

## High magnetic field physics on switchable coordination compounds

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A magnetic metal–organic polyhedron of a cyanide-bridged  $\text{Fe}^{\text{II}}_{24}\text{Fe}^{\text{III}}_{18}$  coordination complex were afforded under the self-assembly technique. The polyhedron can be regarded as a hollow spherical Prussian blue compound in which 18  $\text{Fe}^{\text{III}}$  ions are positioned at the vertices of a highly symmetric entity known as a stellated cuboctahedron. Magnetic metal centers are ferromagnetically coupled, yielding the highest ground state spin number ( $S = 45$ ) of any prepared molecule. Moreover, the polyhedron exhibits intramolecular charge transfer between Fe ions upon the reversible coordination bond formation/cleavage on Fe sites. The polyhedron also shows magnetization hysteresis at 0.5 K.

