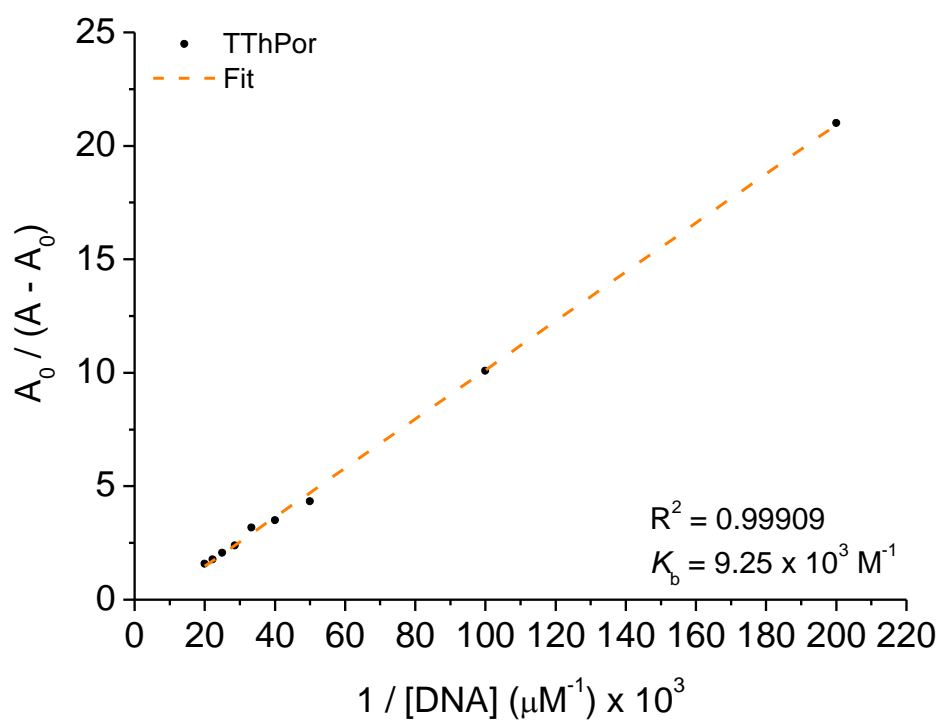
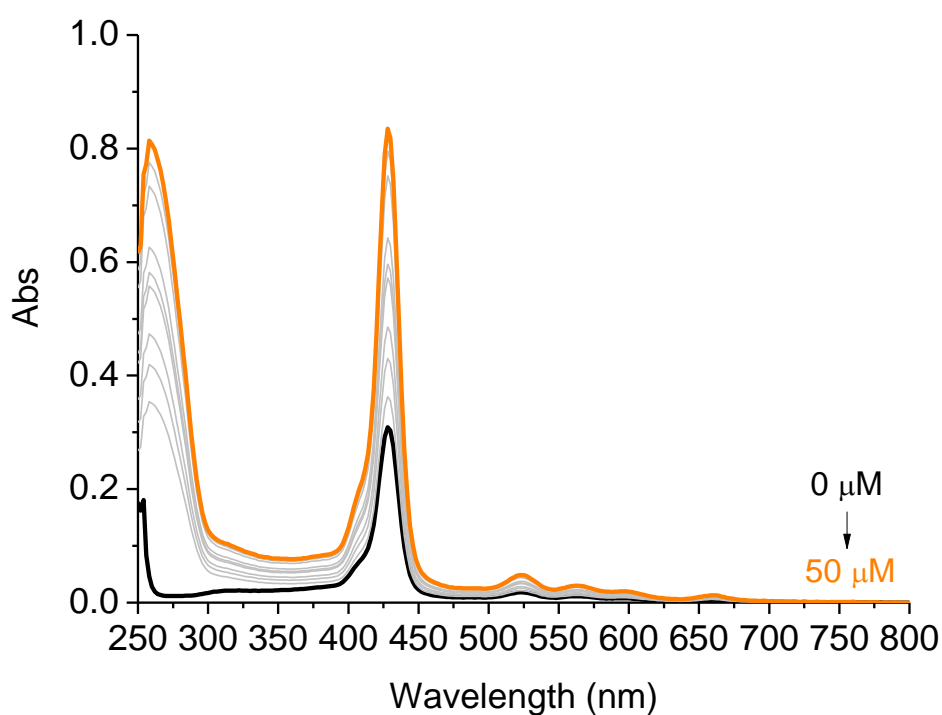


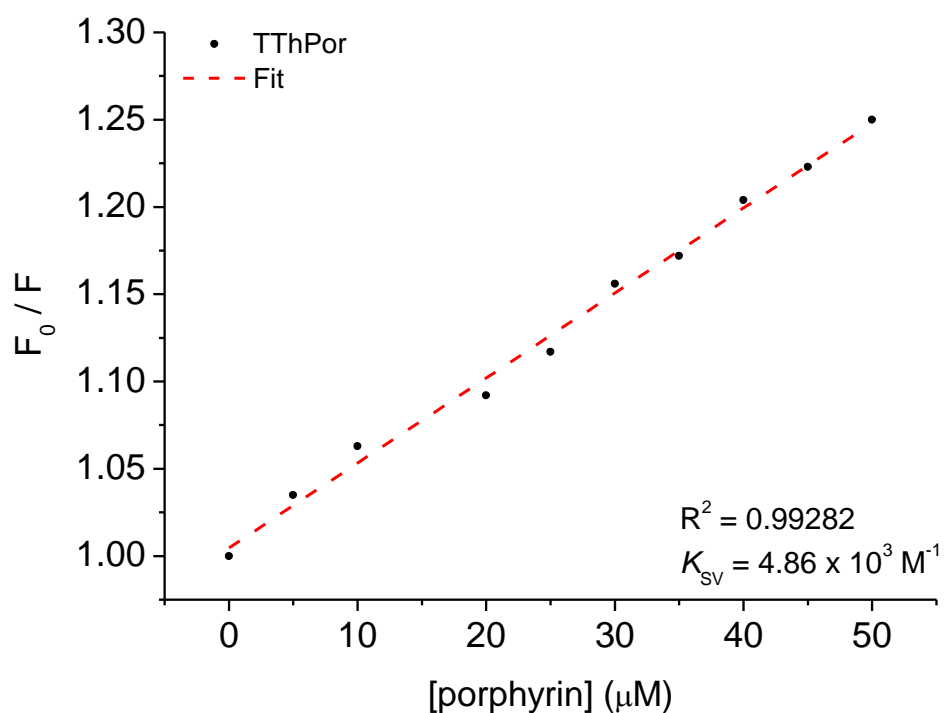
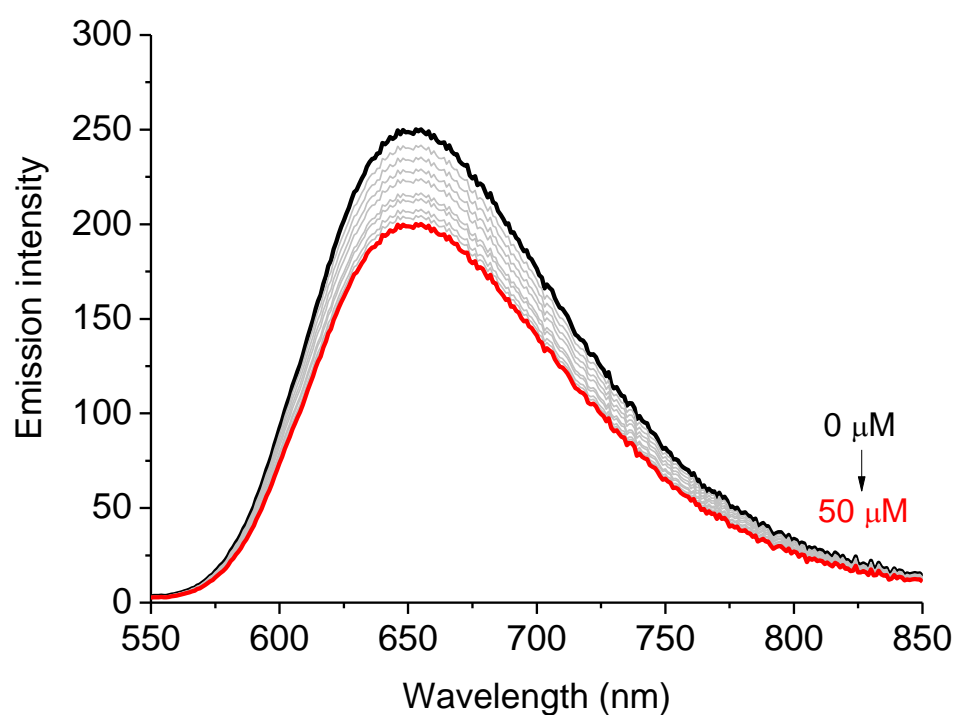
## Supplementary Information

