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Size dependence of water-polypeptide interactions: the peptide dynamical transition ANDREA MARKELZ, ROHIT SINGH, DEEPU GEORGE, University at Buffalo, SUNY — Previously we demonstrated that the so-called protein dynamical transition has a size dependence using terahertz time domain spectroscopy [1]. In those results the 200 K onset of low frequency absorbance continued down to penta-alanine, but ceased below this size. However those measurements only covered the 80-290 K range. In this work we continue measurements down to 5 K to address the question of the temperature dependence arising for the time scale of motions scaling with the solute size.

[1]Yunfen He, Pei I. Ku, J. R. Knab, J.Y. Chen, and A. G. Markelz, Phys. Rev. Lett. 101, 178103 (2008).

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