## Electronic Supplementary Information

## Graphene Oxide with Covalently Linked Porphyrin Antennae: Synthesis, Characterization and Photophysical Properties.

Nikolaos Karousis,<sup>a</sup> Atula S. D. Sandanayaka,<sup>b</sup> Taku Hasobe,<sup>\*c</sup> Solon P. Economopoulos,<sup>a</sup> Evangelia Sarantopoulou<sup>a</sup> and Nikos Tagmatarchis<sup>\*a</sup>

<sup>a</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, 116 35 Athens, Greece.

<sup>b</sup> School of Materials Science, Japan Advanced Institute of Science and Technology (JAIST), Nomi, Ishikawa 923-1292, Japan.

<sup>c</sup> Department of Chemistry, Faculty of Science and Technology, Keio University, Yokohama 223-8522, Japan, and PRESTO, Japan, Science and Technology Agency (JST), 4-1-8 Honcho, Kawaguchi, Saitama, 332-0012, Japan.

tagmatar@eie.gr (N. Tagmatarchis) hasobe@chem.keio.ac.jp (T. Hasobe)

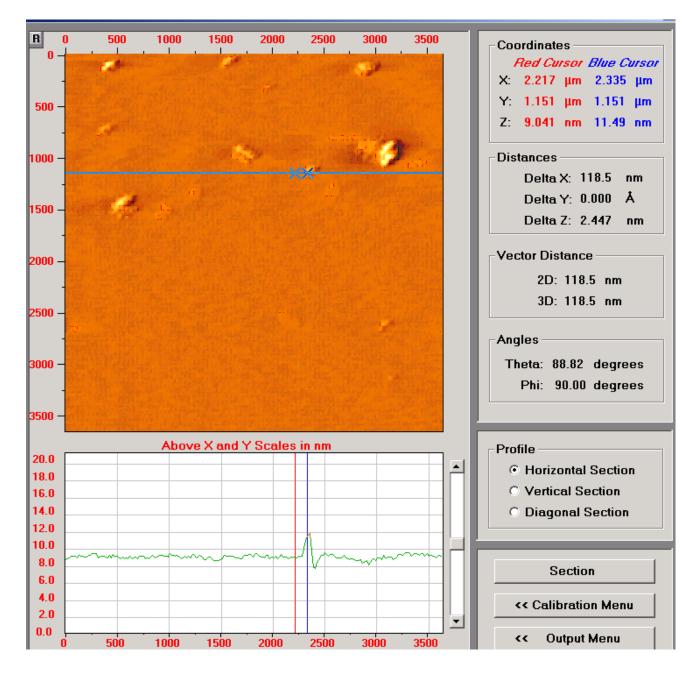
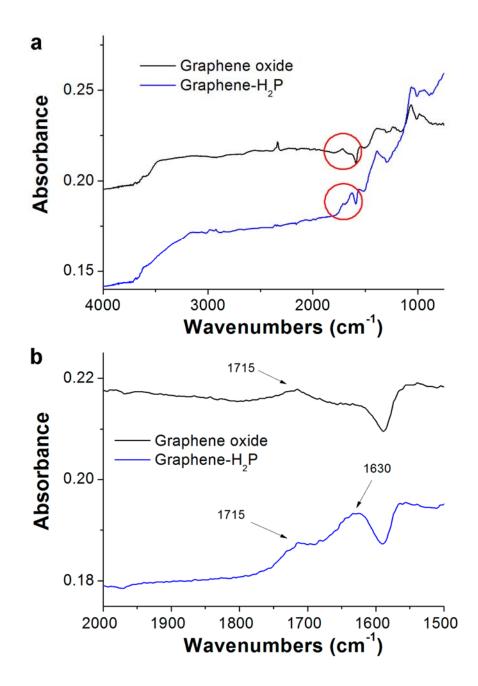
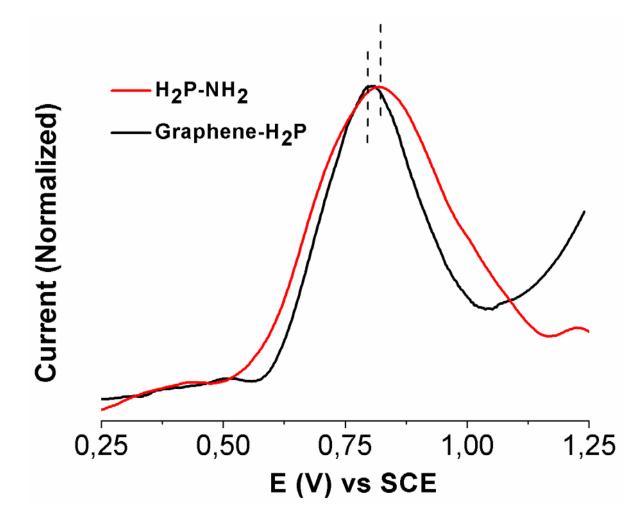


