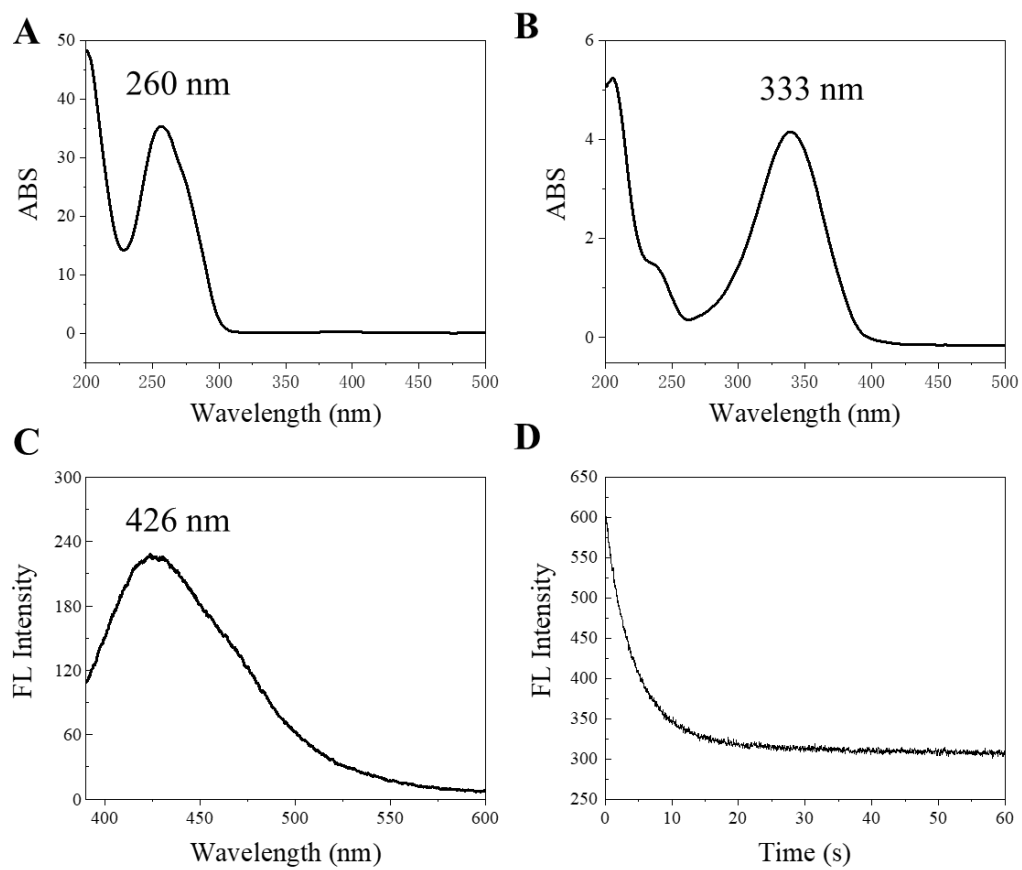


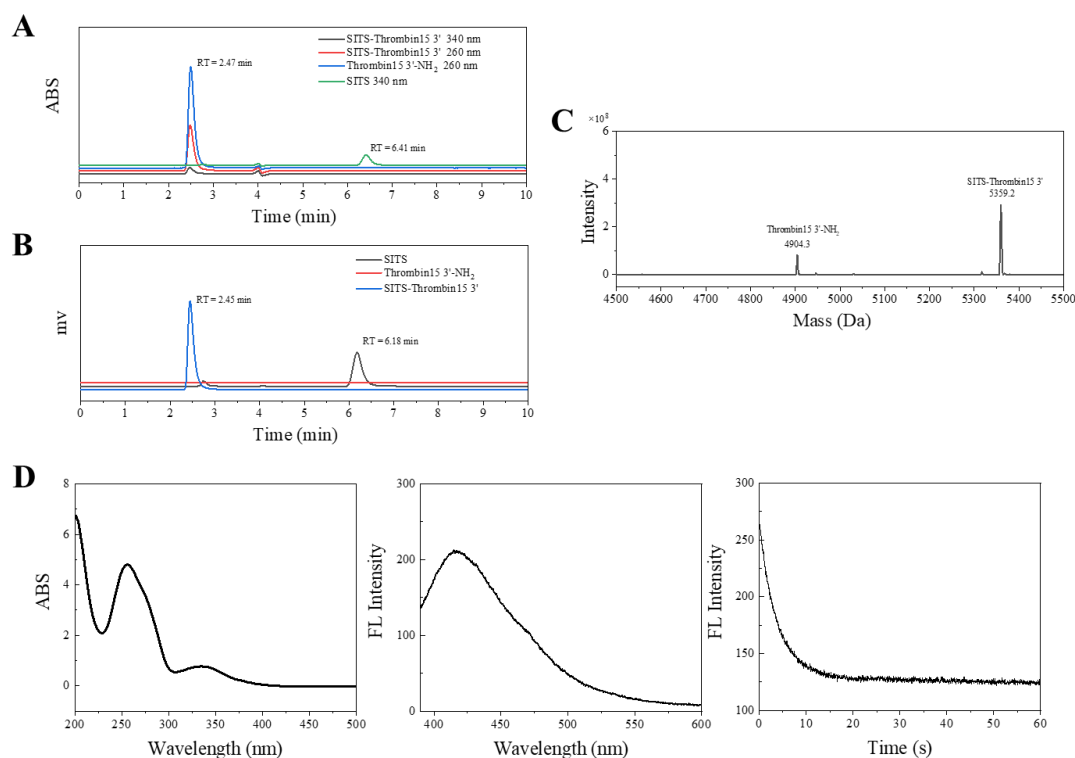
**Supplementary Materials**  
**for**  
**A fluorescence kinetic-based aptasensor employing stilbene**  
**isomerization for detection of thrombin**

**Table S1.** The sequence of thrombin aptamer.

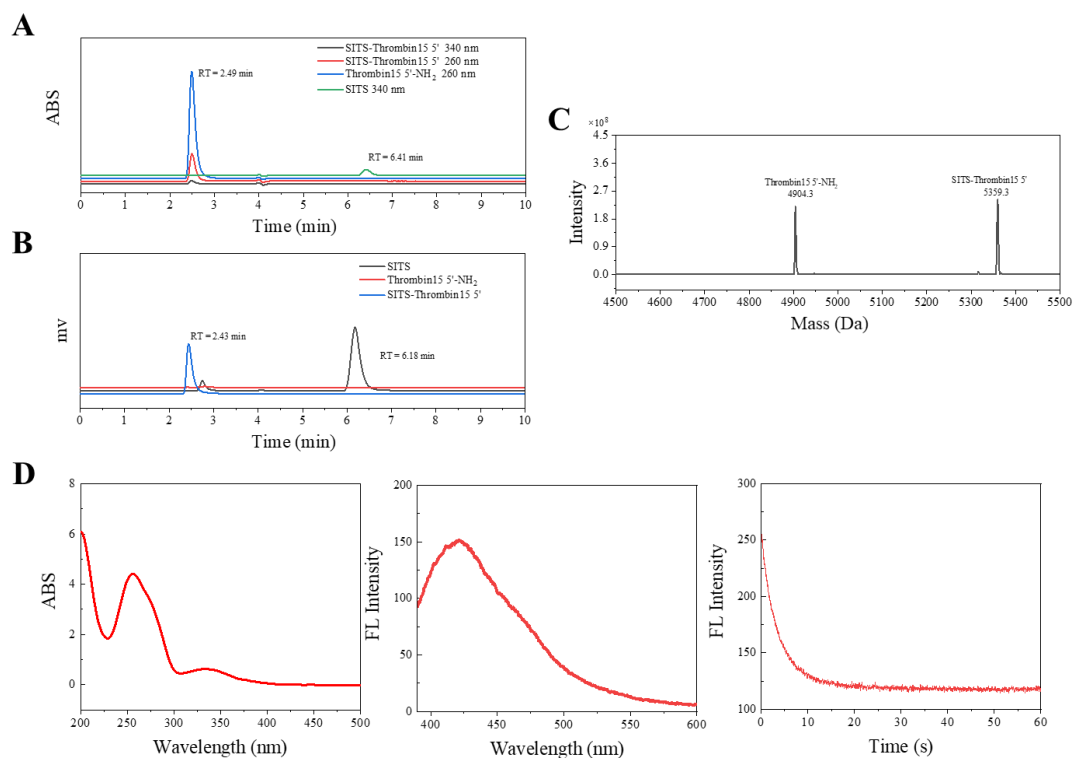
Aptamer	Sequence (5' to 3')
Thrombin15 3'-NH <sub>2</sub>	5' - GGT TGG TGT GGT TGG - (CH <sub>2</sub> ) <sub>6</sub> - NH <sub>2</sub> - 3'
Thrombin15 3'-NH <sub>2</sub>	5' - NH <sub>2</sub> - (CH <sub>2</sub> ) <sub>6</sub> - GGT TGG TGT GGT TGG - 3'
Thrombin27 3'-NH <sub>2</sub>	5' - GTC CGT GGT AGG GCA GGT TGG GGT GAC - (CH <sub>2</sub> ) <sub>6</sub> - NH <sub>2</sub> - 3'
Thrombin27 T6-NH <sub>2</sub>	5' - GTC CGT((CH <sub>2</sub> ) <sub>6</sub> - NH <sub>2</sub> ) GGT AGG GCA GGT TGG GGT GAC - 3'
Thrombin29 3'-NH <sub>2</sub>	5' - AGT CCG TGG TAG GGC AGG TTG GGG TGA CT - (CH <sub>2</sub> ) <sub>6</sub> - NH <sub>2</sub> - 3'
Thrombin29 5'-NH <sub>2</sub>	5' - NH <sub>2</sub> - (CH <sub>2</sub> ) <sub>6</sub> - AGT CCG TGG TAG GGC AGG TTG GGG TGA CT - 3'



