Supporting information

Macrophage-Targeting and Reactive Oxygen Species (ROS)-Responsive Nanopolyplexes Mediate Anti-Inflammatory siRNA Delivery against Acute Liver Failure (ALF)

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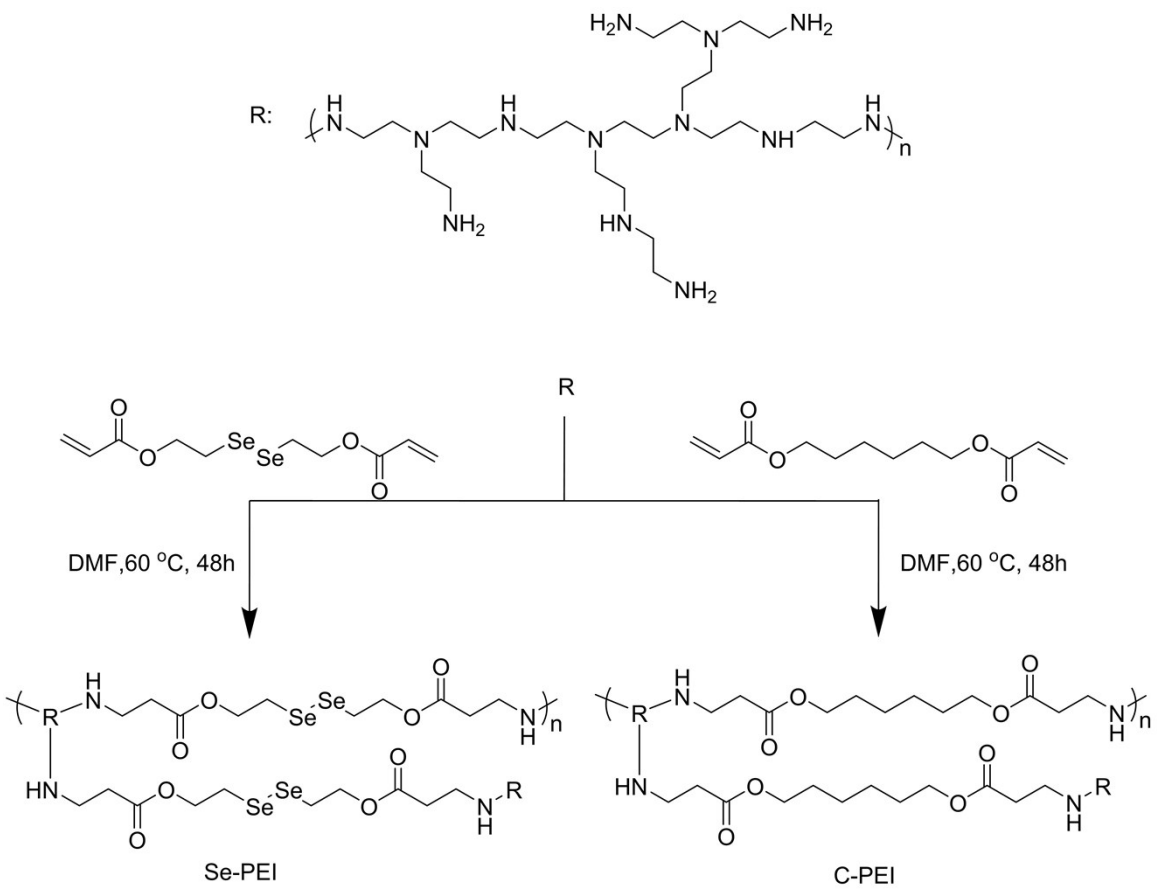
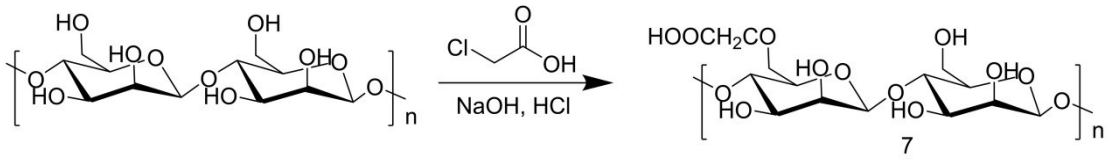


Scheme S1: Synthesis of ROS-responsive Se-PEI and its nonresponsive analogue C-PEI



Scheme S2: Synthetic route of Man-COOH.

