

Electronic Supporting information

Synthesis of functionalized N-doped graphene DNA hybrid material in a deep eutectic solvent

Jitkumar Bhatt, ^{a,b} Dibyendu Mondal, ^{a,b,c} Ranjitsinh V. Devkar, ^d & Kamalesh Prasad * ^{a,b}

^a Natural Products & Green Chemistry Division, CSIR-Central Salt & Marine Chemicals Research Institute, G. B Marg, Bhavnagar-364002 (Gujarat), India. Ph : +91-278-2567760 Fax : +91-278-2567562 [e-mail : kamlesh@csmcri.org / drkamaleshp@gmail.com].

^b AcSIR-Central Salt & Marine Chemicals Research Institute, G. B Marg, Bhavnagar-364002 (Gujarat), India.

^c Present address : CICECO - Aveiro Institute of Materials, Department of Chemistry, University of Aveiro, 3810-193 Aveiro, Portugal

^d Division of Phytotherapeutics and Metabolic Endocrinology, Department of Zoology, Faculty of Science, The M.S. University of Baroda, Vadodara 390 002, Gujarat, India.

Table S1 : Elemental analysis of graphene oxide and N-graphene

Entry	%N	%C	%H	%S
Graphene oxide	0.00	56.10	3.51	0.00
N-Graphene	38.95	43.89	2.69	0.00

