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Supporting information

Engineering of Graphene/Epoxy Nanocomposites with improved distribution of Graphene nanosheets for advanced Piezo-resistive mechanical Sensing

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Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See DOI: 10.1039/x0xx00000x

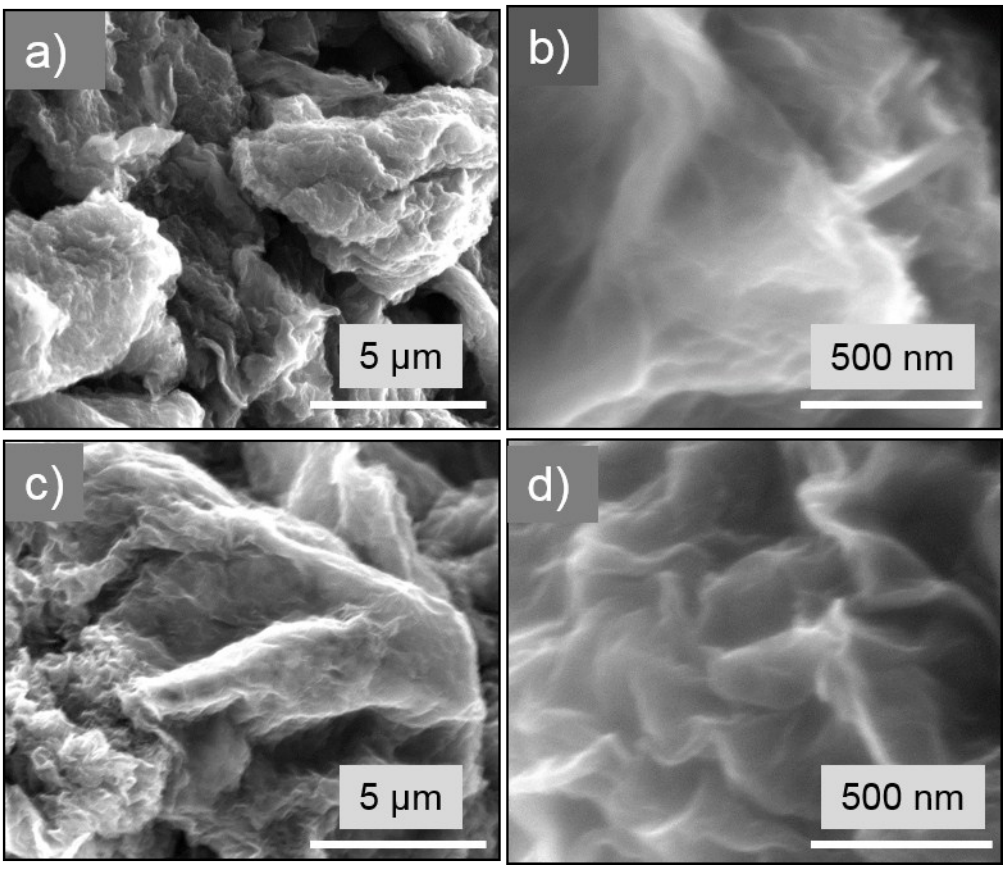

Figure S1. SEM images of RGO only (a and b) and DMBA-modified RGO (c and d) dried powders showing aggregated form without observed porous structure. They are definitely negative effect to the dispersion when preparing the composite with epoxy resin.

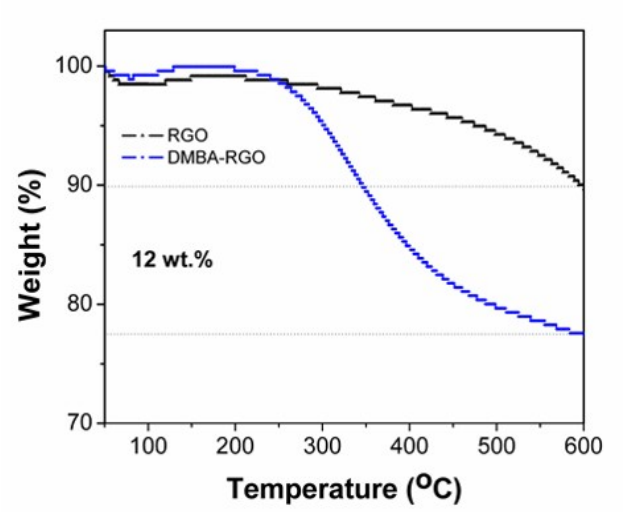

Figure S2. A comparison TGA data of RG0 (black curve) and DMBA-modified RGO (blue curve) showing amount of DMBA the product

