

Supporting Information

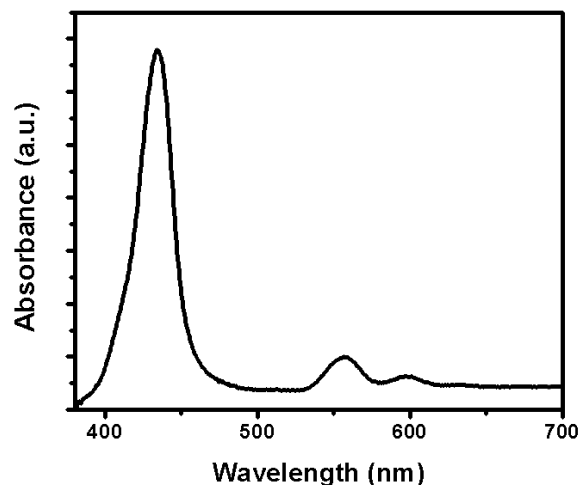


Figure SI. 1 UV-Vis spectra for porphyrin. Soret band is found at around 420nm and Q-band are found at around 550 nm and 592 nm

In porphyrin visible absorption spectra, the highly conjugated aromatic macrocycle shows intense absorption in the neighborhood of 400 nm; this absorption maximum is referred to as the "Soret Band". Visible spectra of porphyrins also show several weaker absorptions (Q Bands) at longer wavelengths (450 to 700 nm). Variations of the peripheral substituents on the porphyrin ring minor changes to the intensity and wavelength of the absorption features. The protonation of two of the inner nitrogen atoms or the insertion/removal of metal atoms into the macrocycle strongly change the visible absorption spectrum.

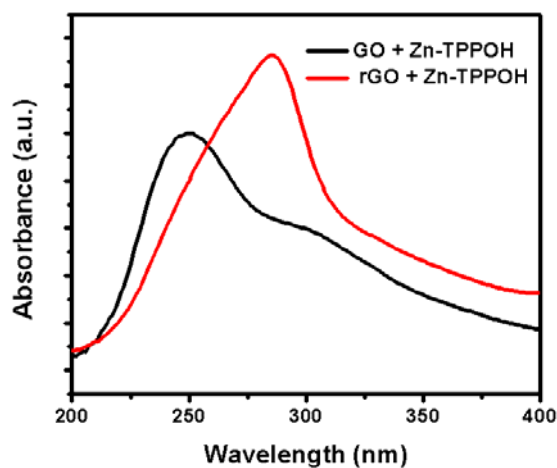


Figure SI. 2 UV-Vis spectra for GO + Zn(II)TPPOH before (black line) and after (red line – rGO + Zn(II)TPPOH) irradiated with 588nm yellow LED light for 5hrs). Red shifts in the absorption peak indicates the reduction of GO.

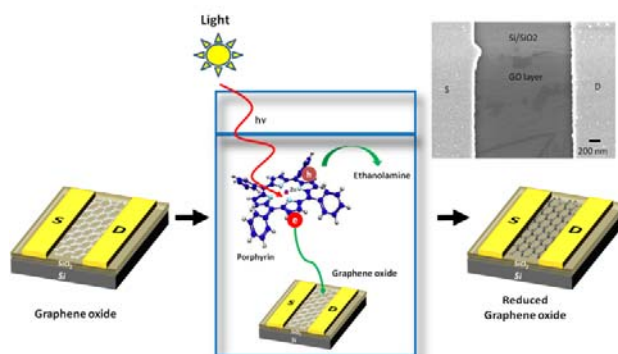


Figure SI. 3 Employing the porphyrin treatment as a post processing strategy for functional device formation. Inset shows SEM image of device fabricated.

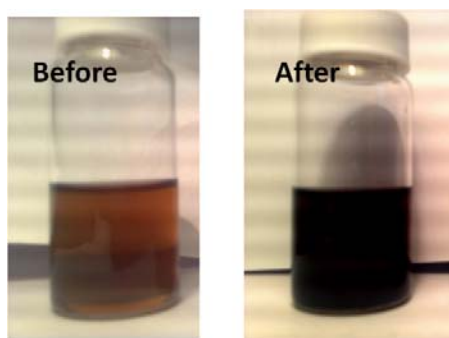


Figure SI. 4 GO solution with Ni porphyrins and ethanolamine added, before and after light illumination. Colour change is apparent from brownish yellow GO to black rGO.