Electronic Supplementary Material (ESI) for Soft Matter.

SUPPORTING INFORMATION

Preparation of Hydrophobic Epoxy Polydimethylsiloxane Graphene oxide Nanocomposite Coatings for Antifouling Application

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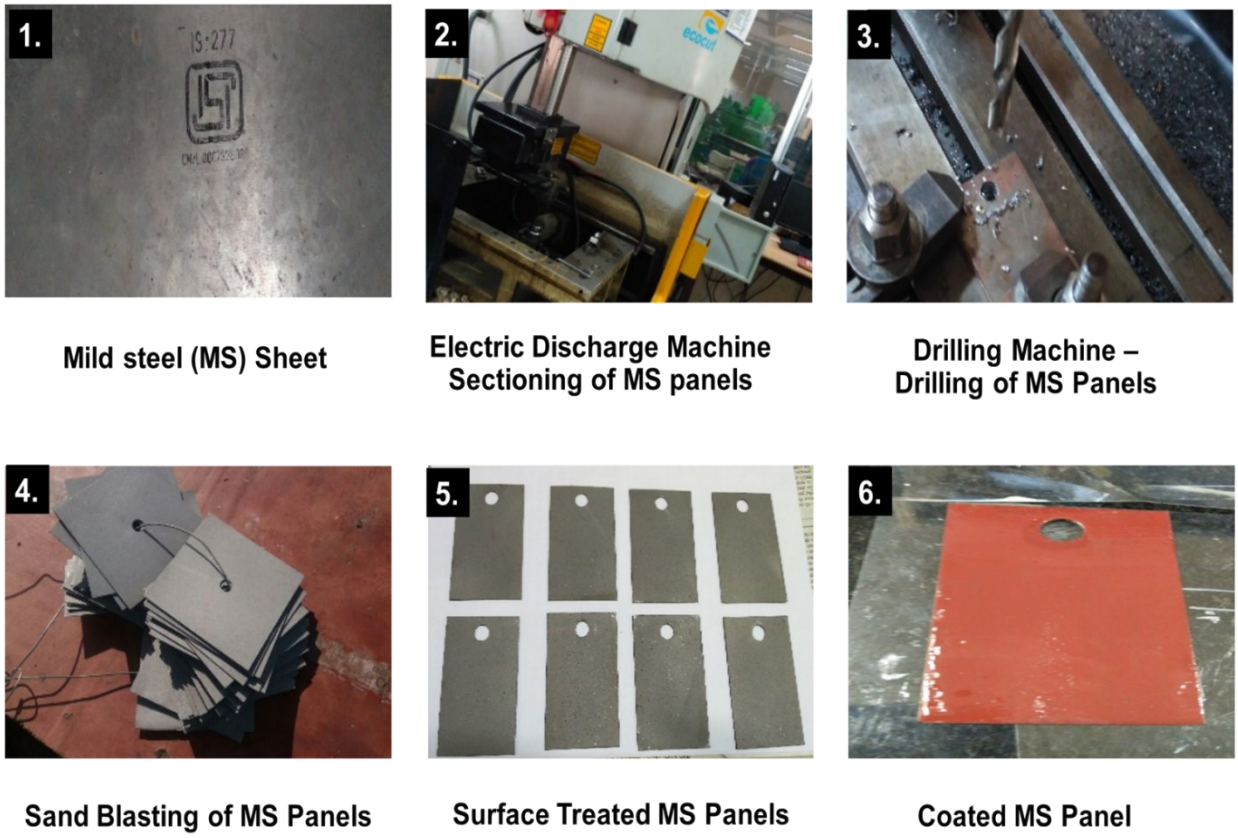

