

Abstract Submitted
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Low temperature relaxation crossover in one dimensional chain-like molecular magnet $[\text{Fe}^{II}(\Delta)\text{Fe}^{II}(\Lambda)(\text{ox})_2(\text{phen})_2]_n$ J.L. HER, C.P. SUN, S. TARAN, C.C. CHOU, C.L. CHAN, C.C. LIN, Department of Physics, Center of Nanoscience and Nanotechnology, National Sun Yat-Sen University, Kaohsiung 804, Taiwan, L.L. LI, K.J. LIN, Department of Chemistry, Center of Nanoscience and Nanotechnology, National Chung-Hsing University, Taichung 402, Taiwan, H.D. YANG, Department of Physics, Center of Nanoscience and Nanotechnology, National Sun Yat-Sen University, Kaohsiung 804, Taiwan — The frequency-dependent ac susceptibility, thermoremanent magnetization relaxation (TRM) and magnetic field dependent magnetization have performed on a hand-aligned partially orientated molecular magnet compound $[\text{Fe}^{II}(\Delta)\text{Fe}^{II}(\Lambda)(\text{ox})_2(\text{phen})_2]_n$, [1] which exhibits one dimension chain like structure. The ac susceptibility shows spin glass-like relaxation at temperatures between 7.8 and 8.2 K. In addition, the TRM results show various relaxation behaviors below $T_m \sim 8.6$ K, indicating that there is a remnant instability at low temperature. It might be caused by the complex interaction within and/or between the chains and the stacked layers. With slowly sweeping the magnetic field, a step-like behavior in the magnetic hysteresis loop was observed below T_m . The possible origins for these properties are discussed.

[1] L. L. Li, K. J. Lin, C. J. Ho, C. P. Sun, and H. D. Yang, Chem. Commun. **12**, 1286 (2006).

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