

Abstract Submitted  
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**Interactions between model bacterial membranes and synthetic antimicrobials.** LIHUA YANG, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, ABHIJIT MISHRA, Dept of Materials Science and Engineering, University of Illinois at Urbana-Champaign, ABHIGYAN SOM, GREGORY N. TEW, Department of Polymer Science and Engineering, University of Massachusetts, GERARD C.L. WONG, Department of Materials Science and Engineering, Department of Physics, Department of Bioengineering, University of Illinois at Urbana-Champaign — Antimicrobial peptides comprise a key component of innate immunity for a wide range of multicellular organisms. It has been shown that natural antimicrobial peptides and their analogs can permeate bacterial membranes selectively. There are a number of proposed models for this action, but the detailed molecular mechanism of the induced membrane permeation remains unclear. We investigate interactions between model bacterial membranes and a prototypical family of phenylene ethynylene-based antimicrobials with controllable hydrophilic and hydrophobic volume fractions, controllable charge placement. Preliminary results from synchrotron small angle x-ray scattering (SAXS) results will be presented.

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