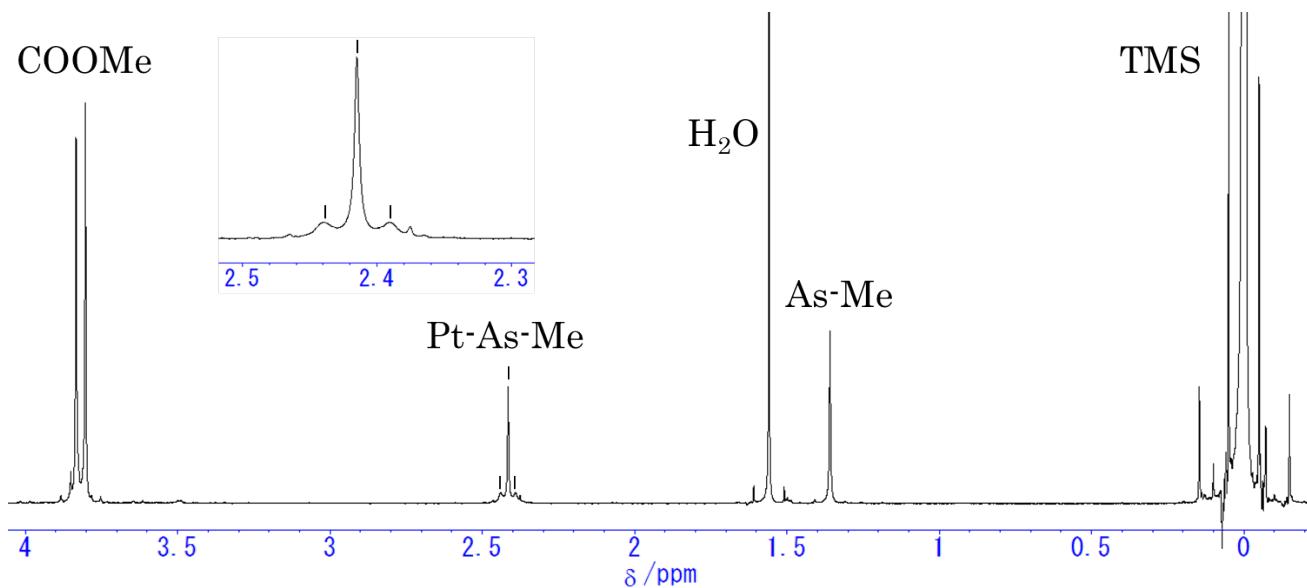
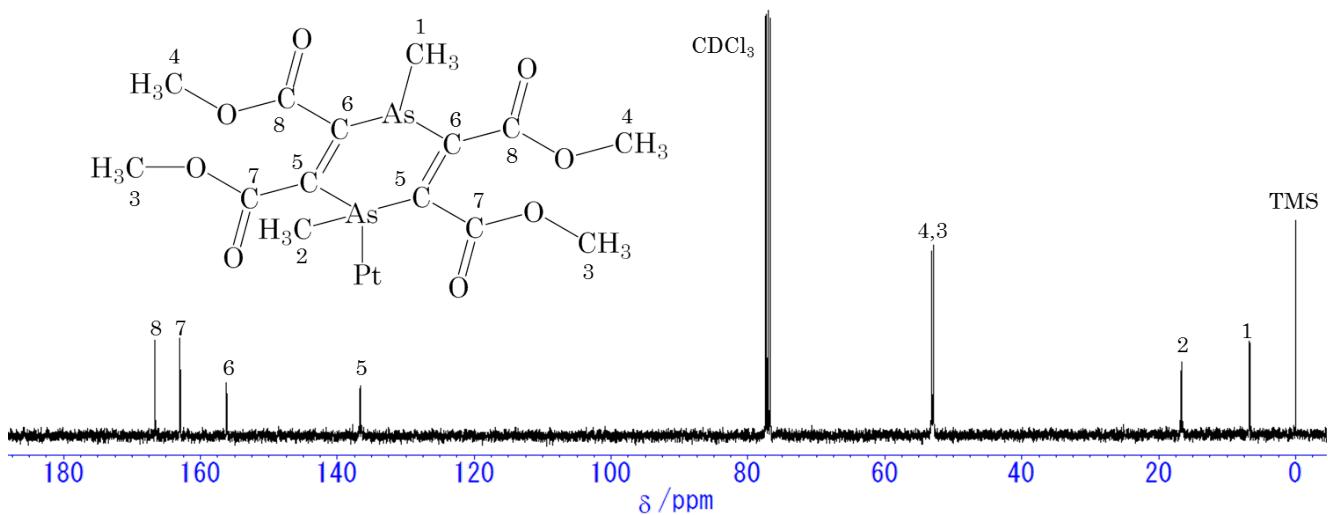


**Supporting information for**  
**Polymorph Control of Luminescence Properties in Molecular Crystals**  
**of a Platinum