

Supporting Information

Study of Compression Induced Supramolecular Nanostructures of an Imidazole Derivative by Langmuir-Blodgett Technique

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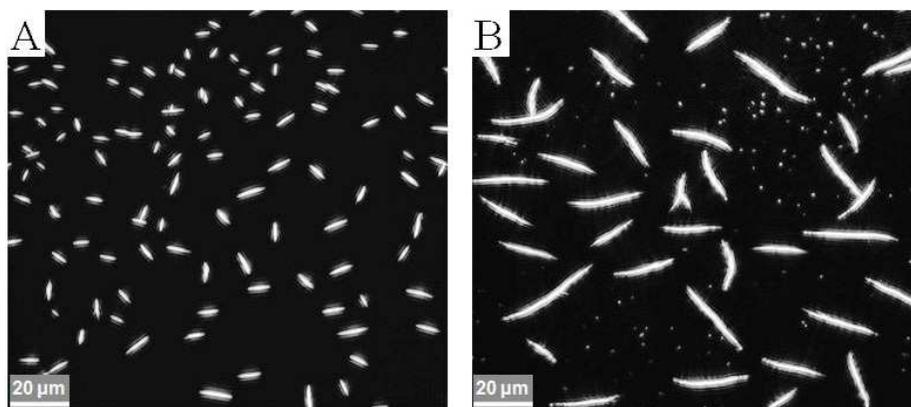


Figure S1: BAM images of **1** at air-water interface taken at surface pressure 5mN/m (A) and 15mN/m (B) during π -A isotherm measurement.

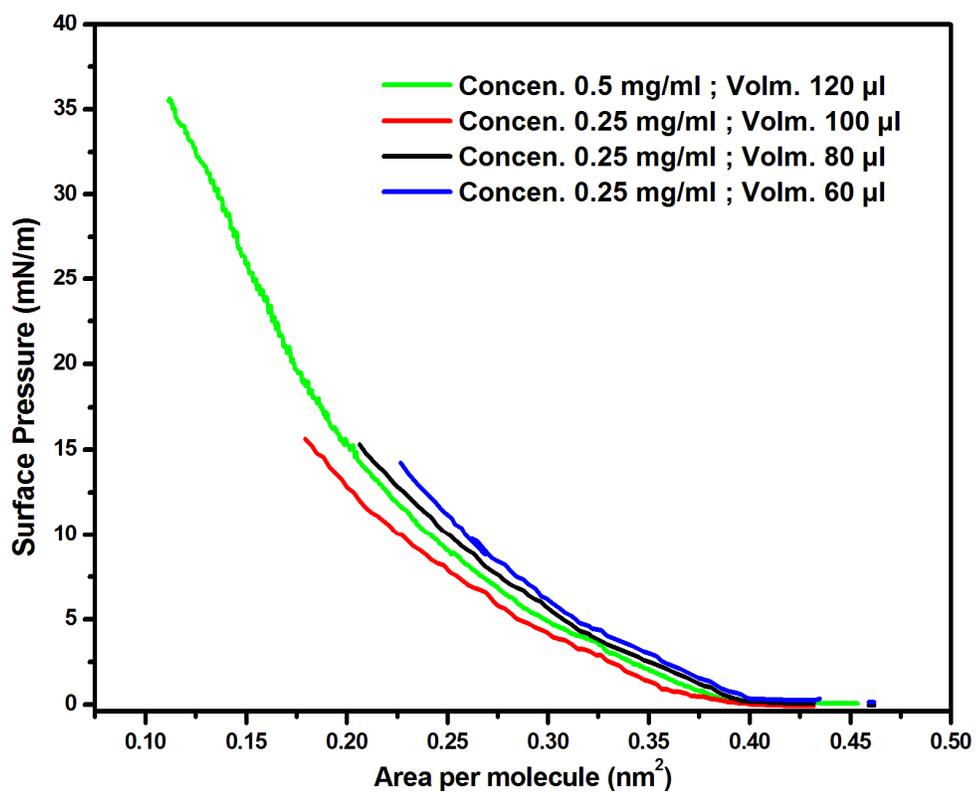


Figure S2. Surface pressure (π) vs area per molecule (A) isotherm of **1** at various concentration and spreading volume.

