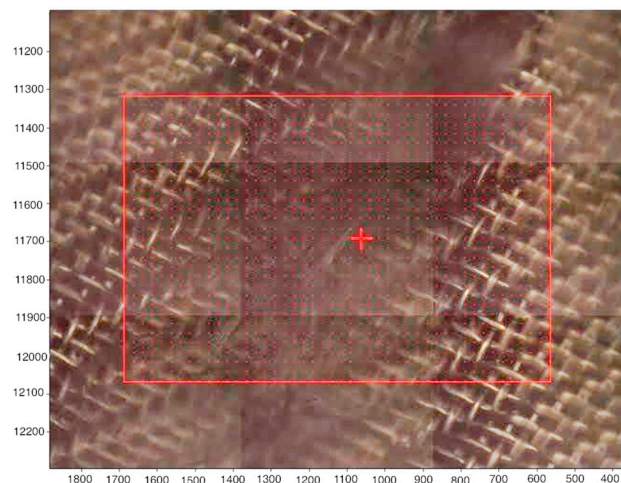


Table A1: Vibration band assignment for collected and analyzed samples

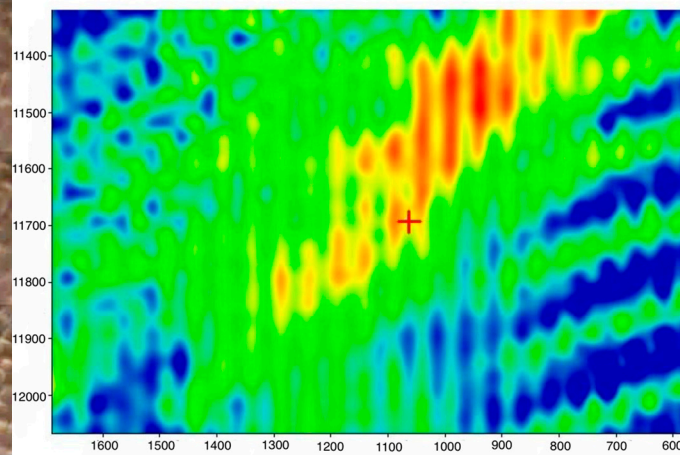
Vibration band assignment	C=O stretching (saturated esters)	Aromatic ring vibration	C <sup>α</sup> -C-O asymmetric stretching (aromatic esters)	O-C'-C'' aromatic ester stretching	O=C-O-C' stretching	C=C stretching	C-H vibration in aromatic ring
Reference	[21]	[22]	[21]	[21]	[22]	[22]	[22]
Wavenumber [cm <sup>-1</sup> ]	1750-1735	1409	1310-1250	1100	1021	967	869
material_1_plain	1738	1414	1307	1141	1026	975	876
alpha_a1	1736	1415	1309	1108	1026	975	875
alpha_a1_cluster	1730	1414	1303	1109	1026	975	880
alpha_a1_sc	1736	1411	1290	1114	1016	971	873
alpha_b1	1721	1411	1305	1123	1019	974	864
beta_a1	1730	1409	1334 [w]/1299 [s]	1125	1026	971	872
beta_a1_2	1733	1408	1341 [w]/1293 [s]	1100	1022	971	870
gamma_b1	1734	1414	1334	1145	1022	975	872
material_2_plain	1742	1417	1303	1141	1026	975	876
alpha_a2	1730	1411	1344 [w]/1290[s]	1132	1025	974	848
alpha_a2_1	1730	1408	1341	1135	1016	971	873
alpha_a2_2	1730	1411	1338[w]/1284[s]	1107	1025	977	873
beta_a2	1738	1414	1342 [w]/1299[s]	1141	1026	975	872
gamma_a2	1730	1410	1340	1093	1020	977	877
material_3_plain	1734	1414	1307	1145	1026	-	880
alpha_a3	1738	1414	1303	1137	1026	979	876
alpha_b3	1742	1417	1346[w]/1307[s]	1141	1026	979[w]	876
alpha_c3	1734	1413	1303[s]	1133	1022	-	876
gamma_a3	1742	1417	1342[w]/1299[s]	1141	1026	975	876