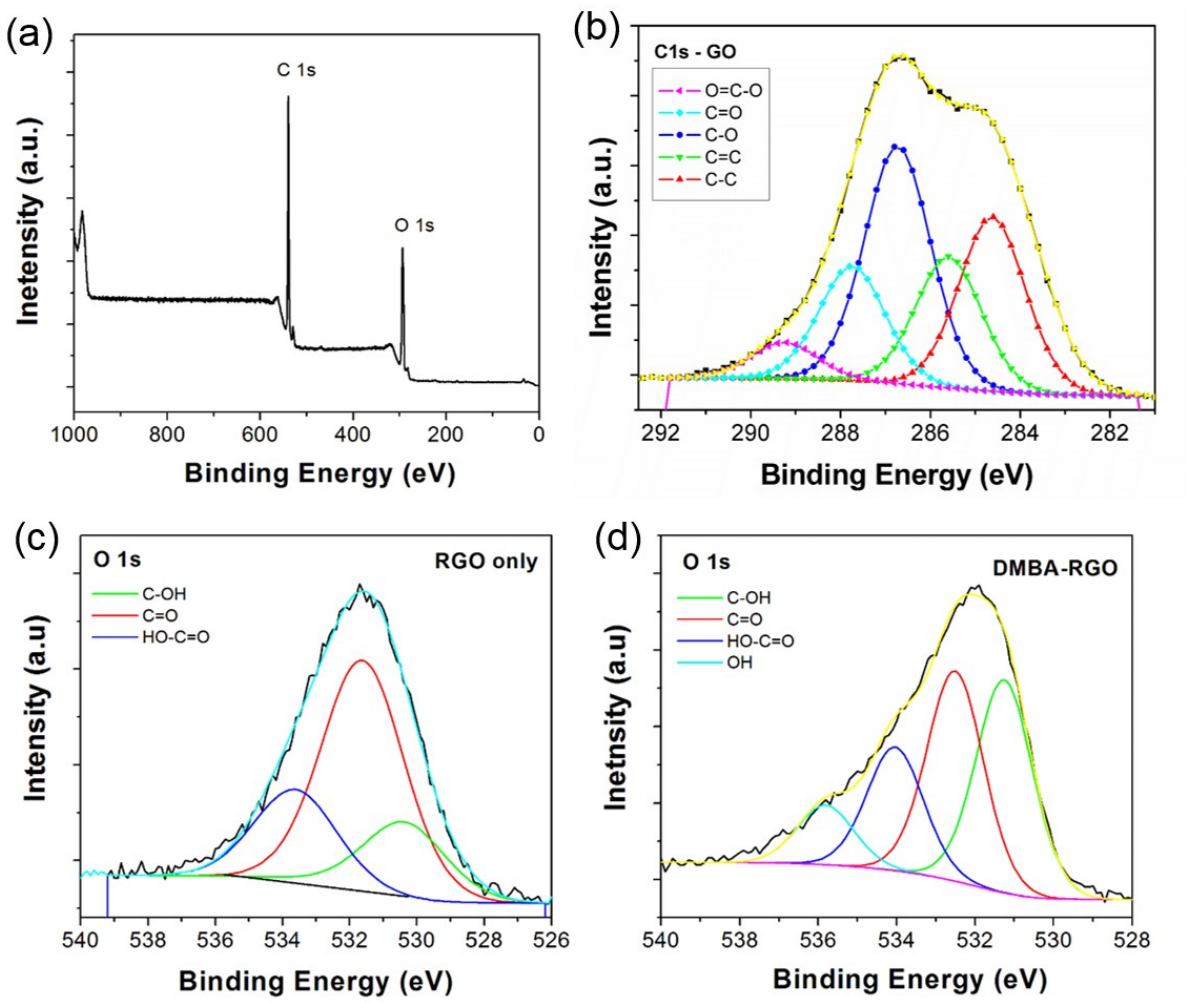

Figure S3. A comparative O1s XPS spectra of (a) RGO and (b) DMBA-RGO

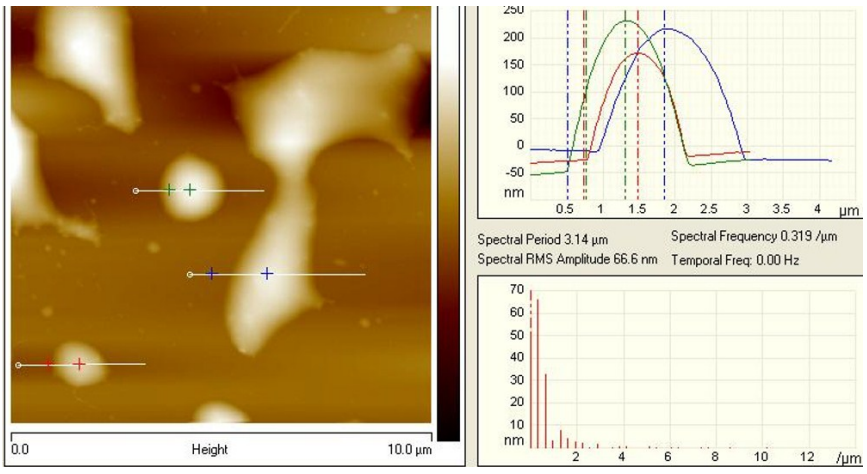

Figure S4. AFM image of the RGO-DMBA/epoxy suspension under low speed spin-coating of 1000 rpm showing composite topography, but not easy to get the information of graphene sheets since it is embedded inside

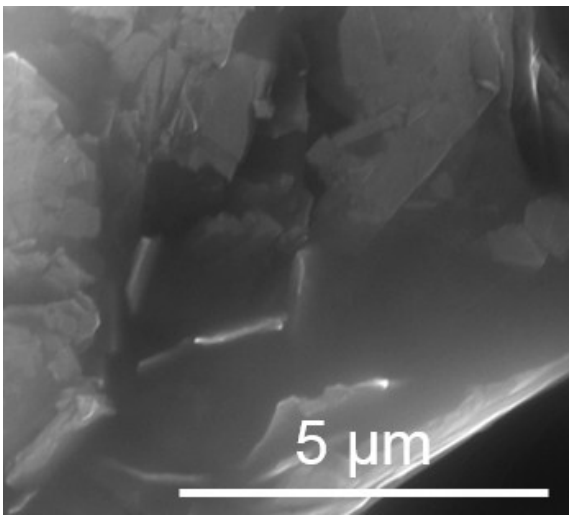

Figure S5. Micrograph of RGO platelets-epoxy composite showing inhomogeneous distribution of stacked RGO clusters in epoxy matrix, it seems separated phase between them

