

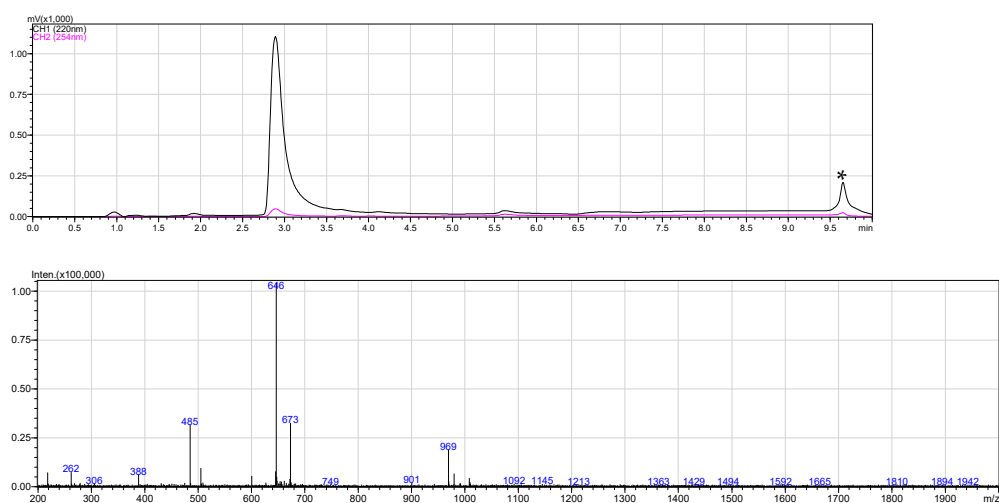
# Peptide Self-Assembly Facilitating DNA Transfection and the Application in Inhibiting Cancer Cells

