

Supporting Information for

**Selection and characterization of DNA aptamers to
crystal violet**

Yang Chen^{1,2,†}, Jine Wang^{1,†}, Yajie Zhang¹, Lijun Xu¹, Tian Gao¹, Bing Wang², Renjun Pei^{1*}

¹CAS Key Laboratory of Nano-Bio Interface, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou, 215123, China

²School of Pharmacy, Xi'an Jiaotong University, Xi'an, 710061, China

[†]These authors contributed equally to this work.

*Corresponding author. CAS Key Laboratory of Nano-Bio Interface, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou, 215123, China.

Tel: +86-512-62872776, E-mail: rjpei2011@sinano.ac.cn.

Table S1 The detailed sequences of various G4 structures, i-motif structure, random dsDNA and ssDNA used in this paper.

Name	Sequence (5' to 3')
Hum21	GGGTTAGGGTTAGGGTTAGGG
PS2.M	GTGGGTAGGGCGGGTTGG
H22	AGGGTTAGGGTTAGGGTTAGGG
T30695	GGGTGGGTGGGTGGGT
G3TG4T	TGGGTGGGGTGGGGTGGGT
G3TG4TT	GGGTTTTGGGTGGGTGGG
G3T4	GGGTTTTGGGTTTTGGGTTTTGGG
C29	CCCCCTTCCCCCTTCCCCCTTCCCCC
(dsDNA)	1st strand: TATAATACACGTAGCATCTGACA 2nd strand: TGTCAGATGCTACGTGTATTATA
random1	ATAATTCTATCTTATCTGGAATTATATATATATT
random2	TTTTTTTTTTCCCCCCCCCCCCCAAAAAAAAAA
random3	AACGGGCAACGCAGTGACTGGATATCCCCCGTT
random4	GCATATCGCCCCCCCCCCCCGATATGCGCAATAA
random5	TATAATACACGTAGCATCTGACACTATAATCGTT

