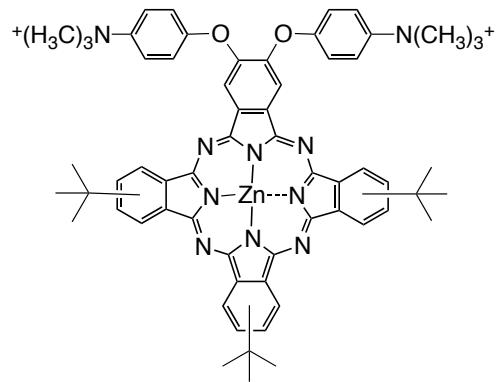


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### Syntheses and Properties of Trimethylaminophenoxy-substituted Zn(II)-Phthalocyanines

Benson G. Ongarora, Xiaoke Hu, Hairong Li, Frank R. Fronczek and M. Graça H. Vicente



Structure-activity relationships (SAR) on a series of nine cationic ZnPcs are reported.

## **Electronic Supplementary Information (ESI)**

# **Syntheses and Properties of Trimethylaminophenoxy-substituted Zn(II)-Phthalocyanines**

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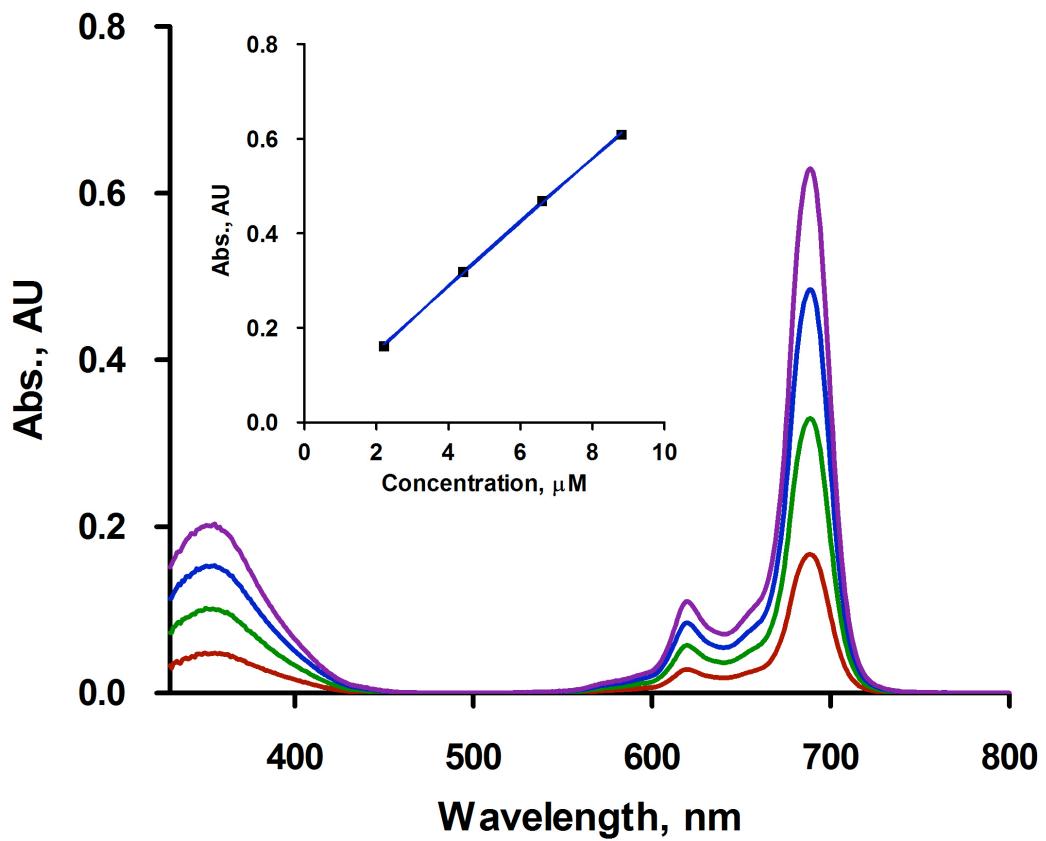
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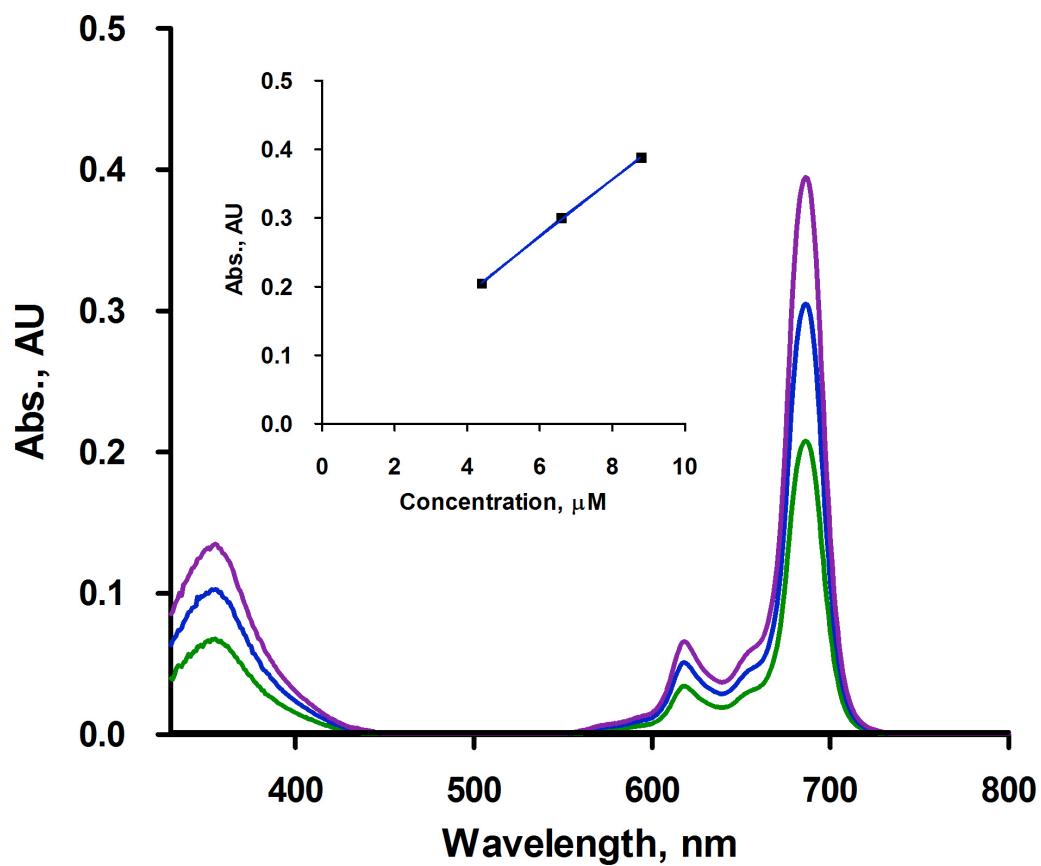
**Table S1.** Spectroscopic data for cationic Pcs in PBS (pH = 7.4)

Pc	Absorption $\lambda_{\max}$ (nm)	Emission <sup>a</sup> $\lambda_{\max}$ (nm)	Stokes' shift (nm)
4a	679	681	2
4b	677	680	3
6a	680	684	4
6b	678	681	3
8	679	682	3
12	678	681	3
13	682	685	3
14	680	684	4
17a	680	683	3
17b	677	679	2

