



THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF BASIC SCIENCES
ACADEMIC YEAR 2023/2024 – SEMESTER I
BACHELOR OF PHARMACY HONOURS
BSU4340-PHARMACEUTICAL CHEMISTRY III-LEVEL 4
FINAL EXAMINATION
DURATION: 3 HOURS

02445

DATE: 05th APRIL 2024**TIME: 2.00 pm – 5.00 pm**

IMPORTANT INSTRUCTIONS / INFORMATION TO CANDIDATES

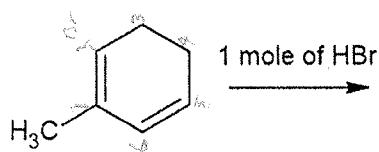
- This question paper consists of **05** pages containing **05** questions
- Write answers for **ALL** questions in booklets provided.
- Clearly state your **Index Number** in your answer script
- Having any unauthorized materials, mobile phones in your possession is a punishable offence

BACHELOR OF PHARMACY HONOURS - LEVEL 04 - 2023/24
BSU4340- PHARMACEUTICAL CHEMISTRY III
FINAL EXAMINATION

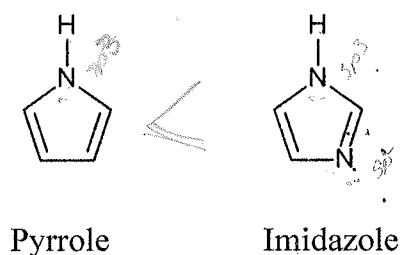
Answer all questions

1. a) Benzene undergoes nucleophilic substitution with difficulty. Explain. (04 marks)
- ✓ b) Nucleophilic substitution at C-4 position of pyridine is most favoured than that of C-3 position. Explain your answer by providing necessary resonance structures. (10 marks)
- c) Would you expect 2-chloro-3-methylbutane to be a good alkylating agent in a Friedel-Crafts alkylation reaction with benzene? Explain your answer with a suitable mechanism. (06 marks)

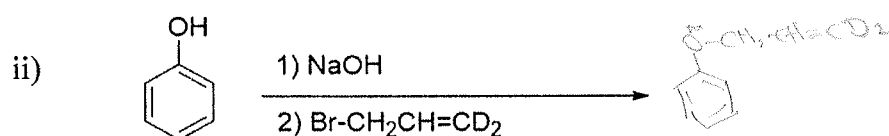
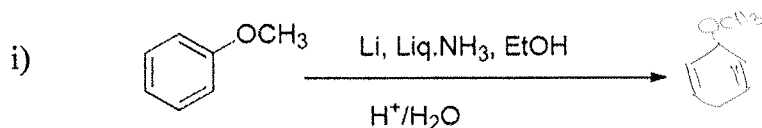
2. a) Draw the mechanism and predict the products for the following reaction. Providing reason/s indicate the most stable product. (10 marks)



- b) Explain why Pyrrole is less basic than Imidazole. (10 marks)

