Electronic Supplementary Material (ESI) for Soft Matter.

Table 1: Fitting results for the cylindrical subunits and large-scale structure.

	subunit fitting parameters				large-scale fitting parameters		
	$\phi_v(\Delta\rho)^2$ / (10^{19} cm^{-4})	R_1 / Å	σ_{R1}	L_1 / Å	G_2 / cm^{-1}	$R_{g,2}$ / Å	$d_{f,2}$
0.232 wt. % mixed surfactant							
3.01% NaCl	1.022 +/- 0.002	16.96 +/- 0.08	0.245 +/- 0.003	1050 +/- 40	42 +/- 4	1500 +/- 100	1.67
3.56% NaCl	1.031 +/- 0.003	16.98 +/- 0.08	0.247 +/- 0.003	1040 +/- 50	90 +/- 10	2000 +/- 500	1.7 +/- 0.2
4.01% NaCl	1.020 +/- 0.002	17.53 +/- 0.08	0.240 +/- 0.003	1060 +/- 50	100 +/- 10	2100 +/- 500	1.7 +/- 0.1
4.50% NaCl	1.006 +/- 0.002	17.72 +/- 0.08	0.238 +/- 0.002	1080 +/- 50	190 +/- 30	2600 +/- 500	1.7 +/- 0.1
5.00% NaCl	1.022 +/- 0.002	17.58 +/- 0.07	0.243 +/- 0.003	1150 +/- 50	280 +/- 30	2900 +/- 400	1.73 +/- 0.08
0.465 wt. % mixed surfactant							
3.01% NaCl	2.371 +/- 0.002	17.45 +/- 0.02	0.220 +/- 0.001	1040 +/- 20	340 +/- 50	2200 +/- 200	1.67
3.56% NaCl	2.121 +/- 0.002	17.45 +/- 0.02	0.214 +/- 0.001	1130 +/- 20	700 +/- 200	3300 +/- 700	1.67
4.01% NaCl	2.149 +/- 0.002	17.57 +/- 0.02	0.220 +/- 0.001	1090 +/- 20	1000 +/- 700	4000 +/- 2000	1.67
4.50% NaCl	2.116 +/- 0.002	17.69 +/- 0.02	0.221 +/- 0.001	1170 +/- 30	1100 +/- 400	3400 +/- 8000	1.78 +/- 0.06
5.00% NaCl	2.113 +/- 0.002	17.73 +/- 0.02	0.222 +/- 0.001	1070 +/- 30	4000 +/- 5000	4000 +/- 3000	2.09 +/- 0.04
0.93 wt. % mixed surfactant							
3.01% NaCl	4.296 +/- 0.003	17.29 +/- 0.02	0.227 +/- 0.001	1110 +/- 20	4000 +/- 4000	7000 +/- 4000	1.67
3.56% NaCl	4.303 +/- 0.003	17.36 +/- 0.02	0.229 +/- 0.001	1190 +/- 20	4000 +/- 4000	7000 +/- 4000	1.67
4.01% NaCl	4.289 +/- 0.003	17.45 +/- 0.02	0.226 +/- 0.001	1190 +/- 20	3000 +/- 10000	5000 +/- 10000	1.67
4.50% NaCl	4.257 +/- 0.003	17.60 +/- 0.02	0.229 +/- 0.001	1215 +/- 20	4000 +/- 30000	7000 +/- 30000	1.67
5.00% NaCl	4.258 +/- 0.003	17.63 +/- 0.02	0.230 +/- 0.001	1230 +/- 30	2000 +/- 4000	5000 +/- 5000	1.67
3.72 wt. % mixed surfactant							
3.01% NaCl	19.7 +/- 0.1	17. 89 +/- 0.04	0.214 +/- 0.001	1360 +/- 30	-	-	-
3.56% NaCl	19.1 +/- 0.1	17.78 +/- 0.03	0.244 +/- 0.001	1360 +/- 20	-	-	-
4.01% NaCl	19.8 +/- 0.1	18.01 +/- 0.04	0.212 +/- 0.001	1342 +/- 50	-	-	-
4.50% NaCl	19.60 +/- 0.08	17.97 +/- 0.02	0.213 +/- 0.001	1200 +/- 300	-	-	-
5.00% NaCl	20.0 +/- 0.1	18.06 +/- 0.04	0.211 +/- 0.001	1600 +/- 200	-	-	-

Table 2: Screening parameter ν, connectivity dimension *c*, number of subunits *z*, mesh size ξ and second virial coefficient A_2. The mesh size ξ could just be determined for cases for systems with $\nu \neq 0$ and sufficiently accurate fits at low *q*. Fig. 1 exemplifies the determination of ξ for these cases.