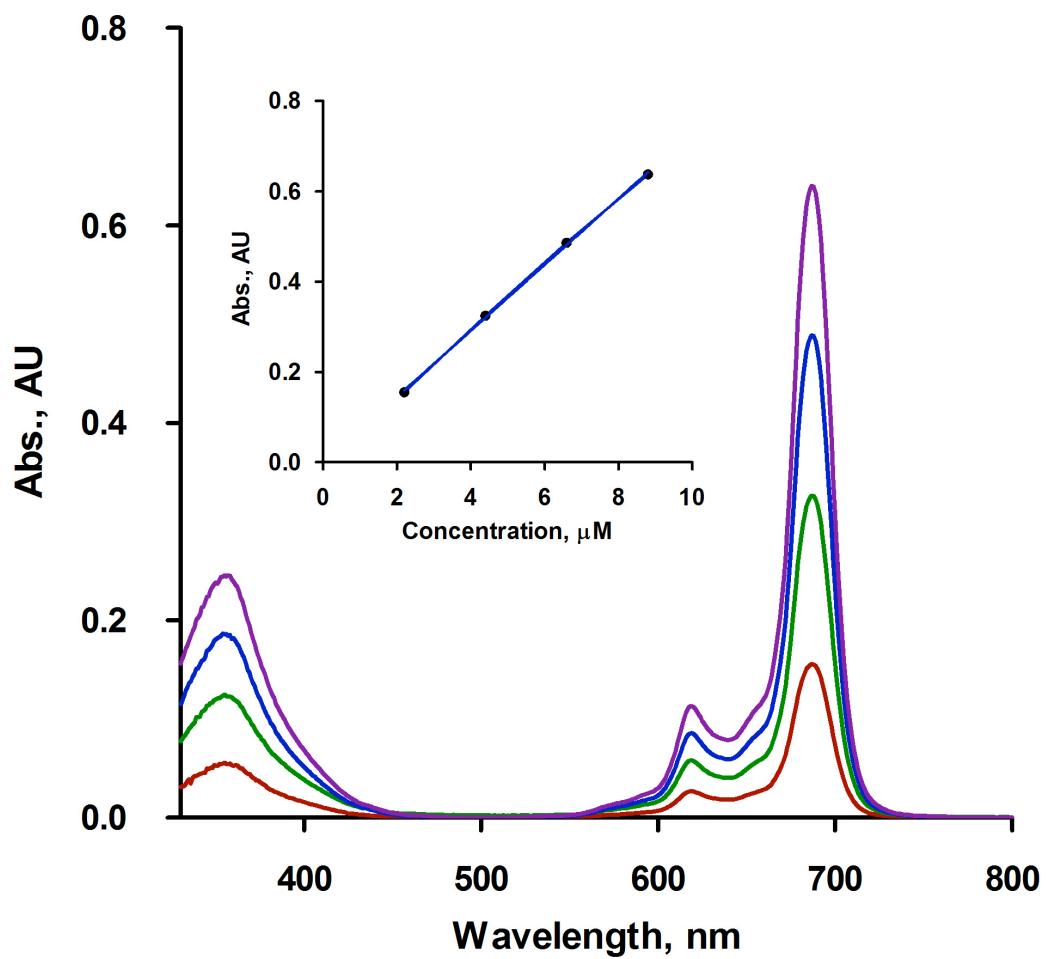
<sup>a</sup> Excitation at 630 nm.



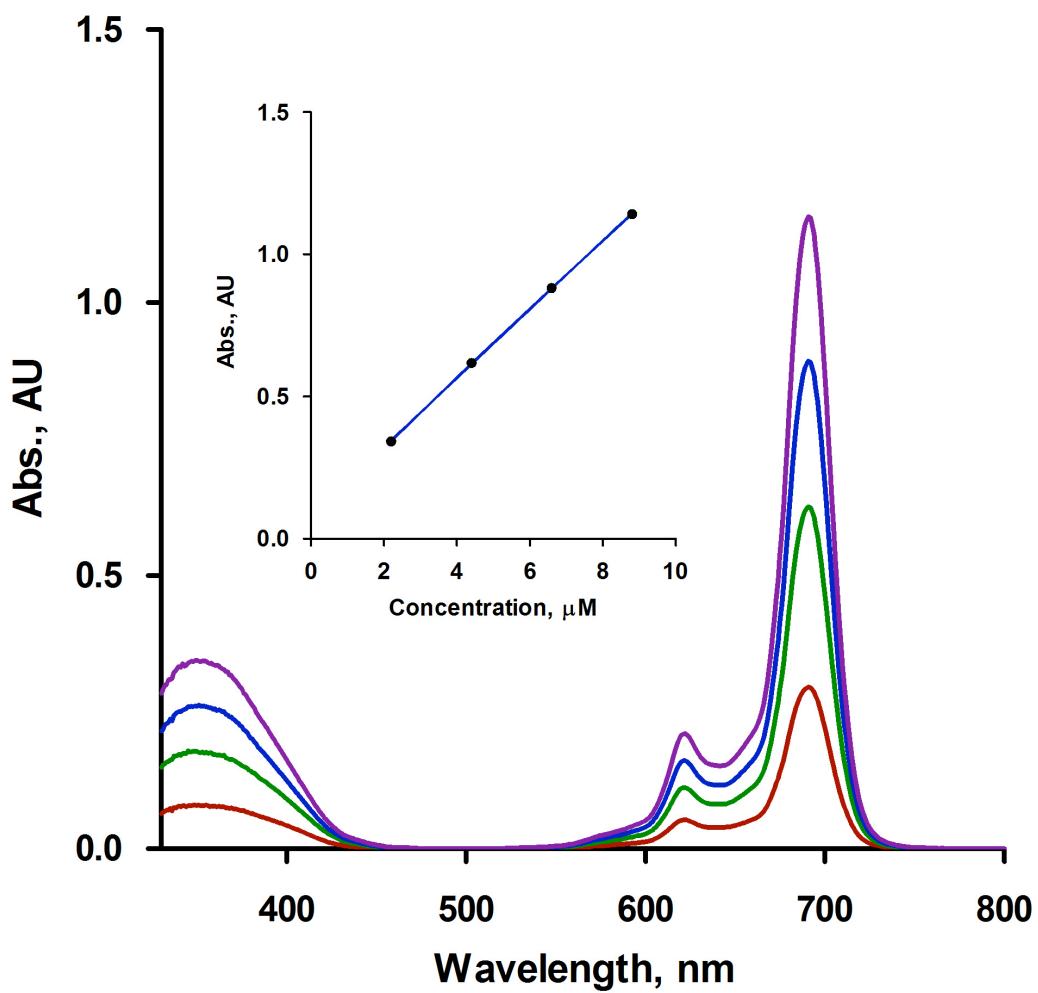
**Figure S1.** UV-Vis spectra for Porphyrin **4a** in DMF: 2.2 μM (red), 4.4 μM (green), 6.6 μM (blue) and 8.8 μM (purple).



