

SUPPLEMENTARY INFORMATION

Chirality induction to porphyrin derivatives co-confined at air-water interface with silica nano helices: towards enantioselective thin solid film surfaces

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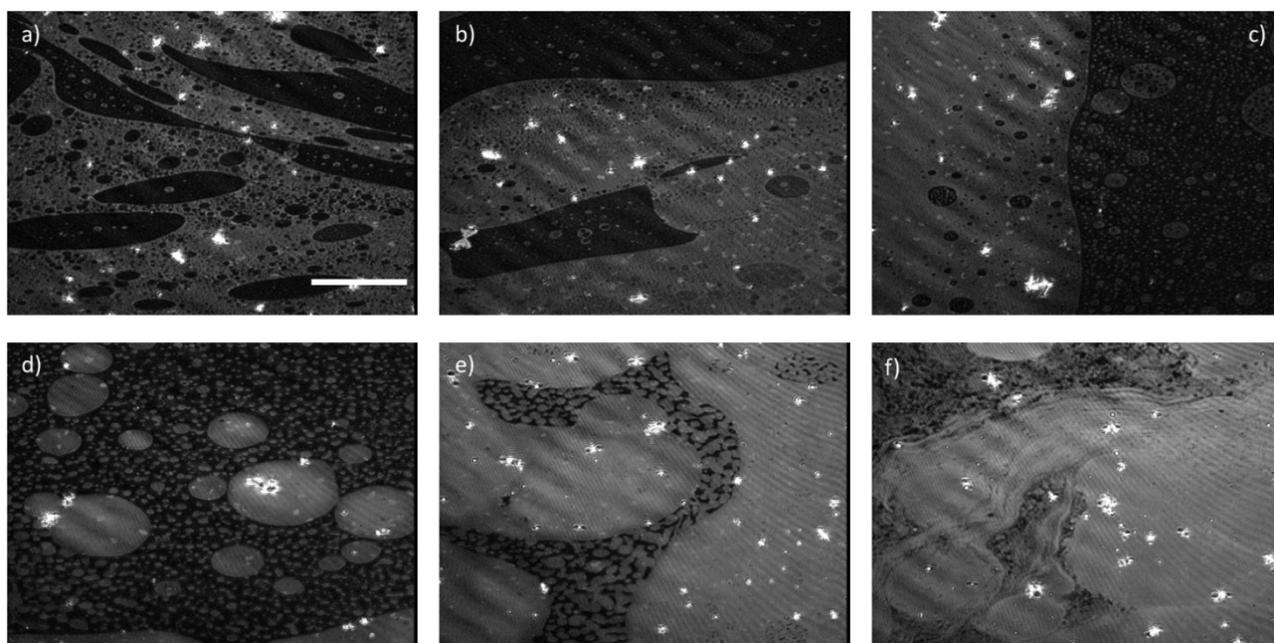


Figure S1. BAM images of the Pp floating film spread on the ultrapure water subphase acquired at different surface pressure values (a: 0 mN/m, b: 5 mN/m, c: 15 mN/m, d: 20 mN/m, e: 25 mN/m, f: 35 mN/m). The bar length is 100 μm .

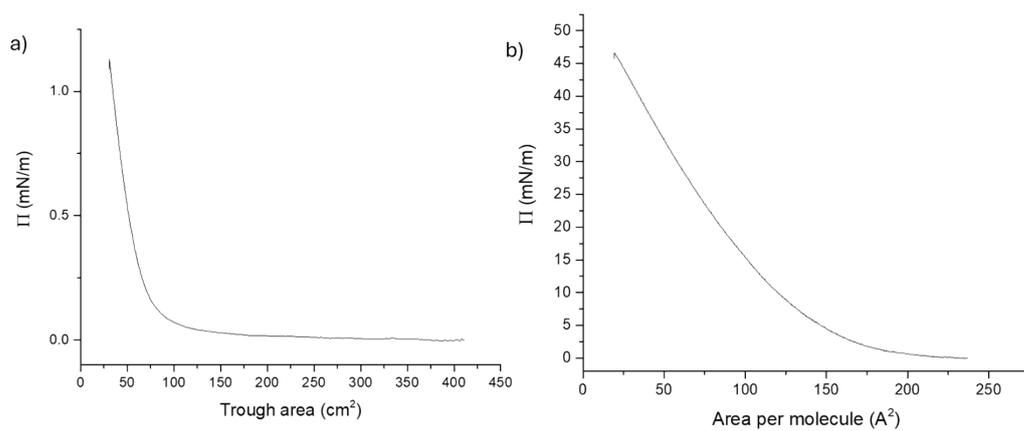


Figure S2. Surface pressure variation (mN/m) as a function of the area per molecule (Å²) of the Langmuir films of Pp spread on a) 0.1 mg/L and b) 6 mg/L subphase containing helices.