and Organoarsenic Complex and Formation of Stable**  
**One-Dimensional Nanochannel**

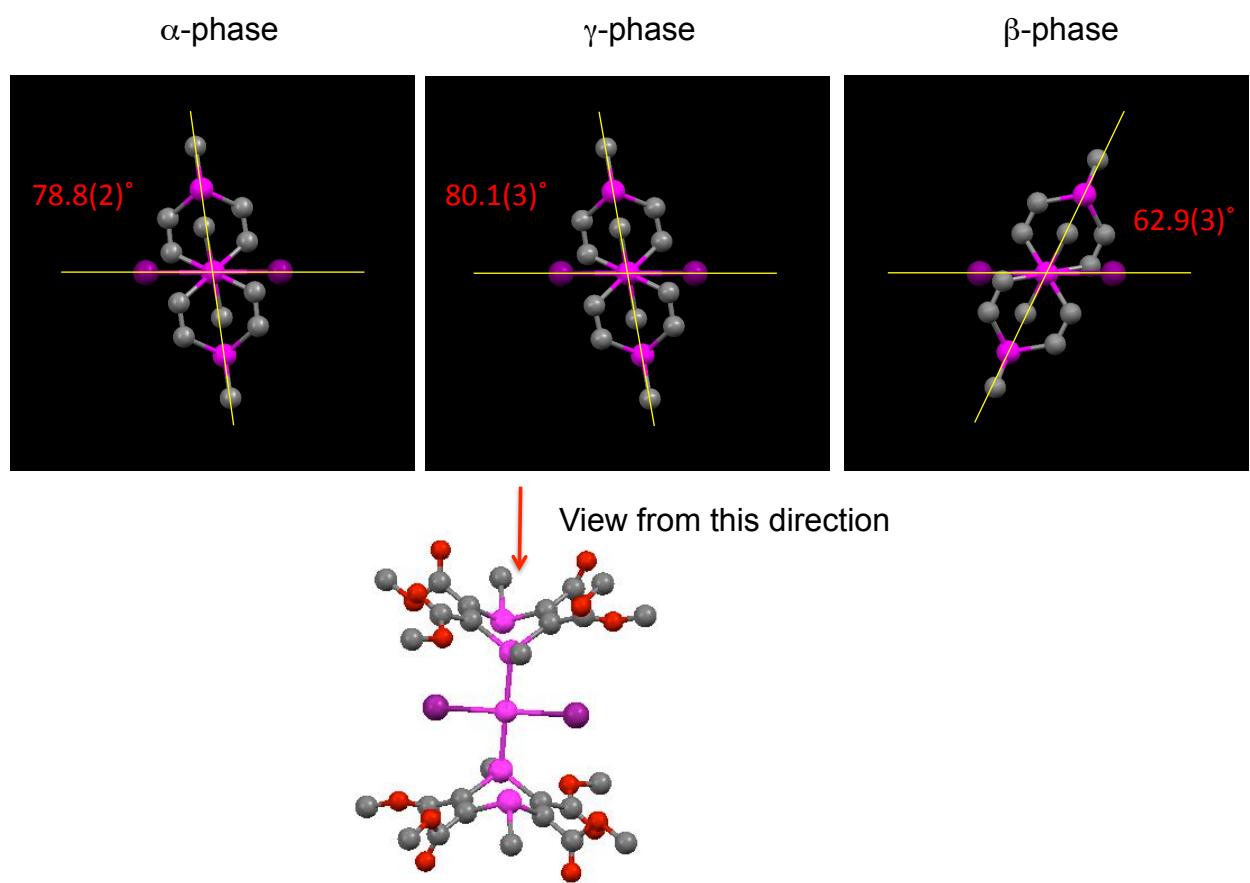
Hikaru Unesaki, Takuji Kato, Seiji Watase, Kimihiro Matsukawa, Kensuke Naka



