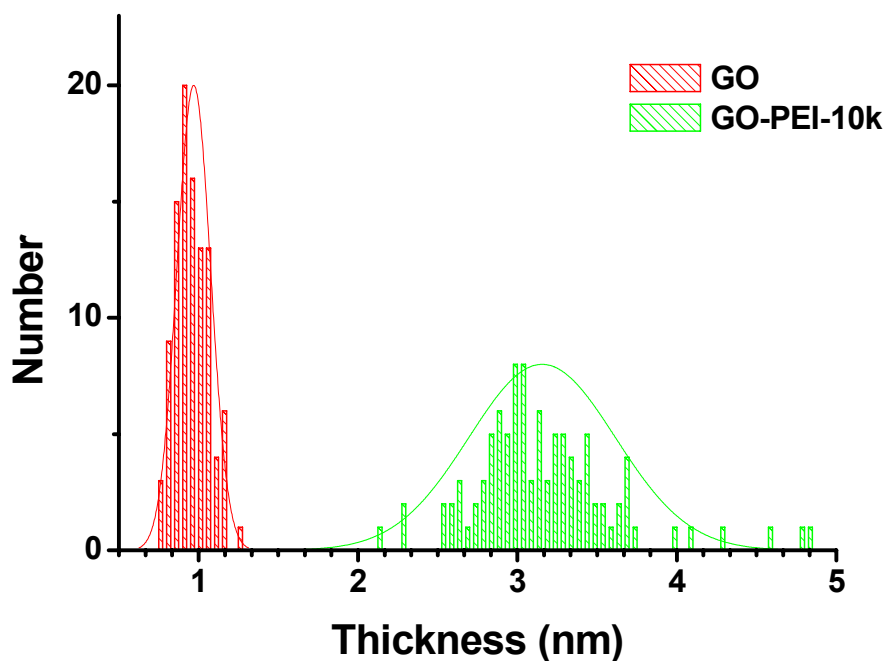
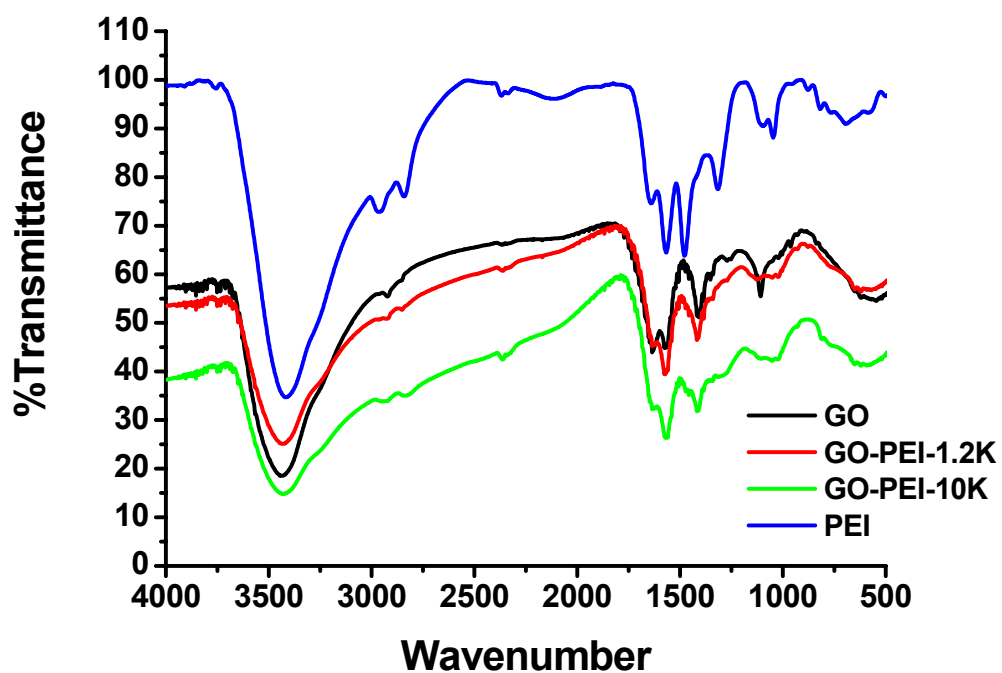


