

SUPPORTING INFORMATION

Bile acid derivative-based cationic mixtures: versatile tools for superficial charge modulation of supramolecular lamellae and nanotubes

Maria Chiara di Gregorio,^{a†} Emilia Severoni,^{a†} Leana Travaglini,^a Marta Gubitosi,^a Simona Sennato,^b Francesco Mura,^c Carlos Redondo-Gómez,^d Aida Jover,^e Nicolae Viorel Pavel^a and Luciano Galantini^{*a}

a Department of Chemistry, “Sapienza University of Rome”, P. le A. Moro 5, 00185 Roma, Italy

b CNR-ISC UOS Sapienza and Physics Department Sapienza “Sapienza University of Rome”, P. le A. Moro 5, 00185 Roma, Italy

c CNIS, Research Center for the Nanotechnologies Applied to Engineering, “University of Rome”, P. le A. Moro 5, 00185 Roma

d Escuela de Química, Centro de Investigación en Electroquímica y Energía Química (CELEQ), Universidad de Costa Rica, San José, Costa Rica

e Departamento de Química Física, Facultad de Ciencias, Universidad de Santiago de Compostela, Avda. Alfonso X El Sabio s/n, 27002 Lugo, Spain

† These authors contributed equally.

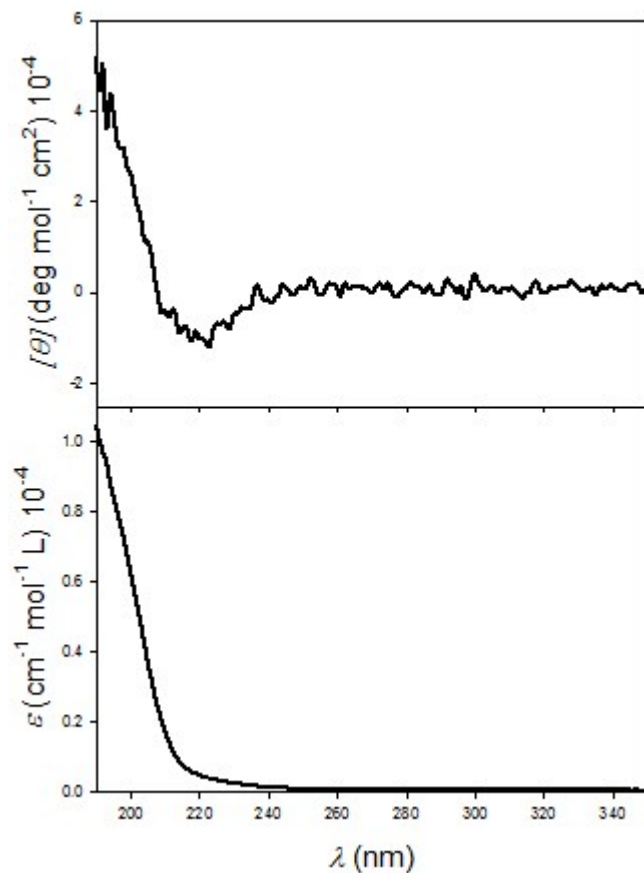


Figure S1. CD (top) and UV (bottom) spectra of AAdd 1 10^{-3} M in methanol at 20 °C

