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Intermolecular Hydrogen Bonding in Peptide and Modified Jeffamine Organogels DANIEL SAVIN, ADAM RICHARDSON, School of Polymers and High Performance Materials, University of Southern Mississippi — In these studies, we present two systems whereby supramolecular assembly results in rigid organogels. First, a series of AB diblock copolymers consisting of poly(Lysine(Z)) (P(Lys(Z)) blocks were synthesized and found to form stable, rigid organogels in THF (ca. 1 - 1.5 wt.% solutions) and chloroform at room temperature. In these systems, the protecting group on the P(Lys) side-chains remains intact and gel formation results from the assembly of the solventphobic P(Lys(Z)) chains through intermolecular beta-sheet formation. The non-peptide block was found to have an effect on organogel properties due to interfacial frustration, which disrupts H-bonding. Second, Jeffamine polymers were modified in a facile way to incorporate intermolecular H-bonding groups to yield networks able to gel various solvents as well as mineral and canola oil. We present the physical and rheological properties of the organogels produced.

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