Supporting Information

Meso/Microscopic Single Particle Analyses of Vapochromic Solid-State Crystallization in $[Pt(CN)_2(H_2dcbpy)]$

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Experimental setup for vapochromic behaviors

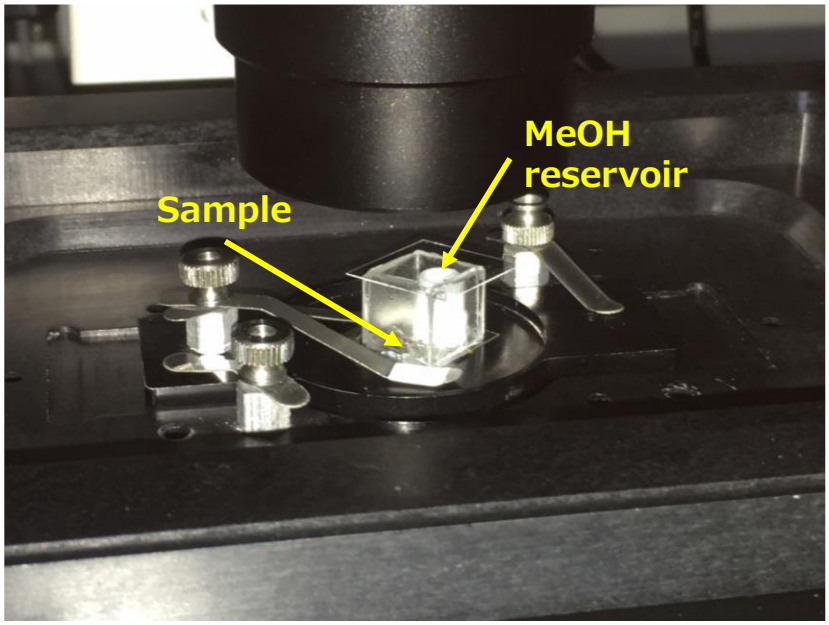

Figure S1. Experimental setup for vapochromic behaviors in a closed system (1 cm × 1 cm × 1.2 cm). The sample was initially placed on a cover glass with a frame, followed by inserting 0.1 mL of MeOH into a reservoir in the frame. After sealing the system with a top cover, phosphorescence microscopy images were measured.

Phosphorescence microscopy images

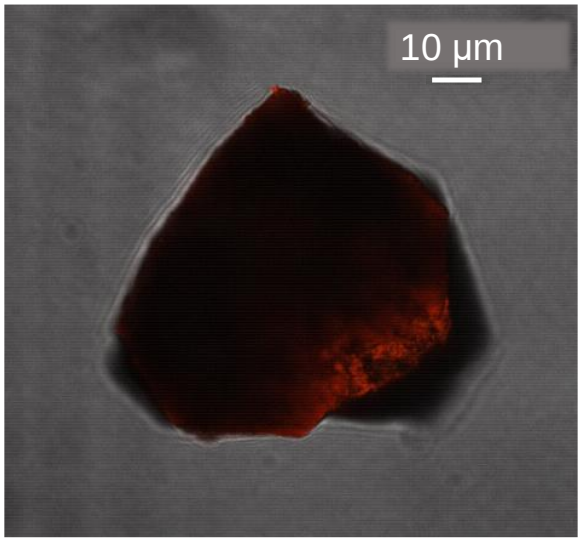

Figure S2. Confocal laser phosphorescence microscopy image (ex. 488 nm, em. 550-748 nm, 9.1 μm height) overlapped with a transmission light microscopy image for ~80 μm sized single [$Pt(CN)_2(H_2dcbpy)$] particle 30 min after MeOH vapor exposure. Movie S1 demonstrates the time evolution of the phosphorescence microscopy image (ex. 488 nm, em. 600-648 nm) of this single particle from 1 min to 31 min. For this larger single particle, the vapochromism is obviously initiated from the right side, i.e., the direction of the position of MeOH reservoir.

