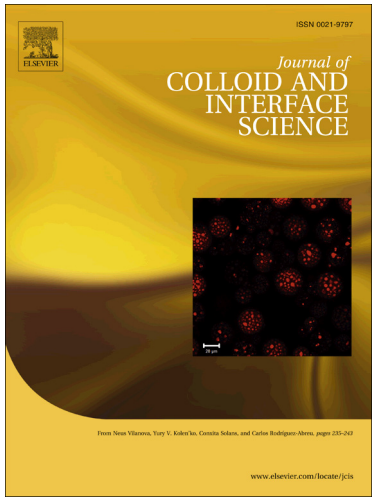

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PII: S0021-9797(16)30193-X
DOI: http://dx.doi.org/10.1016/j.jcis.2016.03.051
Reference: YJCIS 21175

To appear in: *Journal of Colloid and Interface Science*

Received Date: 16 February 2016
Revised Date: 21 March 2016
Accepted Date: 23 March 2016

Please cite this article as: A.A. Yadav, A.C. Lokhande, J.H. Kim, C.D. Lokhande, Supercapacitive properties of nanoporous oxide layer formed on 304 type stainless steel, *Journal of Colloid and Interface Science* (2016), doi: http://dx.doi.org/10.1016/j.jcis.2016.03.051

Supercapacitive properties of nanoporous oxide layer formed on 304 type stainless steel

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Abstract

The nanoporous oxide layer is formed on the surface of 304 type stainless steel (SS) by chemical oxidation method. The characterization of the oxide layer is carried out using X-ray photoelectron spectroscopy (XPS), field-emission scanning electron microscopy (FE-SEM), atomic force microscopy (AFM), contact angle and energy-dispersive X-ray spectroscopy (EDS) techniques. The supercapacitive properties of oxide layer are studied using cyclic voltammetry, galvanostatic charge-discharge and electrochemical impedance spectroscopy techniques.

Keywords*:* Chemical oxidation, Nanoporous, Stainless steel, Supercapacitance

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