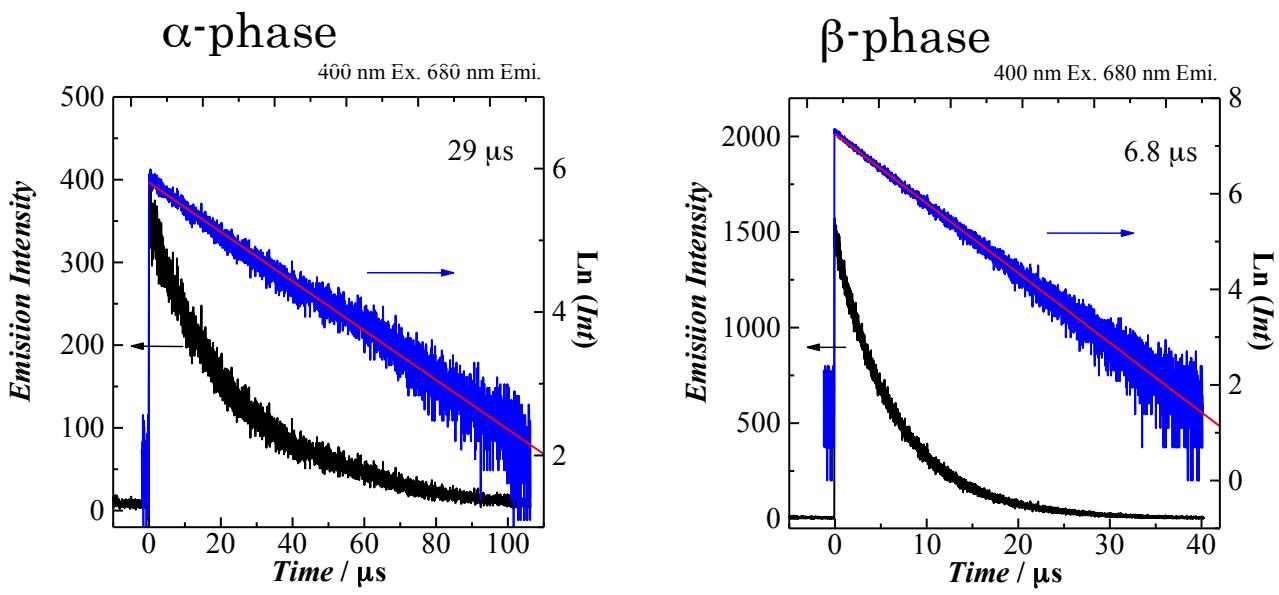
**Figure S1.**  $^1\text{H}$ -NMR spectrum of *trans*- $\text{PtI}_2(\text{cis}\text{-DHDAMe})_2$  in  $\text{CDCl}_3$ .



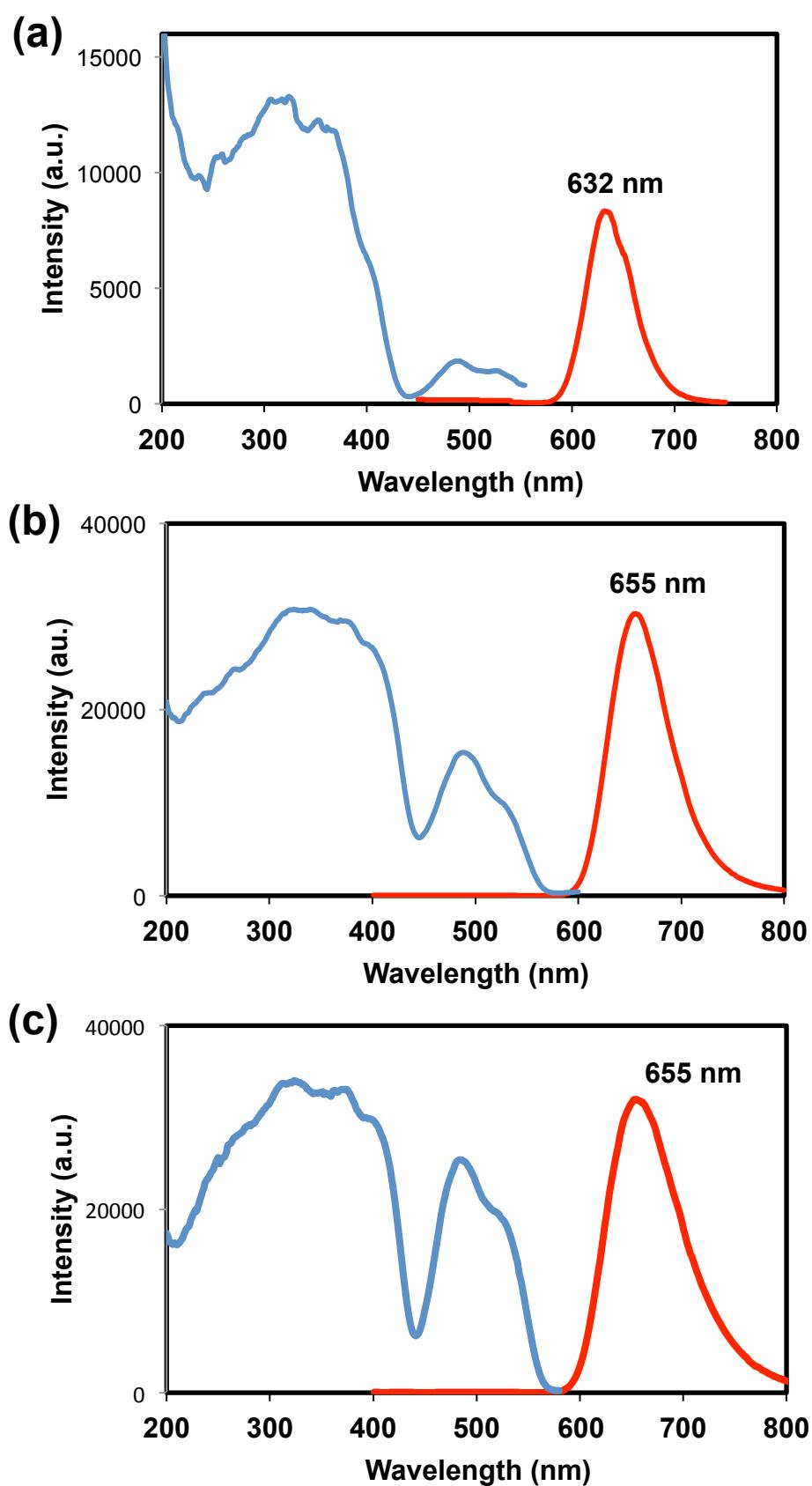
