Ionic Liquids Based Catanionic Coacervates: The Novel Microreactors for Membrane Free Sequestration of Dyes and Curcumin

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Table SI-1: Sodium Salicylate induced Structural Transition in various surfactants.

Sr no	Surfactant	R =[NaSal]/ [Surfactant]	Transition*	Ref
1	Cetyltrimethylammonium Chloride	1.0	STT	1
2	Cetyltrimethylammonium Bromide	1.0 1.2 0.96	STT STW STR	2,3 4 5,6
3	N-cetyl-N-(2-hydroxyethyl) dimethylammonium bromide	0.4 to 1.0	STW	7
4	N-cetyl-N,N-di(2-hydroxyethyl) methylammonium bromide	0.4 to 1.0	STW	7
5	Star-typetrimeric surfactants	0.24 to 0.30 $0.45 \leq R \leq 0.66$ $R > 0.79$	STR STW STV	8
6	Ethanediyl-α,ω-bis(dimethyldodecyl ammonium bromide) (12-2-12)	$R > 0.96$	STV	8
8	N-tetradecyl-N-(2-hydroxyethyl) dimethylammonium bromide	0.70	STW	9
9	1,2-bis[N-ethyl-N-(sodium 2-hydroxyl-3-sulfopropyl)-dodecyl-ammonium] ethane betaine	≤0.3 0.8	STW STLW	10
10	Didecyldimethylammoniumformate	0.25 0.43	WTV STW	11

11	N-methyl-N-cetylpyrrolidinium bromide	0.4 (40 mM/100 mM)	STG	12
12	hexanediyl-α,ω-bis(dimethylcetyl ammonium bromide) (16-6-16)	1.8	STW	13

*STT = Spherical micelle to Threadlike Micelle, STR = Spherical micelle to Rodlike Micelle, STW = Spherical micelle to Wormlike Micelle, STLW = Spherical micelle to Long Wormlike Micelle, STV = Spherical micelle to Vesicles, STG = Spherical micelle to Hydrogel, WTV= Wormlike micelle to vesicle.

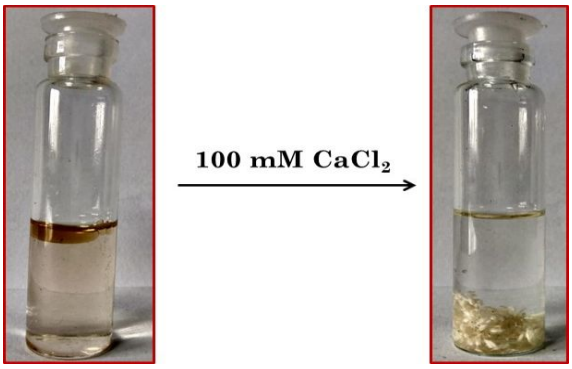

Figure SI-1. Visual Images of Complex coacervates before and after addition of 100 mM of $CaCl_2$. (Photograph courtesy of 'Ankit Shah')

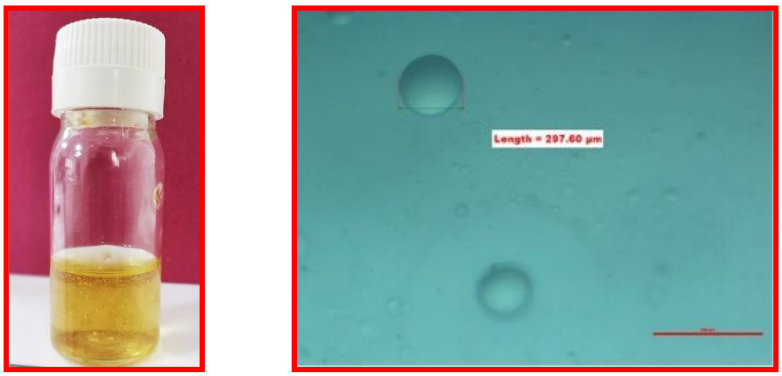

Figure SI-2. Visual and Optical microscopy images of the complex coacervates with C_8EMeImBr (112.5mM) and NaSal (100 mM) in the presence of 0.15 % w/v of NaAlg (Scale bar = 500 µm). (Photograph courtesy of 'Ankit Shah')

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