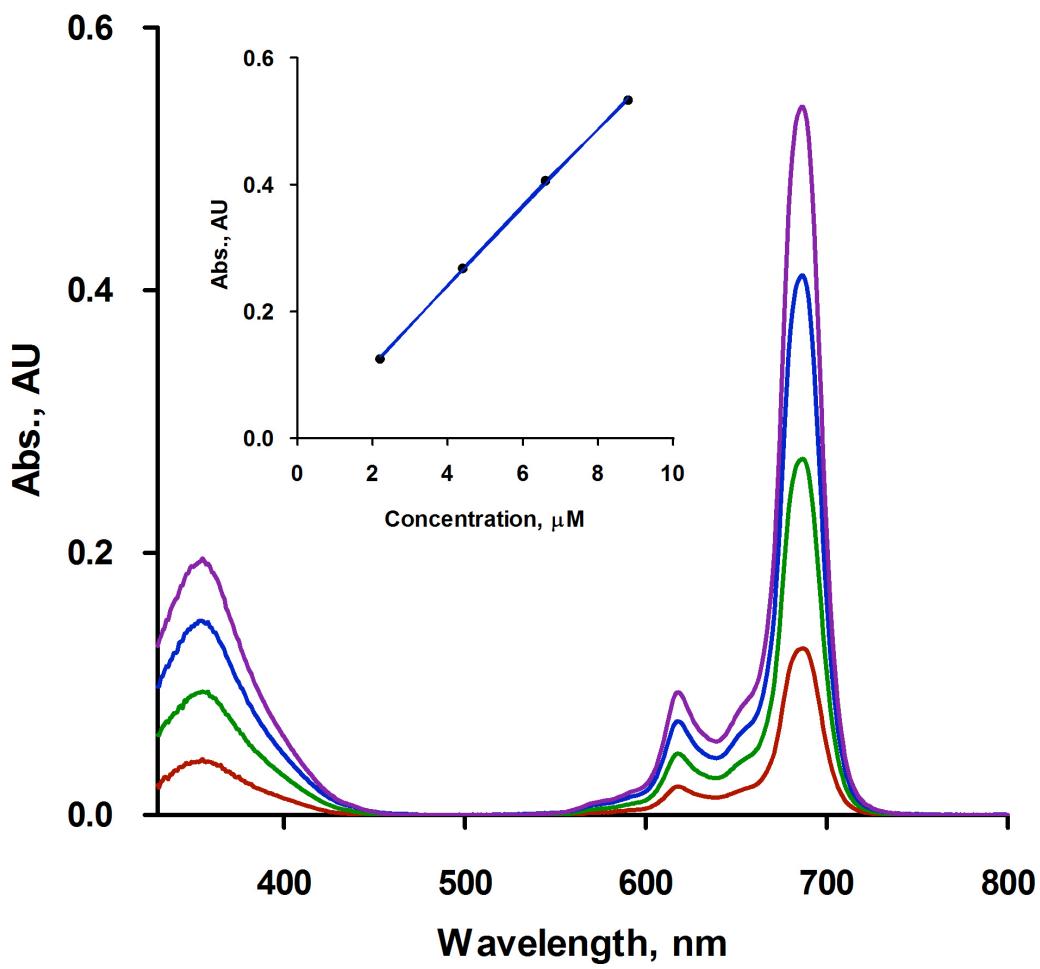
**Figure S2.** UV-Vis spectra for Porphyrin **4b** in DMF: 4.4  $\mu\text{M}$  (green), 6.6  $\mu\text{M}$  (blue) and 8.8  $\mu\text{M}$  (purple).



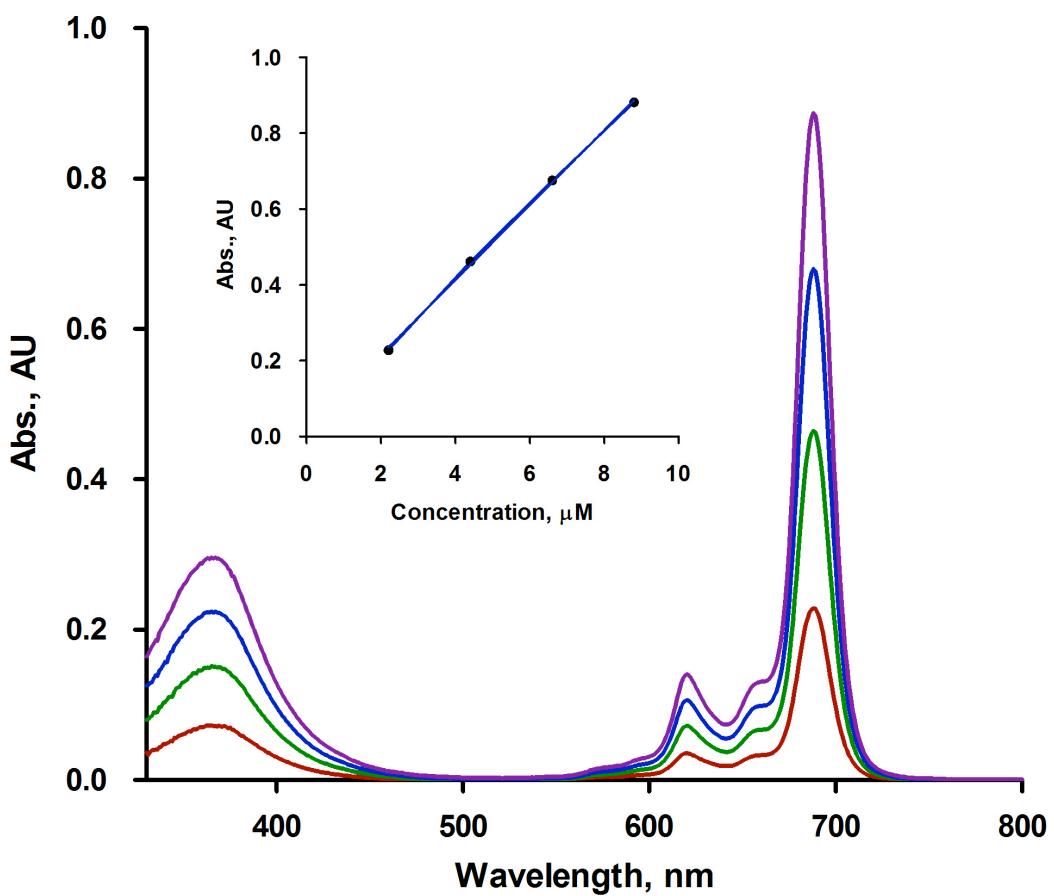
**Figure S3.** UV-Vis spectra for **Pc 12** in DMF: 2.2  $\mu\text{M}$  (red), 4.4  $\mu\text{M}$  (green), 6.6  $\mu\text{M}$  (blue) and 8.8  $\mu\text{M}$  (purple).