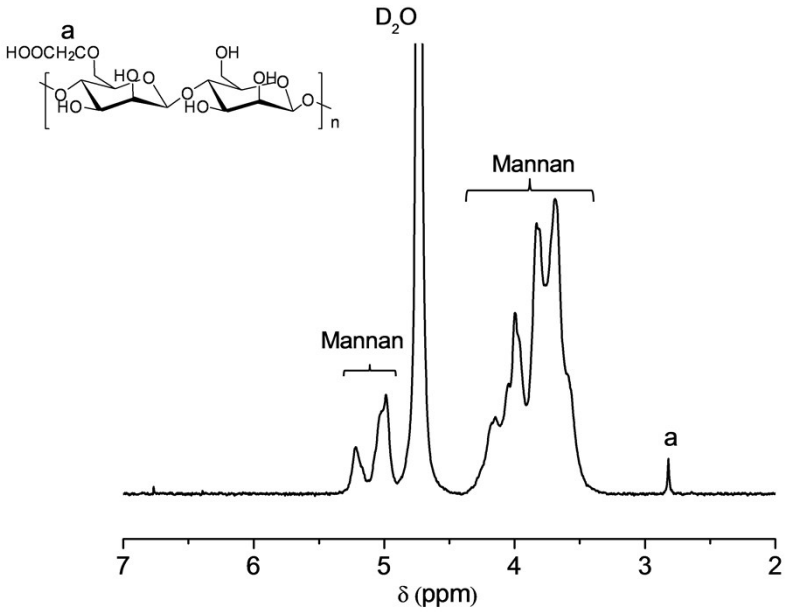


Fig. S1. ^{1}H NMR spectrum of Man-COOH ($CDCl_3$, 400 MHz).

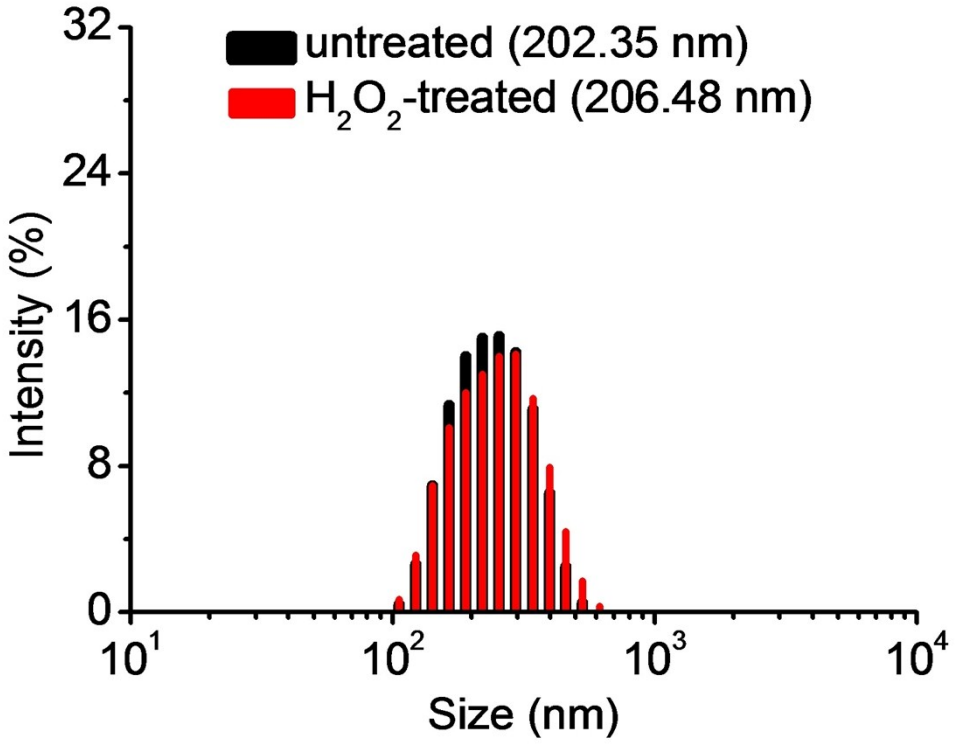


Fig. S2. ROS-triggered size augmentation of C-PEI/siRNA polyplexes following 1mM H_2O_2 treatment for 4 h (20/1, w/w).

