Electronic Supplementary Material (ESI) for Inorganic Chemistry Frontiers.

Electronic Supplementary Information

Functionalization of reduced graphene oxide with axially-coordinated metal-porphyrins: facile syntheses and temporally-dependent optical properties

Aijian Wang, Jingbao Song, Ding Jia, Wang Yu, Lingliang Long, Yinglin Song, Marie P. Cifuentes, Mark G. Humphrey, Long Zhang, Jianda Shao, and Chi Zhang*

Table S1. Two-photon absorption coefficients at 532 nm.

	β (m/W) (4 ns)	β (m/W) (21 ps)
RGO	1.05×10^{-10}	-2.0×10^{-13}
SnTPP	0.95×10^{-10}	2.8×10^{-13}
RGO-SnTPP **1**	3.5×10^{-10}	-3.5×10^{-13}
RGO-SnTPP **2**	6.2×10^{-10}	-7.0×10^{-13}
RGO/SnTPP	1.5×10^{-10}	-

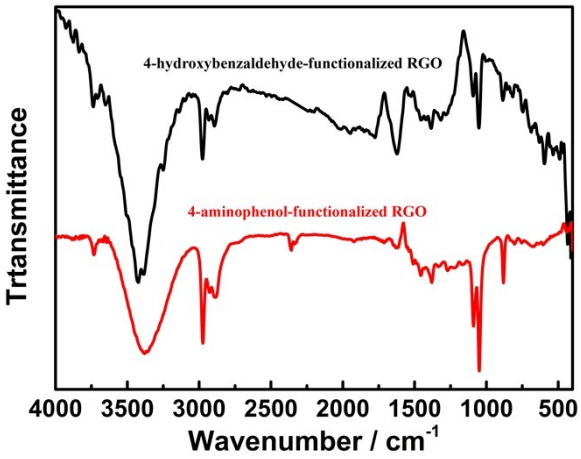


Figure S1. FTIR spectra of 4-hydroxybenzaldehyde-functionalized RGO and 4-aminophenol-functionalized RGO nanohybrids.

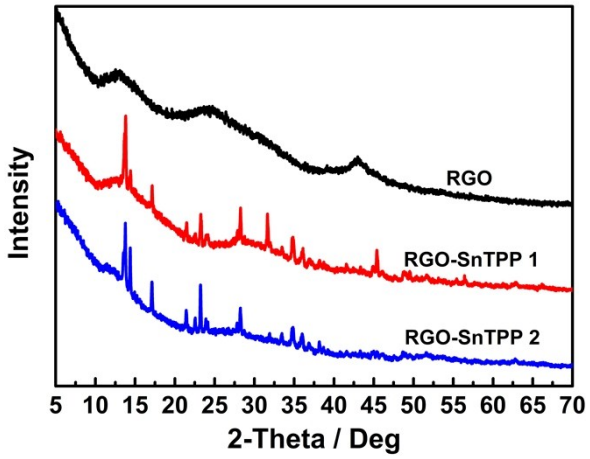


Figure S2. XRD patterns of RGO, RGO-SnTPP **1** and RGO-SnTPP **2**.

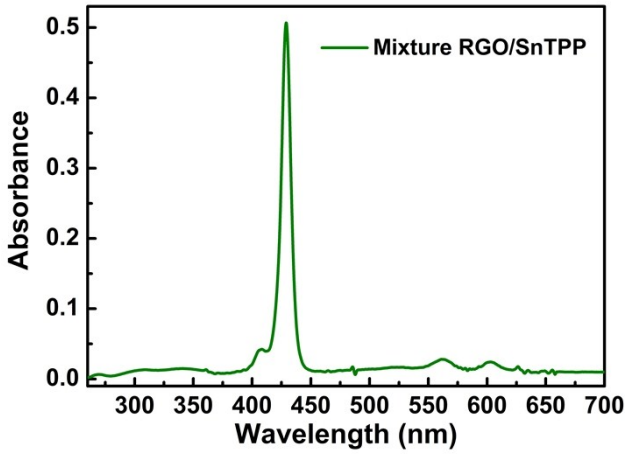


Figure S3. Ground-state absorption spectrum of blended RGO and SnTPP.

