

Wavenumber (cm <sup>-1</sup> )	Functional group assignment
3289	N-H stretching in Amides (Amide A) of proteins.
2960	C-H antisymmetric stretching vibrations in -CH <sub>3</sub> characteristics of fatty acid chains of membranes and amino acid side-chain.
2927	C-H antisymmetric stretching vibrations in -CH <sub>2</sub> characteristics of fatty acid chains of membranes and amino acid side-chain.
2874	C-H symmetric stretching vibrations in -CH <sub>3</sub>
2855	C-H symmetric stretching vibrations in -CH <sub>2</sub> in fatty acids
1657	Stretching C=O in amides (amide I band) of proteins
1537	N-H bending and C-N stretching in amides (amide II band) of proteins. Asymmetric stretching for deprotonated COO <sup>-</sup> groups
1401	C=O symmetric stretching vibrations of COO <sup>-</sup> functional groups of amino acid side chains or free fatty acids.
1235	Vibrations of C-O in carboxylic groups. Double bond stretching of >P=O of general phosphoryl groups and phosphodiester of nucleic acids.
1062	P=O symmetric stretching in nucleic acids. Stretching vibrations of C-OH, C-O-C and C-C of polysaccharides.