# DNA-Interactive and Damage Study with *meso*-Tetra(2-thienyl)porphyrins Coordinated with Polypyridyl Pd(II) and Pt(II) Complexes

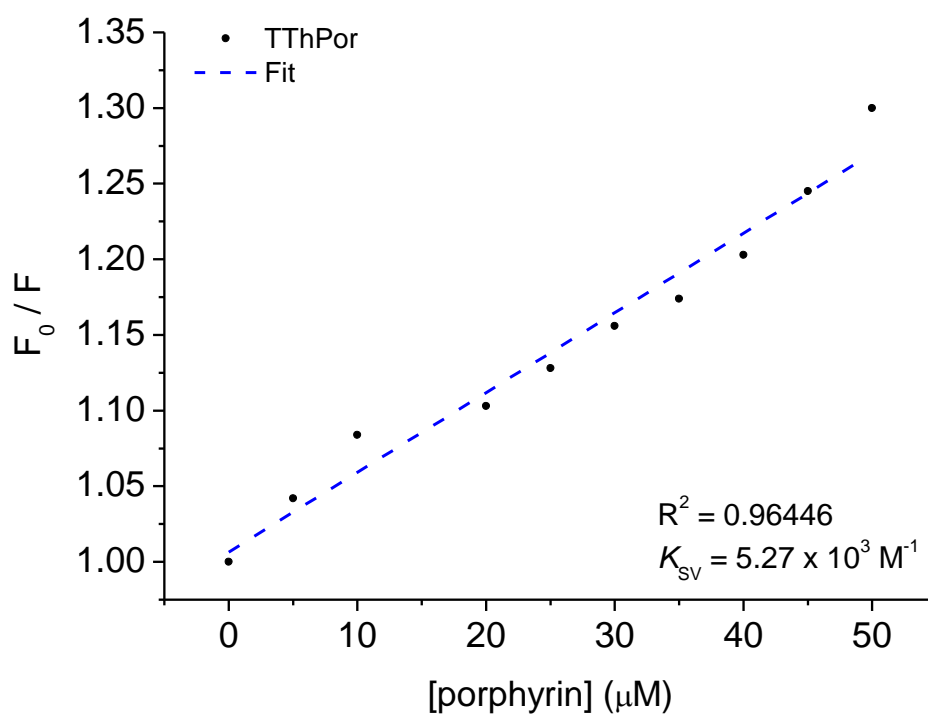
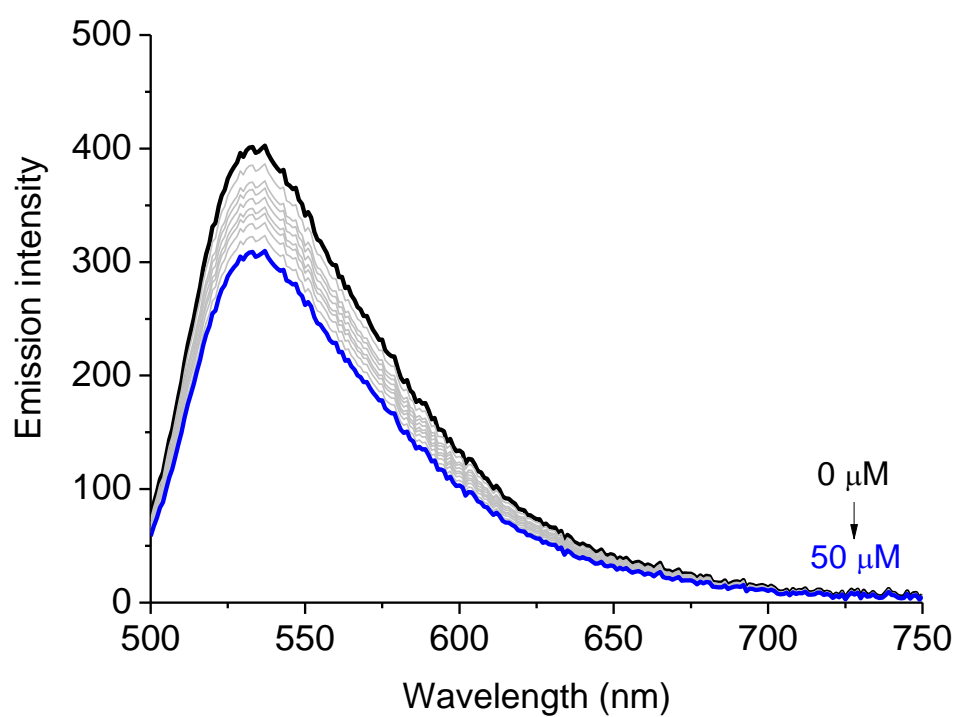
Bernardo Almeida Iglesias <sup>1,\*</sup>, Níckolas Pippi Peranzoni <sup>2</sup>, Sophia Iwersen Faria <sup>2</sup>,  
Luana Belo Trentin <sup>2</sup>, André Passaglia Schuch <sup>2</sup>, Otávio Augusto Chaves <sup>3</sup>,  
Renan Ribeiro Bertoloni <sup>4</sup>, Sofia Nikolaou <sup>4</sup> and Kleber Thiago de Oliveira <sup>5,\*</sup>