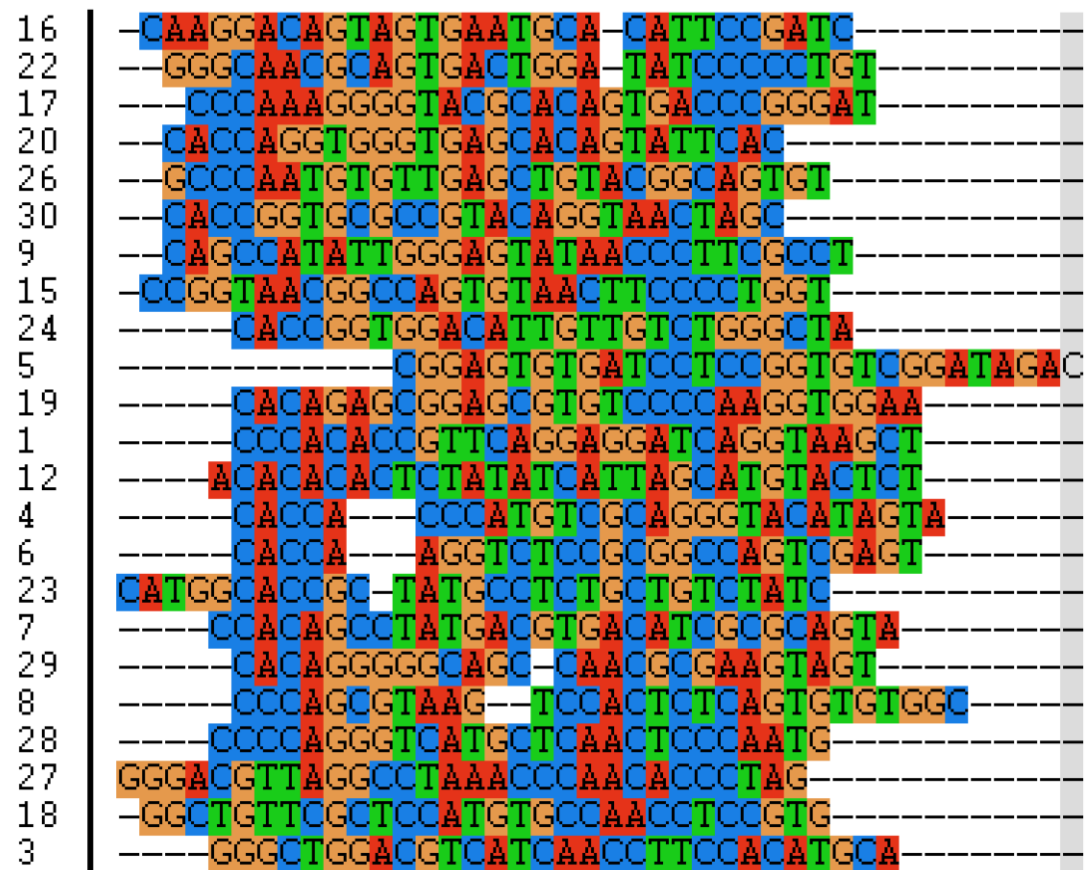


Fig. S1 Sequence alignment result by Clustalx 1.8.3.

