

Supporting Information for

Hydrogenated diglucose detergents for membrane-protein extraction and stabilization

Pierre Guillet,^{a,b} Florian Mahler,^c Kelly Garnier,^{b,e} Gildas Nyame Mendendy Boussambe,^{a,b} Sébastien Igonet,^{b,e} Carolyn Vargas,^c Christine Ebel,^d Marine Soulié,^{a,b} Sandro Keller,^{c*} Anass Jawhari,^{b,e*} Grégory Durand^{a,b*}

^aInstitut des Biomolécules Max Mousseron (UMR 5247 UM-CNRS-ENSCM) & Avignon University, Equipe Chimie Bioorganique et Systèmes amphiphiles, 301 rue Baruch de Spinoza – 84916 AVIGNON cedex 9 (France) ;

^bCHEM2STAB, 301 rue Baruch de Spinoza – 84916 AVIGNON cedex 9 (France) ;

^cMolecular Biophysics, Technische Universität Kaiserslautern (TUK), Erwin-Schrödinger-Str. 13, 67663 Kaiserslautern, Germany ;

^dUniv. Grenoble Alpes, CNRS, CEA, CNRS, IBS, F-38000 Grenoble ;

^eCALIXAR, 60 Avenue Rockefeller – 69008 Lyon (France).

Corresponding Authors. Grégory Durand. *E-mail:* gregory.durand@univ-avignon.fr ; *Phone:* +33 (0)4 9014 4445. Anass Jawhari. *E-mail :* ajawhari@calixar.com; *Phone :* +33 (0)4 81 07 64 63 ; Sandro Keller. *E-mail :* mail@sandrokeller.com; *Phone :* +49 631 205 4608.

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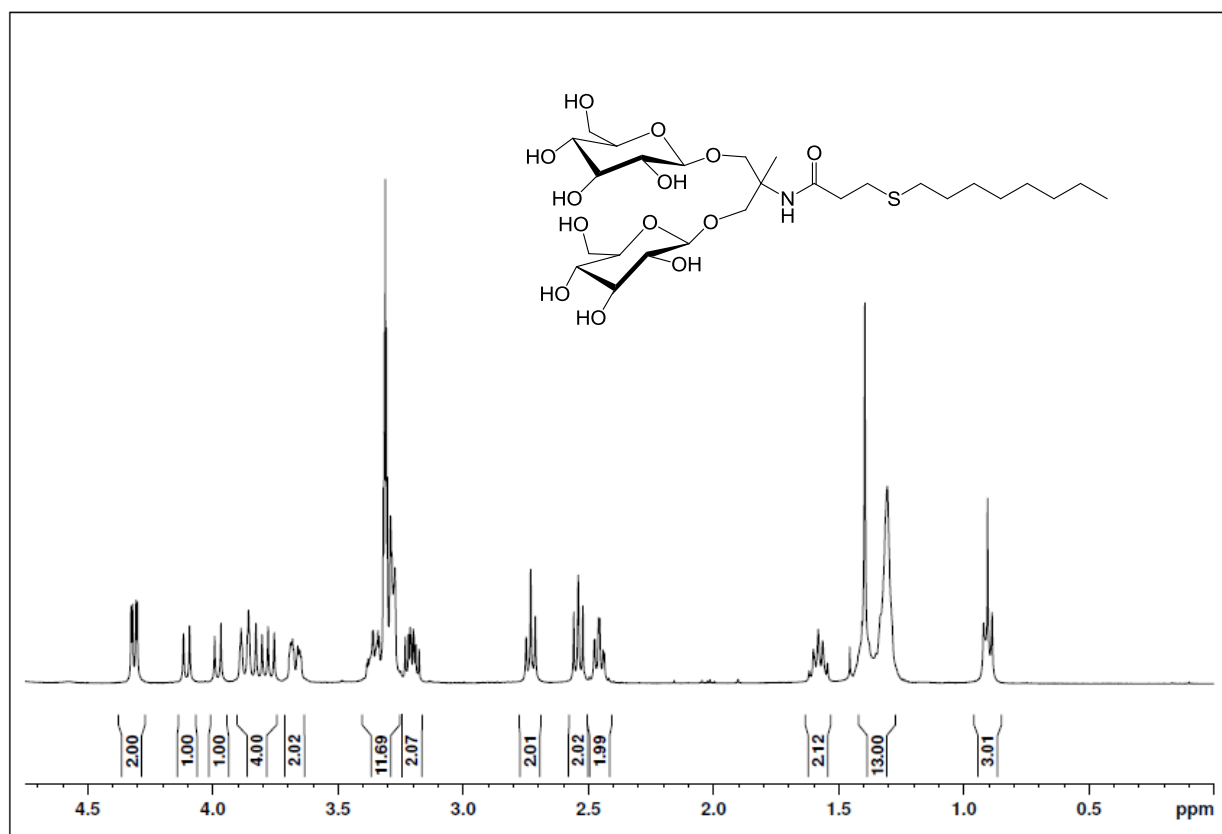


