

Electronic Supplementary Information (ESI)  
**Enantioselective Crystallization in Miniemulsions Based on  
Chiral Surfactants**

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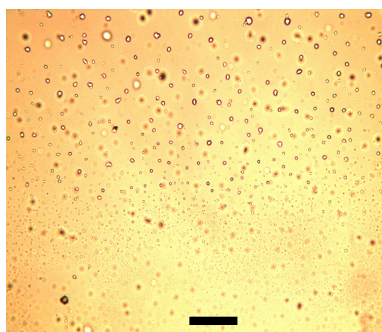
Chiral surfactants preparation

Stearic acid N-hydroxy succinimide ester (SHE): Stearic acid (8.534g, 30 mmoles) was added to a solution of N-hydroxysuccinimide (3.452g, 30mmoles) in dry ethyl acetate (130ml). A solution of dicyclohexylcarbodiimide (6.19g, 30mmoles) in dry ethyl acetate was added and the reaction was left stirring overnight at room temperature. Dicyclohexylurea was removed by filtration and the filtrate was evaporated. The obtained crystals were recrystallized from ethanol yielded 8.5g (75%) of pure N-hydroxy succinimide ester of stearic acid. Stearic acid N-hydroxy succinimide ester: Melting Point 93°C. <sup>1</sup>H-NMR (p.p.m) (300MHz) (CDCl<sub>3</sub>): 0.87 (3H,t), 1.27 (28H,m), 1.67 (2H,t), 2.57 (2H,t), 2.81 (4H,m). Elemental Analysis (%)H: 10.23, C: 69.29, N: 3.67.

N-Stearic (L or D) serine: A solution of stearic acid N-hydroxy succinimide ester (5g, 13mmoles) in tetrahydrofuran (130ml) was added to a solution of L or D serine (1.36g, 13mmoles) and sodium bicarbonate (1.09g, 13mmoles) in water (130ml). The reaction was left stirring overnight at temperature of 40°C. The solution was acidified to pH 2 with 1M hydrochloric acid and the tetrahydrofuran was evaporated. The product was filtered and recrystallized first from acetone and then from ethanol –water (4:1) to give 4.33g (90% yield). N-stearoyl L serine: Melting Point: 103°C. <sup>1</sup>H-NMR (p.p.m) (300MHz): (DMSO): 0.87 (3H,t), 1.27 (28H,m), 1.49 (2H,t), 2.12 (2H,t), 3.6 (2H,dq), 4.24 (1H,dd), 7.88 (1H,d). Elemental Analysis (%)H: 11.547, C: 66.454, N: 4.083

**Figure S1**

Light microscopy image chiral miniemulsions prepared at room temperature consisting 1 mg of L stearoylserine of W/O=0.03. (scale bar 50 micrometer)



**Figure S2:**

Powder X ray diffraction (A) pure CaT-DL and (B) CaT crystallized in the L stearic acid miniemulsions. (the x-ray diffraction fits the reported by F. C. Hawthorne, I. Borys and R. B. Ferguson, *Acta Crystallographica Section B-Structural Science*, 1982, **38**, 2461-2463.)

