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Confined and directed polymer crystallization at liquid/liquid interface. CHRISTOPHER LI, HAO QI, MARK STAUB, Department of Materials Science and Engineering, Drexel University, Philadelphia, PA, MATERIALS SCIENCE TEAM — A curved space is intrinsically incommensurate with 3D translational symmetry. In this presentation, we will discuss the growth and structure of polymer single crystals confined in and directed by curved liquid/liquid interface using a miniemulsion crystallization method. We will use the name "crystalsome" to describe this unique structure because they are formed by polymer lamellar crystals and their structure mimics liposomes and polymersomes. Crystal structure and polymer chain packing have been systematically investigated using electron diffraction and wide angle X-ray diffraction. It has been found that the crystallinity and crystallite sizes are significantly affected by the radius of curvature. Atomic force microscopy measurement demonstrated a two ? three orders of magnitude increase in bending modulus compared with conventional polymersomes.

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