Figure S1. ^1H NMR spectrum of **ODG** in CD_3OD

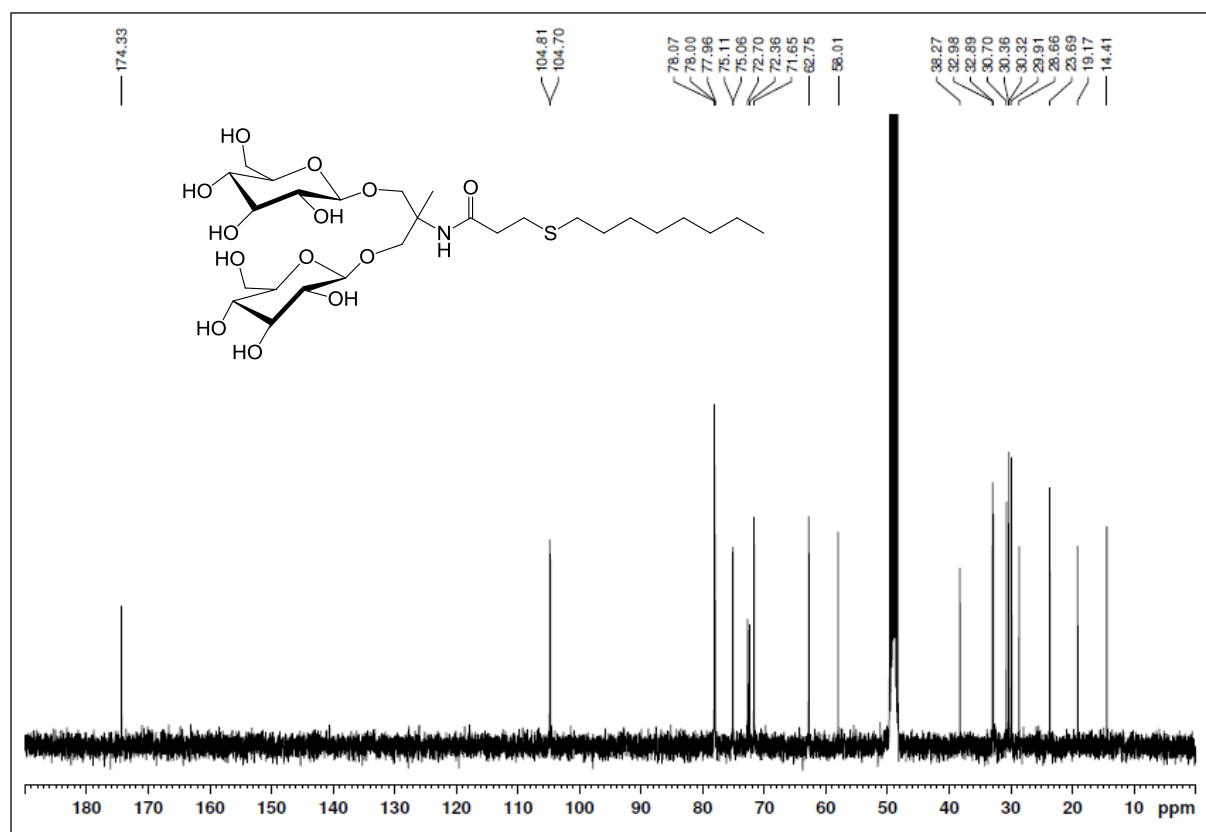


Figure S2. ^{13}C NMR spectrum of **ODG** in CD_3OD

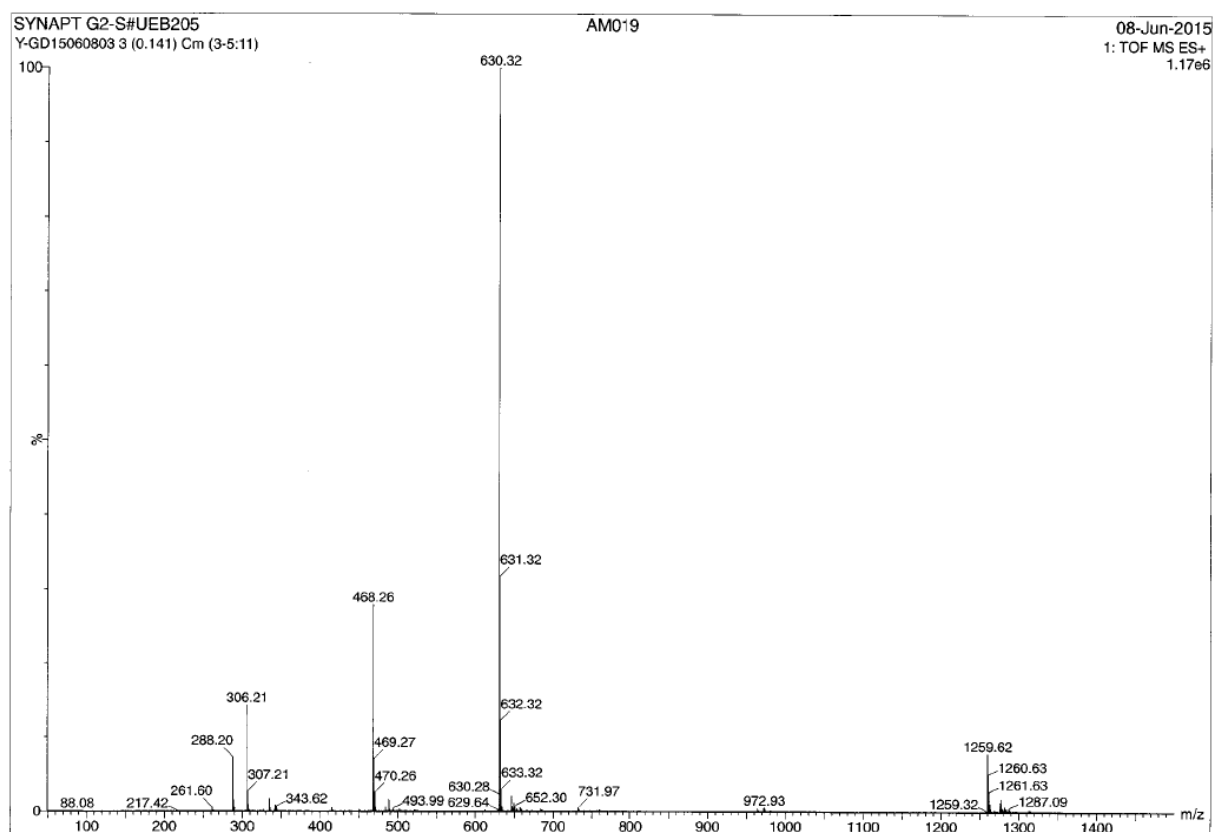


Figure S3 Mass spectrum of **ODG**

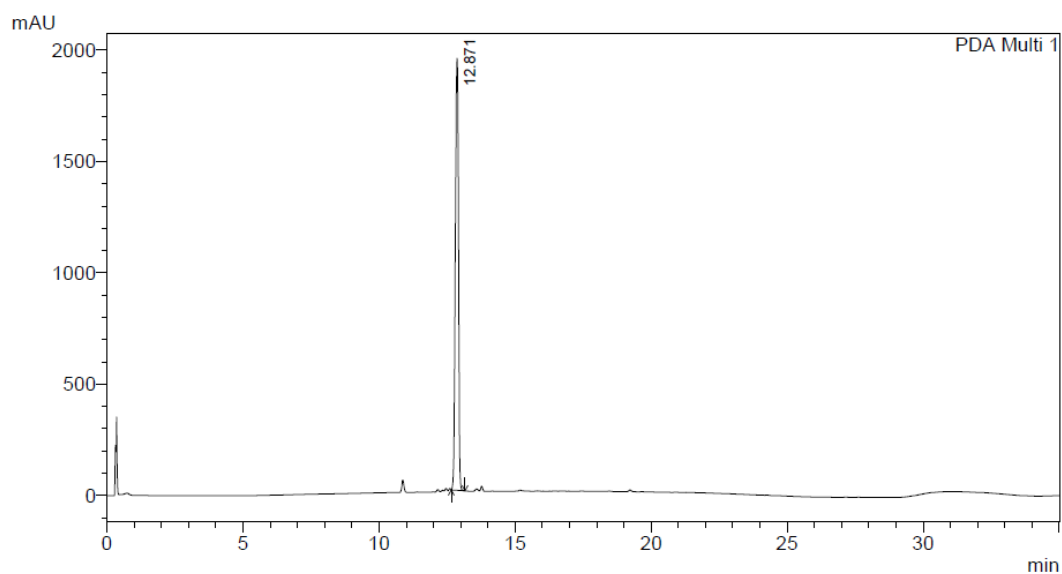


Figure S4 HPLC chromatogram of **ODG** at 214 nm.