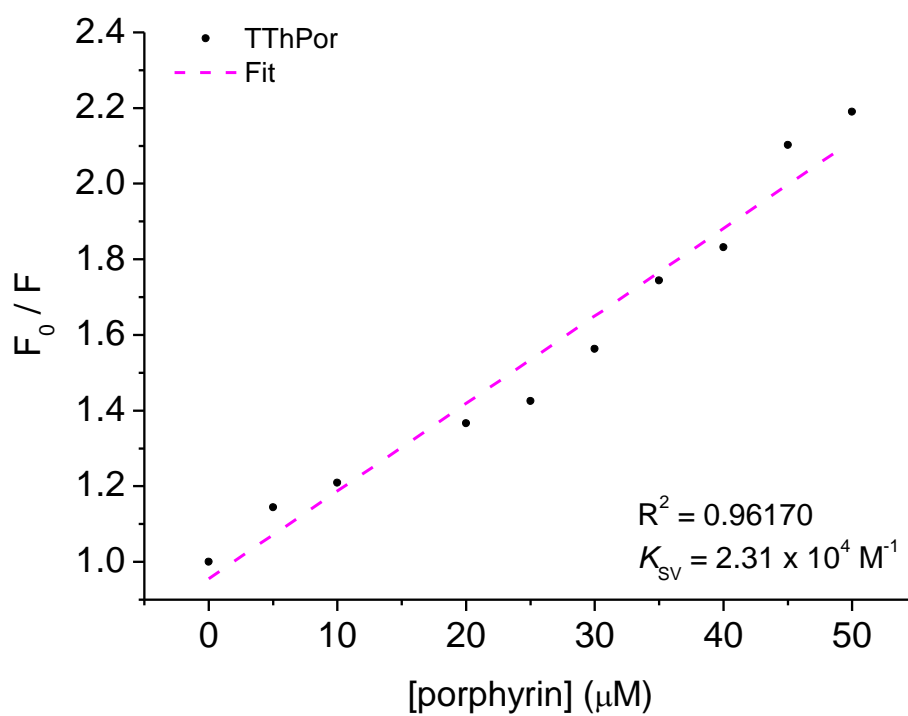
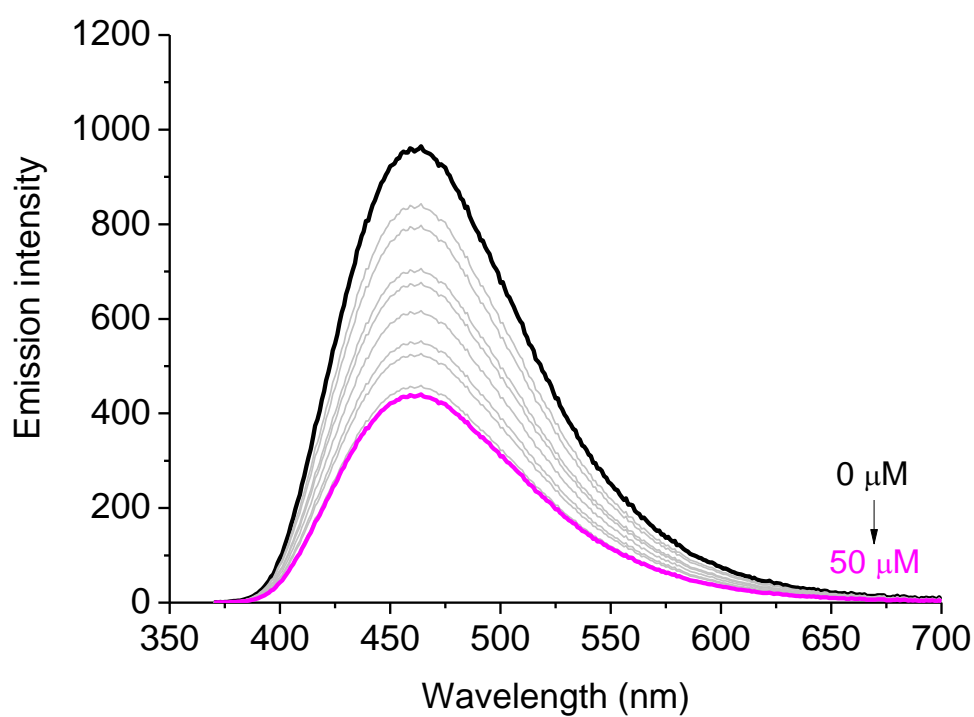
**Figure S1.** UV-Vis spectra of the **TThPor** upon successive additions of CT-DNA concentrations (0 to 50  $\mu\text{M}$ ) in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution. Graph plots of  $A_0/(A - A_0)$  versus  $1/[\text{CT-DNA}]$ .



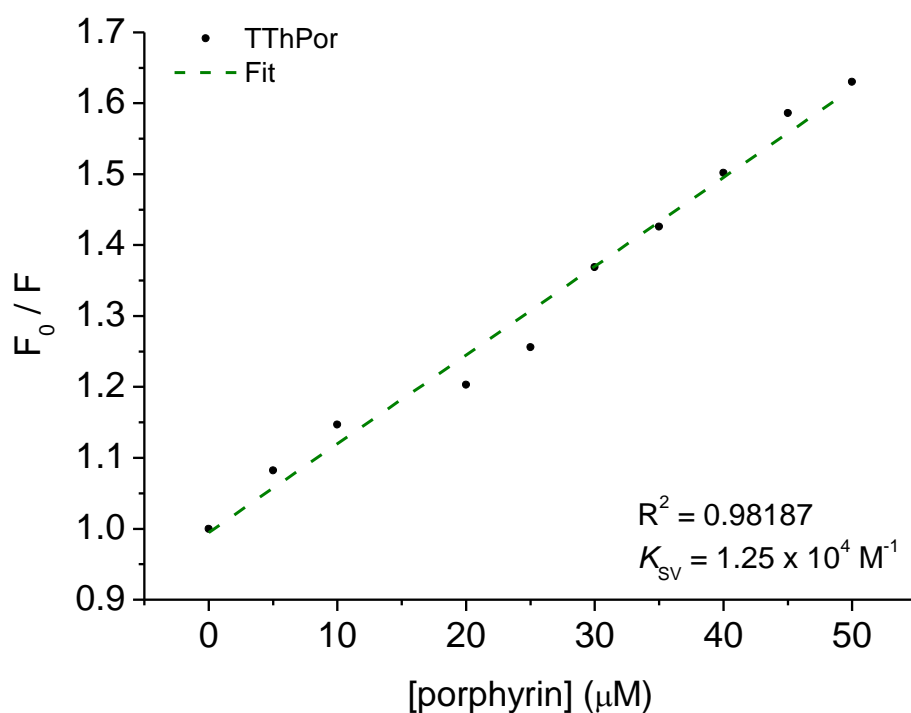
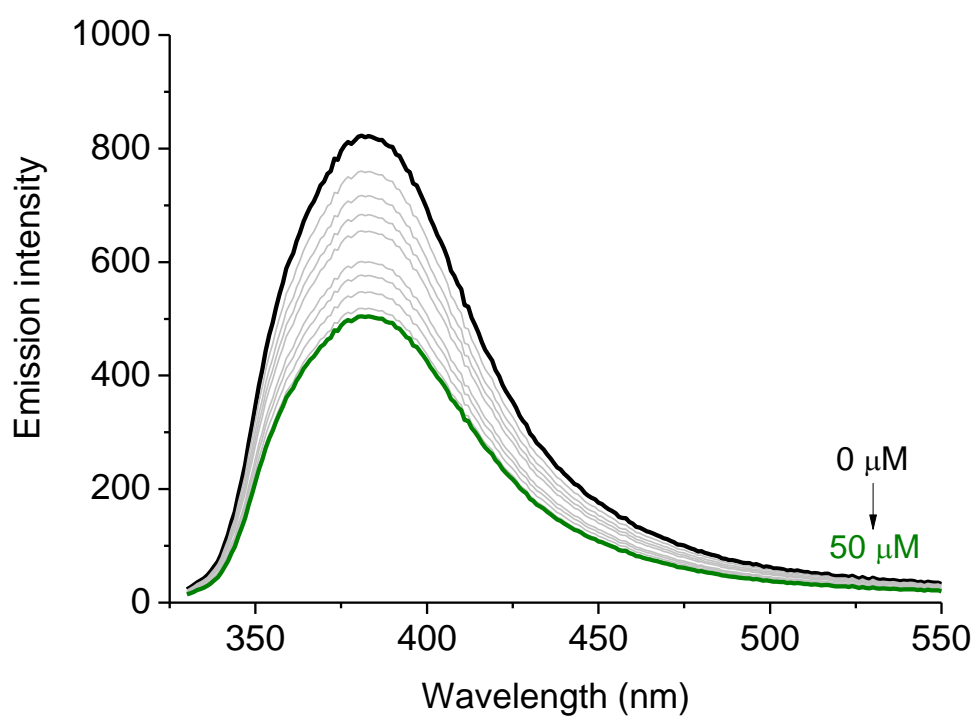
**Figure S2.** Steady-state fluorescence emission spectra for EB:DNA without and in the presence of porphyrin **TThPor**, in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution. Graphs plots shows the  $F_0/F$  versus [porphyrin].



