

Supplementary data

**Reversibly crosslinked temperature-responsive nano-sized polymersomes:
synthesis and triggered drug release**

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1. SLS measurements of crosslinked polymersomes

Configuration

Light scattering instrument: DAWN HELEOS

Cell type: K5

Laser wavelength: 658.0 nm

Calibration constant: 1.4015e-4 1/(V cm)

Collection interval: 2.000 sec

Solvent: water

Refractive index: 1.331

Processing

Processing time: Friday December 26, 2008 03:42 PM China Standard Time

Collection time: Friday December 12, 2008 03:57 PM China Standard Time

Fit method / model: Zimm

dn/dc: 0.150 mL/g

Concentration fit degree: 1

Angle fit degree: 1

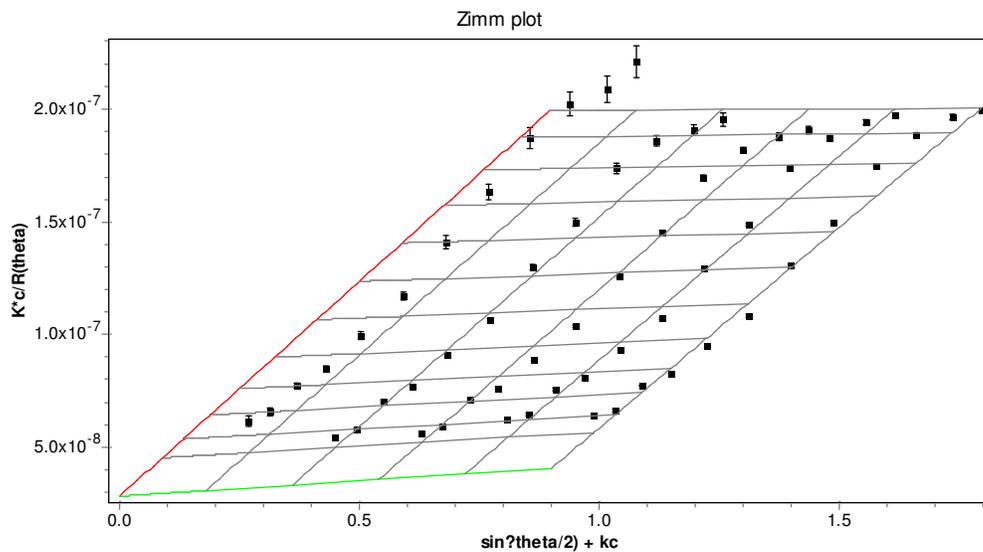
Percent to keep: 25 %

Results

Molar mass (Mw): (3.540±0.613)e+7 g/mol

rms radius (Rz): 177.1±16.8 nm

2nd virial coefficient: (1.236±0.596)e-4 mol mL/g²

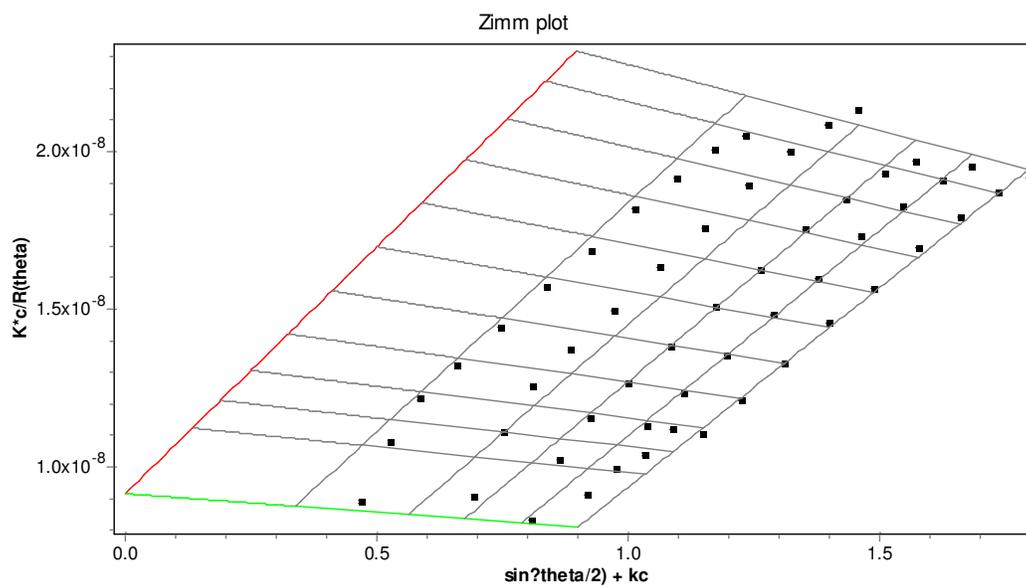


Results

Molar mass (Mw): $(1.094 \pm 0.093)e+8$ g/mol

rms radius (Rz): 89.2 ± 5.3 nm

2nd virial coefficient: $(-6.601 \pm 5.617)e-6$ mol mL/g²



2. TEM

TEM measurements were performed on a Tecnai G220 (FEI, USA) at an acceleration voltage of 200 kV. The samples were prepared by dropping 10 μ L of polymersome solution (0.05 mg/mL) on a copper grid at room temperature. After five minutes, excess solution was removed with filter paper followed by staining with uranyl acetate (2 wt %) for two minutes.

TEM micrograph of CLP showed the highly conjugated membrane for CLP based on PNIPAAm 30 kDa. This size (100 nm) was much smaller than those measured in water using DLS (240 nm). This is probably because the thick swollen membrane made of PNIPAAm 30 kDa was deformed under high vacuum during drying.

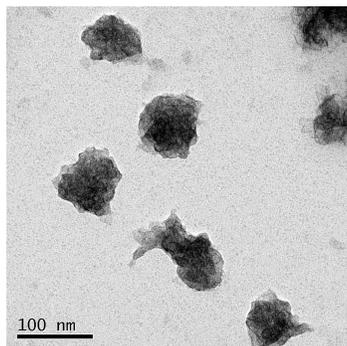


Fig. S2 TEM micrograph of crosslinked polymersomes from PEG₁₁₃-PAA₂₀-PNIPAM₃₅₆.