Supporting Information

**Figure S1.** Powder X-ray diffraction patterns for compound 1 and 1-simulated from single crystal data.

**Figure S2.** Powder X-ray diffraction patterns for compound 2 and 2-simulated from single crystal data.
**Figure S3.** The IR spectra of compounds 1 and 2.

**Figure S4.** Thermal analyses of compounds 1 and 2.
**Figure S5.** Packing diagram of complex 1 projected along the c-axis.

**Figure S6.** Packing diagram of complex 2 projected along the c-axis. The inter-layer hydrogen bonds are highlighted in dotted lines.
**Figure S7.** Plot of $M$ vs. $H$ for compound 1 at 1.8 K.

**Figure S8.** Temperature dependence of $ac$ susceptibilities at frequencies of 31.6, 316, 500, 794 and 999 Hz for 1 under a zero $dc$ field.

**Figure S9.** Plot of $M$ vs. $H$ for compound 2 at 1.8 K.