Supplementary Content for

Sugar does not affect the bending and tilt moduli of simple lipid bilayers

John F. Nagle*, Michael S. Jablin, and Stephanie Tristram-Nagle

Department of Physics, Carnegie Mellon University, Pittsburgh, PA 15213 USA

Figure S1 shows that Kc increases systematically with increasing trehalose concentration, and therefore, one might suggest that trehalose cryoprotects by increasing membrane stiffness. However, Kc at the lowest concentration is smaller than the control, and only becomes larger at the highest concentration. Of course, if both the DOPC and POPC controls were too large, then all the ratios would increase and the aforementioned connection could be supported. On the other hand, if the DOPC control were smaller and the POPC control were larger, there would be no trend to speak of. Therefore, we are unable to convince ourselves that our data support trehalose having an effect on the stiffness of simple lipid bilayers that illuminates its effect as a cryoprotectant.

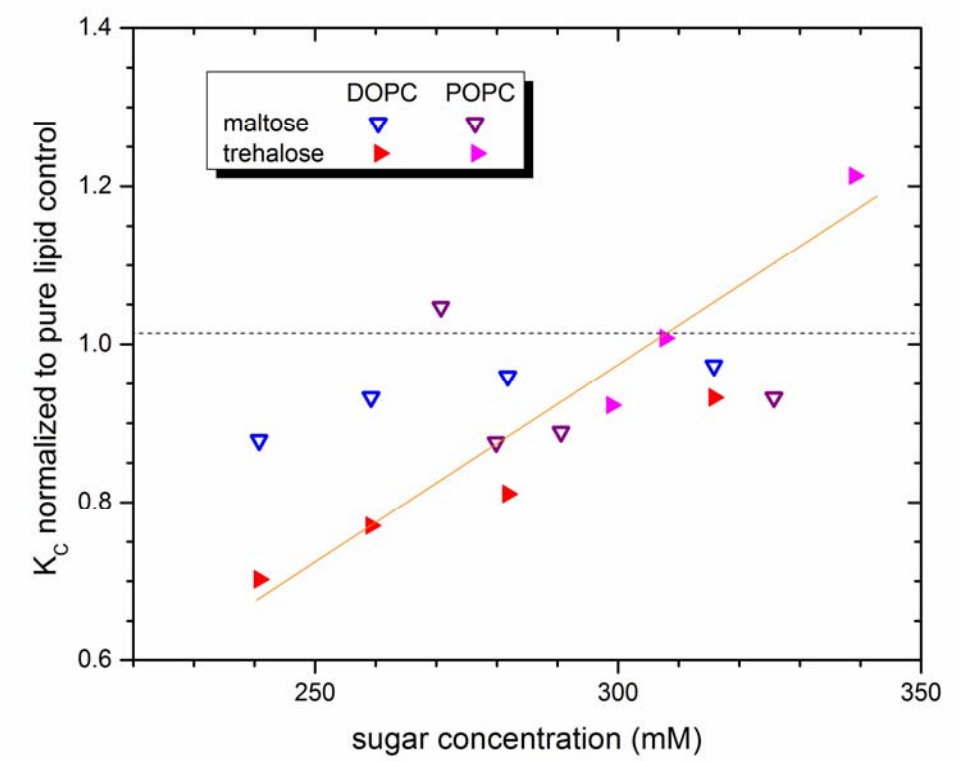

Figure S1. Selected data from Fig. 1 in the text that emphasize a possible concentration dependence of trehalose in contrast to maltose.