

Abstract Submitted  
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**Characterization of the Pseudocapacitive Nature of Surface Bound Prussian Blue Analogues<sup>1</sup>** DANIEL CLARK, JENNIFER HAMPTON, Hope College — With the increased use of intermittent renewable energy sources, more efficient methods of energy storage must be explored. Electrochemical capacitors provide a larger volumetric charge density than physical capacitors while maintaining fast charge and discharge rates. Prussian Blue analogues (nickel and cobalt hexacyanoferrate) are ideal pseudocapacitors for frequent charge and discharge cycles since the crystalline structure does not physically change during switching, causing less stress on the film. This project examines the charge transfer and diffusion coefficients for nickel and nickel-cobalt thin films modified with potassium hexacyanoferrate. The films were examined using a scanning electron microscope, an atomic force microscope and an electrochemical workstation to determine their composition, topography and pseudocapacitive nature. Preliminary data suggest that nickel-cobalt films have a larger quantity of charge and have a lower diffusion coefficient per charge than nickel films.

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