MAGNETIC FRUSTRATION IN Eu(II)-BASED METAL-ORGANIC FRAMEWORKS

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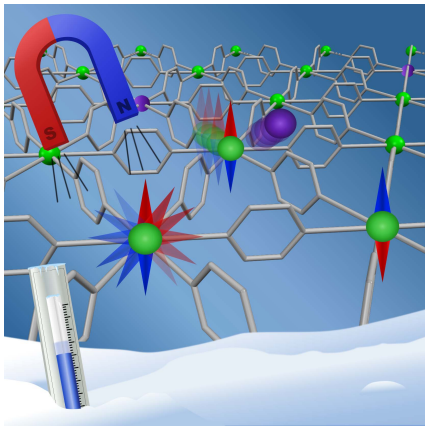
Metal-organic frameworks (MOFs) are a research field with growing interest due to their unique physical properties, including their magnetic behaviour.[1] We are utilizing coordination chemistry to tailor building blocks into extended 2D materials with the aim to facilitate long-range magnetic order and frustration. Extended networks can exhibit magnetic frustration if the symmetry of the lattice prevents the simultaneous minimization of all magnetic exchange interactions. The most well-studied examples are those of the triangular, kagome, and pyrochlore lattices.[2] Odd numbered rings, such as triangles or pentagons, of metal ions with half-integer spins and with nearest-neighbour antiferromagnetic interactions are bona fide examples of systems showing competing exchange interactions and spin frustration. Here I present a pure Ba-based network consisting of the rare triangular tilling and one that has been doped with the paramagnetic Eu(II) ion to investigate the magnetic properties. This demonstrate the requisite geometry and magnetic properties for low temperature frustration.[3-5]



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