Supplementary Material

Novel disulfide-containing poly(β-amino ester)s functionalized magnetic nanoparticles for efficient gene delivery

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^{1}H NMR of S、SF and representative SF-1

S (Yield 95%) : ^{1}H NMR (500 MHz, DMSO) δ 7.37 (t, J = 5.6 Hz, 2H), 6.33 (dd, J = 17.3, 1.3 Hz, 2H), 6.14 (dd, J = 17.3, 10.4 Hz, 2H), 5.93 (dd J = 10.4, 1.2 Hz, 2H), 4.16 (t J = 6.3 Hz, 4H), 4.08 (t, J = 5.5 Hz, 4H), 3.24 (q, J = 5.6 Hz, 4H), 2.92 (t, J = 6.3 Hz, 4H).

SF (Yield 100%): ^{1}H NMR (500 MHz, DMSO) δ 6.35 (CH_2=CH-), 6.14 (CH_2=CH-), 5.93 (CH_2=CH-), 4.17 (dd, J = 13.6, 7.2 Hz, 4H), 3.99 (t J = 5.5 Hz, 4H), 3.46 – 3.33 (m, 2H), 3.21 (dd, J = 11.4, 5.6 Hz, 4H), 2.94 (t J = 6.1 Hz, 4H), 2.65 (t J = 7.0 Hz, 4H), 2.38 (t J = 6.7 Hz, 4H), 2.35 – 2.25 (m, 2H), 1.46 – 1.35 (m, 2H), 1.33 (dd J = 14.5, 7.5 Hz, 2H), 1.23 (dd J = 15.1, 8.0 Hz, 2H).

SF-1 (Yield 83%) : ^{1}H NMR (500 MHz, DMSO) δ 7.32 (-NH-), 7.12 (-NH-), 4.17 (dd, J = 14.5, 6.4 Hz, 1H), 4.08 – 3.87 (m, 1H), 3.22 (dt J = 17.0, 5.7 Hz, 2H), 3.07 – 2.87 (m, 2H), 2.65 (dd J = 12.0, 5.5 Hz, 1H), 2.44 – 2.24 (m, 1H), 1.76 (t J = 6.6 Hz, 1H), 1.64 – 1.14 (m, 2H), 0.93 – 0.70 (m, 1H).
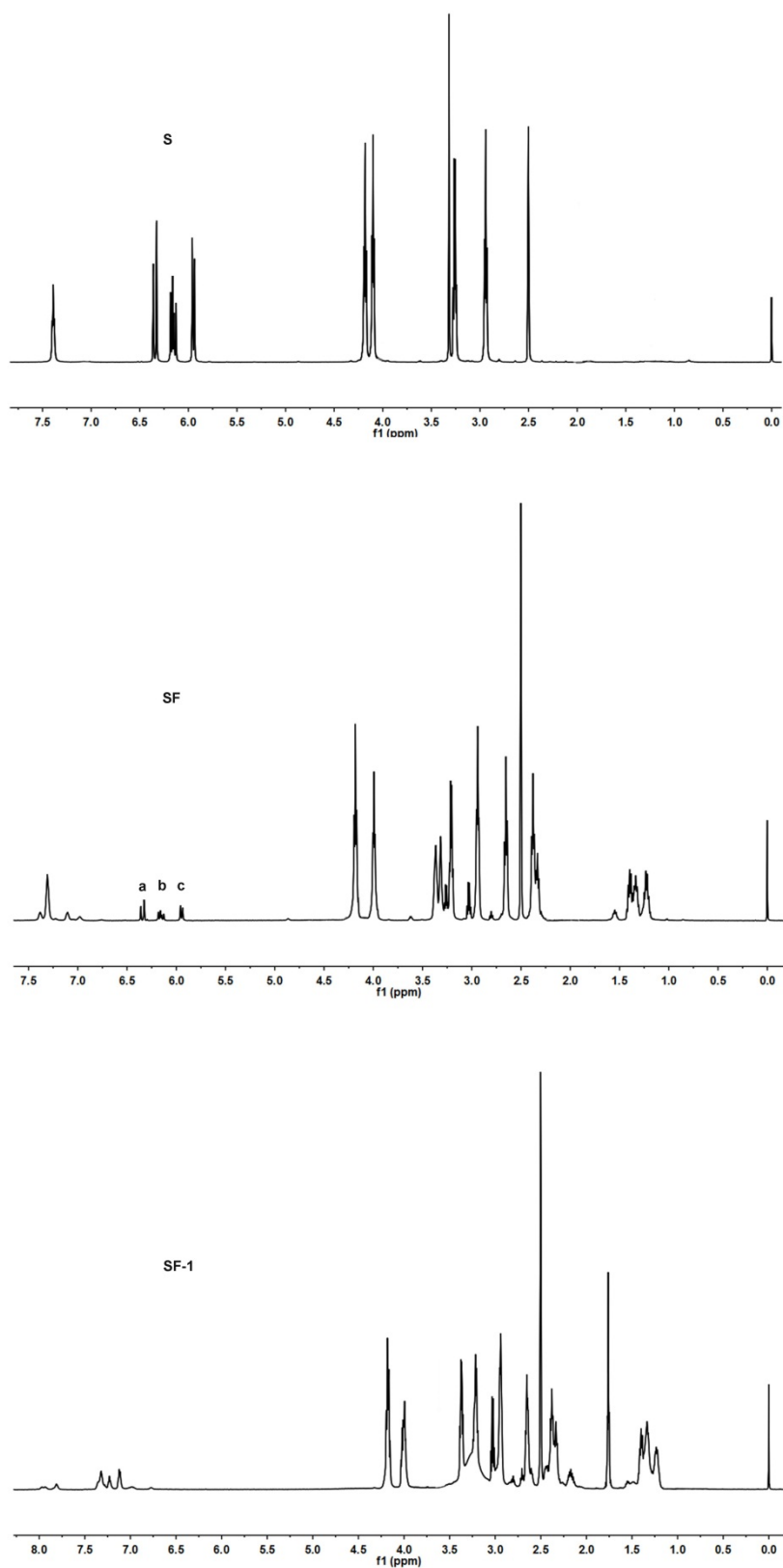
Figure S1. ^{1}H NMR spectrum (500 MHz, DMSO) of S 、 SF and SF-1. The disappearance of the acrylate peaks (a-c for SF) in the polymer spectrum suggests that amine end-capped polymer was successfully formed from acrylate-terminated base polymer.
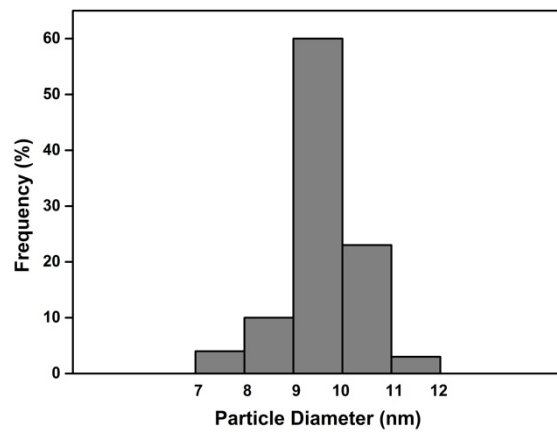
Figure S2. The size distribution histograms of MNP