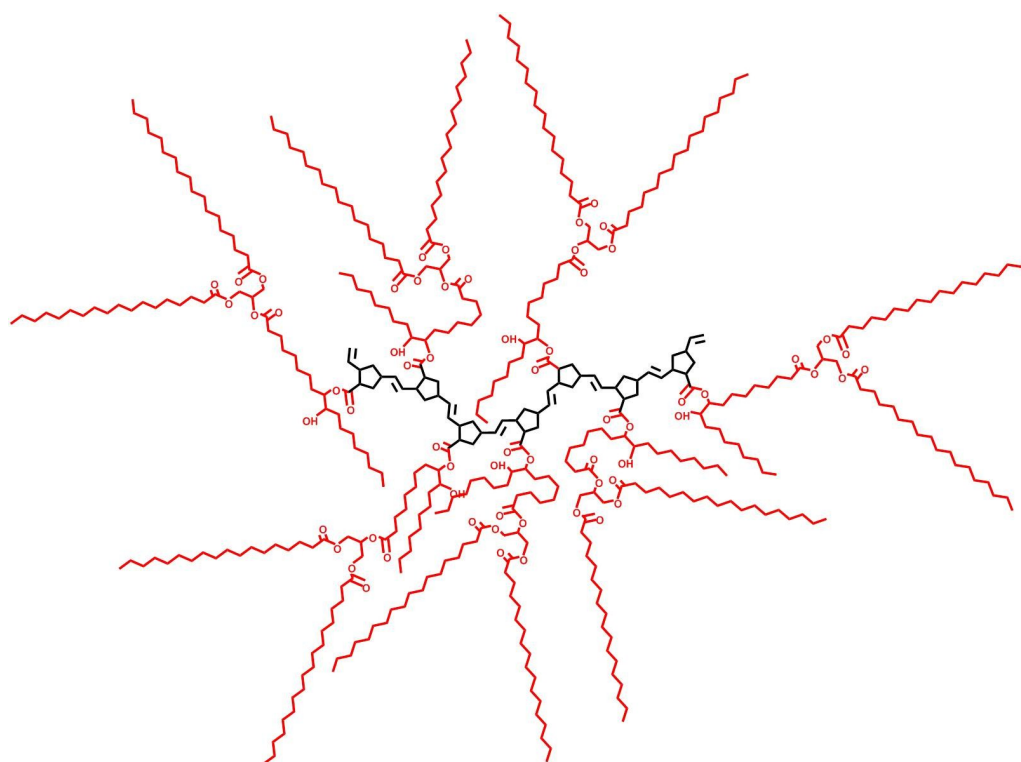
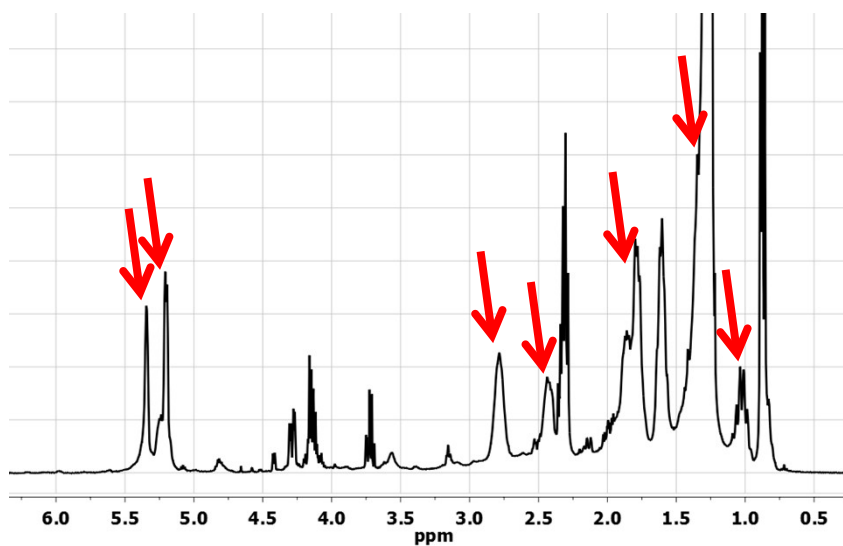


### Supplementary data



**Fig. S1.** Expected structure for homo-polyNPO, illustrating the large steric hindrance in the triglyceride molecule with only one NBE unit.

Soluble fractions from the swelling tests were characterized using  $^1\text{H}$ NMR. Highlighted peaks on the Fig. S2 are attributed to *cis* and *trans* polyNBE and the remaining signals are related to the NPO structure. Integrating the area under some signals, was possible to quantify this two main components (NPO and polyNBE). This calculus is only an estimative since its not well defined the baseline in the specter. For the polyNBE were used the signals between 2.35 to 2.50, 2.70 to 2.90 and 5.10 to 5.50 ppm. For NPO were used the signals between 4.00 to 4.40. From this values and using the respective molar mass of polyNBE and NPO, the mass compositions were determined for each soluble fraction.



**Fig. S2.**  $^1\text{H}$ -NMR spectrum of the residual solutions containing the soluble components in  $\text{CDCl}_3$ . Arrows highlight the peaks of the polyNBE (*cis* and *trans*). The remaining signals are correlated with NPO monomer.