

Abstract Submitted
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Double emulsions in a microfluidic device NICOLAS PANNACCI, THIBAUT LOCKHART, HERVÉ WILLAIME, PATRICK TABELING, MMN, ESPCI — Double emulsions (emulsion of two liquids dispersed in a third liquid phase) are widely used in cosmetics, medicine or food industry. We are interested in producing very well controlled double emulsions in a microfluidic device and predicting the morphology (complete engulfing, non-engulfing or partial engulfing called “janus”) from classical energetic considerations. We use a double flow focusing geometry with a 100 micrometers cross section for the PDMS microsystem. We compare theoretical and experimental morphologies flowing thirty triplets of immiscible fluids. We observe quite a good agreement and show that microfluidic technology may permit to get non standard objects.

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