Electronic Supplementary Information (ESI)

An important prerequisite for efficient Förster resonance energy transfer from human serum albumin to alkyl gallate

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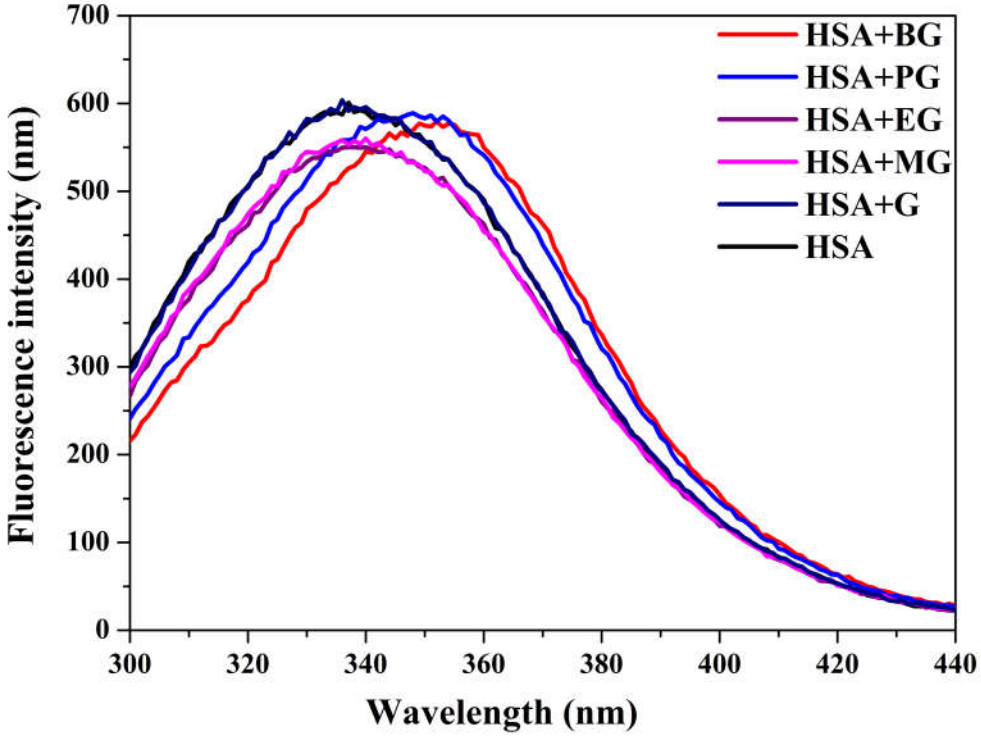

Fig. 1 Fluorescence spectra of G/ME/EG/PG/BG–HSA interaction (λ_{ex} =280 nm). $C_{(HSA)} = C_{(G/ME/EG/PG/BG)} = 2$ μM.

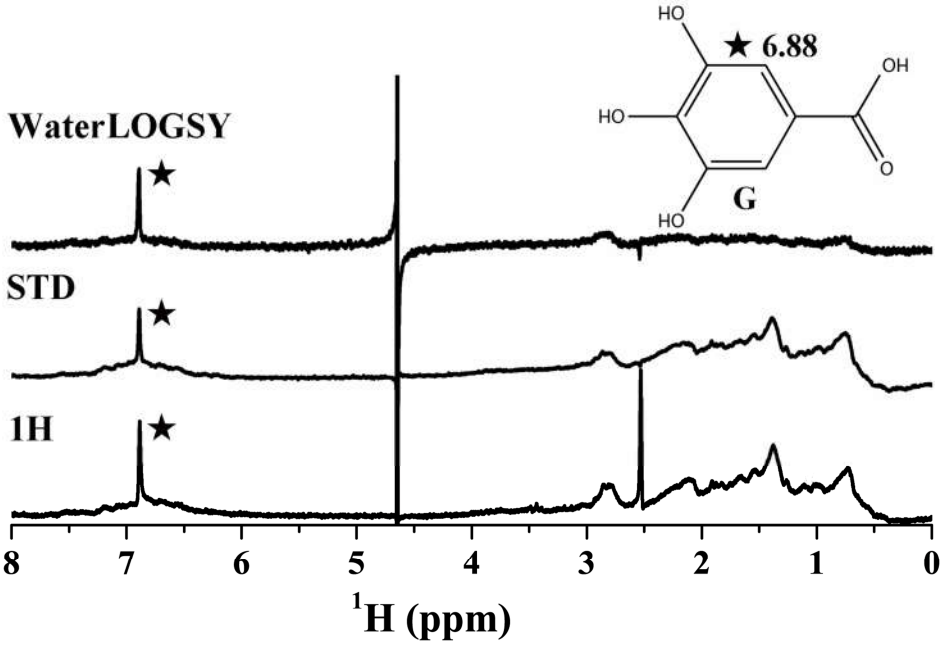

Fig. S2 The 1H WATERGATE, STD, and WaterLOGSY spectrum for the mixture of G and HSA. $C_{(HSA)}$ = 0.01 mM and $C_{(G)}$ = 0.4 mM.

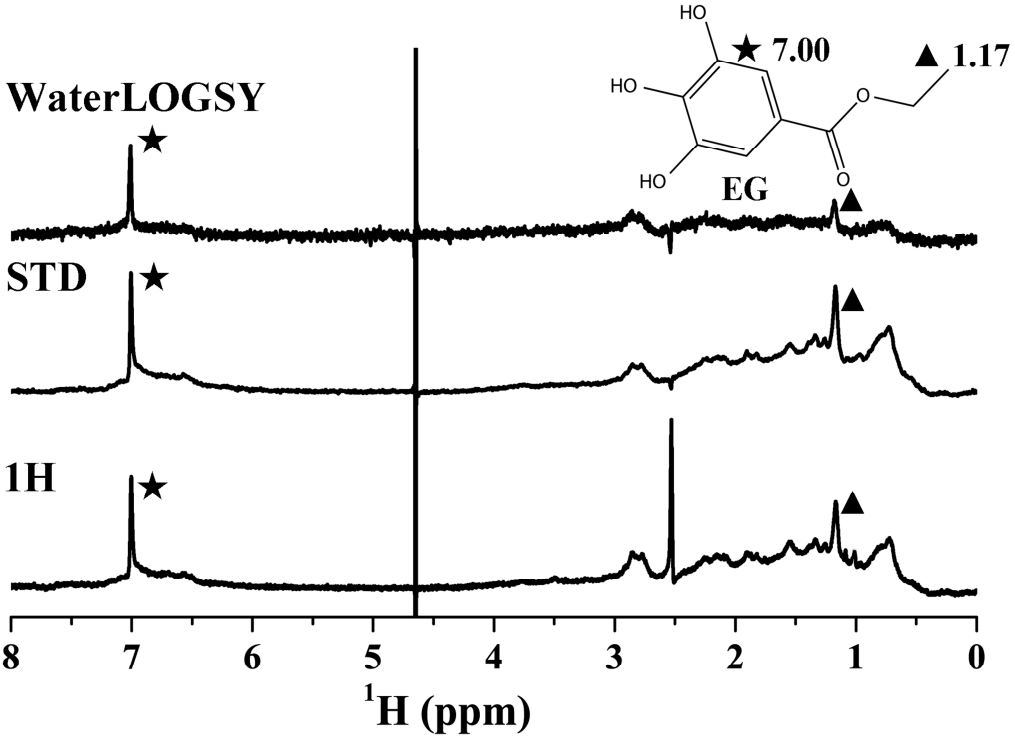

Fig. S3 The 1H WATERGATE, STD, and WaterLOGSY spectrum for the mixture of EG and HSA. $C_{(HSA)}$ = 0.01 mM and $C_{(EG)}$ = 0.4 mM.