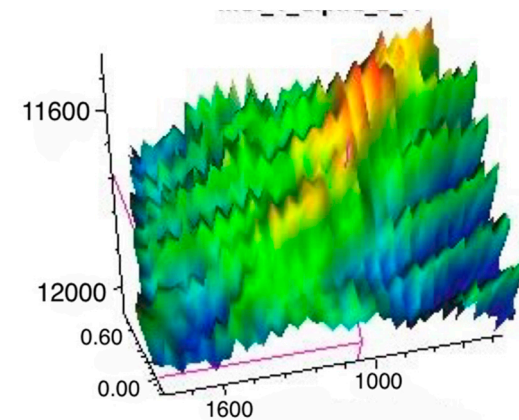
Figure S1: The folded envelope of filter used in conducted experiment



(a)

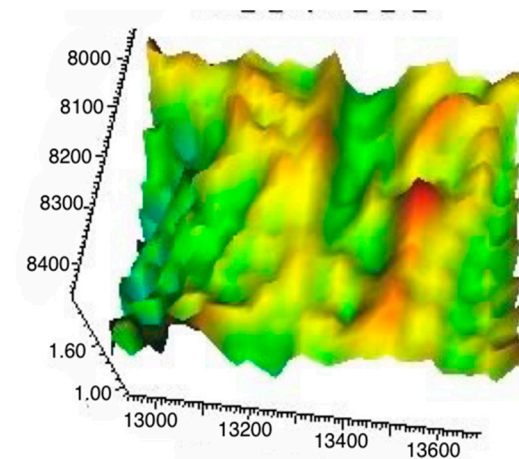
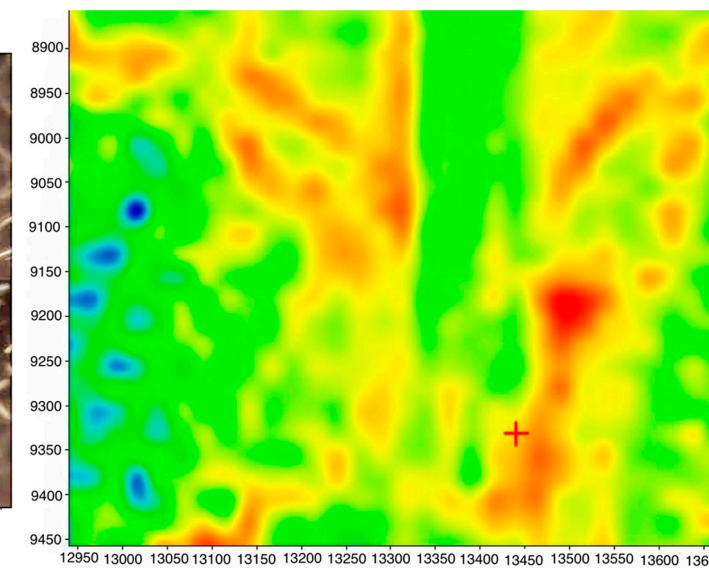
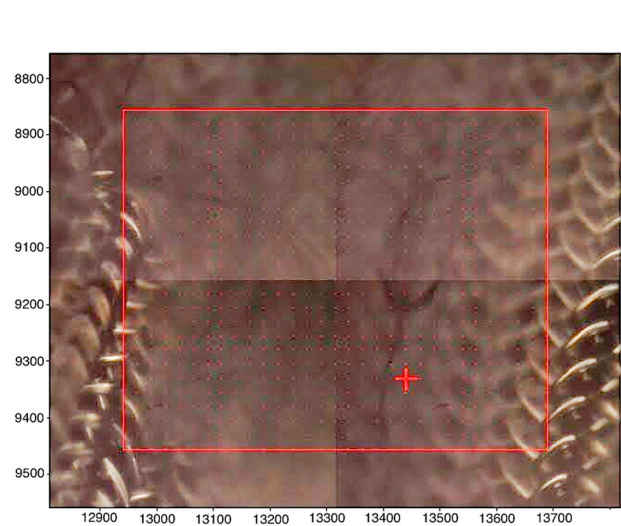


(b)



(c)

Figure S2: Images taken from sample alpha\_a1\_cluster (scale in micrometers): (a) microscopic photo, (b) 2D map, (c) 3D map