Figure S1- Details of substrate preparation for application of polymer coating

FIGURE S2

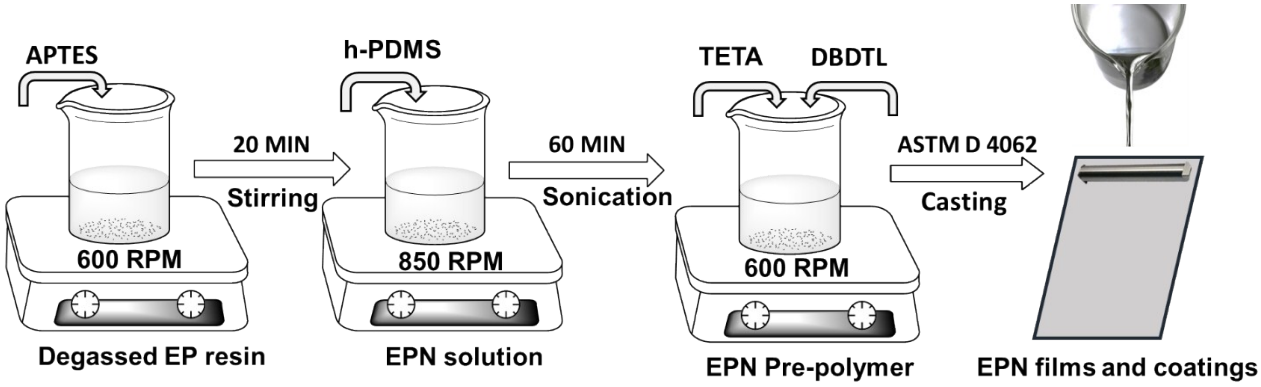

Figure S2: Procedure schematic for the fabrication of EPN system

FIGURE S3

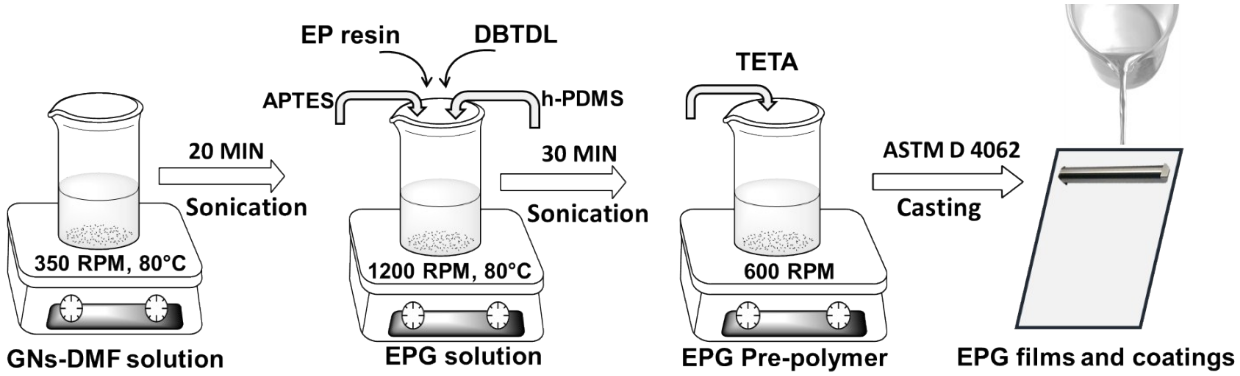

Figure S3: Procedure schematic for the fabrication of EPG nanocomposite system

FIGURE S4

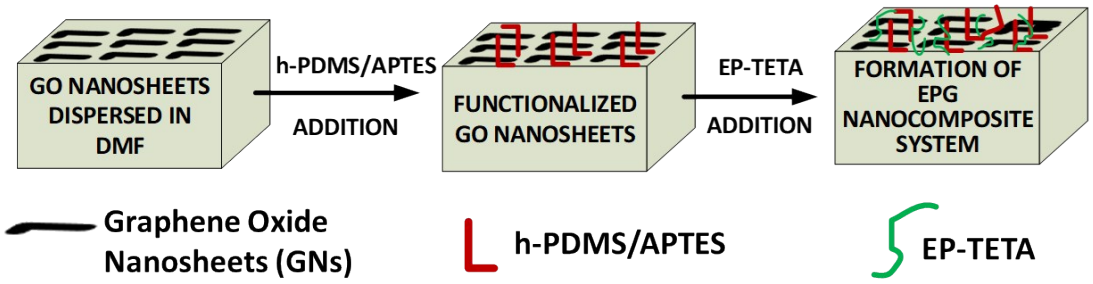

Figure S4: Possible mechanism depicting the interaction of GNs with h-PDMS/APTES and EP-TETA network leading to the formation of EPG nanocomposite system