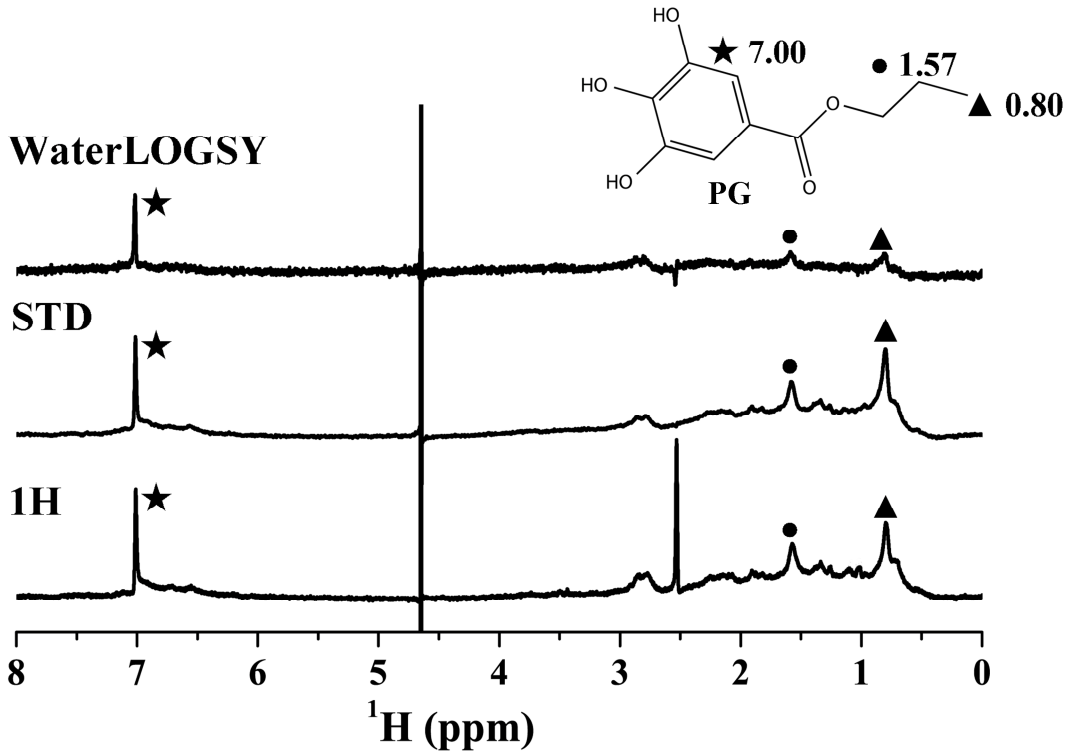

Fig. S4 The 1H WATERGATE, STD, and WaterLOGSY spectrum for the mixture of PG and HSA. $C_{(HSA)}$ = 0.01 mM and $C_{(PG)}$ = 0.4 mM.

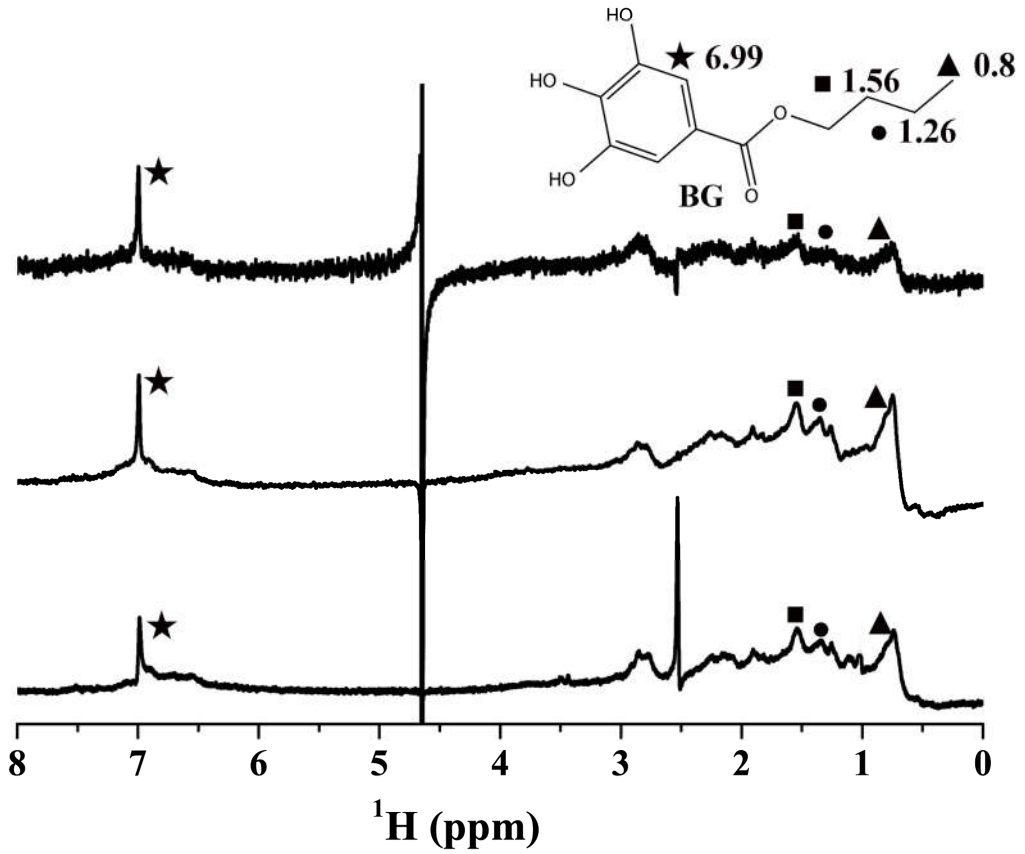

Fig. S5 The 1H WATERGATE, STD, and WaterLOGSY spectrum for the mixture of BG and HSA. $C_{(HSA)}$ = 0.01 mM and $C_{(BG)}$ = 0.4 mM.