	ν / cm	***c***	***z***	n_{br}	**ξ / Å**	**A_2 / (10^{-5} ml mol g^{-2})**
0.232 wt. % mixed surfactant						
3.01% NaCl	0	1	4.8 +/- 0.6	0	-	-
3.56% NaCl	0	1.0 +/- 0.1	9 +/- 1	0	-	-
4.01% NaCl	0	1.00 +/- 0.09	10 +/- 1	0 +/- 0.3	-	-
4.50% NaCl	0	1.02 +/- 0.06	17 +/- 3	0 +/- 0.3	-	-
5.00% NaCl	0	1.03 +/- 0.05	23 +/- 4	0.1 +/- 0.3	-	-
0.465 wt. % mixed surfactant						
3.01% NaCl	0.011 +/- 0.0005	1	14 +/- 2	0	2900 +/- 800	3.2 +/- 0.2
3.56% NaCl	0.0095 +/- 0.0005	1	29 +/- 9	0	-	2.7 +/- 0.2
4.01% NaCl	0.0083 +/- 0.0005	1	40 +/- 30	0	-	2.4 +/- 0.3
4.50% NaCl	0.0066 +/- 0.0004	1.07 +/- 0.04	40 +/- 20	0.1 +/- 0.3	-	1.9 +/- 0.2
5.00% NaCl	0.0053 +/- 0.0003	1.25 +/- 0.02	200 +/- 200	0.9 +/- 0.8	-	1.5 +/- 0.1
0.93 wt. % mixed surfactant						
3.01% NaCl	0.012 +/- 0.001	-	-	-	-	3.5 +/- 0.3
3.56% NaCl	0.010 +/- 0.002	-	-	-	-	2.9 +/- 0.6
4.01% NaCl	0.009 +/- 0.002	-	-	-	-	2.6 +/- 0.6
4.50% NaCl	0.007 +/- 0.001	-	-	-	-	2.0 +/- 0.3
5.00% NaCl	0.005 +/- 0.001	-	-	-	-	1.4 +/- 0.3
1.86 wt. % mixed surfactant						
3.01% NaCl	0.014 +/- 0.003	-	-	-	-	4.0 +/- 0.9
3.56% NaCl	0.013 +/- 0.003	-	-	-	-	3.7 +/- 0.9
4.01% NaCl	0.011 +/- 0.002	-	-	-	-	3.2 +/- 0.6
4.50% NaCl	0.010 +/- 0.001	-	-	-	-	2.9 +/ -0.3

5.00% NaCl	0.007 +/- 0.001	-	-	-	-	2.0 +/- 0.3
3.72 wt. % mixed surfactant						
3.01% NaCl	0.023 +/- 0.003	-	-	-	360 +/- 50	6.6 +/- 0.9
3.56% NaCl	0.02 +/- 0.003	-	-	-	400 +/- 70	5.8 +/- 0.9
4.01% NaCl	0.017 +/- 0.002	-	-	-	470 +/ 60	4.9 +/- 0.6
4.50% NaCl	0.016 +/- 0.002	-	-	-	510 +/- 80	4.6 +/- 0.6
5.00% NaCl	0.013 +/- 0.001	-	-	-	600 +/- 50	3.7 +/- 0.3

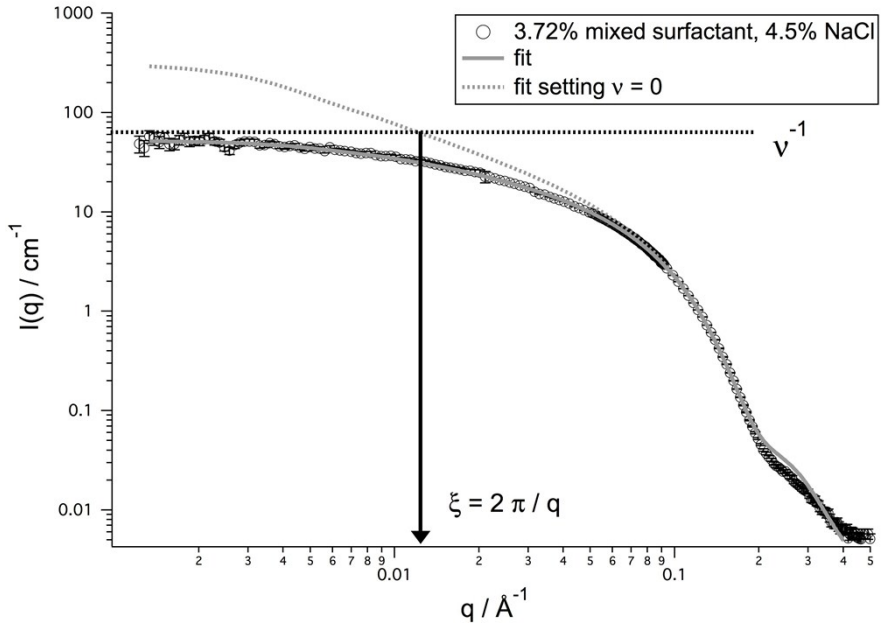

Fig. 1. ξ was determined by applying a tangent to the plateau level at low q identifying ν^{-1}. After the data was fitted (grey line), a plot of the fit setting $\nu = 0$ was added to the diagram (dashed grey line). The intersection of this curve and ν^{-1} yielded the q-value for which $\xi = 2\,\pi / q$.