## **Supplementary materials**

## Easy sensing of lead and zinc in water using smart glass based on cationic porphyrin layers

Chiara M. A. Gangemi,<sup>a</sup> Giulia Ognibene,<sup>a</sup> Rosalba Randazzo, <sup>a</sup> Alessandro D'Urso, <sup>a</sup> Roberto Purrello <sup>a</sup> and Maria Elena Fragalà<sup>b</sup>\*

<sup>a</sup>Dipartimento di Scienze Chimiche, Università degli Studi di Catania, Viale Andrea Doria, 6 – 95100 Catania (Italy)

<sup>b</sup>Dipartimento di Scienze Chimiche and INSTM UdR di Catania, Università degli Studi di Catania, Viale Andrea Doria, 6 – 95100 Catania (Italy)

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**Fig. S3:** UV-Vis spectra of [H2T4] 1 $\mu$ M (black line) in ultrapure water pH= 7 in presence of [Zn<sup>2+</sup>] = 5 mM after 1 hour (blue line) and 2 hours (red line).

**Fig. S4:** UV-Vis spectra of [H2T4] 1 $\mu$ M (black line) in ultrapure water pH= 7; in presence of [Zn<sup>2+</sup>]= 5 mM after 1 hour (blue line) and 2 hours (red line). UV-Vis spectra of H2T4 solutions are recorded after 15 minutes from the addition of metal cation into the initial porphyrin solution

**Fig. S5:** UV-Vis spectra of H2T4 1  $\mu$ M in water pH=7 (a) and related plot of A<sub>476</sub>/A<sub>422</sub> ratio (b), upon increasing [Pb<sup>2+</sup>]. UV-Vis spectra of H2T4 solutions are recorded after 15 minutes from the addition of metal cation into the initial porphyrin solution

**Fig. S6:** UV-Vis spectra of a) H2T4 deposited on glass (red curve) and H2T4 in solution after desorption in SDS 10% solution (black line); b) H2T4 deposited on glass after dipping (15 min) in aqueous solution containing  $[Pb^{2+}]= 5\mu M$  (red curve) and after desorption in SDS 10% solution (black line); c) H2T4 deposited on glass after dipping (30 min) in aqueous solution containing  $[Zn^{2+}]= 5\mu M$  (red curve) and after desorption in SDS 10% solution (black line);



Figure S1: UV-Vis spectra of [H2T4] 1 $\mu$ M (black line) in ultrapure water pH= 7 (grey line) and of H2T4 deposited on glass (black line).



Fig. S2: UV-Vis spectra of [H2T4] 1 $\mu$ M (black line) in ultrapure water pH= 7 in presence of [Zn<sup>2+</sup>] 500  $\mu$ M (red line) or 5 mM (green line).



**Fig. S3:** UV-Vis spectra of [H2T4] 1 $\mu$ M (black line) in ultrapure water pH= 7; in presence of [Zn<sup>2+</sup>] 5 mM after 1 hour (blue line) and 2 hours (red line).



Fig. S4: UV-Vis spectra of H2T4 1  $\mu$ M in water pH=7 (a) and related plot of A<sub>476</sub>/A<sub>422</sub> ratio (b), upon increasing [Pb<sup>2+</sup>]



**Fig. S5:** UV-Vis spectra of bare H2T4 1  $\mu$ M in water pH=7 (dotted grey line), in presence of [Pb<sup>2+</sup>]=1 $\mu$ M (black line) and after addition of [Zn<sup>2+</sup>]=1  $\mu$ M (red line); 5  $\mu$ M (green line) and 10  $\mu$ M (blue line).



**Fig. S6:** UV-Vis spectra of a) H2T4 deposited on glass (red curve) and H2T4 in solution after desorption in SDS 10% solution (black line); b) H2T4 deposited on glass after dipping (15 min) in aqueous solution containing  $[Pb^{2+}]=5\mu M$  (red curve) and after desorption in SDS 10% solution (black line); c) H2T4 deposited on glass after dipping (30 min) in aqueous solution containing  $[Zn^{2+}]=5\mu M$  (red curve) and after desorption in SDS 10% solution.