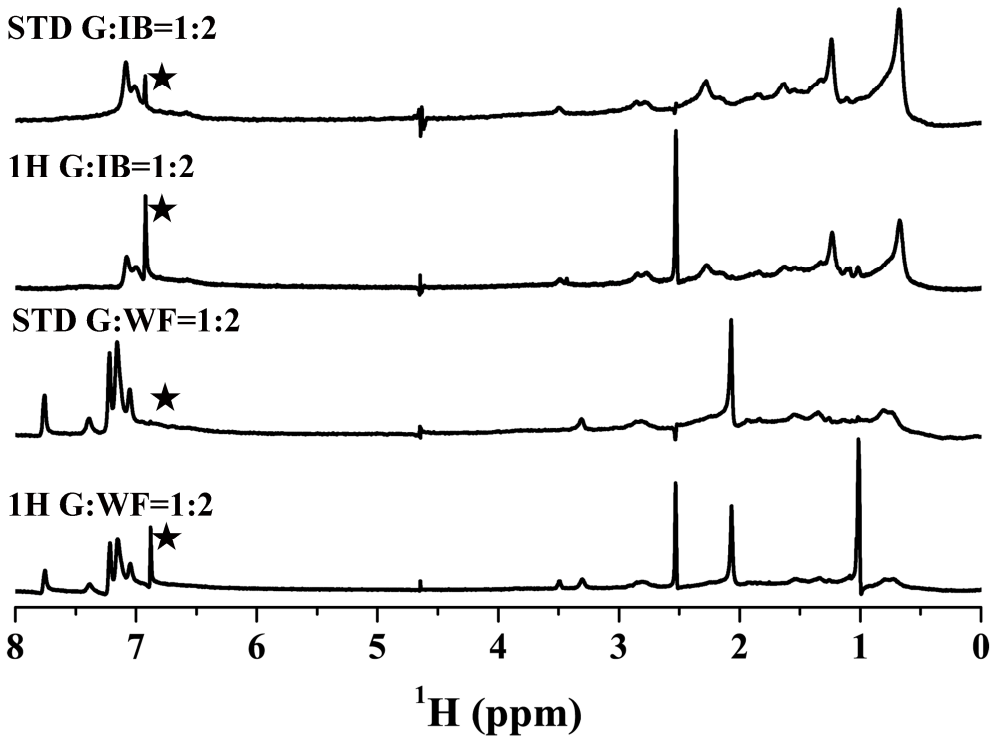

Fig. S6 Effect of WF/IB on the STD spectrum of the G-HSA interaction. $C_{(HSA)}$ = 0.01 mM, $C_{(G)}$ = 0.4 mM and $C_{(WF/IB)}$ = 0.8 mM.

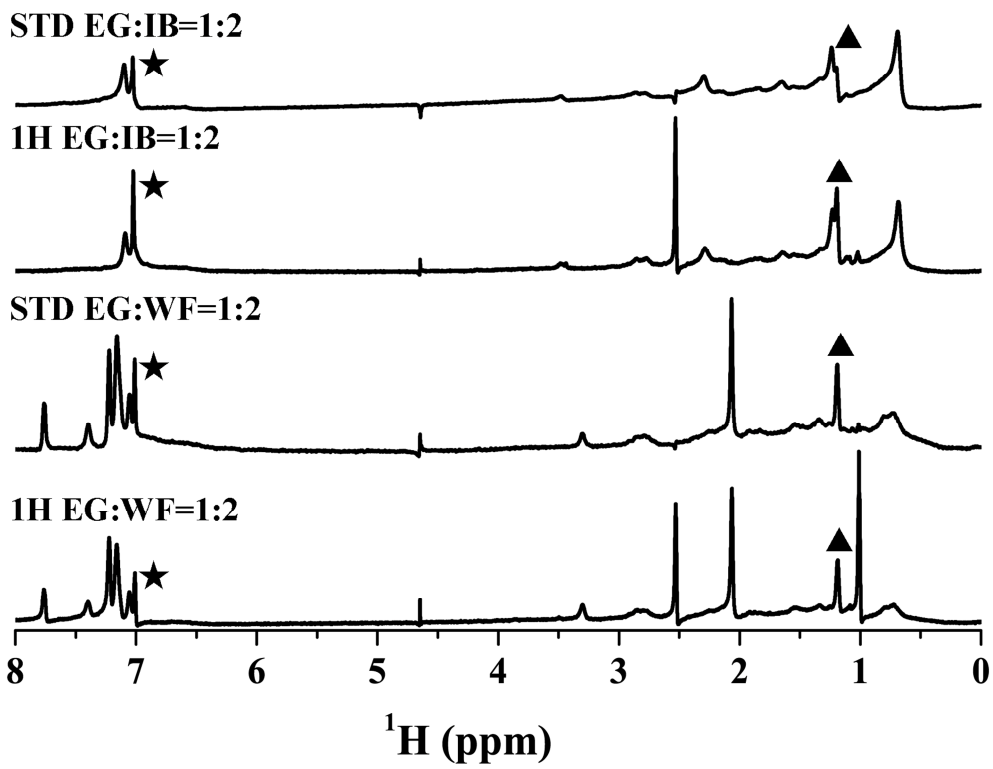

Fig. S7 Effect of WF/IB on the STD spectrum of the EG-HSA interaction. $C_{(HSA)}$ = 0.01 mM, $C_{(EG)}$ = 0.4 mM, and $C_{(WF/IB)}$ = 0.8 mM.

