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Dripping Cylindrical Double Emulsions JIAWEI YANG, LAURA ADAMS, DAVID WEITZ, Harvard University — Not all drops drip from the orifice of a faucet or capillary as spherically shaped drops. By encapsulating water drops inside an ultra thin sheath of oil, cylindrically shaped drops emerge. A stability theory is presented which describes not only the volume of the ultra thin sheath, but also the flow velocity conditions under which cylindrical drop formation is possible. We compare our theoretical model to time-dependent dynamics of drop formation that is captured experimentally with a fast camera and imaged through a microfluidic device.

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