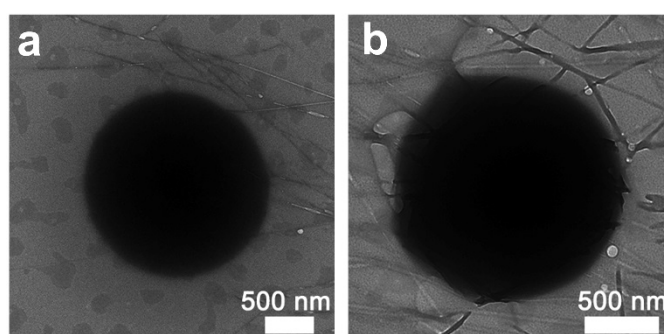


*Electronic Supplementary Information (ESI) for*

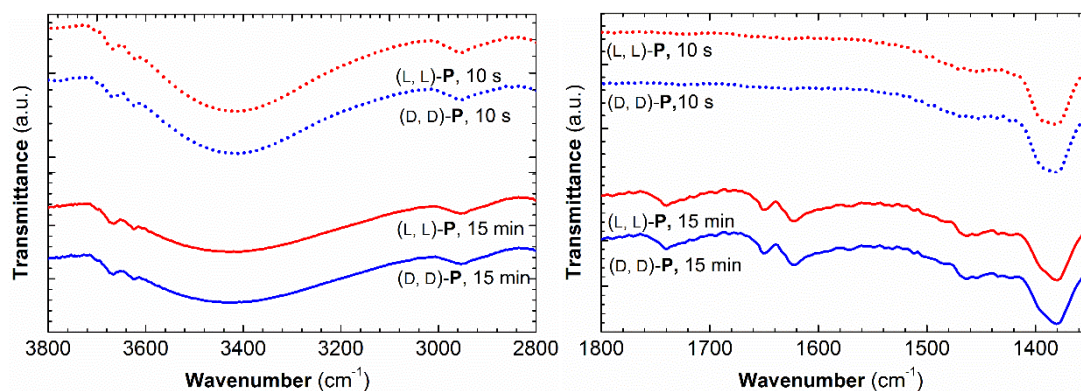
## **Molecular packing structural transition driven handedness inversion of circularly polarized luminescence of phenothiazine substituted Phe-Phe dipeptides**

Ting Lian, Wei Liu,\* Yi Li and Yonggang Yang\*

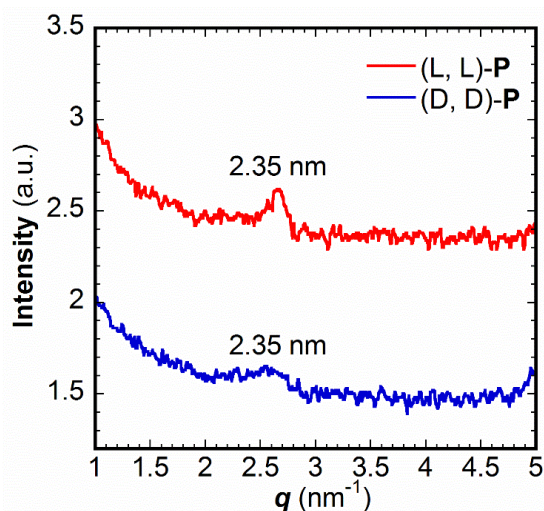
State and Local Joint Engineering Laboratory for Novel Functional Polymeric Materials, Jiangsu Key Laboratory of Advanced Functional Polymer Design and Application, Jiangsu Engineering Laboratory of Novel Functional Polymeric Materials, Department of Polymer Science and Engineering, College of Chemistry, Chemical Engineering and Materials Science, Key Laboratory of Polymeric Materials Design and Synthesis for Biomedical Function, Soochow University, Suzhou 215123, China.  
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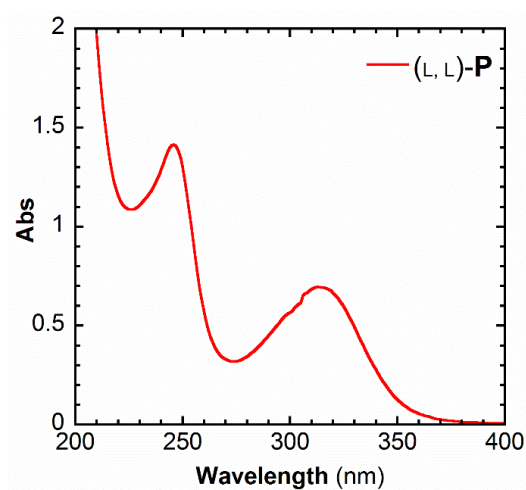
**Fig. S1** TEM images of the suspension of (a) (L, L) and (b) (D, D)-P self-assemblies at an aging time of 10 s.