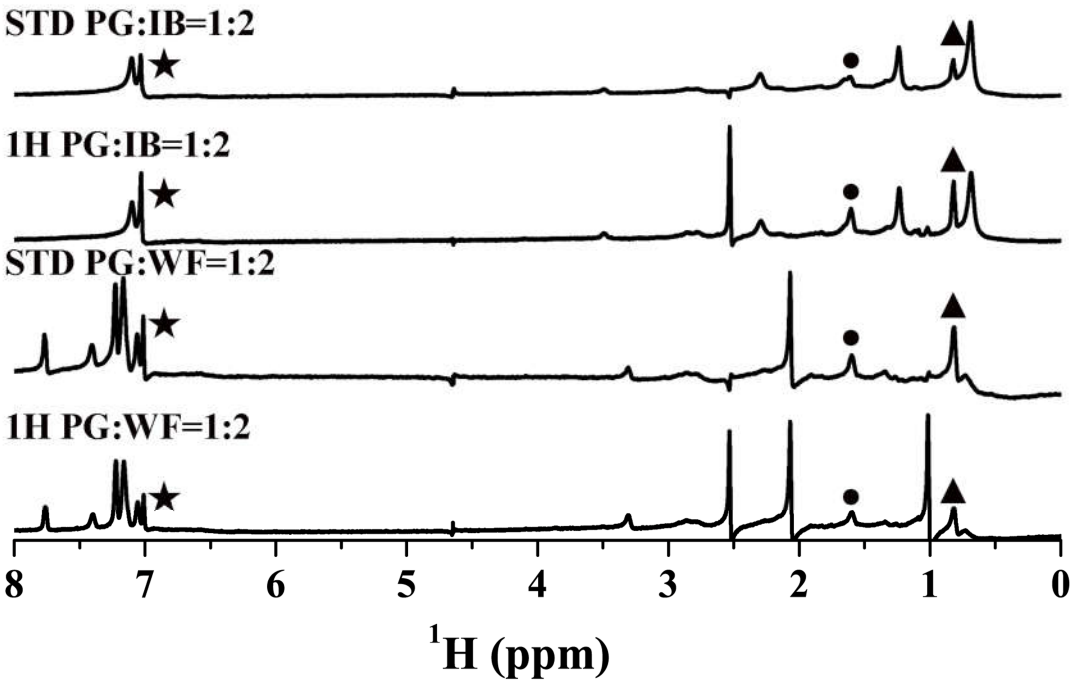

Fig. S8 Effect of WF/IB on the STD spectrum of the PG-HSA interaction. $C_{(HSA)}$ = 0.01 mM, $C_{(PG)}$ = 0.4 mM, and $C_{(WF/IB)}$ = 0.8 mM.

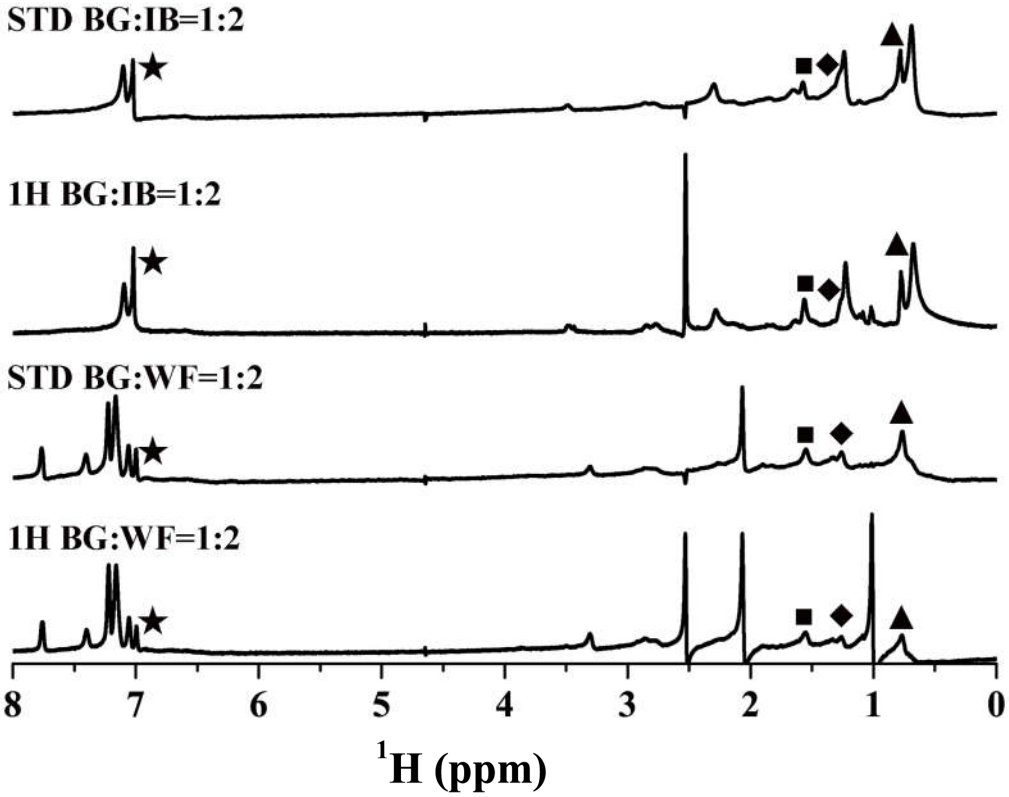

Fig. S9 Effect of WF/IB on the STD spectrum of the BG-HSA interaction. $C_{(HSA)}$ = 0.01 mM, $C_{(BG)}$ = 0.4 mM, and $C_{(WF/IB)}$ = 0.8 mM.

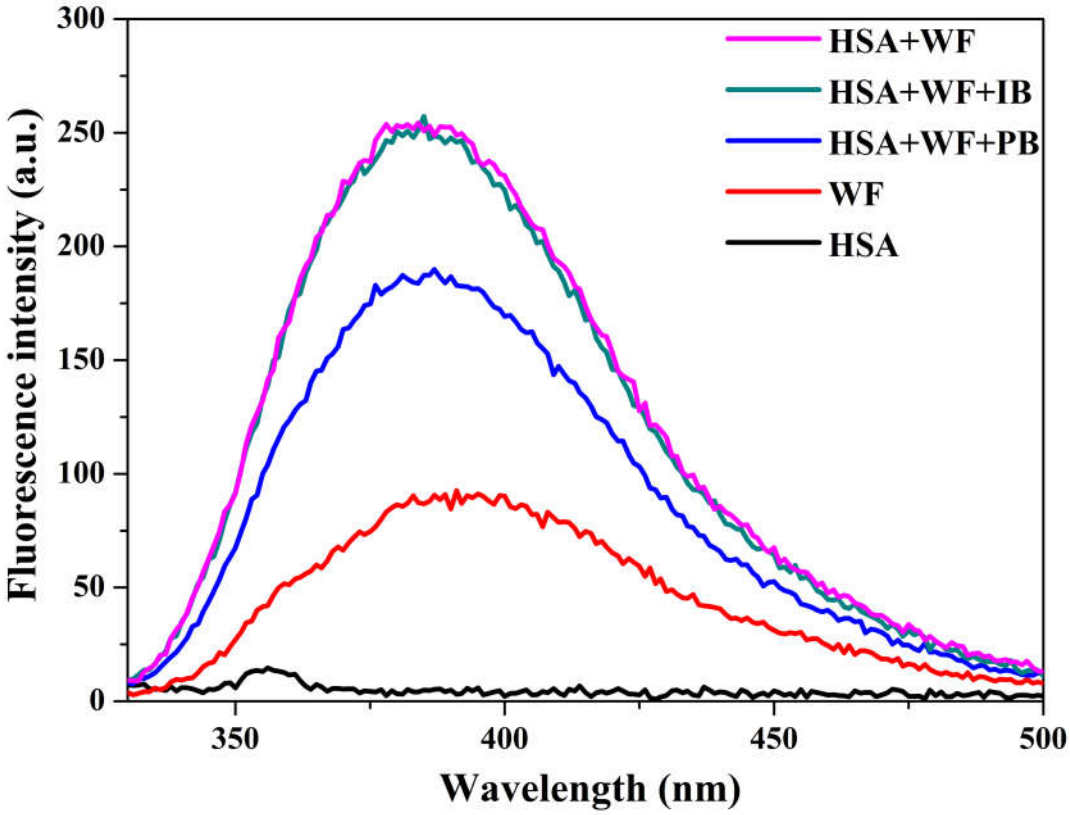

Fig. S10 Effect of PB/IB on the fluorescence of WF–HSA complex (λ_{ex} =317 nm). $C_{(WF)} = C_{(PB/IB)} = C_{(HSA)} = 2.0$ μM.

