Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Electronic Supplementary Information

One-step chemically controlled wet synthesis of graphene nanoribbons from graphene oxide for high performance supercapacitor applications

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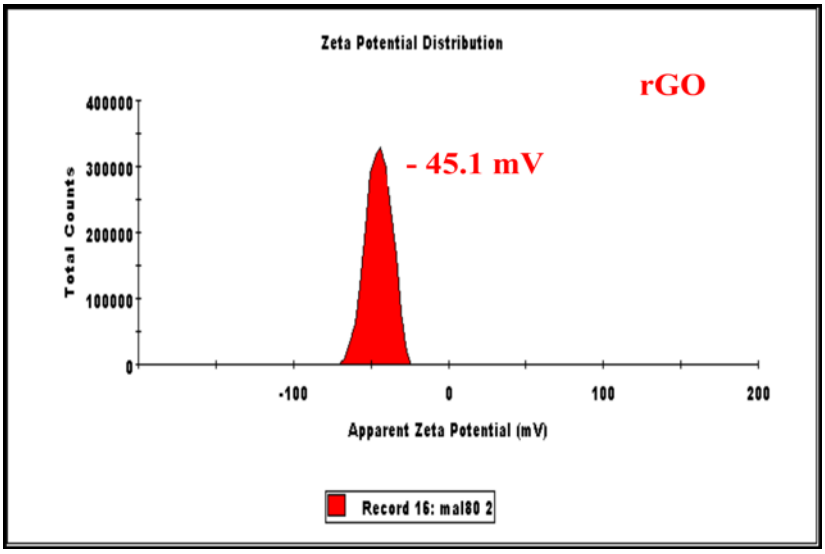

Fig. S1: Zeta-potential of reduced graphene oxide (rGO).

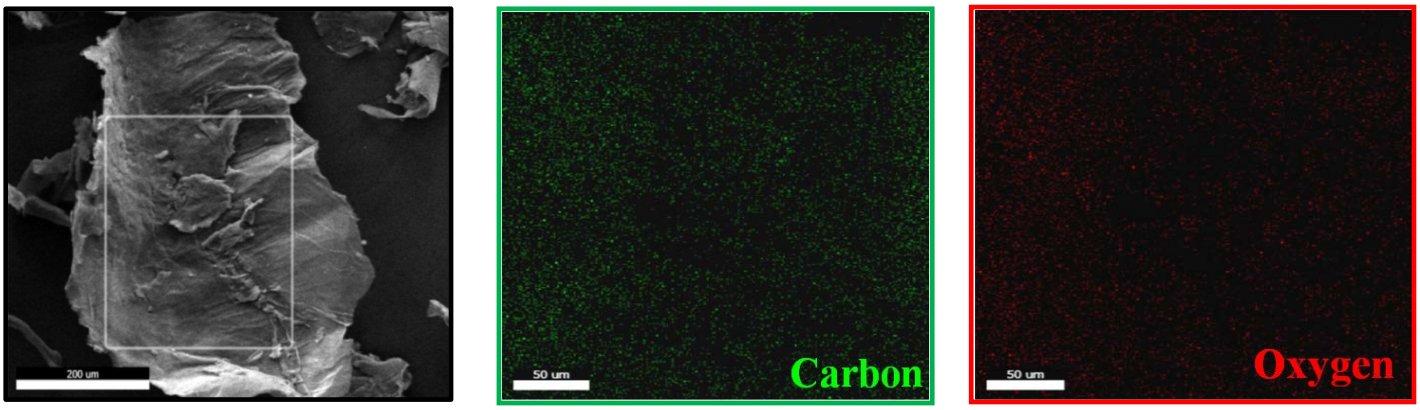

Fig. S2: FESEM image of GO and elemental mapping of the marked region in this image.

