

Electronic Supplementary Information for:

Edible Supramolecular Chiral Nanostructures by Self-Assembly of an Amphiphilic Phytosterol Conjugate

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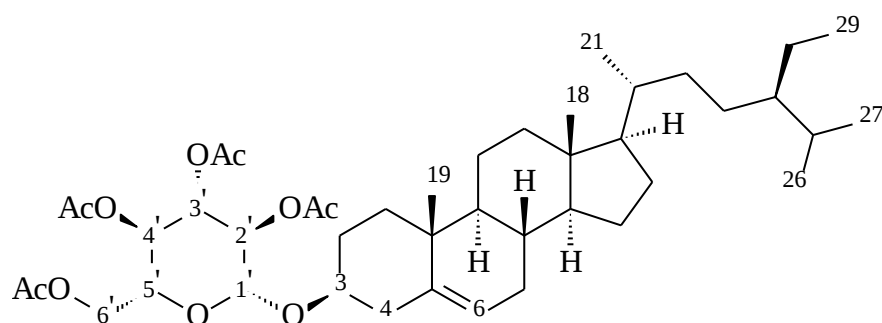


Chart SI-1. Chemical structure and numbering of the hydrogen containing carbons of the β -sitosterolin tetraacetate.

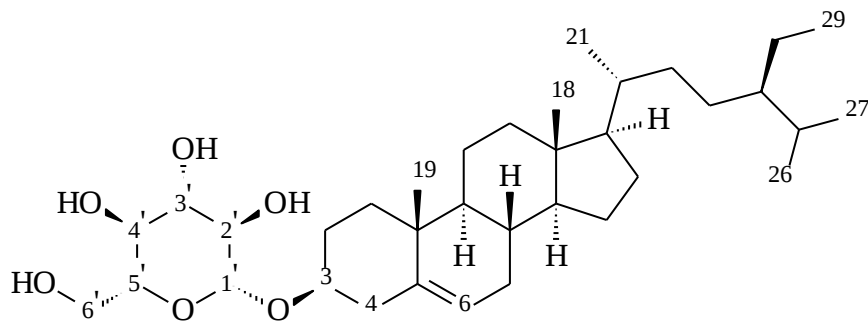


Chart SI-1. Chemical structure and numbering of the hydrogen containing carbons of the β -sitosterolin .

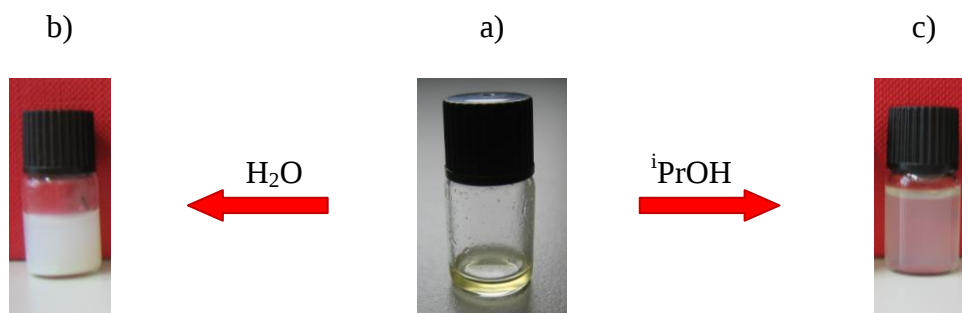


Figure SI-1. a) β -sitosterolin starting solution in DMSO, b) aggregation after adding water to the solution, and c) aggregation after adding i PrOH to the solution (a).

