

Supplement

Table S1 Characteristic major Raman peaks for the noncancerous, the cancerous human breast tissues and unsaturated fatty acids their tentative assignments.

Wavenumber / cm ⁻¹				Tentative assignments
Noncancerous tissue	Cancerous tissue	Unsaturated fatty acids		
		Oleic acid	Linoleic acid	
-	1004	-	-	Phenylalanine ring br. of proteins
1080	1080	1085	1082	O-P-O sym. str./C-C str.
-	1158	-	-	Carotenoids C-C coupled with C-CH ₃
1240	1240, 1290	-	--	Nucleic Acids (T, A), DNA/RNA/Proteins (Amide III)/Lipid, phospholipid (=C-H)
1304	-	1304	1304	Lipids, phospholipids (C-H ₂) tw.
1444	1454	1444	1444	CH ₂ , CH ₃ deformation/lipids/proteins C-H wag.
1518	-	-	-	Carotenoids C=C
1660	-	1660	1660	Proteins Amide I/ Unsaturated fatty acids α helix, (C=O) str., (C-H) def./(C=C) str.
-	1670	-	-	Proteins, Amide I, β -sheet
1750	-	-	-	C=O
2854	-	2854	2854	Lipids/Fatty acids (=CH ₂) sym. str.
2874	-	2874	2874	(-CH ₂)sym. str
2888	-	2891	2885	Lipids/Fatty acids (=CH ₂) antisym. str.
	2940	2920	2929	Lipids/Proteins (CH ₃) sym. str.
3009		3007	3010	Lipids/Fatty acids (=C-H) str.