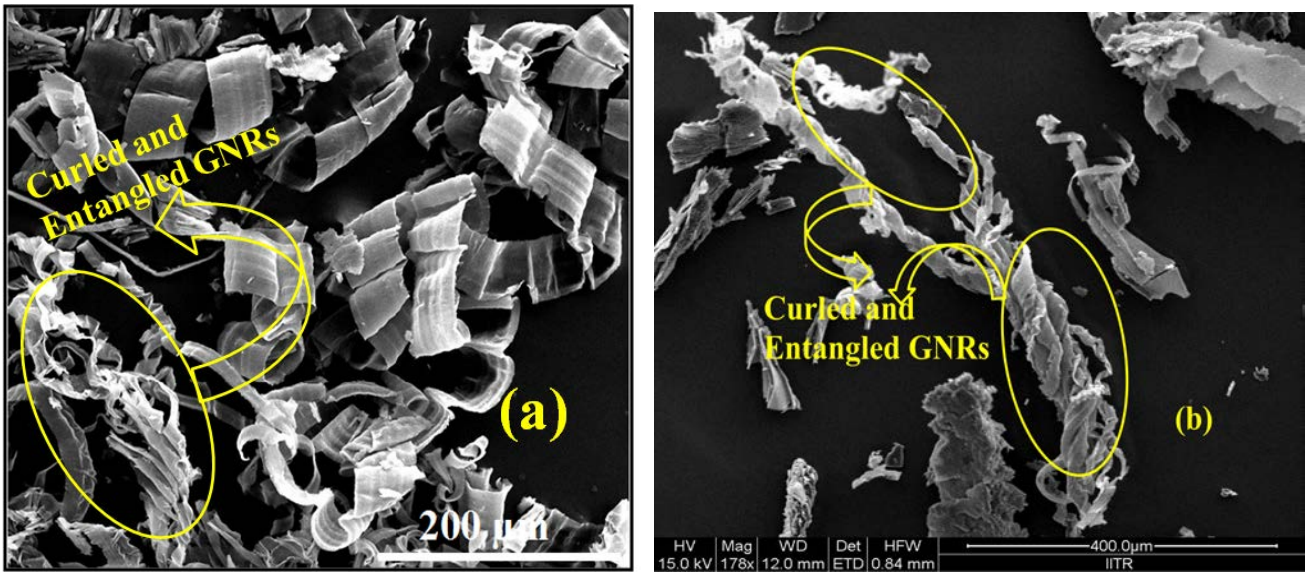

Fig. S3: FESEM image of GNRs at low resolutions showing ~ 0.15 to 1 mm long curled and entangled GNRs at pH 6.0 (**a**) Scale bar **200 µm**; (**b**) Scale bar **400 µm**.

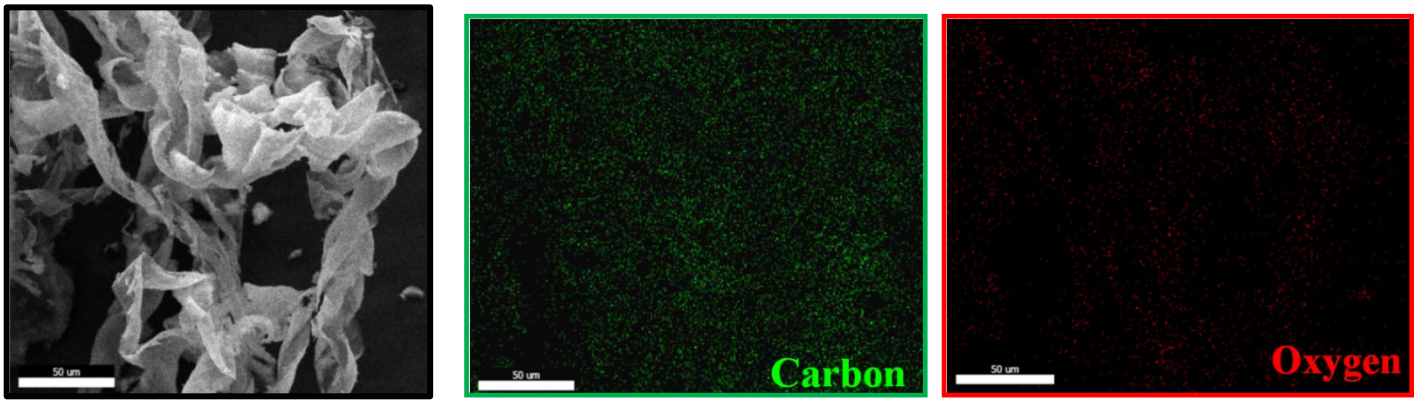

Fig. S4: FESEM image of GNRs and elemental mapping.