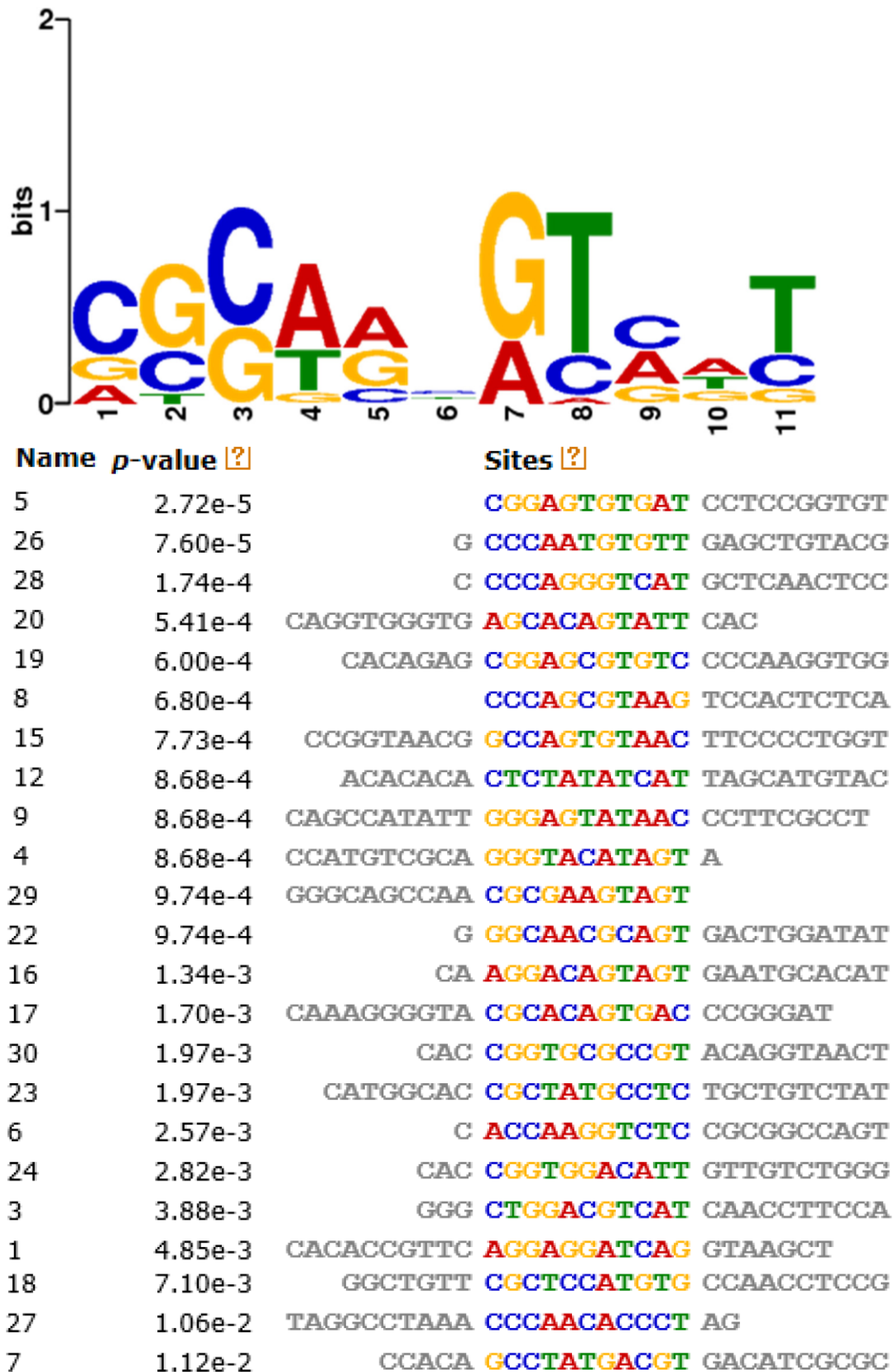


Fig. S2 Sequence alignment result by MEME (<http://meme-suite.org/>).