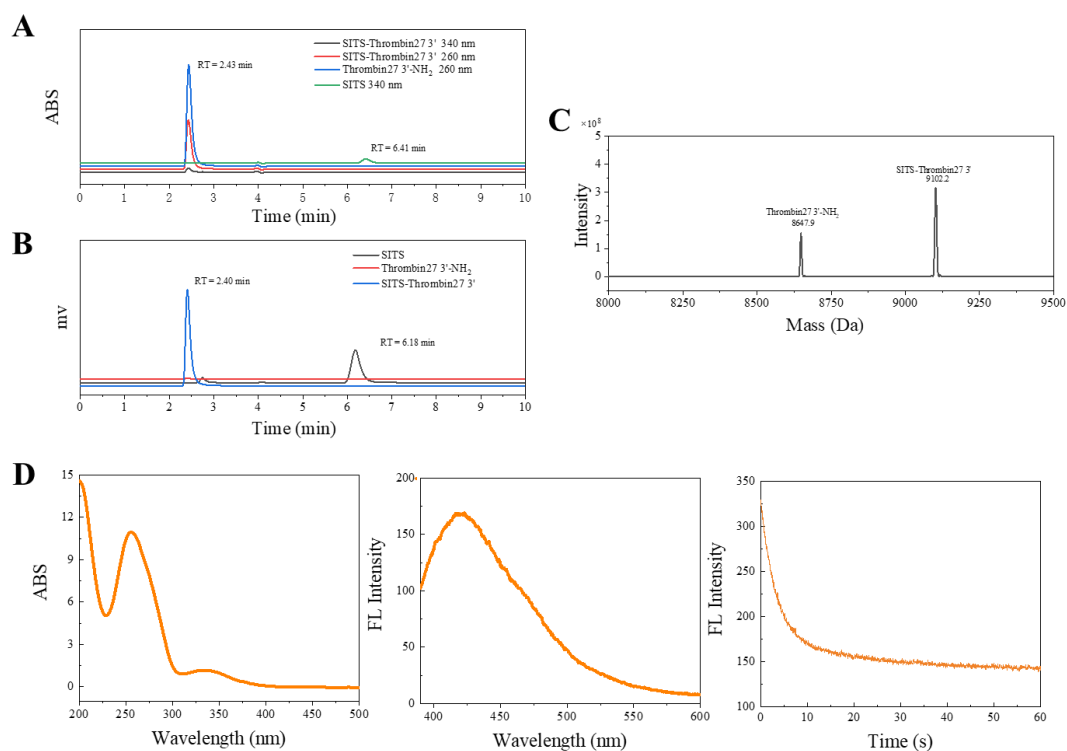
**Figure S1.** UV-vis absorption spectra of thrombin27 5'-NH<sub>2</sub> (A) and SITS (B). Fluorescence emission (C) and fluorescence attenuation (D) of SITS.