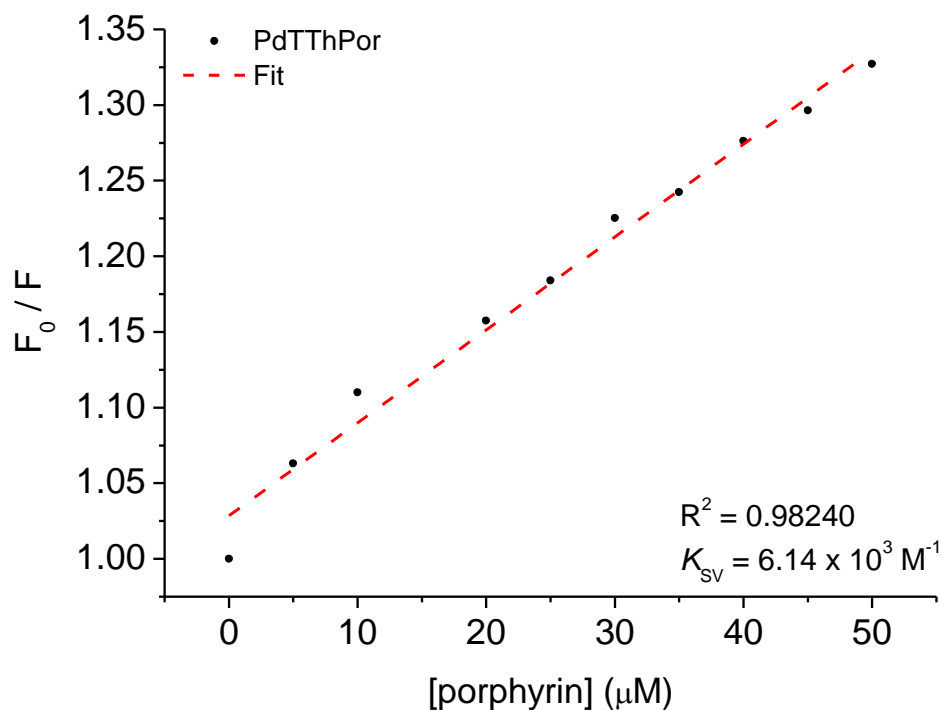
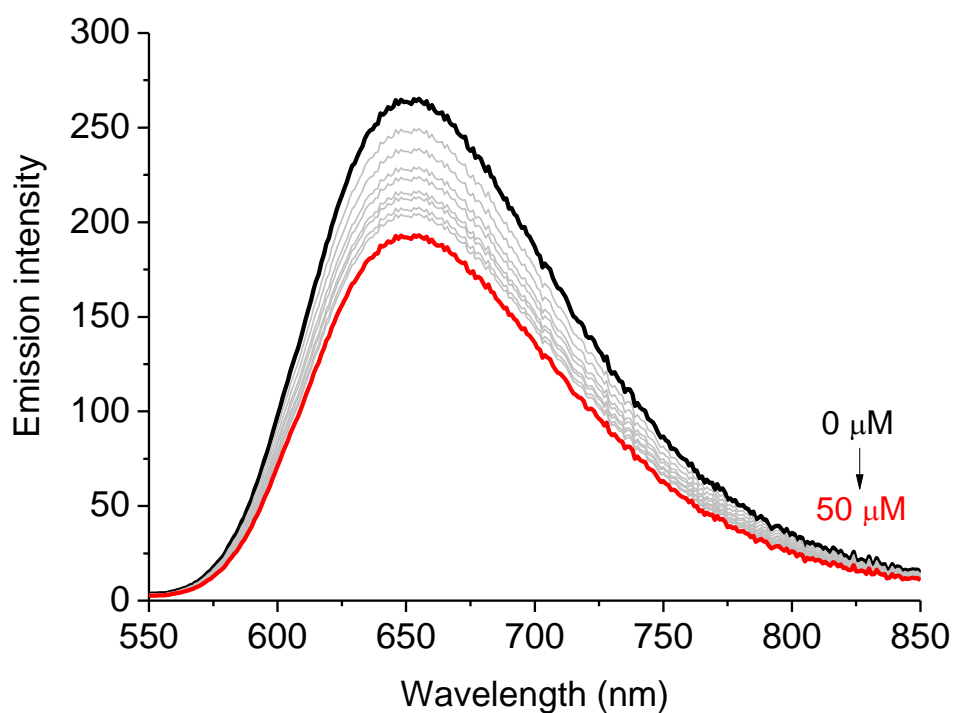
**Figure S3.** Steady-state fluorescence emission spectra for AO:DNA without and in the presence of porphyrin **TThPor**, in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution. Graphs plots shows the  $F_0/F$  versus [porphyrin].



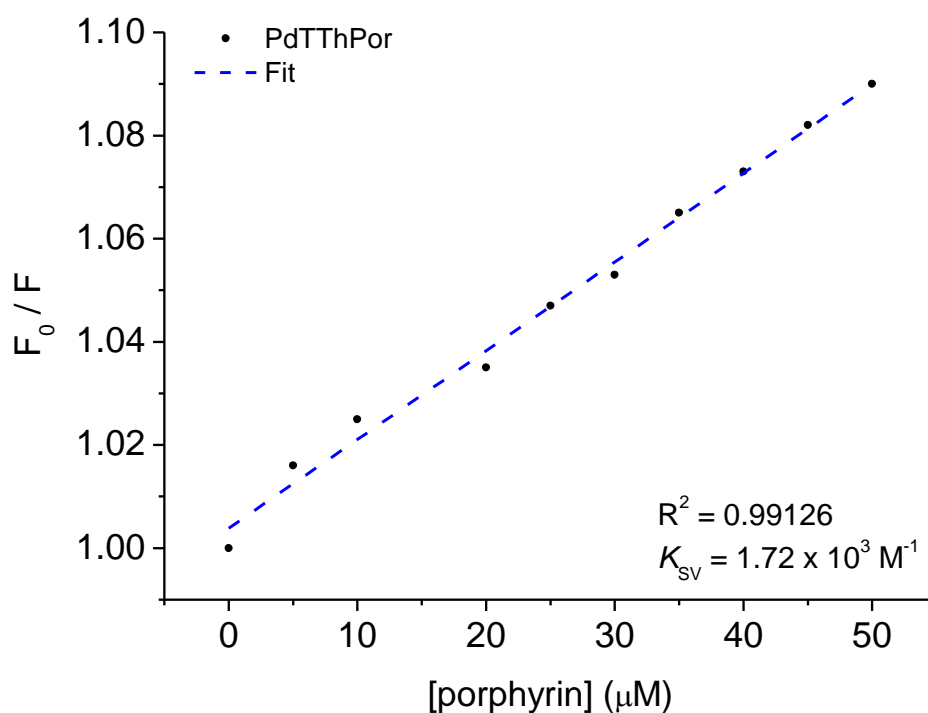
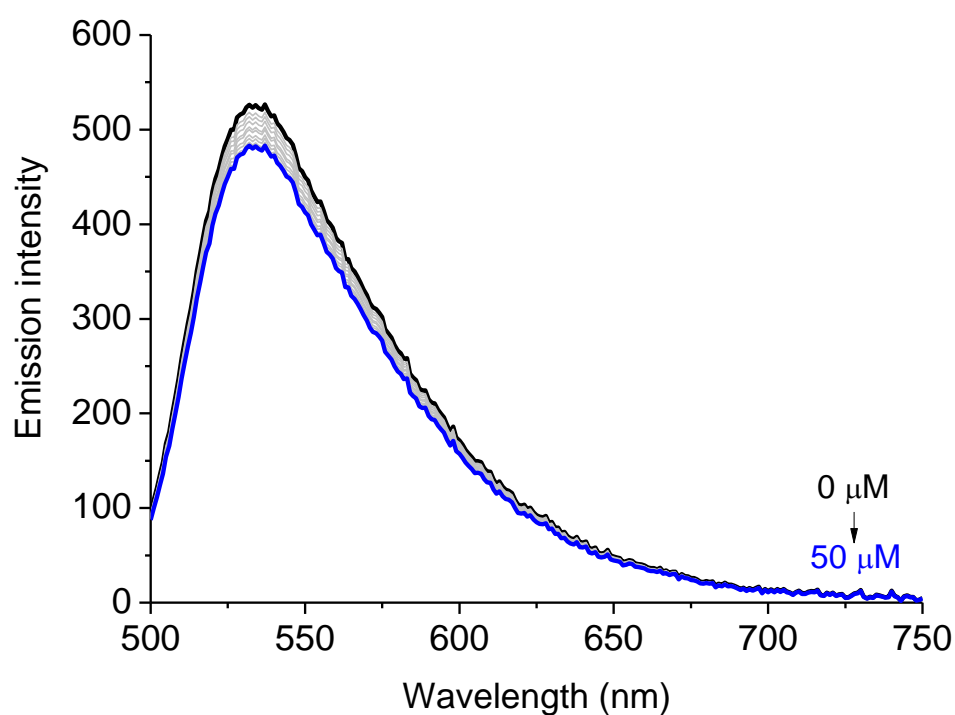
**Figure S4.** Steady-state fluorescence emission spectra for DAPI:DNA without and in the presence of porphyrin **TThPor**, in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution. Graphs plots shows the  $F_0/F$  versus [porphyrin].