FIGURE S5

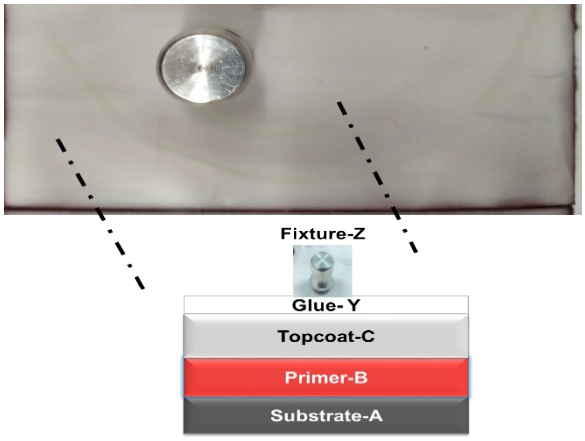

Figure S5: Pull-off adhesion test and the details of the coating layers

FIGURE S6

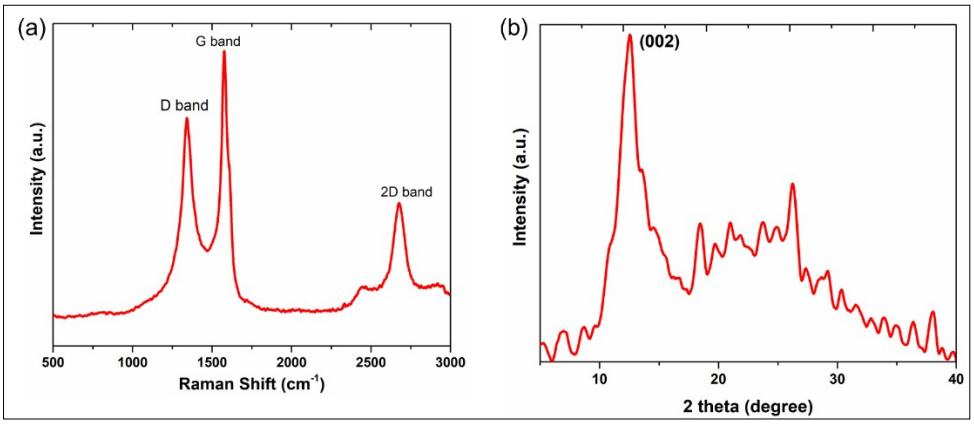

Figure S6: (a) Raman spectrum and, (b) XRD patterns of GNs

FIGURE S7

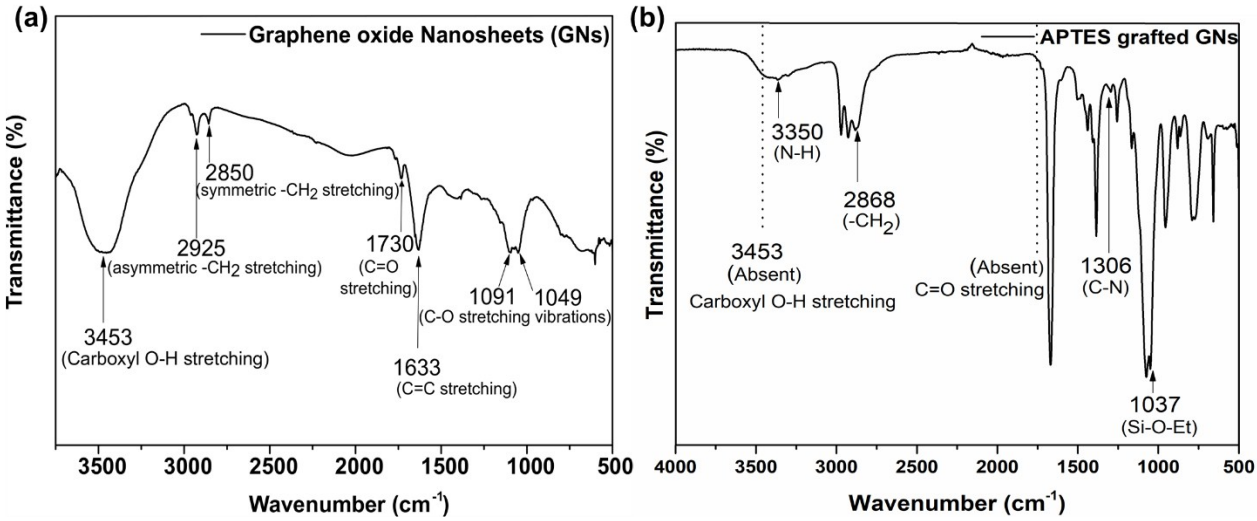

