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Self assembly of droplets under shear BINGQING SHEN, MATHILDE REYSSAT, PATRICK TABELING, ESPCI CNRS — We produce droplets of colloidal size in microfluidic systems, using step emulsification generators. The mechanism of generation allows to produce droplet clusters under control. These clusters evolve in the presence of a shear. At small shears, and for adhesive droplets, the clusters adopt equilibrium configurations that maximize the number of contact points, consistently with observations made in fluids at rest. At larger shear, we observe a rich variety of configurations, stationary, long-live or oscillatory.

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