

Electronic supplementary information

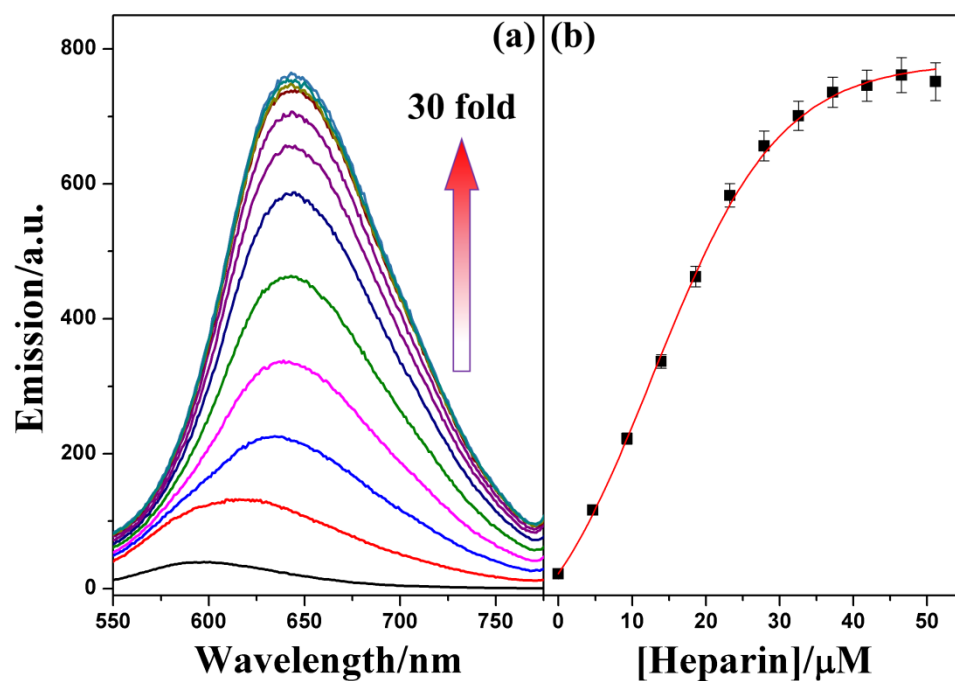
**A new fluorescence “switch on” assay for heparin detection by using  
a functional ruthenium polypyridyl complex**

