

Supporting Information

Unveiling the Aggregation Behavior of Doxorubicin Hydrochloride in Aqueous Solution of 1-octyl-3-methylimidazolium chloride and the Effect of Bile Salt on these Aggregates: A Microscopic Study

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Table S1. Morphology of the supramolecular aggregates at different mixing concentration ratios of Dox and C₈mimCl

[DOX]	[C ₈ mimCl]	Spherical vesicular aggregates
0.1 mM	0.5 mM	✓
	1.0 mM	✓
	5.0 mM	✓
	10.0 mM	✓
	20.0 mM	✓
	60.0 mM	✓
	10.0 mM	✓
0.1 mM		✓
0.05 mM		
0.025 mM		

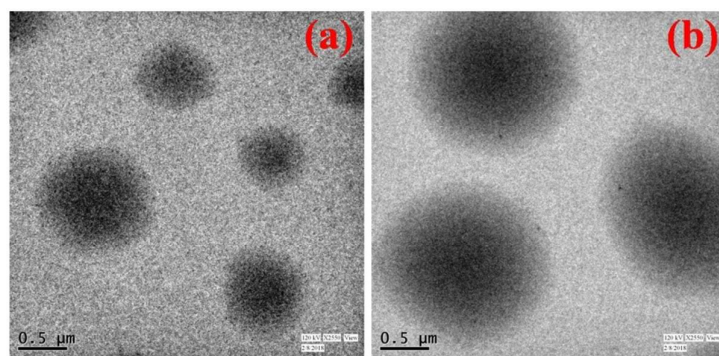


Figure S1. (a,b) Analytical TEM images of spherical aggregates formed by 0.1 mM Dox in 10 mM C₈mimCl (both scale bars are 0.5 μm).

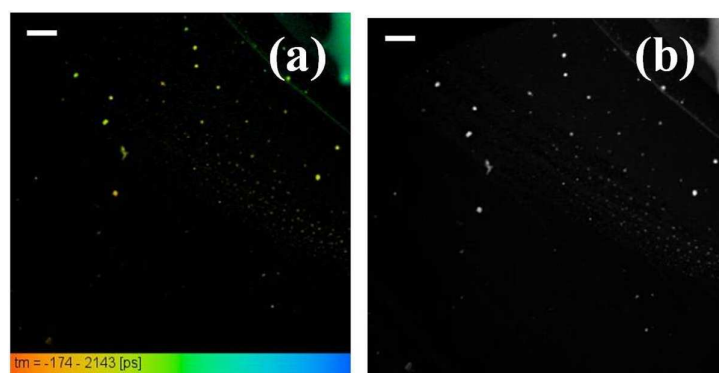


Figure S2. (a) FLIM image and (b) intensity image of 0.1 mM Dox/ 10 mM BmimOs aggregate (both scale bars are 5 μm).

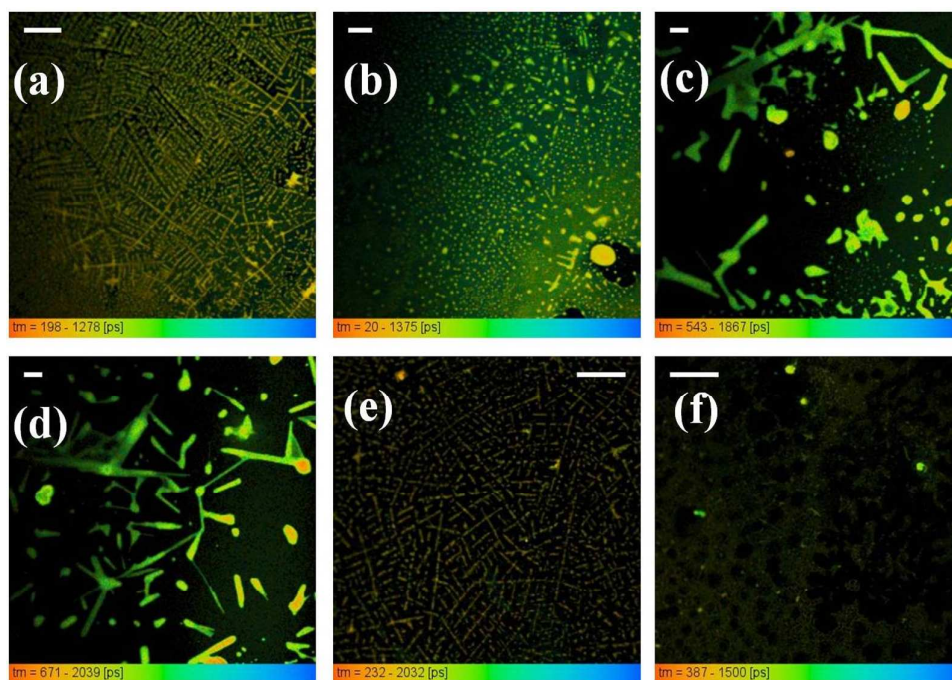


Figure S3. FLIM images of (a) 0.1 mM Dox/ 0.5 mM C₁₂mimCl, (b) 0.1 mM Dox/ 1 mM C₁₂mimCl, (c) 0.1 mM Dox/ 5 mM C₁₂mimCl, (d) 0.1 mM Dox/ 10 mM C₁₂mimCl aggregates and (e) 0.1 mM Dox/ 0.5 mM C₁₆mimCl, (f) 0.1 mM Dox/ 1 mM C₁₆mimCl aggregates (all the scale bars are 5 μ m).

