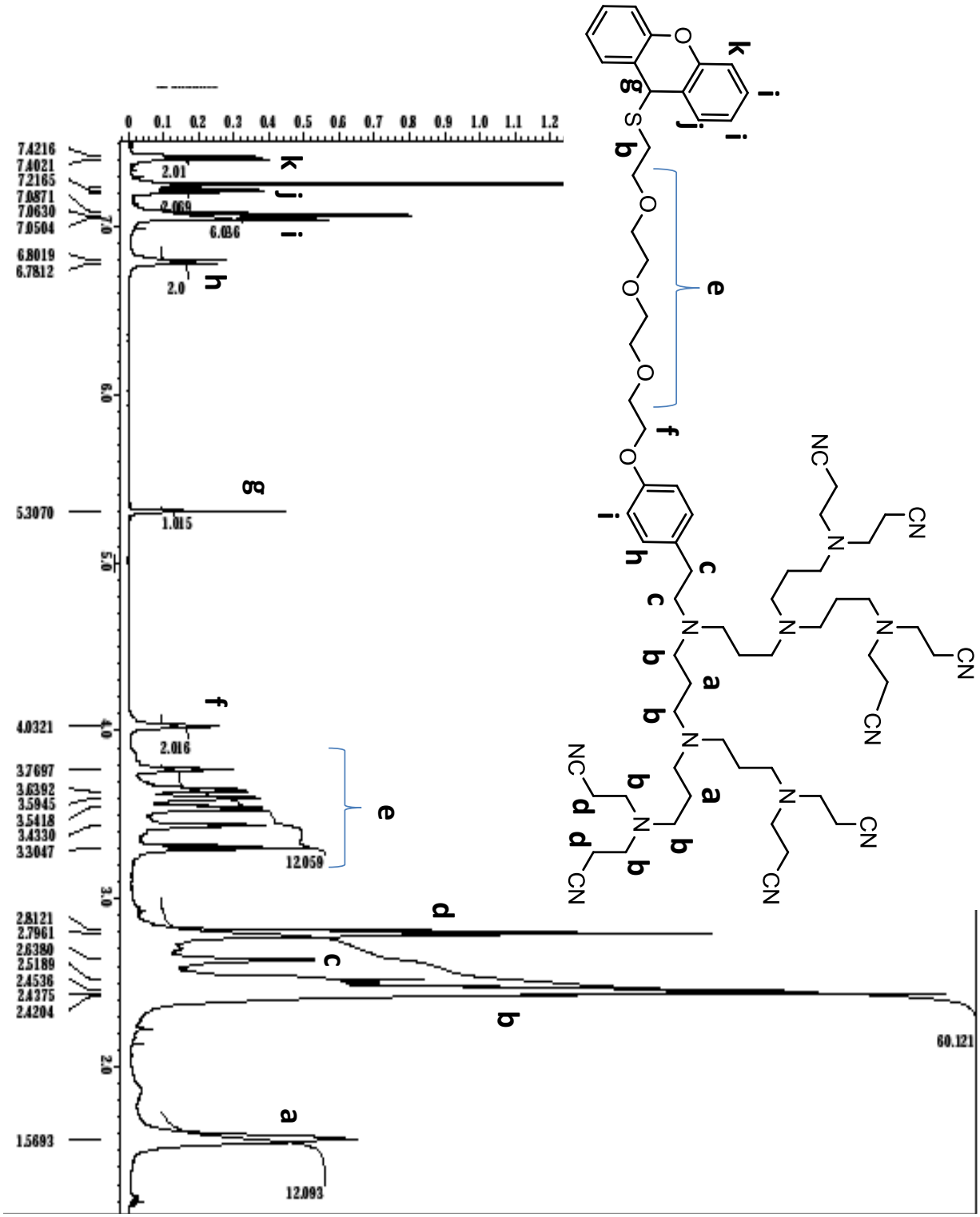
Supplementary Materials

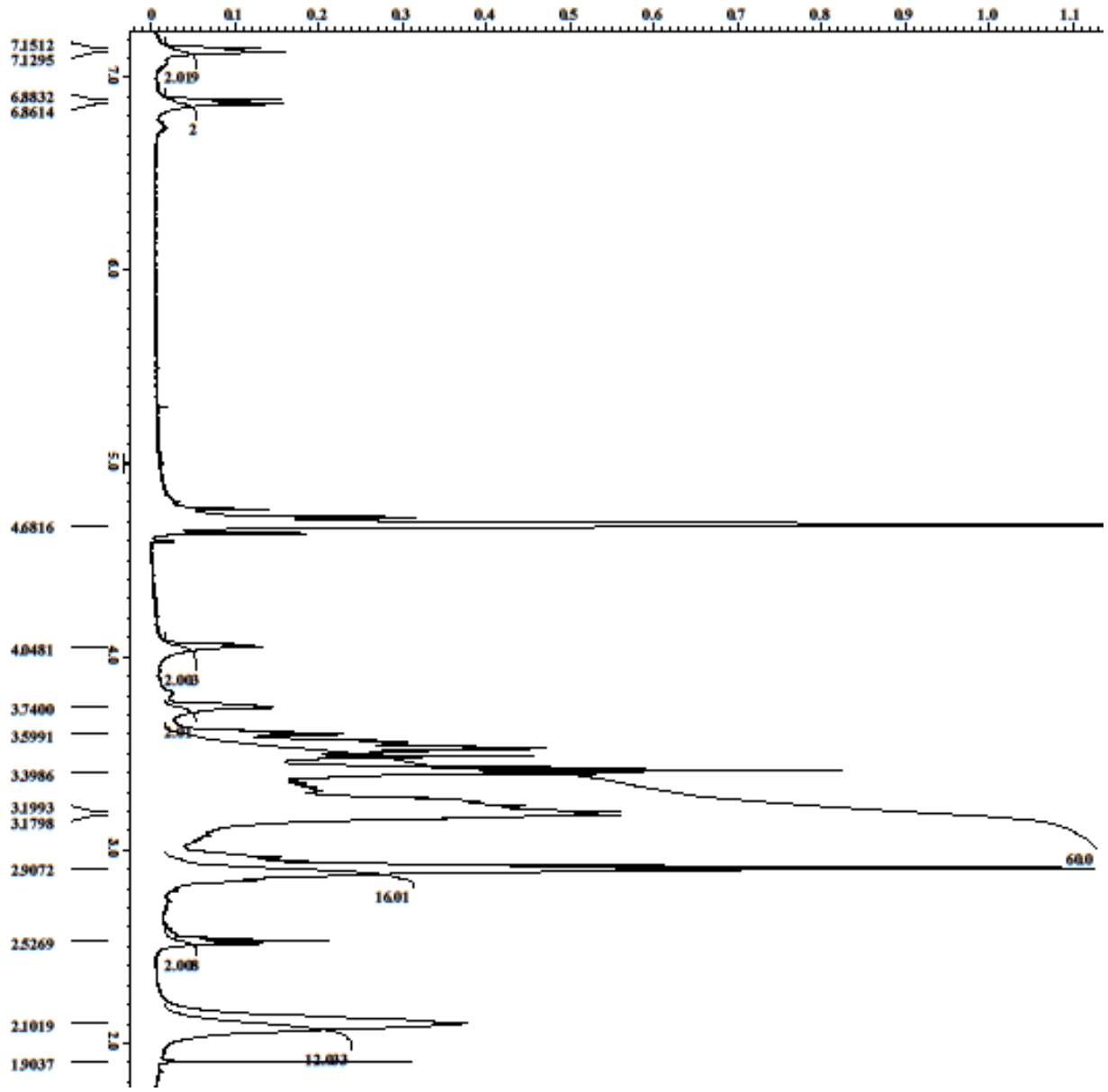
Tetraethyleneglycol monotosylate (1) – To a solution of tetraethylene glycol (100 g, 515 mmol) in 230 mL THF was added a solution of sodium hydroxide (6.89 g, 172 mmol) dissolved in 20 mL deionized water. The mixture was cooled to 0°C and toluene sulfonyl chloride (9.81 g, 51.5 mmol) in 20 mL THF was added dropwise. The reaction was allowed to stir at 0°C for 2 hours. The solution was poured into deionized water. The aqueous layers were separated and extracted with dichloromethane. The organic layers were combined and washed with water, dried over sodium sulfate, filtered and concentrated under reduced pressure to yield 16.1671 g of product as a clear oil (90.1% yield). R_f = 0.634 (SiO_2, EtOAc); ^{1}HNMR (400 MHz, $CDCl_3$) δ 2.44 (s, 3H), δ 3.55-3.72 (m, 14H), δ 4.16 (t, 2H), δ 7.33 (d, 2H), δ 7.79 (d, 2H).

