

Supplementary Information

Phase behavior and morphology of multicomponent liquid mixtures

Sheng Mao,^a Derek Kuldinow,^{a,b} Mikko P. Haataja,^{*a,c} and Andrej Košmrlj^{*a,c}

^a *Department of Mechanical and Aerospace Engineering, Princeton University, Princeton, NJ, 08544.*

^b *Department of Mechanical Engineering and Materials Science, Yale University, New Haven, CT 06511.*

^c *Princeton Institute of Science and Technology of Materials (PRISM), Princeton University, Princeton, NJ 08544.*

* *Corresponding authors: mhaataja@princeton.edu, andrej@princeton.edu*

Supplementary Video 1: Moving cuts through the phase diagram for the 4-component mixture displayed in Fig. 3.

Supplementary Video 2: Temporal evolution of “pearled-chain”-like structures displayed in Fig. 7.

Supplementary Video 3: Temporal evolution of 4-phase “Russian doll” droplets displayed in Fig 8c.

Supplementary Video 4: Moving cuts through the structure for the 5-phase “Russian doll” droplets displayed in Fig. 11a.

Supplementary Video 5: Moving cuts through the structure for the encapsulated triplets displayed in Fig. 11b.

Supplementary Video 6: Moving cuts through the structure for the encapsulated emulsions displayed in Fig. 11c.

Supplementary Video 7: Moving cuts through the structure for the emulsions displayed in Fig. 11d.