3.091 Solid State Chemistry: Week 16

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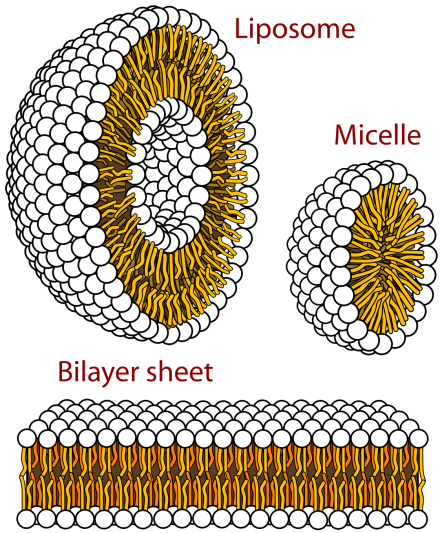
Progress Update

Over the past week I have been introduced to:

1. Surfactants & Molecular Aggregation
2. Acids & Bases

Surfactants

Surfactants are materials that lower surface tension of some other fluid, such as water; surfactants group together and take on certain shapes to do such a thing:



Let a_0 be the cross sectional area of a surfactant, l_0 be the length of the tail, and V_0 be the volume of the tail; then, find the value of $V_0/(l_0 \cdot a_0)$.

Acids & Bases

A few different definitions of acids and bases exist:

1. Broensted-Lowry: Acids are proton donors, bases are proton acceptors.
2. Lewis: Acids are electron acceptors, Bases are electron donors.

For a reaction like

$$HA + H_2O = H_3O^+ + A^-, \tag{1}$$

HA and A^- are a conjugate acid-base pair, and so on.