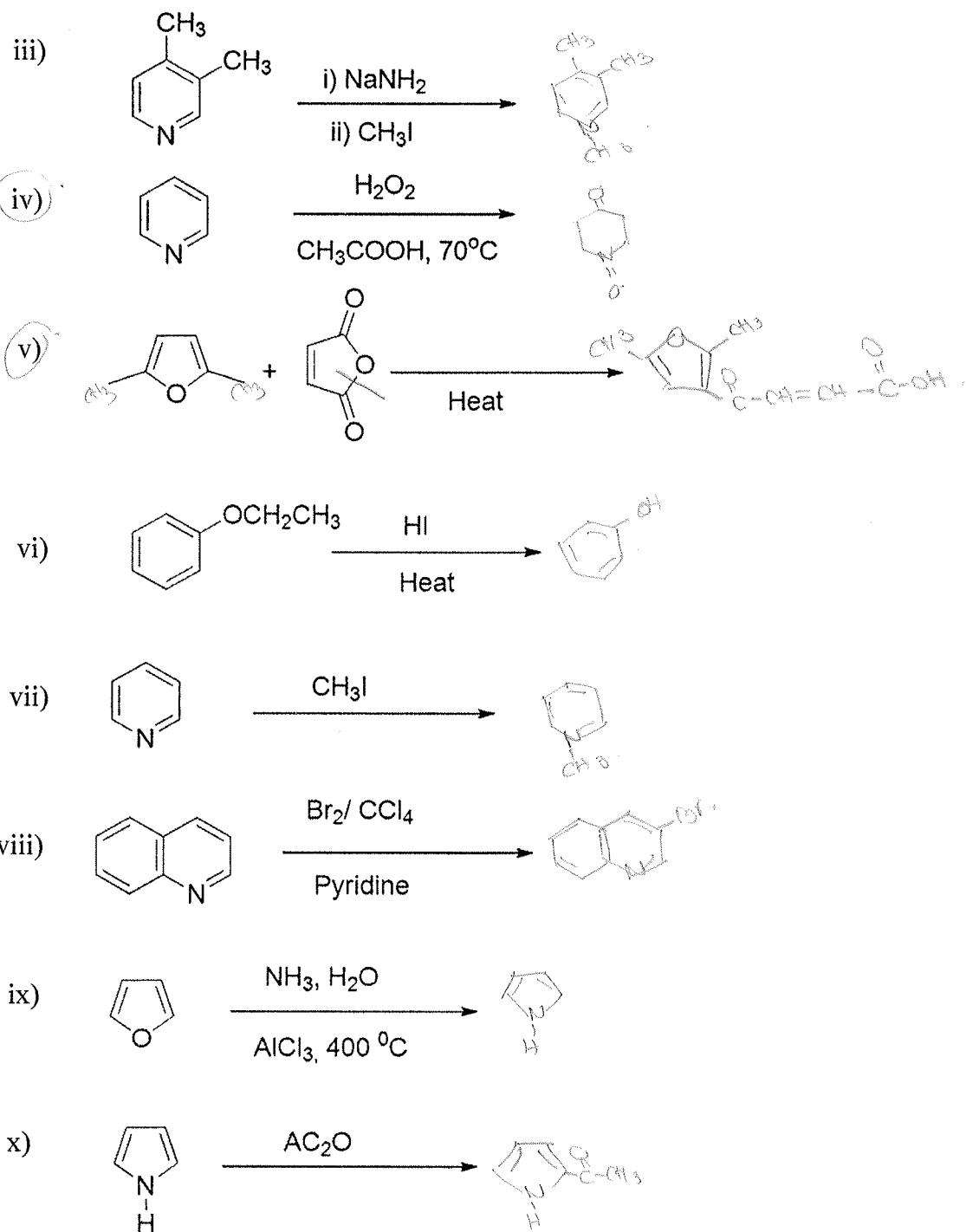


3. a) Give the structures of the major product/s of the following reactions. (10 marks)

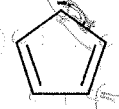
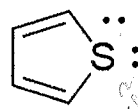
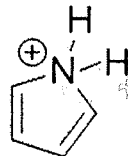
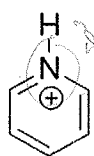