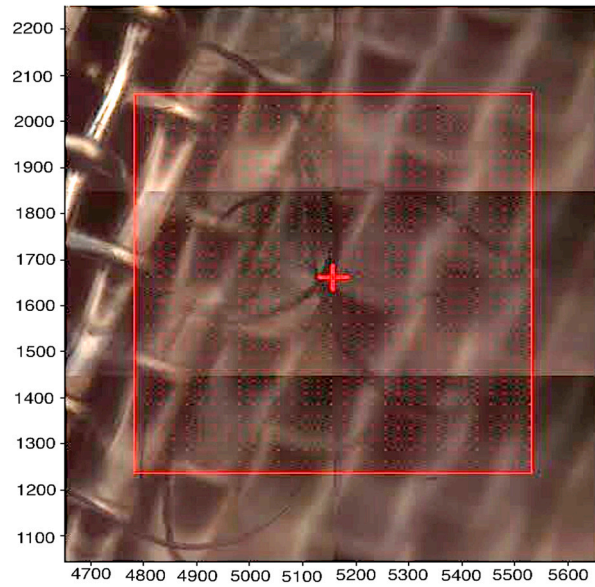


(a)

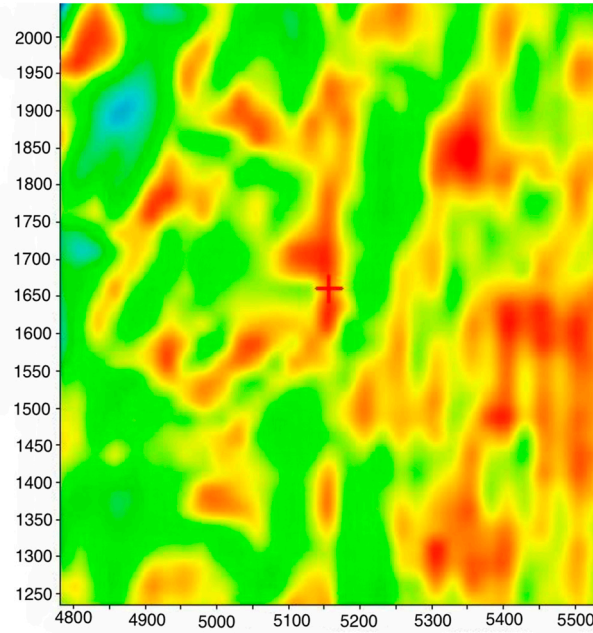
(b)

(c)

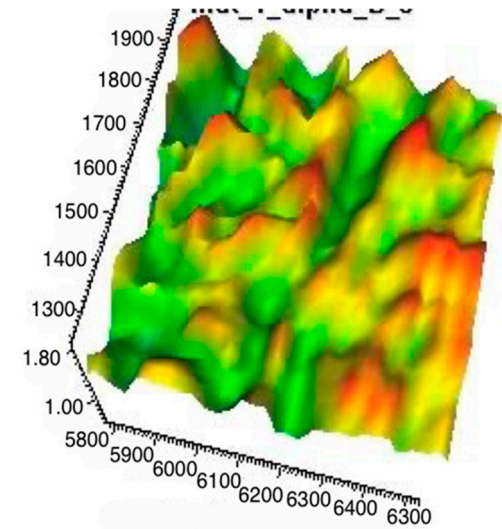
Figure S3: Images taken from sample alpha\_a1\_sc (scale in micrometers): (a) microscopic photo, (b) 2D map, (c) 3D map



(a)



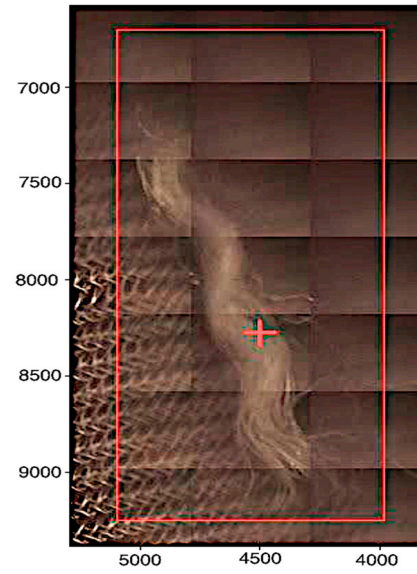
(b)