Mercaptotetraethylene glycol (2) – Absolute ethanol (65 mL) and thiourea (0.472 g, 6.19 mmol) were added to dried tetraethyleneglycol monotosylate **1** (2.03 g, 5.83 mmol) and allowed to reflux under argon for 24 hours. After 24 hours, the reaction was cooled to room temperature and was added sodium hydroxide (0.700 g, 17.5 mmol) in absolute ethanol/water (9:1 v/v, 8.5 mL). The reaction was heated to reflux under argon for 3 hours. The reaction mixture was then cooled to room temperature, acidified with concentrated hydrochloric acid to pH 2, filtered to remove the salts, and concentrated under reduced pressure. The crude oil was purified *via* column chromatography (10:1 ethyl acetate/absolute ethanol) to obtain the product as a yellow oil (1.02 g, 83.3%): ^{1}HNMR (400 MHz, $CDCl_3$) δ 1.62 (t, 1H), δ 2.46 (broad s, 1H), δ 2.70 (d of t, 2H), 3.58-3.75 (m, 14H).

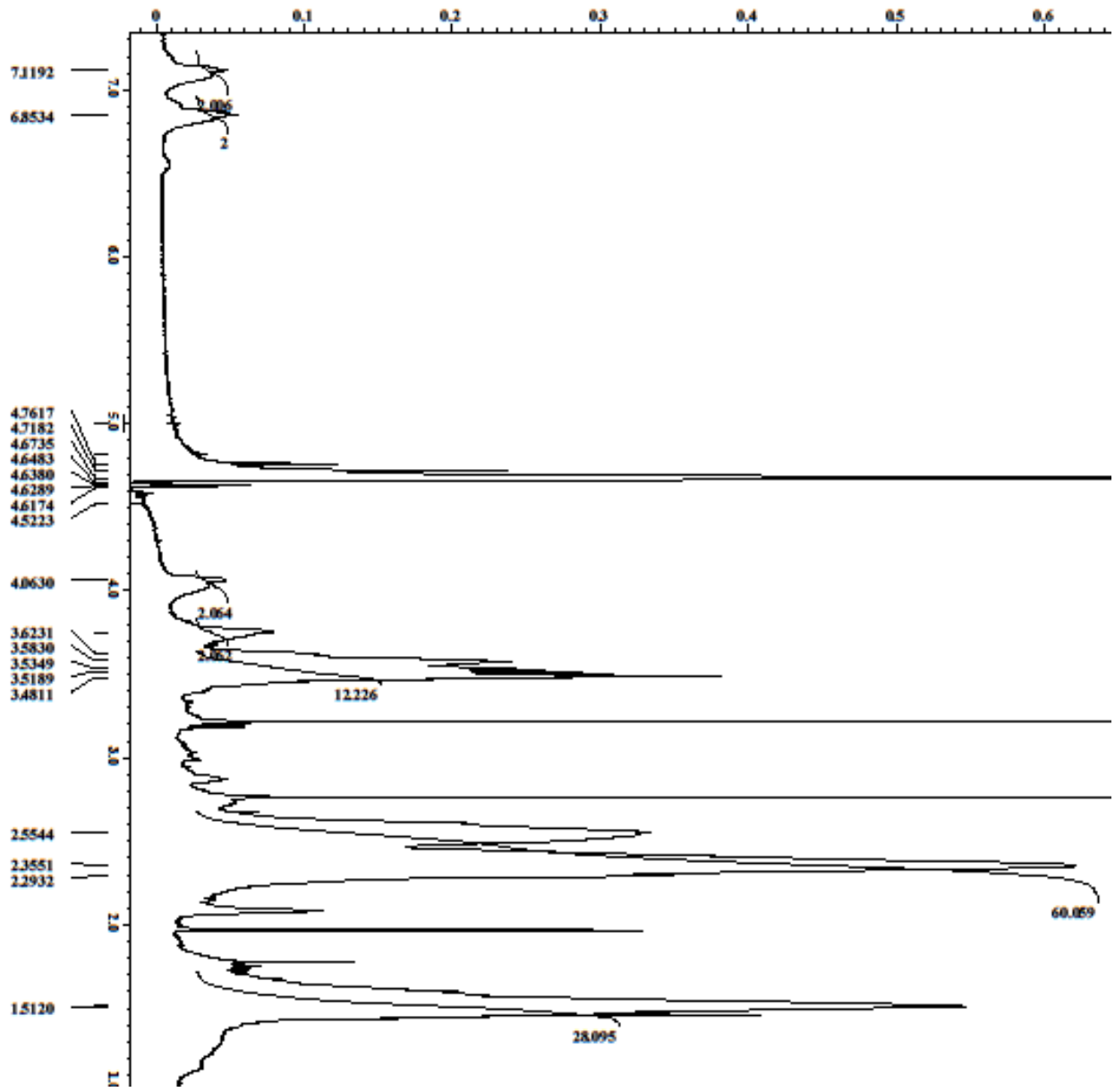
S1: ^{1}H NMR spectrum of dendron **7** in $CDCl_3$



