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Electrostatic effects in collagen fibrillization SVETLANA MOROZOVA, MURUGAPPAN MUTHUKUMAR, University of Massachusetts — Using light scattering and AFM techniques, we have measured the kinetics of fibrillization of collagen (pertinent to the vitreous of human eye) as a function of pH and ionic strength. At higher and lower pH, collagen triple-peptides remain stable in solution without fibrillization. At neutral pH, the fibrillization occurs and its growth kinetics is slowed upon either an increase in ionic strength or a decrease in temperature. We present a model, based on polymer crystallization theory, to describe the observed electrostatic nature of collagen assembly.

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