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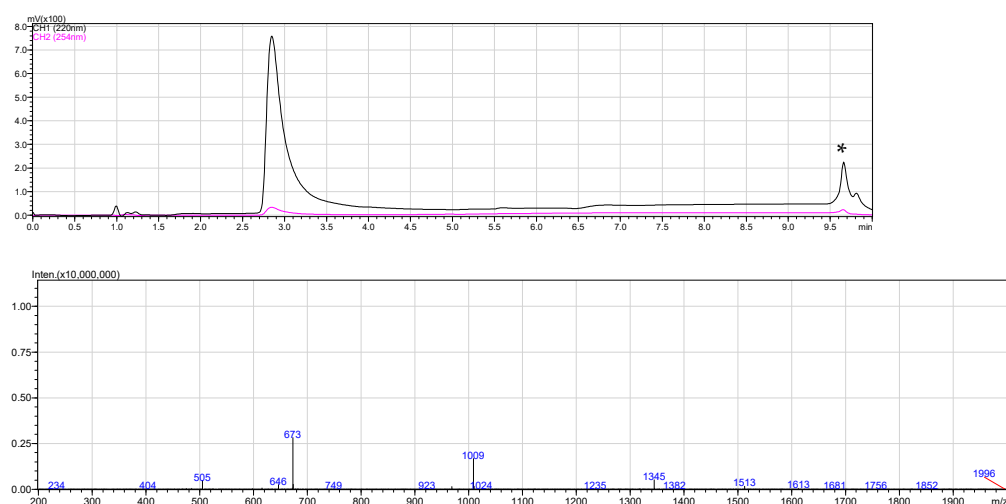
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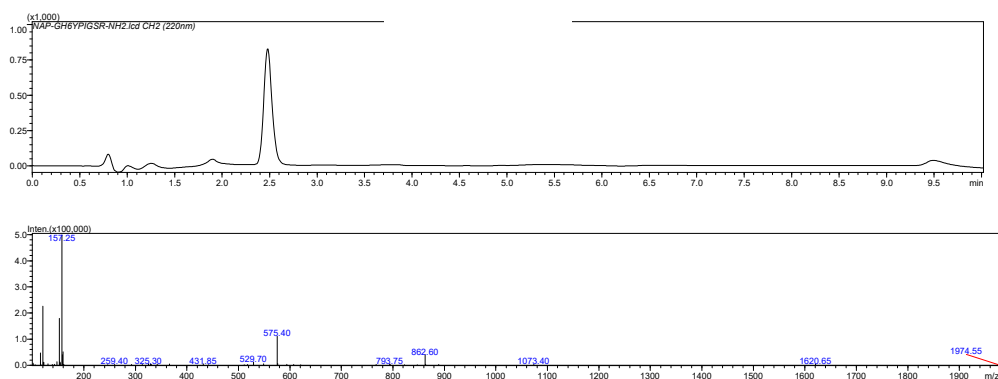
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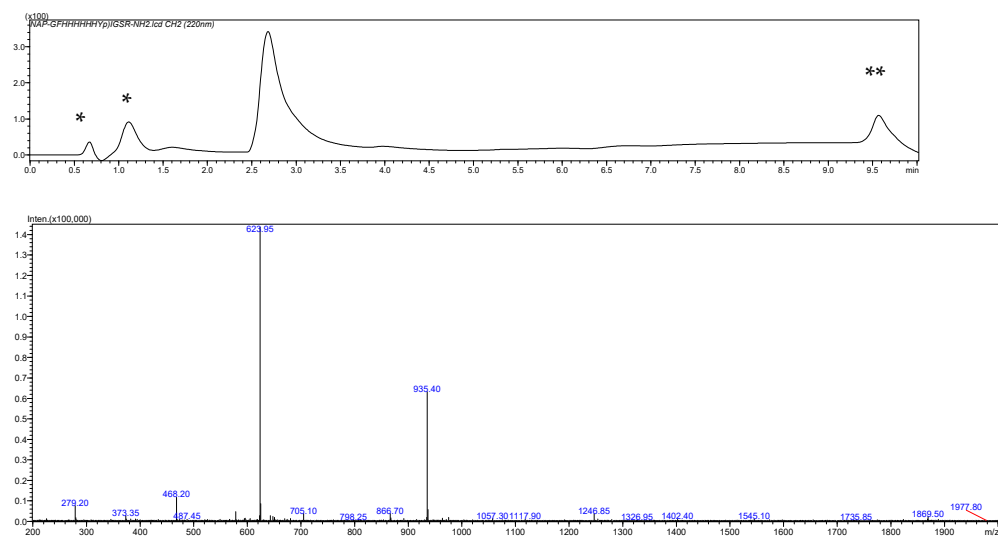
**Figure S1.** LC–MS of compound 1. Calc. M = 1936.1, obsvd ( $1/2M + H$ ) = 969, obsvd ( $1/3M + H$ ) = 646, obsvd ( $1/4M + H$ ) = 485. \*: system peak.



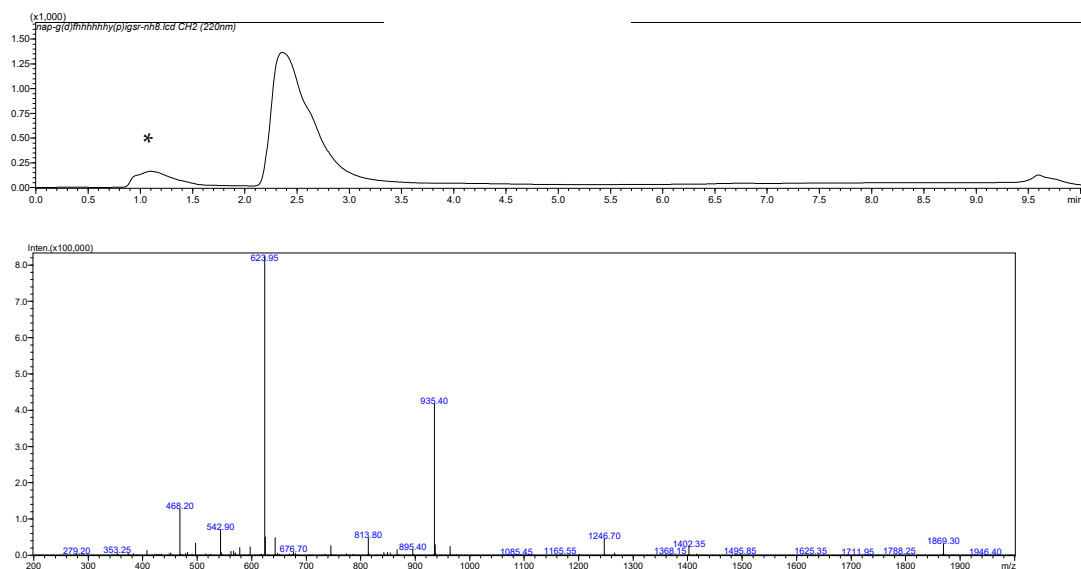
**Figure S2.** LC–MS of compound 2. Calc. M = 2016.08, obsvd ( $1/2M + H$ ) = 1009, obsvd ( $1/3M + H$ ) = 673. \*: system peak.