Figure S7: FTIR spectrum of (a) GNs and, (b) APTES-grafted GNs

FIGURE S8

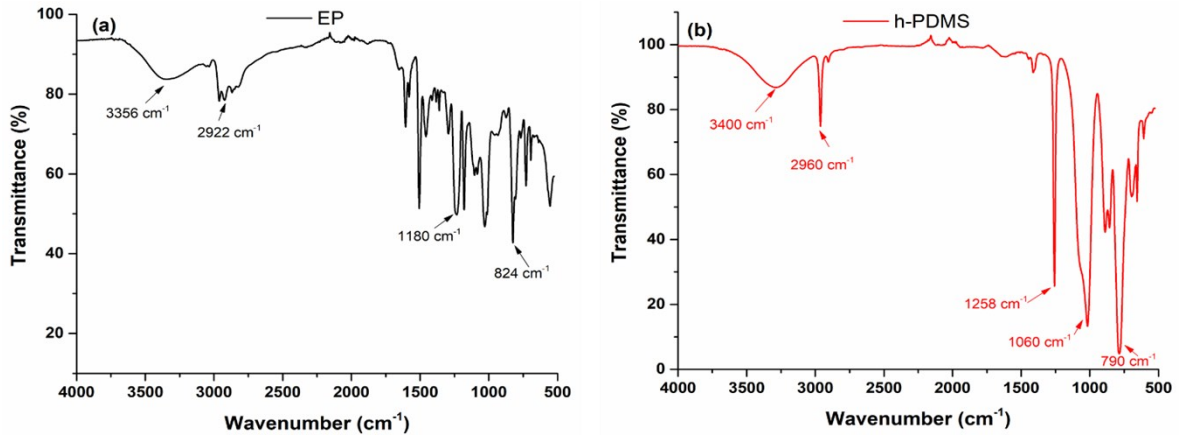

Figure S8: FTIR spectrum of (a) EP and (b) h-PDMS

FIGURE S9

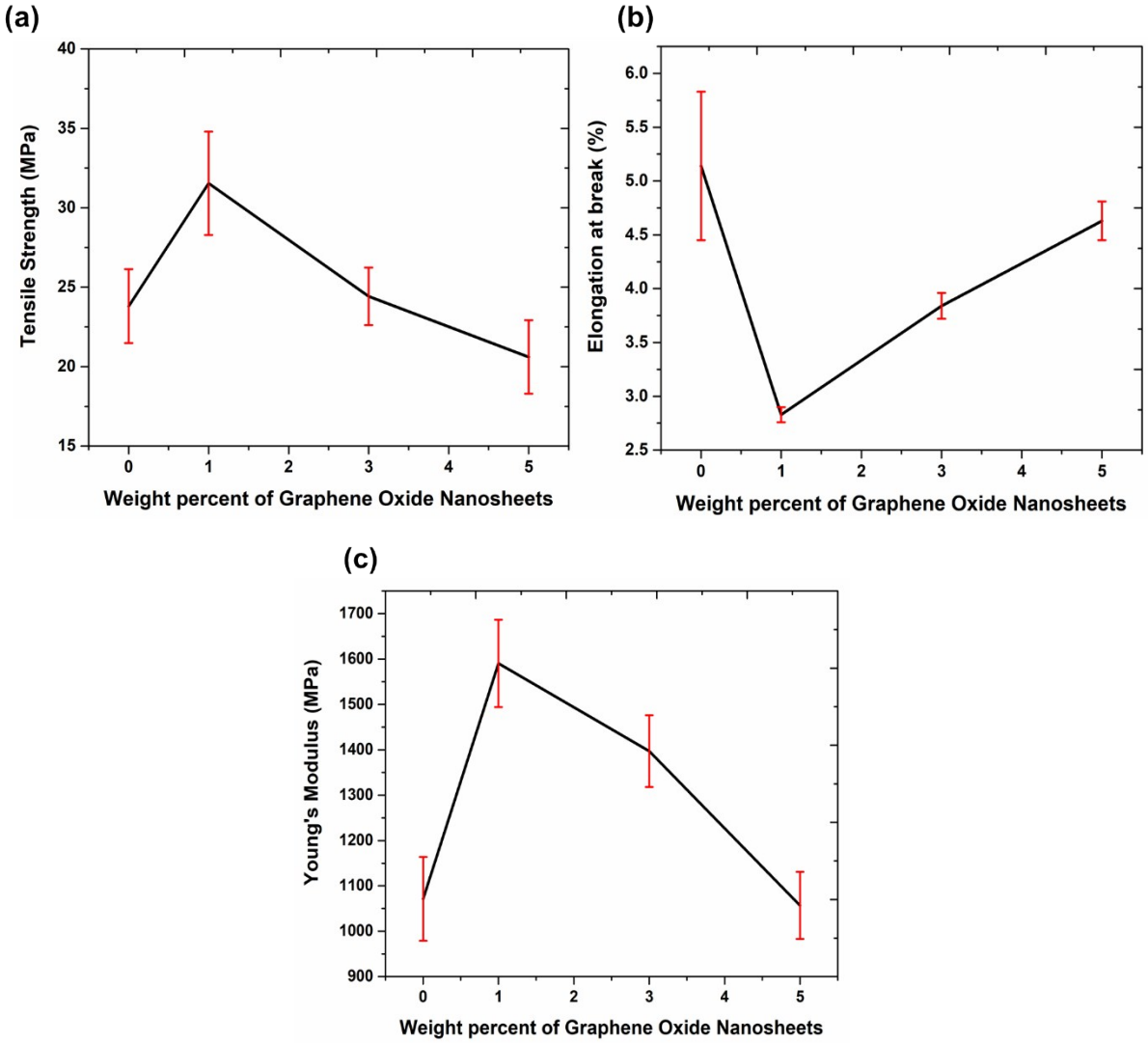