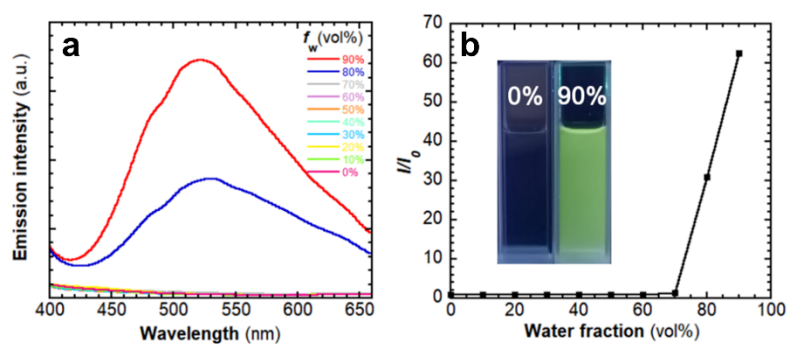
**Fig. S2** FT-IR spectra of the suspension of (L, L)-P and (D, D)-P self-assemblies after aging for 10 s and 15 min at a concentration of 1.4 g L<sup>-1</sup> in mixed HFIP-D<sub>2</sub>O (v/v, 4/3) solution at 25°C.



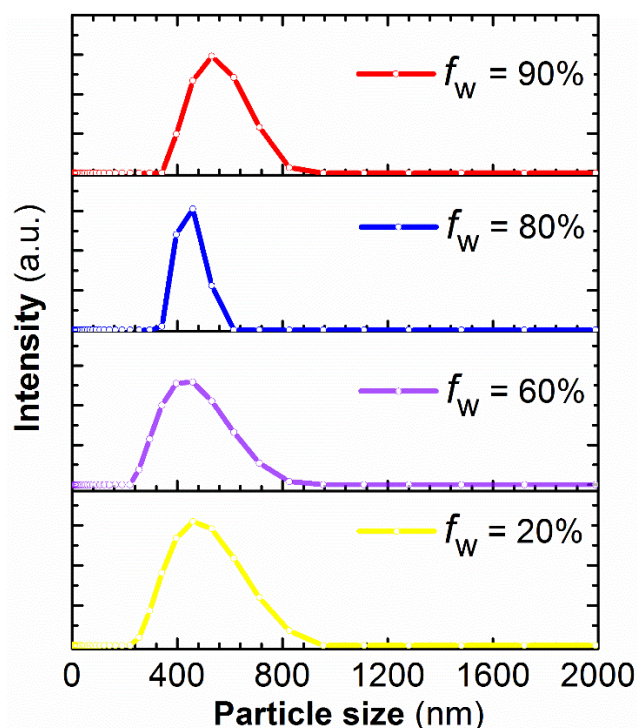
**Fig. S3** SAXS patterns of the powder for (L, L)- and (D, D)-**P** self-assemblies.



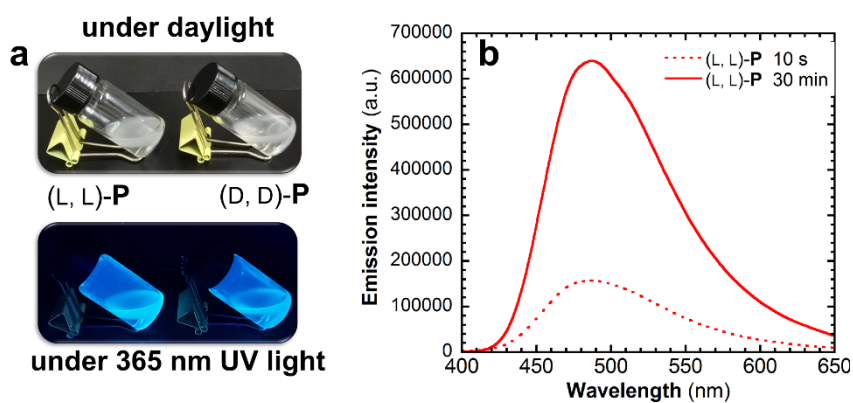
**Fig. S4** UV absorption of (L, L)-**P** in an HFIP solution at a concentration of 50  $\mu\text{M}$ .



**Fig. S5** (a) Emission spectra of (L, L)-**P** in a HFIP-water mixture with different water volume fractions ( $f_w$ ), at a concentration of 0.1 mM ( $\lambda_{\text{ex}} = 350$  nm); (b) Plot of  $I/I_0$  versus  $f_w$  of the HFIP-water mixtures,  $I_0$  = emission intensity in HFIP solution. Inset shows the emission of (L, L)-**P** taken under UV light (365 nm).



**Fig. S6** DLS profiles for (L, L)-P in a HFIP-water mixture with different water volume fractions ( $f_w$ ), at a concentration of 0.1 mM.



**Fig. S7** (a) Photographs under daylight and UV light at 365 nm for the suspension after aging for 10 s, (b) Emission spectra of the suspension of (L, L)-P at aging time of 10 s and 30 min.