

Supporting information

Self-assembly of bilayer vesicles made of saturated long chain fatty acids

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S.I.1: additional phase diagrams

Partial phase diagrams were also realized in the systems glycerol-1-myristate/MyNaGu (Fig. S.I.1A) and 1-tetradecanol/StNaGu (Fig. S.I.1B).

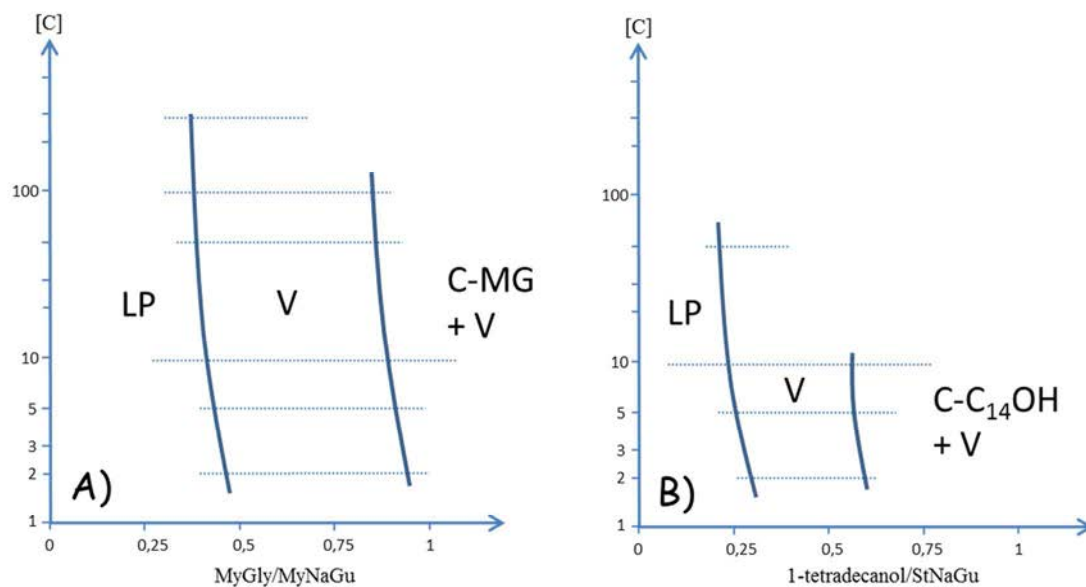


Figure S.I.1: Additional phase diagrams in the systems glycerol-1-myristate/MyNaGu (A) and 1-tetradecanol/StNaGu (B) as a function of the molar ratio and the sLCFA concentration at pH 9.5. V=vesicle domain, LP=lamellar phase, C-MG= glycerol-1-myristate crystals, C-C₁₄OH= 1-tetradecanol crystals.

S.I.2: Simulation of NMR spectra.

As commented in the main text, NMR spectra shown figure 3B were simulated using a homemade software. Simulations are shown here in the systems 1-decanol/MyNaGu (molar ratio 0.7/1/1/1) at pH 9.5 at 10°C (A) and 25°C (B) and in the system Cholesterol/MyNaGu (molar ratio 1/1/1/1) at pH 9.5 at 25°C. The set of quadrupolar splittings used for the simulation is further used to plot the order profile, *i.e.*, the variation of the quadrupolar splittings as a function of the labeled carbon position.

