

Title (1)	:	Magnetic particle-filled polyaniline-doped graphene oxide nanocomposite-based electrode in application of supercapacitor
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Abstract	:	In this study, the electrochemical characteristics of magnetic particle-filled conductive polyaniline-doped graphene oxide nanocomposites (MDiPG) were investigated. The graphene oxide was chemically exfoliated from natural graphite flakes by the modified Hummer's method. The nanocomposite was characterised through thermogravimetric analysis, scanning electron microscopy, transmission electron microscopy and X-ray diffraction. Its electrochemical characteristics were evaluated by cyclic voltammetry and galvanostatic charge/discharge tests. The nanocomposite electrode material was obtained through in situ polymerisation of polyaniline-doped graphene oxide combined with the mixing of a magnetic substance. The supercapacitor cell was composed of symmetric magnetic-derived electrodes, polypropylene separator, and 6M KOH as an electrolyte. The cyclic voltammetry curve study showed a good relation of both materials, where a high specific gravimetric capacitance was achieved at 303 F/g.