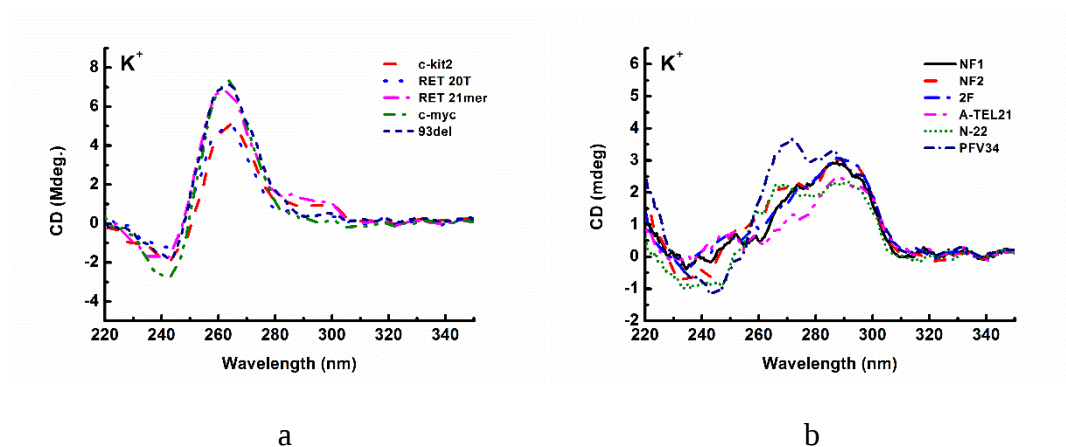
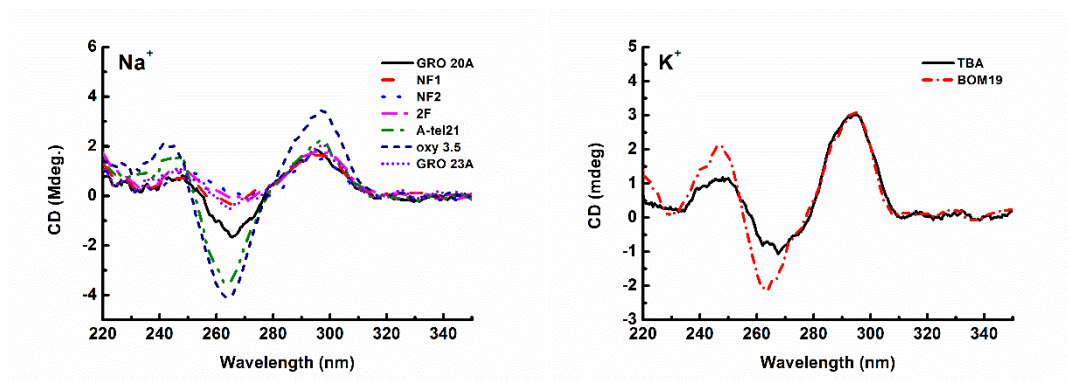


Supplementary Materials

Figure S1.

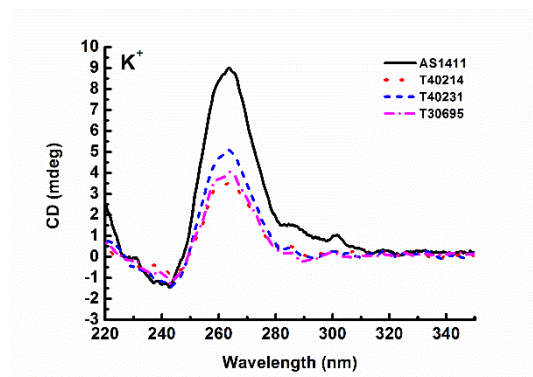
CD spectra of 16 G-4 forming sequences. The oligonucleotide samples were prepared at the final concentration of 5 μM in a buffer containing 10mM phosphate buffer at pH 7.4. For clarity, the 16 GROs have been presented in parallel G-quadruplex (a), hybrid G-quadruplex (b), basket-type antiparallel G-quadruplex (c), and chair-type antiparallel G-quadruplex (d), respectively. (e) Examples of the exception of chair-type antiparallel G-quadruplexes.





