

Electronic Supplementary Information (ESI)

Anisotropic two-dimensional sheets assembled from rod-shaped metal complexes

Mina Han* and Tomohiro Hirade

*Department of Chemistry and Department of Electronic Chemistry
Tokyo Institute of Technology
4259 Nagatsuta, Midori-ku, Yokohama 226-8502, Japan
E-mail: han.m.ab@m.titech.ac.jp*

Contents:

1. Instrumentation	pS2
2. Fig. S1 UV-vis absorption spectrum of suspensions in 2×10^{-5} M THF/H ₂ O ..	pS2
2. Fig. S2 AFM images and height profiles	pS3
3. Fig. S3 TEM image of 8×10^{-5} M DMF/H ₂ O	pS3
4. Fig. S4 POM image of microsheets	pS4
5. Fig. S5 POM and OM images of microsheets	pS4
6. Fig. S6 XRD patterns	pS5
7. Fig. S7 NMR data	pS5

Instrumentation

The TEM (transmission electron microscope) was performed at 100 kV using HITACHI H-7650. The sample was prepared by placing a drop of PdCl₂Az₂ suspension onto a silicon oxide coated gold grid, and drying in a nitrogen atmosphere at room temperature. Optical microscopy (OM) and polarized optical microscopy (POM) images were obtained using an Olympus BX51 microscope, after putting a drop of suspension on a clean glass substrate. We employed tapping mode atomic force microscopy (AFM: Veeco Instruments Inc., AFM probes: NCH silicon pointprobe® tip, NanoWorld, Switzerland) to characterize the topographic morphology of the samples on a mica substrate. Absorption spectra were obtained using a Shimadzu UV-3150 UV-VIS-NIR scanning spectrophotometer and a JASCO MSV-350 UV-vis microspectrophotometer. X-ray diffraction (XRD) patterns of planar sheets were measured in reflection mode with CuK α radiation on a Bruker D8 diffractometer.

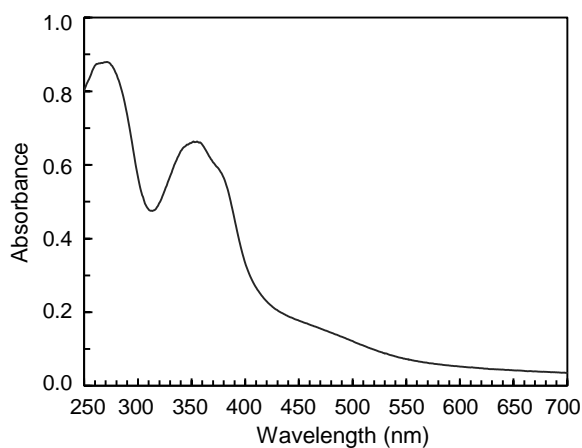


Fig. S1 UV-vis absorption spectrum of suspensions in 2×10^{-5} M THF/H₂O (1/4, v/v).