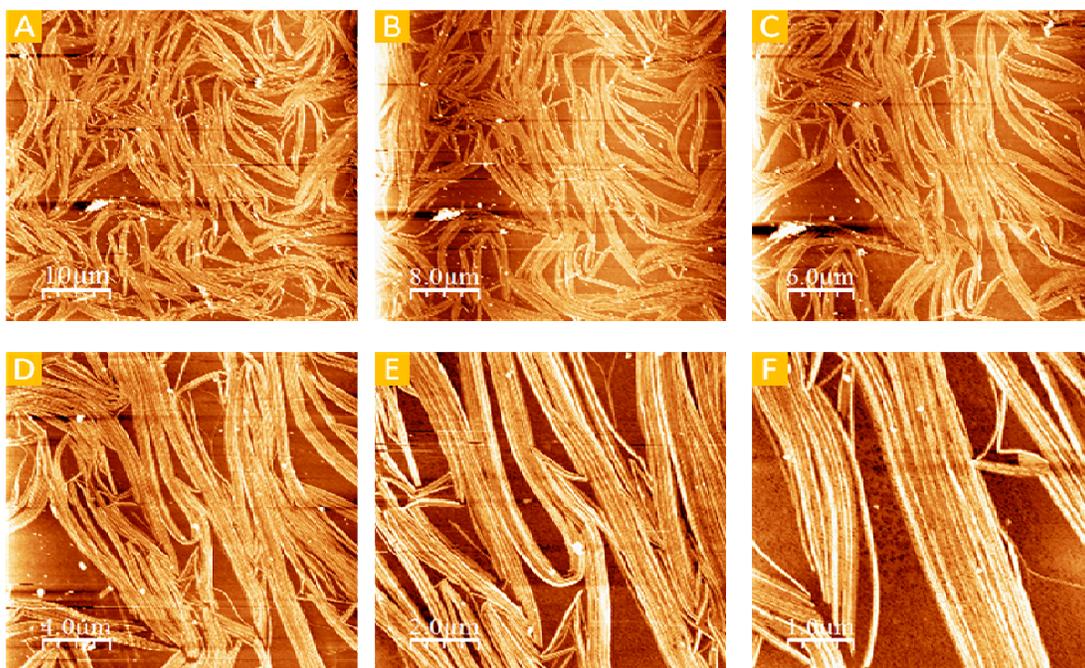


Figure S3. AFM images of one layer LB film of **1** at 5 mN/m on optically blank space at scan area- (A) $50 \times 50 \mu\text{m}^2$ (B) $40 \times 40 \mu\text{m}^2$ (C) $30 \times 30 \mu\text{m}^2$ (D) $20 \times 20 \mu\text{m}^2$ (E) $10 \times 10 \mu\text{m}^2$ (F) $5 \times 5 \mu\text{m}^2$.