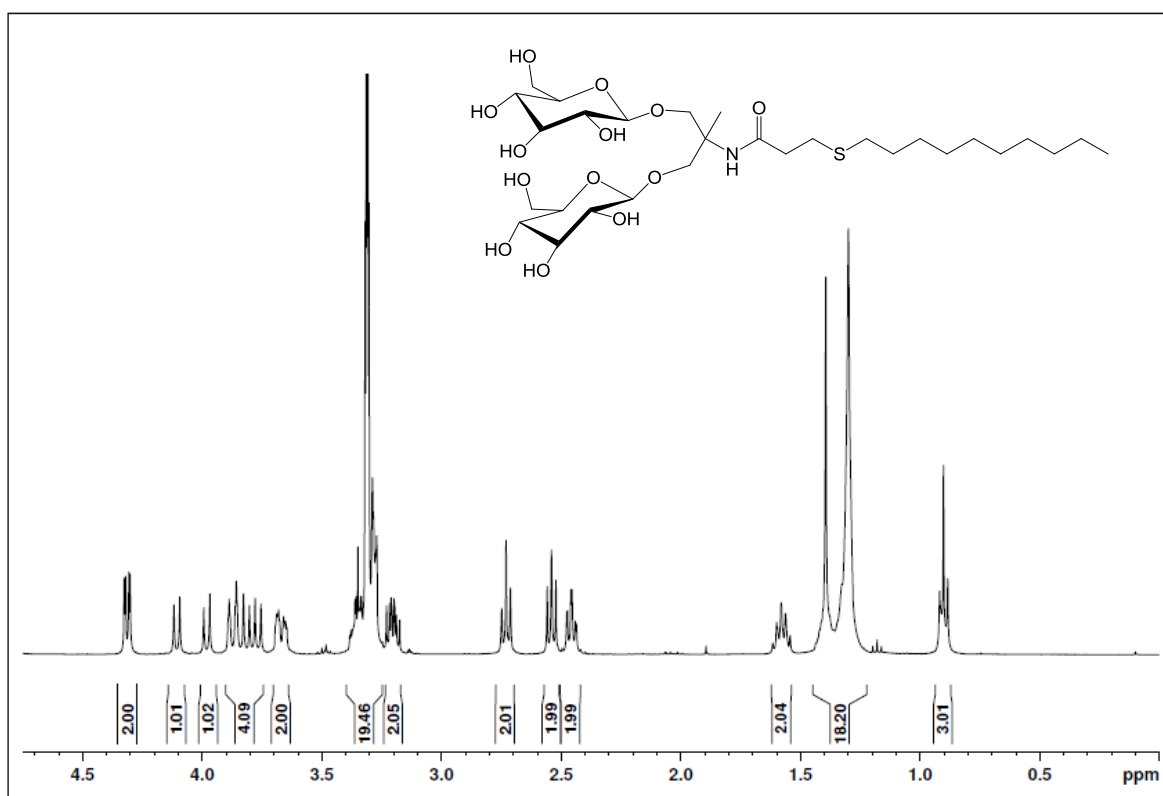


Figure S5. ^1H NMR spectrum of DDG in CD_3OD

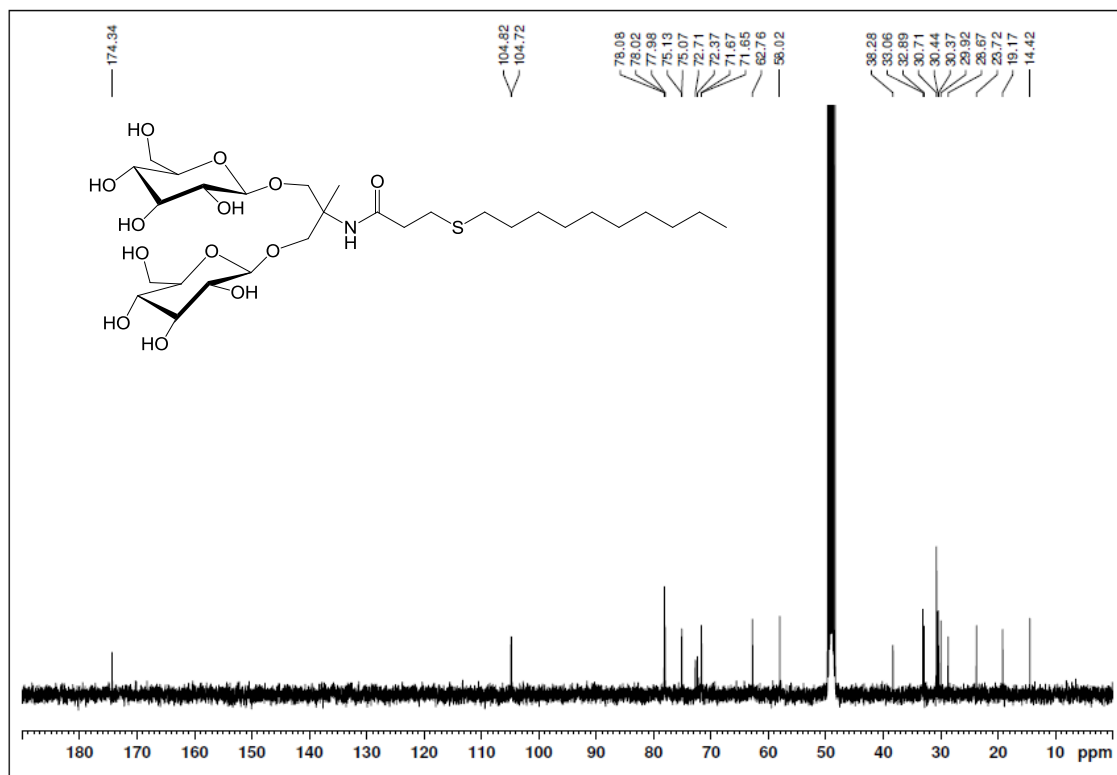


Figure S6. ^{13}C NMR spectrum of DDG in CD_3OD

