

22 Analysis (spectroscopy) – Part 1 —Answers

Answers

Work through these after trying the questions yourself.

22.1 Wavenumber, in cm^{-1} .

22.2 No —you are given a data table and just match the dips to the bonds.

22.3 An O–H bond (in an alcohol).

22.4 A C=O bond.

22.5 A C=O dip at about 1700 cm^{-1} (and a broad O–H acid dip at $2500\text{--}3000\text{ cm}^{-1}$).

22.6 A carboxylic acid (--COOH). The dip near 1700 cm^{-1} is its C=O bond, and the very broad dip at $2500\text{--}3000\text{ cm}^{-1}$ is the acid's O–H —together they point to a carboxylic acid.