

Abstract Submitted
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Evolution of multicompartment micelles to mixed corona micelles¹ CHUN LIU, ZHIBO LI, MARC HILLMYER, TIMOTHY LODGE, Univ of Minnesota-Twin Cities — Multicompartment micelles, self-assembled nanoscopic aggregates with subdivided solvophobic cores, have received great interest recently. This novel type of micelle was first realized by the micellization of triptych triblock copolymers—u-EOF (E: polyethylene; O: polyethylene oxide; F: polyperfluoropropylene oxide) in aqueous solutions. u-EOF micelles with the cores consisting of E and F blocks underwent a gradual transition from nanostructured vesicles to segmented worms, and finally to multicompartment “hamburgers” as the ratio of the hydrophilic O block to the hydrophobic E/F block increased. Herein, we report on the further manipulation of their structures via the introduction of a second solvent—tetrahydrofuran (THF), which is selective for both E and O blocks. As THF content increases, the micelles evolve from multicompartment micelles to mixed corona micelles with corresponding morphological changes, as evidenced in cryogenic transmission electron microscopy and dynamic light scattering.

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