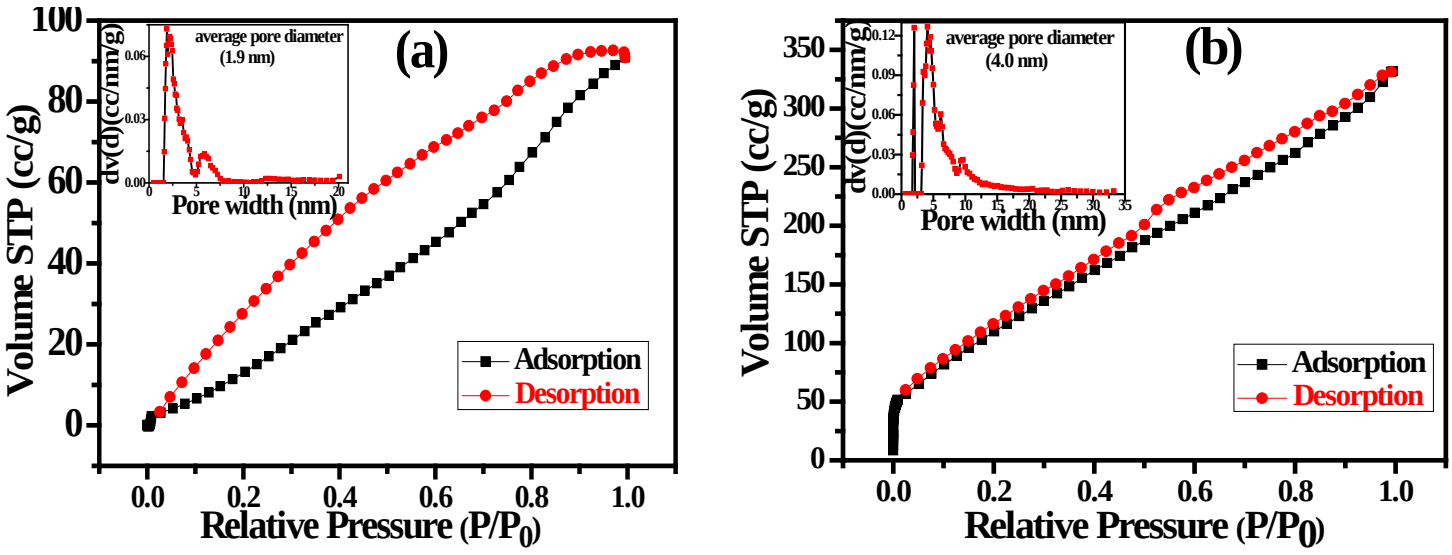

Fig. S5: N_2 adsorption – desorption isotherm for GNRs (after smoothing) (a) and GNRs-300 (b); Pore size distribution analyzed from density functional theory (DFT) method – Inset.

