Electronic Supplemental Information for “Charge and Sequence Effects on the Self-assembly and Subsequent Hydrogelation of Fmoc-Depsipeptides”

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Figure S1. Fluorescence emission spectrum of Fmoc-K-Lac-K-A-8, Fmoc-depsidipeptides, and Fmoc-amino acids

Figure S2: TEM of Fmoc-DAKA-8 in water 4 days after preparation

Figure S3: Stability study of Fmoc-D-Lac-K-A-8 in PBS

Figure S4: Mass spectrometry data and chemical structures of Fmoc-D-Lac-K-A-8 degradation products

Figure S5: Chemical structure (A) and fluorescence emission spectra (B) of Fmoc-D-Lac-K-A-16
Figure S1. Fluorescence emission spectrum of Fmoc-K-Lac-K-A-8 (A) and Fmoc-amino acids and Fmoc-depsi-di-peptides (B). The chemical structures, formal names, and short-hand labels for the Fmoc-amino acids and Fmoc-depsi-di-peptides (C) are provided. The Fmoc-amino acids are commercially available and the Fmoc-depsi-di-peptides were synthesized by our group.
Figure S2. TEM image of Fmoc-DAKA-8 gel in water. Sample grids were prepared 4 days after dispersion of the peptide in water. The micrograph shows entangled fibrous structures nearly the same width as fibers seen in Fmoc-D-Lac-K-A-8. TEM images of Fmoc-DAKA-8 in PBS and PBS+NaCl solutions are not shown, as solubility of the peptide in salt-containing solutions was low and no self-assembly leading to gelation was observed.
Figure S3. Stability study of Fmoc-D-Lac-K-A-8 in PBS in both solution (low concentration, 1 mg/ml) and gel (higher concentration, 10 mg/ml) states. Structures of major degradation products are given below.
Below: Figure S4. Mass spectra and structures of major degradation products of Fmoc-D-Lac-K-A-8 due to cleavage of backbone ester bonds. The intact molecule (A) degrades over time to yield Fmoc-D-Lac-D-Lac-K-OH (B) and Fmoc-D-Lac-D (C).
Molecular Weight: 742.74
Exact Mass: 742.27
Molecular Weight: 542.50
Exact Mass: 542.15
Figure S5. Chemical structure (A) and fluorescence emission spectra (B) of Fmoc-D-Lac-K-A-16. Samples were aged for 5 days.