Electronic Supplementary Material (ESI) for RSC Advances.

Insect multimeric G-quadruplexes fold into antiparallel structures of different compactness and stability in K^+ and Na^+ solutions

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Supplementary tables and figures……..…..2

Table S1 Oligonucleotide sequences used in the experiment

Name	**Sequence(5'→3')**
Bom17	$GG(TTAGG)_3$
Bom37	$GG(TTAGG)_7$
Bom57	$GG(TTAGG)_{11}$
Bom77	$GG(TTAGG)_{15}$
Bom97	$GG(TTAGG)_{19}$
c-MYC	TGGGGAGGGTGGGGAGGGTGGGGAAGG
Bom39-Ap1	$(2\text{-AP})GG(TTAGG)_7A$
Bom39-AP21	$AGG(TTAGG)_3TT(2\text{-AP})GG(TTAGG)_3A$
Bom39-AP39	$(2\text{-AP})GG(TTAGG)_7(2\text{-AP})$

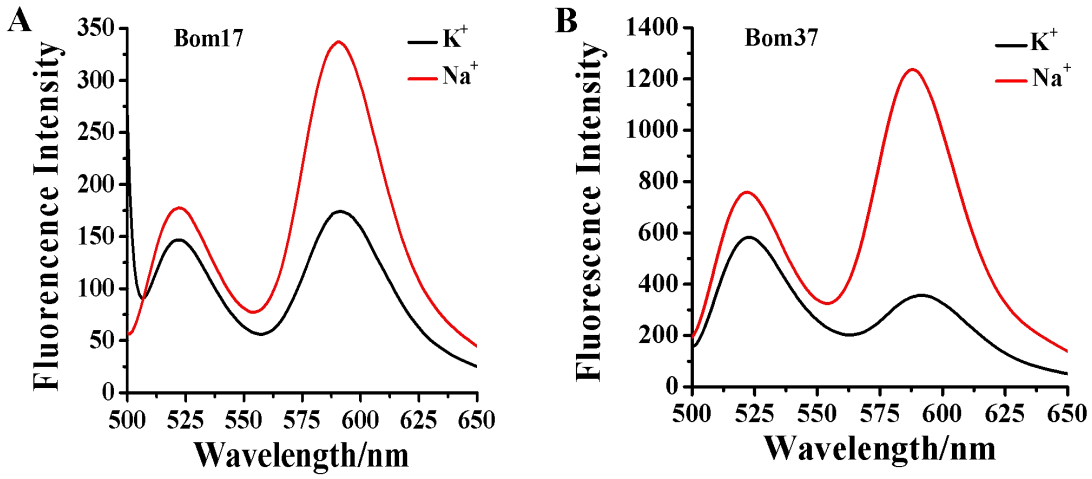

Figure S1. Fluorescence spectra of a modified (A) Bom17 and (B) Bom 37 with 5'-FAM and 3'-TAMRA in 10 mM Tris-HCl (pH 7.5) buffer containing 100 mM KCl/NaCl. λex = 488 nm.

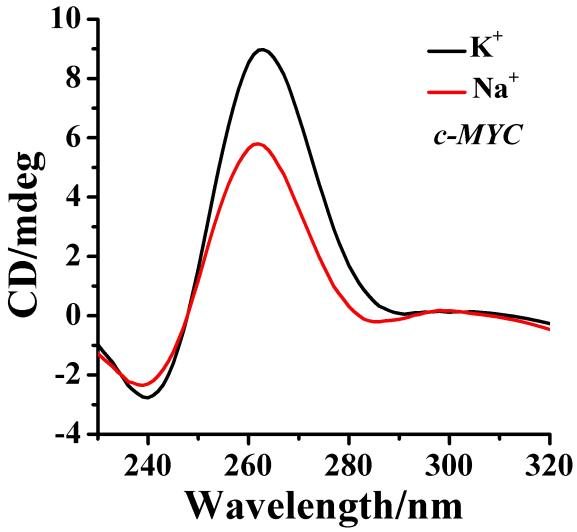

Figure S2. CD spectra of *c-MYC* G-quadruplex in 10 mM Tris-HCl (pH 7.50) and 100 mM KCl/NaCl solutions. The concentration of oligonucleotides was 10 μM.