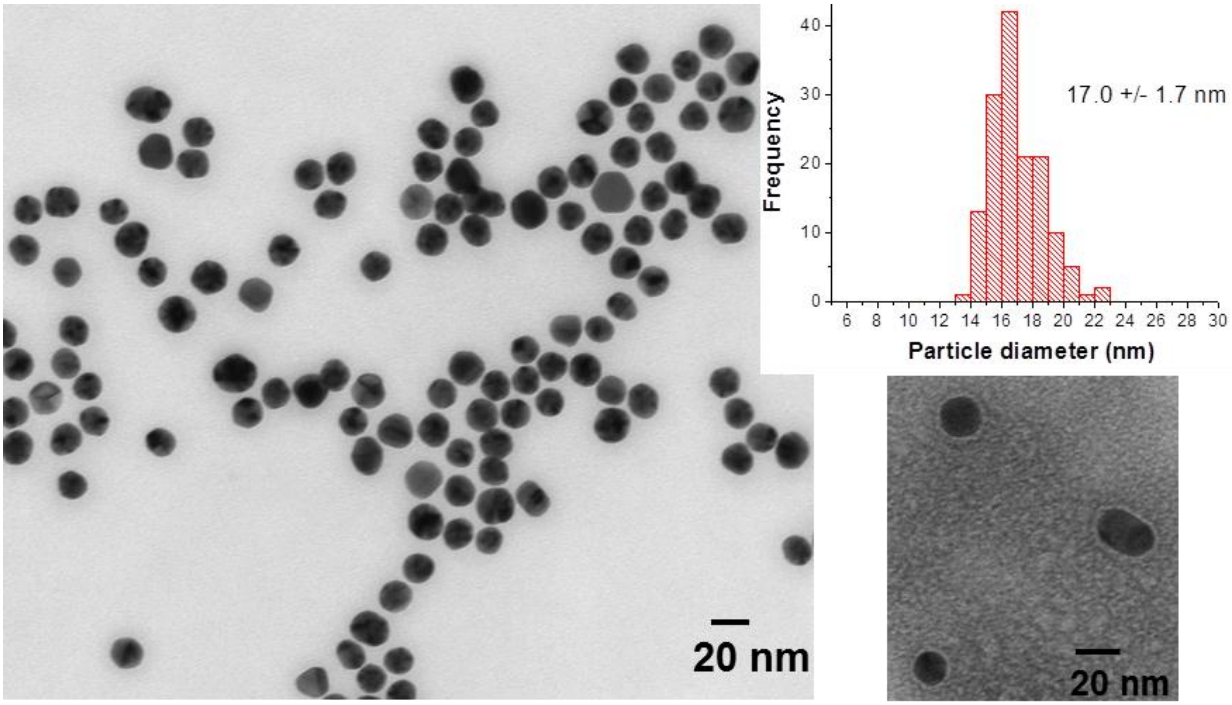
S2: ^{1}H NMR spectrum of dendron **8** in D_2O