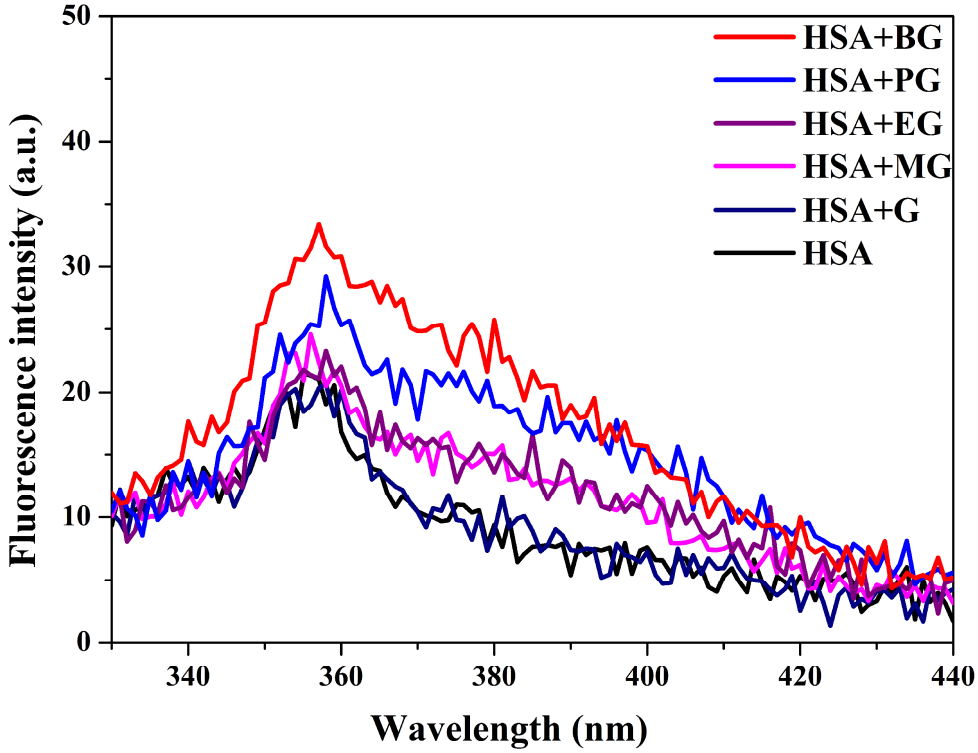

Fig. S11 Fluorescence spectra of G/ME/EG/PG/BG–HSA (A1653) interaction (λ_{ex} =317 nm). $C_{(HSA)} = C_{(G/ME/EG/PG/BG)} = 2$ μM.

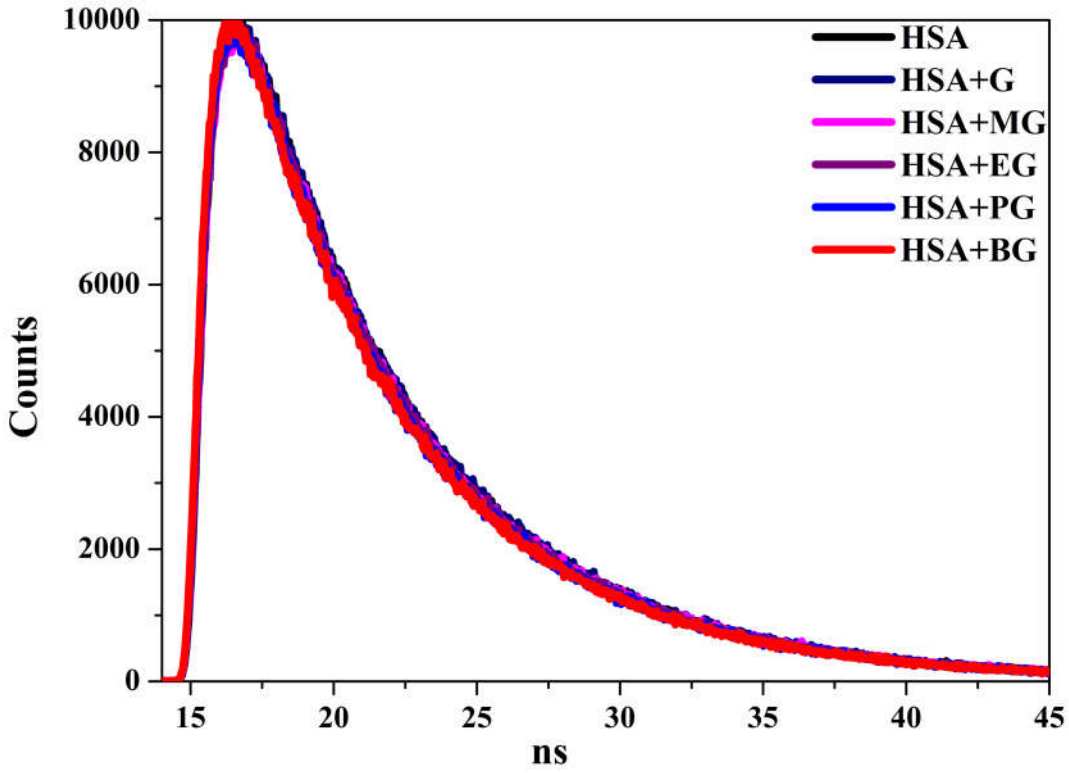

Fig. S12 Fluorescence decay of HSA (A1653) in the absence and presence of probes (λ_{ex} =280 nm): $C_{(HSA)} = C_{(G/MG/EG/PB/BG)}$=2.0 μM.