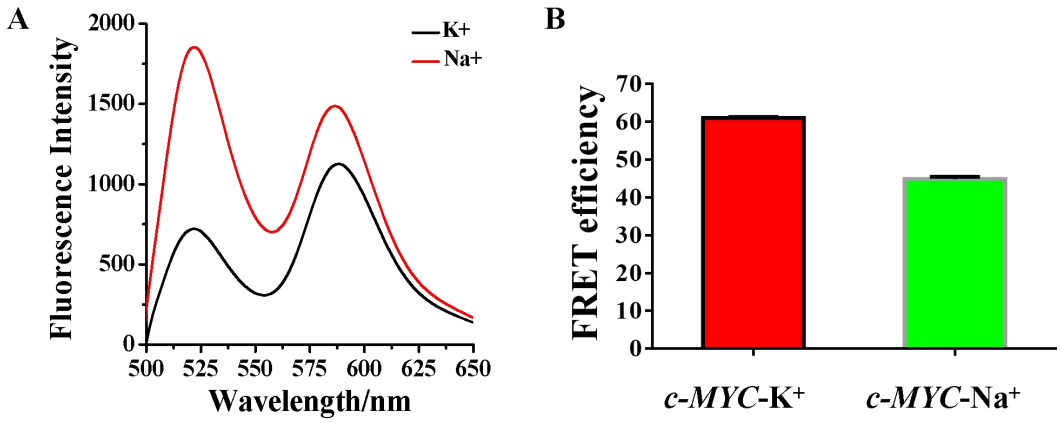

Figure S3. Determination of FRET efficiency of *c-MYC* G-quadruplexes in KCl/NaCl solutions. (A) Fluorescence spectra of a modified *c-MYC* with 5'-FAM and 3'-TAMRA in 10 mM Tris-HCl (pH 7.50) buffer containing 100 mM KCl/NaCl. λex = 488 nm. (B) FRET efficiency of *c-MYC* G-quadruplex in KCl/NaCl solutions. Fluorescence intensities were measured at λem = 525 nm (FAM) and 585 nm (TAMRA).

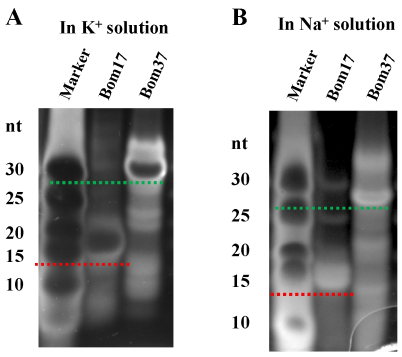

Figure S4. Native polyacrylamide gel electrophoresis analysis of Bom17 and Bom37 in 100 mM (A) K^+ and (B) solution. Native gel electrophoresis was run on 20% polyacrylamide gel. The concentration of oligonucleotides was 6.0 μM.

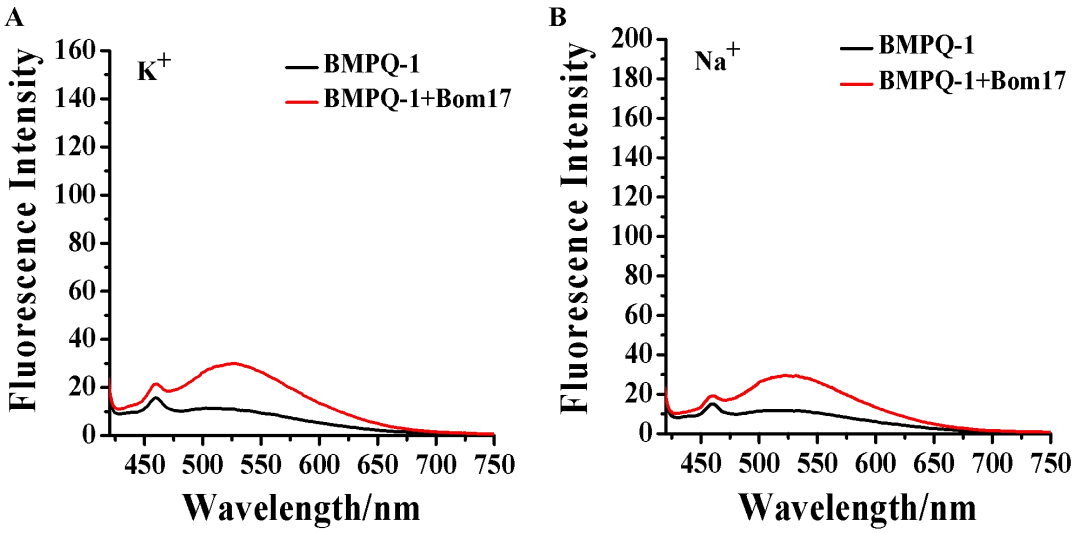

Figure S5. Fluorescence spectra of BMPQ-1 with/withou Bom17 G-quadruplex in 10 mM Tris-HCl (pH 7.5) buffer containing 100 mM (A) KCl or (B) NaCl. The concentration of Bom17 was 10.0 μM, and BMPQ-1 was 3.0 μM. λex = 395 nm.

