

**S001** pH switchable gelation behaviour of surfactant-like dipeptides: Influence of molecular structure and environment

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Hydrogels formed by the self assembly of oligopeptides and other small molecules containing peptide residues are receiving considerable attention in the literature because of their potential usefulness in medical applications and as novel structurants. Whilst the synthesis and characterization of many of these materials and hydrogels has been investigated in some detail, there are relatively few studies of the structure-property relationships in terms of the chemical character of the gelator used. Systematic studies of the gelation “phase diagram” in terms of gelator concentration and pH are also rare. Recently, the gelation behaviour of amphiphilic dipeptides coupled to a fluorenylmethoxycarbonyl (Fmoc) moiety has been studied and reported. These materials are simple to synthesise and so represent an excellent opportunity for detailed studies of the relationship between molecular structure and gel properties. Here we report systematic rheological studies of the gelation kinetics and gel properties of Fmoc-dipeptides composed of a range of amino acids, and study the influence of molecular structure and gelation conditions on the properties of the gels formed.