**Figure S5.** Steady-state fluorescence emission spectra for MG:DNA without and in the presence of porphyrin **TThPor**, in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution. Graphs plots shows the  $F_0/F$  versus [porphyrin].

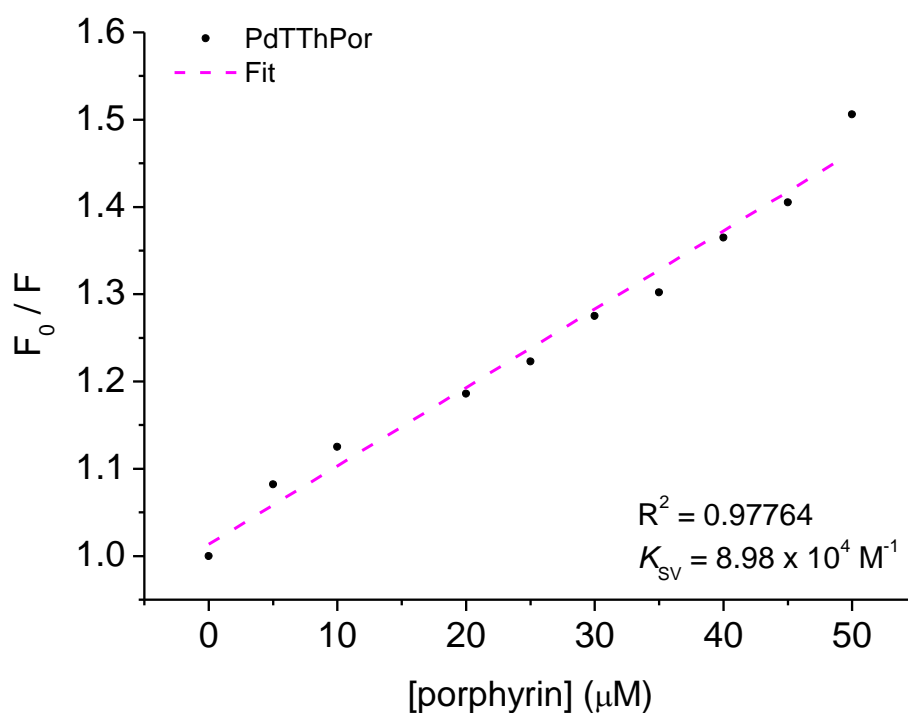
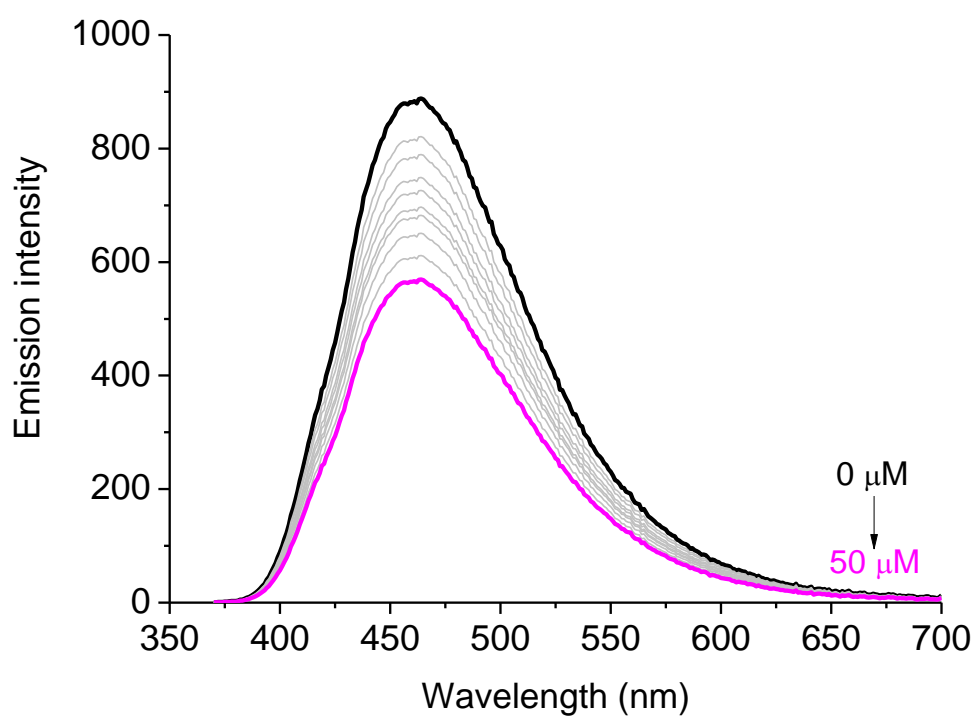


**Figure S6.** Steady-state fluorescence emission spectra for EB:DNA without and in the presence of porphyrin **PdTThPor**, in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution. Graphs plots shows the  $F_0/F$  versus [porphyrin].

