Supporting Information:

Cell surface-based differentiation of cell types and cancer states using a gold nanoparticle-GFP based sensing array

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Table S1. Binding constants (K_S), Gibbs free energy changes ($-\Delta G$) and binding stoichiometries (n) between GFP and cationic nanoparticles (**NP1**–**NP12**) as determined from fluorescence titration.

Nanoparticle	***Ks*** **(10^9 M^{-1})**	**-ΔG (kJ mol^{-1})**	***n***
NP1	2.6	53.74	2.8
NP2	15.9	58.23	3.6
NP3	0.2	47.40	3.3
NP4	9.4	56.93	1.8
NP5	0.5	49.65	9.7
NP6	0.2	47.40	1.6

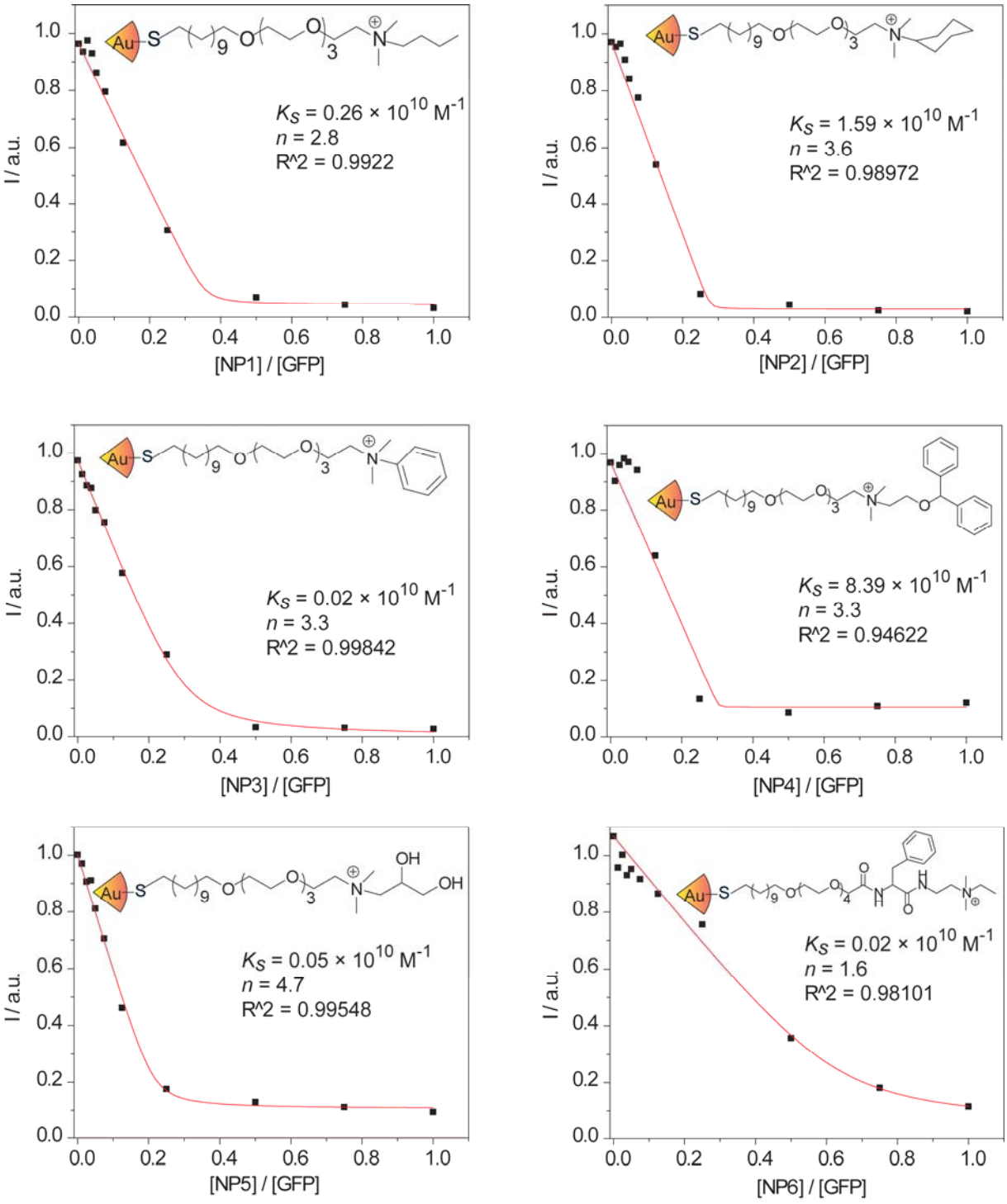
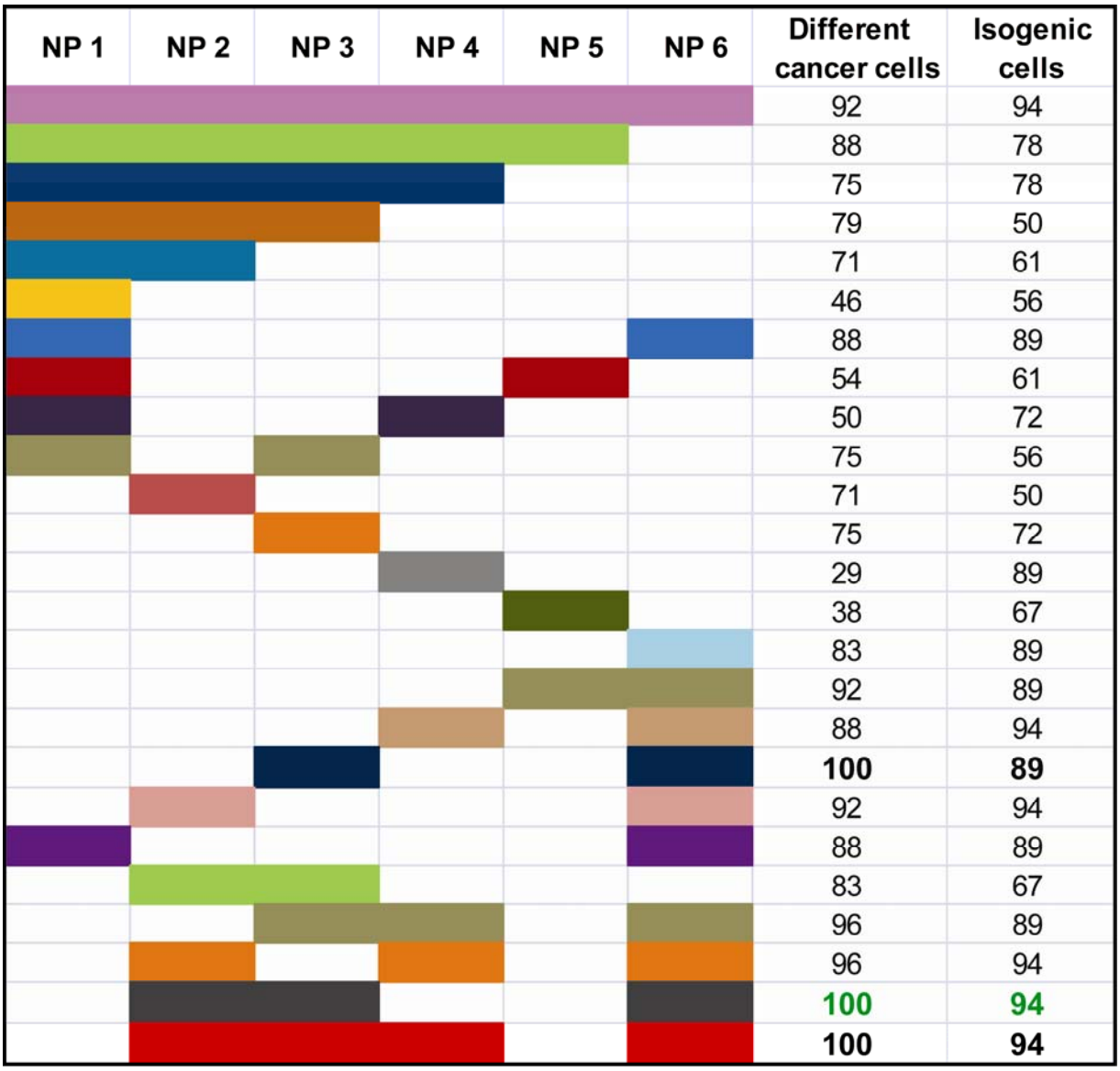


Figure S1. Fluorescence titration curves for the complexation of GFP with 12 different cationic gold nanoparticles (**NP1-NP12**). The changes of fluorescence intensity at 510 nm were measured following the addition of cationic nanoparticles (0-100 nM) with an excitation wavelength of 475 nm. The red solid lines represent the best curve fitting using the model of single set of identical binding sites.



NP 1	NP 2	NP 3	NP 4	NP 5	NP 6	Different cancer cells	Isogenic cells
						92	94
						88	78
						75	78
						79	50
						71	61
						46	56
						88	89
						54	61
						50	72
						75	56
						71	50
						75	72
						29	89
						38	67
						83	89
						92	89
						88	94
						100	**89**
						92	94
						88	89
						83	67
						96	89
						96	94
						100	**94**
						100	**94**

Figure S2. Jackknifed classification matrix of the fluorescence data corresponding to different nanoparticle combinations for the 7 cell lines.