

FTIR for Biomolecules

Amide Bands

- Amide I ($1600-1700\text{ cm}^{-1}$): C=O stretch, secondary structure sensitive
- Amide II ($1510-1580\text{ cm}^{-1}$): N-H bend, C-N stretch
- α -helix: $1650-1658$ | β -sheet: $1620-1640$, $1680-1690$ | Random: $1640-1650$

Lipid Analysis

C-H stretch $2800-3000\text{ cm}^{-1}$. Membrane fluidity studies.

Spectral Deconvolution

Fourier self-deconvolution resolves overlapping bands.