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Detergent Stabilized Nanopore Formation Kinetics of an Anthrax Protein KELBY PETERSON, Utah State University — This summer research project funded through the Society of Physics Students Internship Program and The National Institute of Standards and Technology focused on optimization of pore formation of Protective Antigen protein secreted by Bacillus Anthraces. This experiment analyzes the use of N-tetradecylphosphocholine (FOS-14 Detergent) to stabilize the water soluble protein, protective antigen protein (PA63) to regulate the kinetics of pore formation in a model bilayer lipid membrane. The FOS-14 Detergent was tested under various conditions to understand its impact on the protein pore formation. The optimization of this channel insertion is critical in preparing samples of oriented for neutron reflectometry that provide new data to increase the understanding of the protein's structure.

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