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**Chiral Self-Assembly of Rodlike Viruses** EDWARD BARRY, ZVONIMIR DOGIC, ROBERT MEYER, Brandeis University, ROBERT PELCOVITS, Brown University, RUDOLF OLDENBOURG, Marine Biological Laboratory — The self-assembly of two dimensional achiral membranes which occurs in entropic mixtures of monodisperse colloidal rods and non-adsorbing polymers will be described. The colloidal nature of the rod/polymer model system enables us to simultaneously examine the behavior of self-assembled membranes at both the molecular and continuum lengthscales. Combining observations made at the very different lengthscales, we investigate how chirality frustrates assembly of achiral 2D membranes altogether, and instead drives the formation of very complex and highly regular chiral structures. Representative structures obtained through chiral self-assembly include: twisted ribbons, double helices, two dimensional analogs of a TGB phase, and regular arrays of pores embedded within a 2D membrane.

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