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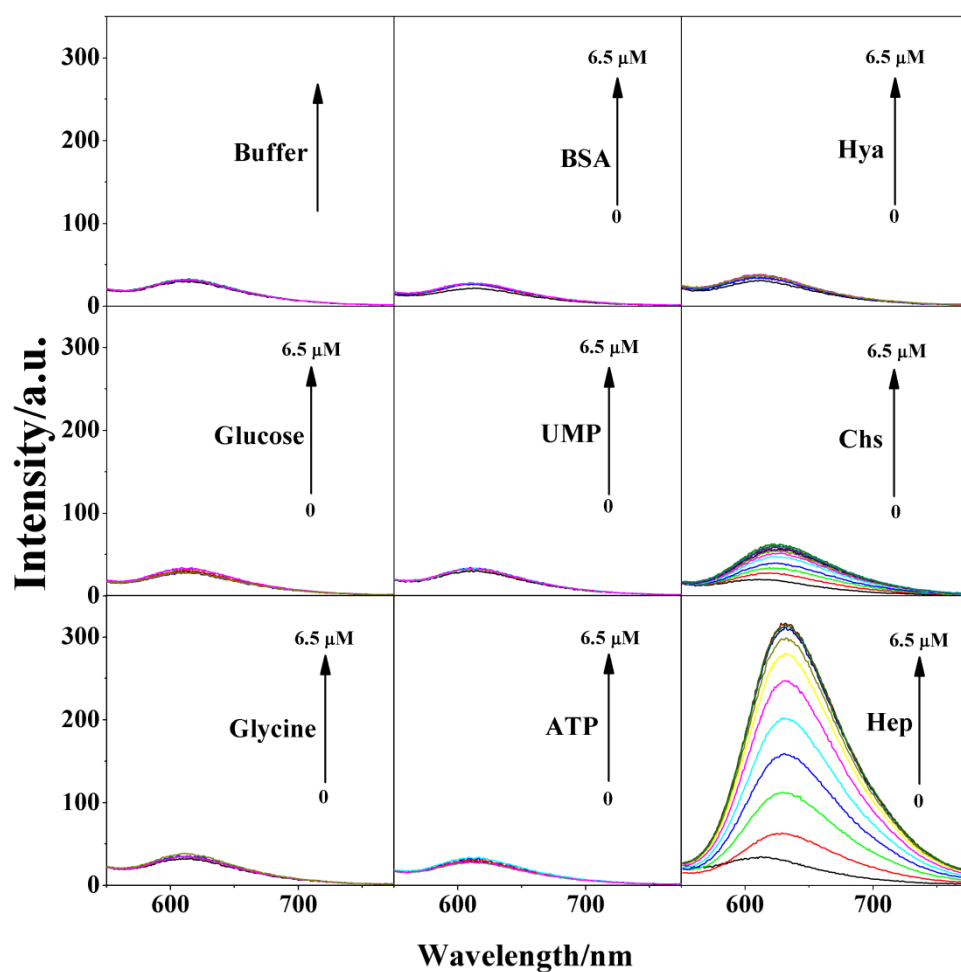
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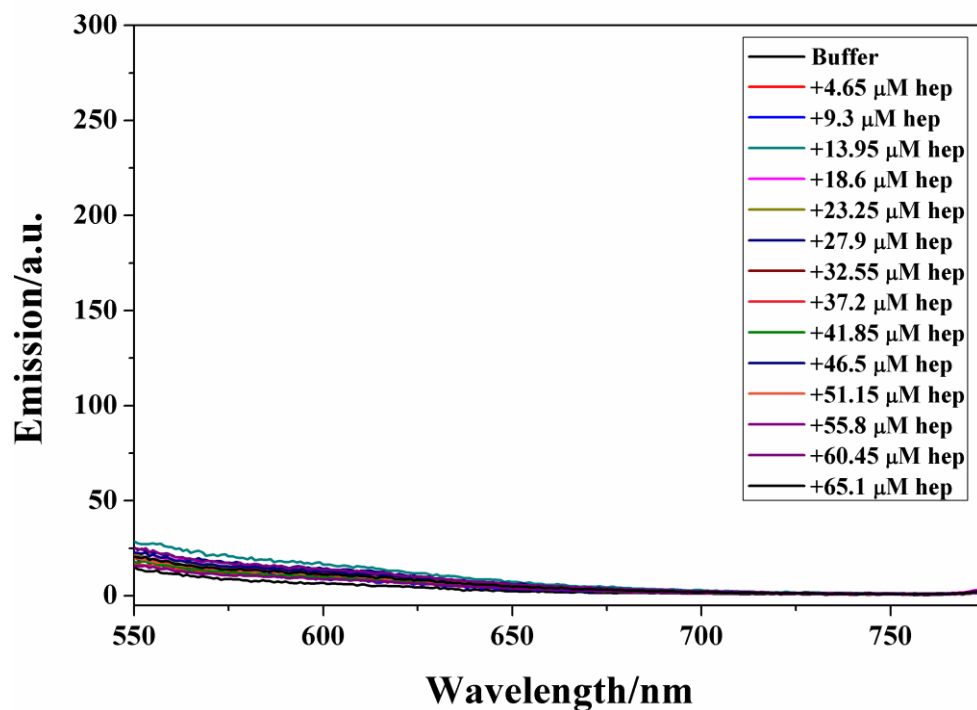
<sup>‡</sup> These authors contributed equally to this work.