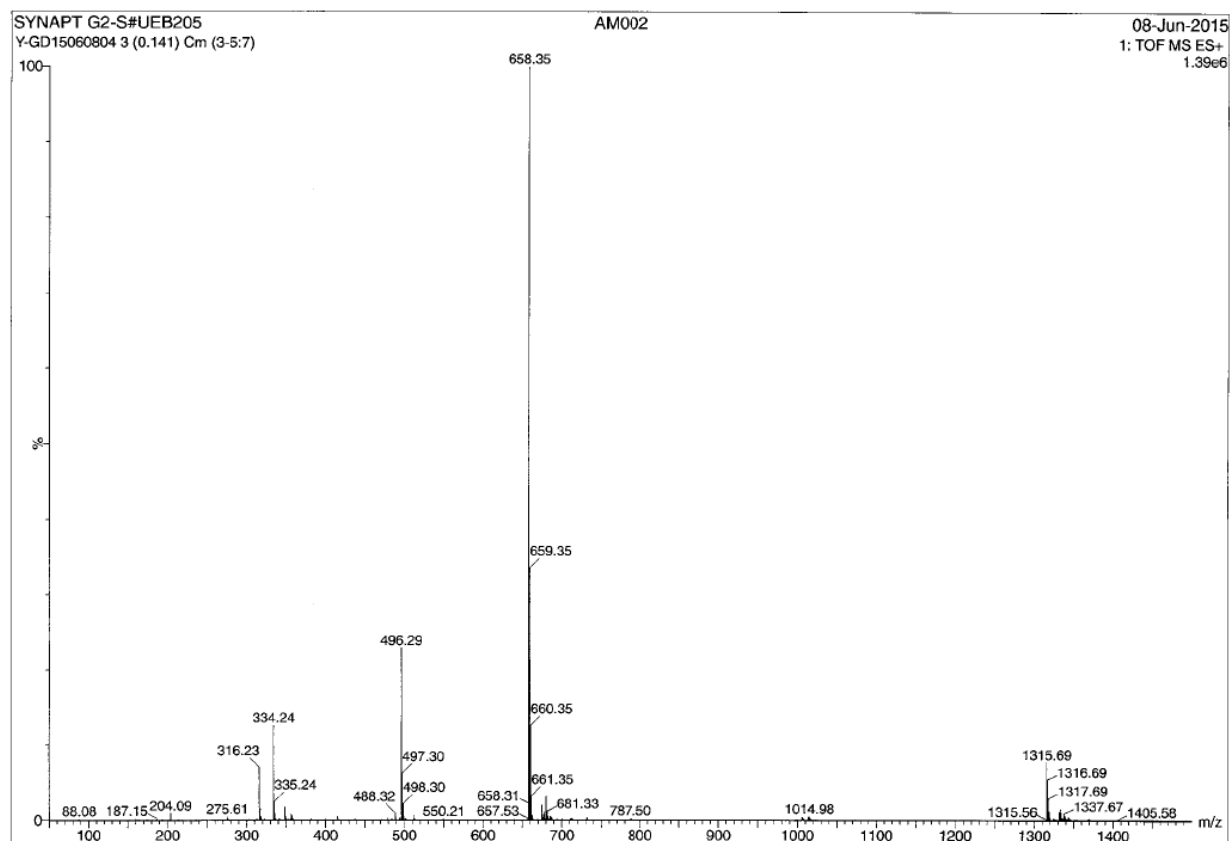


Figure S7. Mass spectrum of DDG

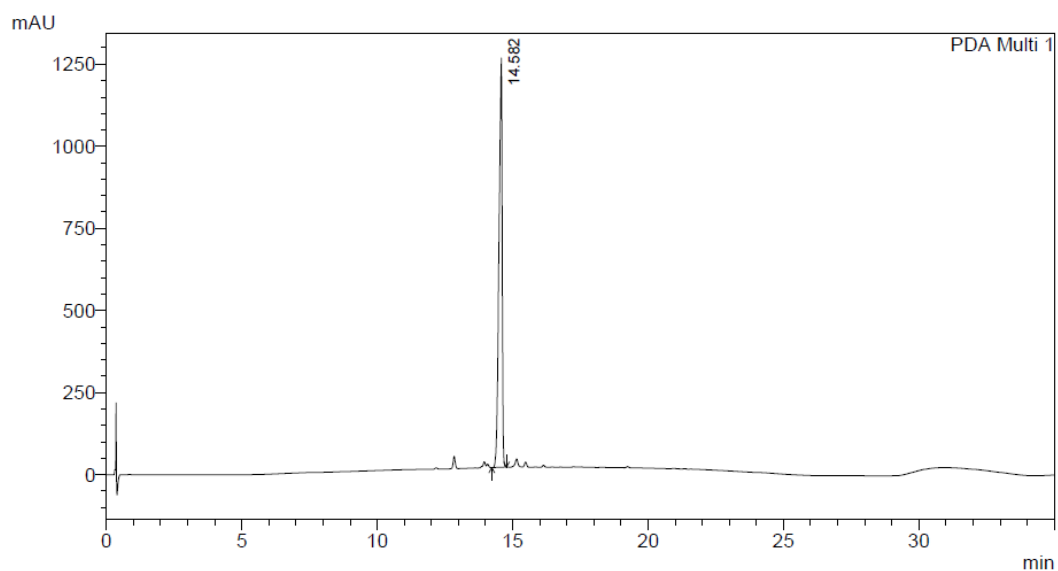


Figure S8 HPLC chromatogram of DDG at 214 nm.

