

**Supplementary Table - 1**

Wavenumber (cm <sup>-1</sup> )	Assignment
3328	Amide A: N-H and O-H stretching vibrations of polysaccharides, proteins
3015	Olefin =CH stretching: unsaturated lipids, cholesterol esters
2960	CH <sub>3</sub> asymmetric stretching: mainly lipids with the little contribution from carbohydrates, proteins, nucleic acids.
2920	CH <sub>3</sub> asymmetric stretching: mainly lipids
2875	CH <sub>3</sub> symmetric stretching: protein side chains, lipids
2850	CH <sub>3</sub> symmetric stretching: mainly lipids
1720–1745	C=O stretching vibrations of lipids (triglycerides and cholesterol esters)
1710–1690	C=O asymmetric stretching: RNA and purine base
1705–1690	C=O asymmetric stretching vibrations: RNA, DNA
1654	Amide I: C=O (80%) and C–N (10%) stretching, N–H (10%) bending vibrations: proteins $\alpha$ -helix
1630–1640	Amide I: (80%) and C–N (10%) stretching, N–H (10%) bending vibrations: proteins $\beta$ -structure
1610, 1578	C4-C5 and C=N stretching in imidazole ring of DNA, RNA 1515 Aromatic tyrosine ring
1540–1550	Amide II: N–H (60%) bending and C–N (40%) stretching vibrations: proteins $\alpha$ -helix
1530	Amide II: N–H (60%) bending and C–N (40%) stretching vibrations: proteins $\beta$ -structure
1467	CH <sub>3</sub> bending vibrations: lipids and proteins
1455	CH <sub>3</sub> bending and CH <sub>2</sub> scissoring vibrations: lipids and proteins
1370–1400	COO <sup>-</sup> symmetric stretching and CH <sub>3</sub> bending vibrations: lipids, Proteins
1330–1200	Amide III: proteins
1230–1244	PO <sub>4</sub> <sup>3-</sup> antisymmetric stretching vibrations: RNA, DNA and phospholipids
1090-1080	PO <sub>4</sub> <sup>3-</sup> symmetric stretching vibrations: RNA, DNA
1060, 1050	C–O stretching vibrations: deoxyribose/ribose DNA, RNA
996	RNA stretch and bend ring of uracil
965	PO <sub>4</sub> <sup>3-</sup> symmetric stretch (DNA) and deoxyribose-phosphate skeletal motions