

## A Green Approach of Preparing Graphene/Polyaniline Electrodes for Supercapacitors

K Zin Htut, 김민재, 이은수, 심상훈†

인하대학교

(seshim@inha.ac.kr†)

Biodegradable chitosan modified graphene/polyaniline nanocomposites was prepared by using modified Hummer's method from graphite flakes. Physical adsorption of chitosan on exfoliated graphene oxide (GO), further reduced by hydrazine hydrate and in-situ polymerized in the presence of aniline monomer.

Graphene has attracted much attention in electrochemical supercapacitors due to its exceptional qualities. However graphene tends to aggregate and restack after reduction, resulted in significant decrease in the surface, consequently leading to poor capacitor performance. Chitosan, a biodegradable linear polysaccharide, acts as a stabilizer to reduce restacking and helps well-dispersion of the graphene sheets after reduction. Polyaniline (PANI) is a promising electrode because of its relatively high conductivity regardless with low cycle life. The combination of high conductive PANI with chitosan modified well-dispersed graphene sheet offers to maximize the capacitance.

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