**Figure S2.**  $^{13}\text{C}$ -NMR spectrum of *trans*- $\text{PtI}_2(\text{cis}\text{-DHDAMe})_2$  in  $\text{CDCl}_3$ .



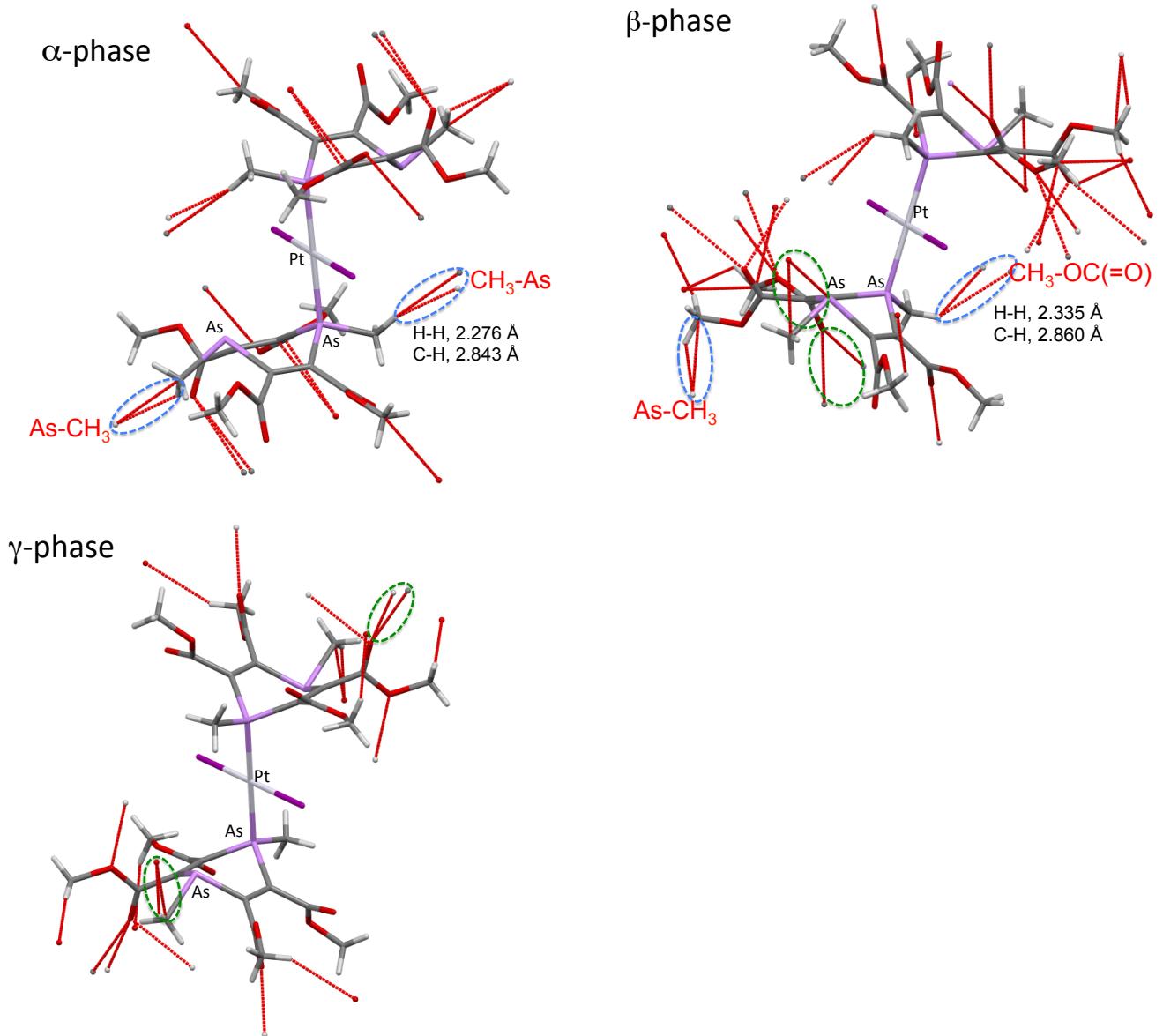
**Figure S3.** Comparison of the I(1)-Pt(2)-As(1)-C(1) torsion angles in  $\alpha$ -,  $\beta$ -, and  $\gamma$ -phases.