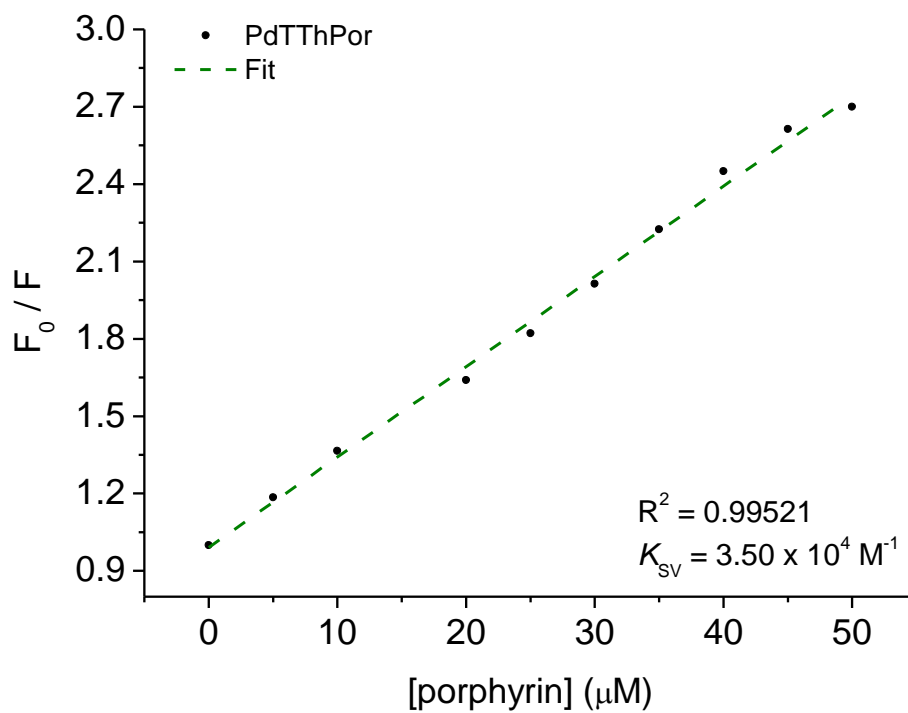
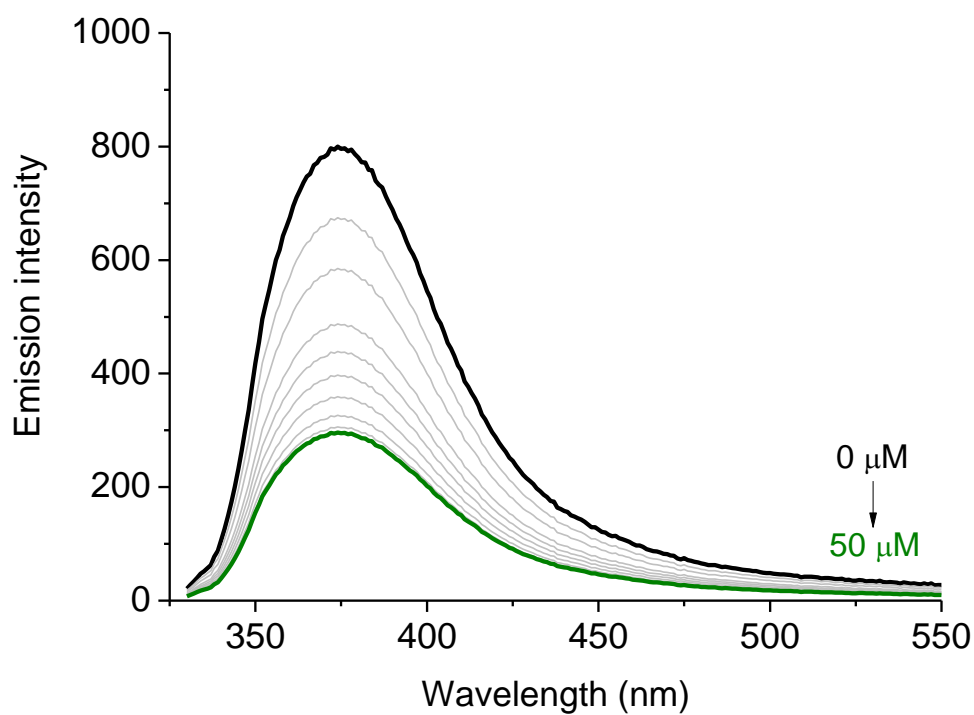


**Figure S7.** Steady-state fluorescence emission spectra for AO:DNA without and in the presence of porphyrin **PdTThPor**, in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution. Graphs plots shows the  $F_0/F$  versus [porphyrin].

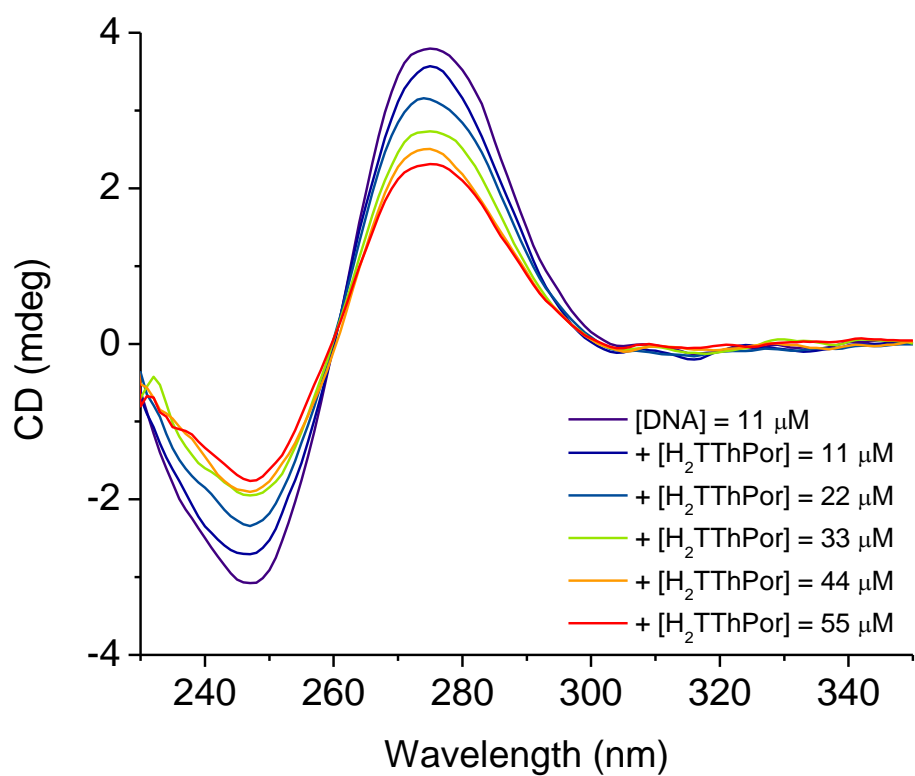




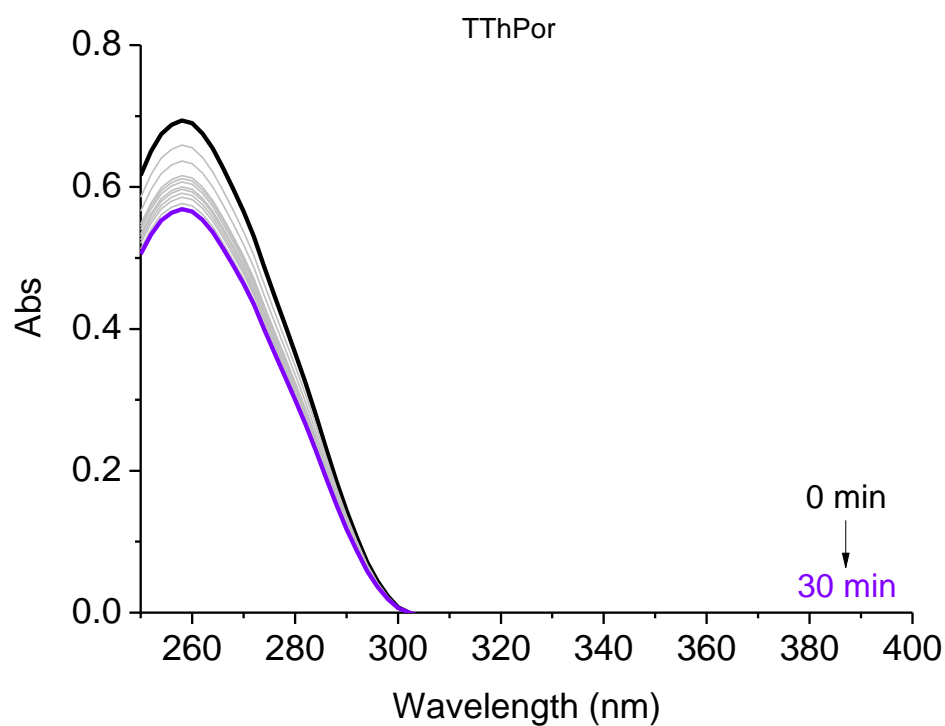
**Figure S8.** Steady-state fluorescence emission spectra for DAPI:DNA without and in the presence of porphyrin **PdTThPor**, in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution. Graphs plots shows the  $F_0/F$  versus  $[\text{porphyrin}]$ .

