

Supporting Information

Mechanical Properties of Block Copolymer Vesicle Membranes by Atomic Force Microscopy

Qi Chen, Holger Schönherr^{✉,*} and G. Julius Vancso*

Department of Materials Science and Technology of Polymers, University of Twente, MESA⁺ Institute

for Nanotechnology, Postbus 217, 7500 AE Enschede, The Netherlands

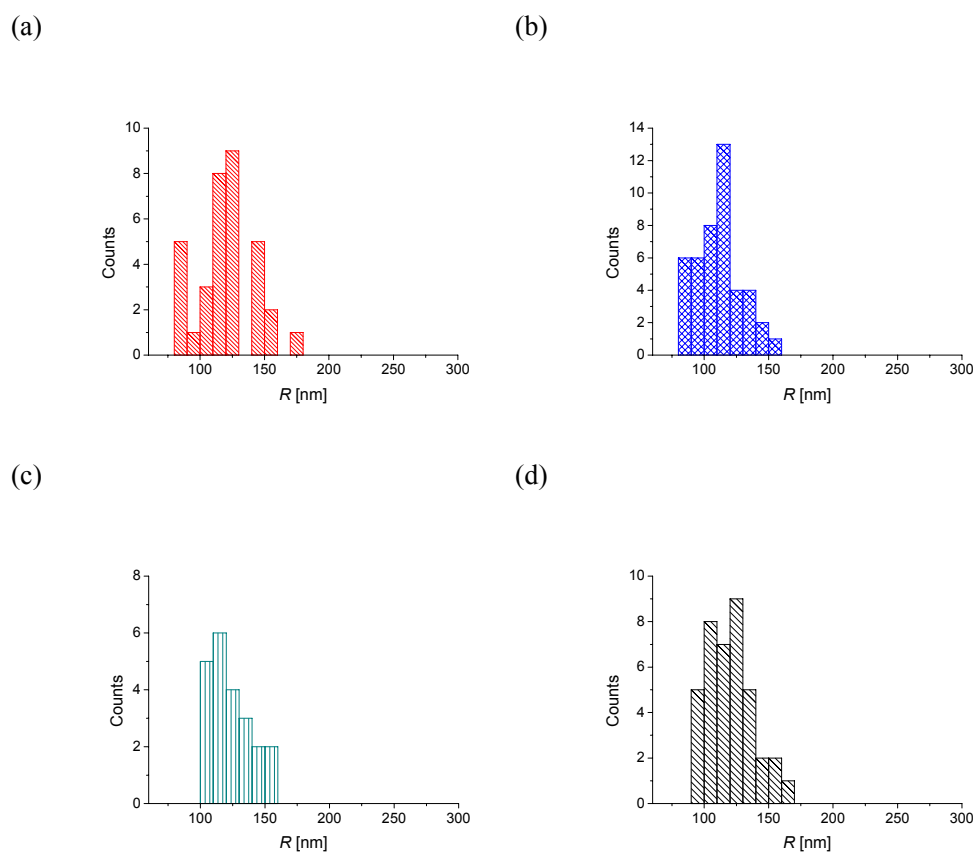
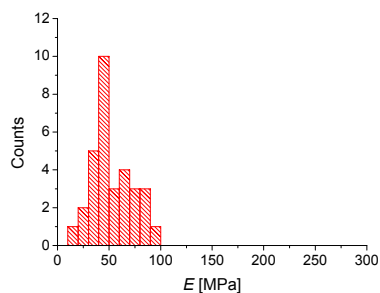


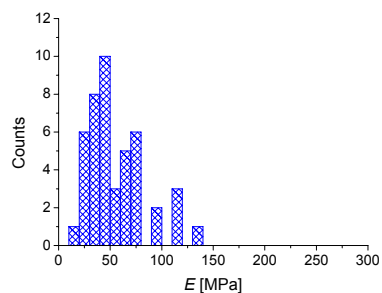
Figure S1. Histograms of the observed radii of the spherical caps for (a)

$PS_{115}\text{-}b\text{-}PAA_{15}$; (b) $PS_{139}\text{-}b\text{-}PAA_{17}$; (c) $PS_{182}\text{-}b\text{-}PAA_{19}$ and (d) $PS_{403}\text{-}b\text{-}PAA_{62}$.

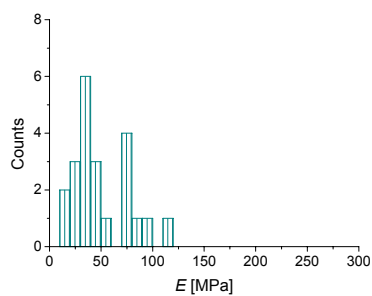
(a)



(b)



(c)



(d)

