

Accepted Manuscript

Title: Polyvinylidene fluoride grafted poly(styrene sulfonic acid) as ionic polymer-metal composite actuator

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PII: S0924-4247(17)32213-6
DOI: <https://doi.org/10.1016/j.sna.2018.05.038>
Reference: SNA 10799

To appear in: *Sensors and Actuators A*

Received date: 9-12-2017
Revised date: 8-5-2018
Accepted date: 25-5-2018

Please cite this article as: Mehraeen S, Sadeghi S, Cebeci F, Papila M, Gürsel SA, Polyvinylidene fluoride grafted poly(styrene sulfonic acid) as ionic polymer-metal composite actuator, *Sensors and Actuators: A. Physical* (2018), <https://doi.org/10.1016/j.sna.2018.05.038>

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Polyvinylidene fluoride grafted poly(styrene sulfonic acid) as ionic polymer-metal composite actuator

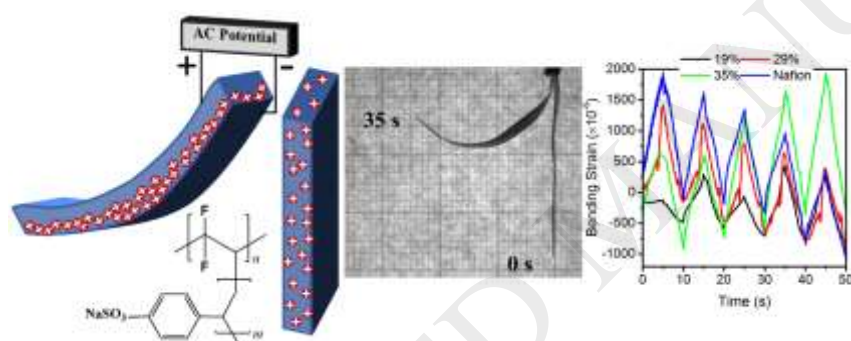
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Graphical abstract



Research Highlights

- PVDF-g-PSSA was demonstrated as an IPMC actuator for the first time in literature.
- Synthesis of PVDF-g-PSSA was performed by a novel, simple and fast method.
- High water uptake and ion exchange capacity of grafted membrane were obtained due to porous microstructure.
- Best actuation performance of IPMC actuator was achieved with 35 wt.% graft level.
- A cheaper alternative to traditional Nafion-based IPMC was developed.

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