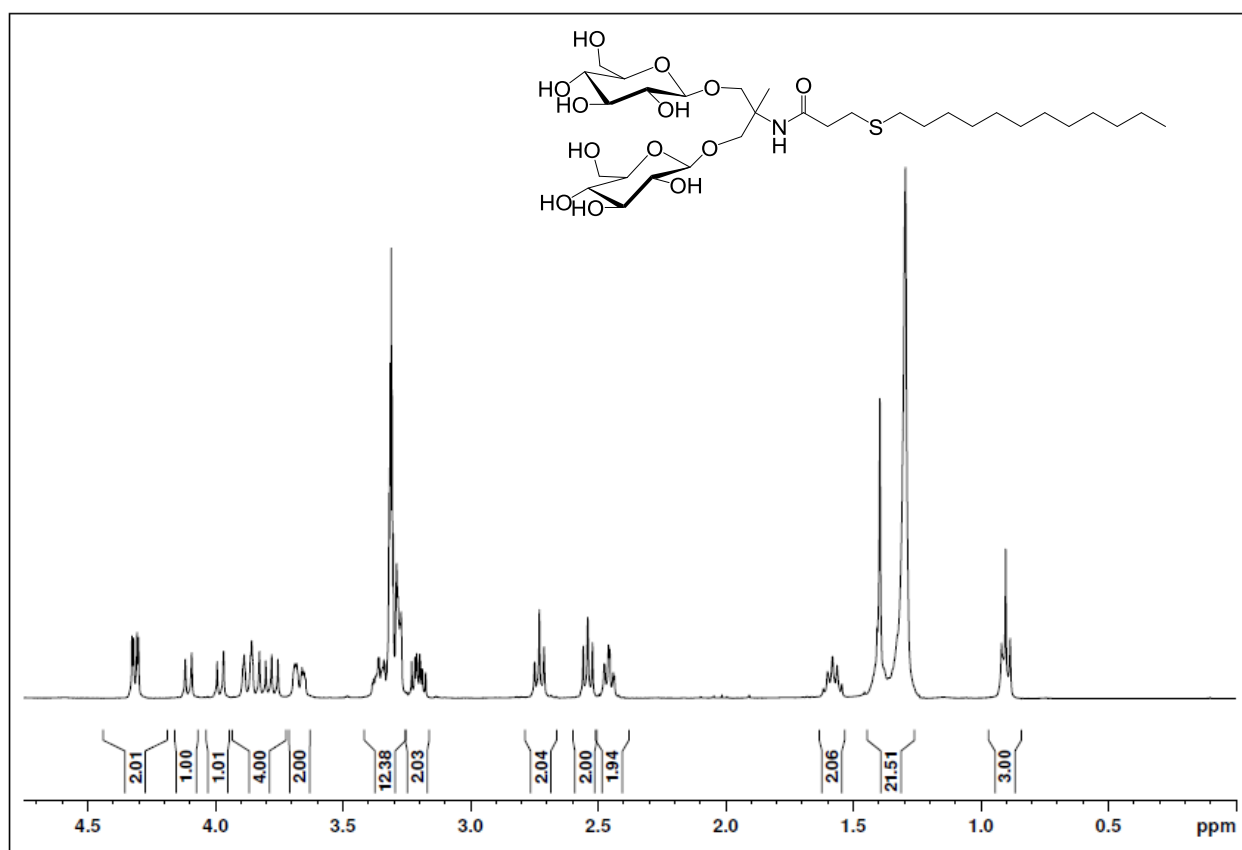


Figure S9. ^1H NMR spectrum of **DDDG** in CD_3OD

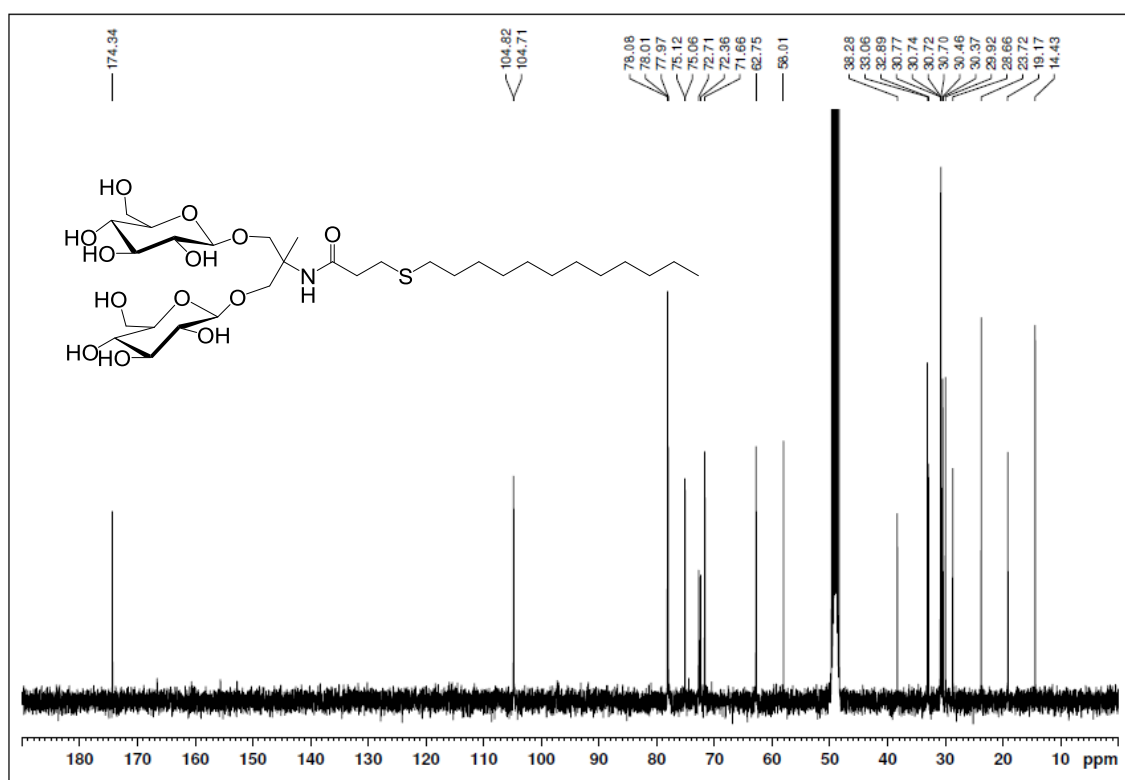


Figure S10. ^{13}C NMR spectrum of **DDDG** in CD_3OD

