

Ala-Ala Dipeptides with A Semi-perfluoroalkyl Chain: Chirality Driven Molecular Packing Difference and Self-assembly Driven Chiral Transfer

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Table S1 Gelation properties of dipeptides in organic solvents at 25 °C.

	(L, L)- F2	(L, D)- F2	(D, L)- F2	(D, D)- F2
Methanol	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)
Ethanol	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)
Acetone	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)
Acetonitrile	White precipitates (20 g L ⁻¹)	White precipitates (20 g L ⁻¹)	White precipitates (20 g L ⁻¹)	White precipitates (20 g L ⁻¹)
Toluene	White precipitates (30 g L ⁻¹)	White precipitates (30 g L ⁻¹)	White precipitates (30 g L ⁻¹)	White precipitates (30 g L ⁻¹)
1,4-dioxane	Solution (26 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (26 g L ⁻¹)
THF	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)
DMF	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)
DMSO	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)	Solution (30 g L ⁻¹)
DCM	Partial soluble (5 g L ⁻¹)	Partial soluble (5 g L ⁻¹)	Partial soluble (5 g L ⁻¹)	Partial soluble (5 g L ⁻¹)
<i>n</i> -hexane	Insoluble	Insoluble	Insoluble	Insoluble

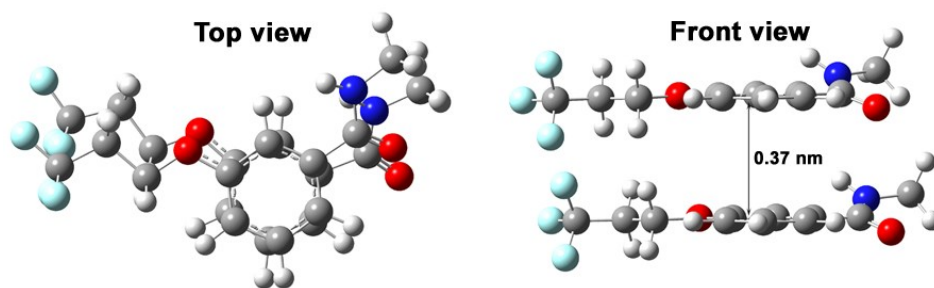


Fig. S1 The calculated stacking model of *N*-methyl-3-(3'-(trifluoromethyl propoxyl))benzamide dimer.

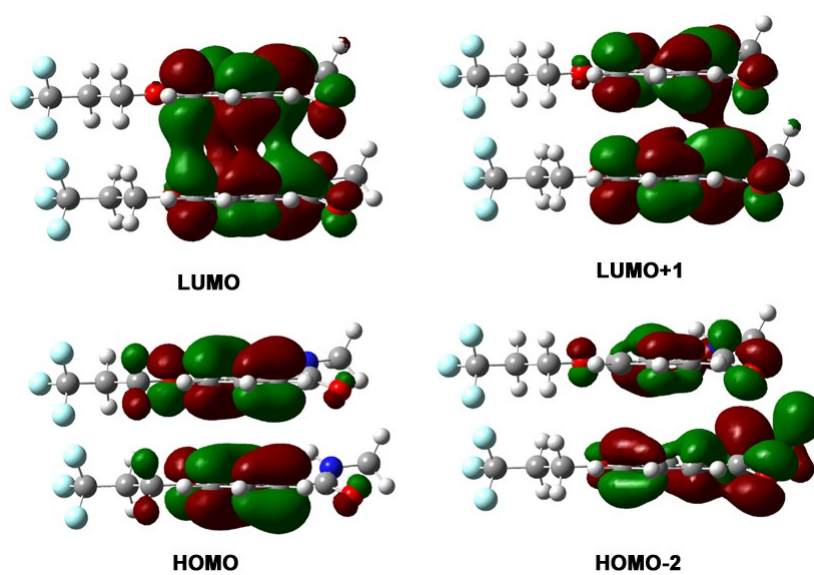


Fig. S2 View of the two HOMOs and LUMOs (stacking in right-handedness).

