Supporting Information

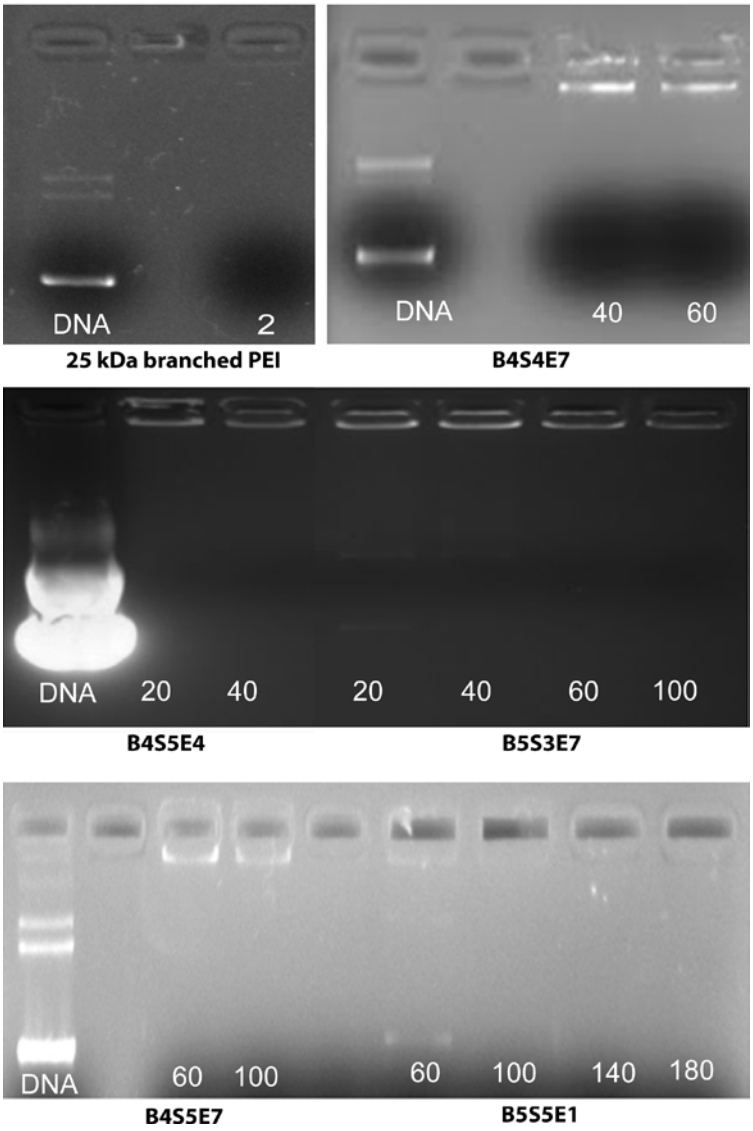

Figure S1. Gel electrophoresis data of the six PBAE-based nanoparticle formulations at different polymer to DNA weight ratios (wt/wt – 20,40,60,100,140,180) and PEI-based nanoparticles control at 2 wt/wt prepared by complexing polymer with EGFP plasmid.