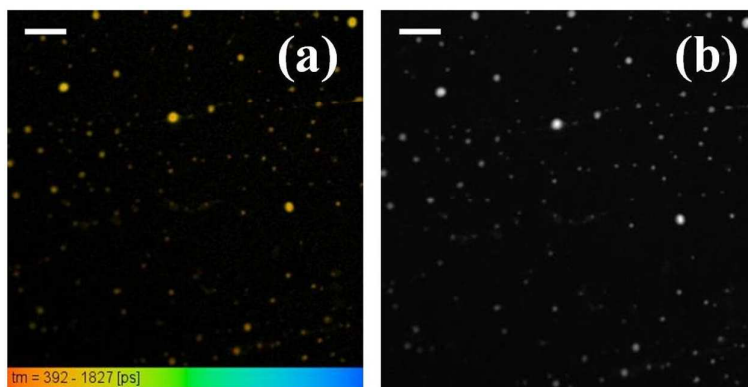


Figure S4. (a) FLIM image and (b) intensity image of 0.1 mM Dox/ 10 mM OTAB aggregate (both the scale bars are 5 μ m).

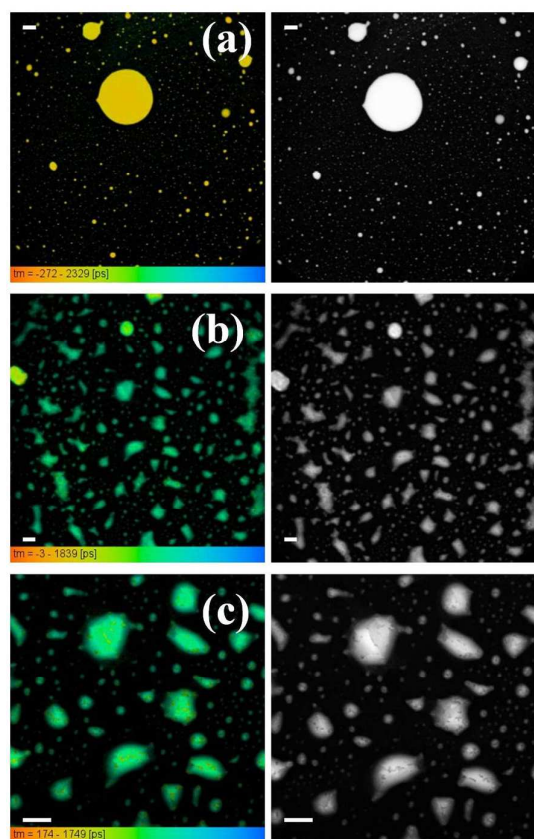


Figure S5. FLIM images of the aggregates formed by 0.1 mM Dox in 10 mM C₈mimCl at (a) pH 7.1 and (b,c) pH 8.9 (all the scale bars are 5 μ m).

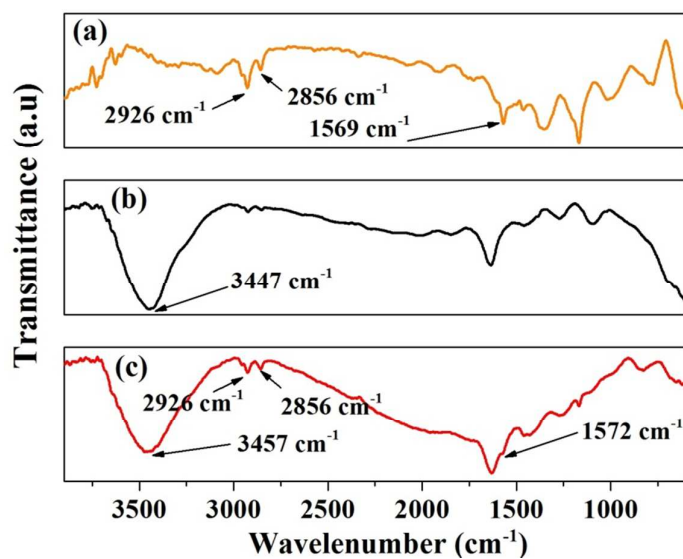


Figure S6. FTIR spectra of (a) 10 mM C₈mimCl, (b) 0.1 mM Dox and (c) Dox/ C₈mimCl vesicular aggregate.

