

Supporting Information

A releasable disulfide carbonate linker for PEI-based Gene Vectors

^a School of Chemical Engineering, Nanjing University of Science and Technology, Nanjing 210094, P. R. China.

E-mail address: weidong@njust.edu.cn; Tel: +86-13851816922; fax: +86-25-84312602.

^b Center for Molecular Metabolism, Nanjing University of Science & Technology, Nanjing 210094, P. R. China.

^c Key Laboratory of Developmental Genes and Human Disease in Ministry of Education, Department of Biochemistry and Molecular Biology, Medical School of Southeast University, Nanjing, 210009, P. R. China.

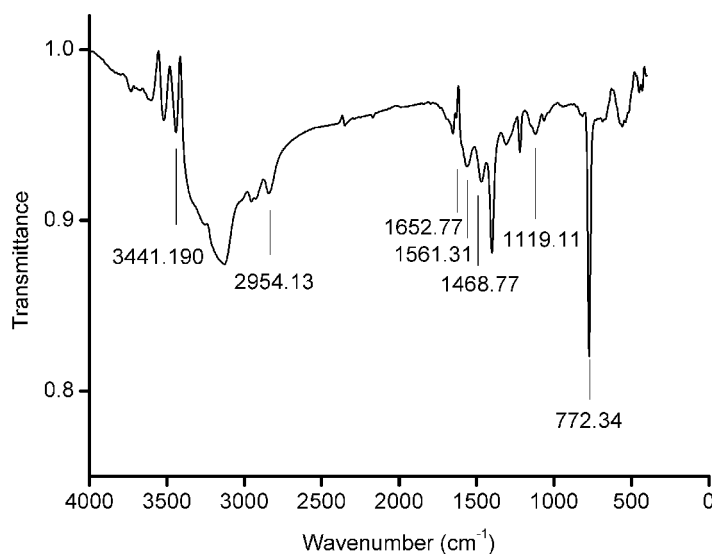


Figure S1. FT-IR spectrum of PEI-SS-CL-1.5.

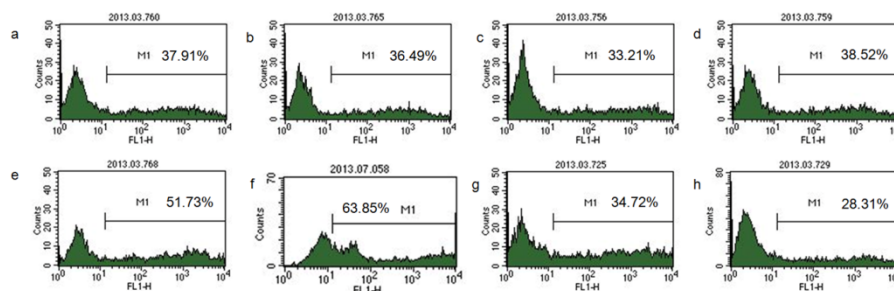


Figure S2. Flow cytometry assay of the EGFP expression efficacy in COS-7 cells by PEI-SS-CLs/pDNA polyplexes, compared with PEI 25k and Lipofectamine 2000 at different weight ratios: PEI-SS-CL-1.0 (a) 3.5:1, (b) 4.5:1 and (c) 5.5:1; PEI-SS-CL-1.5 (d) 3.5:1, (e) 4.5:1 and (f) 5.5:1; PEI-25k (g) 3:1 and Lipofectamine 2000 (h) 3:1. M1 represents the percent of cells transfected with pEGFP.