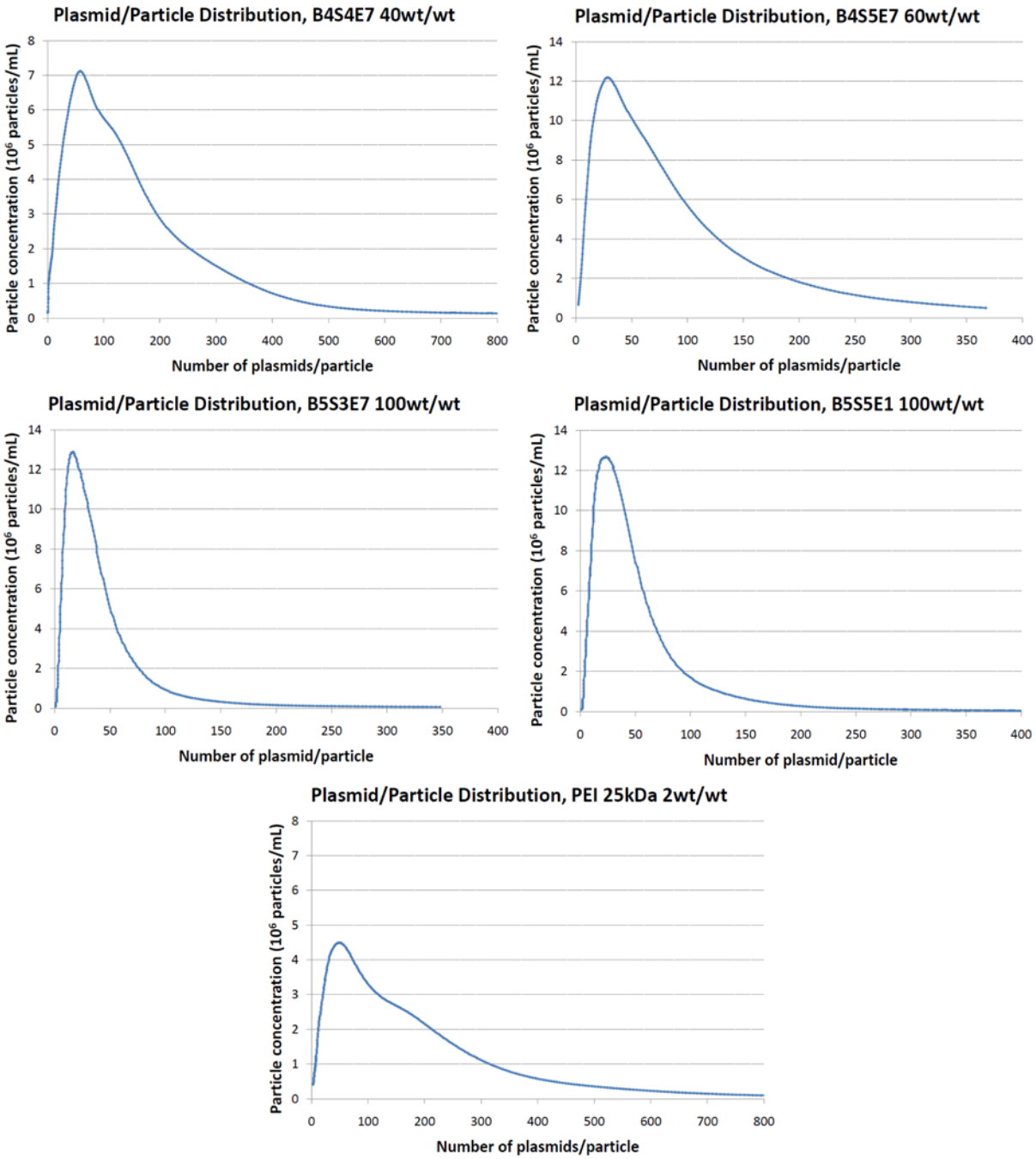

Figure S2. Plasmid per particle distributions from nanoparticle tracking analysis. Figure shows the plasmid per particle distribution data for the rest of the formulations as determined by calculating the number of plasmids per particle for each 1 nm increment of particle size. The peak of the distribution represents the mode plasmid per particle number for each formulation. The mean of 1 nm distribution was also determined and found to be equal to the mean obtained from overall average calculations. For all formulations, the mode was lower than the mean indicating that a few particles may contain a lot of the plasmids and other particles contain fewer plasmids.

