Electronic Supplementary Material (ESI) for New Journal of Chemistry.


# Supporting Information

## Photoresponse modulation of reduced graphene oxide by surface modification with cardanol derived azobenzene

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| Sl No | Table of Contents | Page Number |
|---|---|---|
| 1 | Infrared and Raman Spectra | S-3 |
| 2 | SEM Analysis | S-3 |
| 3 | TEM Analysis | S-4 |
| 4 | XPS Spectra | S-4 |
| 5 | 2D XRD images | S-5 |
| 6 | References | S-5 |

## 1. Infrared and Raman Spectra of Graphene Oxide

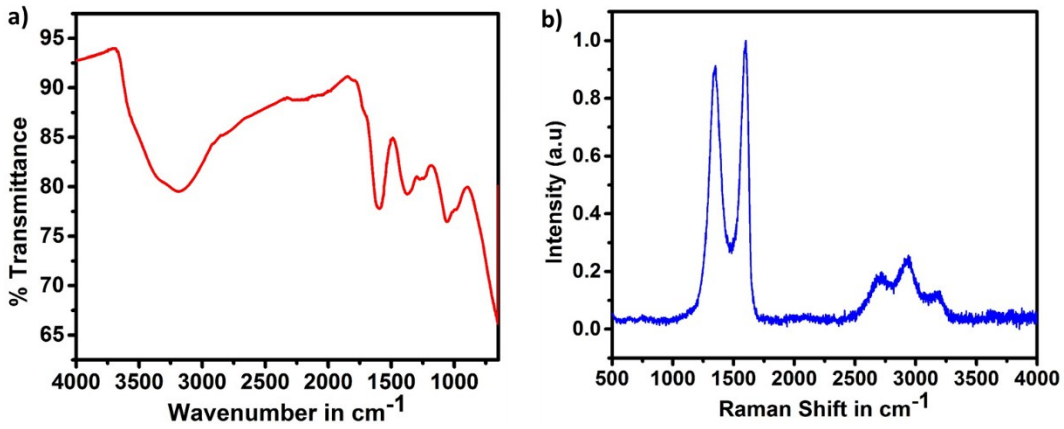


Figure S1: a) Infrared Spectrum of GO b) Raman Spectrum of GO.

## 2. Scanning Electron Microscopy (SEM) experiment

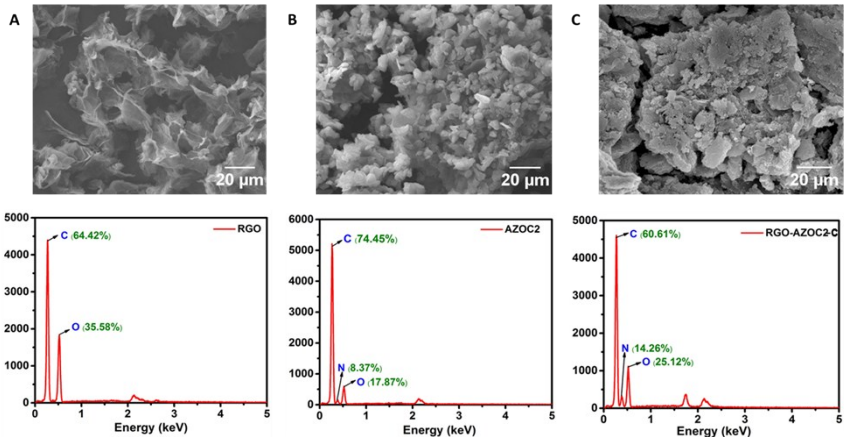


Figure S2: SEM with EDAX analysis of A) RGO, B) AZOC2 C) RGO-AZOC2-C.

## 3. Transmission Electron Microscopy (TEM) experiment

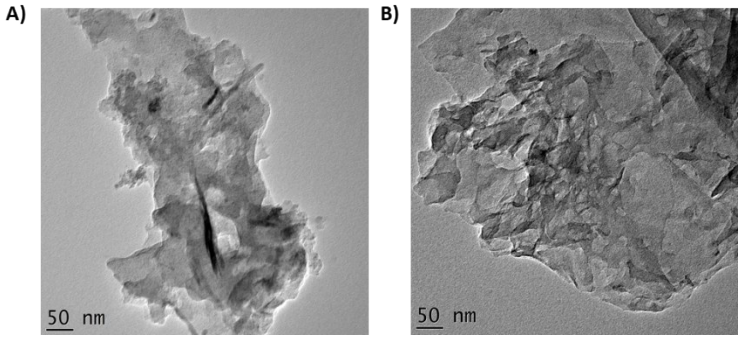


Figure S3: TEM of A) RGO-AZOC2-C B) RGO-AZOC2-NC. In both the hybrids the crystalline nature of RGO-AZOC2 is lost. The AZOC2 forms a layer over RGO in the case of RGO-AZOC2-NC through hydrogen bonding and π-π stacking interaction. In RGO-AZOC2-C, the AZOC2 is almost incorporated into the layers of RGO through anhydride linkage.

## 4. X-ray Photoelectron Spectroscopy (XPS)

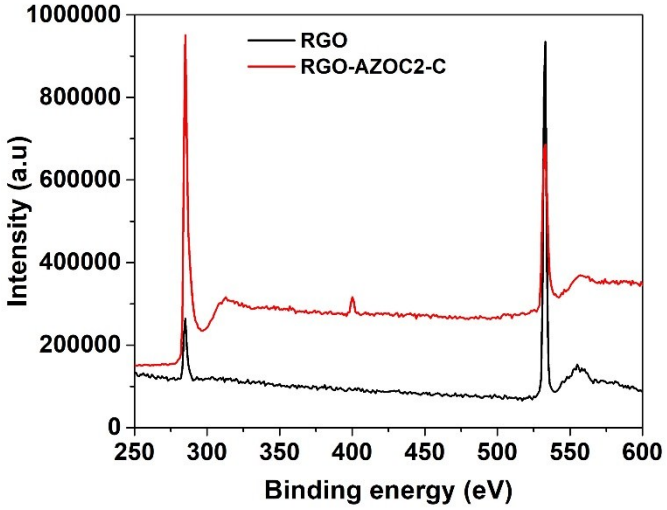


Figure S4: XPS wide spectra of RGO and RGO-AZOC2-C. The XPS spectra of the hybrid contains peak corresponding to nitrogen around 396 eV, which is absent in the case of RGO

## 5. Two dimensional X-ray Diffraction Experiment (2D XRD)

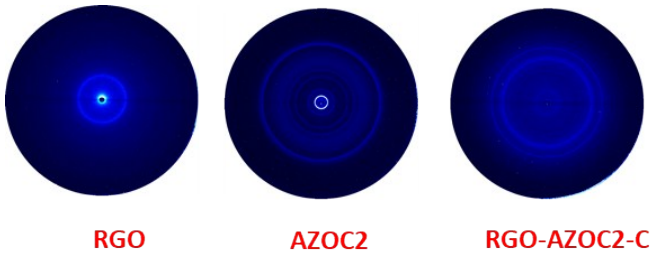


Figure S5: 2D XRD images of RGO, AZOC2 and RGO-AZOC2-C

## 6. References

1. S. Mahesh, D. Raju, A. S. Arathi, K. Joseph, *RSC Advances,* **2014**, *4*, 42747-42750.
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