

A modified synthetic method of graphene sheets for reduced restacking effect

노유성¹, 최승목¹, 김영민¹, 임은자¹, 이선화¹, 김원배^{1,2,*}

¹광주과학기술원 신소재공학부;

²광주과학기술원 차세대에너지연구소

(wbkim@gist.ac.kr*)

Graphene receives huge attention due to their large surface area and high electrical conductivity. However, restacking of graphene decreases its unique properties which are observed when they exist as single or few layers. In this study, we produced reduced graphene oxide (RGO) by wet-chemical method with variable reaction condition, trying to reduce the restacking effect of RGO. We compared morphologies and structures of each RGO, which was produced by various conditions, through the scanning electron microscopy and X-ray diffraction. Furthermore, we also investigated electrochemical characteristics of platinum deposited RGO by cyclic voltammetry in acidic condition, to confirm the decreased restacking effect caused by morphology change. [This work was supported by the National Research Foundation of Korea grant funded by the Korea government (MEST) (No. 20120005212 (Mid-career Researcher Program)), and the Global Frontier R&D Program on Center for Multiscale Energy System (0420-20120126)].