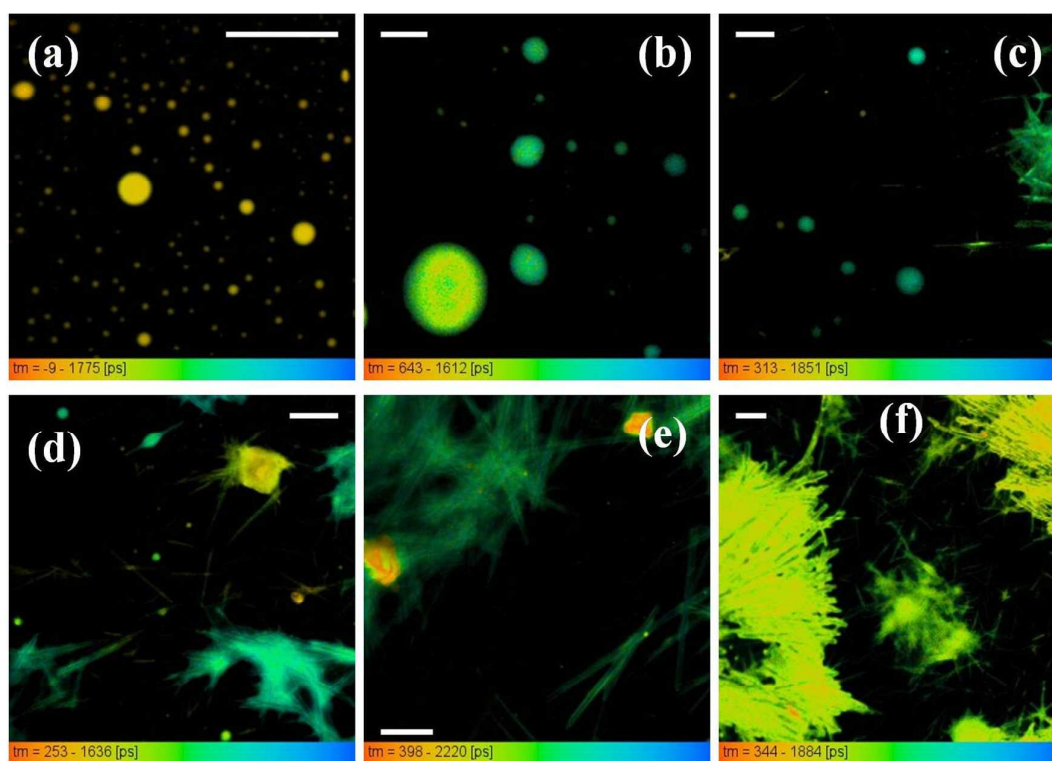


Figure S7. (a) FLIM image of 0.1 mM Dox/ 10 mM C₈mimCl/ 1 mM NaCh aggregate, FLIM images of 0.1 mM Dox/ 10 mM C₈mimCl/ 10 mM NaCh aggregates at (b) t=0 hr (c) t=2 hr, (d) t=6 hr, (e) t=12 hr and (f) t=26 hr (all the scale bars are 5 μ m).

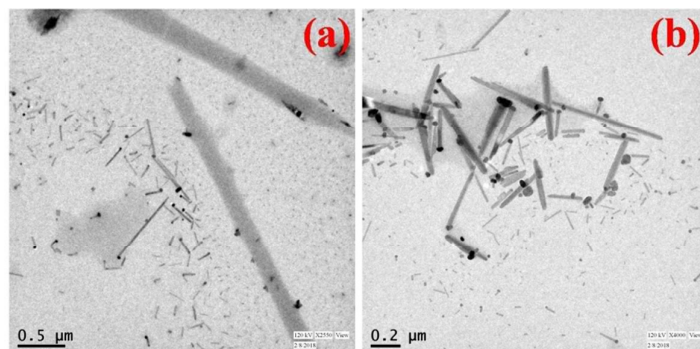


Figure S8. (a,b) Analytical TEM images of rod like fibrillar aggregates of 0.1 mM Dox/ 10 mM C₈mimCl/ 20 mM NaCh (scale bars are 0.5 μ m and 0.2 μ m respectively).

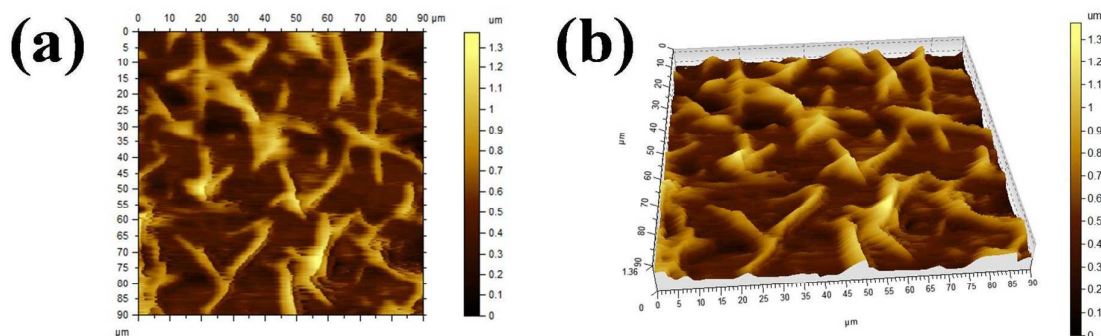


Figure S9. (a,b) AFM images of fibrillar aggregates formed by 0.1 mM Dox/ 10 mM C₈mimCl in presence of 20 mM NaCh.