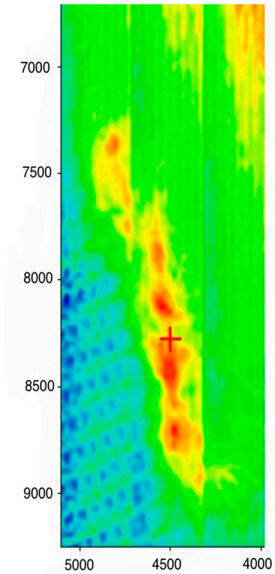
(c)

Figure S4: Images taken from sample alpha\_b1 (scale in micrometers): (a) microscopic photo, (b) 2D map, (c) 3D map

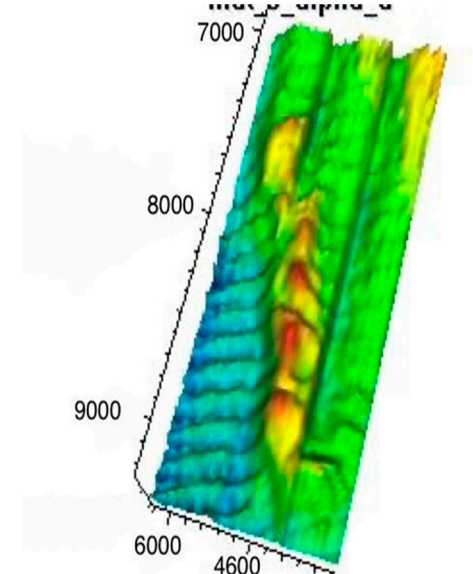




(a)

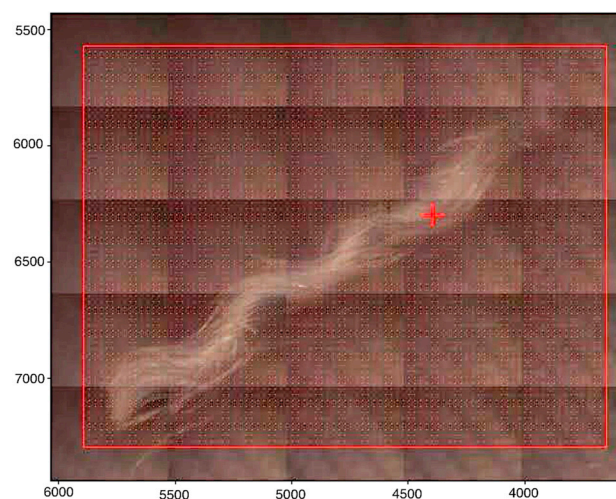


(b)

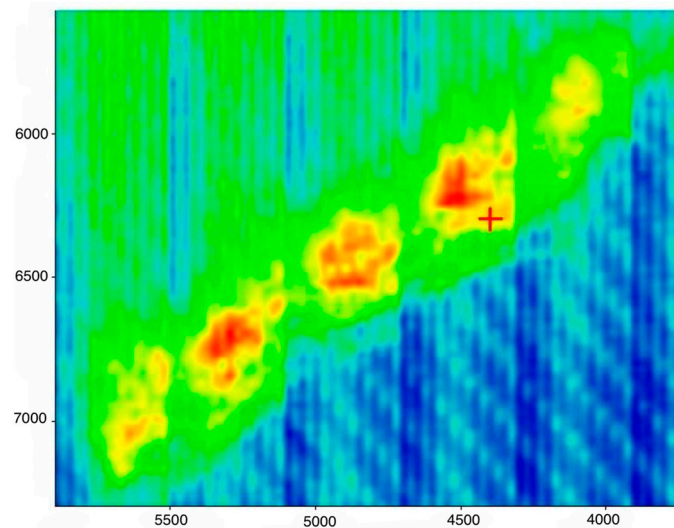


(c)

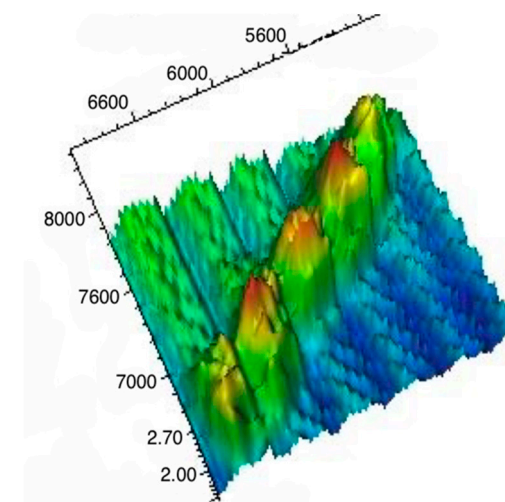
Figure S5: Images taken from sample alpha\_a3 (scale in micrometers): (a) microscopic photo, (b) 2D map, (c) 3D map



