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Role of Dimensionality in the Pinch-off and Coalescence of Thin Liquid Alkane Lenses Floating on Water J.C. BURTON, P. TABOREK, University of California, Irvine — We present high-speed videos of the pinch-off and coalescence of thin liquid alkane lenses floating on water. Pinch-off in quasi-2D lenses is distinctly different from pinch-off in 3D drops, and involves a cascade of satellite droplets which extends to micron length scales. In contrast, coalescence of lenses is very similar to coalescence of 3D drops. Coalescence is predicted to involve entrainment of the exterior fluid as the droplets merge. This reentrant folding is obscured in 3D droplets, but is clearly visible in coalescence of thin lenses.

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