Supplementary information

Hydrophobic Chain Modified Low Molecular Weight Polyethylenimine for Efficient Antigen Delivery

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Figure S1. (**A**) ^{1}H NMR of C12-PEI, ^{1}H NMR spectra using integral values obtained from the number of -CH_2CH_2- and the peaks at 2.5-3.2 ppm to protons of PEI; (**B**) FT-IR spectra of C12-PEI. The absorption peaks (ν_{N-H}) at 3500-3100 cm^{-1} and 2800-3000 cm^{-1} (ν_{C-H}) indicate the existence of polyethlenimine and alkyl chain.

Figure S2. Average particle size distribution of the as-prepared polyplex nanoparticles of C12-PEI/OVA-0.07/1 measured by DLS

Figure S3. AFM images of the C12-PEI/OVA-0.07/1 polyplex nanoparticles

Figure S4. (**A**).Change in average particle size and PDI of the C12-PEI/OVA-0.07/1 polyplex during incubation at 4 ℃in NaCl (0.9%); (**B**).Change in average particle size and PDI of the C12-PEI/OVA-0.07/1 polyplex during incubation at 4 ℃ in HEPES buffer solution (10 mM, pH 7.4).

Figure S5. Intracellular distribution of the C12-PEI/Rho-OVA polyplexes in DCs cells after incubation of the polyplexes for 15min, 30 min and 1 hour, the fluorescence images were observed and recorded on a Leica TCS SP8 Confocal Laser Scanning Microscope.

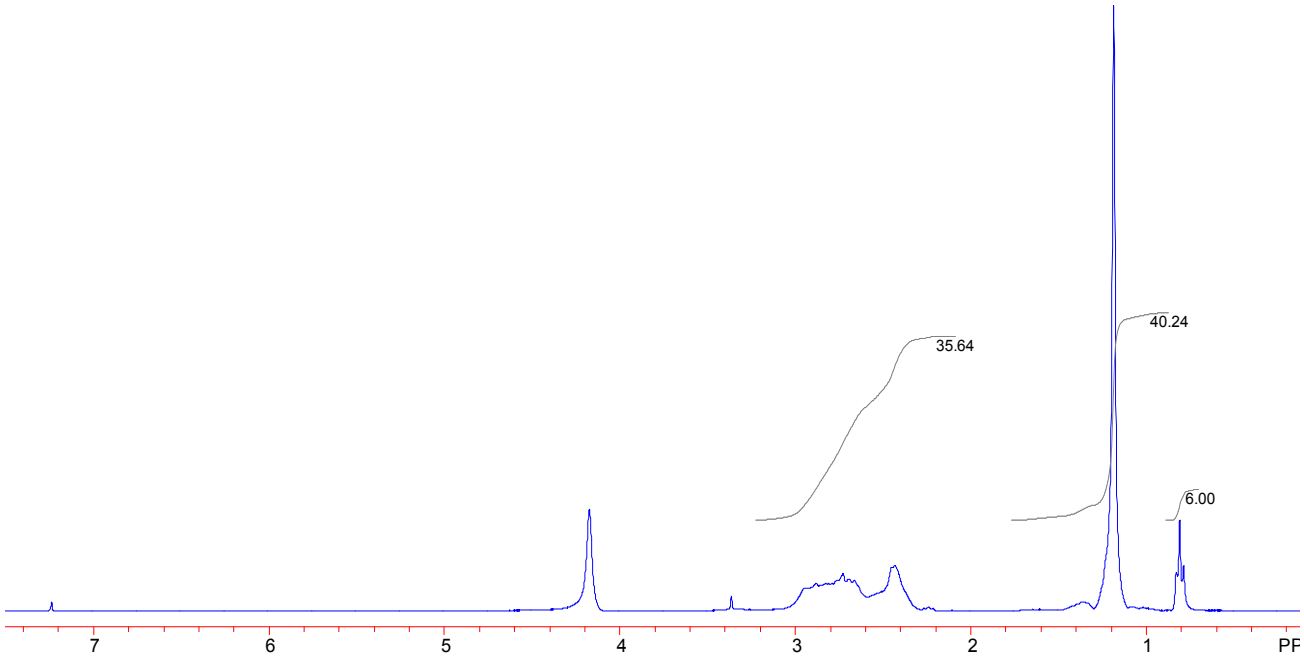

Figure S1. (**A**) ^{1}H NMR of C12-PEI, ^{1}H NMR spectra using integral values obtained from the number of -CH_2CH_2- and the peaks at 2.5-3.2 ppm to protons of PEI.

