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Effect of oxygen-containing surface functional groups of carbon electrodes on the self-discharge of supercapacitors

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Abstract

The mechanism of self-discharge of supercapacitors due to redox reactions of oxygen-containing surface functional groups of the carbon electrode material is discussed. It has been shown that treatment of the carbon material with sodium borohydride or ammonia modification can significantly reduce the self-discharge without loss or with some increase in capacitance characteristics.