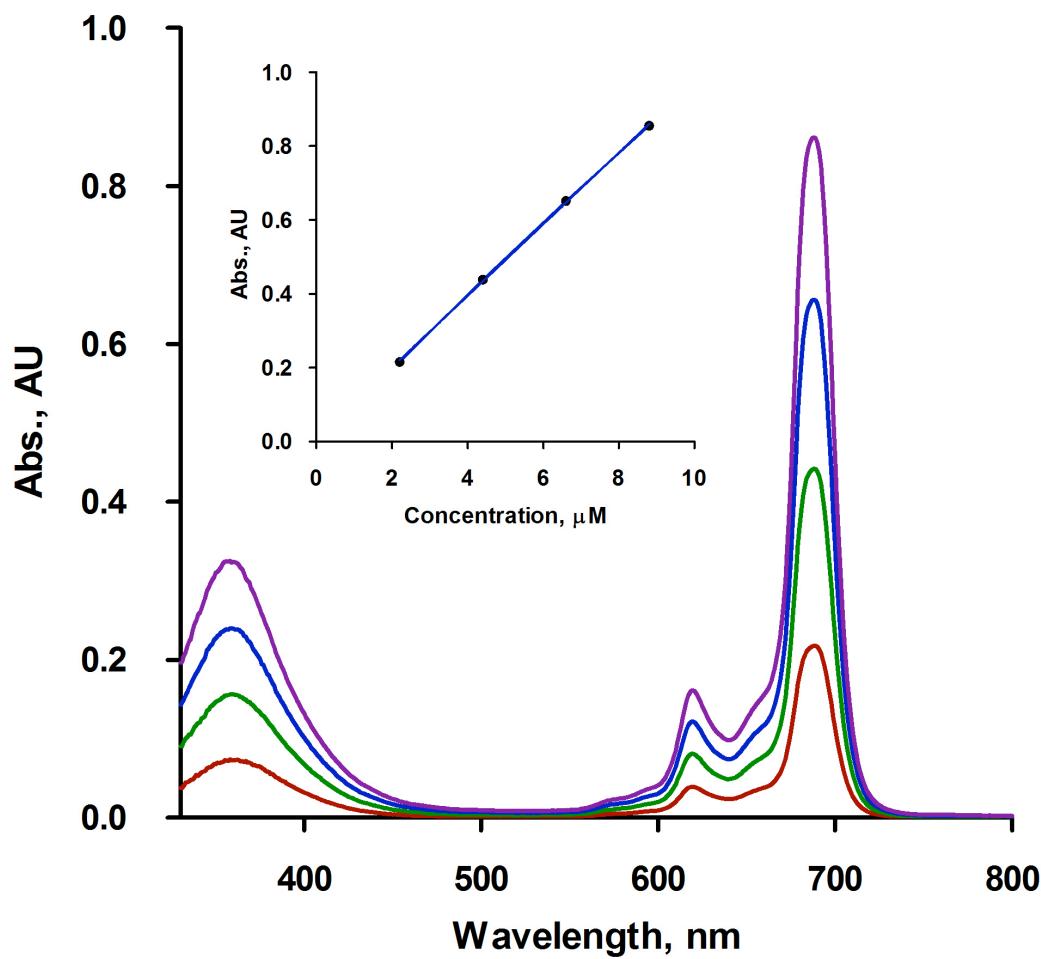
**Figure S4.** UV-Vis spectra for **Pc 6a** in DMF: 2.2  $\mu\text{M}$  (red), 4.4  $\mu\text{M}$  (green), 6.6  $\mu\text{M}$  (blue) and 8.8  $\mu\text{M}$  (purple).



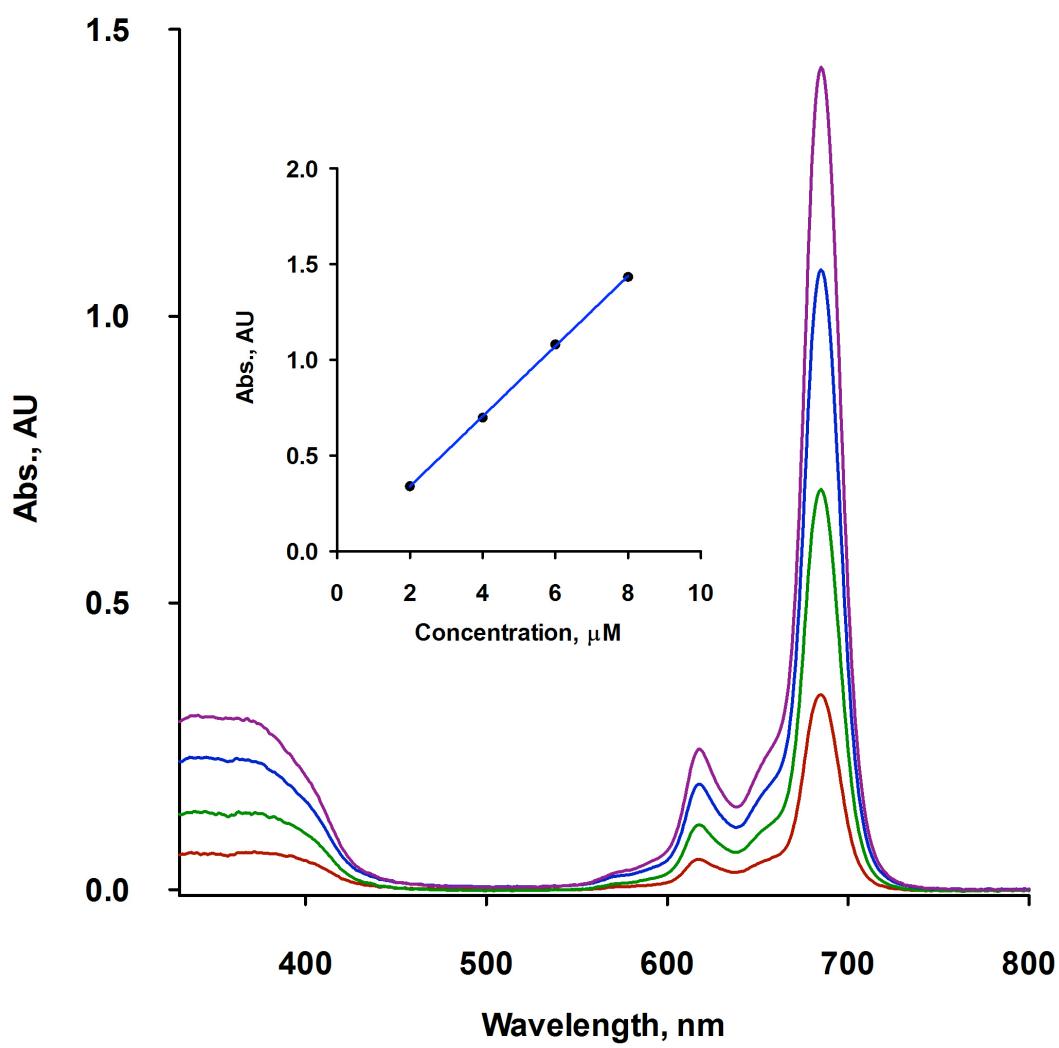
**Figure S5.** UV-Vis spectra for **Pc 6b** in DMF: 2.2  $\mu\text{M}$  (red), 4.4  $\mu\text{M}$  (green), 6.6  $\mu\text{M}$  (blue) and 8.8  $\mu\text{M}$  (purple).