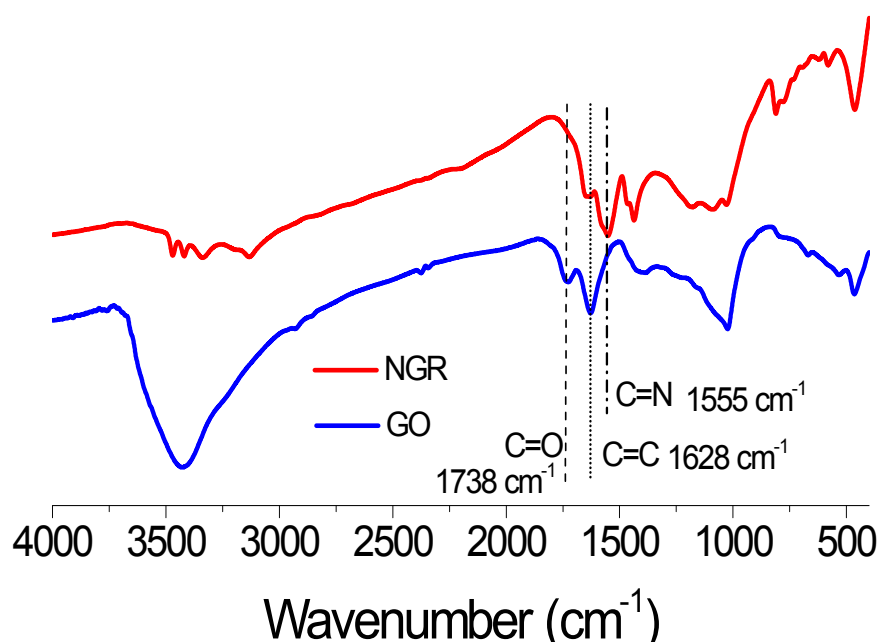


Figure S1 : FT-IR spectra of graphene oxide and N-graphene

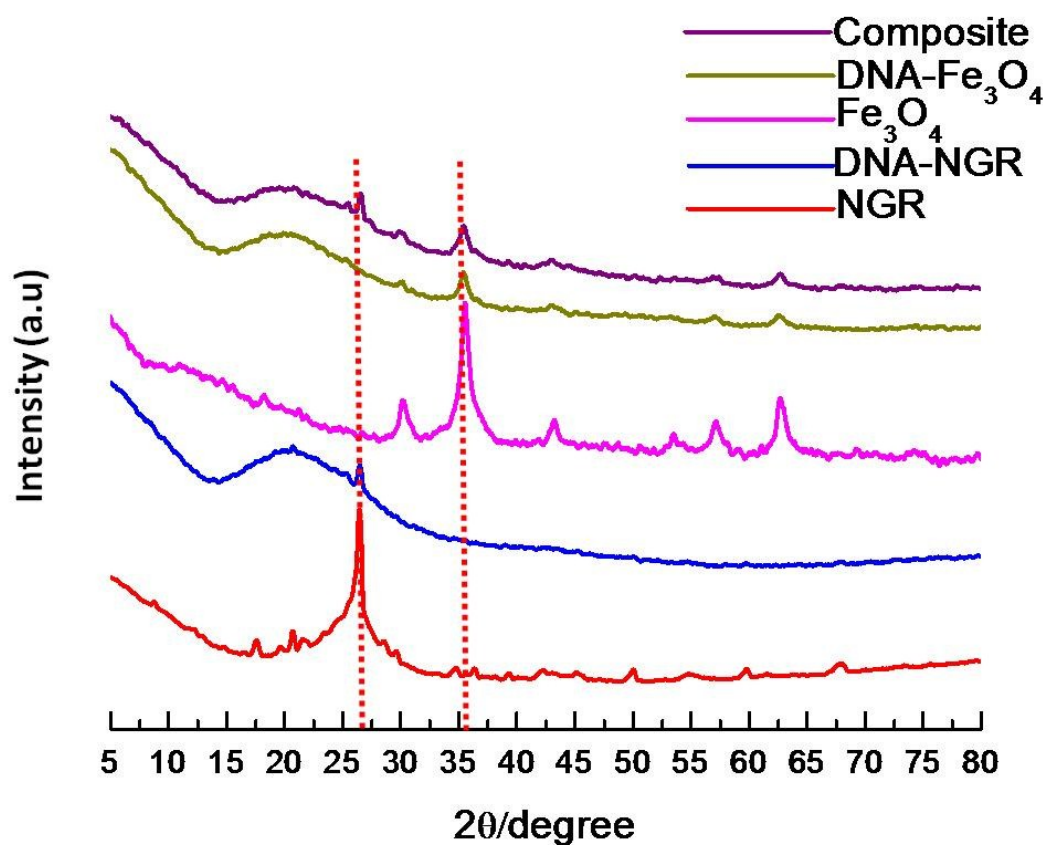


Figure S2 : Comparison of powder XRD profile of the hybrid material with other compositions and standards.

