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Equilibrium structure and phase separation in lipid mixture from dissipative particle dynamics simulations JINSUO ZHANG, YI JIANG, Los Alamos National Laboratory — Amphiphilic lipid molecules self assemble in aqueous solutions to form various structures interesting to both biological and engineering applications. We use dissipative particle dynamics simulations to investigate the equilibrium structures of lipid assemblies and map out their phase diagram. In addition, we study the effect of phase separation in two-lipid mixtures and report the resulting shape deformation and transition between micelles, micellar disks, micellar cylinders, bilayers and vesicle.

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