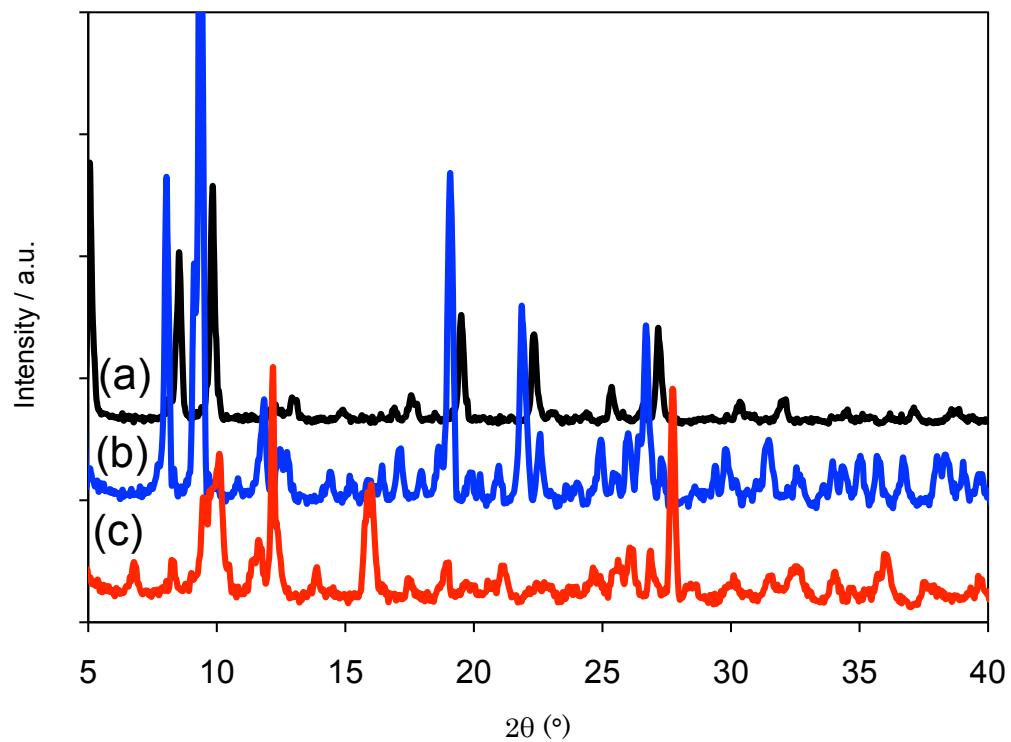
**Figure S4.** Observed emission decays (black line) and single-exponential plots (blue line) for the  $\alpha$ -phase and  $\beta$ -phase crystals at room temperature.



