Electronic Supplementary Information (ESI)

A Time-Resolved Study on the Interaction of Oppositely Charged Bicelles – Implications on the Charged Lipid Exchange Kinetics

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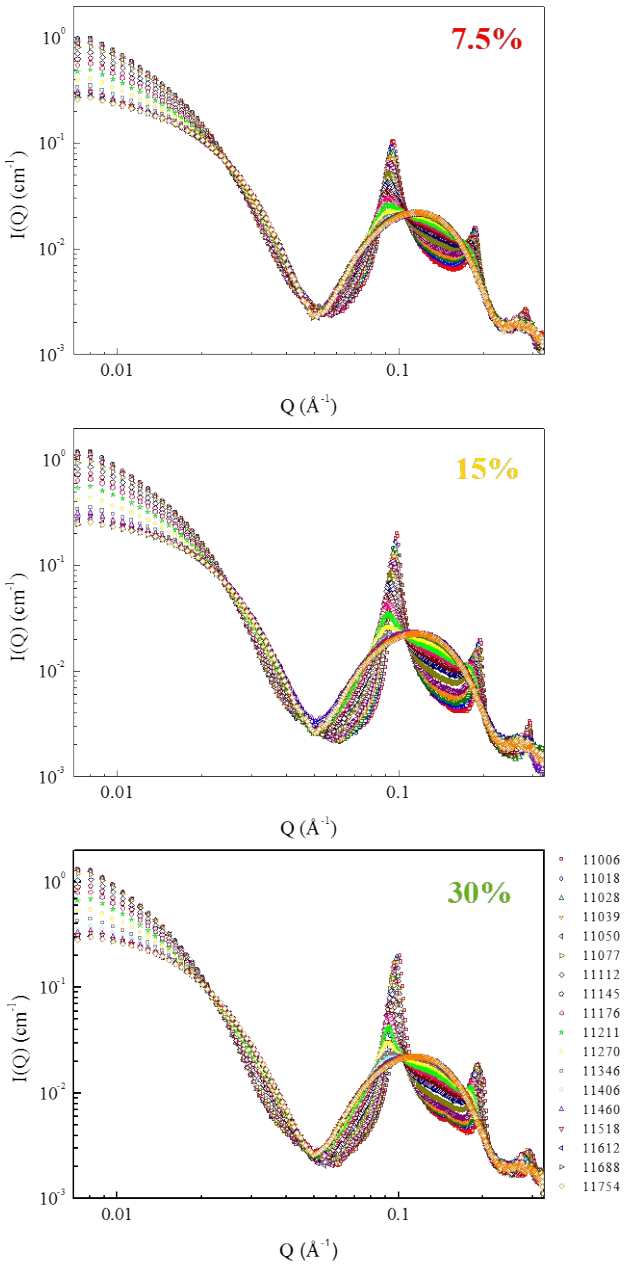

Figure S1 Time resolved small-angle X-ray scattering of mixing oppositely charged bicelles at different membrane charge density.

Table S1 Fitting parameter of 7.5% case.

7.5% Time	Core radius	Polydispersity of core radius	Thickness (Å)			Scattering length density (x10^{-6} Å^{-2})				Average stacked number	Water gap (Å)	*d*-GSD	C1
			Core	Rim	Face	Core	Face	Rim	Solvent				
006	88.7	0.21	22.4	17.7	17.7	7.40	11.5	9.47	9.40	14.5	8.95	0.084	0.18
018	90.3	0.21	22.4	17.7	17.7	7.40	11.5	9.48	9.40	13.2	9.48	0.089	0.23
028	94.7	0.21	22.3	17.9	17.9	7.40	11.5	9.41	9.40	11.4	9.69	0.092	0.31
039	94.9	0.21	22.3	17.9	17.9	7.40	11.5	9.43	9.40	10.3	9.98	0.095	0.38
050	95.5	0.20	22.4	17.9	17.9	7.40	11.5	9.45	9.40	9.3	10.2	0.096	0.48
077	96.8	0.21	22.3	17.9	17.9	7.40	11.5	9.44	9.40	8.2	10.9	0.103	0.71
112	98.0	0.21	22.4	17.9	17.9	7.40	11.5	9.43	9.40	7.1	11.2	0.107	1.07
145	96.2	0.22	22.5	18.0	18.0	7.40	11.5	9.45	9.40	6.3	11.7	0.113	1.50
176	95.4	0.23	22.5	18.0	18.0	7.40	11.5	9.45	9.40	5.6	12.0	0.118	2.07
211	85.8	0.27	22.8	17.7	17.7	7.40	11.5	9.61	9.40	4.7	12.8	0.117	2.96

Table S2 Fitting parameter of 15% case.

