Supporting Information for:

Cationic Conjugated Polymers based FRET Aptasensor for Label-free and Ultrasensitive Ractopamine Detection

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Experimental section

Materials and instrumentation: All organic solvents were obtained from Beijing Chemical Works and used as received. Ractopamine, salbutamol, and clenbuterol were purchased from ehrenstorfte. Glucose and fructose were purchased from J&K Scientific Ltd. All chemicals were used without further purification. Genefinder (D039) was purchased from Bridgen. The producer defined the concentration of genefinder as 10000× and used it after serial dilution. PFP was synthesized according to the literature (Adv. Mater. 2002, 14, 361). All of the oligonucleotides used in this paper were synthesized by Sangon Biotechnology Inc. (Shanghai, China). The UV-Vis absorption spectra and fluorescence spectra were recorded using a JASCO V-550 UV/Visible and Thermo Scientific Varioskan LUX.

The assay of protein detection: The RAC aptamer (A1) and complementary were mixed in water at a concentration of 10 μM. The dsDNA was constructed through heated mixture over 90 ℃ and cooled to room temperature naturally. The solutions containing dsDNA and various amounts of RAC were firstly co-incubated for 2h at room temperature. Then, PFP (20 μM) and GF (5×) were added to the solutions. Then, the fluorescence intensity was recorded for the quenching degree of this FRET platform. The excitation wavelength was at 380 nm and the spectrum was measured in the range of 390 to 650 nm. The reference of normalization is based on the highest fluorescence signal between 424 and 538 nm in different assay.

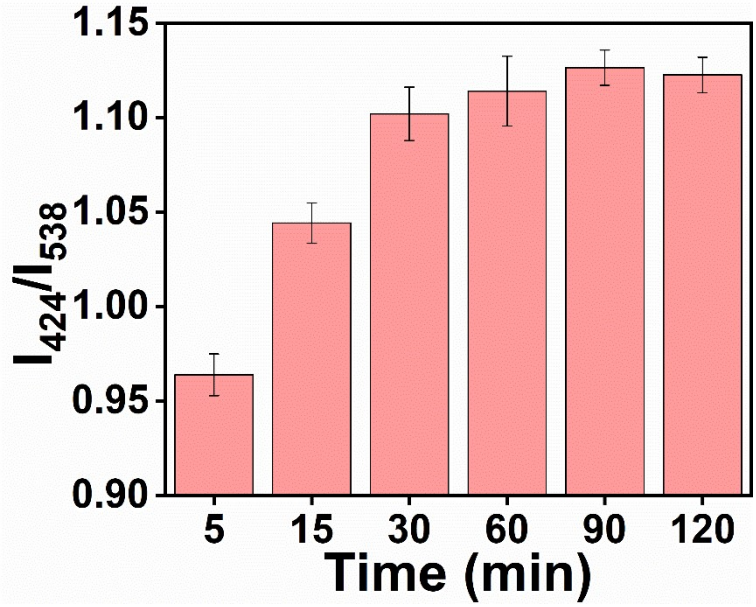

Figure S1. The I_{424}/I_{538} ratio of different reaction time between dsDNA and RAC.