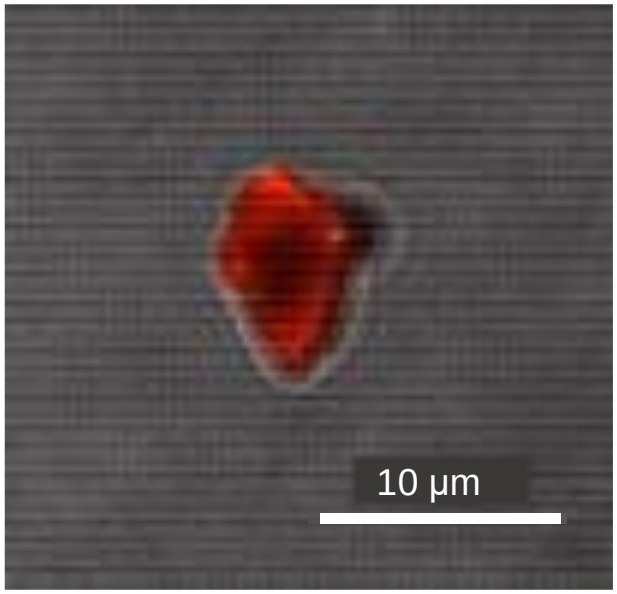

Figure S3. Confocal laser phosphorescence microscopy image (ex. 561 nm, em. 590-748 nm, 1.0 μm height) overlapped with a transmission light microscopy image for ~7 μm sized single [$Pt(CN)_2(H_2dcbpy)$] particle 30 min after MeOH vapor exposure. Movie S2 demonstrates the time evolution of the phosphorescence microscopy image (ex. 561 nm, em. 600-648 nm) for this single particle from 1 min to 31 min. For this smaller single particle, although the vapochromism was confirmed to have initiated from the surface, the difference between the right and left sides was negligible.

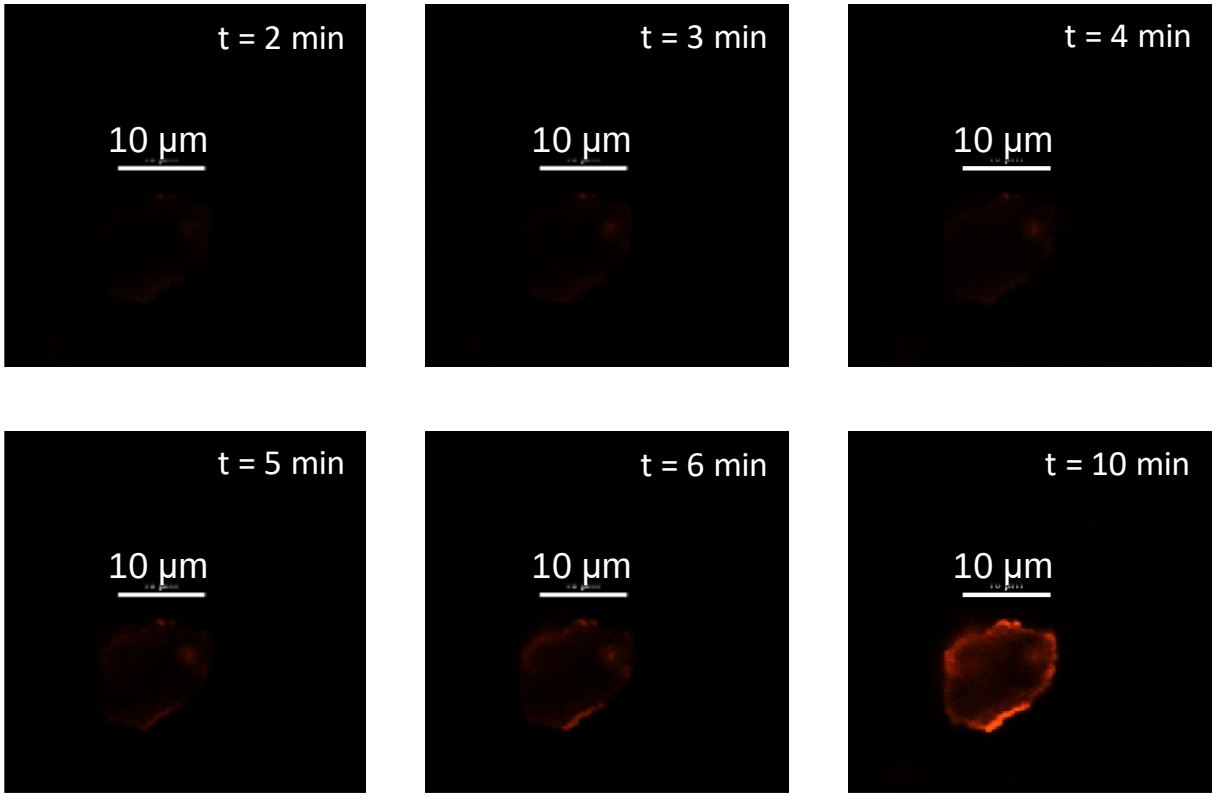

Figure S4. Time dependence of confocal laser phosphorescence microscopy images (ex. 561 nm, em. 600-649 nm, 2.4 μm height) of 10 μm sized single particle of $[Pt(CN)_2(H_2dcbpy)]$ shown in Figure 3, after MeOH vapor exposure (2, 3, 4, 5, 6, 10 min later, respectively). For this single particle, the vapochromism initiated at 3 min from the right side, i.e., the direction of the position of the MeOH reservoir.