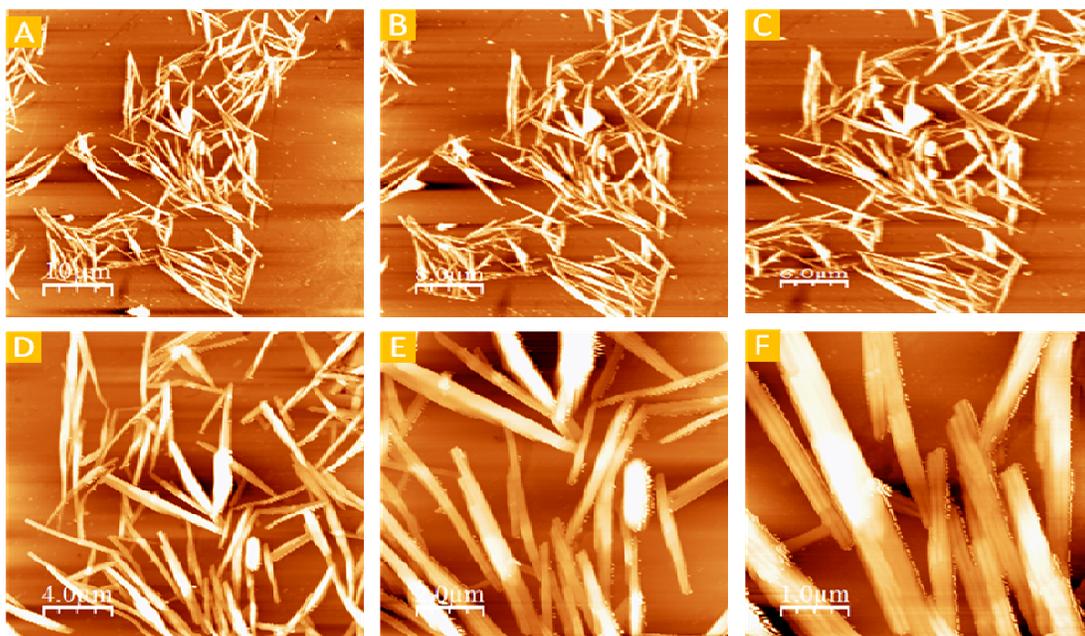


Figure S4. AFM images of one layer LB film of **1** at 5 mN/m on optically shown structures at scan area- (A) $50 \times 50 \mu\text{m}^2$ (B) $40 \times 40 \mu\text{m}^2$ (C) $30 \times 30 \mu\text{m}^2$ (D) $20 \times 20 \mu\text{m}^2$ (E) $10 \times 10 \mu\text{m}^2$ (F) $5 \times 5 \mu\text{m}^2$.

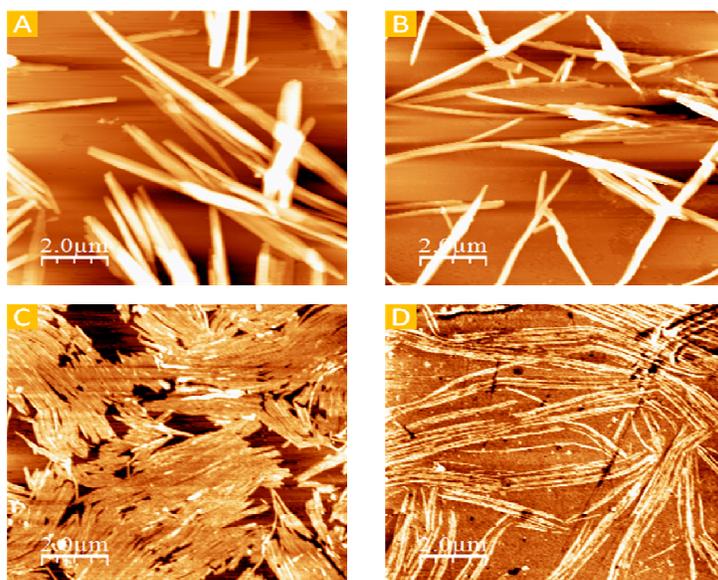


Figure S5. AFM images for nanorods in one layer LB film of **1** molecule at 10 mN/m (A), 20 mN/m (B) and nanowires at 15 mN/m (C), 20 mN/m (D). Scan area- $10 \times 10 \mu\text{m}^2$ for all images.

