# Preparation of reduced graphene oxide-templated porous carbon (RGO-TPC) composite by using magnesium ethylene diamine tetra acetate salt applied for high supercapacitor performance

Vu Thi Diem Tuyet, 정진석*
울산대학교
(jschung@mail.ulsan.ac.kr*)

Graphene has got the excellent chemical and physical properties such as strong mechanical strength, extraordinarily high electrical and thermal conductivity, large surface area ($2630\ m^2/g$). Graphene has been widely used as supercapacitor that got the focus of a considerable amount of research in the field of clean energy devices due to the beneficial combination of great mechanical and electrical properties and large surface area. In this study, we synthesized porous nanocomposites electrodes through reduced graphene oxide and magnesium ethylene diamine tetra acetate salt (Mg-EDTA) as soft-templates. Via dispersing ethylene diamine tetra acetic acid and magnesium hydroxide (EDTA-Magnesium) into graphene oxide (GO), EDTA-Magnesium is covalent bonding with GO sheets. The electrodes have got a micro-porous structure with average pore width about of 35 Å and the highest surface area is about of $1567\ m^2/g$ with good capacitance as high as $240\ Fg^{-1}$.