Figure S9: Effect of GNs loading on (a) Tensile strength, (b) Elongation at break, and (c) Young's modulus of EPN and EPG nanocomposite coatings

FIGURE S10

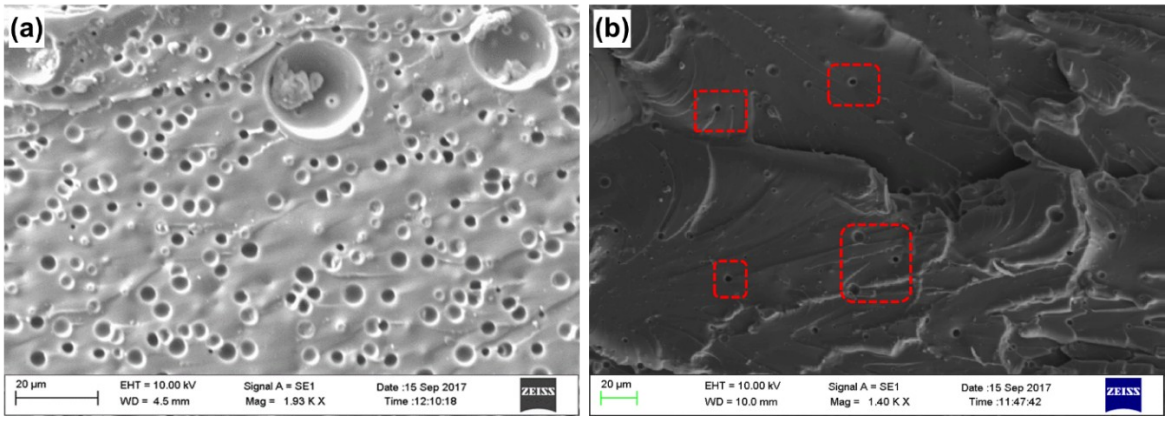

Figure S10: Cross-sectional SEM micrographs of tensile fractured surface of (a) EP, and (b) EPN films

