Supplemental Material:
The shape of cleaved tethered membranes

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I. RADIUS OF GYRATION AS A FUNCTION OF SYSTEM-SIZE

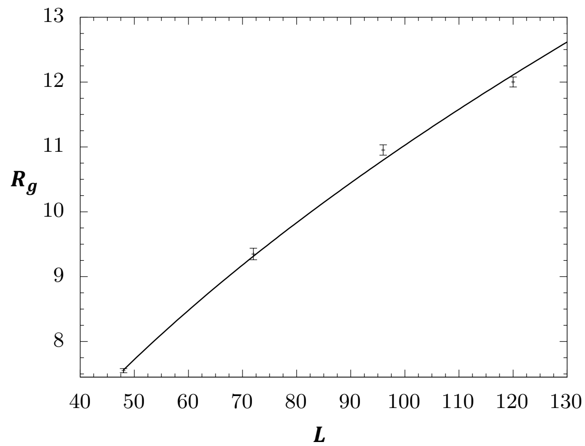

FIG. S1. Power law fit of the radius of gyration R_{g} of an ideal cleaved membrane as a function of the lateral size of the membrane, L. The fit has follows the functional form $R_{\mathrm{g}} \sim L^{\nu}$, where $\nu = 0.51(1)$, consistent with ideal polymers. Here, the edge-width d_e and strip-width w were both equal to 2, while $\kappa = k_{\mathrm{B}}T$.

II. MASTER CURVE WITH DIFFERENT κ SCALING

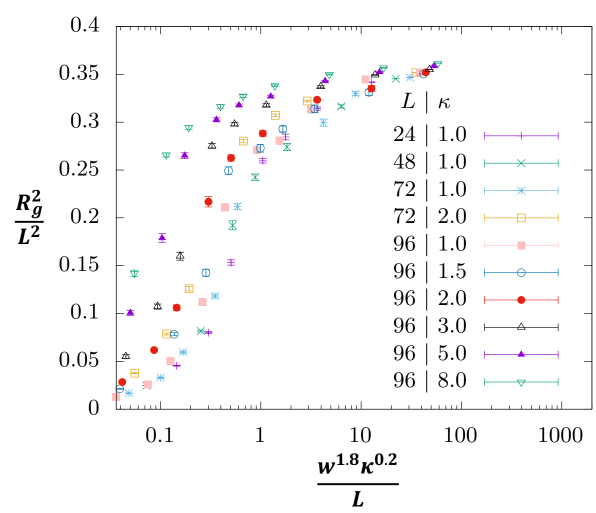

FIG. S2. The collapse of the rescaled radius of gyration as a function of $w^{1.8}\kappa^{0.2}/L$ for different system-sizes L, bending constants κ and strip-widths w, as in reference [1]. It should be noted that this scaling parameter with $\kappa^{0.2}$ does not produce as satisfactory of a collapse as compared to when $\kappa^{1.5}$ for our data (see Fig. 3). In all cases, the edge-width d_e is set to be 2.

III. ASPHERICITY AS A FUNCTION OF STRIP-WIDTH

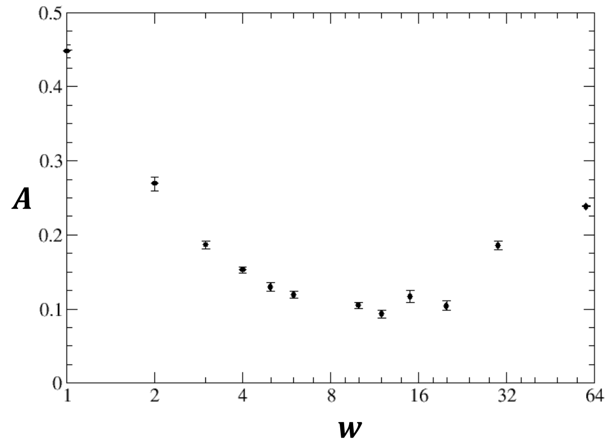

FIG. S3. Linear-log plot of self-avoiding cleaved membrane asphericity A as a function of w. Here, $L = 60$ and $d_e = 1$.

IV. RADIUS OF GYRATION AS A FUNCTION OF EDGE-WIDTH

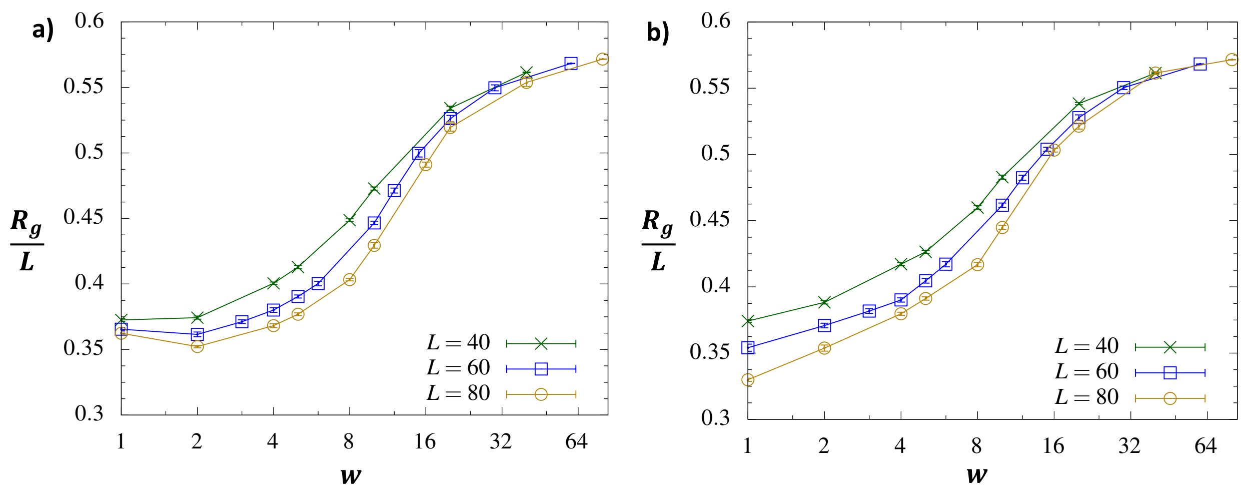

FIG. S4. Linear-log plots of R_g/L as a function of the strip width, w, for self-avoiding cleaved membranes of different side lengths L. The d_e were set to be (a) 2 or (b) 4.

[1] D. Yllanes, S. S. Bhabesh, D. R. Nelson and M. J. Bowick, *Nature communications*, 2017, **8**, 1381.