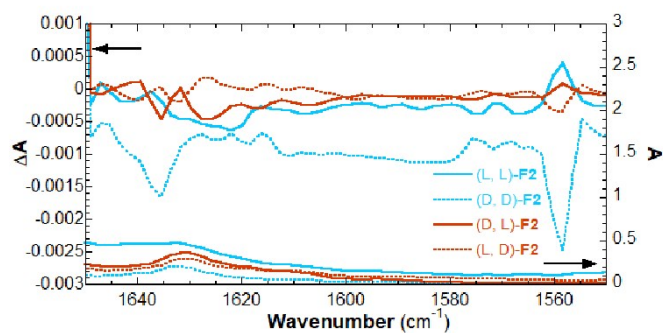


Fig. S3 VCD spectra (1650-1500 cm^{-1}) of (L, L)-**F2**, (D, D)-**F2** suspensions and (D, L)-**F2**, (L, D)-**F2** transparent gels in the mixed solvent of DMSO- d_6 /D₂O (5/5, v/v) and (4/6, v/v), respectively. Each sample was prepared at a concentration of 10 g L^{-1} and 25 $^{\circ}\text{C}$.

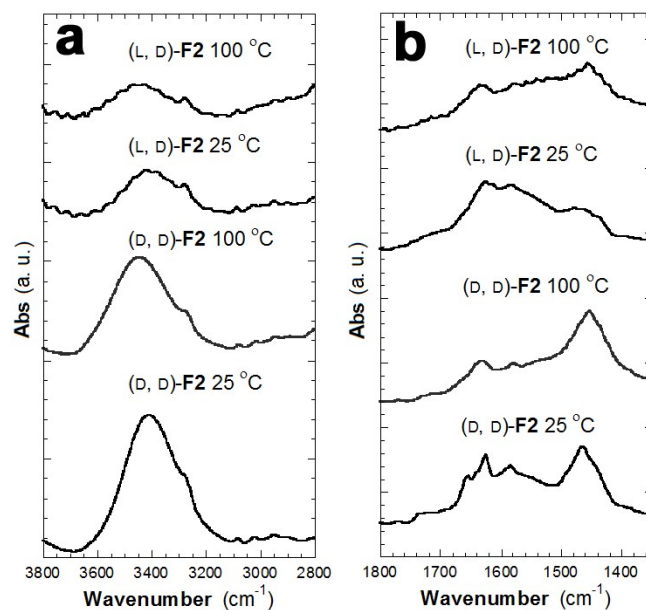


Fig. S4 FT-IR spectra of (D, D)-F2 and (L, D)-F2 in the mixed solvent of DMSO- d_6 /D $_2$ O (5/5, v/v) and (4/6, v/v) at a concentration of 10 g L $^{-1}$ at 100 and 25 °C. (a) 3800-2800 cm $^{-1}$, (b) 1800-1350 cm $^{-1}$.

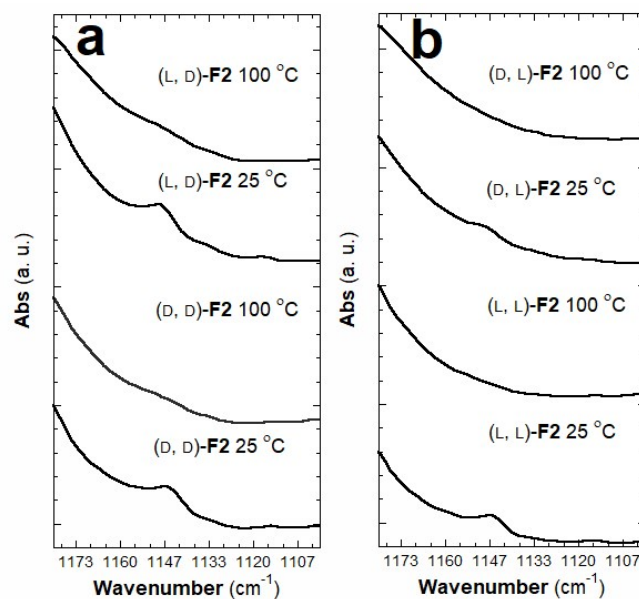


Fig. S5 FT-IR spectra of four dipeptides within the wavenumber range from 1180 to 1100 cm $^{-1}$ at a concentration of 10 g L $^{-1}$ at 100 and 25 °C.