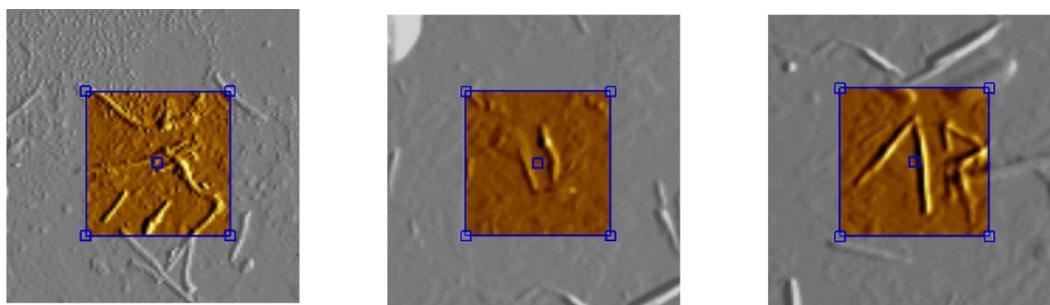


Figure S3. AFM images acquired onto three different points of a sample obtained using Pp as a floating film and 0.1 mg/L subphase containing helices. Blue squares are 2x2 μm² area.

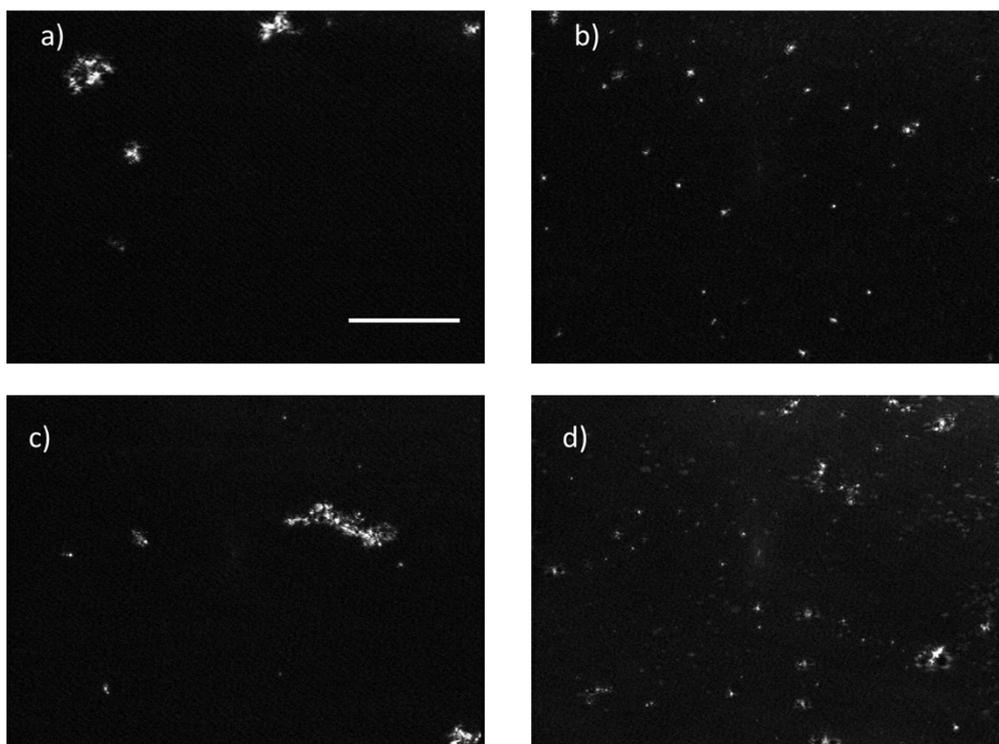


Figure S4. BAM images of the Pp floating film spread on the ultrapure water subphase containing LHH-NH₂. The images were acquired at different surface pressure values (a: 0 mN/m, b: 10 mN/m, c: 20 mN/m, d: 30 mN/m). The bar length is 100 μ m.

