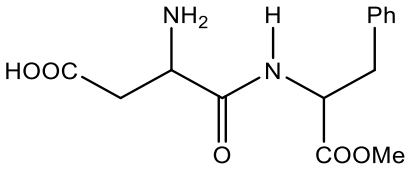


3. Discuss Retrosynthesis of following





4. Give Disconnection analysis of following using protecting group strategy



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