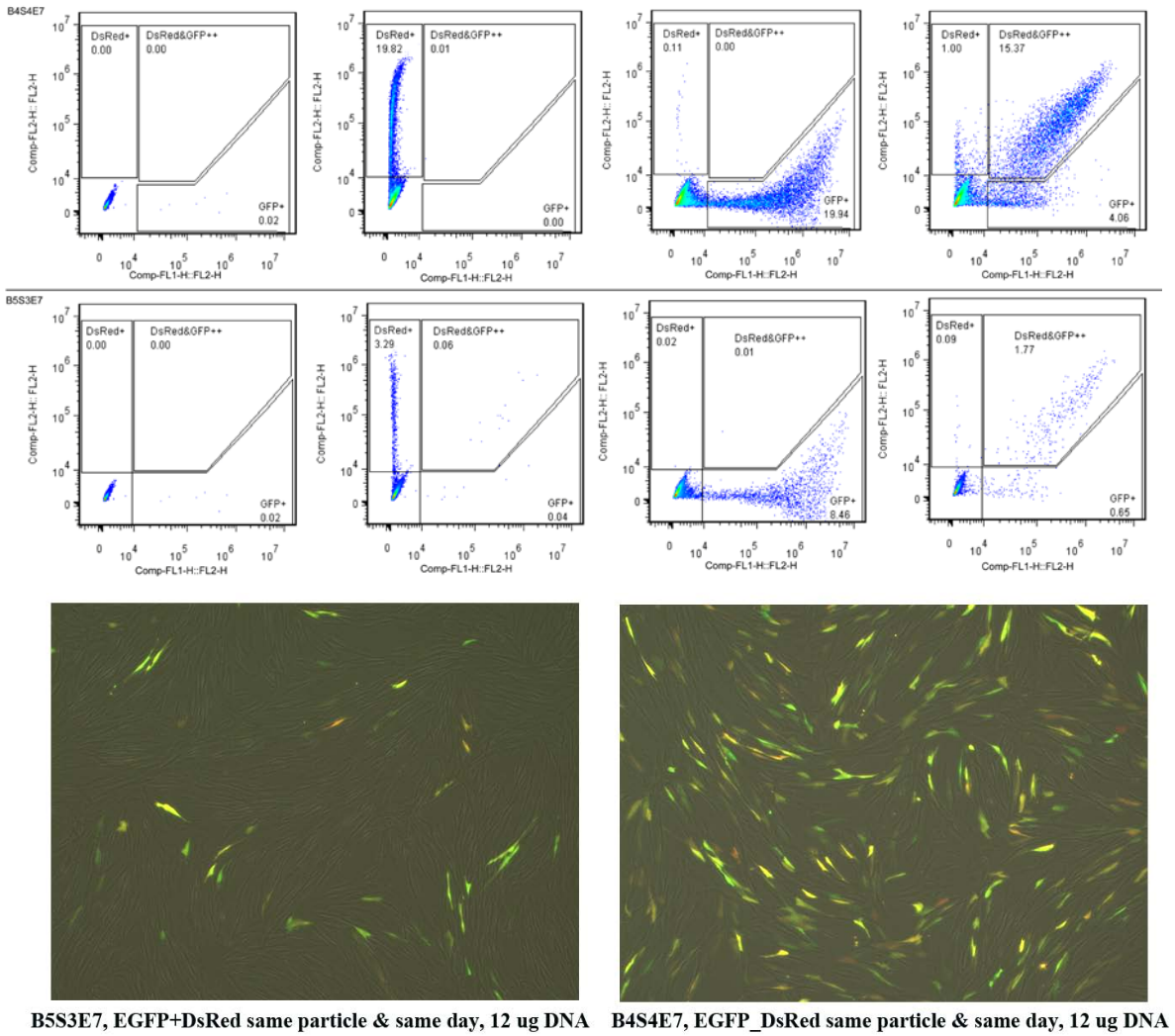

Figure S3. Flow cytometry (FC) and fluorescence microscopy (FM) images of IMR90 cells co-transfected with DsRed and EGFP plasmids using B5S3E7 (FC-bottom panel, FM-left image) and B4S4E7 (FC-top panel, FM-right image) based nanoparticles. 15.8±0.5% cells were co-transfected by B4S4E7 based nanoparticles as compared to 3.3±0.5% co-transfected by B5S3E7 based nanoparticles. The polymer B4S4E7 with a high plasmid/particle count (~120) is more effective at co-transfection than B5S3E7 with a low plasmid/particle count (~30).