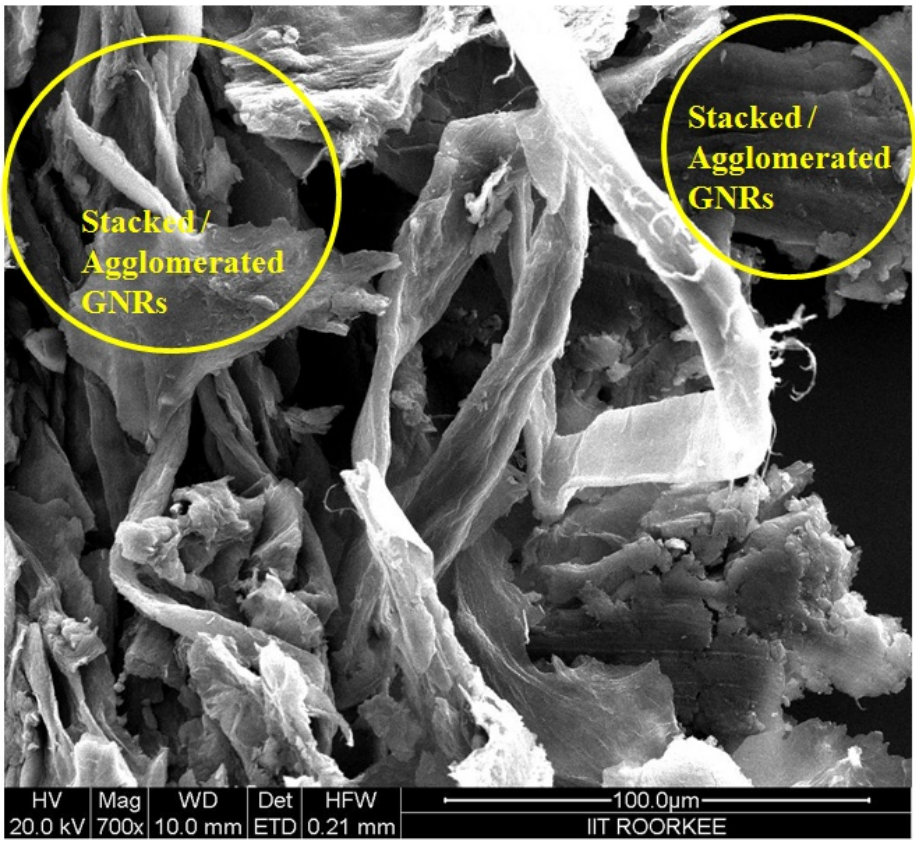

Fig. S6: FESEM image of GNRs at pH 7.5 showing the stacked agglomerated GNRs. Scale bar: 100 µm

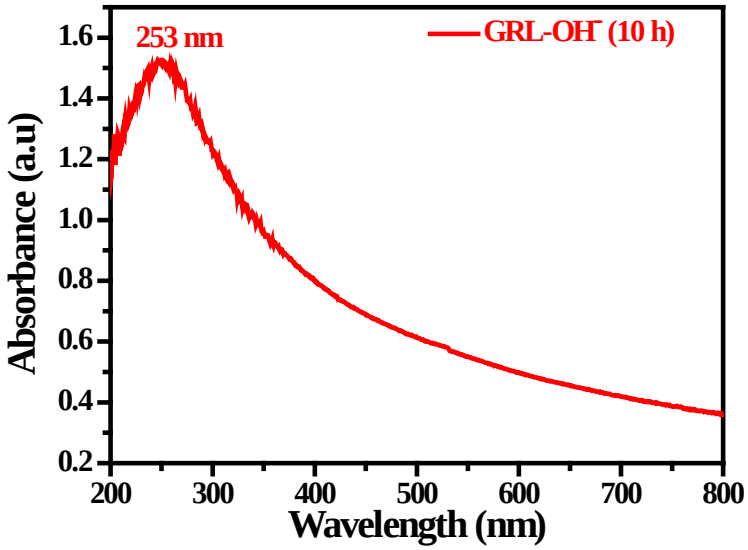

Fig. S7: Optical absorption spectrum of GRL-OH$^-$ after 10 h of reaction.