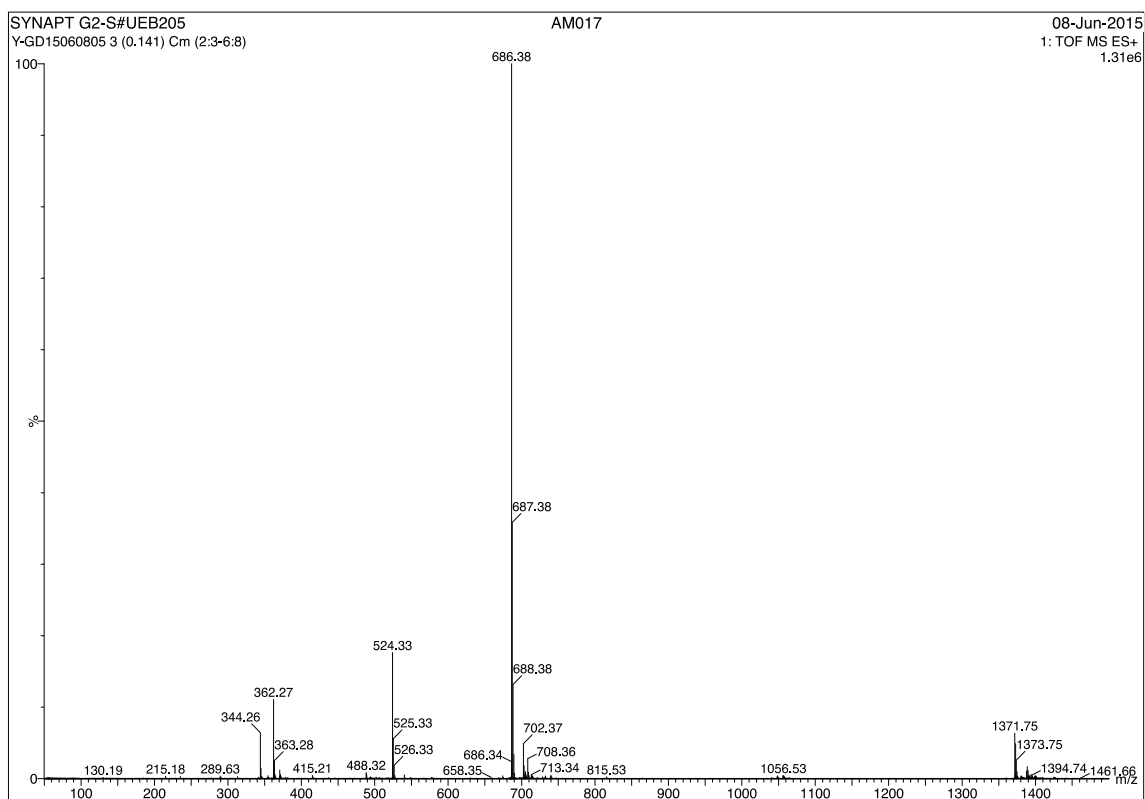


Figure S11. Mass spectrum of DDDG

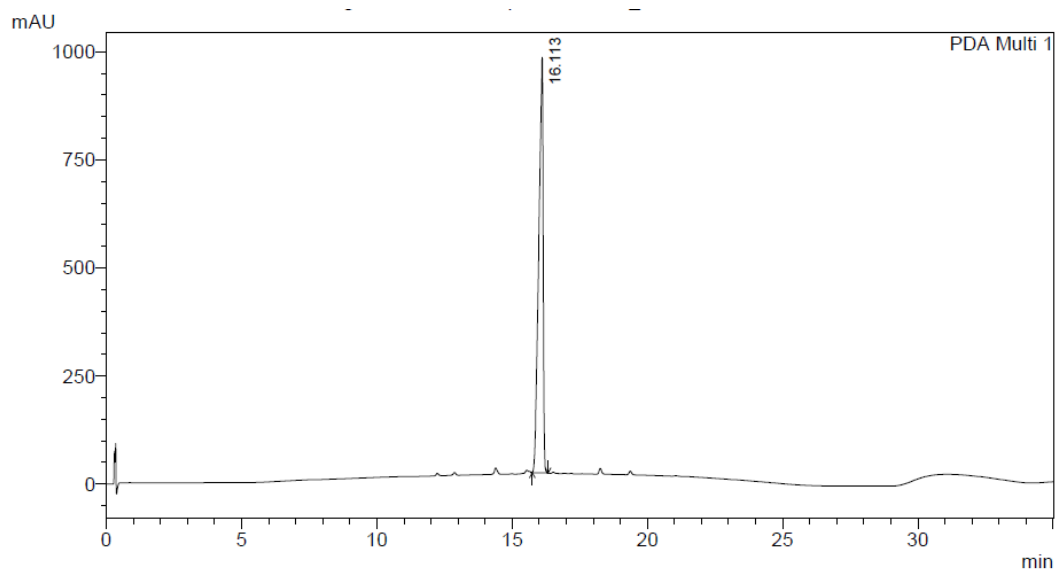


Figure S12. HPLC chromatogram of DDDG at 214 nm.

