

Spectroscopy

Chemistry

The techniques for determining structure, and what each shows.

What each technique reveals.

Technique	Shows
Mass spectrometry	Molecular mass; fragmentation pattern
Infrared	Functional groups from absorption bands
^1H NMR	Hydrogen environments, ratios and neighbours
^{13}C NMR	Carbon environments
Combined	Full structure determination

IR key bands: O-H acid 2500–3300 broad, C=O 1680–1750 sharp, O-H alcohol 3230–3550. Those three answer most questions.