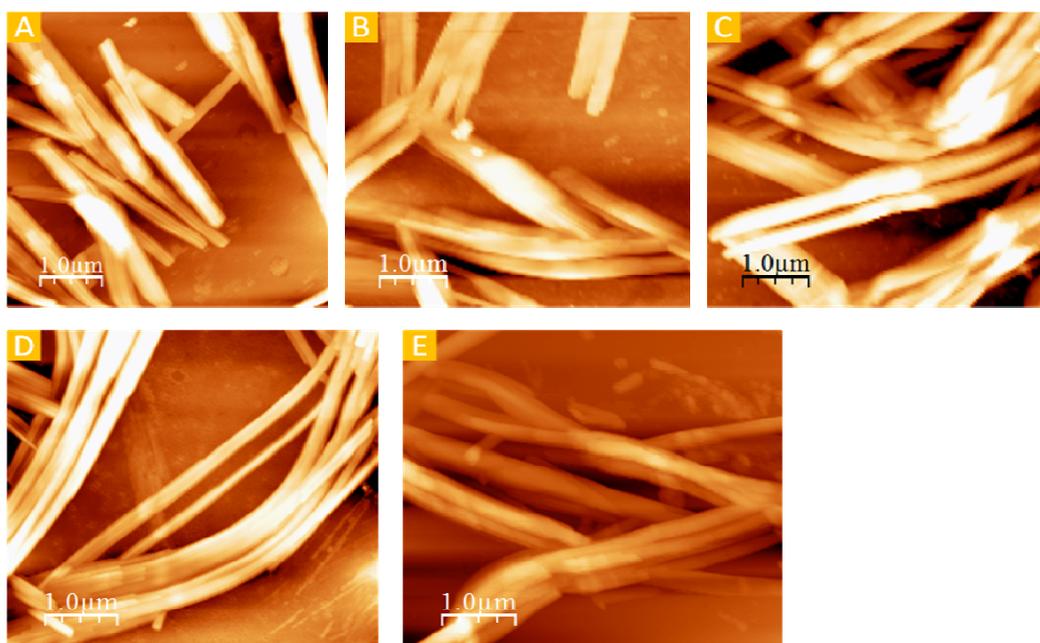


Figure S6. AFM images for nanorods in one layer LB film of **1** taken at 5 mN/m after- (A) 2 days (B) 3 days (C) 4 days (D) 5 days (E) 6 days. Scan area- $5 \times 5 \mu\text{m}^2$ for all images.

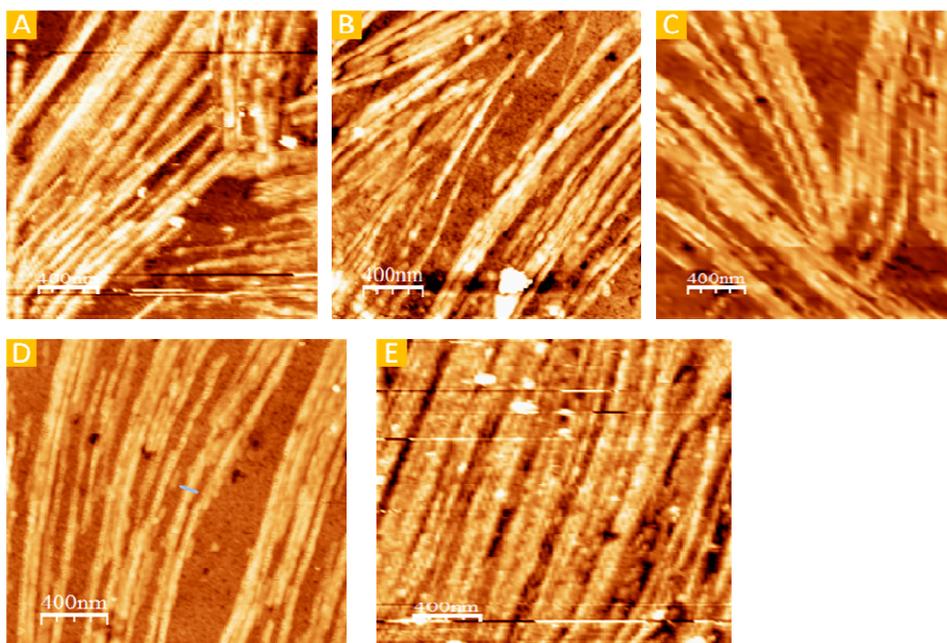


Figure S7. AFM images for nanowires in one layer LB film of **1** taken at 5 mN/m after- (A) 2 daays (B) 3 days (C) 4 days (D) 5 days (E) 6 days. Scan area- $2 \times 2 \mu\text{m}^2$ for all images.

