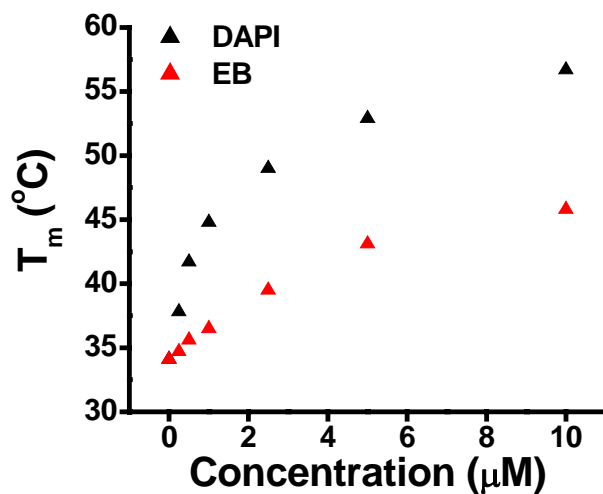


# Screening the Sequence Selectivity of DNA-Binding Molecules using a Gold Nanoparticle- Based Colorimetric Approach

Sarah J. Hurst,<sup>†</sup> Min Su Han,<sup>†</sup> Abigail K. R. Lytton-Jean, and Chad A. Mirkin\*

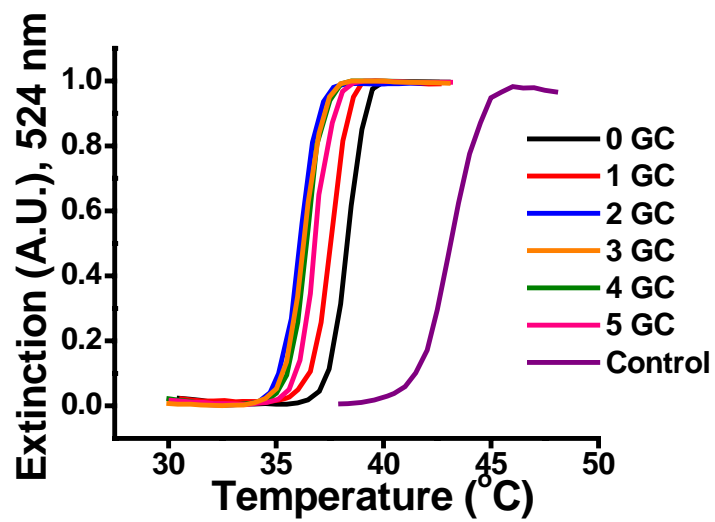
## Supporting Information

**Figure S1**

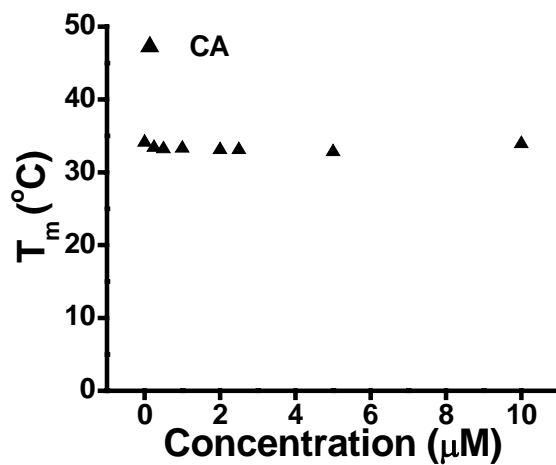


**Figure S1.** Plot of melting temperature ( $T_m$ ) vs. DAPI concentration (black triangles) and EB concentration (red triangles).

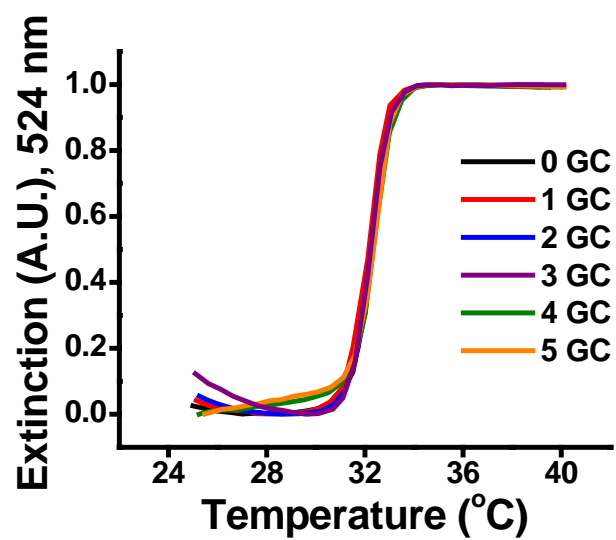
Figure S2



**Figure S2.** Normalized melting curves for aggregates of NP-1 and NP-2 with 5  $\mu$ M EB and 5  $\mu$ M HP DNA (0 GC-5 GC, 1:1 HP:EB). The curve denoted Control contains no HP DNA.

**Figure S3**

**Figure S3.** Plot of melting temperature ( $T_m$ ) (monitored at  $\lambda = 524$  nm) vs. Chromomycin A concentration (between 0 and 10  $\mu\text{M}$ ) for aggregates of NP-1 and NP-2 (AT-rich).

**Figure S4**

**Figure S4.** Normalized melting curves for aggregates of NP-1 and NP-2 (AT-rich) with 5 μM Chromomycin A and 5 μM HP DNA (0 GC-5 GC, 1:1 HP:Chromomycin A).

**Table S1**

**Table S1.** Melting temperatures ( $T_m$ ) as a function of the HP stem sequence for the Au NP samples in the presence of DAPI. The first stem sequence for each number of GC pairs is the original one presented in the main text of this manuscript (listed for comparison); the second stem sequence shown for each possesses the same number of GC pairs arranged in a different order.

	Stem Sequence	NP $T_m$ (°C)		Stem Sequence	NP $T_m$ (°C)
0 GC	ATAAT TATTA	36.1	3 GC	ATCCG TAGGC	48.2
	AATTA TTAAT	35.0		AGCTG TCGAC	51.5
1 GC	AGATT TCTAA	40.3	4 GC	GCGCT CGCGA	50.7
	ATATG TATAC	39.4		AGCCG TCGGC	51.3
2 GC	CATTG GTAAC	45.8	5 GC	CGCGC GCGCG	51.1
	ATCTG TAGAC	42.6		GGCGG CCGCC	50.9

**Table S2**

**Table S2.** Melting temperatures ( $T_m$ ) as a function of the HP stem sequence for the Au NP samples and for a control sample (no NPs) for the EB system. The rightmost column shows the difference between the  $T_m$  of the HP DNA and its  $T_m$  with EB in solution. NA is denoted where the data in that box is not applicable.

	Stem Sequence	NP $T_m$ (°C)	HP $T_m$ (5 $\mu$ M) (°C)	HP $T_m$ (with EB, 1:1) (°C)	$\Delta$ HP $T_m$ (°C)
0 GC	ATAAT TATTA	33.6	51.0	62.0	11.0
1 GC	ATATG TATAC	38.3	55.5	66.6	11.1
2 GC	CATTG GTAAC	37.6	64.8	74.5	9.7
3 GC	ATCCG TAGGC	36.1	70.7	80.7	10.0
4 GC	GCGCT CGCGA	36.3	78.4	87.3	8.9
5 GC	CGCGC GCGCG	36.4	85.8	89.7	3.9
Control	NA	43.1	NA	NA	NA