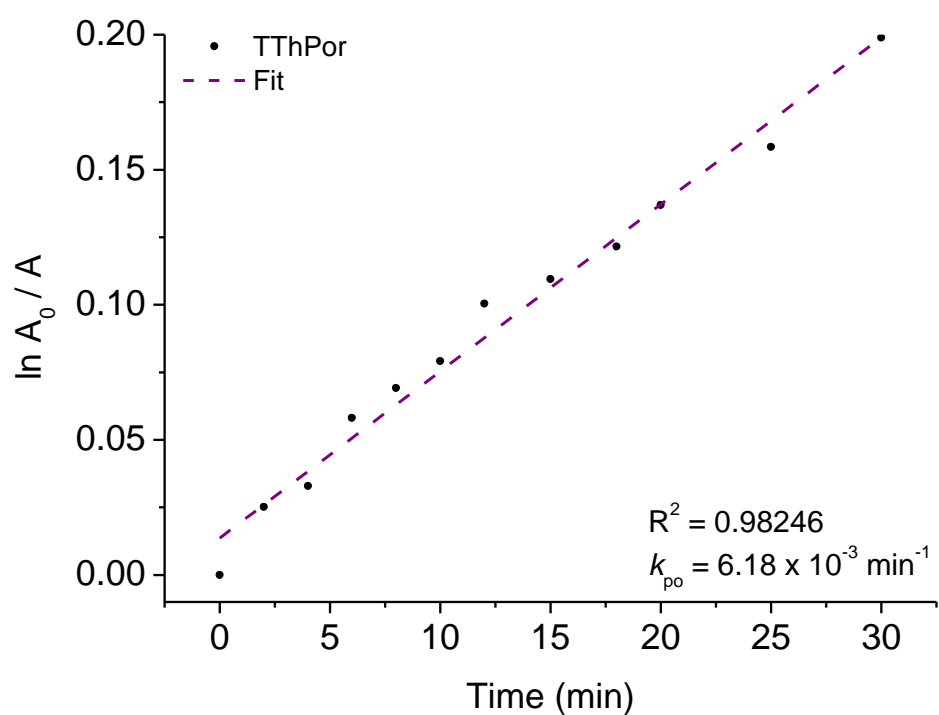


**Figure S9.** Steady-state fluorescence emission spectra for MG:DNA without and in the presence of porphyrin **PdTThPor**, in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution. Graphs plots shows the  $F_0/F$  versus [porphyrin].

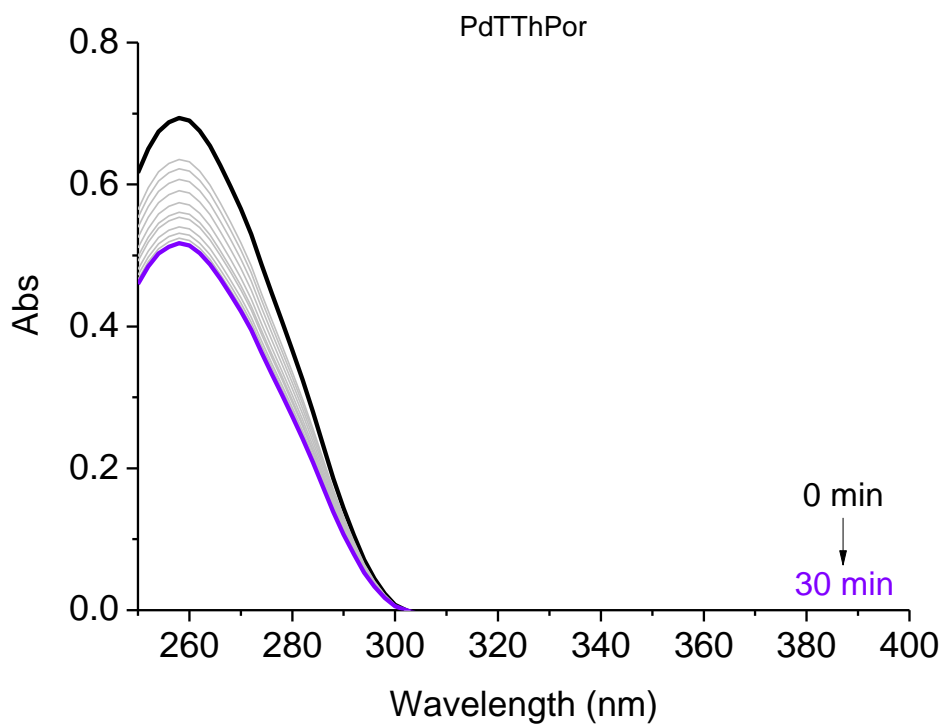


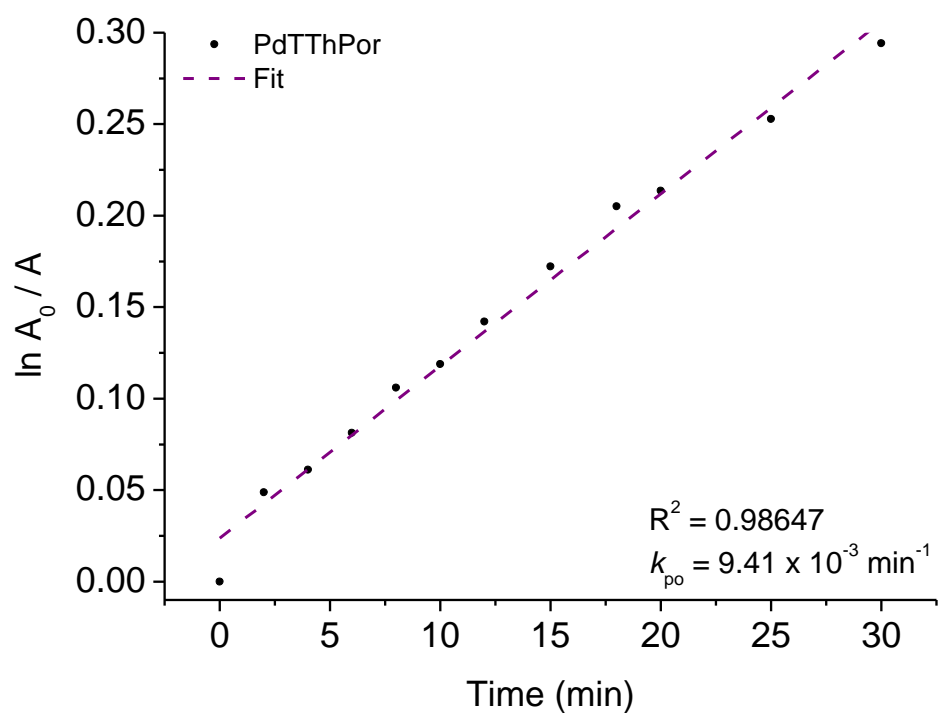
**Figure S10.** CD spectra for DNA solution in Tris-HCl buffer (pH = 7.4, 1% DMSO) before and after successive additions of porphyrin **TThPor**.