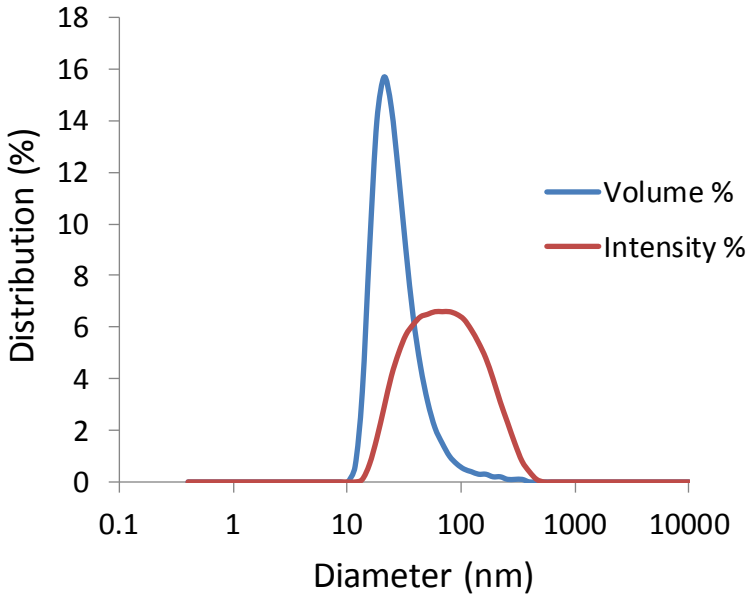
S3: ^{1}H NMR spectrum of dendron **9** in D_2O



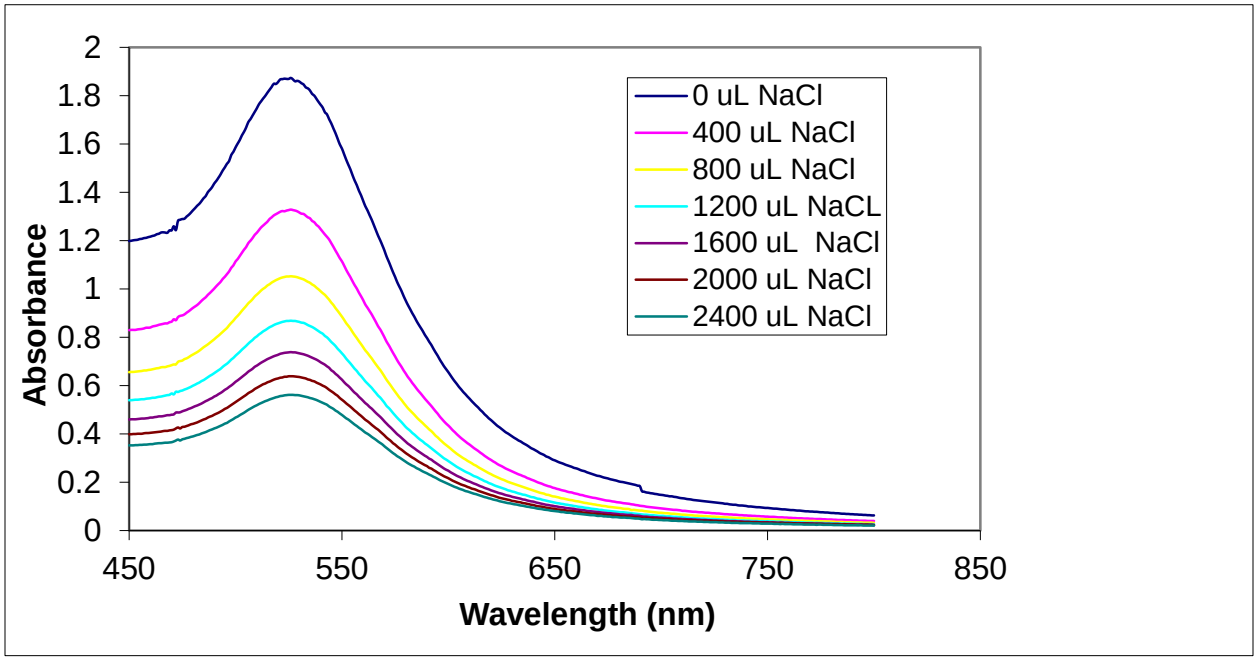
S4: TEM pictures (stained: bottom right, and non-stained: left) of GNPG3NH2 and corresponding size histogram.



S5: Stability in PBS buffer (pH 7.4) of GNPG3NH2: DLS spectra by intensity (red curve) and by volume (blue curve) in 1xPBS buffer.



S6: Stability of GNPG3NH2 toward the presence of salt: UV-vis spectra after increasing additions of a NaCl solution (C = 2.05 M).



S7: Stability of GNPG3NH2 toward freeze-drying: DLS measurements of GNPG3NH2 before (solid line) and after freeze-drying and redissolution in water (dashed line).