

Supplementary Data

LD							
C [mg/mL]	b [Å]	ξe [Å]	β	K ($\times 10^{-3}$)	SSE	R²	RMSE
4	-----						
6	-----						
8	36.5±1.5	35.3±0.6	15.7±0.8	29.7±0.3	0.6361	0.9901	0.0521
10	33.4±1.3	33.5±0.6	15.4±0.8	33.5±0.3	0.6811	0.9893	0.0540
15	28.8±1.2	27.9±0.4	14.8±0.6	49.6±0.6	0.7809	0.9838	0.0578
20	24.1±1.1	24.8±0.4	14.2±0.6	59.5±0.9	0.8940	0.9795	0.0618
25	20.6±1.1	22.5±0.4	13.7±0.6	68.5±1.5	1.2666	0.9677	0.0736
30	24.3±1.6	21.3±0.4	11.9±0.6	90.9±1.7	1.4177	0.9563	0.0778

HF							
C [mg/mL]	b [Å]	ξe [Å]	β	K ($\times 10^{-3}$)	SSE	R²	RMSE
4	-----						
6	53.9±3.7	42.8±1.1	13.8±1.1	19.9±0.2	0.6734	0.9906	0.0536
8	40.7±2.2	38.0±0.8	14.6±1.0	22.9±0.2	0.8342	0.9882	0.0597
10	34.3±1.4	34.5±0.5	16.0±0.7	33.8±0.4	0.4102	0.9887	0.0476
15	28.1±1.2	28.6±0.4	15.6±0.6	38.5±0.5	0.7167	0.9860	0.0553
20	22.9±1.1	25.8±0.4	16.3±0.7	45.3±0.8	1.0025	0.9781	0.0655
25	19.5±1.2	23.2±0.4	16.3±0.8	54.1±1.5	1.5232	0.9600	0.0807
30	21.8±1.3	22.3±0.3	14.4±0.6	62.0±1.3	1.2561	0.9629	0.0733

LF							
C [mg/mL]	b [Å]	ξe [Å]	β	K ($\times 10^{-3}$)	SSE	R²	RMSE
3	95.6±24.2	68.8±8.2	21.6±11.6	12.1±0.2	2.5817	0.9718	0.1050
4	73.5±9.8	53.5±3.0	13.5±2.5	16.2±0.2	1.2433	0.9847	0.0729
6	46.0±2.5	42.8±1.0	18.0±1.4	24.7±0.2	0.7961	0.9892	0.0583
8	39.7±1.9	39.6±0.8	19.1±1.3	27.2±0.3	0.8212	0.9882	0.0592
10	33.2±1.3	36.3±0.5	19.8±0.9	31.4±0.4	0.4545	0.9881	0.0501
15	29.9±1.5	30.2±0.5	19.4±1.0	47.3±0.6	1.0429	0.9787	0.0668
20	25.2±1.4	27.1±0.5	19.7±1.0	59.9±1.1	1.4721	0.9655	0.0793
25	23.4±1.3	22.9±0.4	16.4±0.8	79.8±1.5	1.2348	0.9599	0.0736
30	22.5±1.8	23.2±0.5	19.3±1.2	85.0±2.3	2.5128	0.9157	0.1036

Table S1. Fit parameters for the Semiflexible model (method iii) with electrostatic structure factor (eq 7)

LD							
C [mg/mL]	b [Å]	ξ_P [Å]	β	K ($\times 10^{-3}$)	SSE	R²	RMSE
4	-----						
6	-----						
8	32.4±1.4	23.9±0.7	100.3±4.7	29.4±0.3	0.5907	0.9908	0.0502
10	29.0±1.1	22.0±0.6	95.1±3.9	33.0±0.3	0.5274	0.9917	0.0475
15	22.8±0.7	16.6±0.4	97.0±2.7	48.1±0.5	0.3554	0.9926	0.0390
20	18.2±0.8	13.9±0.3	89.4±2.8	56.0±1.0	0.4574	0.9895	0.0442
25	13.9±1.5	12.1±0.3	79.3±5.4	59.6±3.7	0.4112	0.9895	0.0419
30	14.1±1.6	10.4±0.3	80.4±5.5	78.1±4.8	0.4874	0.9850	0.0456

HF							
C [mg/mL]	b [Å]	ξ_P [Å]	β	K ($\times 10^{-3}$)	SSE	R²	RMSE
4	-----						
6	47.2±3.2	30.8±1.4	96.3±7.6	24.8±0.2	0.7154	0.9900	0.0553
8	36.0±1.9	26.1±1.0	92.9±5.9	28.5±0.3	0.8103	0.9886	0.0588
10	29.1±1.2	23.1±0.6	97.8±4.2	32.8±0.4	0.4065	0.9904	0.0461
15	23.0±0.7	17.6±0.4	98.8±2.8	47.0±0.5	0.3709	0.9928	0.0398
20	18.2±0.6	15.2±0.3	98.2±2.7	54.1±0.8	0.3561	0.9922	0.0390
25	13.7±1.3	13.1±0.2	91.0±5.5	59.5±3.3	0.2601	0.9932	0.0333
30	14.8±1.1	11.9±0.3	91.6±4.4	69.5±2.8	0.4643	0.9863	0.0445

LF							
C [mg/mL]	b [Å]	ξ_P [Å]	β	K ($\times 10^{-3}$)	SSE	R²	RMSE
3	93.1±24.3	59.0±9.9	167.2±102.7	12.1±0.2	2.5938	0.9716	0.1053
4	69.9±10.0	42.6±4.0	101.1±21.5	16.2±0.2	1.2775	0.9843	0.0739
6	41.9±2.3	31.3±1.2	114.4±8.5	24.5±0.2	0.7703	0.9895	0.0574
8	35.7±1.6	28.2±0.9	116.9±7.0	27.0±0.3	0.7118	0.9898	0.0552
10	28.7±1.0	25.2±0.5	114.1±4.6	30.5±0.4	0.3458	0.9922	0.0425
15	24.3±0.7	19.3±0.3	123.1±3.3	46.1±0.4	0.3222	0.9934	0.0371
20	19.7±0.5	16.6±0.2	121.4±2.5	57.2±0.6	0.2040	0.9952	0.0295
25	17.0±0.5	13.8±0.2	126.9±2.4	74.0±0.9	0.1602	0.9948	0.0262
30	13.1±1.4	13.0±0.1	112.1±7.7	70.1±4.5	0.1450	0.9951	0.0249

Table S2. Fit parameters for the Semiflexible model (method iii) with PRISM-based structure factor (eq 8)