Supporting Information

Spherical Nanovesicles Transform into a Multitude of Nonspherical Shapes

Rikhia Ghosh$^{\perp}$, Vahid Satarifard$^{\perp}$, Andrea Grafmüller, and Reinhard Lipowsky*
Theory and Bio-Systems, Max Planck Institute of Colloids and Interfaces, Science Park Golm, 14424 Potsdam, Germany

September 24, 2019

Movie Captions

Movie S1. Shape transformation of a nanovesicle with $N_{\text{il}} = 4400$ and $N_{\text{ol}} = 5700$ lipid molecules in the inner and outer leaflet of the vesicle membrane. The initial vesicle at time $t = 0\,\mu\text{s}$ has a spherical shape with volume parameter $\nu = 1$ corresponding to $N_{\text{W}}^{\text{isp}} = 90\,400$ enclosed water beads. The video displays four successive deflation steps from volume $\nu = 1.0$ to $\nu = 0.95$, from $\nu = 0.95$ to $\nu = 0.9$, from $\nu = 0.9$ to $\nu = 0.85$, and from $\nu = 0.85$ to $\nu = 0.8$, with a total run time of $138.5\,\mu\text{s}$. The final shape is a stomatocyte, compare Figure 1a in the main text.

Movie S2. Shape transformation of a nanovesicle with $N_{\text{il}} = 3800$ and $N_{\text{ol}} = 6300$ lipid molecules in the inner and outer leaflet of the vesicle membrane. The initial vesicle at time $t = 0\,\mu\text{s}$ has a spherical shape with volume parameter $\nu = 1$ corresponding to $N_{\text{W}}^{\text{isp}} = 90\,400$ enclosed water beads. The video displays a single deflation step from $\nu = 1$ to $\nu = 0.8$, with a total runtime of $50\,\mu\text{s}$. The final shape is a dumbbell with a closed membrane neck, compare Figure 1d in the main text.