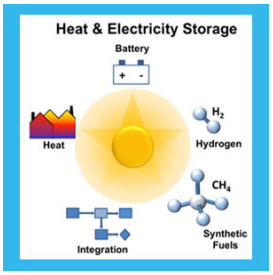


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# Layer-by-Layer Assembly of Ruthenium Complex Ultrathin Films for Electrochemical Pseudocapacitor Applications

*Tuesday 4 November 2014 12:00 (1h 15m)*

The bottom–up assembly of functional nanoscale architectures from molecular components at the electrode surface has attracted much interest in the advancement of nano-technology and surface science. Particularly, the chemistry of surface modification by self-assembled monolayers (SAM) or by layer-by-layer (LbL) growth are highly promising approaches to construct two-dimensional (2D) and three-dimensional (3D) molecular systems on surfaces for various molecular electronics applications.1
Ultrathin films of Ruthenium complex were prepared on ITO surfaces by employing the LbL assembly. We demonstrate that these Ru complex thin films have a very well controlled thickness (few hundred nanometers, characterized by using AFM and Raman spectroscopy) and have relatively stable electrochemical redox characteristics (CV, galvanostatic charge-discharge, in-situ Raman spectroscopy), which are ideal characteristic features for thin film electrochemical pseudocapacitor applications.2
References:
1. M-A. Haga et al., Coordination Chemistry Reviews. 251 (2007) 2688–2701.
2. H. Dai et al., Journal of American Chemical Society, 132 (2010), 7472–7477.

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