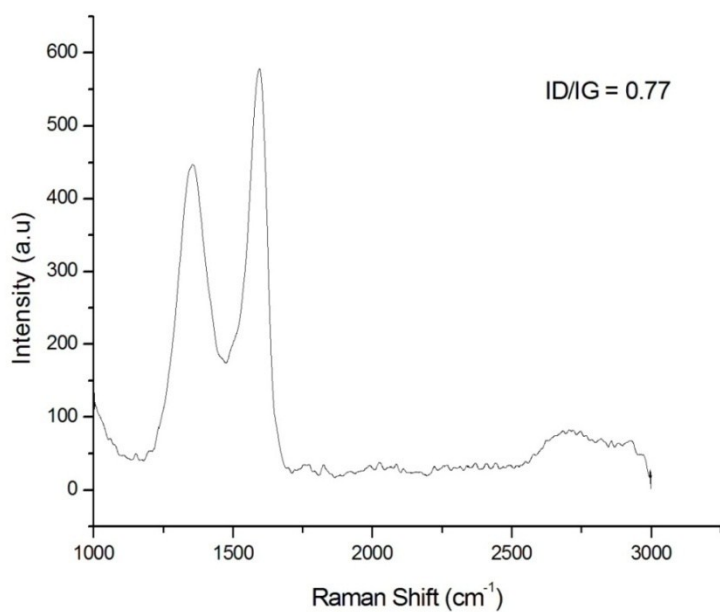


Figure S3 : Raman spectra of graphene oxide

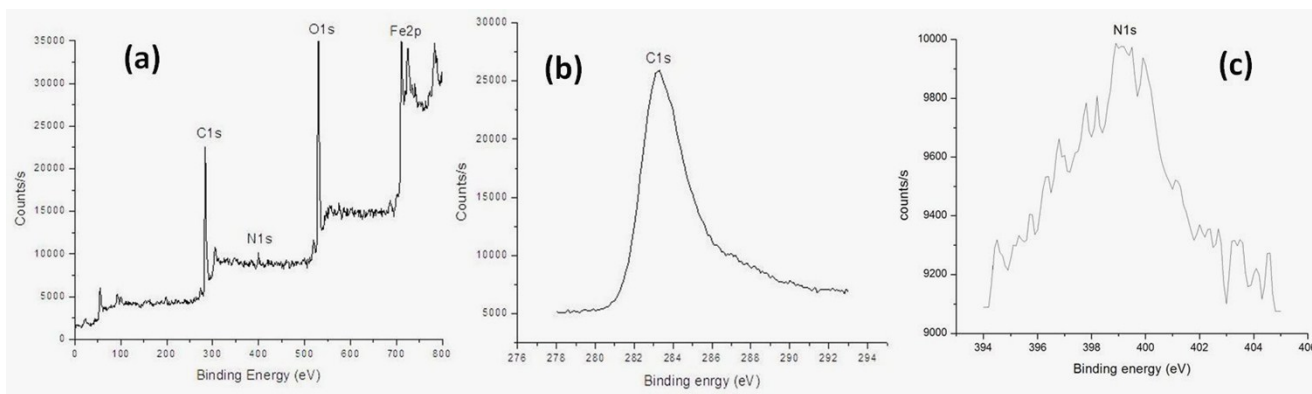


Figure S4 : (a) Survey XPS spectra of N-graphene-DNA hybrid (b) high resolution C1s and (c) N1s spectra of the hybrid material.

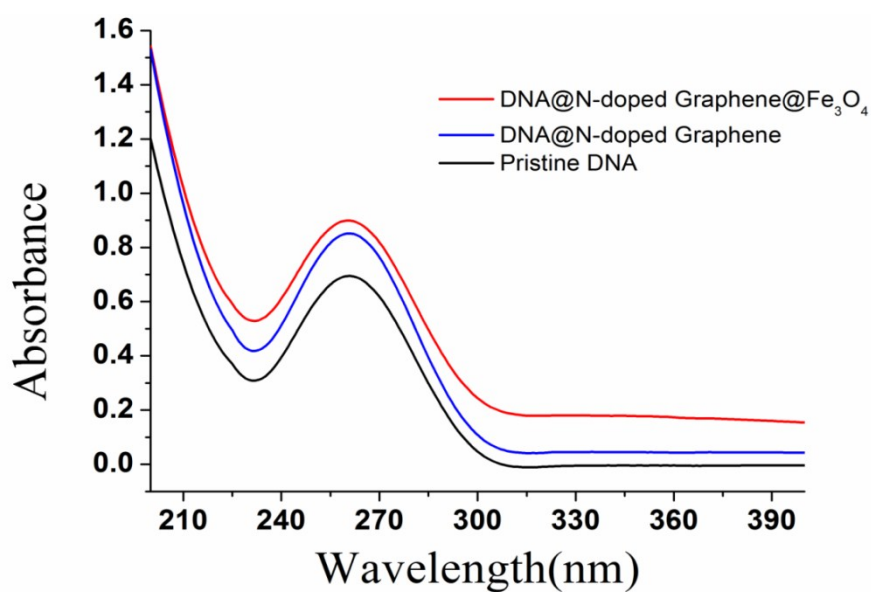


Figure S5 : UV-Vis spectra of standard DNA, DNA + N-graphene and magnetic DNA-N-graphene hybrid material.

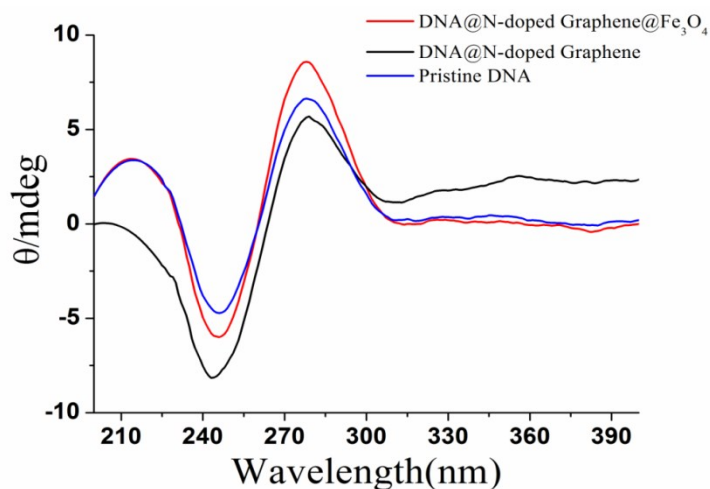


Figure S6 : CD spectra of standard DNA, DNA + N-graphene and magnetic DNA-N-graphene hybrid material.