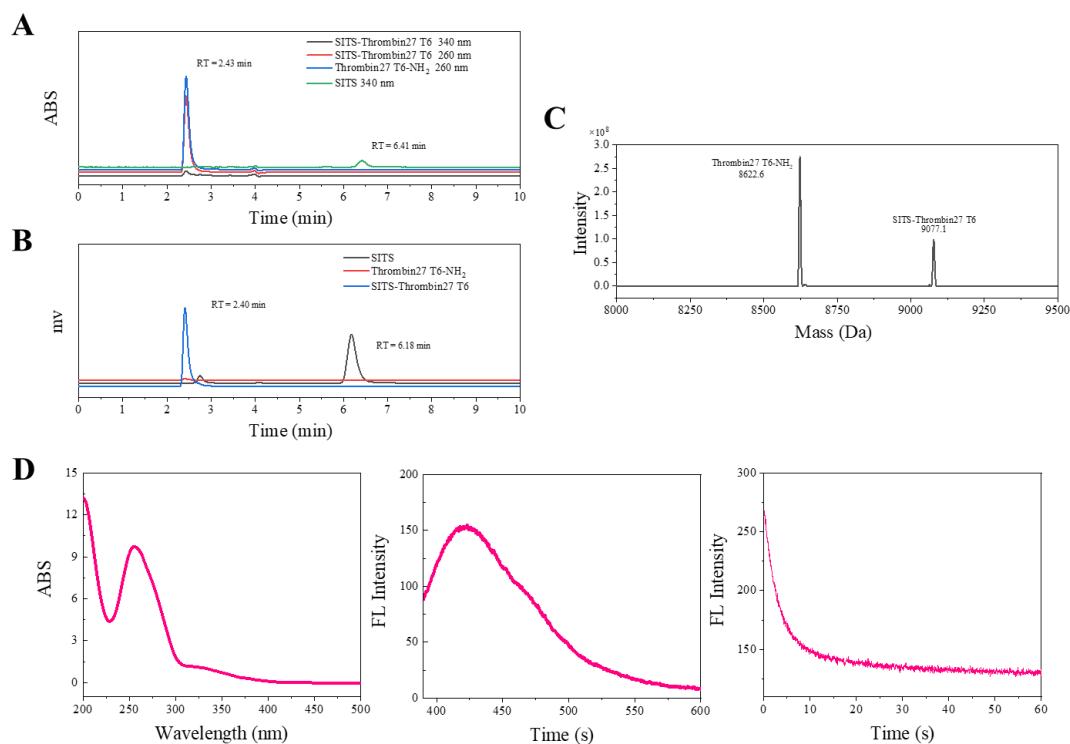
**Figure S2.** Characterization of SITS-Thrombin15 3' conjugate. (A) HPLC-UV chromatography of SITS-Thrombin15 3' conjugate, Thrombin15 3'-NH<sub>2</sub> and SITS. (B) HPLC-fluorescence chromatography (ex/em = 333 nm/426 nm) of SITS-Thrombin15 3' conjugate, Thrombin15 3'-NH<sub>2</sub> and SITS. (C) MS characterization of SITS-Thrombin15 3' conjugate. (D) UV-vis absorption spectrum, fluorescence emission spectrum and fluorescence attenuation curve of SITS-Thrombin15 3' conjugate.



