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## Preparation Graphene oxide-poly(amidoamine) dendrimer nano hybrid material modified electrode for enhancing capacitance

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Due to having unique globular shape and possessing multi functional groups on the periphery, Poly(amidoamine) (PAMAM) dendrimers have drawn great attention in recent years. Likewise Graphene Oxide (GO) has also sparked tremendous interest across many field such as electrochemical, energy and electronic instrument. Nowadays organic-inorganic hybrid materials are being synthesized to be used in highly electroactive material for a better conductivity, dispersion and compatibility. In this study, PAMAM based GO was synthesized from the graphite powder and jeffamine cored 3rd generation dendrimer. The chemical structure of PAMAM dendrimer was studied by Fourier Transform Infrared Spectroscopy (FT-IR) and Nuclear Magnetic Resonance Spectroscopy (NMR). Then GO-PAMAM dendrimer nano hybrid material were prepared by mixing GO suspension and PAMAM solution at various ratios. The chemical functionality, surface morphology and structural property of obtained material were investigated via FT-IR, Scanning Electron Microscopy (SEM) and X-ray diffraction (XRD) respectively. Finally, a glassy carbon electrode was coated with this hybrid-material and its conductivity was measured by cyclic voltammetry (CV), square wave voltammetry (SWV) and differential pulse voltammetry (DPV).

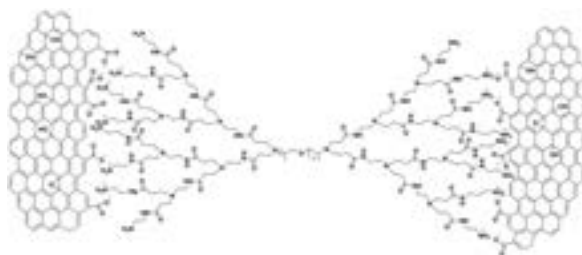


Figure 1. Structure of GO-Jeffamine cored PAMAM

### Biography

Muhammad Nazrul Islam was awarded BS and MS degree in chemistry from University of Chittagong, Bangladesh. Now, he is final year PhD student in organaic chemistry at Yildiz Technical University, Istanbul, Turkey. Previously, he was a lecturer of chemistry at University of Information Technology and Sciences (UITS), Dhaka, Bangladesh. He has published five papers in reputed journals and presented poster and oral in several national and international coferences. His reseach interests are dendrimer, ring opening polymer (romp), conductive polymers, and antibacterial polymers.

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