15% Time	Core radius	Polydispersity of core radius	Thickness (Å)			Scattering length density (x10^{-6} Å^{-2})				Average stacked number	Water gap (Å)	*d*-GSD	C1
			Core	Rim	Face	Core	Face	Rim	Solvent				
006	78.9	0.24	23.2	17.2	17.2	7.40	11.5	9.77	9.40	30.3	6.84	0.059	0.08
018	81.6	0.23	23.1	17.4	17.4	7.40	11.5	9.72	9.40	23.7	7.44	0.068	0.07
028	89.9	0.21	22.7	17.8	17.8	7.40	11.5	9.53	9.40	19.3	7.59	0.076	0.08
039	93.1	0.20	22.6	17.8	17.8	7.40	11.5	9.48	9.40	16.5	8.16	0.082	0.11
050	97.7	0.19	22.4	18.0	18.0	7.40	11.5	9.40	9.40	14.5	8.34	0.086	0.16
077	99.5	0.19	22.4	18.0	18.0	7.40	11.5	9.40	9.40	12.2	9.29	0.093	0.32
112	100.9	0.19	22.5	18.0	18.0	7.40	11.5	9.40	9.40	10.4	10.0	0.097	0.57
145	102.3	0.19	22.5	18.1	18.1	7.40	11.5	9.40	9.40	8.3	10.5	0.097	0.93
176	104.9	0.19	22.4	18.2	18.2	7.40	11.5	9.36	9.40	6.4	11.0	0.092	1.44
211	101.9	0.20	22.5	18.1	18.1	7.40	11.5	9.37	9.40	5.4	11.5	0.098	2.03
270	97.2	0.23	22.5	18.2	18.2	7.40	11.5	9.41	9.40	4.5	12.1	0.102	3.92
346	94.6	0.25	22.5	18.2	18.2	7.40	11.5	9.41	9.40	3.5	12.7	0.095	8.65

Table S3 Fitting parameter of 30% case.

30% Time	Core radius	Polydispersity of core radius	Thickness (Å)			Scattering length density (x10^{-6} Å^{-2})				Average stacked number	Water gap (Å)	d-GSD	C1
			Core	Rim	Face	Core	Face	Rim	Solvent				
006	107.1	0.21	22.5	17.6	17.6	7.40	11.5	9.37	9.40	46.9	5.18	0.072	0.18
018	108.7	0.21	22.6	17.7	17.7	7.40	11.5	9.36	9.40	39.1	6.13	0.07	0.14
028	108.2	0.21	22.6	17.8	17.8	7.40	11.5	9.42	9.40	32.4	6.76	0.068	0.18
039	108.3	0.21	22.7	17.8	17.8	7.40	11.5	9.45	9.40	28.2	7.24	0.067	0.23
050	108.5	0.21	227	17.9	17.9	7.40	11.5	9.48	9.40	24.3	7.65	0.066	0.28
077	111.4	0.21	22.7	17.9	17.9	7.40	11.5	9.49	9.40	19.4	8.52	0.069	0.45
112	113.8	0.21	22.6	18.0	18.0	7.40	11.5	9.48	9.40	14.9	9.24	0.075	0.74
145	114.2	0.22	22.6	18.0	18.0	7.40	11.5	9.48	9.40	12.6	9.82	0.081	1.12
176	115.3	0.22	22.5	18.1	18.1	7.40	11.5	9.44	9.40	10.5	10.3	0.084	1.62
211	113.0	0.23	22.6	18.0	18.0	7.40	11.5	9.48	9.40	8.4	10.8	0.084	2.38
270	109.3	0.24	22.7	18.0	18.0	7.40	11.5	9.49	9.40	6.2	11.3	0.084	4.13
346	92.81	0.27	23.2	17.4	17.4	7.40	11.5	9.78	9.40	4.7	12.7	0.106	6.27