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## Shape Analysis of Biomimetic and Plasma Membrane Vesicles

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### Graphical Abstract

The diagram shows the cross-sectional shape of the vesicle in a plane. It illustrates cases with and without solution asymmetry, as well as other cases for DOPC/DOPG and GPMVs. We use a three-dimensional visualization technique to analyze vesicle morphology by performing reduced volume calculations and point-cloud projection. Our goal is to understand how concentration imbalances, charged lipids, sugar solutions inside and outside the vesicle, and lipid-bilayer composition affect vesicle morphology.

