

A method of making embossing free-standing RGO film using various silica template

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Graphene has been researched very extensively because of its mechanical, electrical, thermal and optical properties. In this study, we try to make embossing free-standing RGO film to obtain high surface area that is important for supercapacitor. Zeta potential is changed with different pH and decide the surface charge of GO sheets and silica. We control the pH to make proper morphology. We observed the morphology through the scanning electron microscopy and confirm the component of the materials using X-ray diffraction. Additionally we measured the electrochemical properties using cyclic voltammetry with various silica template size. [This work was supported by the National Research Foundation of Korea grant funded by the Korea government (MEST) (No. 2013029776 (Mid-career Researcher Program)), and the Global Frontier R&D Program on Center for Multiscale Energy System (0420-20120126), and the Core Technology Development Program for Next-generation Solar Cells of Research Institute for Solar and Sustainable Energies (RISE), GIST.]