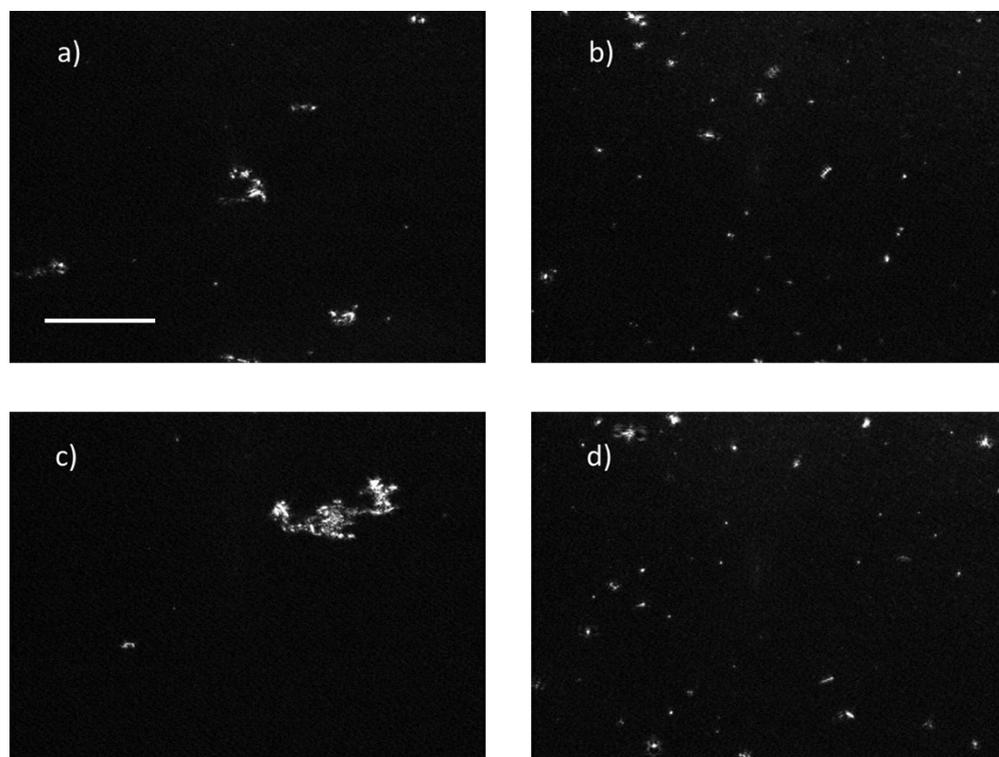


Figure S5. BAM images of the Pp floating film spread on the ultrapure water subphase containing RHH-NH₂. The images were acquired at different surface pressure values (a: 0 mN/m, b: 10 mN/m, c: 20 mN/m, d: 30 mN/m). The bar length is 100 μ m.

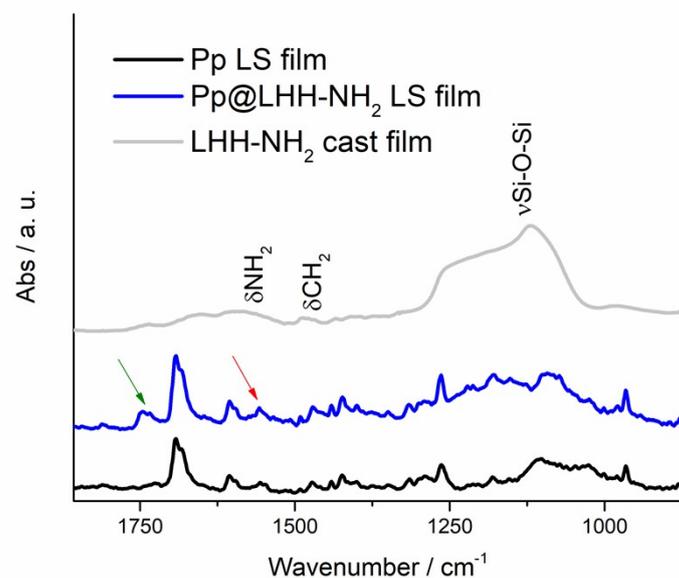


Figure S6. FTIR spectra of silica nano-helices cast film and Pp@LHH-NH₂ and Pp LS films in the range 1850-750 cm⁻¹.

