

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI

Department of Pharmacy (Pilani Campus)

End Semester Examination

First Semester 2022-2023 (CLOSED BOOK)

PHA G534 – Separation and Structure Elucidation Techniques

Date: 22/12/2022

Duration: 120 Minutes

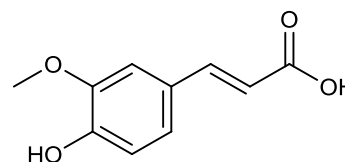
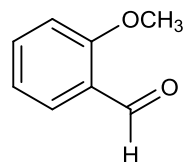
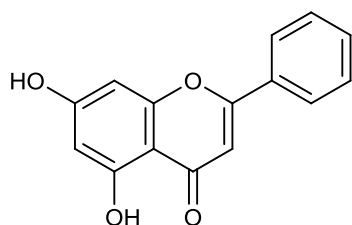
Max. Marks: 60

Instructions:

1. All questions are compulsory
 2. Figures to right in square bracket indicates maximum marks
 3. Write precise answers and use diagram wherever necessary
 4. Marks will be given for correct answers (including spelling) with proper justification
-

1. Explain the factors affecting separations in capillary electrophoresis? [8]

2. Explain the proton splitting patterns for the NMR spectra of following structures [12]

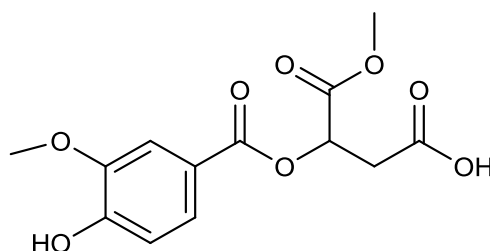


3. Provide at least 4 trouble shooting and their solutions for [8]

i. HPLC

ii. GC-MS

4. Predict the following spectra for the active compound [17]



i. ¹H & ¹³C NMR

ii. DEPT 45, 90 and 135

iii. ¹H-¹H COSY

iv. HSQC

v. HMBC

5. Discuss in brief

[7.5X2= 15]

- i. 3D NMR in structure elucidation
- ii. Super critical chromatography

-----END-----