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Concentrated dispersions of therapeutic proteins

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In this talk, recent experiments characterizing highly concentrated dispersions of therapeutic proteins, which are of interest for at-home treatment of disease via subcutaneous injection, are discussed. In particular, evidence for protein nanocluster formation in these systems is explored. The roles of dispersion composition, pH, and experimental pathway are elucidated for several protein systems. Observed correlations between nanocluster properties, solution viscosity, and protein stability/activity, as well as prospective theoretical explanations for these behaviors, are highlighted.