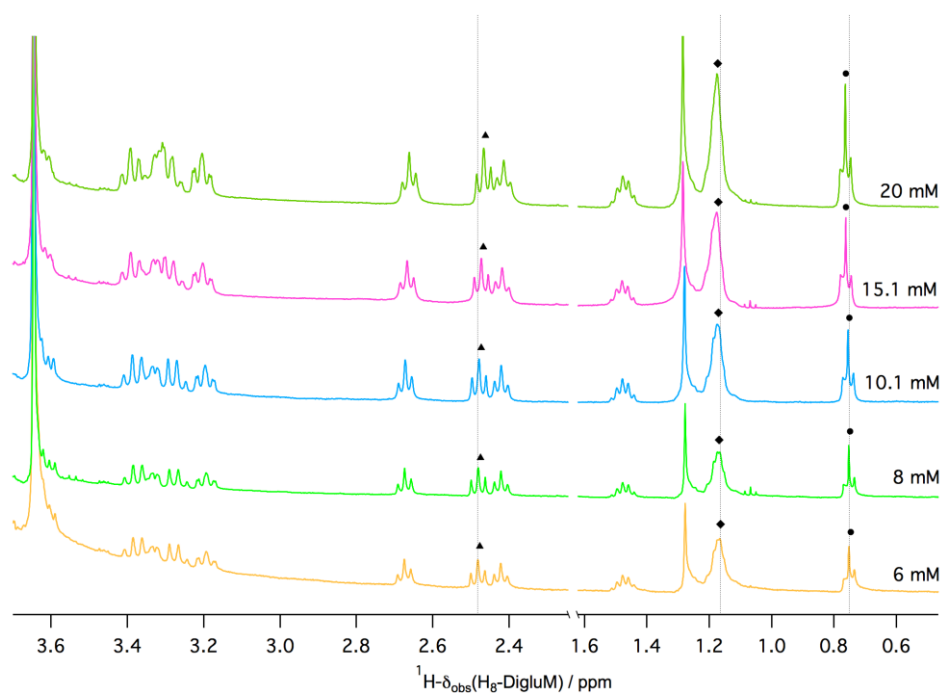


Figure S13. ^1H NMR chemical shift dependence with the concentration of **ODG**.

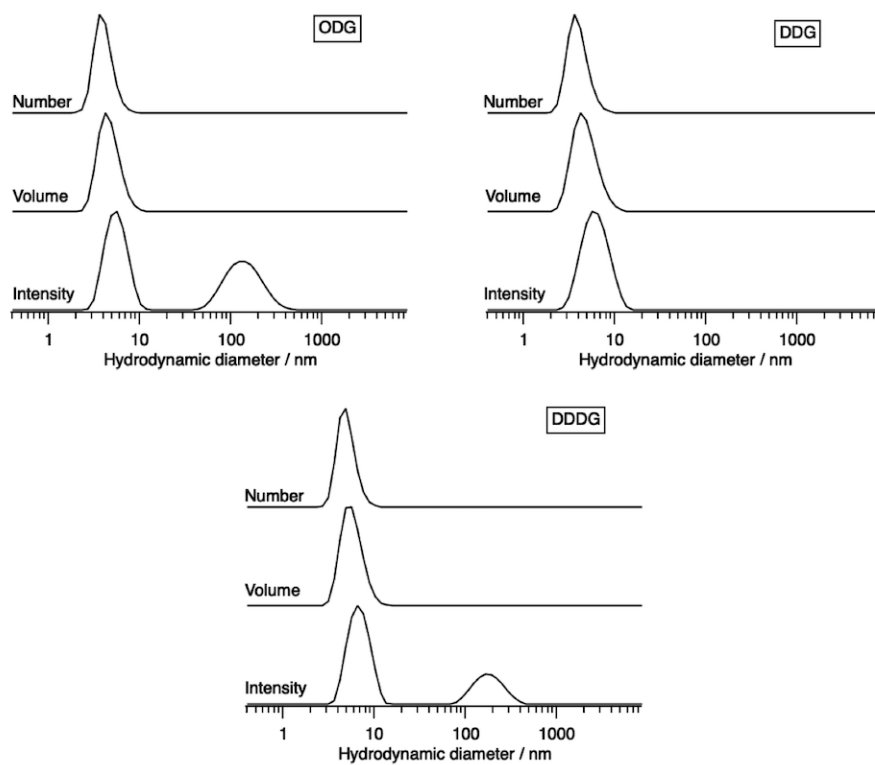


Figure S14. DLS particle size distributions for **ODG**, **DDG**, and **DDD**G.