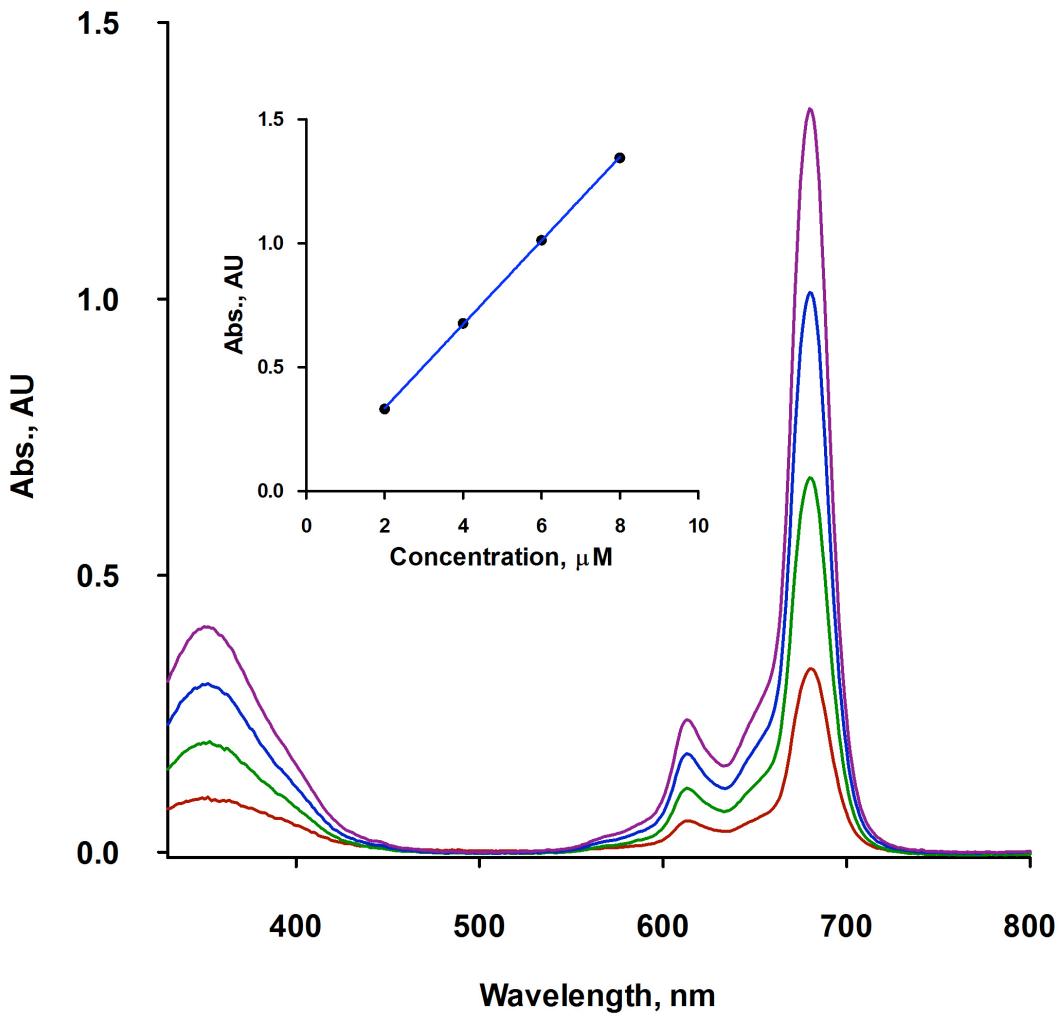
**Figure S6.** UV-Vis spectra for **Pc 14** in DMF: 2.2  $\mu\text{M}$  (red), 4.4  $\mu\text{M}$  (green), 6.6  $\mu\text{M}$  (blue) and 8.8  $\mu\text{M}$  (purple).



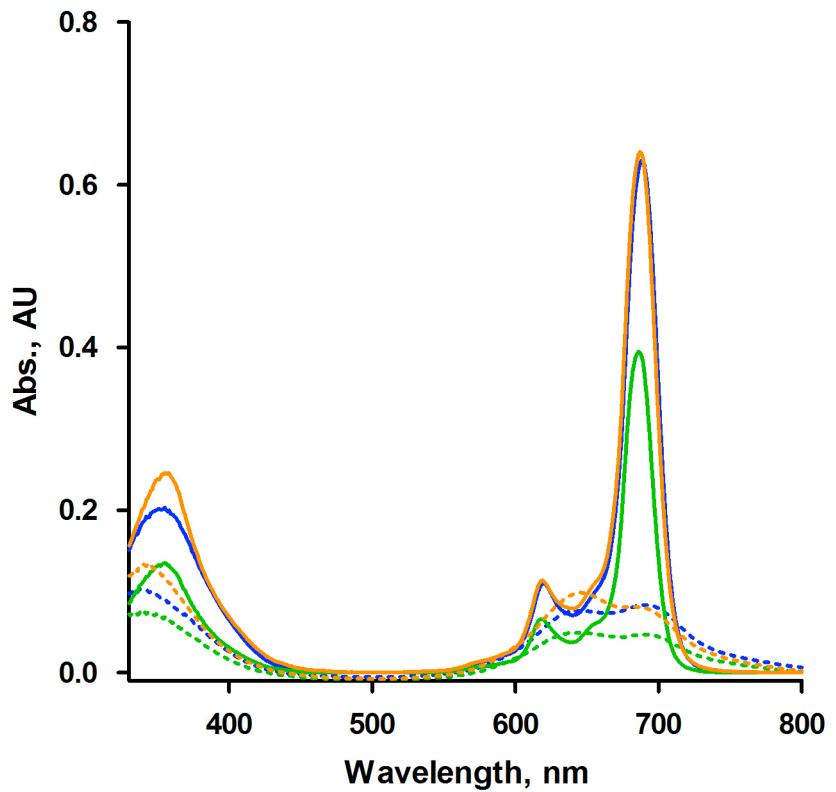
**Figure S7.** UV-Vis spectra for **Pc 8** in DMF: 2.2  $\mu\text{M}$  (red), 4.4  $\mu\text{M}$  (green), 6.6  $\mu\text{M}$  (blue) and 8.8  $\mu\text{M}$  (purple).



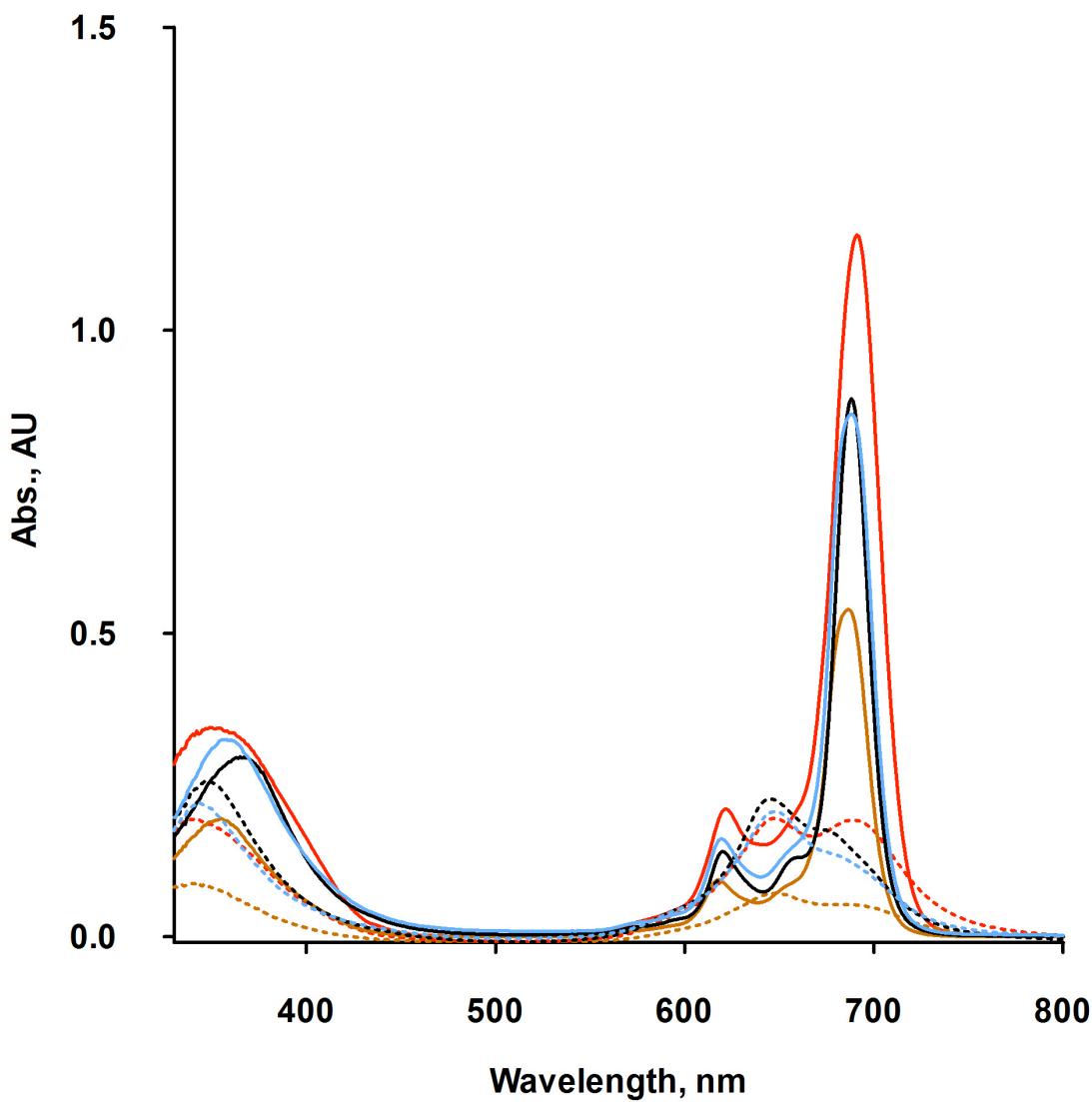
**Figure S8.** UV-Vis spectra for Pc 17a in DMF: 2.0  $\mu\text{M}$  (red), 4.0  $\mu\text{M}$  (green), 6.0  $\mu\text{M}$  (blue) and 8.0  $\mu\text{M}$  (purple).



