Abstract Submitted
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Reaction rates in hydrophilic glass[1] MARCUS CICERONE, QIN ZHONG, NIST — Sugar-based glasses are known to stabilize proteins against aggregation and chemical degradation. It has long been supposed that, due to the long timescales involved in protein aggregation and chemical degradation in the glass, relaxation processes essentially control the rate of degradation. We have shown that, although the degradation processes occur on timescales of the alpha relaxation process, secondary relaxation processes, and not alpha relaxation seems to dominate in influencing both chemical and physical degradation. In this presentation we will discuss results from time-resolved fluorescence studies in sugar-based glasses designed to help understand the physics underlying these puzzling observations.

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