

Abstract Submitted
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Polymersomes with Salt-Induced Leaflet Rearrangement YOON

KYEUNG LEE, Chemistry department, University of Illinois-Urbana Champaign, CHANGQIAN YU, STEVE GRANICK, Material science and engineering department, University of Illinois-Urbana Champaign — Polymersomes, composed of two leaflets of amphiphilic diblock copolymers, become unstable when presented with external stimuli such as osmotic perturbation and invasive ions. Here, using a home-built hydrogel-based microfluidic device, we quantify their shape transformations in response to fine-tuning of the local ionic environment. We demonstrate a model system involving PBD-PEO (polybutadiene-co-polyethylene oxide). Inward budding of these polymersomes reflects difference of surface area between inner and outer leaflets rather than the conventional osmotic imbalance.

Yoon Kyeong Lee
Chemistry department, University of Illinois-Urbana Champaign

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