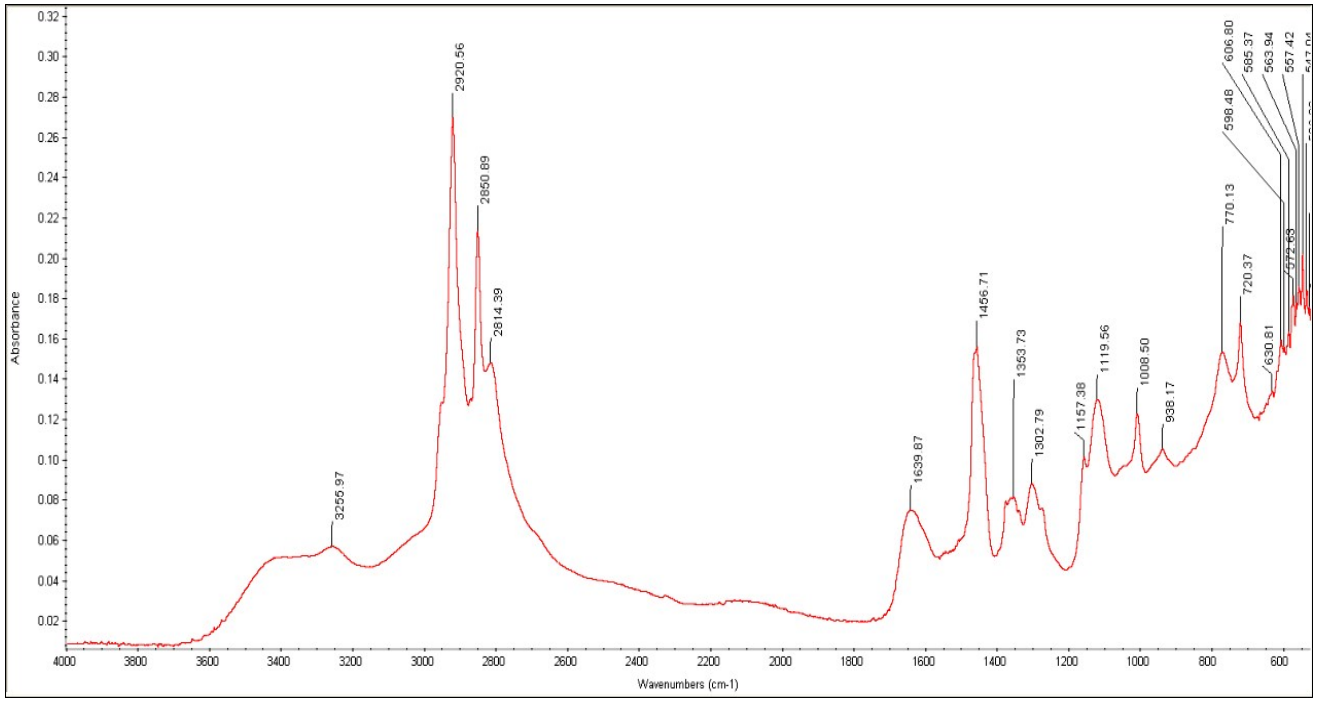

Figure S1. (**B**) FT-IR spectra of C12-PEI. The absorption peaks (ν_{N-H}) at 3500-3100 cm^{-1} and 2800-3000 cm^{-1} (ν_{C-H}) indicate the existence of polyethleneimine and alkyl chain.

