

Supplementary Materials

A Combinatorial Library of Triazine-cored Polymeric Vectors for pDNA delivery *in vitro* and *in vivo*

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1. Characterization of Trazine-core Amphiphilic Polymers (TAPs)

The composition of the final products was characterized by the $^1\text{H-NMR}$ spectra using integral values obtained for the $-\text{CH}_2\text{CH}_2\text{O}-$ or CH_3- protons of Jeffamine and $-\text{CH}_2\text{CH}_2\text{NH}-$ protons of PEI. Such as the A_4B_2 series polymers' NMR were given in **Figure S1**, and the integral data of specific protons were agreement well with the polymer's composition as the expected. The molecular weight (M_w) of the polymers was measured by MADAL-TOF Mass (such as the $1\text{A}_41\text{B}_3$ was given in **Figure S2**).

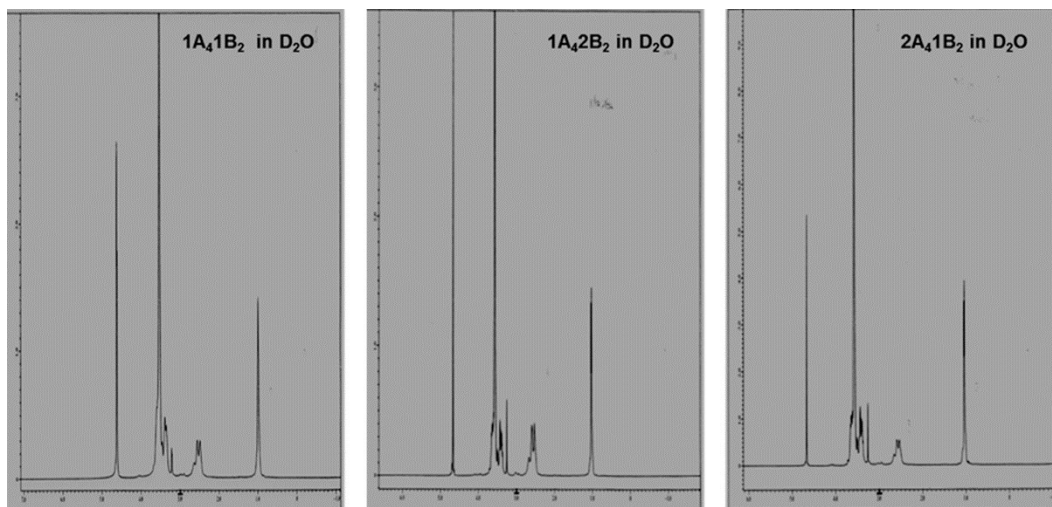


Figure S1. $^1\text{H-NMR}$ of A_4B_2 series TAPs in D_2O with 500 MHz JEOL.

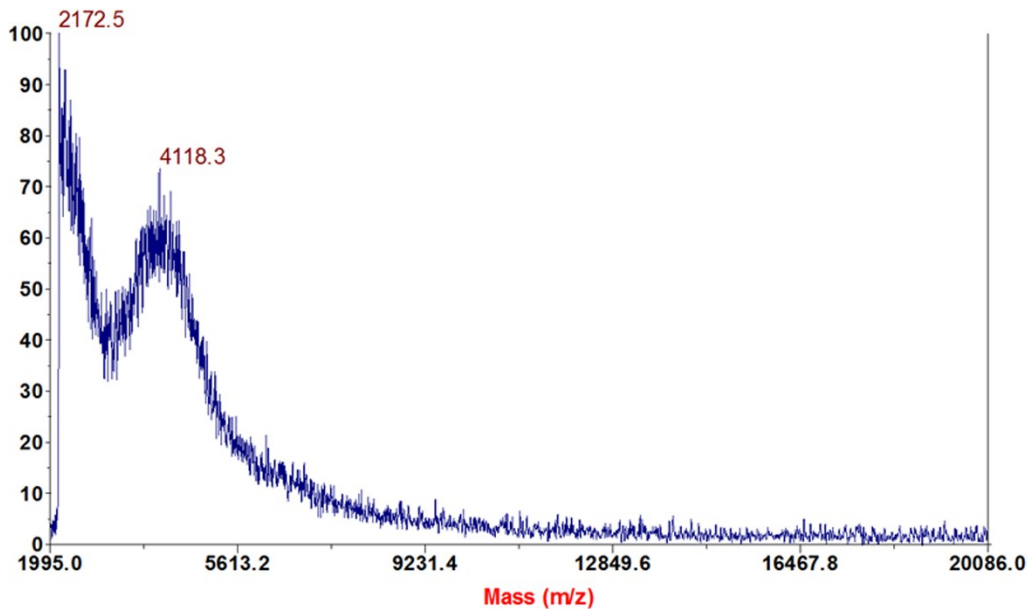


Figure S2. TOF-Mass spectrum of $1\text{A}_41\text{B}_3$

2. pDNA delivery in HSkM cell line transfected with polymer/pDNA complexes at weight ratios of 5 & 10 after 48 hrs incubation (pDNA 1 μ g in 500 μ L 10% FBS-medium).