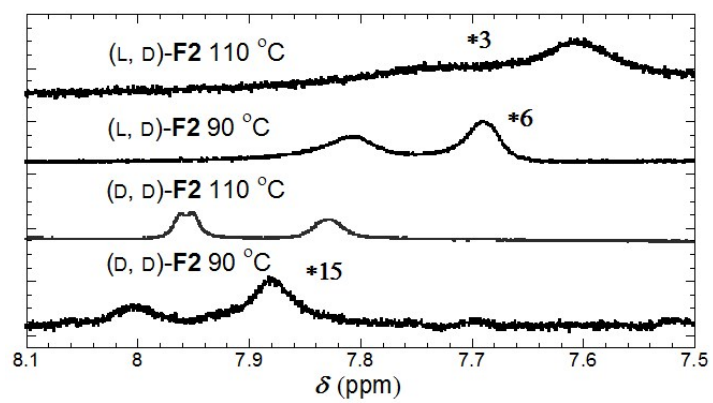


Fig. S6 ^1H NMR spectra of (D, D)-F2 and (L, D)-F2 in in the mixed solvent of $\text{DMSO-}d_6/\text{H}_2\text{O}$ (5/5, v/v) and (4/6, v/v) respectively at a concentration of 10 g L^{-1} at 90 and 110 °C.

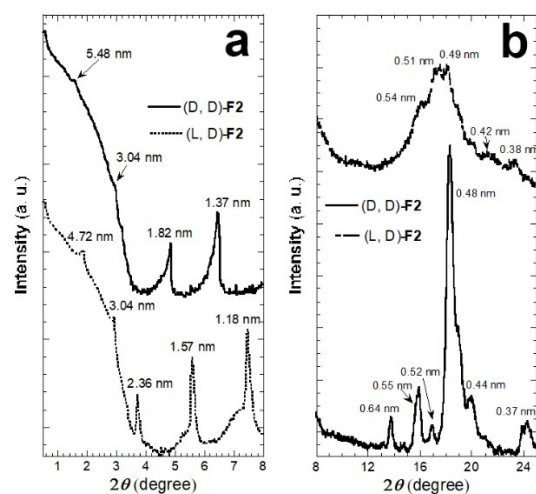


Fig. S7 SAXRD (a) and WAXRD (b) patterns of (D, D)-F2 self-assembled suspension and (L, D)-F2 xerogel. Each sample was prepared in the mixed solvent of DMSO/H₂O (5/5, v/v) and (4/6, v/v) at a concentration of 10 g L⁻¹.

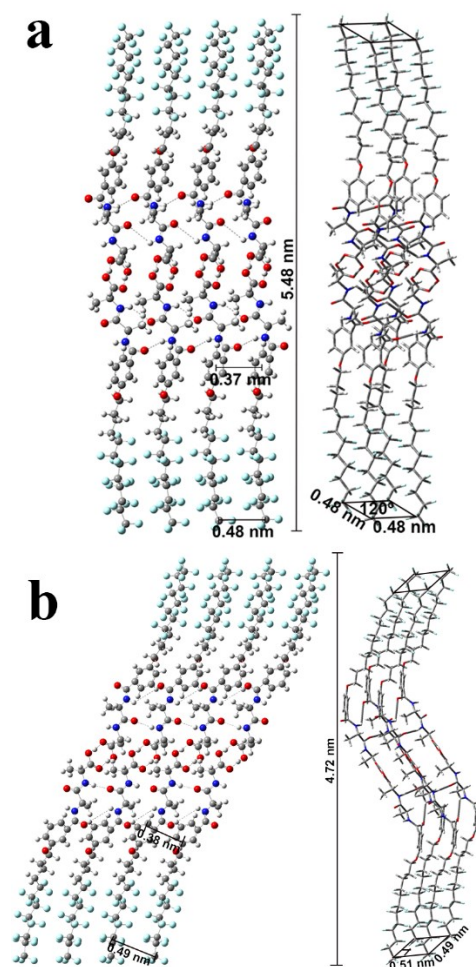


Fig. S8 Simulated molecular packing structures of (D, D)-**F2** (a) and (L, D)-**F2** (b).