Title: **Synthesis of imine ligands for complexation with lanthanides with potential single-molecule magnet applications**

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In the early 1990's, the compounds known as single-molecule magnets (SMM) caused a revolution in the coordination complexes field. The possibility of producing magnets at the molecular level that could retain magnetisation, in the absence of the stimulus that generated it, opened up the possibility of using them as new devices for storage and information processing in computing, where they could even show an improvement in the speed of these processes.

The working temperature of the known SMMs is at helium liquid temperature (4 K) and the challenge of depositing and addressing a single molecule on a device surface are the greatest issues in using SMMs as computing devices at present. In an attempt to overcome these difficulties lanthanide SMMs, which exhibit enhanced properties, have been proposed.

In this project we have focused on the synthesis of a ligand that may be used to complex lanthanides and that may exhibit SMM behaviour.

Keywords: single-molecule magnets, magnetisation, coordination complexes, lanthanides.