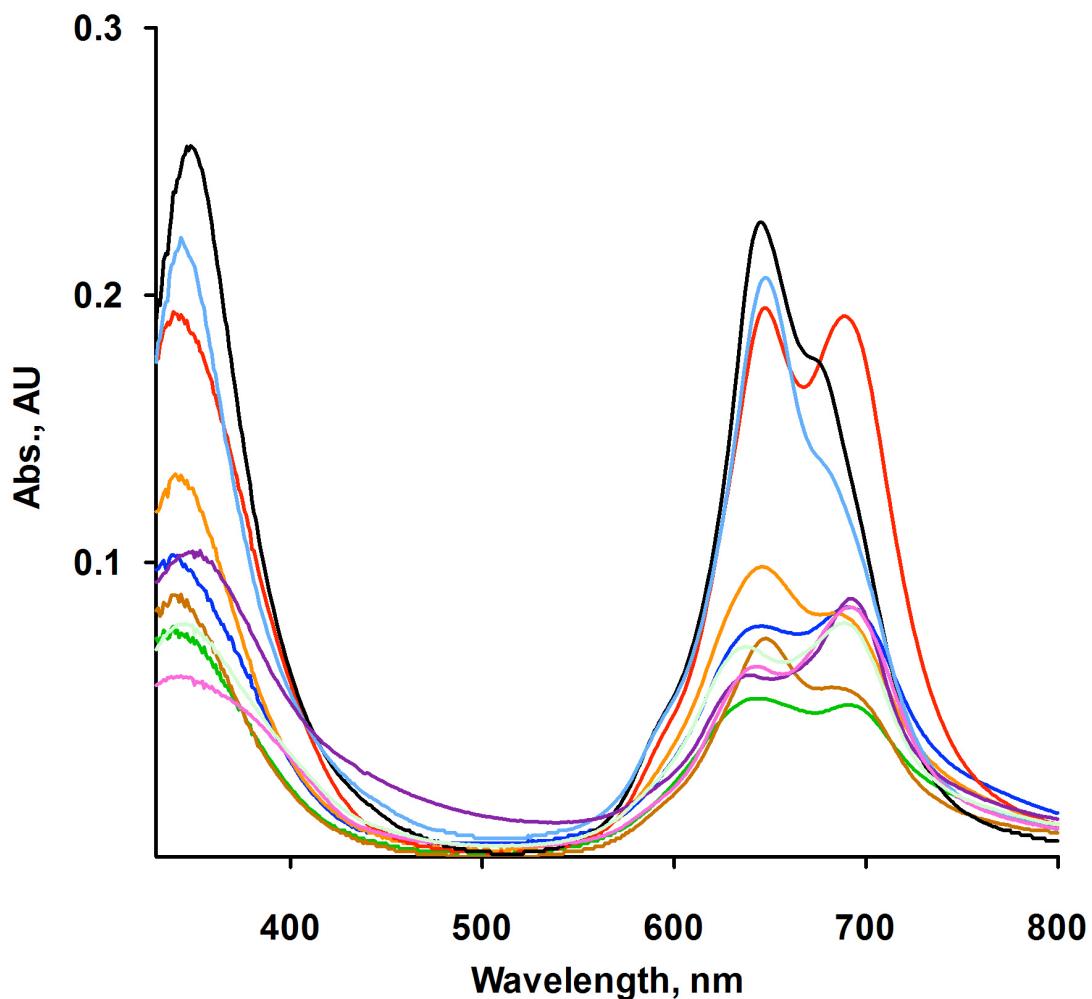
**Figure S9.** UV-Vis spectra for **Pc 17b** in DMF: 2.0 μM (red), 4.0 μM (green), 6.0 μM (blue) and 8.0 μM (purple).



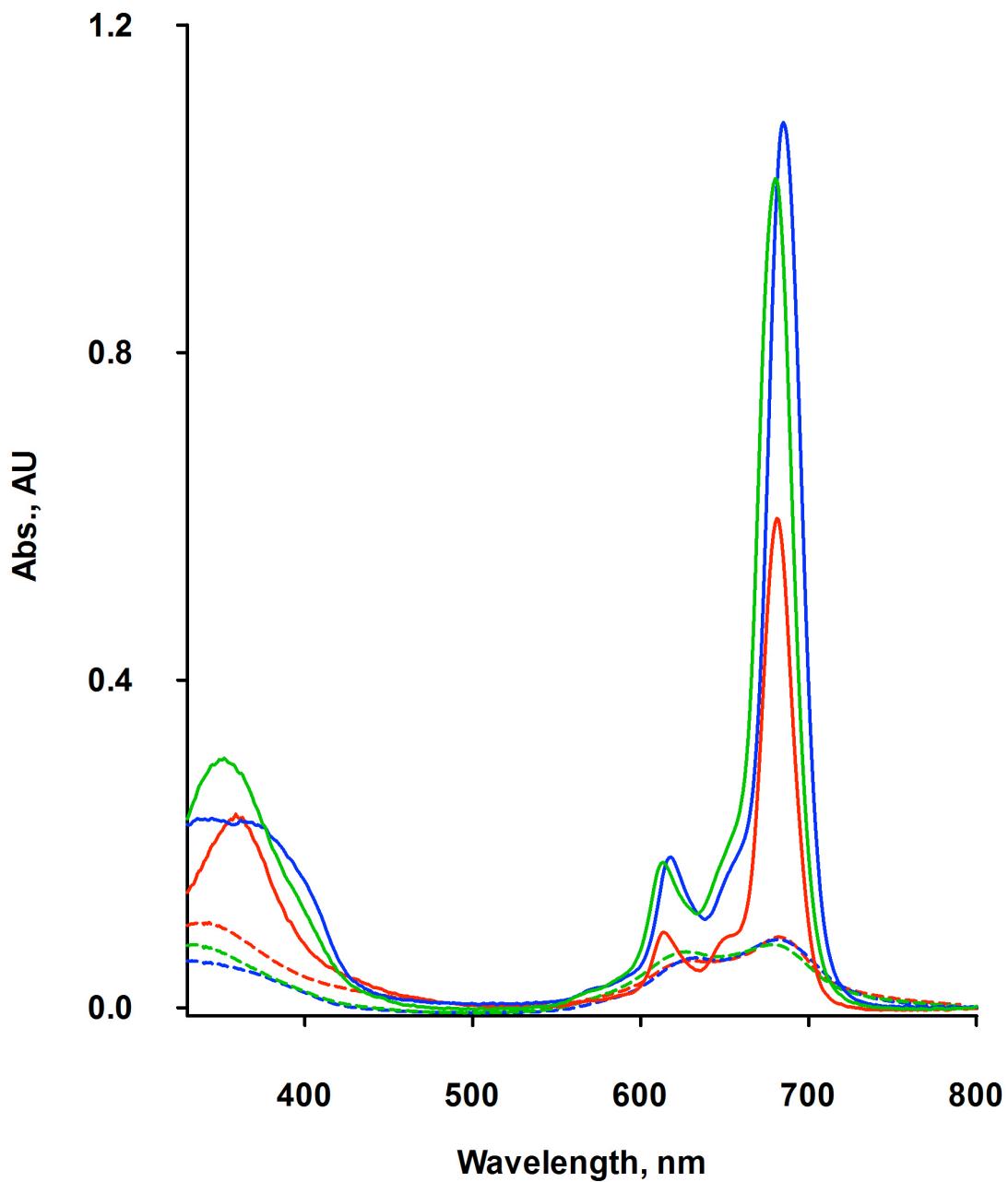
**Figure S10.** UV-Vis spectra for Pc **4a** (blue), **4b** (green), and **12** (orange) at 8.8  $\mu\text{M}$  in DMF; **4a** (dotted blue), **4b** (dotted green), and **12** (dotted orange) at 8.8  $\mu\text{M}$  in PBS, pH 7.4.