			Size (d.n...	% Intensity	Width (d.n...
Z-Average (d.nm):	233.8	Peak 1:	266.8	97.0	121.5
PdI:	0.206	Peak 2:	4474	3.0	890.9
Intercept:	0.956	Peak 3:	0.000	0.0	0.000
Result quality	Good				

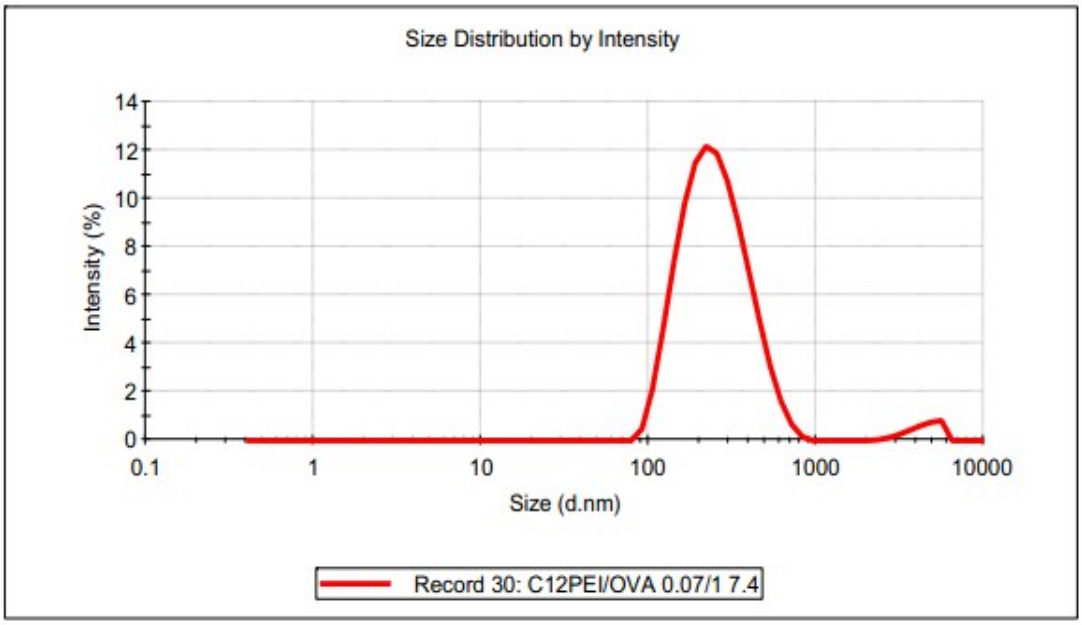

Figure S2. Average particle size distribution of the as-prepared polyplex nanoparticles of C12-PEI/OVA-0.07/1 measured by DLS