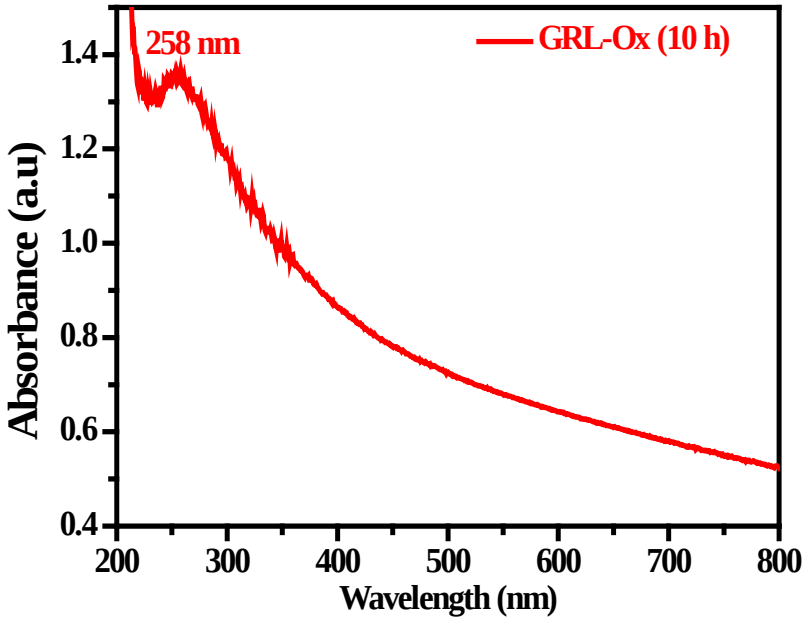

Fig. S8: Optical absorption spectrum of GRL-Ox after 10 h of reaction.

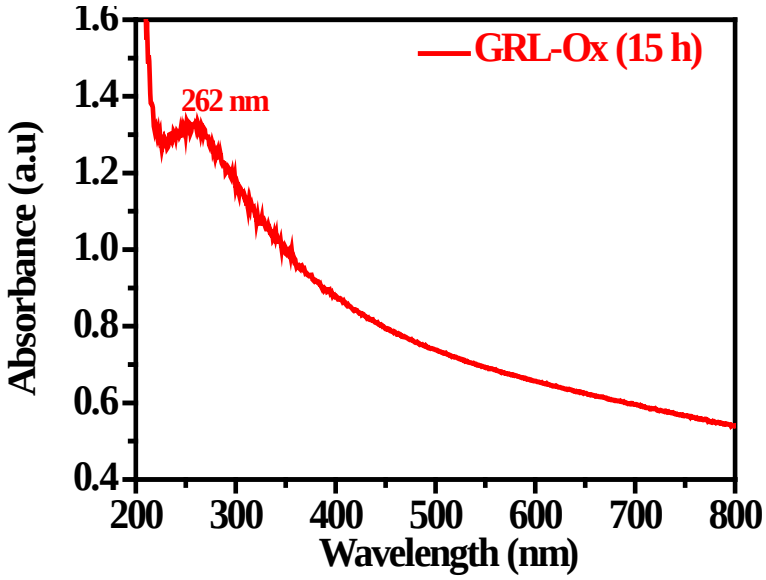

Fig. S9: Optical absorption spectrum of GRL-Ox after 15 h of reaction.

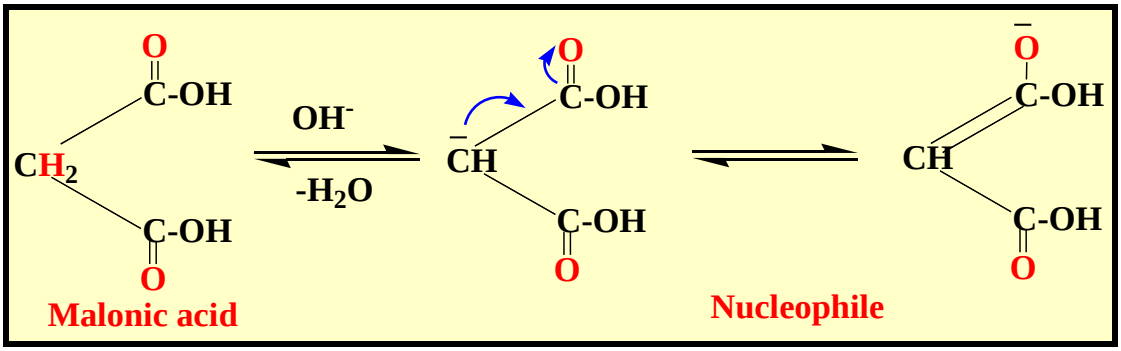

Fig. S10: Resonating structures of malonic acid.

Table S1: Raman spectral data of graphite, GO, GNRs and GNRs-300.

Sample	D band (cm^{-1})	G band (cm^{-1})	I_D/I_G
Graphite	1359	1582	-
GO	1355	1604	0.88
GNRs	1351	1605 (D′ 1623)	0.97
GNRs-300	1359	1599	0.94