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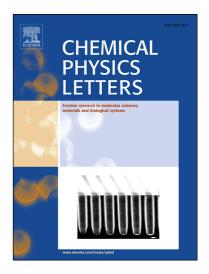
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Electrochemical Properties of Poly(vinyl alcohol) and Graphene Oxide Composite for

Supercapacitor Applications

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ABSTRACT

Poly (vinyl alcohol), PVA, polymer was successfully combined with graphene oxide (GO)

and thermally reduced graphene oxide (RGO), respectively, to make composites and

characterized for supercapacitor applications. PVA-RGO composite shows excellent

electrochemical properties compared to PVA-GO composite. The capacitance of 190 Fg⁻¹ is

obtained from PVA-RGO composite which is larger than that (13 Fg⁻¹) of PVA-GO

composite. Electrochemical impedance of PVA-RGO is more than ten times smaller than that

of PVA-GO at 20 kHz, demonstrating that PVA-RGO composite has a great advantage for

supercapacitor applications compared to PVA, GO, RGO, and PVA-GO composite.

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Keywords: polymer composites, Poly (vinyl alcohol), graphene oxide

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