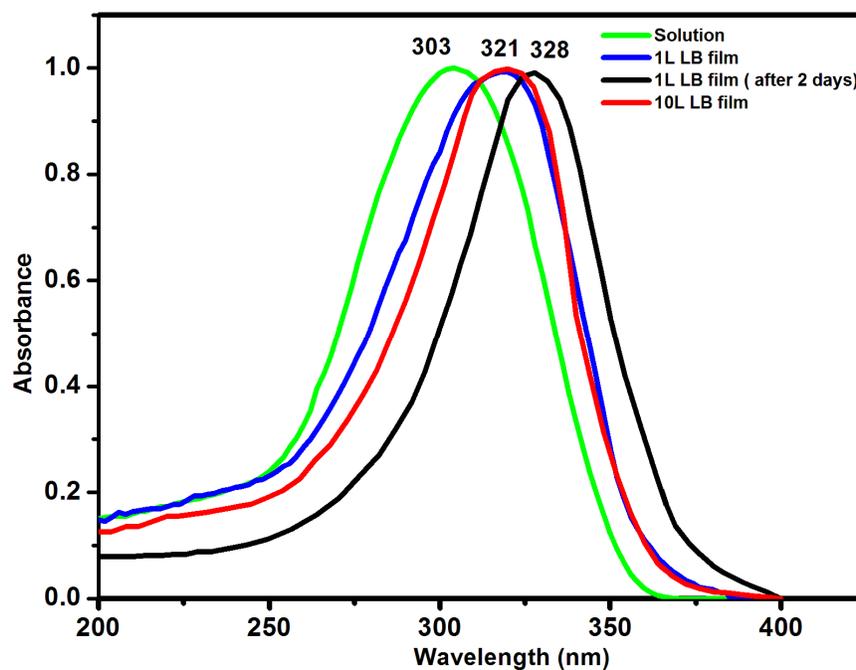


Figure S8. Normalized UV-vis absorption spectra of **1** in solution and one layer LB film lifted at surface pressure 5 mN/m.

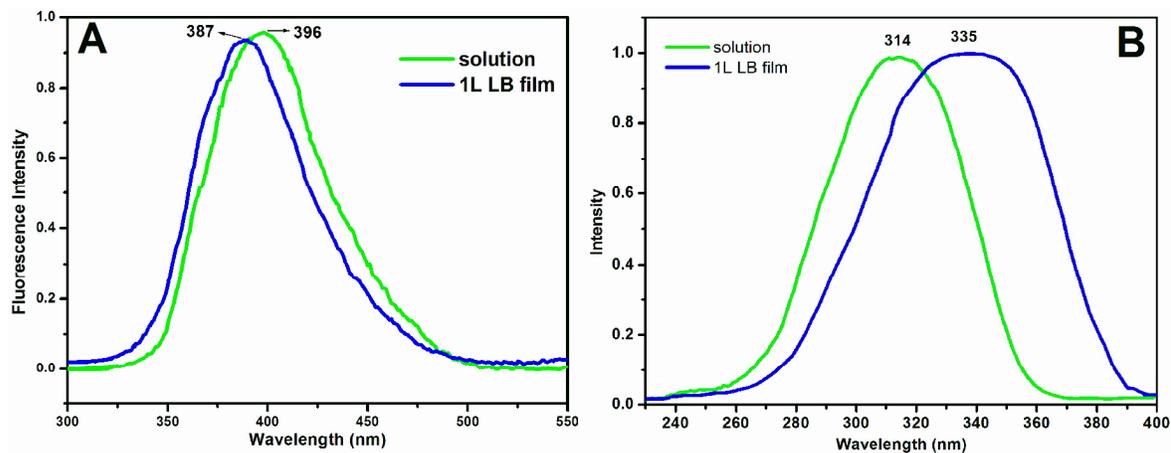


Figure S9 : (A) Steady state fluorescence spectra of **1** in solution ($\lambda_{\text{ex}}=300$ nm) and in one layer LB film ($\lambda_{\text{ex}}=320$ nm) deposited at 5 mN/m. (B) Corresponding excitation spectra of the same monitored at the emission maximum for both solution and LB film.

