

Transition of Reverse Cylindrical Micelles into Reverse Vesicles from Mixtures of Lecithin and Chloride salts in Cyclohexane

이화진, 이희영†

금오공과대학교

(lhysshr@kumoh.ac.kr†)

It is known that two-tailed surfactants (lipids) such as lecithin can form diverse self-assembled structures such as micelles and vesicles in water. Compared to the self-assembly of lipids in water, reverse self-assembly of lipids is much less known. Especially, the bilayer structures in organic solvents called as reverse vesicles are rarely studied due to the difficulty in the synthesis of molecules to create the reverse vesicles. In this study, we show a simple and reliable route to make the transition of reverse cylindrical micelles into reverse vesicles by mixtures of lecithin and chloride salts (TMACl, TEACl, CaCl₂, MgCl₂, AlCl₃, LaCl₃) in cyclohexane. The reason why the transition occurs is that the salts can change the critical packing parameter (CPP) of lecithin. Such a transition was confirmed by Small-angle X-ray scattering (SAXS) and dynamic light scattering (DLS).