FIGURE S11

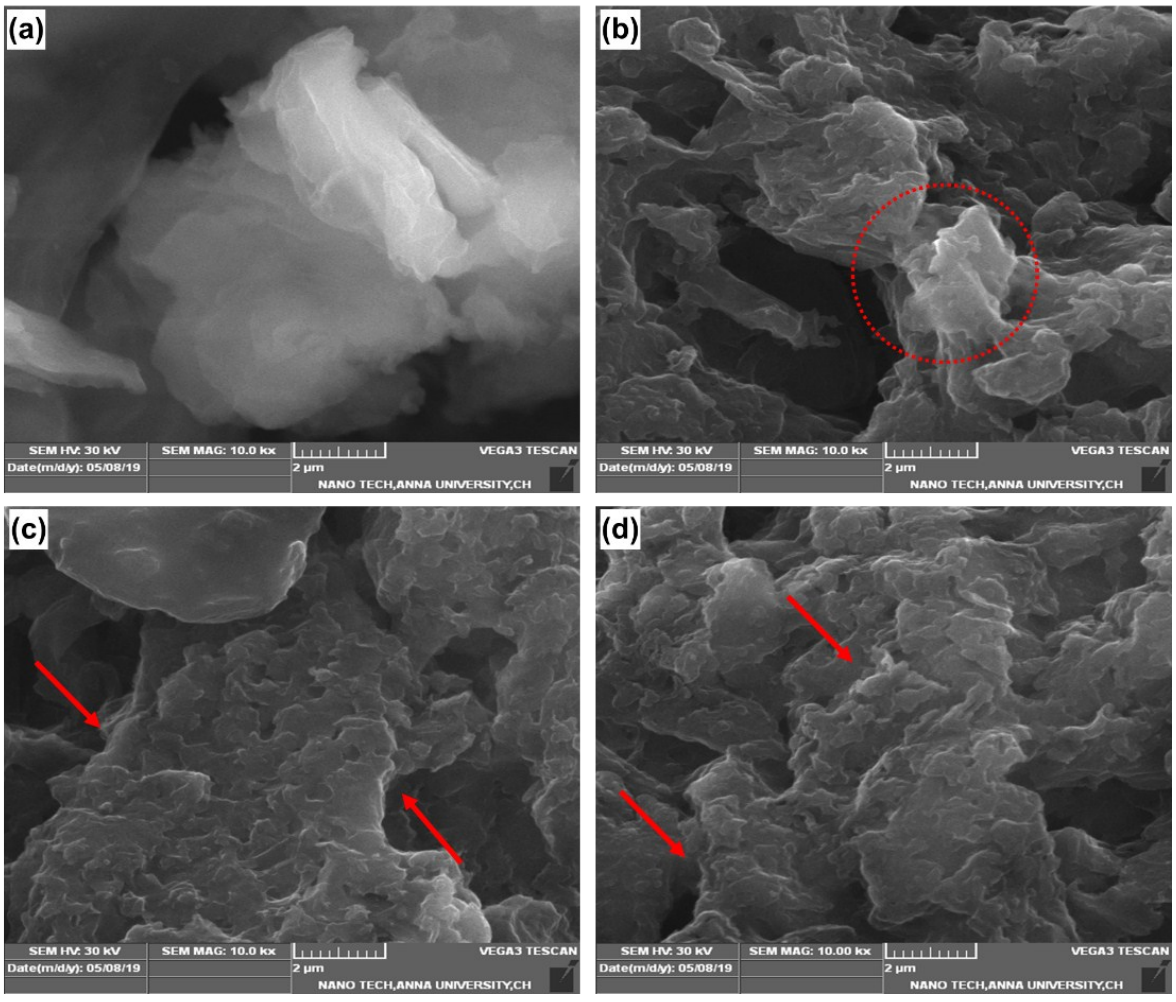

Figure S11: SEM micrographs (a) Pristine GNs, and GNs dispersed in DMF at (b) 1 wt.% (c) 3 wt.% (d) 5 wt.% concentration