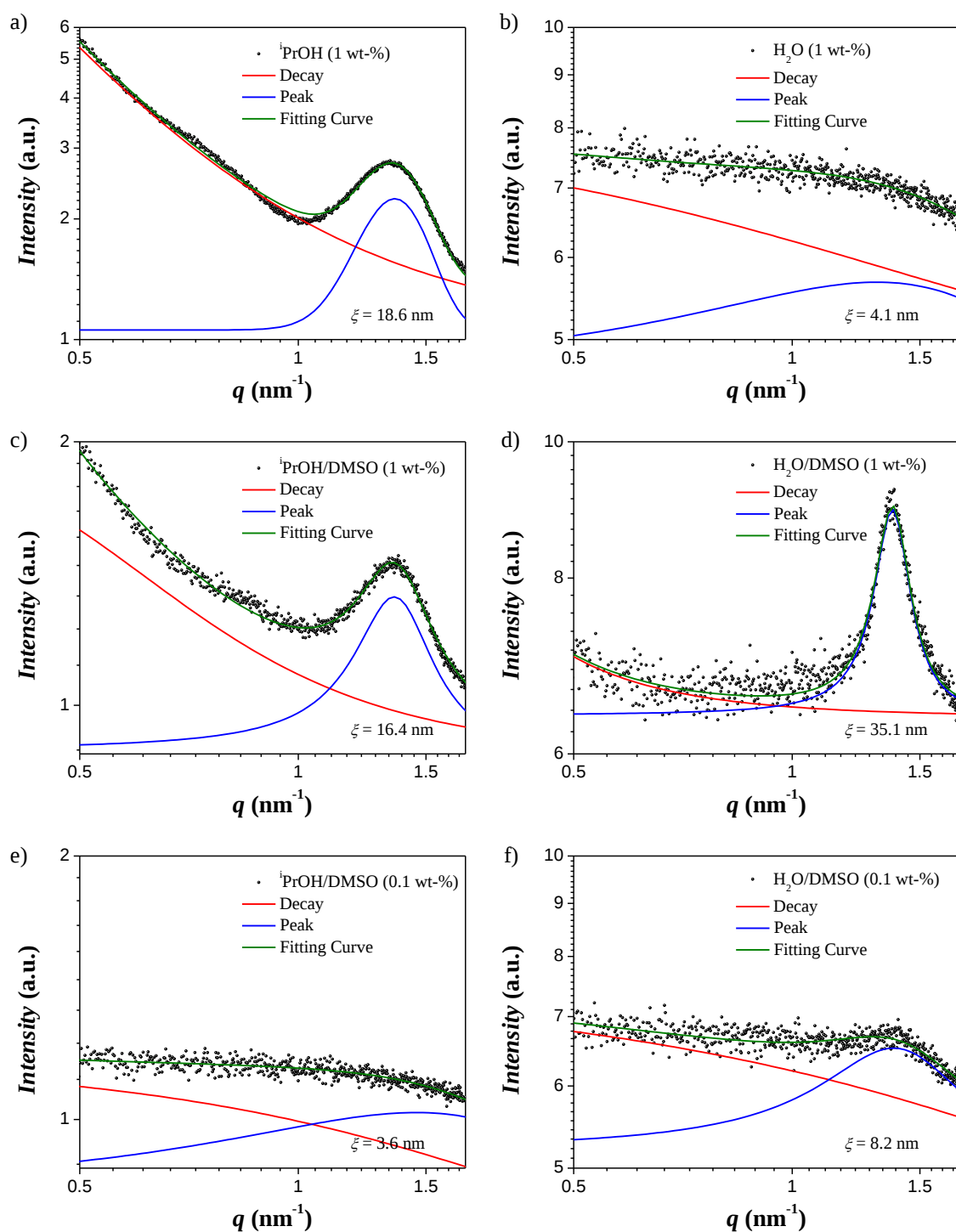


Figure SI-2. SAXS scattering curves and their corresponding fits showing the presence of the peak at $q = 1.40$ nm^{-1} and the correlation length for the dispersions of a) 1 w/w% β -sitosterolin in pure $^i\text{PrOH}$, b) 1 w/w% β -sitosterolin in pure water, c) 1 w/w% in $^i\text{PrOH/DMSO}$ (9:1), d) 1 w/w% in water/DMSO (9:1), e) 0.1 w/w% in $^i\text{PrOH/DMSO}$ (9:1), and f) 0.1 w/w% in water/DMSO (9:1).

