SUPPLEMENTARY INFORMATION

Highly fluorescent organic nanoparticles of thiacyanine dye: A synergetic effect of intermolecular H-aggregation and restricted intramolecular rotation

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IR spectrum of the solid-state precipitates of TC–TFPB prepared at the ρ = 1 along with those of pure Na–TFPB and TC–Cl

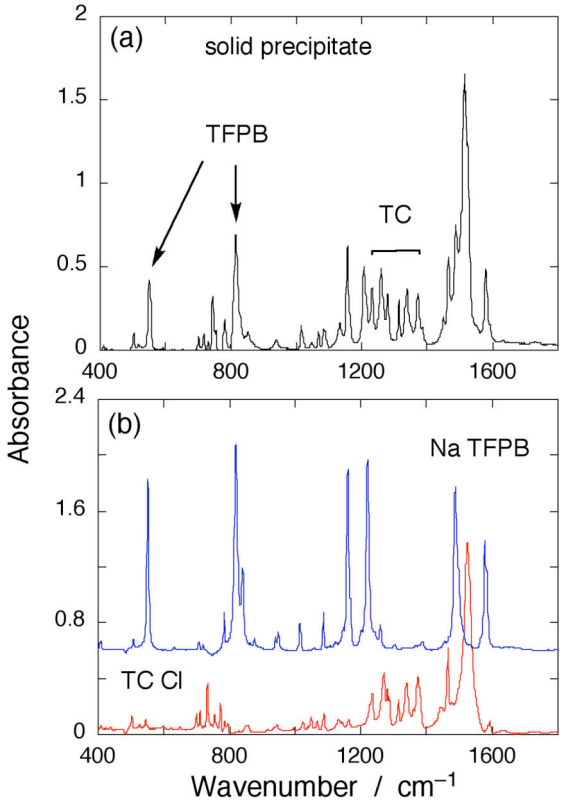

Figure S1. (a) FT-IR spectrum of the solid precipitate produced after mixing aqueous TC–Cl solution with aqueous Na–TFPB solution at ρ = 1 in the absence of PVP. (b) FT-IR spectra of pure Na–TFPB and TC–Cl.

Figure S1 shows the FT-IR spectra of the reactants Na–TFPB and TC–Cl along with that of the ion-pair product TC–TFPB (precipitate). The spectra (KBr pellet) were measured on a Horiba FT-720. Judging from these spectral features, we can know that the solid-state TC–TFPB is reasonably composed of the respective components; that is, TC and TFPB.

Polarized-light microscopy (PLM) for the solid precipitates of TC–TFPB

To check whether the solid-state product TC–TFPB is crystalline or amorphous, polarized-light microscopy (PLM) is effective since structural anisotropy displays birefringence with contrast-enhancing imaging. Figure S2 shows typical optical micrographs of the precipitates without (upper image) and with (lower image) cross polarizers. Then PLM was performed with a BXP optical microscope (Olympus). If the specimen is optically anisotropic or crystalline, we can visualize the object with PLM observations; however, from Figure S2, the complete absence of the PLM image indicates that the solid product of TC–TFPB is amorphous.

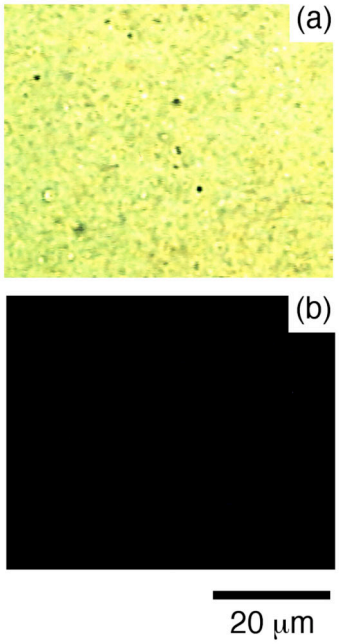

Figure S2. Representative optical micrographs of the solid-state products of TC–TFPB dispersed in water. (a) and (b) correspond to those observed without and with cross polarizers, respectively.