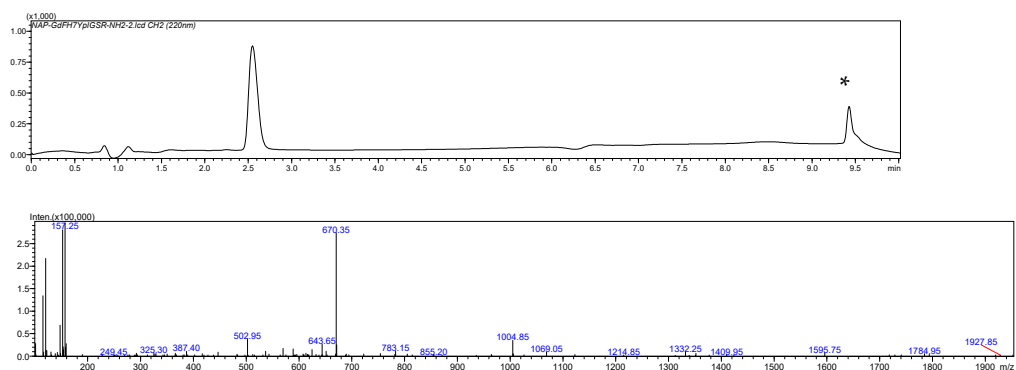
**Figure S3.** LC-MS of compound 3. Calc.  $M = 1722$ , obsvd ( $1/2M + H$ ) = 862.60, obsvd ( $1/3M + H$ ) = 575.40.



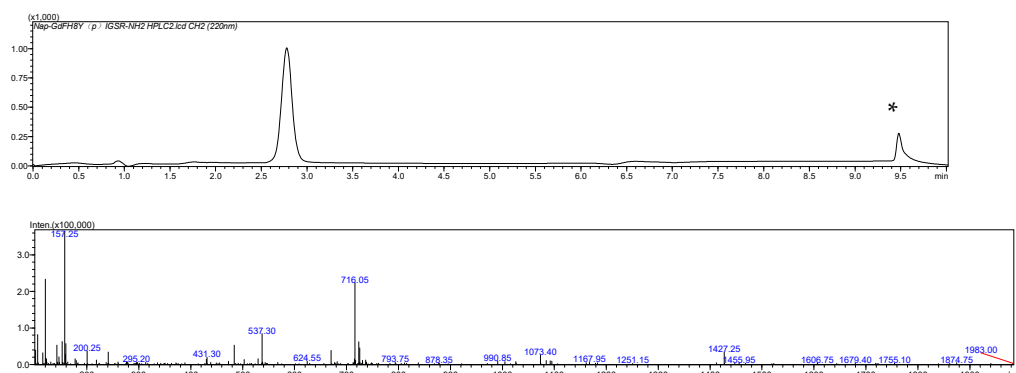
**Figure S4.** LC-MS of compound 4. Calc.  $M = 1869$ , obsvd ( $1/2M + H$ ) = 935.40, obsvd ( $1/3M + H$ ) = 623.95, obsvd ( $1/4M + H$ ) = 468.20. \*: solvent peak \*\*: system peak.



