

# Ordering of surfactant molecules [ts150]

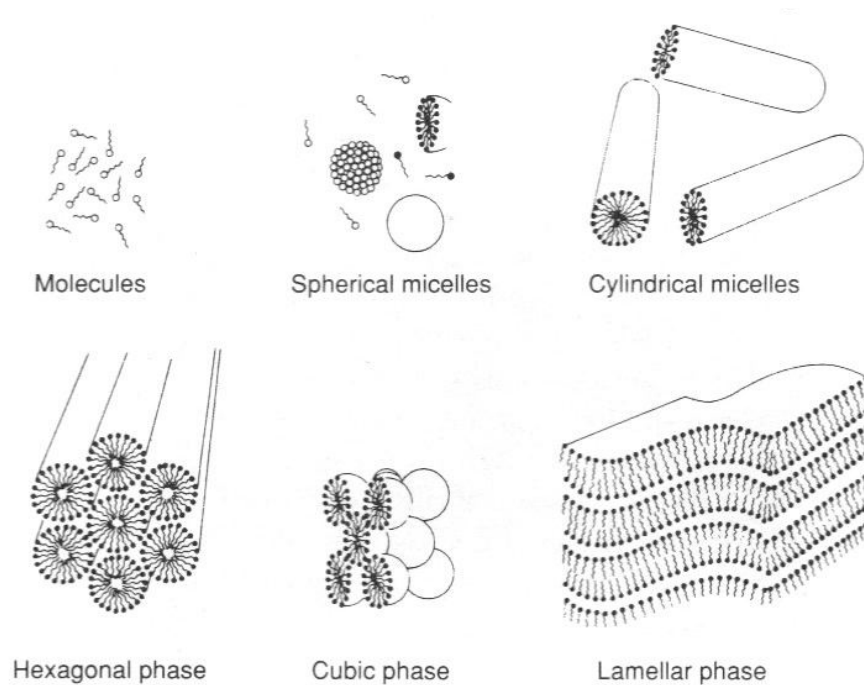
Surfactant molecules have highly soluble polar heads and barely soluble hydrocarbon tails. Increasing the surfactant concentration produces a succession of structures.

Cylindrical micelles have translational short-range order along the axis.  
Amphiphilic bilayers have translational short-range order in the plane.

Hexagonal phase has 1D short-range order and 2D long-range order.

Lamellar phase has 2D short-range order and 1D long-range order.

Cubic phase has 3D long-range order on mesoscopic scale.



[from Yeomans 1992]