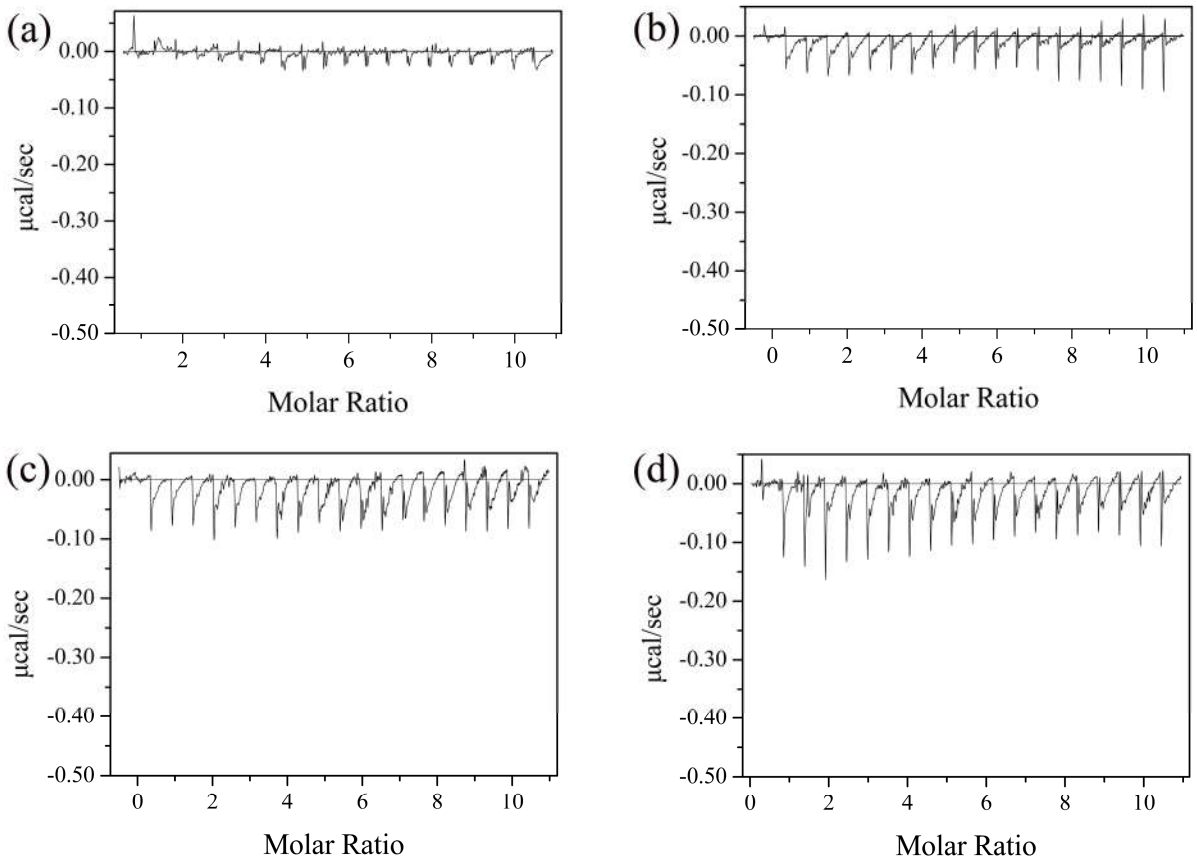

Fig. S13 ITC titration of HSA (A1653)−(a) G/(b) MG/(c) EG/(d) PG interaction.

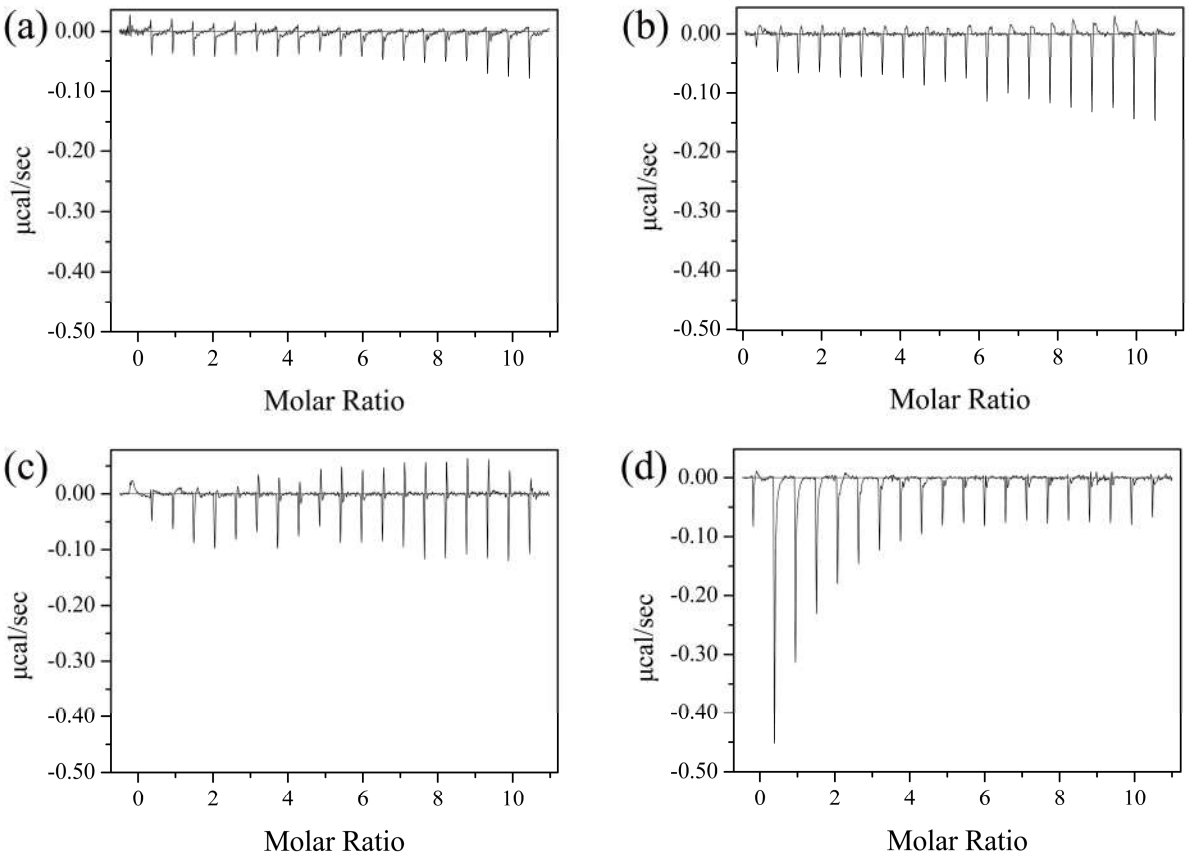

Fig. S14 ITC titration of HSA−(a) G/(b) MG/(c) EG/(d) PG interaction.