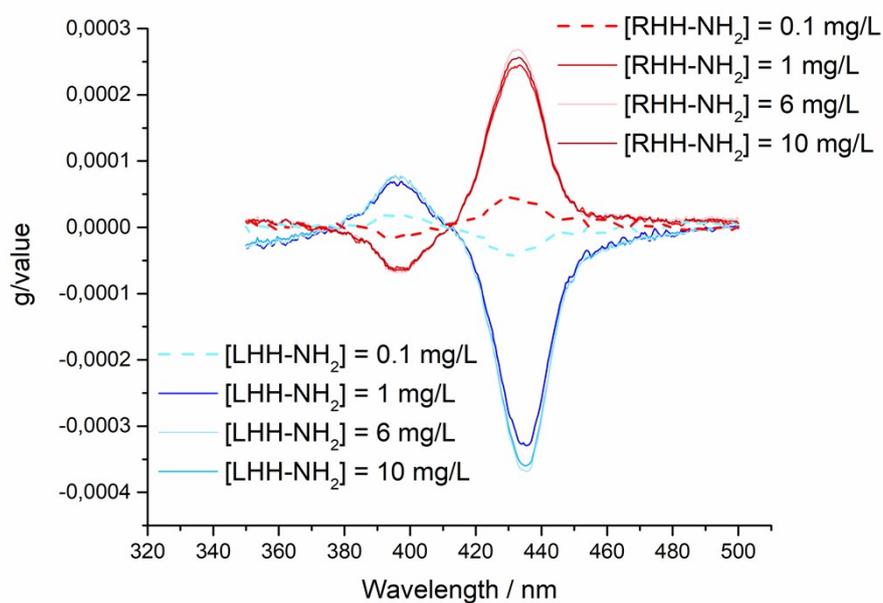


Figure S7. g-factor for the Pp@RHH-NH₂ (red lines) and Pp@LHH-NH₂ adducts (blue lines) obtained by suspending 0.1 mg/L, 1 mg/L, 6 mg/L, and 10 mg/L.

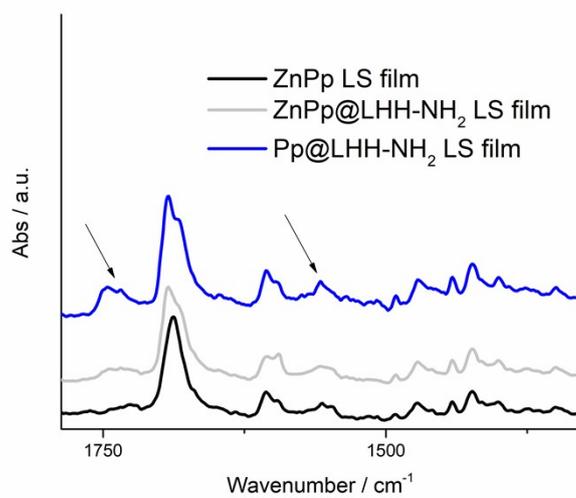


Figure S8. FTIR spectra of the LS films of ZnPp (black line), ZnPp@LHH-NH₂ (grey spectrum) and Pp@LHH@NH₂ in the region 1800-1350 cm⁻¹.

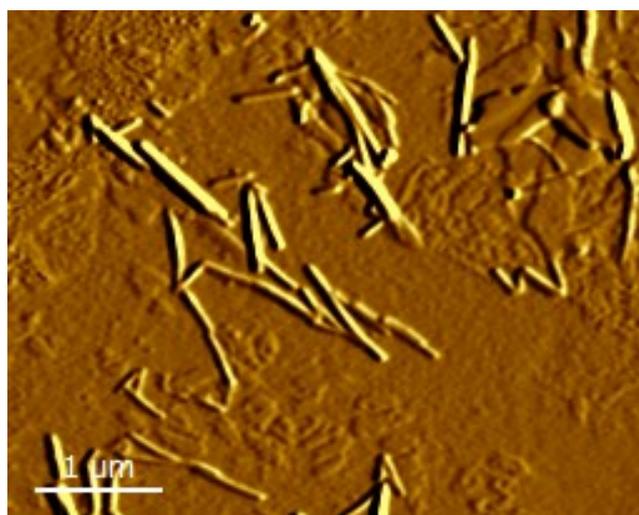


Figure S9. AFM morphology of LS film (1 layer) obtained by transferring ZnPp floating film spread on subphase containing LHH-NH₂.

