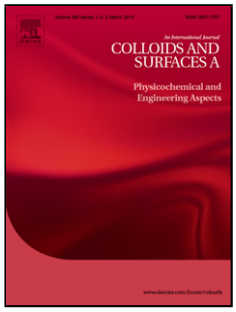

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PII: S0927-7757(18)30459-X
DOI: https://doi.org/10.1016/j.colsurfa.2018.05.083
Reference: COLSUA 22551

To appear in: *Colloids and Surfaces A: Physicochem. Eng. Aspects*

Received date: 9-4-2018
Revised date: 25-5-2018
Accepted date: 28-5-2018

Please cite this article as: Sun Y, Chen H, Xing Y, Mao X, Wang M, Li H, Guo P, Zhao XS, Synthesis of MnO_2 nanowires and their capacitive behavior in aqueous electrolytes containing magnesium ions, *Colloids and Surfaces A: Physicochemical and Engineering Aspects* (2018), https://doi.org/10.1016/j.colsurfa.2018.05.083

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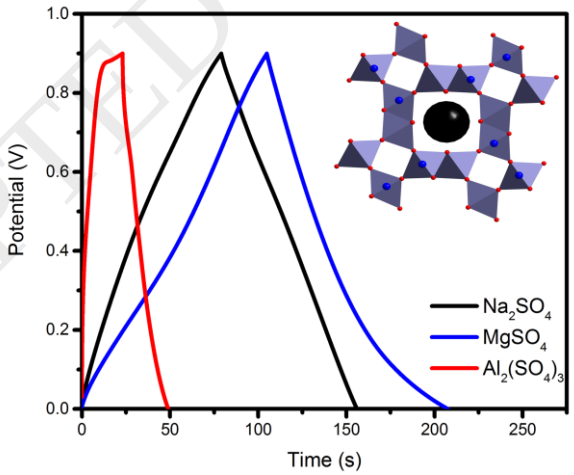
Graphical abstract



Highlights

- MnO_2 nanowires have been synthesized through hydrothermal method.
- MnO_2 nanowires have higher capacitances in Mg^{2+} electrolyte than Na^+ or Al^{3+}.
- Excellent stability of MnO_2 nanowires electrode is observed in $MgSO_4$ electrolytes.