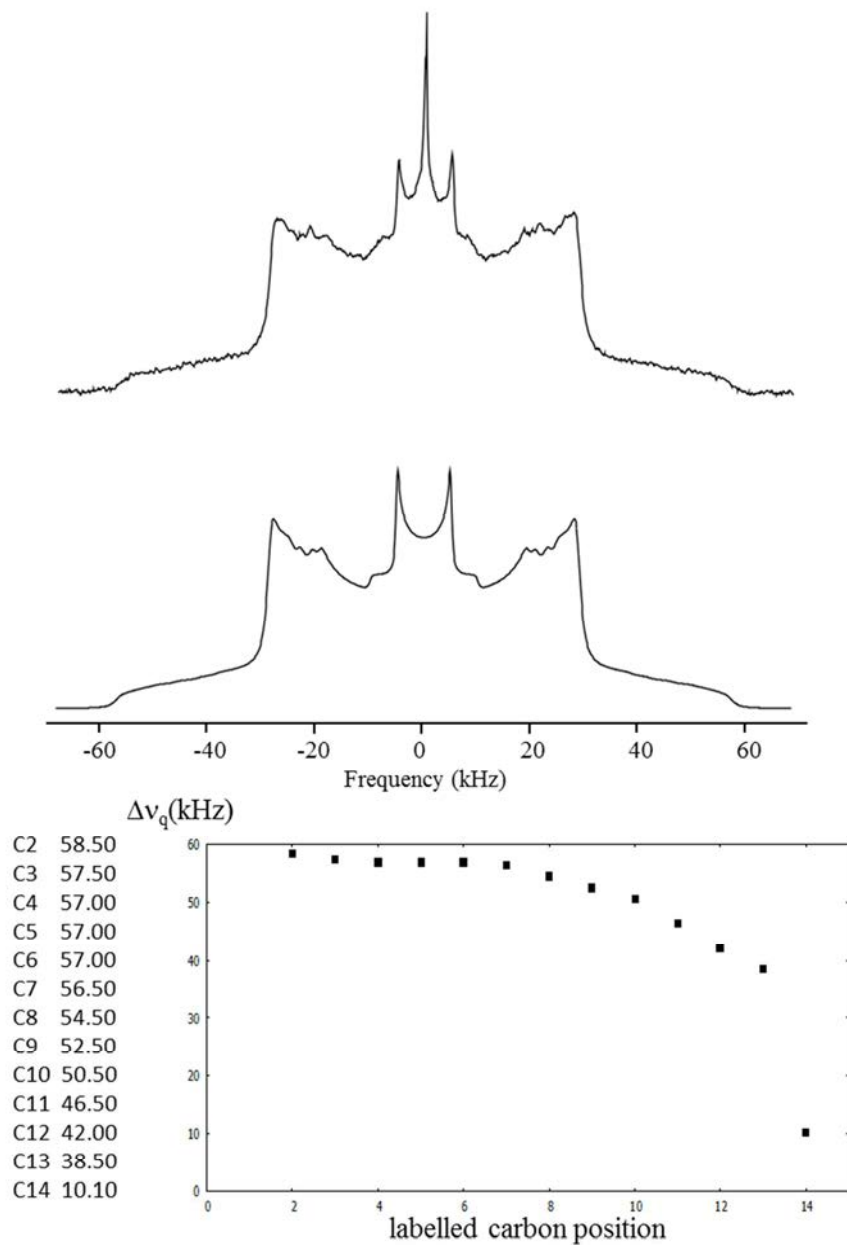


Figure S.I.2A: Experimental (top) and simulated spectra (middle) in the system 1-decanol/MyNaGu (molar ratio 0.7/1/1/1) at pH 9.5 at 10°C. Bottom: order profile as obtained from the simulated data, the set of data used is also shown (bottom-left).

