**Magnetic Properties and Structures of Chiral Ferrimagnets and Chiral Antiferromagnets**

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Molecule-based magnets have been studied intensively over several decades as, in addition to the molecular structure, the crystal structure can be controlled. Molecule-based magnets are differ from general metallic or metal-oxide based magnets in this point, and reported for multifunctional magnetic materials, e.g., photo-controlled magnets, single-molecule/chain magnets etc., in terms of its transparency and molecular designability. When the crystal structures of magnets belong to chiral space groups, chiral magnetic structures are expected by Dzyaloshinskii-Moriya (DM) interaction[1] and/or anisotropic electric fields generated by the chiral structure of the material. Examples of chiral magnetic structure include left or right handed screw/ conical magnetic spin order. Magnets possessing chiral magnetic structures are expected to exhibit novel phenomena such as magnetization induced second harmonic generation (MSHG), magneto-chiral dichroism (MChD) effect,[2] chiral magnetic anisotropy. etc. We attempted to synthesize chiral molecule-based magnets utilizing Prussian blue analogues, which display high magnetic transition temperature and satisfactory crystallinity. The chirality of crystals can be controlled by exploiting chiral induction associated with organic ligands.[3] This paper describes the single crystal magnetic properties and estimated magnetic structure of chiral molecule-based ferrimagnets and antiferromagnets.

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