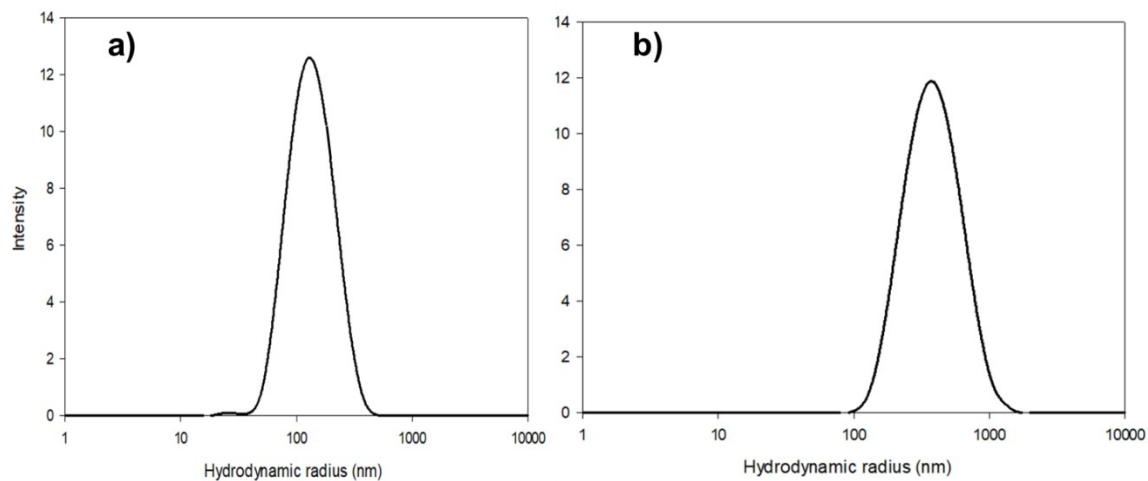
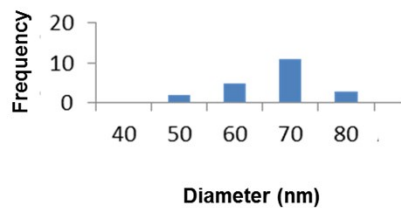
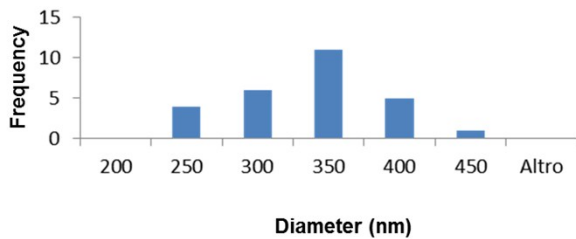


Figure S2. DLS intensity weighted hydrodynamic radius distributions for a sample of AAdd 4 10^{-3} M at 20°C (a) after the first up-down temperature cycle and (b) at the equilibrium state.

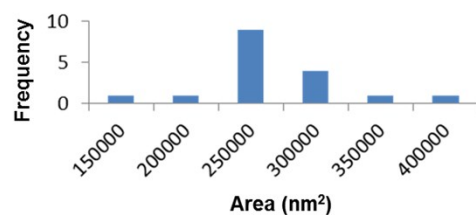
a) AAdD metastable state



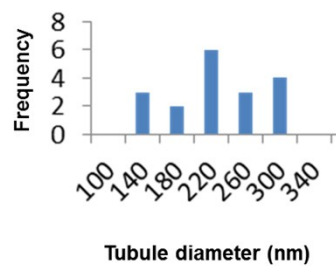
b) AAdD equilibrium state



c) CAdD



d) $x_{AAdD} = 0.5$



e) $x_{AAdD} = 0.7$

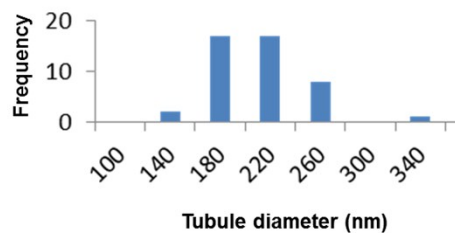


Figure S3. Statistical distributions of helix diameters of (a) just prepared and (b) equilibrated sample of AAdD $4.0 \cdot 10^{-3}$ M, (c) surfaces of the lamellae of CAdD $1.0 \cdot 10^{-3}$ M and tubule diameters of the mixtures at x_{AAdD} equal to (d) 0.7 and (e) 0.5 at total surfactant concentration of $1.0 \cdot 10^{-3}$ M.

