Supporting information

Interfacial zippering-up of coiled-coil protein filaments

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Abbreviations: Fmoc: 9-fluorenylmethoxycarbonyl; HBTU: O-benzotriazole-N,N,N',N'tetramethyl-uronium-hexafluoro-phosphate; RP-HPLC: reversed phase high pressure liquid chromatography; MALDI-ToF: matrix-assisted laser desorption/ionization time of flight; MOPS: 3-(N-morpholino)-propanesulfonic acid; TIS: tri-isopropyl silane; TFA: trifluoroacetic acid.

Figures and Table



Figure S1. Peptide folding. CD spectra following thermal unfolding from 20 °C to 90 °C with intervening spectra recorded every 1 °C. Note the isodichroic point at \sim 202 nm. Thermal unfolding curves are shown in the right corner insets.



Figure S2. XRD patterns for FiZ, FiF and FiZ^{ortho} obtained from air-dried stalks of 4-10 mM peptide.



Figure S3. Peptide folding. (A) FT-IR spectra and (B) their second derivatives for peptides in 10 mM MOPS, pH 7.4, 20 °C.



Figure S4. XRD pattern for an air-dried stalk of 8 mM T2 (A) and a hexagonal packing model for T2 filaments (B).

Peptide	CD	FT-IR	SAXS	XRD	TEM
FiZ	Helical	Helical	$R = 7.3 \pm 3 \text{ nm}$	9.5 Å, 4.3 Å, 17.1 Å	$D = 3.4 \pm 0.8 \text{ nm}$
FiF	Helical	-	$R = 3 \pm 1 nm$	9.5 Å, 4.7 Å	Not observed
FiZ ^{ortho}	Helical	Helical	$R = 1.2 \pm 0.8 \text{ nm}$ $R = 8 \pm 5 \text{ nm}$	9.6 Å, 4.4 Å, 18.6 Å	D = 15 nm
FiB ^{ortho}	Helical	-	Not observed	Not observed	Not observed

Table S1. Summary of biophysical analysis.