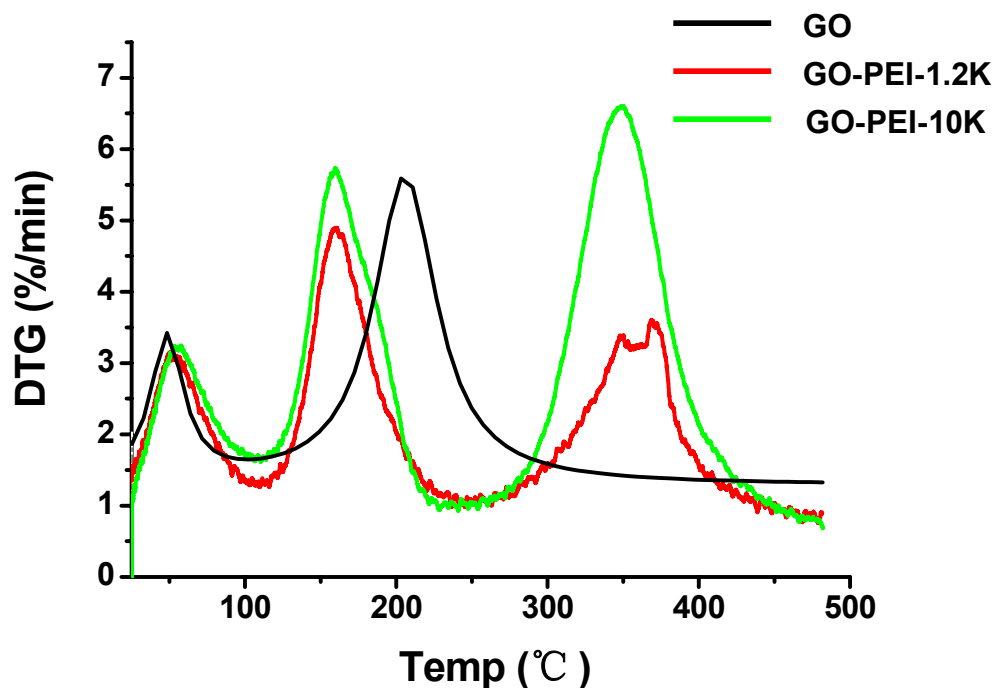
## Supporting information



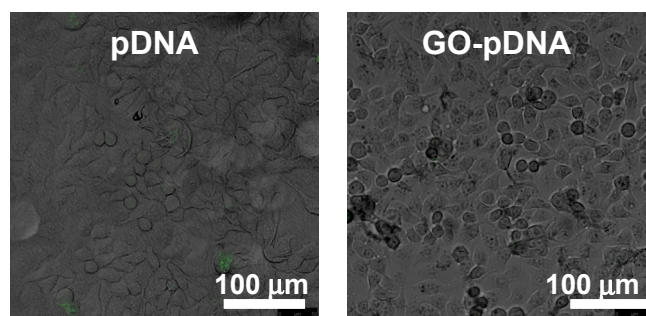
**Figure 1.** Thickness distributions of GO (red) and GO-PEI-10k (green) measured by AFM. The average sheet thickness of GO was about  $0.97 \pm 0.11$  nm; while GO-PEI complexes showed an average thickness about  $3.15 \pm 0.46$  nm due to the binding of PEI to GO. For the statistical analysis, 100 GO and GO-PEI sheets were measured.



**Figure 2.** The infrared spectra of GO, GO-PEI complexes, and bare PEI-10k. In the two GO-PEI samples, the two peaks at 2700-2900  $\text{cm}^{-1}$  are attributed to the C-H vibrations in the PEI coating, while the small peak at 1050~1100  $\text{cm}^{-1}$  is associated to the C-N vibration.



**Figure 3.** The derivative thermogravimetric (DTG) analysis of GO, GO-PEI-1.2k, and GO-PEI-10k. The weight loss rates (percentage per minutes) of various samples were plotted against the temperature. The first weight loss peak below 100 °C was due to the evaporation of water content in the samples. The second peak from 160 to 210 °C in GO and GO-PEI samples was likely owing to the thermal removal of functional groups on GO. The weight loss at ~350 °C for GO-PEI samples was attributed to the decomposition of PEI polymers. The actual PEG loading in the GO-PEI-10k sample was higher than that in the GO-PEI-1.2k, consistent to elementary analysis results.



**Figure 4.** Confocal fluorescence images of HeLa treated by plain EGFP pDNA and GO-pDNA. No appreciable EGFP green fluorescence was observed in both samples.