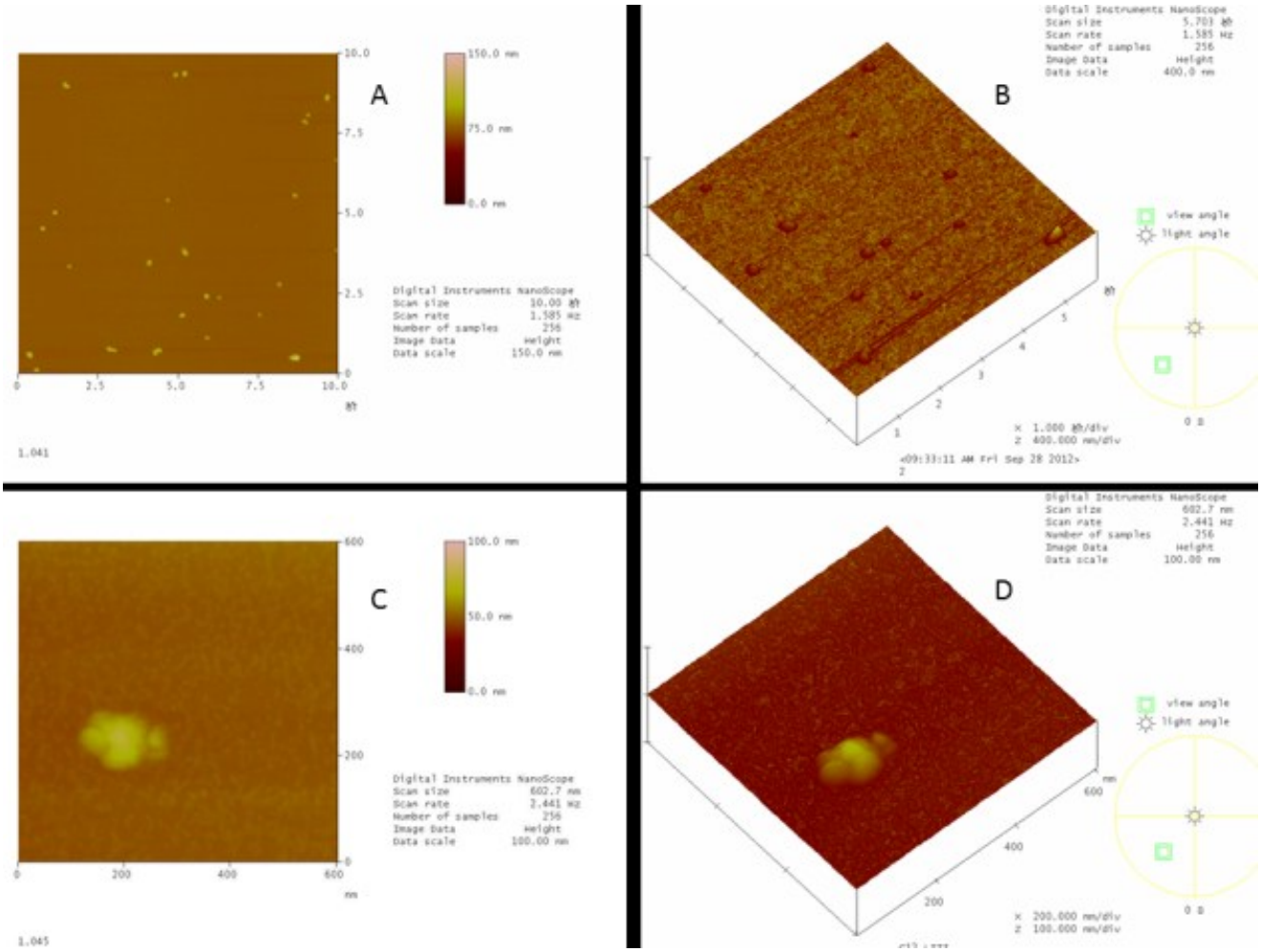

Figure S3. AFM images of the C12-PEI/OVA-0.07/1 polyplex nanoparticles

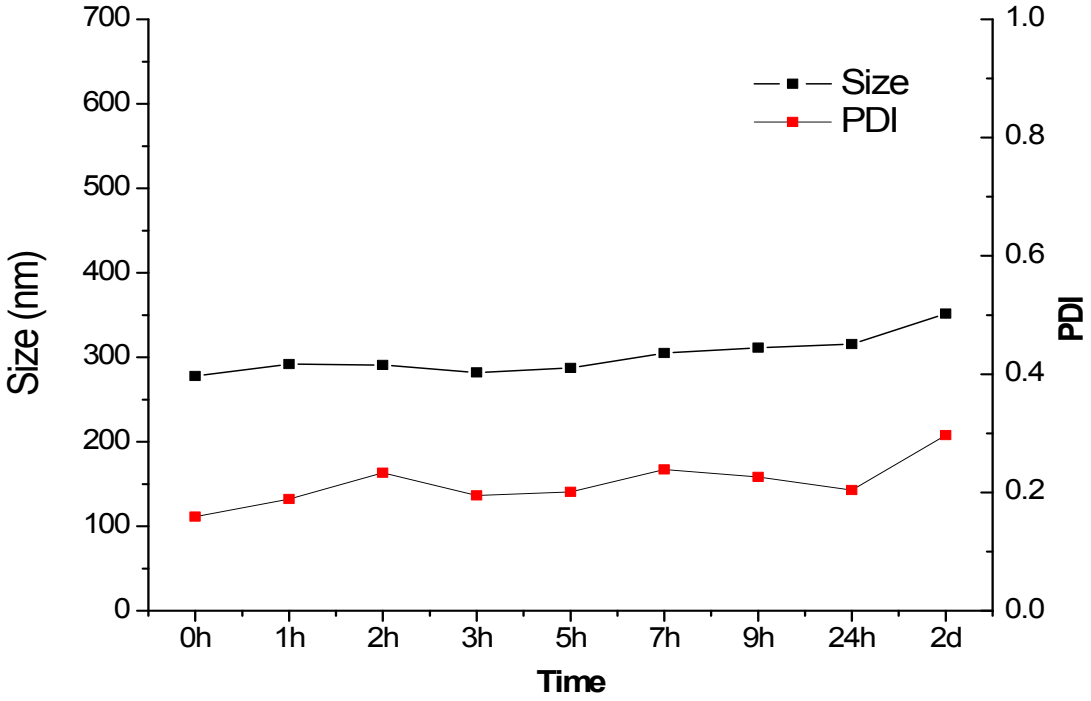

Figure S4 (**A**).Change in average particle size and PDI of the C12-PEI/OVA-0.07/1 