

## Supplementary Figure 1

Height error introduced by calibration error.

(a) Correctly calibrated data. SAIM Data from a Dil labeled supported lipid bilayer fit correctly. Intensity measurements were taken at 1-degree intervals from -42° to 42°. (b) Incorrectly calibrated data. The same data as in a, fit with a false calibration wherein the measurements were aligned to a start angle of -44.5° and an angle step size of 1.05°.