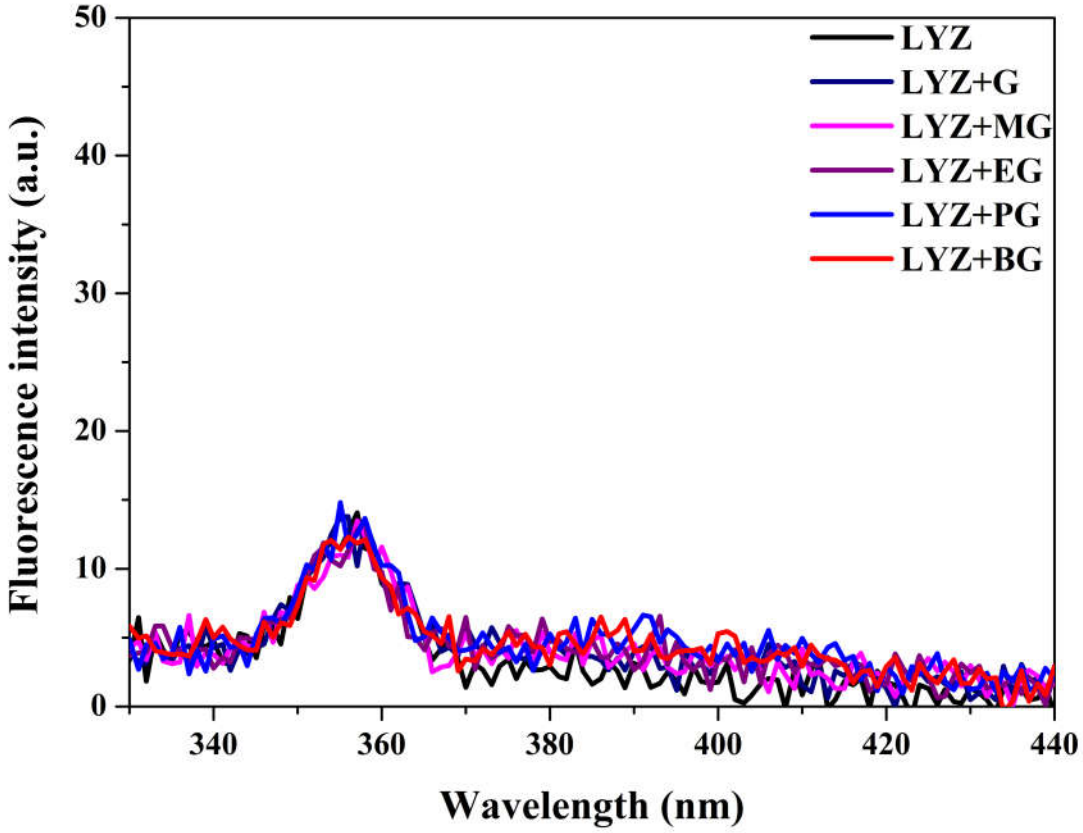

Fig. S15 Fluorescence spectra of G/ME/EG/PG/BG–LYZ interaction (λ_{ex} =317 nm). $C_{(LYZ)} = C_{(G/ME/EG/PG/BG)} = 2$ μM.

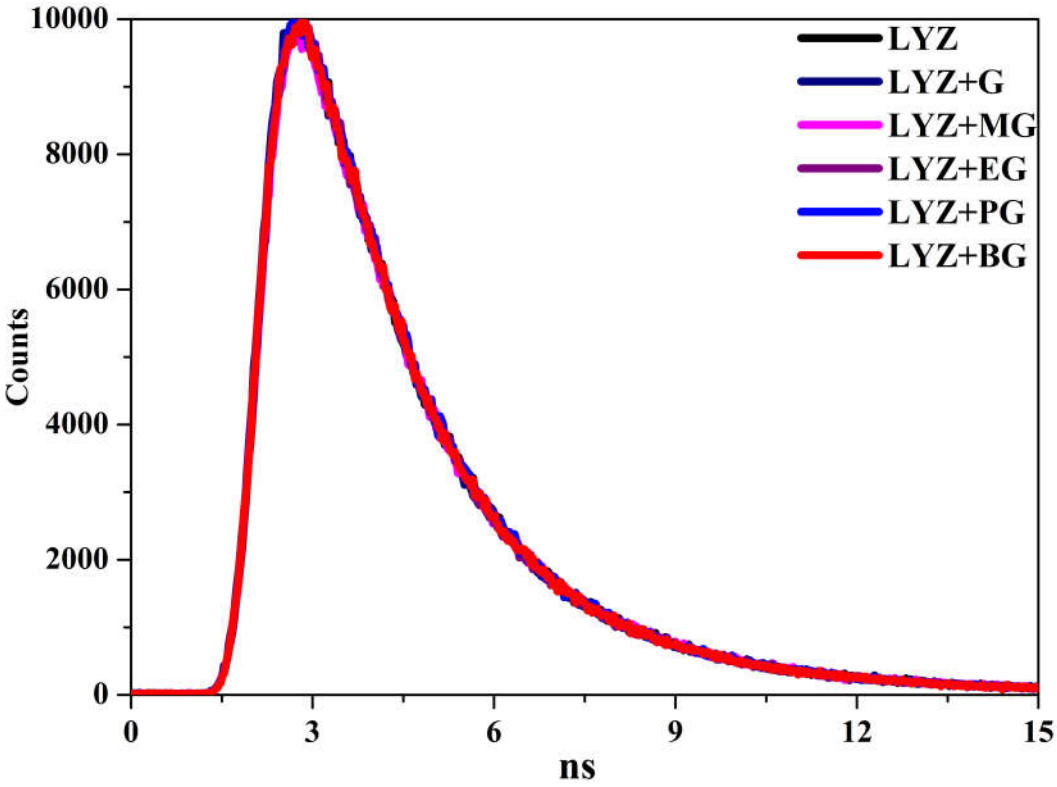

Fig. S16 Fluorescence decay of LYZ in the absence and presence of probes (λ_{ex} =280 nm): $C_{(LYZ)} = C_{(G/MG/EG/PB/BG)}$=2.0 μM.