(a)



(b)



(c)

Figure S6: Images taken from sample gamma\_a3 (scale in micrometers): (a) microscopic photo, (b) 2D map, (c) 3D map

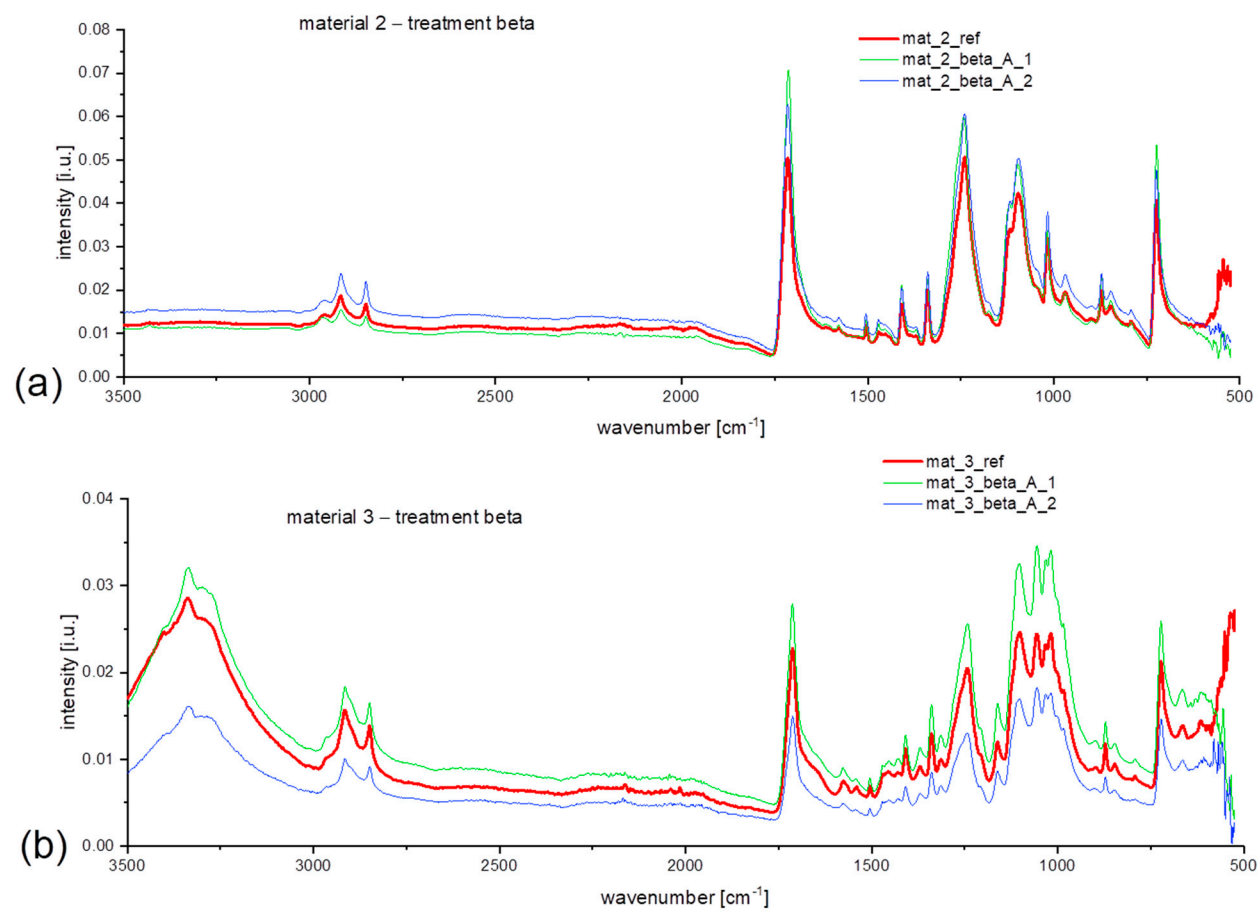


Figure S7: ATR spectra for (a) material 2, treatment beta, (b) material 3, treatment beta