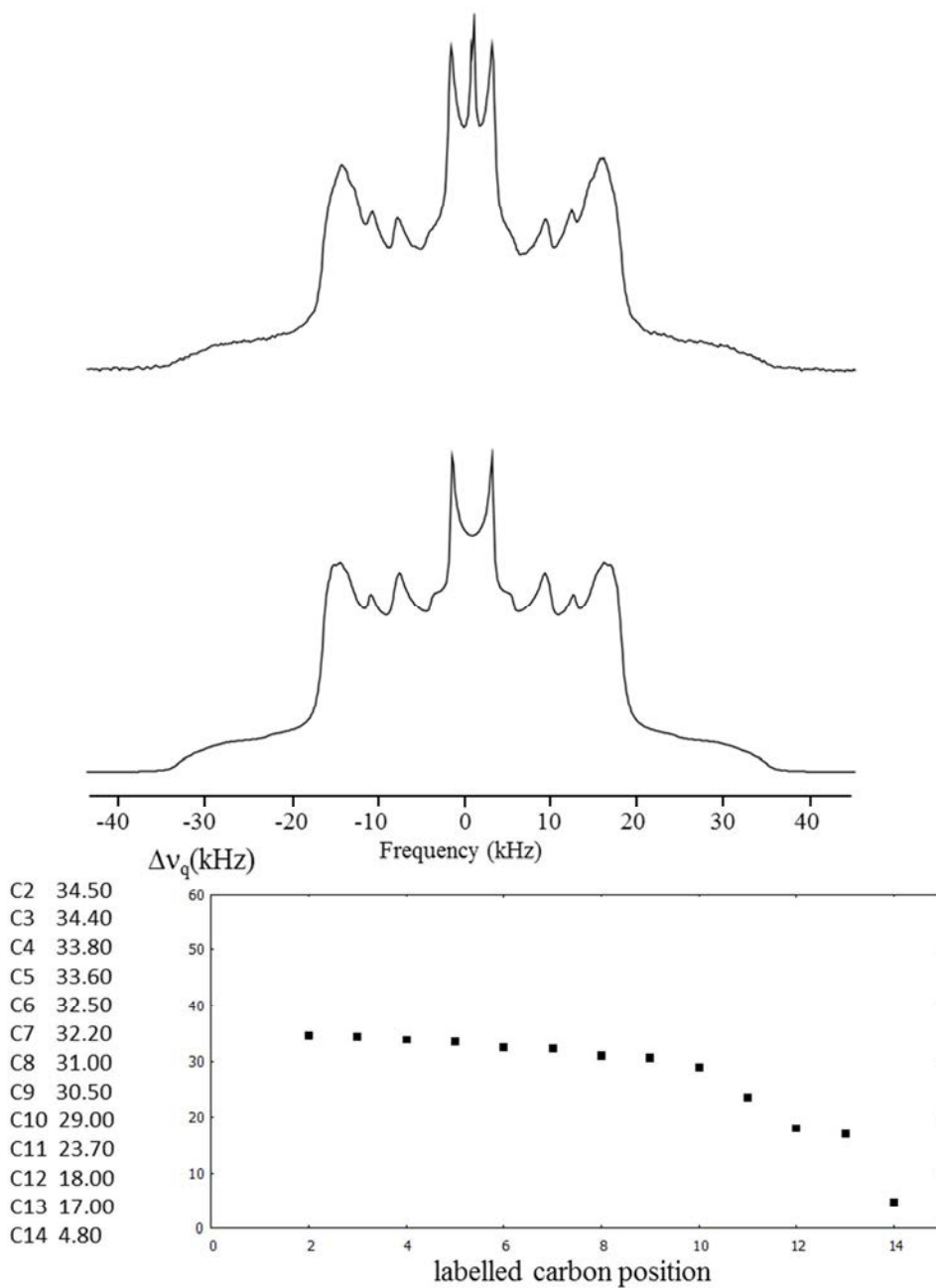


Figure S.I.2B: Experimental (top) and simulated spectra (middle) in the system 1-decanol/MyNaGu (molar ratio 0.7/1/1/1) at pH 9.5 at 25°C. Bottom: order profile as obtained from the simulated data, the set of data used is also shown (bottom-left).

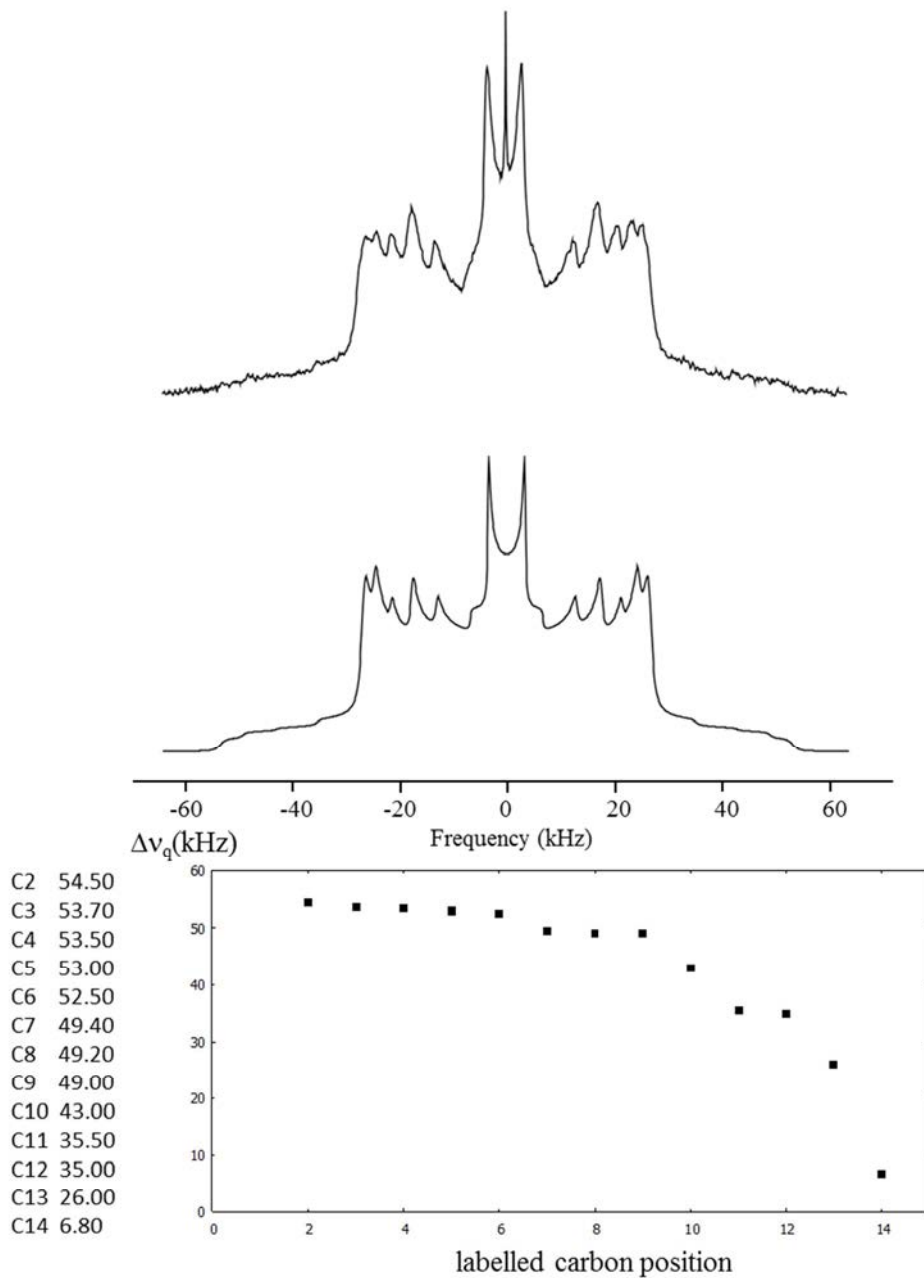


Figure S.I.2C: Experimental (top) and simulated spectra (middle) in the system Cholesterol/MyNaGu (molar ratio 1/1/1/1) at pH 9.5 at 25°C. Bottom: order profile as obtained from the simulated data, the set of data used is also shown (bottom-left).