Drop evaporation and film spreading occur simultaneously when a submillimeter oil-in-water emulsion drop is deposited on a solid surface. Due to the special morphology of the droplet, the thin film follows a multilayer spreading. In combination with the film instability, the spreading droplet acquires a flower-like pattern, the evolution of which depends on the wettability of the surface.

Blooming of Emulsion Drops during Evaporation

Teng Dong¹, Kristo Kotsi¹, Kobayashi Takeshi¹, A. Moriarty¹, Ian Mc Robbie², Striolo, Alberto¹,², Panagiota Angeli¹

¹ThAMeS Multiphase, University College London, WC1E 7JE, UK.
²School of Chemical, Biological and Materials Engineering, The University of Oklahoma, USA.
³Innospec Ltd. Oil Sites Road, Ellesmere Port, Cheshire, CH65 4EY, UK.