

# Vesicles to the Rescue!

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Emulsions, which are frequently encountered in mayonnaise, milk, and skin care products, have potential drug delivery capacities. Emulsions are either single or many droplets of water inside another droplet of oil. In this case, double emulsions are of interest since they have a water droplet inside another oil one suspended in another solution of water. By drying the oil droplets made of skin lipids, double emulsions can form small lipid vesicles called liposomes. The vesicles are made from common skin lipids- palmitic acid, cholesterol, and ceramide -found in the uppermost layer of the skin. They require silica particles to stabilize the emulsion droplets to produce spiky vesicle structures. Permeability and morphology studies on the liposomes will lead to more understanding on these vesicles to deliver drugs and how the molecules can enter the skin.

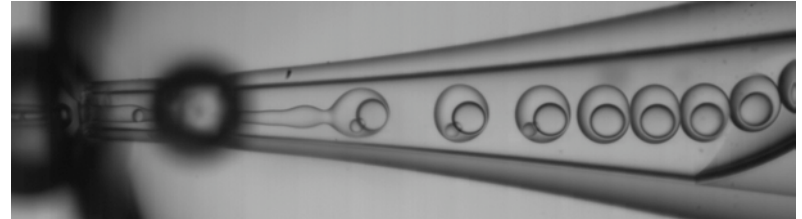


Figure 1: Double emulsions are formed by glass microcapillary glass.

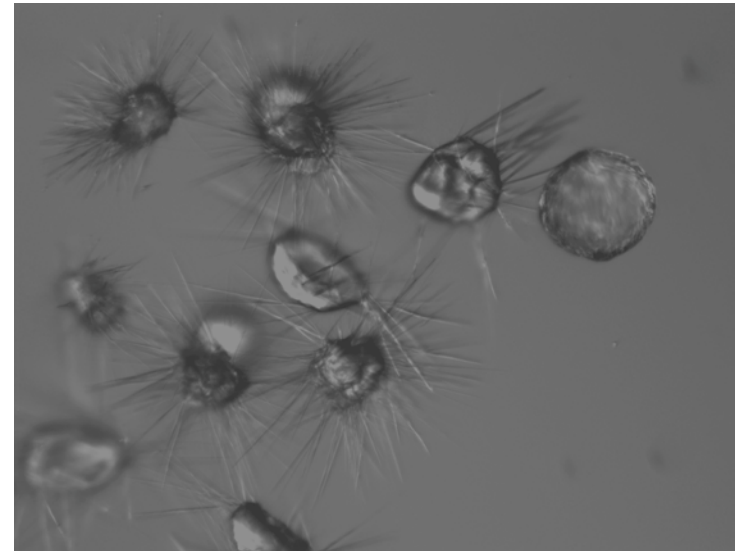


Figure 2: Spiky Vesicle formed under a minute.