

Abstract Submitted
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Nano-structured metallic amyloid fibril networks KIERSTEN BATZLI, BRIAN LOVE, University of Michigan, Department of Materials Science and Engineering — Amyloid proteins form high aspect ratio fibrillar structures with great chemical and physical stability under specific conditions. By examining the produced networks as novel materials we can envision uses for these high aspect ratio fibrillar structures. Produced fibril networks can be used as templates for the creation of high surface area metallic meshes that may be of use as catalysts or in electronic applications. We have formed fibrillar networks from porcine insulin and have characterized them by TEM, showing that by varying environmental conditions, such as strain rate, the resulting network morphologies may be influenced. We have used electroless deposition techniques to coat insulin fibrils with platinum to produce metallized networks thought to have high catalytic activity. We will present our experience using these coated fibrils to facilitate the reduction of nitrophenol to aminophenol using UV-visible spectroscopy as a gauge.

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