polyplex during incubation at 4 ℃in NaCl（0.9%）

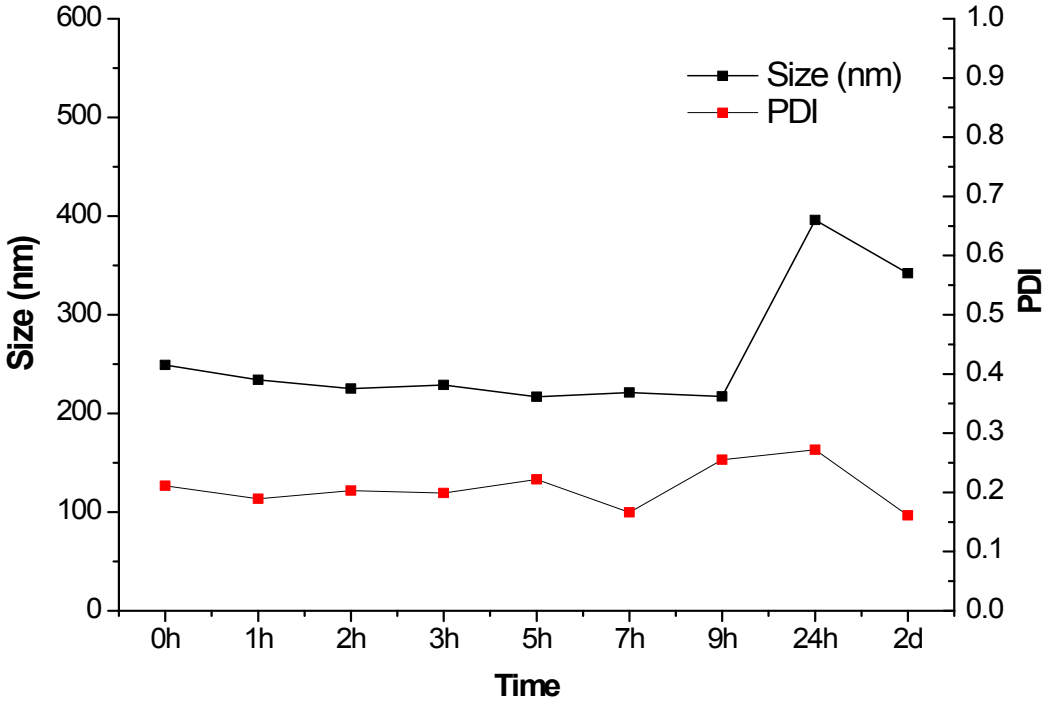

Figure S4 (**B**).Change in average particle size and PDI of the C12-PEI/OVA-0.07/1 polyplex during incubation at 4 ℃in HEPES buffer solution (10 mM, pH 7.4)