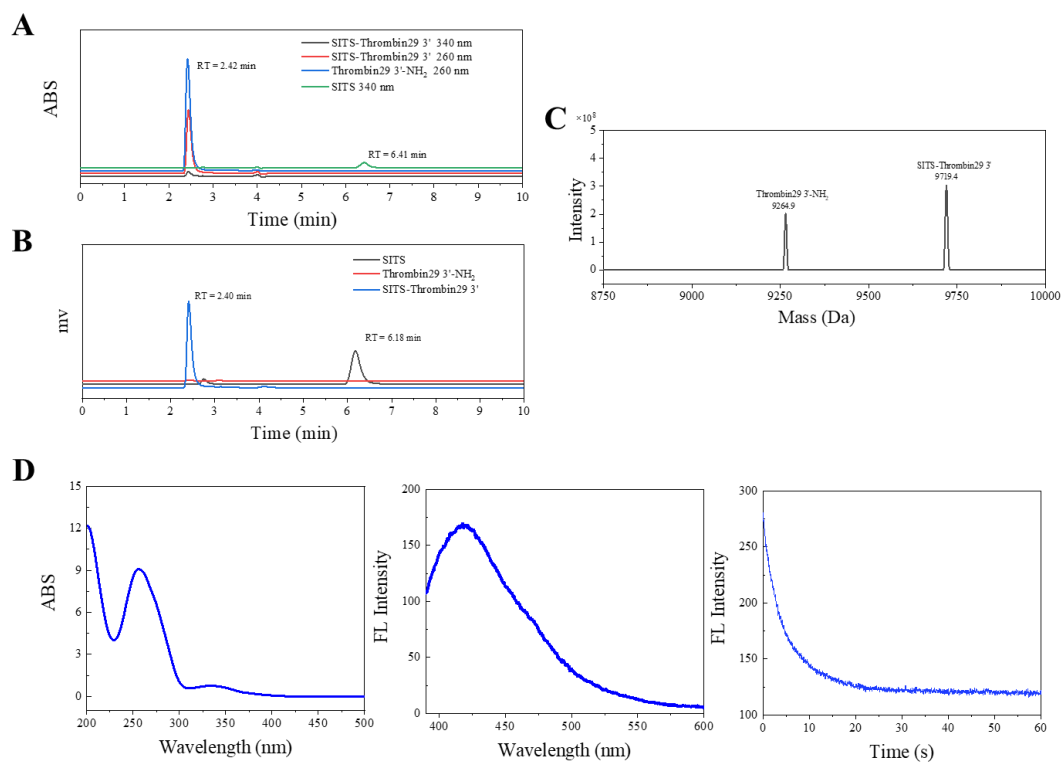
**Figure S3.** Characterization of SITS-Thrombin15 5' conjugate. (A) HPLC-UV chromatography of SITS-Thrombin15 5' conjugate, Thrombin15 5'-NH<sub>2</sub> and SITS. (B) HPLC-fluorescence chromatography (ex/em = 333 nm/426 nm) of SITS-Thrombin15 5' conjugate, Thrombin15 5'-NH<sub>2</sub> and SITS. (C) MS characterization of SITS-Thrombin15 5' conjugate. (D) UV-vis absorption spectrum, fluorescence emission spectrum and fluorescence attenuation curve of SITS-Thrombin15 5' conjugate.



**Figure S4.** Characterization of SITS-Thrombin27 3' conjugate. (A) HPLC-UV chromatography of SITS-Thrombin27 3' conjugate, Thrombin27 3'-NH<sub>2</sub> and SITS. (B) HPLC-fluorescence chromatography (ex/em = 333 nm/426 nm) of SITS-Thrombin27 3' conjugate, Thrombin27 3'-NH<sub>2</sub> and SITS. (C) MS characterization of SITS-Thrombin27 3' conjugate. (D) UV-vis absorption spectrum, fluorescence emission spectrum and fluorescence attenuation curve of SITS-Thrombin27 3' conjugate.