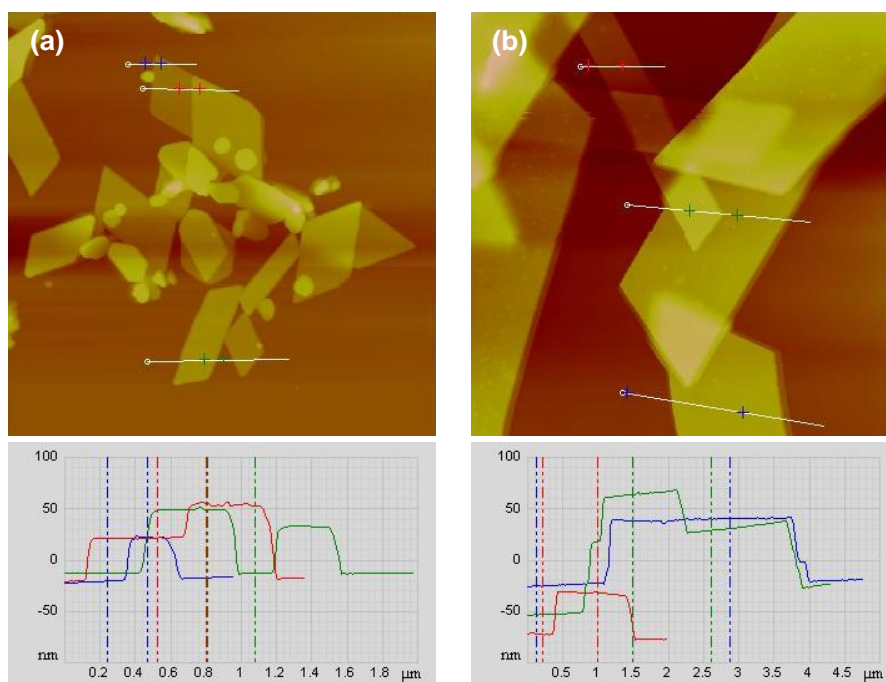


Fig. S2 AFM images and height profiles of parallelogram-shaped sheets prepared from (a) 2×10^{-5} M THF/H₂O (1/4, v/v) ($6 \times 6 \mu\text{m}^2$) and (b) 1×10^{-4} M THF/H₂O (1/1, v/v) ($10 \times 10 \mu\text{m}^2$).

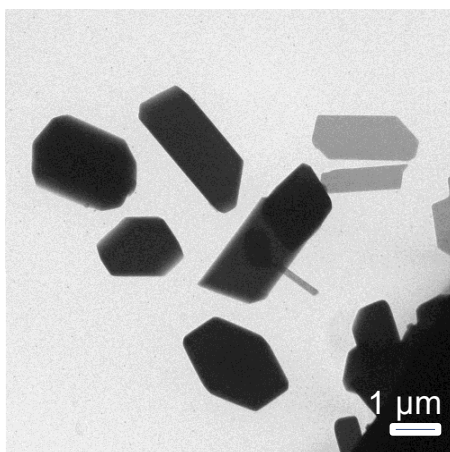


Fig. S3 TEM image of 8×10^{-5} M DMF/H₂O (5/1, v/v).

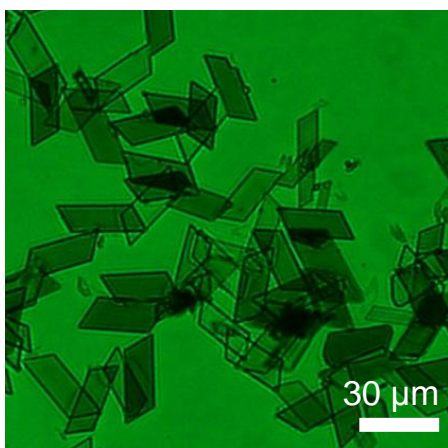


Fig. S4 POM image of microsheets prepared from 1.1×10^{-3} M THF/H₂O.

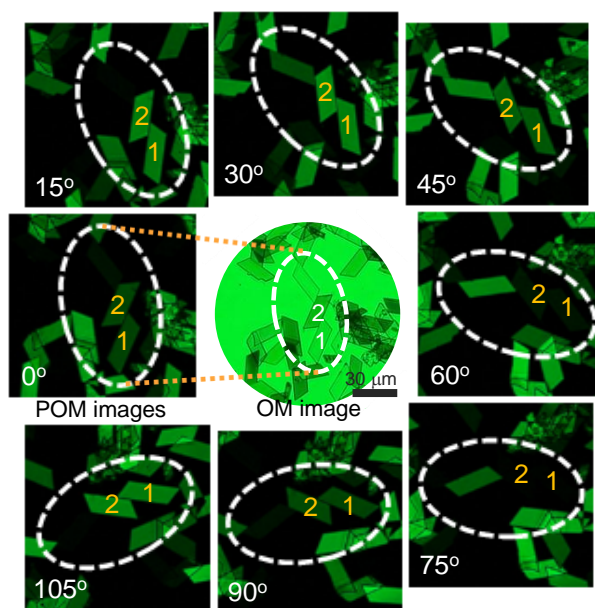


Fig. S5 POM and OM images of microsheets prepared from 1.1×10^{-3} M THF/H₂O.