FIGURE S12

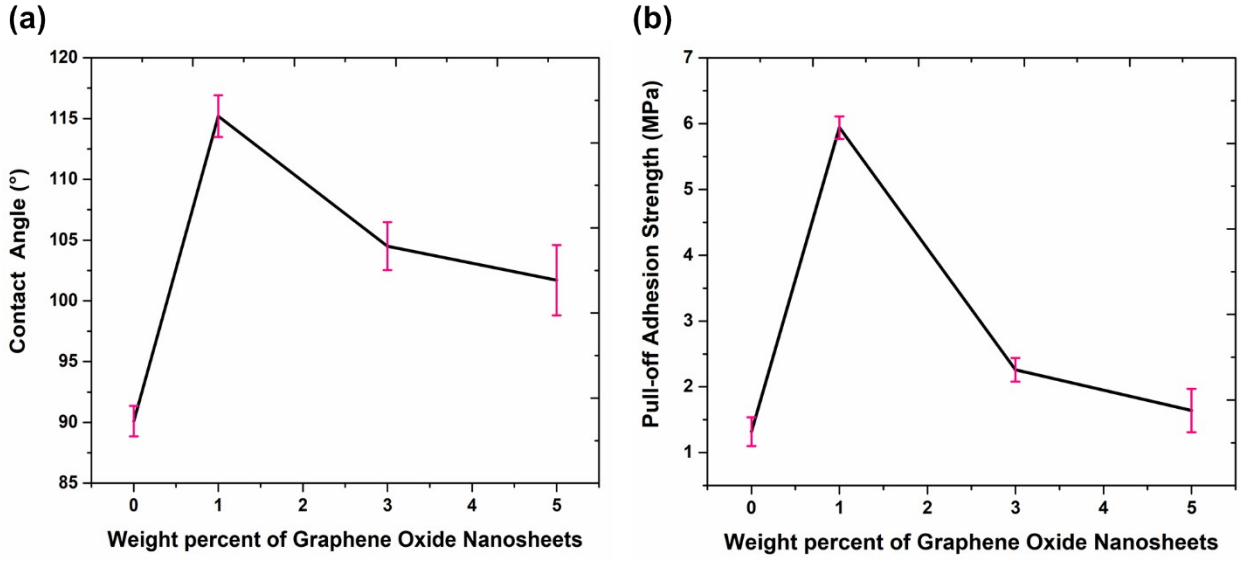

Figure S12: Effect of GNs loading on (a) Contact angle, and (b) Pull-off adhesion strength of EPN and EPG nanocomposite coatings

FIGURE S13

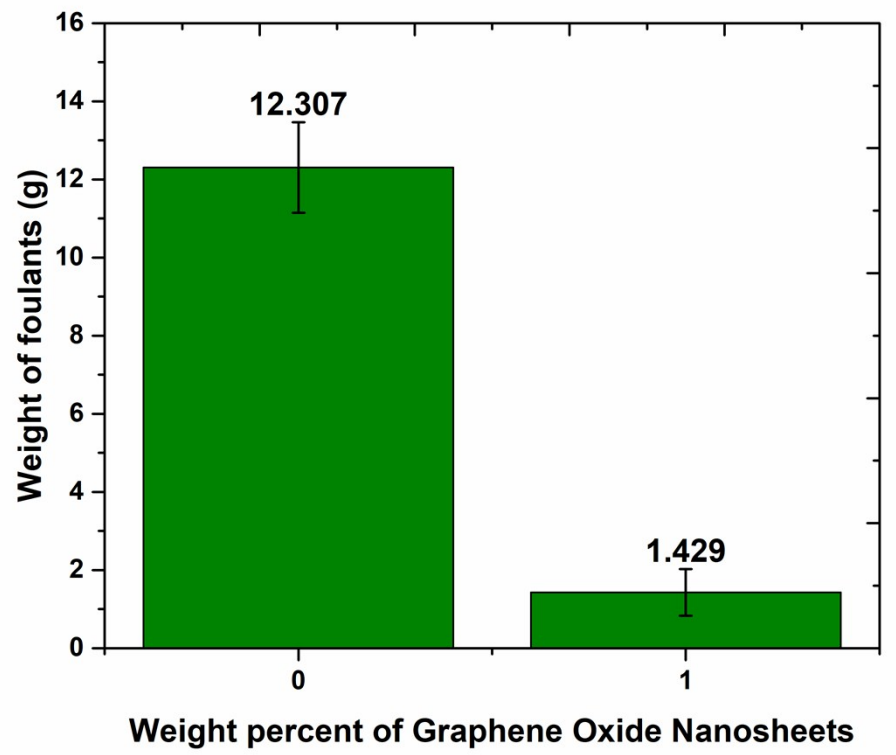

Figure S13: Weight of the biofouling species deposited on the surface of EPN and EPG-1 coated panels at constant depth of immersion