

Surface modified graphene aerogel for adsorption of organic dyes

김한, 박호석*

경희대학교

(phs0727@khu.ac.kr*)

Various types of organic dyes which have some hazardous effects to human beings and the environment because of their toxicity and carcinogenicity have been widely used in many industrial fields. Carbon-based three-dimensional (3D) porous architectures such as carbon nanotubes (CNTs) sponges and graphene-based macrostructures (foam- and sponge-type 3D structures) are regarded as one of the candidates for organic dye removal with their high adsorption capacities, fast kinetics for adsorption, excellent selectivity, and robust mechanical properties. In this research, we explored efficient organic dye (Acid red 1, Methylene blue) adsorption properties of chemically reduced graphene oxide (rGO) aerogel with high specific surface area and significantly enhanced dye-adsorption capability by opening porosity of 3D rGO scaffolds.