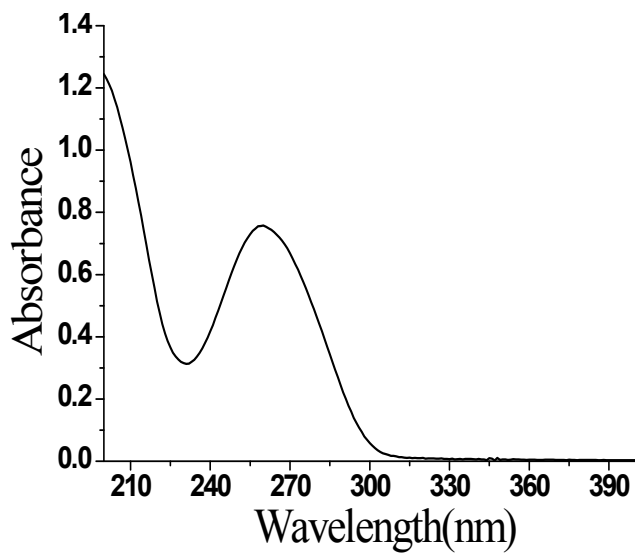


Figure S7 : UV-Vis spectra of hybrid material after six months of storage at room temperature.

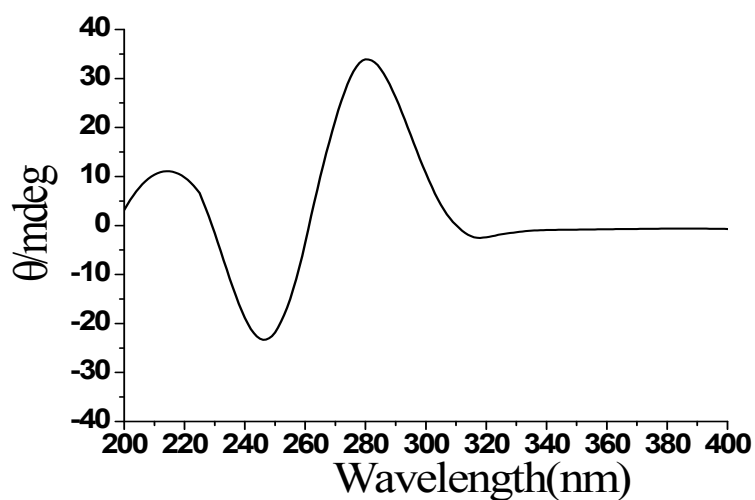


Figure S8 : CD spectra of hybrid after six months of storage at room temperature.

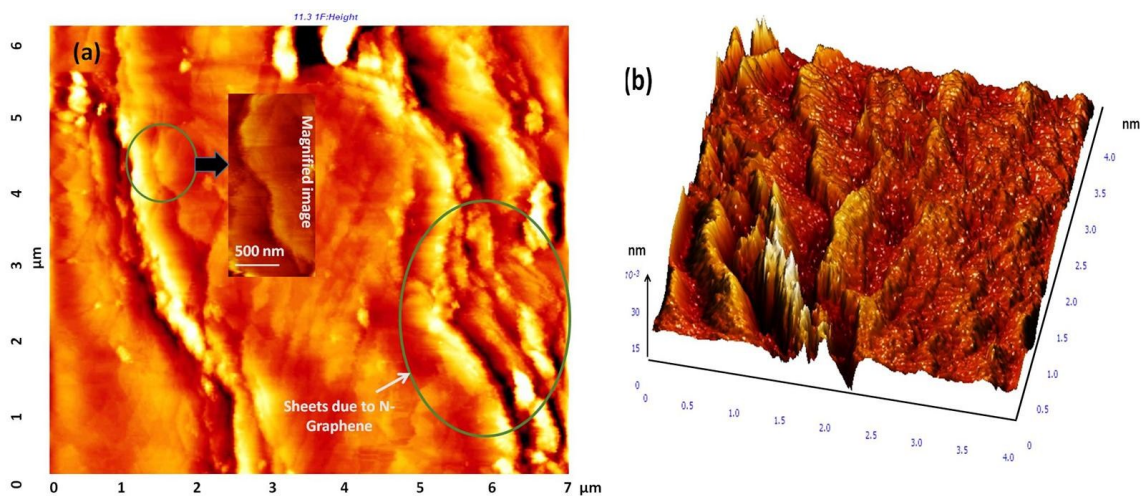


Figure S9 : AFM images of (a) DNA-N-graphene hybrid material and (b) 3D distribution image of the surface.