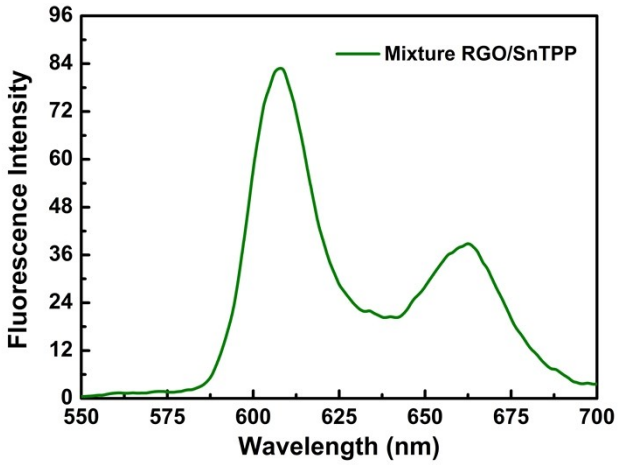
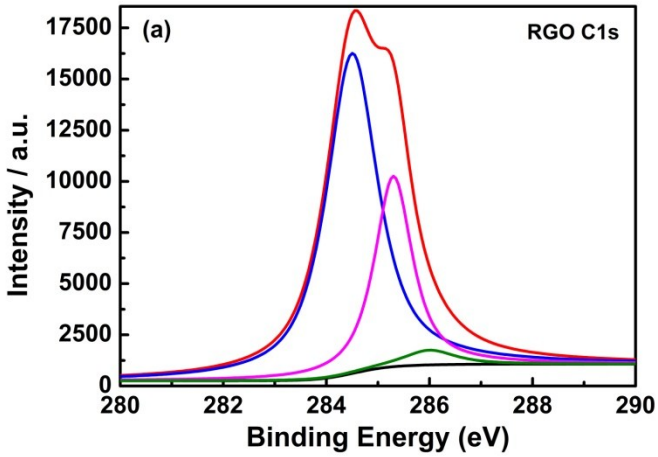
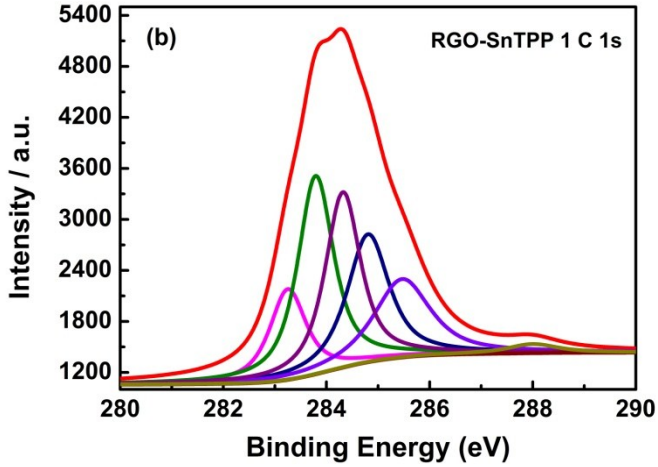
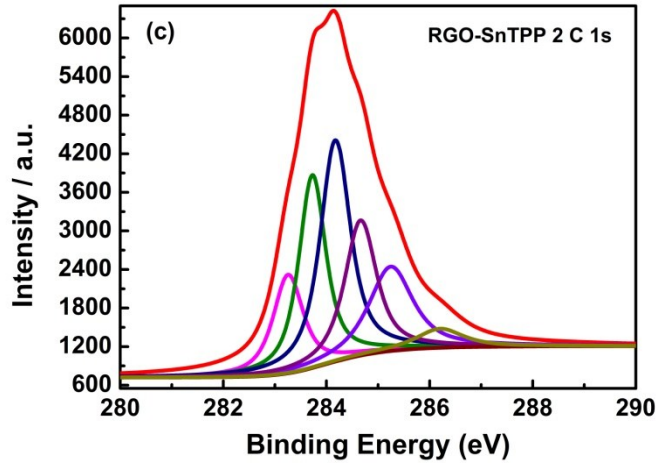


Figure S4. Fluorescence spectrum of blended RGO and SnTPP.


(a)
RGO C1s
Intensity / a.u.
Binding Energy (eV)
17500
15000
12500
10000
7500
5000
2500
0
280
282
284
286
288
290


(b)
RGO-SnTPP 1 C 1s
Intensity / a.u.
Binding Energy (eV)
5400
4800
4200
3600
3000
2400
1800
1200
280
282
284
286
288
290


(c)
RGO-SnTPP 2 C 1s
Intensity / a.u.
Binding Energy (eV)
6000
5400
4800
4200
3600
3000
2400
1800
1200
600
280
282
284
286
288
290