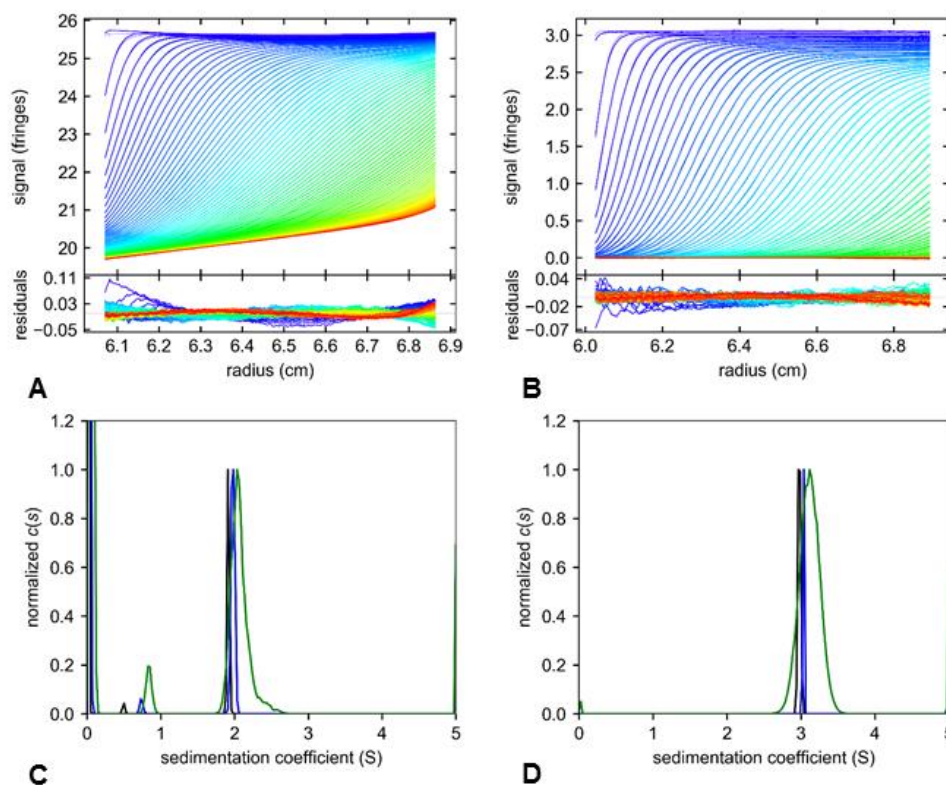


Figure S15. Superposition of experimental and calculated SV profiles obtained at 130,000 g every 10 min, over 1007 and 983 min, in centerpieces of 3- mm optical path length, respectively for (A) **ODG** at 24.1mM and for (B) **DDD**G at 7.3 mM. Superposition of $c(s)$ for (C) **ODG** at 31.8 mM (black), 24.1 mM (blue), and 16.3 mM (green) and for (D) **DDD**G at 14.5 mM (black), 7.3 mM (blue), and 2.9 mM (green). For **ODG**, the boundary sedimenting at low s correspond to surfactant monomers or very small aggregates.

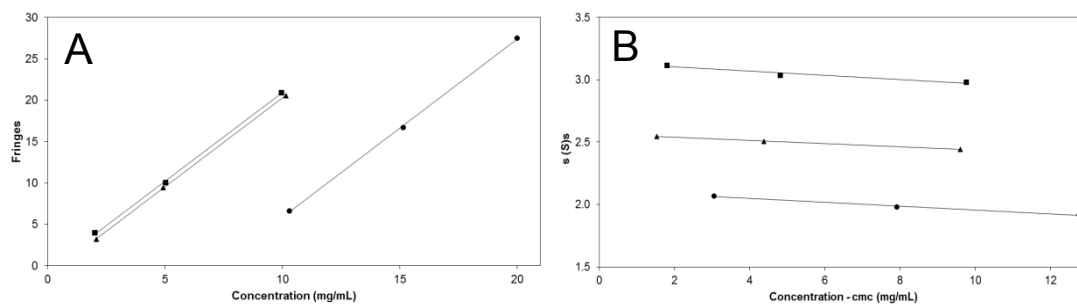


Figure S16. Analysis of the number of fringes and s -values of the micelle contribution in AUC-SV for **ODG** (circles), **DDG** (triangles), and **DDD**G (squares).

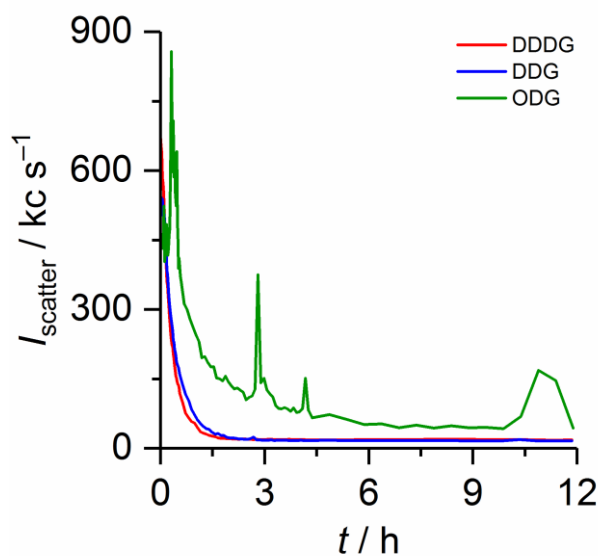


Figure S17. Vesicle solubilization by 13.6 mM **ODG**, 5.69 mM **DDG** or 5.06 mM **DDD**G at 25°C as monitored in terms of the light scattering intensity recorded at a scattering angle of 90°. Each sample contained 0.1 mM POPC initially present in the form of LUVs.

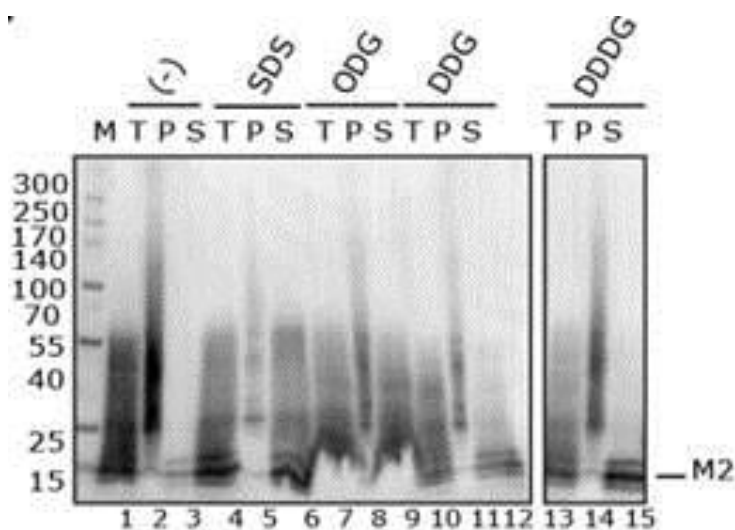


Figure S18. Solubilization of Matrix 2 ion channel (M2) using 10 CMC of **ODG**, **DDG** and **DDD**G. No detergent (-) and SDS were used as negative and positive controls, respectively. M, T, P, S correspond to molecular marker, total, pellet and soluble fractions.