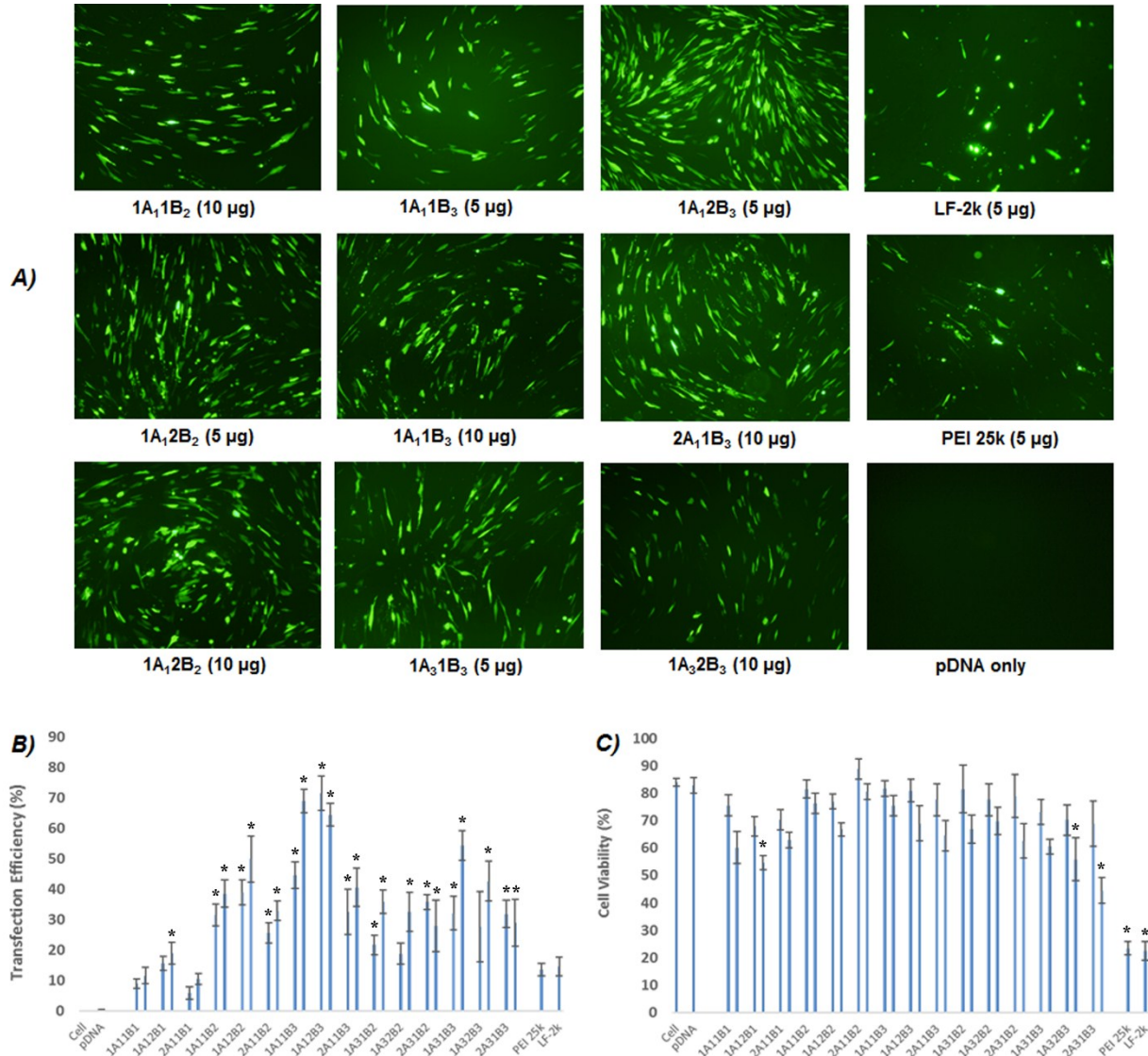


Figure S3. pDNA delivery in HSkM cell line transfected with polymer/pDNA complexes at weight ratios of 5 & 10 after 48 hrs incubation. [TAPs (5/10 μ g), PEI 25k, LF-2k (5 μ g); pDNA 1 μ g in 500 μ L 10% FBS medium]. Column A: GFP expression examined under fluorescent microscopy. Original magnification, x200. B) Transfection efficiency analyzed with FACS (Data represent mean \pm SD, n = 3, two-tailed Student t-test, * p < 0.05 compared with PEI 25k). C) Cell viability ((Data represent mean \pm SD, n = 3, two-tailed Student t-test, * p < 0.05 compared with untreated cell).