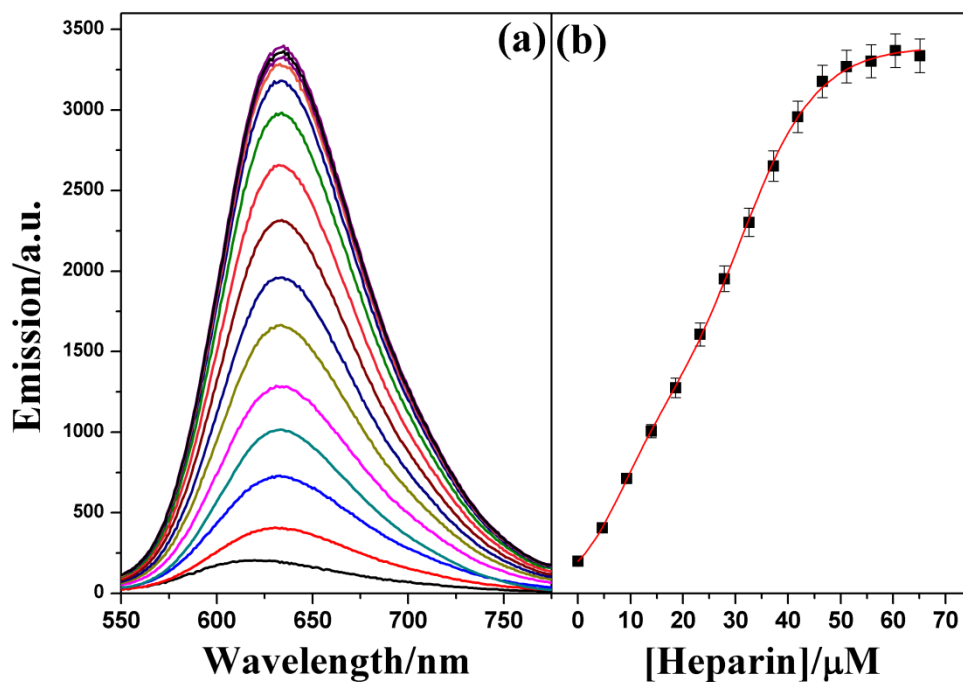
**Fig. S1** (a) Changes in emission spectra ( $\lambda_{\text{ex}} = 405 \text{ nm}$ ) of complex **2** ( $50 \mu\text{M}$ ) in  $50 \text{ mM}$  Tris-HCl buffer solution ( $\text{pH } 7.5$ ) upon successive addition of heparin ( $0 \sim 56 \mu\text{M}$ ). (b) Variation of the fluorescence intensity of complex **2** ( $50 \mu\text{M}$  in  $50 \text{ mM}$  Tris-HCl,  $\text{pH } 7.5$ ) at  $630 \text{ nm}$  with continuous heparin titration ( $0 \sim 56 \mu\text{M}$ ).



**Fig. S2** Fluorescence titration details of complex **1** with some important biological molecules in 50 mM Tris-HCl buffer solution (pH 7.5). The concentration of complex **1** was 5  $\mu\text{M}$  and kept constant. The amount of each biological molecule (BSA, glucose, UMP, glycine, ATP, Chs, Hya, and heparin) was gradually increased until there was almost no change in the spectra.



**Fig. S3** Fluorescence titration of FBS containing buffer solution (1 % FBS in 50 mM Tris-HCl buffer, pH 7.5) with continuous addition of heparin (0 ~ 65  $\mu\text{M}$ ).



**Fig. S4** (a) Changes in emission spectra ( $\lambda_{\text{ex}} = 405 \text{ nm}$ ) of complex **1** (50  $\mu\text{M}$ ) in diluted FBS solution (1 % FBS in Tris-HCl buffer solution (50 mM Tris-HCl, pH 7.5)) upon successive addition of heparin (0 ~ 56  $\mu\text{M}$ ). (b) Variation of the fluorescence intensity of complex **1** at 630 nm with continuous heparin titration (0 ~ 56  $\mu\text{M}$ ).