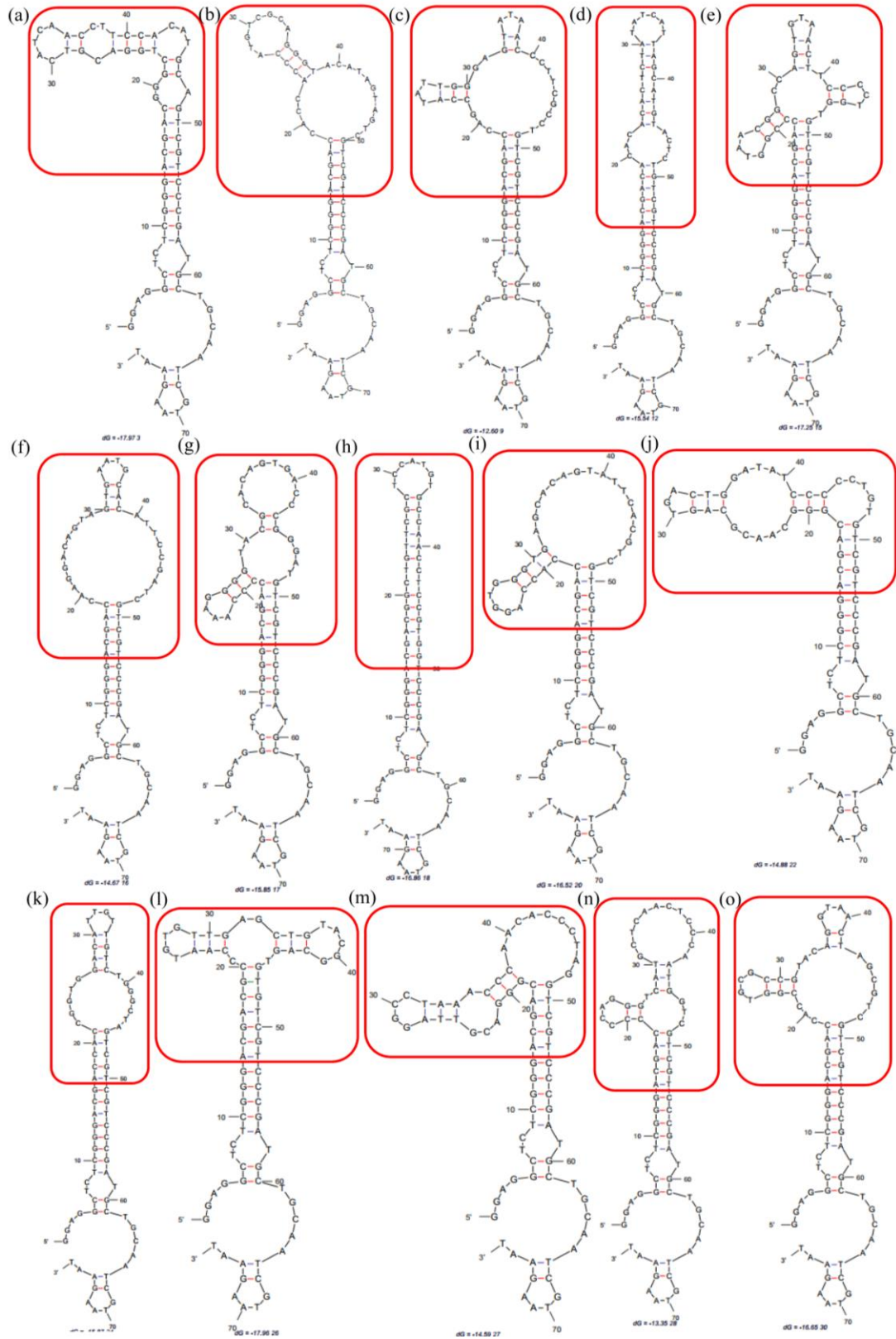


Fig. S3 Predicted secondary structures of CV3 (a), CV4 (b), CV9 (c), CV12 (d), CV15 (e), CV16 (f), CV17 (g), CV18 (h), CV20 (i), CV22 (j), CV24 (k), CV26 (l), CV27 (m), CV28 (n), and CV30 (o) by M-Fold (<http://mfold.rna.albany.edu/>). The

structures in red boxes were retained as their truncated aptamers and named as CV3S (a), CV4S (b), CV9S (c), CV12S (d), CV15S (e), CV16S (f), CV17S (g), CV18S (h), CV20S (i), CV22S (j), CV24S (k), CV26S (l), CV27S (m), CV28S (n), and CV30S (o), respectively.

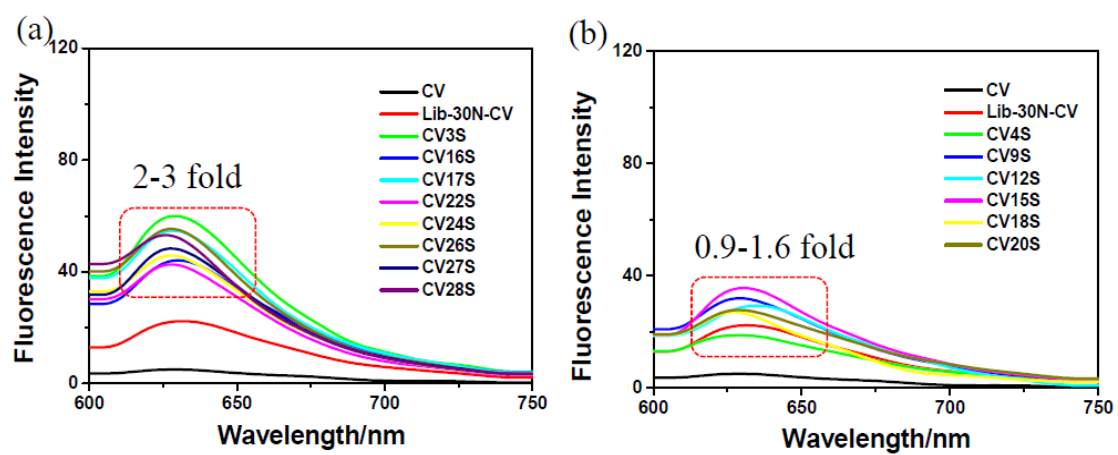


Fig. S4 Fluorescence spectra of crystal violet alone and in the presence of various truncated aptamers in SELEX buffer respectively. The concentrations of crystal violet and aptamers were both 2 μ M.