

Table 2S. Assignments of the different peaks of the ^1H NMR spectra of purified TAG compounds.

Chemical shift attributions of ^1H NMR signals indicated in Figure S7. Abbreviations: s, singlet; d, doublet; dd, doublet of doublets; t, triplet; m, multiplet.

Peak Name (agree with figure)	Chemical Shift, δ (ppm)	Peak multiplicity	Assigned number of H's	Proton-Functional group
a/a'	0.89/0.88	t	9	$-\text{CH}_3 \rightarrow$ (terminal methyl protons of saturated and unsaturated chains)
b'	1.25	Broad signal	~70	$-\text{CH}_2-$ \rightarrow (Protons of methylene envelop)
c/c'	1.59/1.57	m	6	$-\text{COO}-\text{CH}_2-\text{CH}_2-$ \rightarrow (H-3 protons of acyl moieties in triacylglycerols) $\text{H}_2\text{O} \rightarrow$ (residual molecules)
d'	2.01	m	4	$=\text{C}-\text{CH}_2-$ \rightarrow (allylic methylenes)
e/e'	2.25/2.31	t	6	$\text{COO}-\text{CH}_2-$ \rightarrow (H-2 protons of acyl moieties in triacylglycerols)
f/f'	4.10/4.14	dd	2	$-\text{CH}_2-\text{OR} \rightarrow$ (H-1 and H-3 protons of glycerol, the assignments are interchangeable)
g/g'	4.25/4.29	dd	2	
h/h'	5.23/5.26	m	1	$>\text{CH}-\text{OR} \rightarrow$ (H-2 of the glycerol backbone)
i'	5.35	t	2	$=\text{CH}- \rightarrow$ (olefinic protons of unsaturated FA)