

# Emerging molecular magnetic materials

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Molecular magnetic materials are coordination compounds, in which metal ions are linked with each other via suitable ligands. These materials exhibit a tremendous variety in their dimensionality, electrical, optical and magnetic properties, giving rise, e.g., to the coexistence of ferromagnetic order and electrical conductivity in layered molecular materials [1], photoswitchable compounds [2], single molecules possessing long magnetization lifetimes [3] and long spin coherence times [4]. In addition, because of their processability they can be incorporated into molecule-inorganic heterostructures [5–7], which constitutes a means of investigating and exploiting their interesting properties attractive for a wide range of possible applications [8]. In this contribution I will show recent developments in this field, with the hope of further stimulating exciting discussions followed by experiments.

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