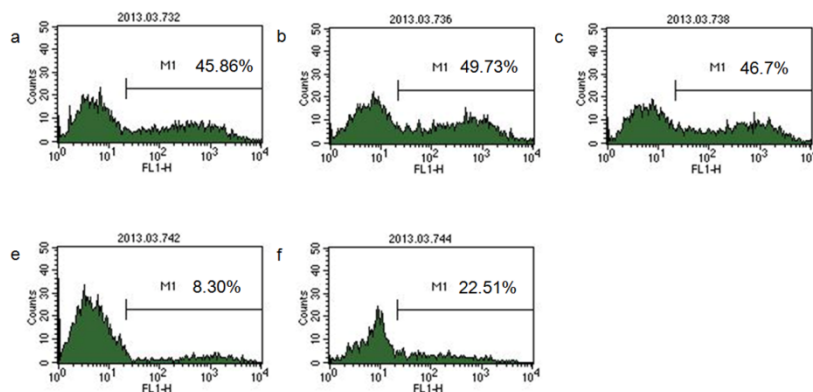


Figure S3. Flow cytometry assay of the EGFP expression efficacy in HepG2 cells by PEI-SS-CL-1.5/pDNA polyplexes, compared with PEI 25k and Lipofectamine 2000 at different weight ratios: PEI-SS-CL-1.5 (a) 3.5:1, (b) 4.5:1 and (c) 5.5:1; PEI-25k (d) 3:1; Lipofectamine 2000 (e) 3:1. M1 represents the percent of cells transfected with pEGFP.

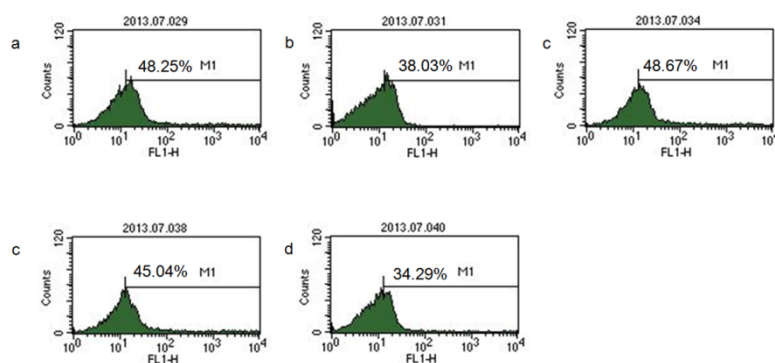


Figure S4. Flow cytometry assay of the EGFP expression efficacy in Raw246.7 cells by PEI-SS-CL-1.5/pDNA polyplexes, compared with PEI 25k and Lipofectamine 2000 at different weight ratios: PEI-SS-CL-1.5 (a) 3.5:1, (b) 4.5:1 and (c) 5.5:1; PEI-25k (d) 3:1; Lipofectamine 2000 (e) 3:1. M1 represents the percent of cells transfected with pEGFP.

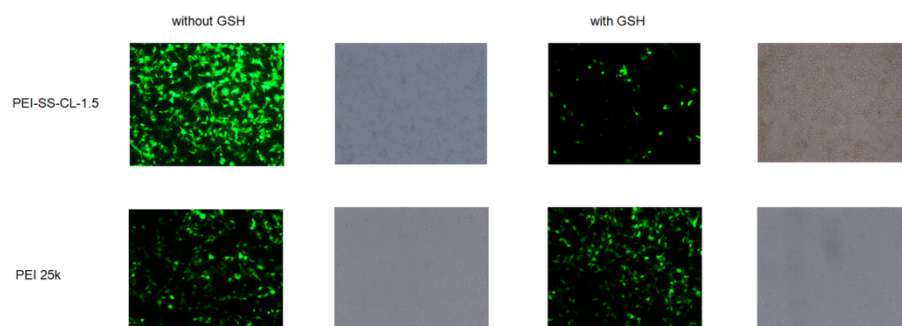


Figure S5. Fluorescent microscopy images of COS-7 cells transfected by PEI-SS-CL-1.5 and PEI 25k for 24 h. PEI-SS-CL-1.5 was treated without or with 50 mM DTT for 30 min and formed complexes with EGFP gene. The polymer/DNA weight ratio of the polyplexes was fixed at 5.5:1. PEI 25k was used as a control at w/w weight ratio of 3:1.