

Abstract Submitted
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Self-Assembly of Colloidal Membranes EDWARD BARRY, ZVON-
IMIR DOGIC, Brandeis University — Symmetric monolayer membranes are ob-
served to self-assemble in a colloidal suspension of hard rods with soft attractions.
This attractive component to the interaction is enough to drive the self-assembly
of stable two dimensional fluid-like surfaces of rods. Simultaneous measurements
are made at both the molecular, via direct imaging of individual fluorescently la-
beled particles, and the continuum length scales. At the continuum scale, the elastic
Hamiltonian for a two dimensional fluid-like surface is verified for a symmetric mono-
layer, and measured material constants such as the bending modulus and the area
compression modulus are demonstrated to obey a simple elastic relationship.

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