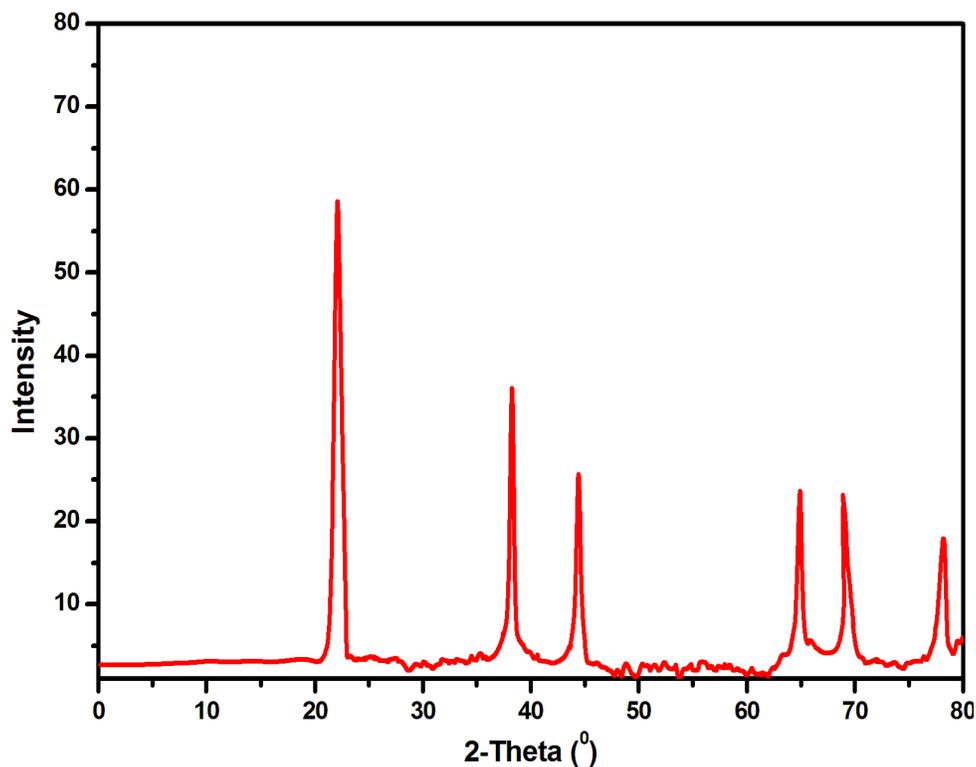


Figure S10 : XRD spectra of compound **1** in 10 layer LB film deposited at surface pressure 5 mN/m.

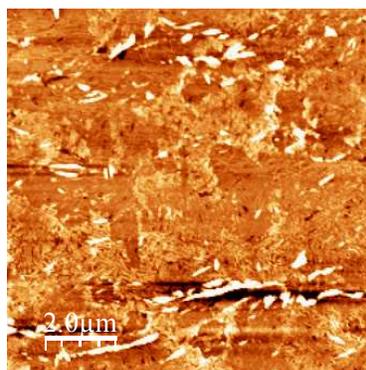


Figure S11. AFM images of **1** in one layer LB film at 0 mN/m.

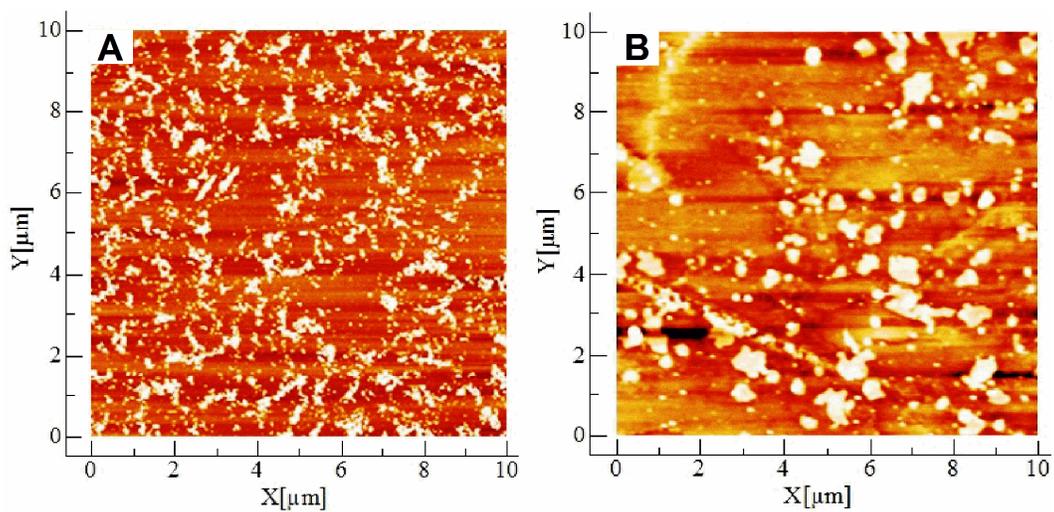


Figure S12. AFM images of compound **1** for spin coated film (A) and drop cast film (B).