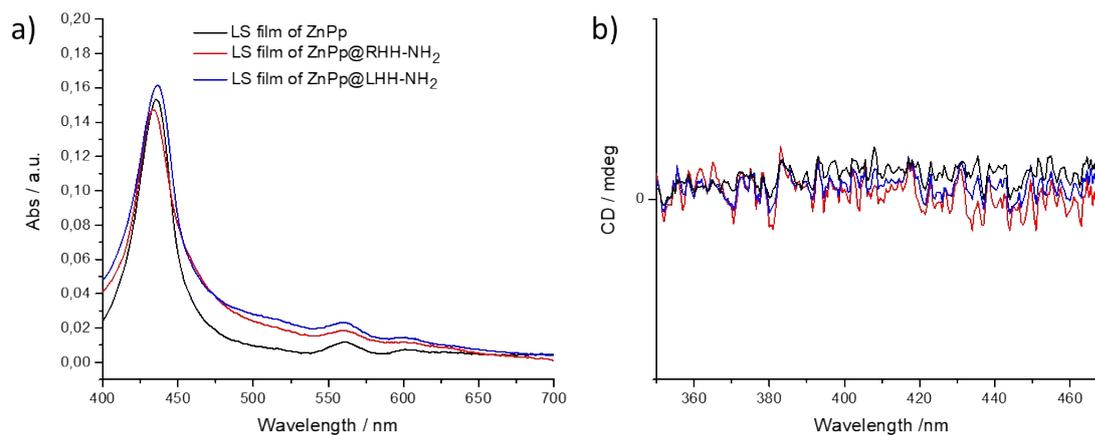


Figure S10. a) UV-Visible spectrum of ZnPp LS films transferred from ultrapure water (black line), from subphase containing RHH-NH₂ (red line) and LHH-NH₂ (blue line) and b) circular dichroism spectra of ZnPp films transferred from ultrapure water subphase (black line), from subphase containing RHH-NH₂ (red line) and LHH-NH₂ (blue line).

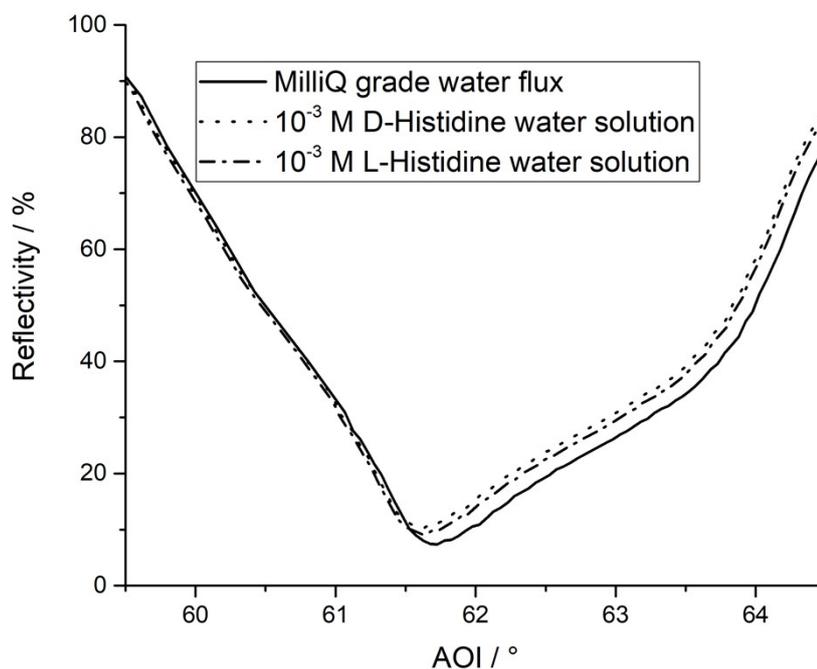


Figure S11. SPR curves of Pp LS film exposed to the two histidine enantiomer solutions at a concentration of 10⁻³ M.

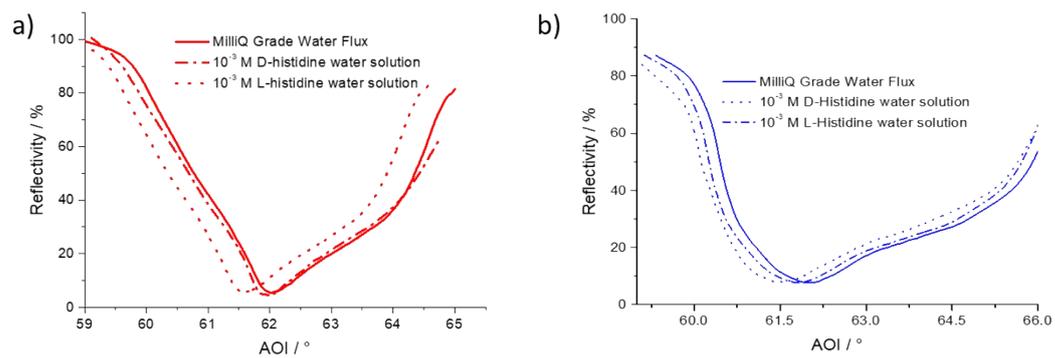


Figure S12. SPR curves of a) Pp@RHH-NH2 and b) Pp@LHH-NH2 exposed to the two histidine enantiomer solutions at a concentration of 10^{-3} M.