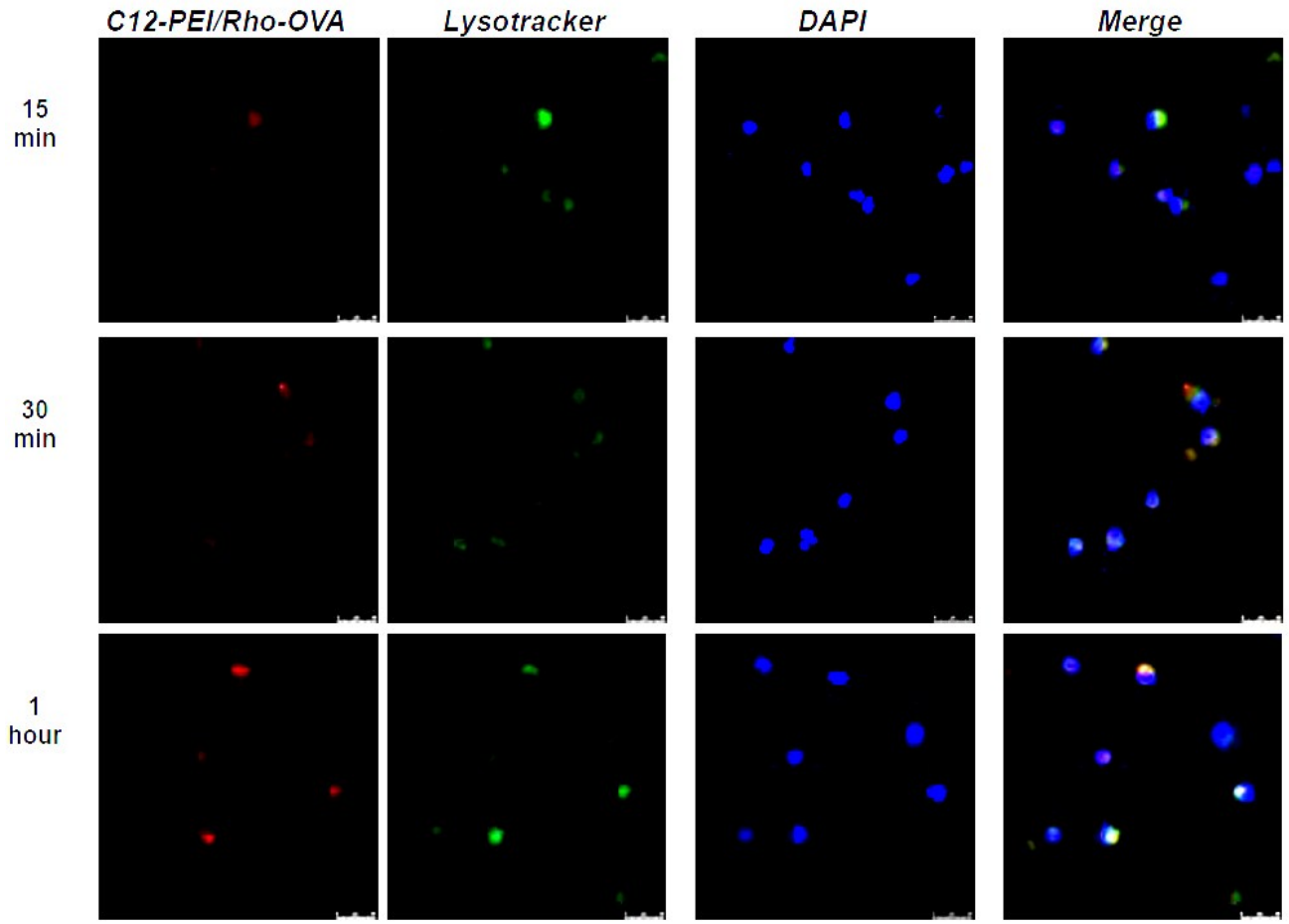

Figure S5. Intracellular distribution of the C12-PEI/Rho-OVA polyplexes in DCs cells after incubation of the polyplexes for 15min, 30 min and 1 hour, the fluorescence images were observed and recorded on a Leica TCS SP8 Confocal Laser Scanning Microscope.