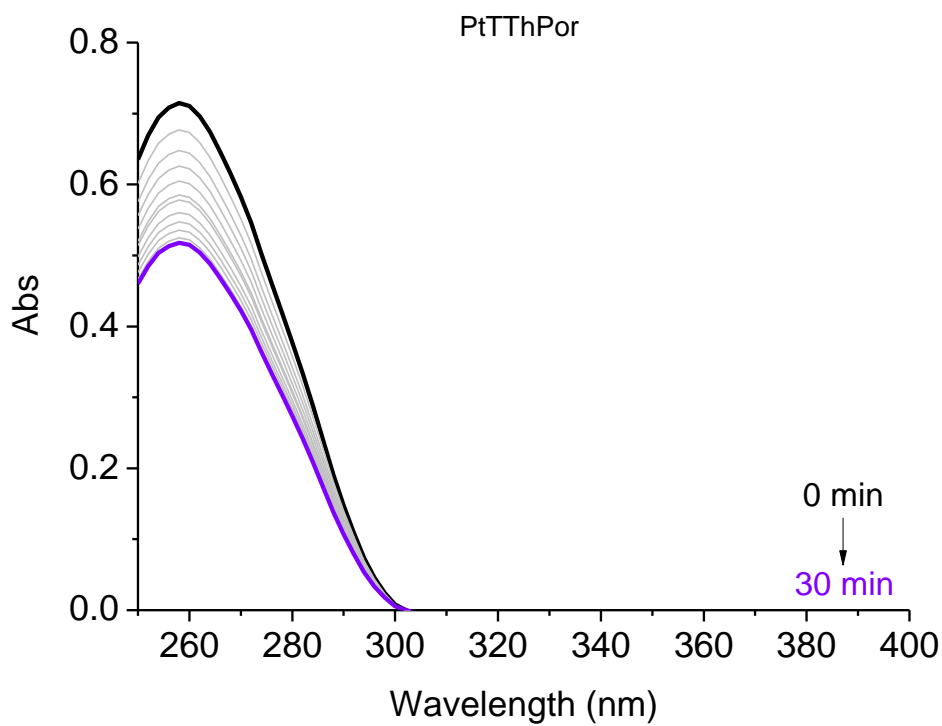


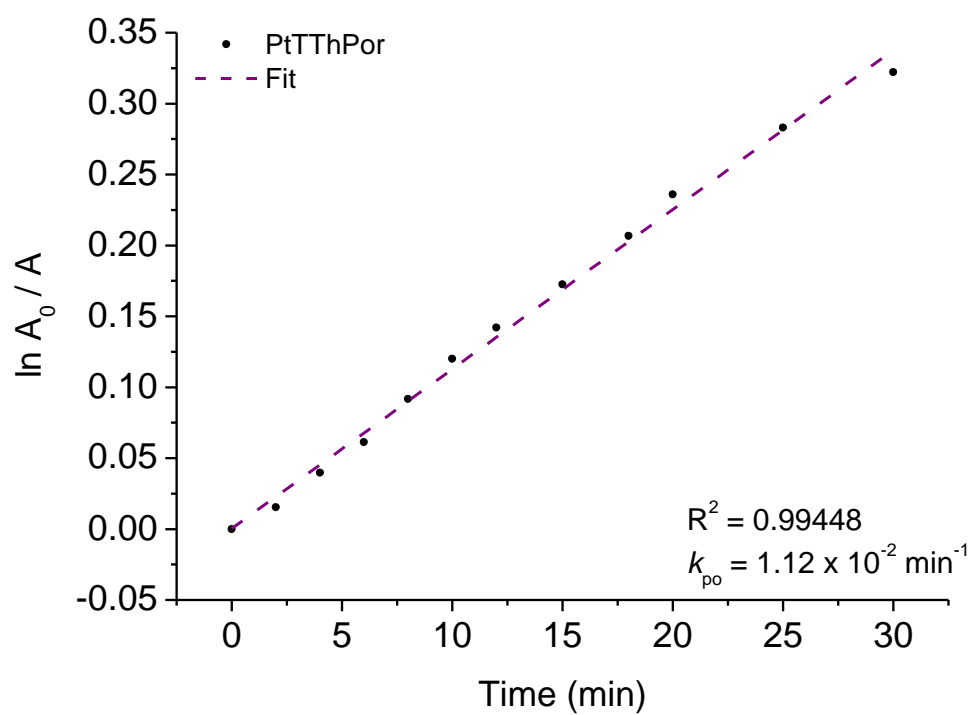
**Figure S11.** DNA photo-oxidation assay by UV-Vis analysis in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution of porphyrin **TThPor**.



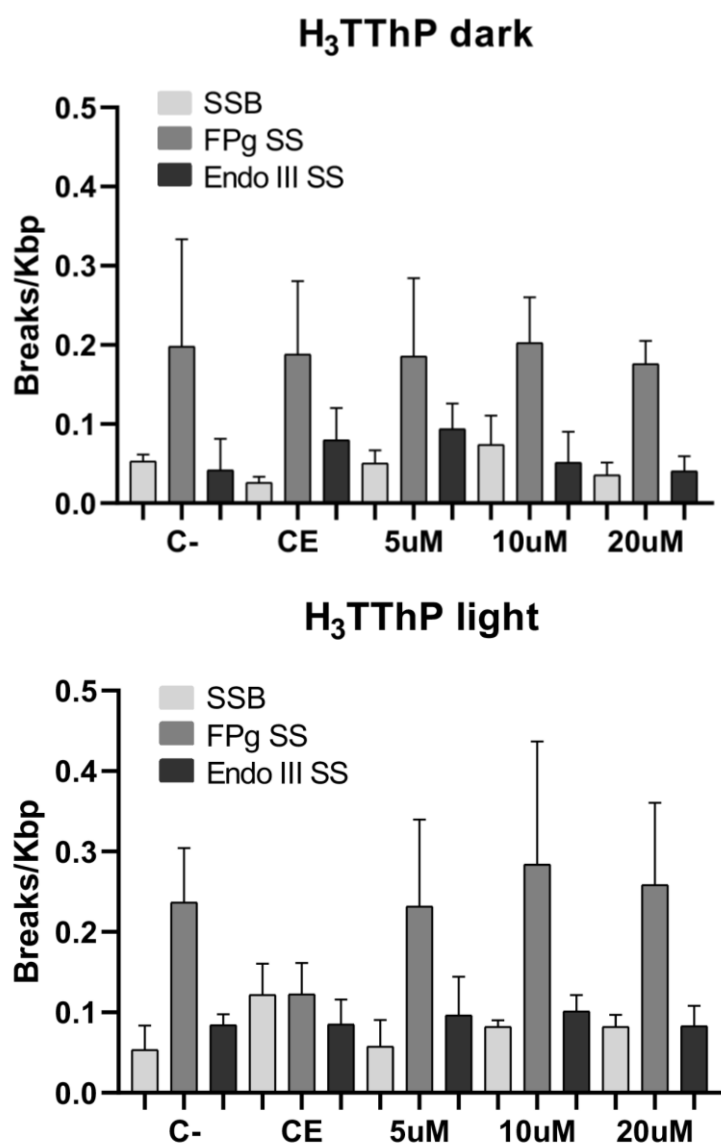


**Figure S12.** DNA photo-oxidation assay by UV-Vis analysis in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution of porphyrin **PdTThPor**.





**Figure S13.** DNA photo-oxidation assay by UV-Vis analysis in DMSO(5%)/Tris-HCl pH 7.4 mixture buffered solution of porphyrin **PtTThPor**.



**Figure S14.** Quantification of DNA lesions generated by porphyrins (a) **TThPor** (dark) and (b) **TThPor** (light), using white-light LED source (irradiance of  $50 \text{ mW cm}^{-2}$  and a total light dosage of  $270 \text{ J cm}^{-2}$ ) for 90 min. C-: negative control, EC: experiment control. SSB: single-strand breakage of DNA. FPG SS: Formamido-pyrimidine DNA Glycosylase Sensitive Sites. ENDO III SS: Endonuclease III sensitive sites. Mean and standard deviation of three independent experiments. \*\*  $p = 0.0033$ ; \*\*\*  $p = 0.0005$ ; \*\*\*\*  $p < 0.0001$ .

**Table S1.** Molecular docking results for the interaction between DNA:TThPor, DNA:PtTThPor, and DNA:PdTThPor in the minor groove.

Code	Nitrogenated bases	Interaction	Distance (Å)
<b>H<sub>2</sub>TTP</b>	DA-05	Van der Waals	2.10
	DA-06	Van der Waals	2.70
	DT-07	Van der Waals	2.70
	DT-08	Van der Waals	2.80
	DA-18	Van der Waals	2.40
	DT-19	Van der Waals	2.40
	DT-20	Van der Waals	2.30
<b>PtbpyTTP</b>	DA-06	Van der Waals	3.20
	DT-19	Van der Waals	3.00
	Ribose-DT-20	Van der Waals	3.60
	Ribose-DC-21	Van der Waals	1.90
	Ribose-DG-22	Van der Waals	3.20
<b>PdbpyTTP</b>	DA-06	Van der Waals	2.30
	Ribose-DC-09	Van der Waals	3.30
	DT-19	Van der Waals	3.70
	Ribose-DT-20	Van der Waals	3.10
	DC-21	Van der Waals	2.30
	DG-22	Van der Waals	2.40