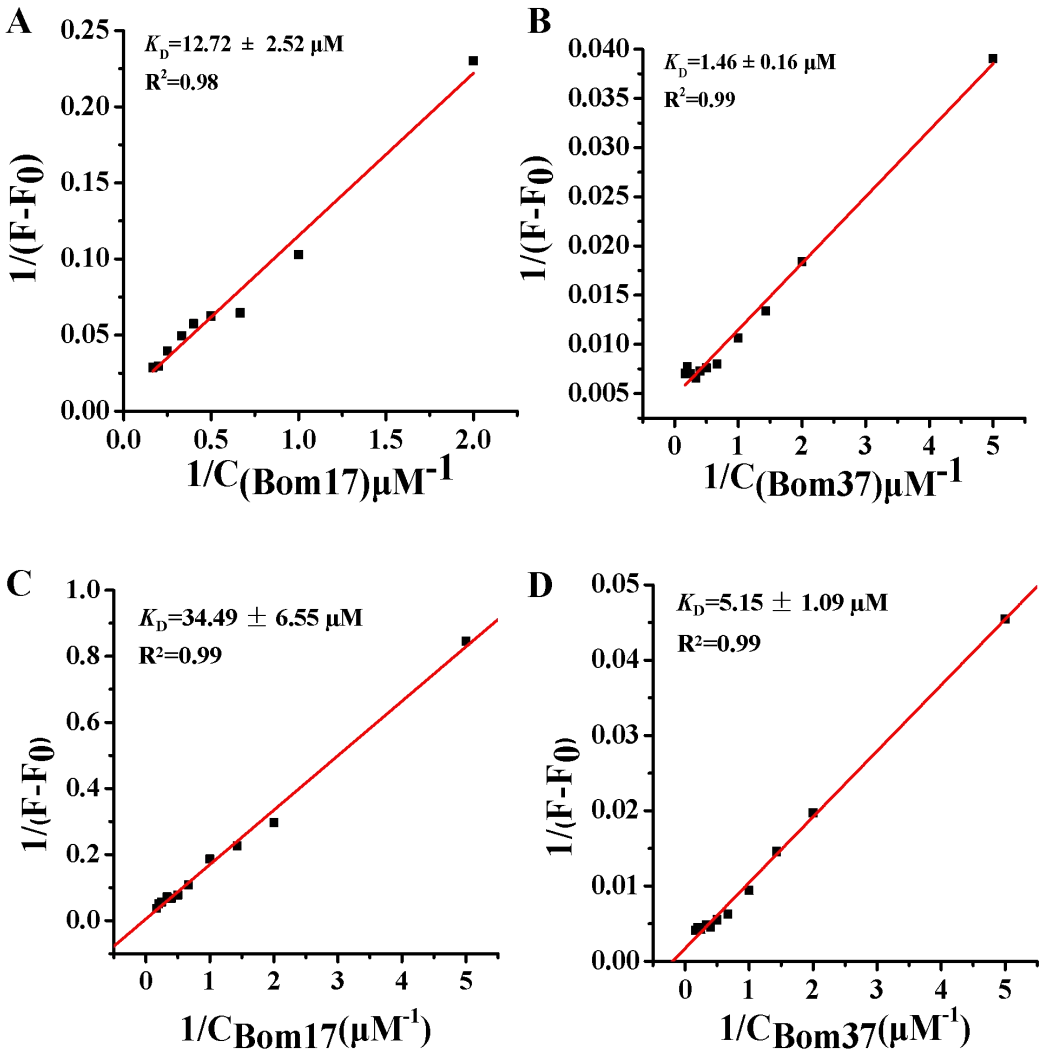

Figure S6. Benesi-Hildebrand plot of 1/(F-F0) versus 1/[DNA]. The dissociation constant (K_D) value of BMPQ-1 and (A) Bom17 and (B) Bom37 G-quadruplexes in 100 mM KCl solution was calculated as 12.72 ± 2.52 μM and 1.46 ± 0.16 μM, respectively. The dissociation constant (K_D) value of BMPQ-1 and (C) Bom17 and (D) Bom37 G-quadruplexes in 100 mM NaCl solution was calculated as 34.49 ± 6.55 μM and 5.15 ± 1.09 μM, respectively.

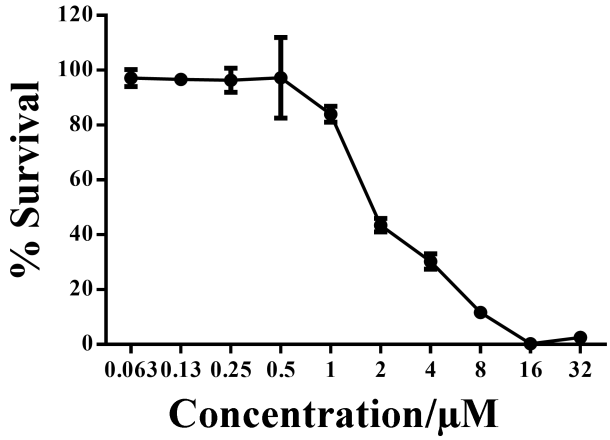

Figure S7. The survival rate of SF9 cells after 48 hours of treatment with different concentrations of BMPQ-1.