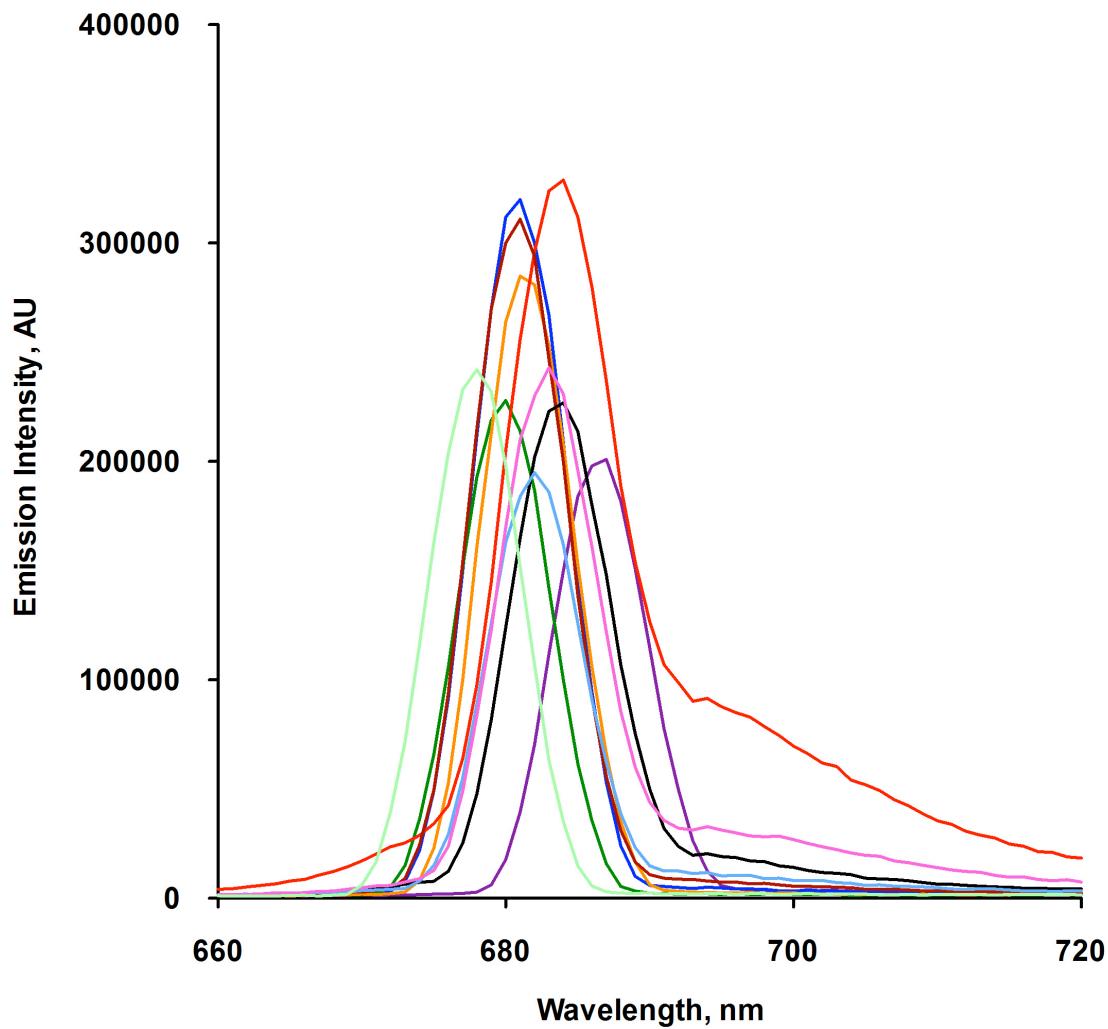
**Figure S11.** UV-Vis spectra for Pc **6a** (red), **6b** (brown), **8** (violet) and **14** (black) at 8.8  $\mu\text{M}$  in DMF; **6a** (dotted red), **6b** (dotted brown), **8** (dotted violet) and **14** (dotted black) at 8.8  $\mu\text{M}$  in PBS, pH 7.4.