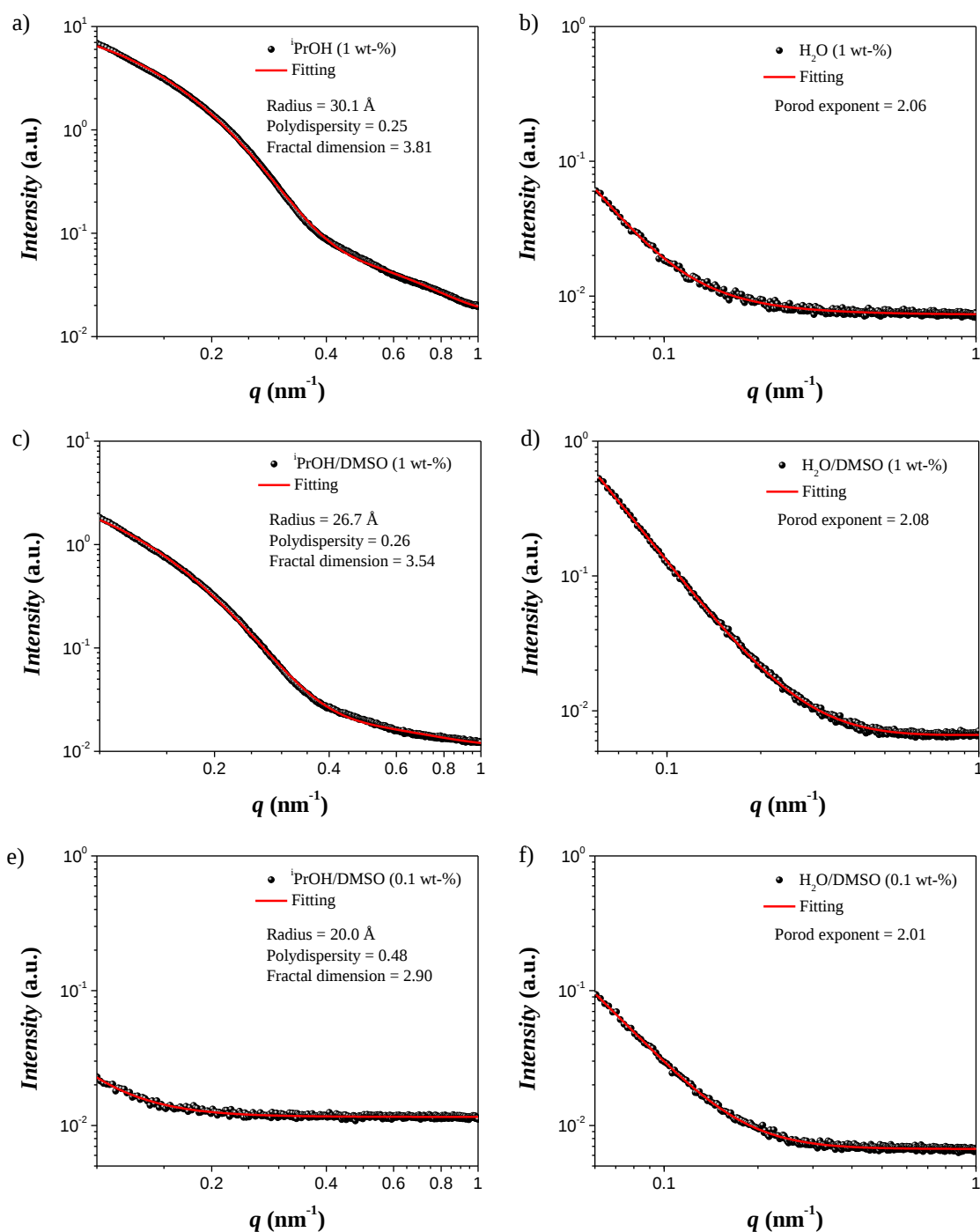


Figure SI-3. SAXS scattering curves and their corresponding fitting curves and parameters for the dispersions of a) 1 w/w% β -sitosterol in pure $i\text{PrOH}$, b) 1 w/w% β -sitosterol in pure water, c) 1 w/w% in $i\text{PrOH/DMSO}$ (9:1), d) 1 w/w% in water/DMSO (9:1), e) 0.1 w/w% in $i\text{PrOH/DMSO}$ (9:1), and f) 0.1 w/w% in water/DMSO (9:1). Note: $\rho(i\text{PrOH}) = 2.694 \cdot 10^{-4} \text{ nm}^{-2}$, $\rho(\text{H}_2\text{O}) = 9.510 \cdot 10^{-4} \text{ nm}^{-2}$, $\rho(i\text{PrOH/DMSO (9:1)}) = 2.664 \cdot 10^{-4} \text{ nm}^{-2}$, $\rho(\text{H}_2\text{O/DMSO (9:1)}) = 9.315 \cdot 10^{-4} \text{ nm}^{-2}$, $\rho(\beta\text{-sitosterol}) = 3.483 \cdot 10^{-4} \text{ nm}^{-2}$, $\rho(\text{D-glucose}) = 3.521 \cdot 10^{-4} \text{ nm}^{-2}$, $\rho(\beta\text{-sitosterol}) = 3.391 \cdot 10^{-4} \text{ nm}^{-2}$.

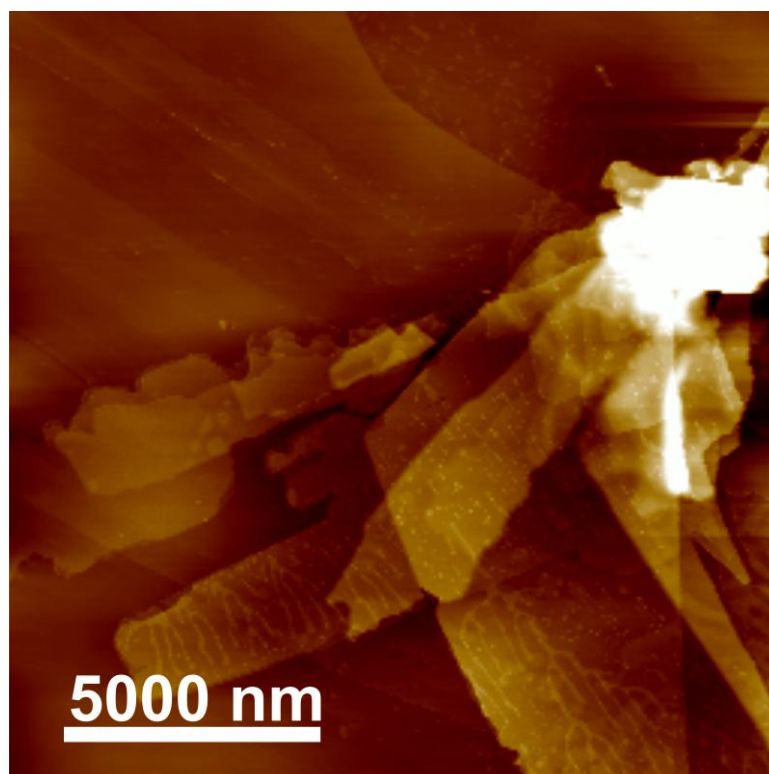


Figure SI-4. 3D AFM images for the platelet-like structures of 1 wt-% β -sitosterolin in $\text{H}_2\text{O}/\text{DMSO}$ (9:1).