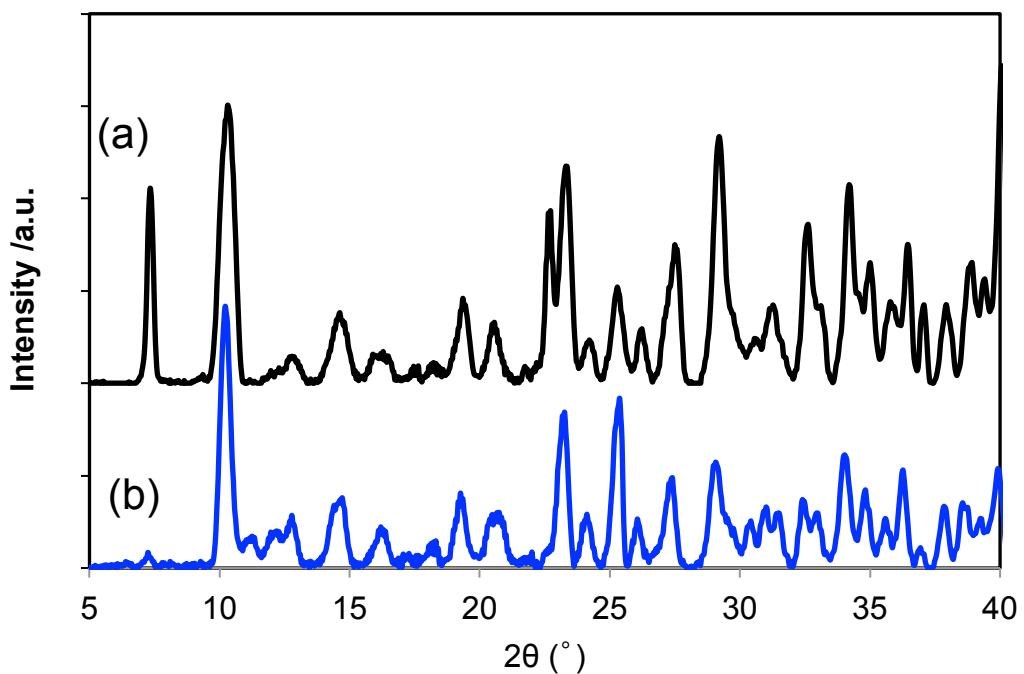
**Figure S5.** Solid state excitation and emission spectra measured at -196 °C for the crystals of (a)  $\alpha$ -, (b)  $\beta$ -, and (c)  $\gamma$ -phases.



**Figure S6.** The crystal packing of the  $\alpha$ -phase,  $\beta$ -phase and  $\gamma$ -phase crystals. Connected adjacent elements are indicated as dots with lines.



**Figure S7.** Powder XRD patterns of the crystals of  $\beta$ -phase before (a) and after heating at 110 °C (b), and 150 °C (c).



**Figure S8.** Powder XRD patterns of the crystals of  $\gamma$ -phase before (a) and after heating at 100 °C (b).