

Abstract Submitted  
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**Azobenzene Modified Polymer Electrolyte Membrane for Ion Gating**<sup>1</sup> CAMILO PIEDRAHITA, Univ of Akron, MIREILLE MBALLA, The Pennsylvania State University, RUIXUAN HE, THEIN KYU, Univ of Akron — By virtue of ion concentration gradient across cell membranes, neuron cells are highly polarized driving electrical potential difference (e.g., Gibbs law). To regulate and control ion movement, living cells have specific channels with gates that are permeable to cations, enabling or excluding them via charge polarity and size. This mechanism for generating and transmitting signals from one neuron to another controls body movement via brain function. By virtue of trans-cis isomerization, azobenzene derivative (AZO) has been heavily sought for ion-gating in biological cells as a means of signal generation and transmission through nervous systems. In this work, PEM consisted of PEGDA/SCN/LiTFSI was modified with AZO derivatives for gating of lithium ions. At low concentrations of azobenzene of 3 wt

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