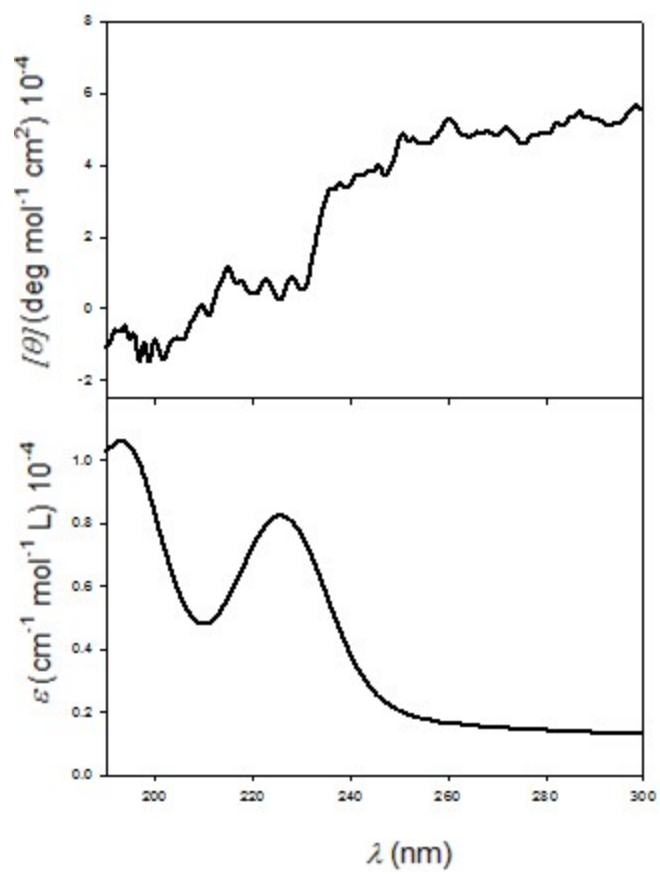


Figure S4. CD (top) and UV (bottom) spectra of CAdD1.0 10^{-3}M dispersion first solubilized by heating and then cooled down to 20 °C in water.

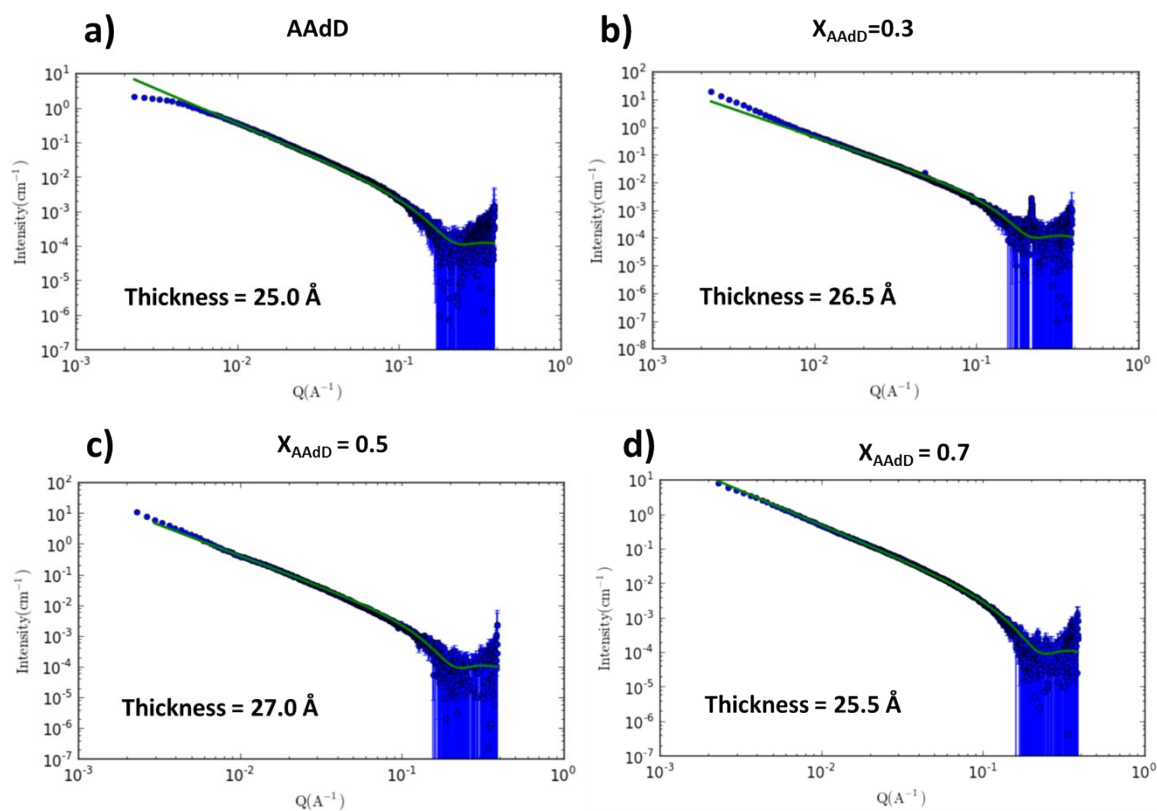


Figure S5. SAXS curves (blue dots) and relative form factor fitting to flat (green lines) performed on pure AAdD (a) and cationic mixtures at $X_{\text{AAdD}} = 0.3$ (b), 0.5 (c) and 0.7 (d). The best fitting thickness values are reported in each panel.