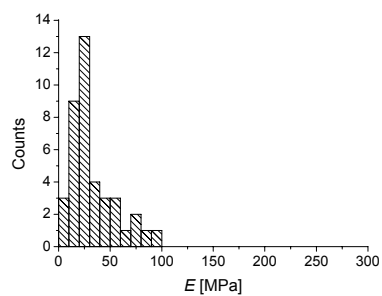
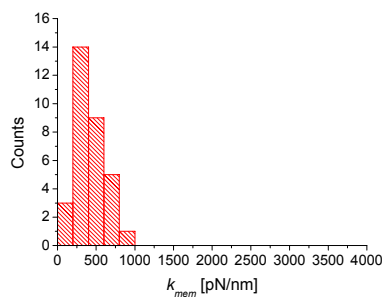
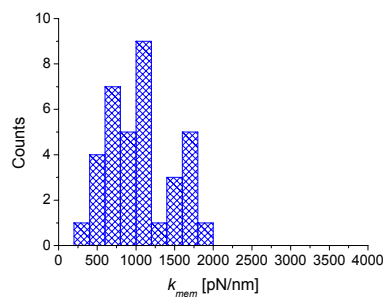


Figure S2. Histograms of the calculated apparent Young's moduli of the membranes for (a) $PS_{115}-b-PAA_{15}$; (b) $PS_{139}-b-PAA_{17}$; (c) $PS_{182}-b-PAA_{19}$ and (d) $PS_{403}-b-PAA_{62}$.

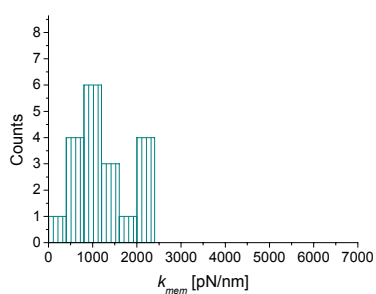
(a)



(b)



(c)



(d)

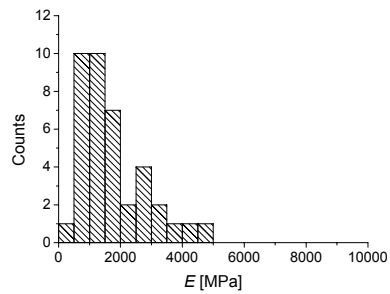


Figure S3. Histogram of the spring constants of the membranes for (a) $PS_{115}\text{-}b\text{-}PAA_{15}$; (b) $PS_{139}\text{-}b\text{-}PAA_{17}$; (c) $PS_{182}\text{-}b\text{-}PAA_{19}$ and (d) $PS_{403}\text{-}b\text{-}PAA_{62}$.

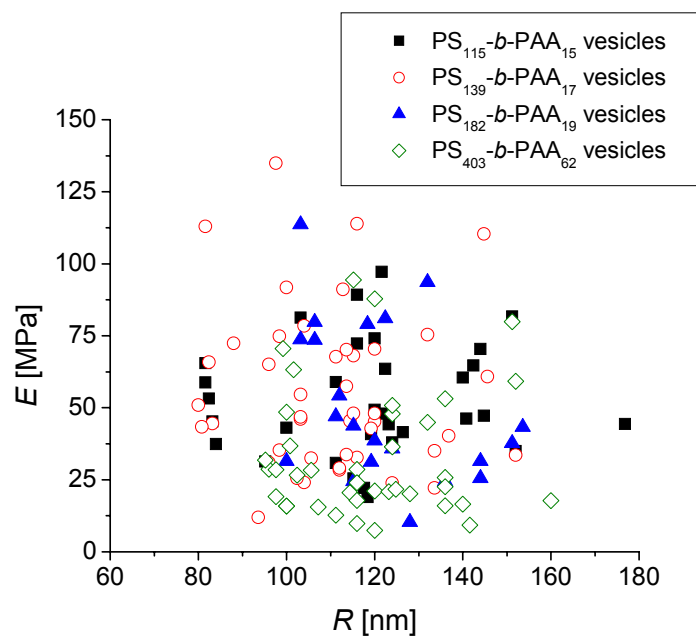


Figure S4. Apparent Young's moduli of various PS-*b*-PAA membranes vs. radius of the spherical caps.

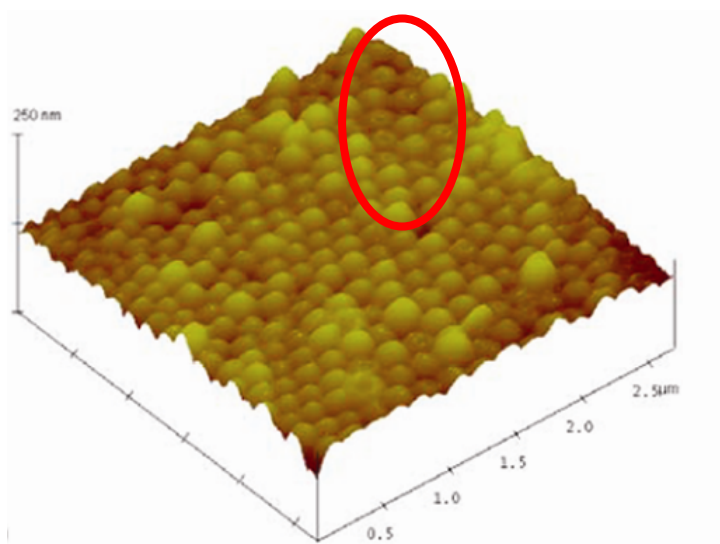


Figure S5. TM-AFM image showing a few buckled vesicles after the indentation test.