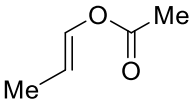
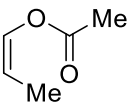
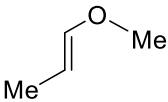
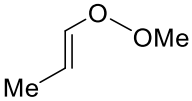


Pharmaceutical Analysis

- QUESTION 1 What is the purpose of a guard column in chromatography?
- Option A To protect the analytical column from sample impurities
- Option B To increase the flow rate of the mobile phase
- Option C To enhance the separation efficiency
- Option D To detect analytes
-
- QUESTION 2 Which of the following molecule will not absorb IR radiation?
- Option A CO
- Option B Cl₂
- Option C COCl₂
- Option D CO₂
-
- QUESTION 3 The order of elution of ions in an ion-exchange chromatography filled with resin with -NH³⁺ groups is:
- Option A H⁺, Ag⁺, Ba²⁺, Al³⁺
- Option B H⁺, Ba²⁺, Al³⁺, Ag⁺,
- Option C H⁺, Ba²⁺, Ag⁺, Al³⁺
- Option D Al³⁺, Ba²⁺, Ag⁺, H⁺,
-
- QUESTION 4 An organic compound Q exhibited the following spectral data obtained by mass spectroscopy.
- IR: 1760 cm⁻¹
- ¹HNMR: chemical reference (ppm): 7.2 (1H, d, 16.0 Hz), 5.1 (1H, m), 2.1 (3H, s), 1.8 (3H, d, J = 7.0 Hz)
- ¹³CNMR chemical reference (ppm): 170 (carbonyl carbon).
- What is compound Q?
- Option A 
- Option B 
- Option C 
- Option D 
-
- QUESTION 5 In NMR spectroscopy, what does the chemical shift of a peak indicate?
- Option A The concentration of the sample
- Option B The number of protons in the molecule
- Option C The magnetic field strength
- Option D The chemical environment of the nuclei