Supplementary Materials: Label-Free Fluorescence Assay of S1 Nuclease and Hydroxyl Radicals Based on Water-Soluble Conjugated Polymers and WS₂ Nanosheets

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Figure S1. The TEM image of WS2 nanosheets.



Figure S2. (a) The fluorescence spectra of PFVCN/ssDNA/WS₂, PFVCN/ssDNA/ S1/WS₂, PFVCN/ssDNA /·OH/WS₂ and PFVCN/WS₂ in Tris-HCl buffer solution (20 mM, pH 7.4); (b) The fluorescence intensity of PFVCN in the presence of S1 or Fenton reagent; (c) The fluorescence intensity of PFVCN in the presence of ssDNA; (d) The fluorescence intensity of PFVCN/WS₂ in the presence of S1 or Fenton reagent. [PFVCN] = 1.0×10^{-6} M, [WS₂] = 1μ g/mL, [S1] = 0.5 U/mL, [Fe²⁺] = 5μ M. The excitation wavelength is 470 nm.



Figure S3. (a) The absorption and emission spectra of WS₂; (b) The fluorescence intensity of PFVCN in the presence of WS₂ in Tris-HCl buffer solution. [PFVCN] = 1.0×10^{-6} M, [S1] = 0.7 U/mL, [Fe²⁺] = 5μ M. The error bars represent standard deviations three parallel measurements. The excitation wavelength is 470 nm.



Figure S4. Fluorescence intensity of PFVCN/ssDNA in the presence of S1 nuclease incubated for different periods in Tris-HCl buffer solution (20 mM, pH 7.4). The error bars represent standard deviations three parallel measurements. [PFVCN] = 1.0×10^{-6} M, [WS₂] = 1 µg/mL, [S1] = 0.5 U/mL, [ssDNA] = 10 nM. The excitation wavelength is 470 nm.



Figure S5. Inhibition efficiency of hydroxyl radical by thiourea in Tris-HCl buffer solution (20 mM, pH 7.4). [PFVCN] = 1.0×10^{-6} M, [WS₂] = $1 \mu g/mL$, [Fe²⁺] = $5 \mu M$, [ssDNA] = 10 nM. The error bars represent standard deviations three parallel measurements. The excitation wavelength is 470 nm.