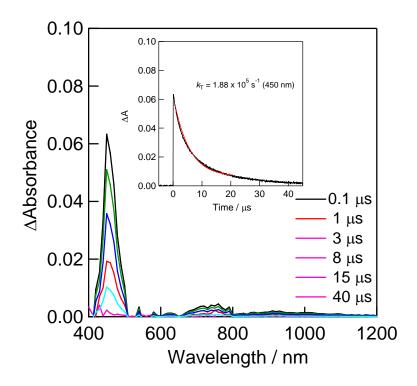
Fig. S1. AFM image of graphene-H<sub>2</sub>P and profile analysis showing the height for a specific region.



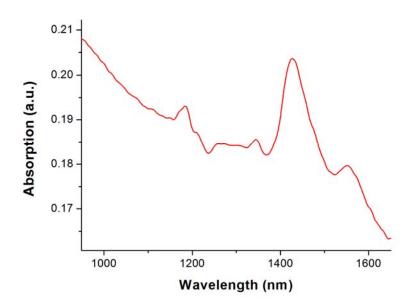
**Fig. S2.** a) ATR-IR spectra of graphene oxide (black) and graphene- $H_2P$  (blue) and b) enlarged area of  $1500 - 2000 \text{ cm}^{-1}$  of graphene oxide (black) and graphene- $H_2P$  (blue).



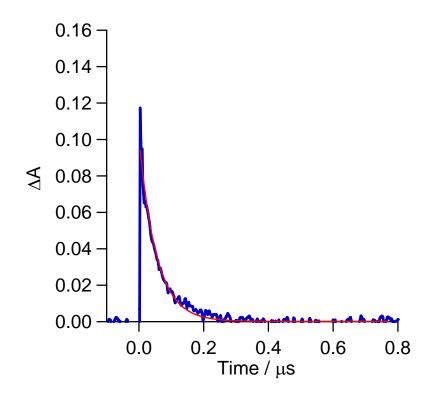
**Fig. S3.** Differential pulsed voltammogram of the oxidations of graphene- $H_2P$  (black) and free  $H_2P$ -NH<sub>2</sub> (red), obtained in DMF.



**Fig. S4.** Nanosecond transient absorption spectra of  $H_2P$ -NH<sub>2</sub> observed by 532 nm (ca. 1 mJ/ pulse) laser irradiation on film. Inset: Absorption-time profiles.



**Fig. S5.** Absorption spectrum of electrochemically reduced graphene oxide at -2 Volt, in DMF, with  $Bu_4NPF_6$  as electrolyte. Working, pseudo-reference and counter electrodes: Pt wire.



**Fig. S6.** Absorption-time profiles of  $GO-H_2P$  at 1300 nm.

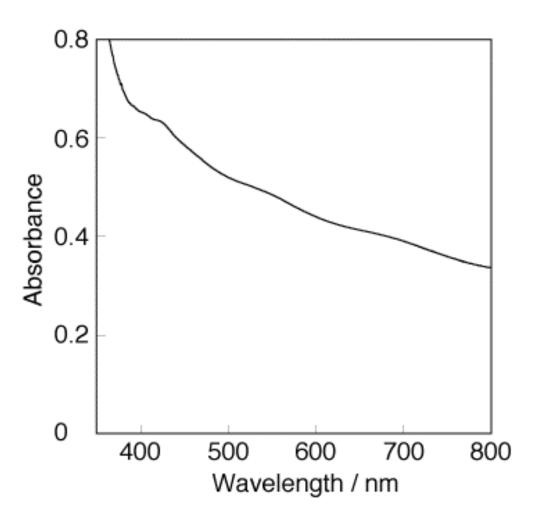


Fig. S7. Absorption spectrum of OTE/SnO<sub>2</sub>/graphene-H<sub>2</sub>P.