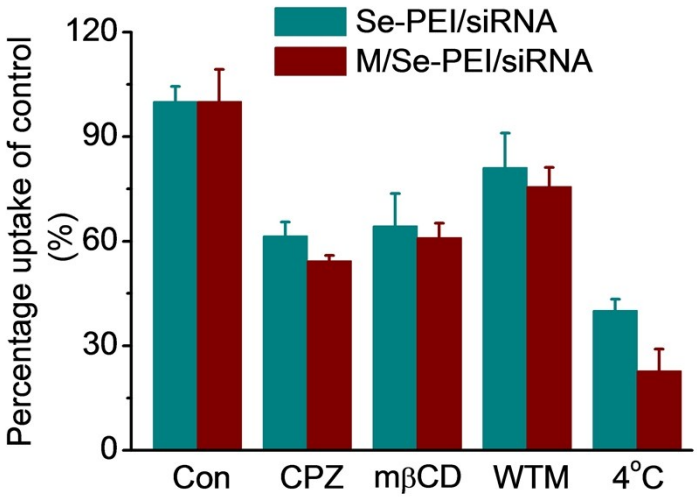


Fig. S3. Uptake level of Se-PEI/siRNA binary polyplexes (20/1, w/w) and M/Se-PEI/siRNA ternary polyplexes (20/20/1, w/w/w) at 4 °C or in the presence of various endocytic inhibitors (n = 3).

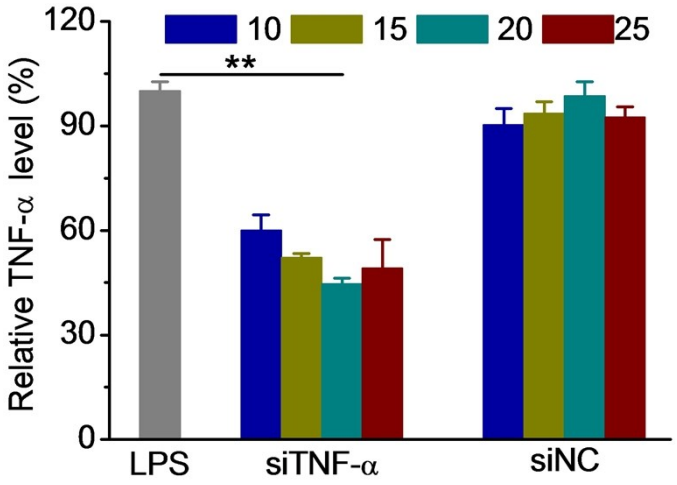


Fig. S4. Relative TNF-α level following treatment with Se-PEI/siRNA polyplexes containing siTNF-α or siNC at various Se-PEI/siRNA weight ratios (n = 3).

Table S1. Sequences of TNF-α and Scramble siRNA (Scr).

	Sequence
TNF-α sense	5’-GUCUCAGCCUCUUCUCAUUCCUGCT-3’
TNF-α antisense	5’-AGCAGGAAmUGmAAmGAmGGmCUmGAmGACmAmU-3’
Scr sense	5’-UUC UCC GAA CGU GUC ACG UTT-3’
Scr antisense	5’-ACG UGA CAC GUU CGG AGA ATT-3’

Table S2. Primer sequences of TNF-α and 36B4.

	Sequence
TNF-α F	CCCTCACACTCAGATCATCTTCT
TNF-α R	GCTACGACGTGGGCTACAG
36B4 F	TCCAGGCTTTGGGCATCAC
36B4 R	CTTTATCAGCTGCACATCACTCAGA