Table S1. Positions of the absorption bands maxima (2016) with the assignment to the respective vibrations for rapeseed oil after nanosilver and nanocopper treatment, spectral range 590–4000 cm^{-1}.

FTIR					Type and origin of vibrations
Maximum [cm^{-1}]					
Control	(O) AgNC	(O) CuNC	(N/O) AgNC	(N/O) CuNC	
3477	3472	3476	3479	3476	-C=O$_w$ (overtone) and ν(=C-H$_{vw}$, *trans-*)
3007	3007	3008	3008	3008	ν(=C-H$_m$, *cis-*)
2952	2954	2952	2954	2955	ν_{as}(-C-H$_{vst}$, -CH$_a$)
2924	2922	2922	2922	2923	and
2853	2852	2853	2853	2853	ν_s(-C-H$_{vst}$, -CH$_a$) (aliphatic groups in triglycerides)
2679	2680	2680	2680	2681	-C=O$_{vw}$ (Fermi resonance)
1743	1743	1744	1743	1743	ν(-C=O$_{vst}$) in esters
1712	1710	1710	1710	1710	ν(-C=O$_{vw}$) in acids
1655	1655	1654	1655	1654	ν_{vw}(-C=C-, *cis-*)
1462	1461	1460	1462	1463	δ_{vw}(-C-H) in CH_2 and CH_3 groups, deformation (scissor)
1417	1416	1418	1417	1418	ν_{vw}(-C-H, *cis-*) deformation (wagging)
1400	1401	1400	1400	1400	
1377	1375	1377	1377	1377	$\nu_{w, m, vw}$(-C-H, -CH_3) and deformation
1350	1352	1353	1352	1351	
1320	1320	1320	1320	1320	δ_m(-C-H, -CH_3)
1238	1237	1237	1236	1237	ν_m(-C-O) or δ_m(-CH_2-)
1159	1160	1160	1161	1161	ν_{st}(-C-O) or δ_{st}(-CH_2-)
1119	1120	1120	1121	1120	ν_m(-C-O)
1096	1097	1097	1097	1096	$\nu_{m,vw}$(-C-O)
1029	1030	1030	1030	1031	
966	968	966	964	966	δ_w(-HC=CH-, *trans-*) out-of-plane deformation
914	913	914	912	912	
868	868	868	868	866	δ_{vw}(-HC=CH-, *cis-*) out-of-plane deformation
852	856	852	850	850	δ(-(CH_2)$_n$- and –HC=CH- (*cis-*) deformation (wagging)
722	721	722	723	721	

ν – stretching, δ – deformation, s – symmetric, as – asymmetric, st – strong, vst – very strong, w – weak (Guillén and Cabo 1997; Guillén and Cabo 1999; Yang et al. 2005; Vlachos et al. 2006; Lerma-García et al. 2010; Rohman and Man 2010) [1–6].

Table S2. Positions of the absorption bands maxima (2017) with the assignment to the respective vibrations for rapeseed oil after nanosilver and nanocopper treatment, spectral range 590–4000 cm^{-1}.

FTIR					Type and origin of vibrations
Maximum [cm^{-1}]					
Control	(O) AgNC	(O) CuNC	(N/O) AgNC	(N/O) CuNC	
3485	3489	3490	3488	3490	-C=O$_w$ (overtone) and ν(=C-H$_{vw}$, *trans-*)
3007	3012	3009	3007	3012	ν(=C-H$_m$, *cis-*)
2952	2954	2958	2956	2954	ν_{as}(-C-H$_{vst}$, -CH$_a$)
2921	2922	2927	2921	2923	and
2852	2849	2857	2855	2857	ν_s(-C-H$_{vst}$, -CH$_a$) (aliphatic groups in triglycerides)
2673	2682	2679	2681	2670	-C=O$_{vw}$ (Fermi resonance)
1742	1742	1743	1744	1745	ν(-C=O$_{vst}$) in esters
1713	1712	1713	1711	1712	ν(-C=O$_{vw}$) in acids
1657	1657	1653	1656	1655	ν_{vw}(-C=C-, *cis-*)
1458	1463	1462	1463	1464	δ_{vw}(-C-H) in CH_2 and CH_3 groups, deformation (scissor)
1416	1419	1419	1417	1414	ν_{vw}(-C-H, *cis-*) deformation (wagging)
1400	1401	1400	1400	1400	
1380	1374	1377	1375	1374	$\nu_{w, m, vw}$(-C-H, -CH_3) and deformation
1357	1355	1353	1356	1355	
1320	1320	1320	1320	1320	δ_m(-C-H, -CH_3)
1241	1239	1238	1241	1235	ν_m(-C-O) or δ_m(-CH_2-)
1163	1164	1160	1161	1164	ν_{st}(-C-O) or δ_{st}(-CH_2-) or C-O-Cu
1123	1121	1117	1118	1121	ν_m(-C-O)
1101	1102	1096	1099	1098	$\nu_{m,vw}$(-C-O)
1033	1029	1028	1026	1029	
967	963	961	962	963	δ_w(-HC=CH-, *trans-*) out-of-plane deformation
908	913	914	912	915	
865	868	862	868	866	δ_{vw}(-HC=CH-, *cis-*) out-of-plane deformation
852	-	852	-	857	
-	840	-	841	-	Cu-O
724	722	721	717	725	δ(-(CH_2)$_n$- and –HC=CH- (*cis-*) deformation (scissor)

ν – stretching, δ – deformation, s – symmetric, as – asymmetric, st – strong, vst – very strong, w – weak.

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