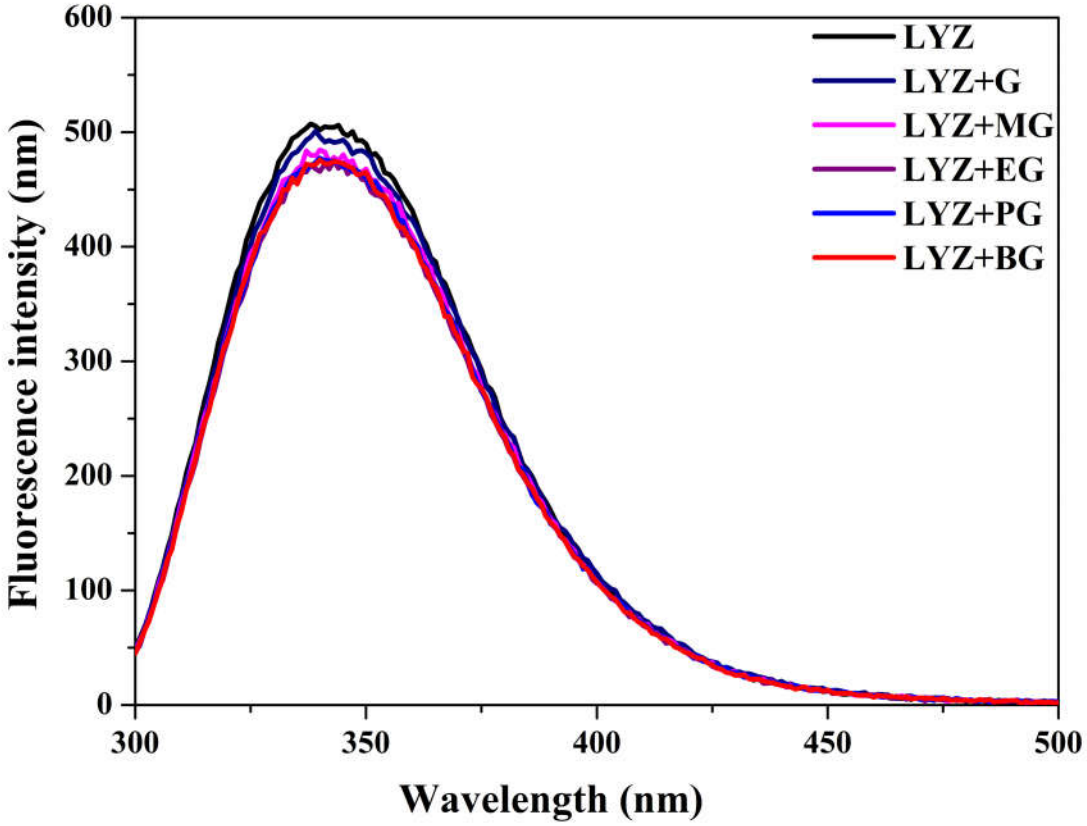

Fig. S17 Fluorescence spectra of G/ME/EG/PG/BG–LYZ interaction (λ_{ex} =280 nm). $C_{(LYZ)} = C_{(G/ME/EG/PG/BG)} = 2$ μM.

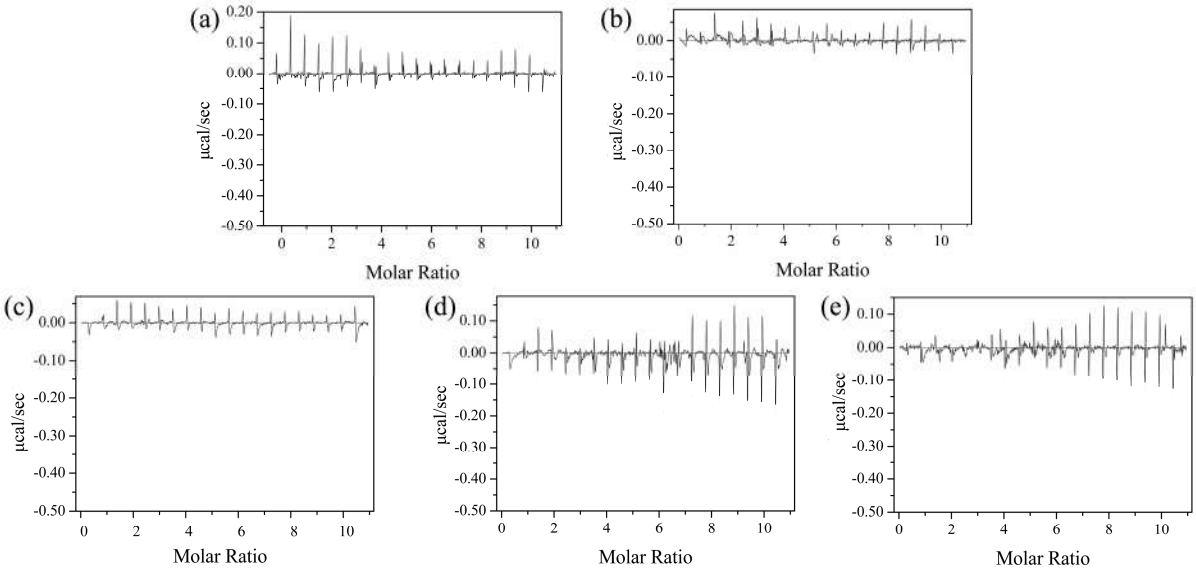

Fig. S18 ITC titration of LYZ−G (a)/MG (b)/EG (c)/PG (d)/BG (e) interaction.

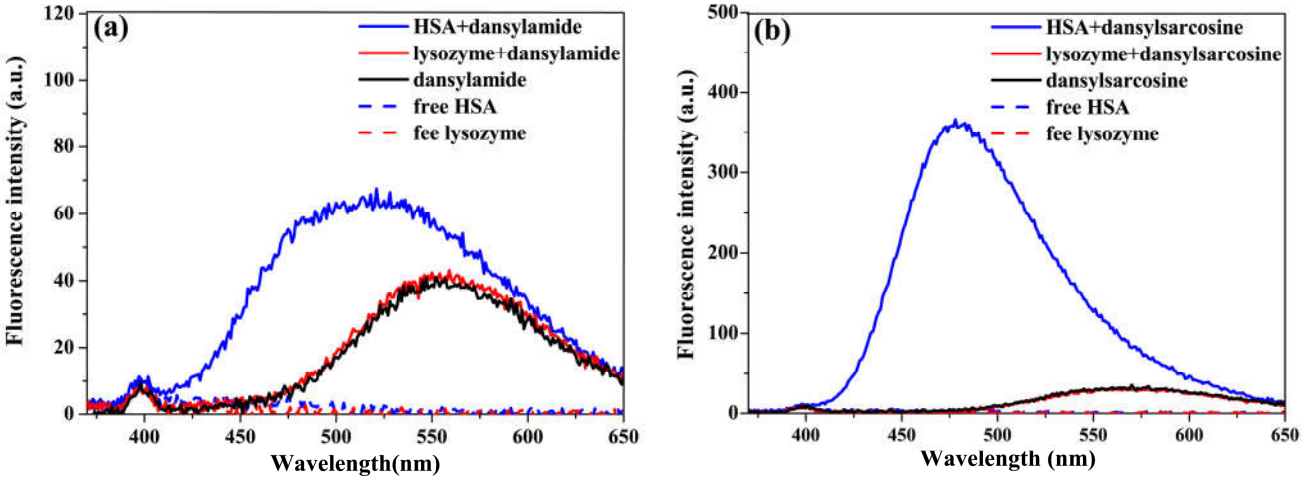

Fig. S19 Fluorescence spectra of dansylamide/dansylsarcosine–HSA/LYZ interaction (λ_{ex} = 350 nm). $C_{(HSA/LYZ)} = C_{(dansylamide/dansylsarcosine)}$ = 2 μM.

Table S1. Lifetime of HSA (A1887) fluorescence decay in the absence and presence of probes.

System	τ_1	τ_2	τ_3	α_1	α_2	α_3	‹τ›	χ^2
Free HSA	3.399	0.515	6.948	0.334	0.035	0.631	5.539	0.993
G-HSA	3.448	0.485	7.015	0.351	0.040	0.609	5.501	1.028
MG-HSA	3.363	0.436	6.957	0.340	0.032	0.628	5.526	1.072
EG-HSA	3.293	0.464	6.897	0.326	0.050	0.625	5.405	1.107
PG-HSA	2.852	0.456	6.558	0.285	0.184	0.531	4.377	1.045
BG-HSA	2.579	0.449	6.432	0.270	0.282	0.448	3.703	1.131