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JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2021/2022
YEAR 1 SEMESTER 1 SUPPLEMENTARY/SPECIAL EXAMINATION FOR THE DEGREE
OF MASTER OF SCIENCE IN MEDICINAL CHEMISTRY
TPS 3101: DRUG METABOLISM

DATE: JULY/ AUGUST 2022

TIME: 3 HOURS

INSTRUCTIONS: Answer any **Four (4)** questions: [Each is 25 marks]

1. With reference to specific examples, discuss the role of metabolism in drug action
2. Illustrate plausible metabolism pathways and metabolites for **drug A** whose structure is shown in **Figure 1**

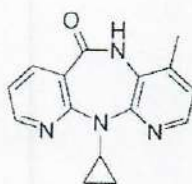


Figure 1: Structure of drug A

3. Propose an experiment to identify the metabolism profile and enzyme inhibition, or enzyme induction, potential of a drug discovery lead compound.
4. Poor metabolic stability is a liability that must be overcome during hit-to-lead generation. Discuss the various strategies of achieving this objective.
5. Describe the impact of genetic polymorphism and drug-drug interactions in the metabolism of drugs.
6. Discuss the influence of physical and chemical properties on the metabolism of potential lead compounds.