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Structure and interactions of human respiratory mucin KIRSTIN PURDY, University of Illinois at Urbana Champaign, JOHN SHEEHAN, MICHAEL RUBINSTEIN, University of North Carolina, GERARD WONG, University of Illinois at Urbana Champaign — Human respiratory mucin plays a crucial role in the pathology of Cystic Fibrosis lung infections. Mucin is a flexible, linear polyelectrolyte, characterized by its many charged oligo-carbohydrate side chains that give it its bottle-brush structure. The macroscopic properties of a mucin suspension are known to change drastically with changes in ion concentration and solution pH, but little is known about the effect of these variables on individual mucin structure. We present preliminary results on the structural response of individual human respiratory mucin molecules to variations in concentration of ions of different valences via small angle x-ray diffraction.

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