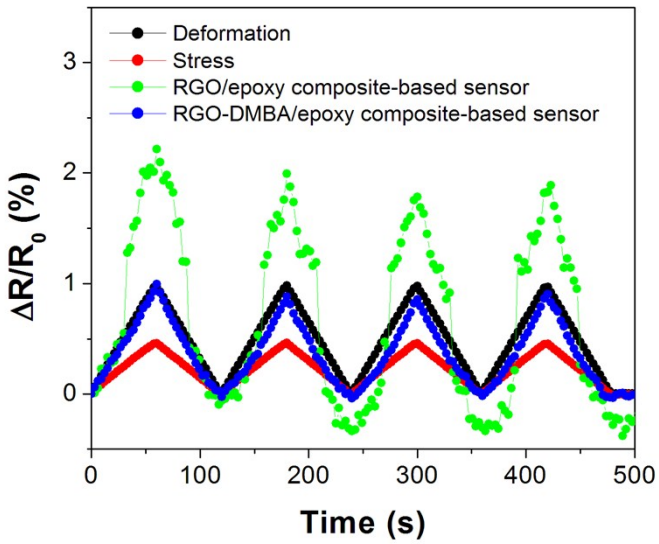

Figure S6. A comparison sensing response test of composite sensor with and without modification of RGO with DMBA hardener. It is showing that RGO/epoxy composite –based sensor responses to applied strain in unstable way and high level of signal to noise ratio, also it has drift between successive cycles. In contrast, RGO-DMBA/epoxy composite-based sensor showed excellent response towards external stimuli