Abstract Submitted
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Molecular target of synthetic antimicrobial oligomer in bacterial membranes LIHUA YANG, VERNITA GORDON, Dept. of Materials Science and Engr., Univ. of Illinois at Urbana-Champaign, ABHIGYAN SOM, Dept. of Polymer Science and Engr., Univ. of Massachusetts, Amherst, JOHN CRONAN, Dept. of Biochemistry and Microbiology, Univ. of Illinois at Urbana-Champaign, GREGORY TEW, Dept. of Polymer Science and Engr., Univ. of Massachusetts, Amherst, GERARD WONG[1], Dept. of Materials Science and Engr., Univ. of Illinois at Urbana-Champaign, GERARD WONG'S RESEARCH GROUP TEAM[2], GREGORY TEW TEAM[3], JOHN CRONAN COLLABORATION — Antimicrobial peptides comprises a key component of innate immunity for a wide range of multicellular organisms. It has been shown that natural antimicrobial peptides and their synthetic analogs have demonstrated broad-spectrum antimicrobial activity via permeating bacterial membranes selectively. Synthetic antimicrobials with tunable structure and toxicological profiles are ideal for investigations of selectivity mechanisms. We investigate interactions and self-assembly using a prototypical family of antimicrobials based on phenylene ethynylene. Results from synchrotron small angle x-ray scattering (SAXS) results and in vitro microbicidal assays on genetically modified 'knock-out' bacteria will be presented.

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