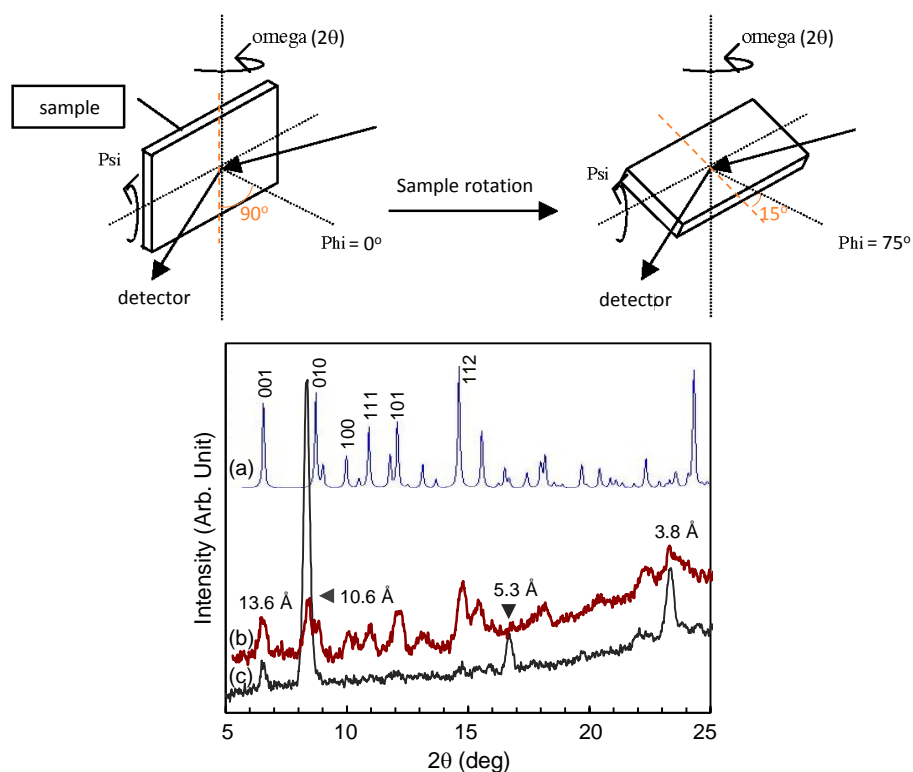


Fig. S6 XRD patterns of (a) the simulated pattern of the single crystal, (b) taken at 75° , and (c) taken at 0° .

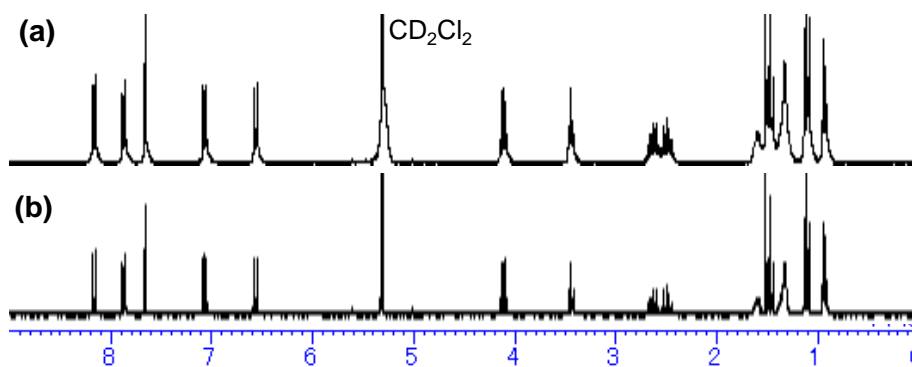


Fig. S7 NMR spectra of PdCl_2Az_2 . (a) purified palladium complex and (b) redissolved in CD_2Cl_2 after the formation of complex sheets in 5.3×10^{-3} M THF/ H_2O (2/1, v/v).