Graphene oxide and its electrochemical performance.

ABSTRACT

In this study, graphene oxide (GO) was synthesized from graphite flakes using simplified Hummer's method. Field Emission Scanning Electron Microscopy (FESEM) image showed that the GO nanosheets had an average area 7000 μm2 with lateral dimension of up to 150 μm. The X-Ray Diffraction (XRD) pattern revealed a (002) diffraction peak, signifying the successful synthesis of GO. GO solution was cast on an aluminum (Al) foil placed in a petri dish and left to dry to form an electrode made up of GO film on the Al foil (GO-Al). It was found that GO-Al exhibited equivalent series resistance (ESR) close to that of the Al foil.

Keyword: Capacitance; Electrochemistry; Graphene; Simplified hummer's method.