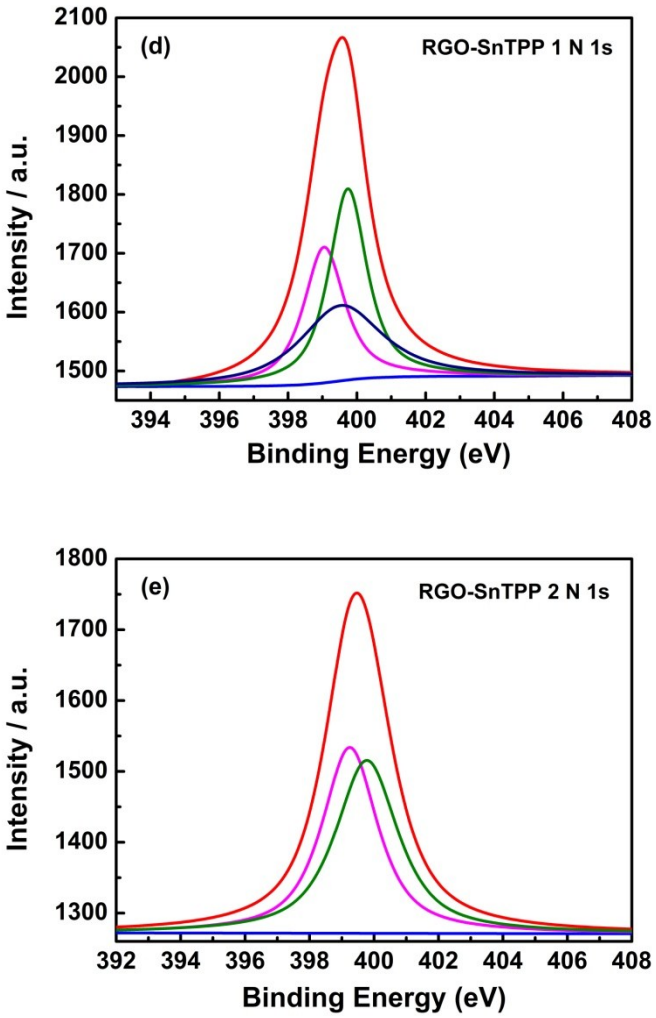


Figure S5. Deconvoluted experimental XPS spectra of (a) C1s (RGO), (b) C1s (RGO-SnTPP **1**), (c) C1s (RGO-SnTPP **2**), (d) N1s (RGO-SnTPP **1**), and (e) N1s (RGO-SnTPP **2**).

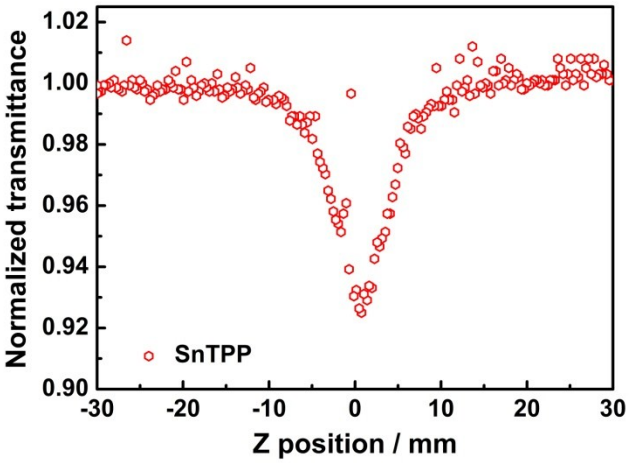


Figure S6. Open-aperture Z-scan traces of SnTPP in DMSO, obtained under 21 ps, 532 nm laser excitation.

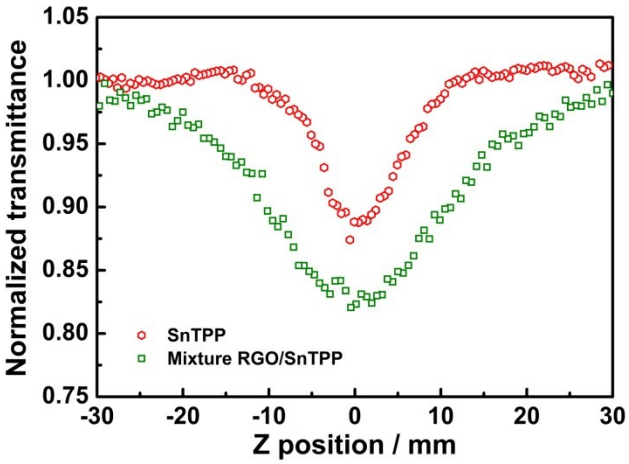


Figure S7. Open-aperture Z-scan traces of SnTPP and blended RGO and SnTPP suspension in DMSO, obtained under 4 ns, 532 nm laser excitation.