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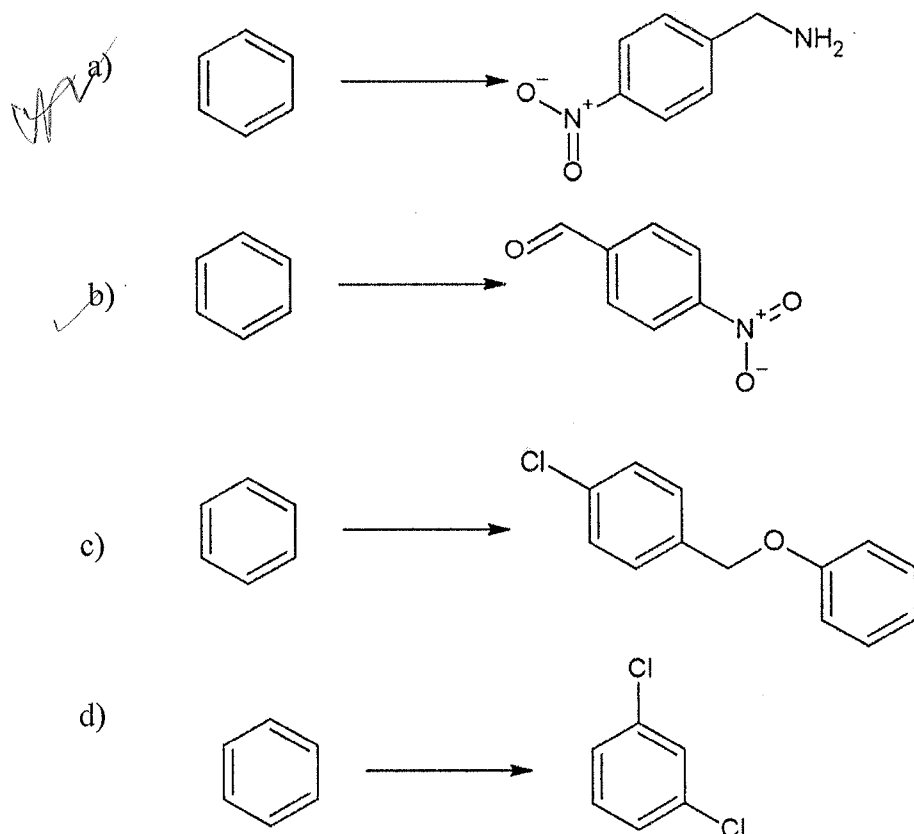




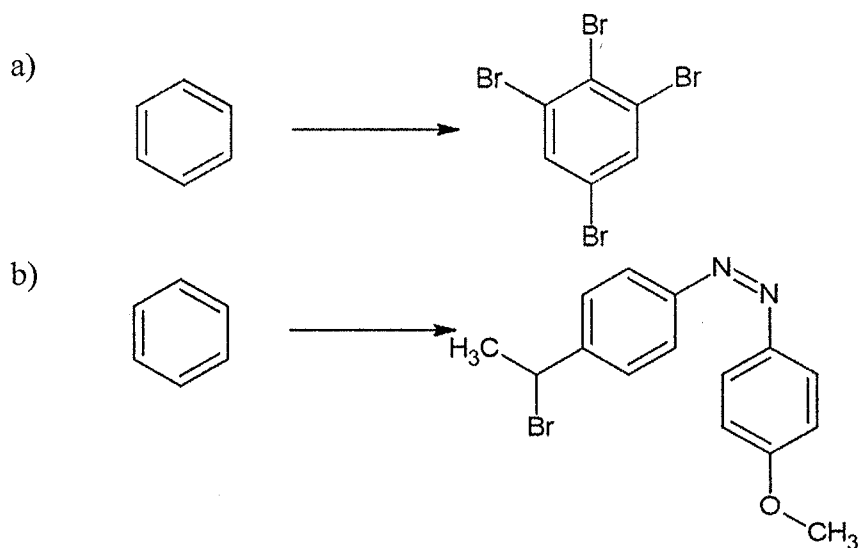
b) Providing reasons describe following structures as aromatic, anti-aromatic or non-aromatic. Assume all the molecules given here are planar. (10 marks)

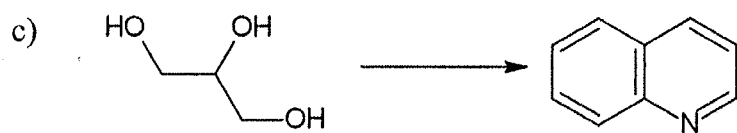


4. Giving necessary reagents and conditions, show how you would carry out the following multistep transformations. (20 marks)



5. Complete following conversions giving necessary reagents and conditions. (20 marks)





27/11/20