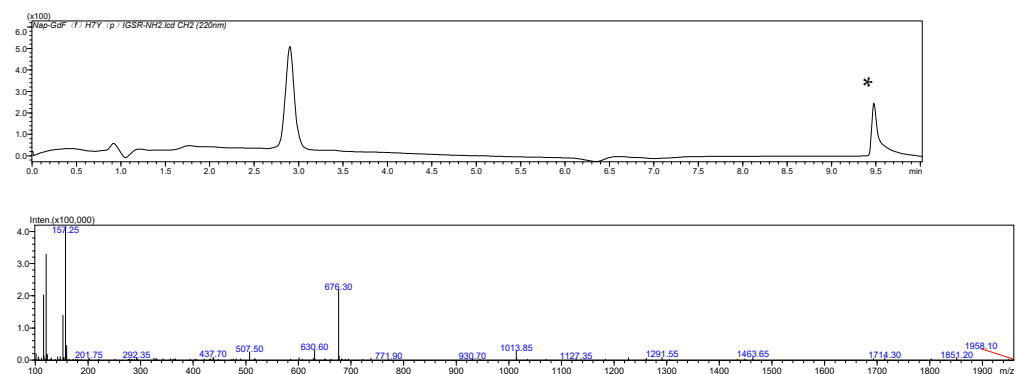
**Figure S5.** LC-MS of compound 5. Calc.  $M = 1869$ , obsvd ( $1/2M + H$ ) = 935.40, obsvd ( $1/3M + H$ ) = 623.95, obsvd ( $1/4M + H$ ) = 468.20. \*: solvent peak.



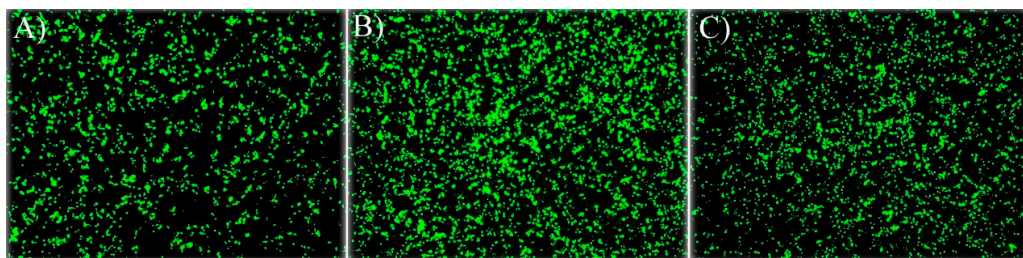
**Figure S6.** LC–MS of compound 6. Calc.  $M = 2006$ , obsvd ( $1/2M + H$ ) = 1004.85, obsvd ( $1/3M + H$ ) = 670.35, obsvd ( $1/4M + H$ ) = 502.95. \*: system peak.



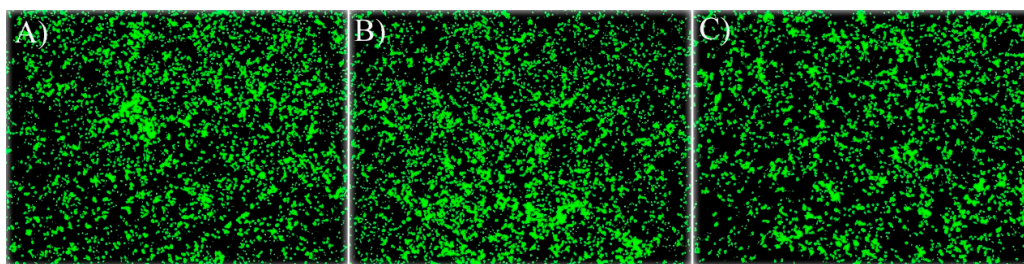
**Figure S7.** LC–MS of compound 7. Calc.  $M = 2143$ , obsvd ( $1/2M + H$ ) = 1073.40, obsvd ( $1/3M + H$ ) = 716.05, obsvd ( $1/4M + H$ ) = 537.30. \*: system peak.



**Figure S8.** LC–MS of compound 8. Calc.  $M = 2025$ , obsvd ( $1/2M + H$ ) = 1013.85, obsvd ( $1/3M + H$ ) = 676.30. \*: system peak.



**Figure S9.** Fluorescent images of transfection using different vectors: (A) 0.75 mg/mL of compound 3 (without phenylalanine), (B) 0.375 mg/mL of compound 4 (one phenylalanine), (C) 0.375 mg/mL of compound 2 (two phenylalanines).



**Figure S10.** Fluorescent images of transfection using different vectors: (A) 0.375 mg/mL of compound **5** (six histidines), (B) 0.375 mg/mL of compound **6** (seven histidines), (C) 0.375 mg/mL of compound **7** (eight histidines).