c

d



e

Table S1. Nucleotide sequences used for the CD spectral study

No	name	sequence	length	topology in K ⁺	topology in Na ⁺	ref.
1	C-MYC	<u>TGGGGAGGGTGGGGAGGGTGGGGAAGG</u>	27	parallel	-	[35, 36]
2	c-kit2	<u>CGGGCGGGCGCGAGGGAGGGG</u>	21	parallel	-	[38]
3	RET20T	<u>GGGGCGGGCGGGCGGGGT</u>	20	parallel	-	[39]
4	RET21mer	<u>GGGGCGGGCGGGCGGGGT</u>	21	parallel	-	[39]
5	93DEL	<u>GGGGTGGGAGGAGGGT</u>	16	parallel	-	[40]
6	Normal Form1	<u>TAGGGTTAGGGTTAGGGTTAGGG</u>	30	hybrid	basket anti	[41-43]
7	Normal Form2	<u>TAGGGTTAGGGTTAGGGTTAGGGTT</u>	33	hybrid	basket anti	[41-43]
8	Two Forms	<u>TAGGGTTAGGGTTAGGGTTAGGGT</u>	24	hybrid	basket anti	[41-43]
9	A-Tel21	<u>AGGGTTAGGGTTAGGGTTAGGG</u>	22	hybrid	basket anti	[44]
10	N-22	<u>GGGATGGGACACAGGGGACGGG</u>	22	hybrid	-	[45]
11	PFV34	<u>CAGGGTTAAGGGTATAACTTTAGGGGTAGGGTT</u>	34	hybrid	-	[47]
12	Oxy3.5	<u>GGGGTTTTGGGGTTTTGGGGTTTTGGGG</u>	28	-	basket anti	[48]
13	GRO20A	<u>GGTTTTGGTTTTGGTTTTGG</u>	20	-	basket anti	[32]
14	TBA	<u>GGTTGGTGTGGTTGG</u>	15	chair anti	-	[49, 50]
15	Bom19	<u>TAGGTTAGGTTAGGTTAGG</u>	19	chair anti	-	[33]
16	T30695	<u>GGGTGGGTGGGTGGGT</u>	16	chair anti	-	[34, 51]
	T30695	<u>GGGTGGGTGGGTGGGT</u>	16	Parallel	-	[29]
17	T40214	<u>GGGCGGGCGGGCGGGC</u>	16	chair anti	-	[52]
	T40214	<u>GGGCGGGCGGGCGGGC</u>	16	Parallel	-	[29]
18	GRO23A	<u>GGGGTTGGGGTGTGGGGTTGGGG</u>	23	-	mixed basket/chair anti	[32]

Table S1. The sequences studied in this manuscript

No	name	sequence	length	topology in K ⁺	topology in Na ⁺	ref.	No
1	C-MYC	<u>TGGGGAGGGTGGGGAGGGTGGGGAAGG</u>	27	parallel	-	[35, 36]	1
2	c-kit2	<u>CGGGCGGGCGCGAGGGAGGGG</u>	21	parallel	-	[38]	2
3	RET20T	<u>GGGGCGGGGCGGGGCGGGGT</u>	20	parallel	-	[39]	3
4	RET21mer	<u>GGGGCGGGGCGGGGCGGGGT</u>	21	parallel	-	[39]	4
5	93DEL	<u>GGGGTGGGAGGAGGGT</u>	16	parallel	-	[40]	5
6	Normal Form1	<u>TAGGGTTAGGGTTAGGGTTAGGG</u>	30	hybrid	basket anti	[41-43]	6
7	Normal Form2	<u>TAGGGTTAGGGTTAGGGTTAGGGTT</u>	33	hybrid	basket anti	[41-43]	7
8	Two Forms	<u>TAGGGTTAGGGTTAGGGTTAGGGT</u>	24	hybrid	basket anti	[41-43]	8
9	A-Tel21	<u>AGGGTTAGGGTTAGGGTTAGGG</u>	22	hybrid	basket anti	[44]	9
10	N-22	<u>GGGATGGGACACAGGGGACGGG</u>	22	hybrid	-	[45]	10
11	PFV34	<u>CAGGGTTAAGGGTATAACTTTAGGGGTTAGGGTT</u>	34	hybrid	-	[47]	11
12	Oxy3.5	<u>GGGGTTTTGGGGTTTTGGGGTTTTGGGG</u>	28	-	basket anti	[48]	12
13	GRO20A	<u>GGTTTTGGTTTTGGTTTTGG</u>	20	-	basket anti	[32]	13
14	TBA	<u>GGTTGGTGTGGTTGG</u>	15	chair anti	-	[49, 50]	14
15	Bom19	<u>TAGGTTAGGTTAGGTTAGG</u>	19	chair anti	-	[33]	15
16	T30695	<u>GGGTGGGTGGGTGGGT</u>	16	chair anti	-	[34, 51]	16
	T30695	<u>GGGTGGGTGGGTGGGT</u>	16	Parallel	-	[29]	
17	T40214	<u>GGGCGGGCGGGCGGGC</u>	16	chair anti	-	[52]	17
	T40214	<u>GGGCGGGCGGGCGGGC</u>	16	Parallel	-	[29]	
18	GRO23A	<u>GGGGTTGGGGTGTGGGGTTGGGG</u>	23	-	mixed basket/chair anti	[32]	18