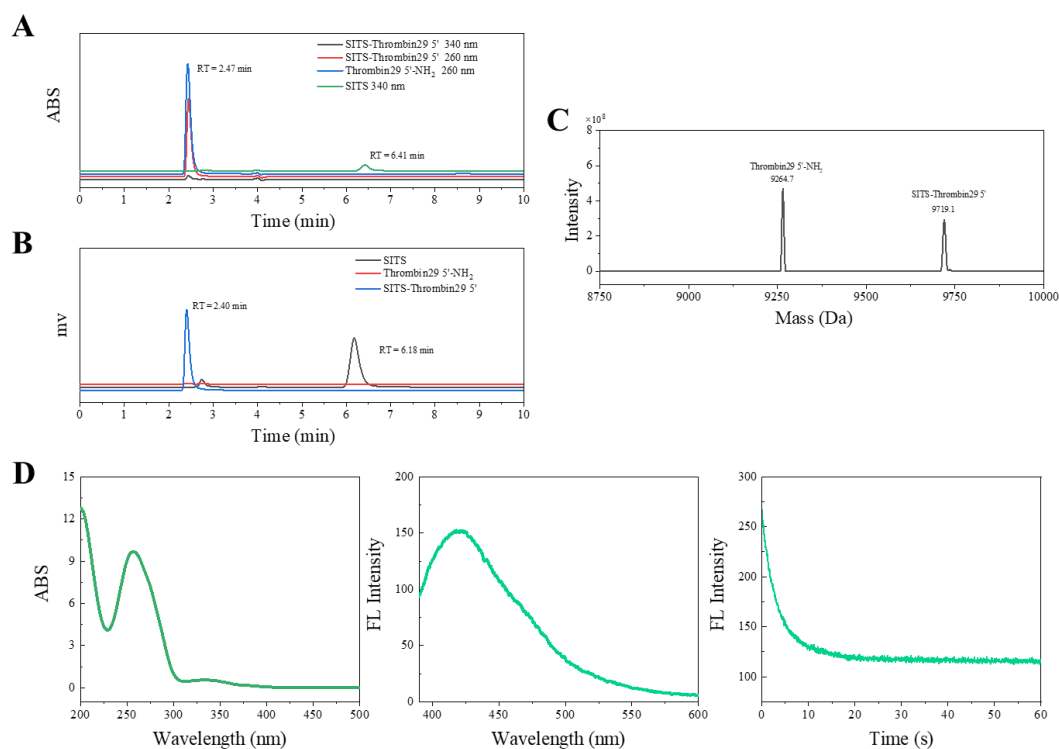


**Figure S5.** Characterization of SITS-Thrombin27 T6 conjugate. (A) HPLC-UV chromatography of SITS-Thrombin27 T6 conjugate, Thrombin27 T6-NH<sub>2</sub> and SITS. (B) HPLC-fluorescence chromatography (ex/em = 333 nm/426 nm) of SITS-Thrombin27 T6 conjugate, Thrombin27 T6-NH<sub>2</sub> and SITS. (C) MS characterization of SITS-Thrombin27 T6 conjugate. (D) UV-vis absorption spectrum, fluorescence emission spectrum and fluorescence attenuation curve of SITS-Thrombin27 T6 conjugate.



**Figure S6.** Characterization of SITS-Thrombin29 3' conjugate. (A) HPLC-UV chromatography of SITS-Thrombin29 3' conjugate, Thrombin29 3'-NH<sub>2</sub> and SITS. (B) HPLC-fluorescence chromatography (ex/em = 333 nm/426 nm) of SITS-Thrombin29 3' conjugate, Thrombin29 3'-NH<sub>2</sub> and SITS. (C) MS characterization of SITS-Thrombin29 3' conjugate. (D) UV-vis absorption spectrum, fluorescence emission spectrum and fluorescence attenuation curve of SITS-Thrombin29 3' conjugate.





**Figure S7.** Characterization of SITS-Thrombin29 5' conjugate. (A) HPLC-UV chromatography of SITS-Thrombin29 5' conjugate, Thrombin29 5'-NH<sub>2</sub> and SITS. (B) HPLC-fluorescence chromatography (ex/em = 333 nm/426 nm) of SITS-Thrombin29 5' conjugate, Thrombin29 5'-NH<sub>2</sub> and SITS. (C) MS characterization of SITS-Thrombin29 5' conjugate. (D) UV-vis absorption spectrum, fluorescence emission spectrum and fluorescence attenuation curve of SITS-Thrombin29 5' conjugate.