

A way to obtain consistent cyclic voltammetry data of carbons and metal-containing carbons

김현중^{1,2}, 서동진^{1,*}, 박태진¹, 임태훈¹, 박형상²
¹한국과학기술연구원; ²서강대학교
(djsuh@kist.re.kr*)

Carbons (activated carbon, carbon blacks, carbon nanotubes, carbon aerogels and mesoporous carbons, etc.) and metal-containing carbons (Pt/C, Ru/C and Ni/C, etc.) have been considered as materials for storage and/or production of electrochemical energy. These materials can be used as electrode materials and/or electrocatalysts for battery cells, capacitive deionization (CDI) processes, supercapacitors and fuel cells. By controlling their electrochemical properties, the resulting electrochemical performances can be improved. Cyclic voltammetry (CV) is a simple tool for obtaining the electrochemical properties such as specific capacitance and electrochemical active surface (EAS) area as an electrode material and an electrocatalyst. However, the CV results obtained by different authors are not consistently reported for the same carbon materials even under the same operating conditions. Here we suggest a simple pre-wetting method using diluted alcohol to obtain consistent CV data of carbons and metal-containing carbons.