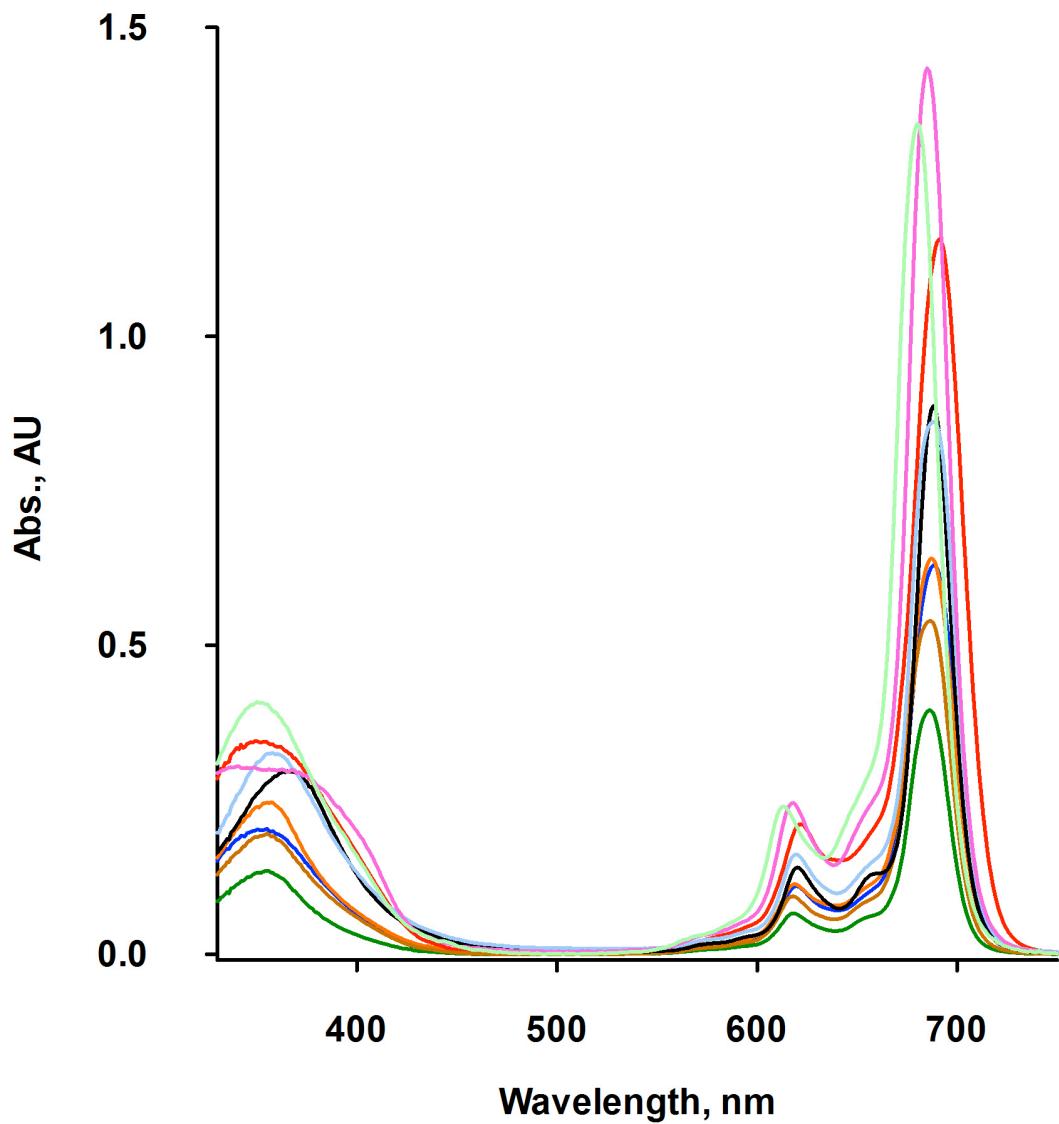
**Figure S12.** UV-Vis spectra for Pc **4a** (blue), **4b** (green), **6a** (red), **6b** (brown), **8** (light blue), **12** (orange), **13** (purple), **14** (black), **17a** (pink) and **17b** (light green) at 8.8  $\mu$ M in PBS, pH 7.4.



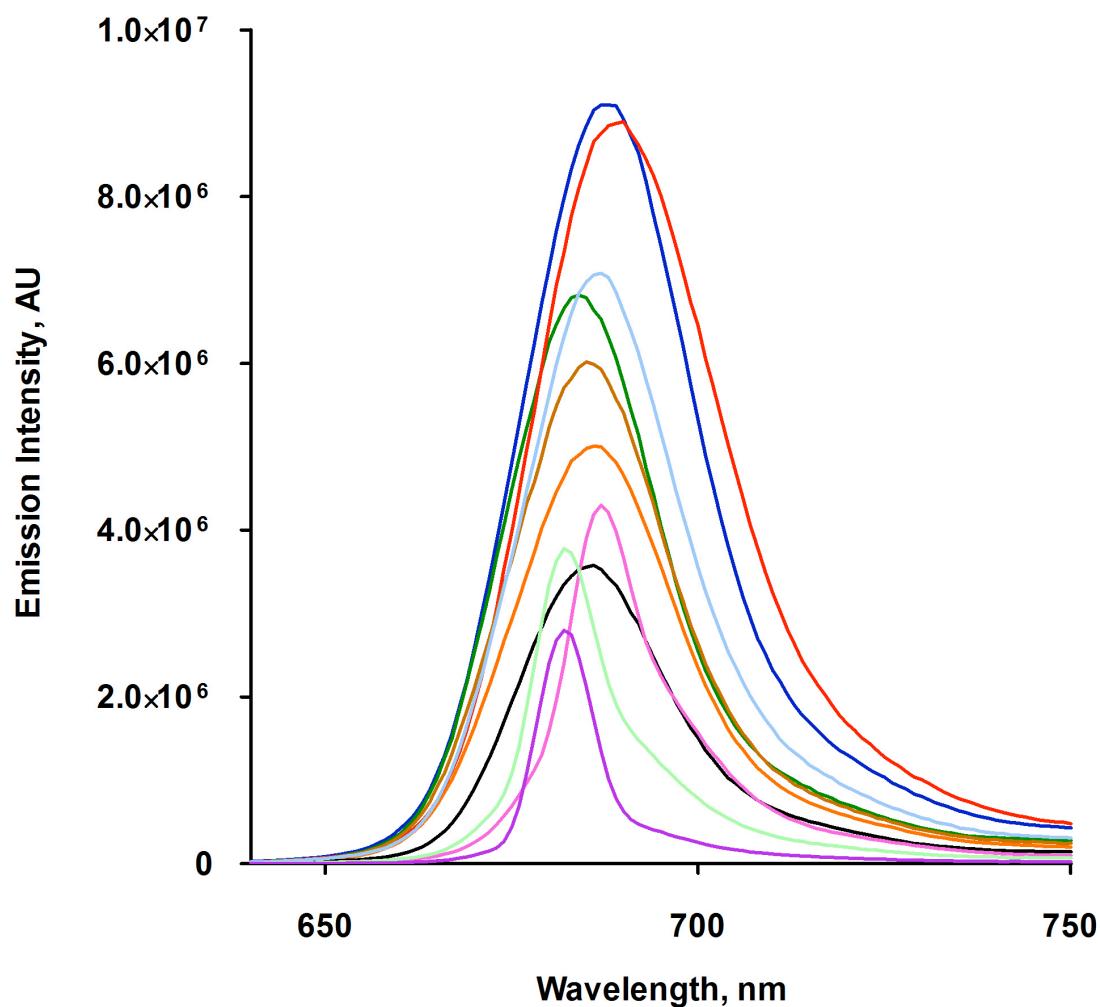
**Figure S13.** UV-Vis spectra for **Pc 13** (red), **17a** (blue) and **17b** (green) at 6.0  $\mu\text{M}$  in DMF; **13** (dotted red), **17a** (dotted blue), **17b** (dotted green) at 6.0  $\mu\text{M}$  in PBS, pH 7.4.



**Figure S14.** Emission spectra for Pc **4a** (blue), **4b** (green), **6a** (red), **6b** (brown), **8** (light blue), **12** (orange), **13** (violet), **14** (black), **17a** (pink) and **17b** (light green) at 6.0  $\mu\text{M}$  in PBS, pH 7.4.



**Figure S15.** UV-Vis spectra for Pc **4a** (blue), **4b** (green), **6a** (red), **6b** (brown), **8** (light blue), **12** (orange), **14** (black), **17a** (pink) and **17b** (light green) at 8.0  $\mu$ M in DMF.



**Figure S16.** Emission spectra for Pc **4a** (blue), **4b** (green), **6a** (red), **6b** (brown), **8** (light blue), **12** (orange), **13** (violet), **14** (black), **17a** (pink) and **17b** (light green) in DMF.