Title: **Structure/magnetic properties relationships for the building block [$Dy_2(RCOO)_4$]**

Student: Alba Palacios Requena

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Supervisor/s: Dr. Jordi Cirera Fernandez
Departament of Química Inorgànica i Química Orgànica, secció Inorgànica
Dra. E. Carolina Sañudo Zotes
Departament of Química Inorgànica i Química Orgànica, secció Inorgànica

Single-Molecule Magnets (SMM) have been studied in recent years for their functionality in the field of technology and information technology, such as data storage.

In order to find an optimal magneto-structural relationship for SMM that allows to modify the magnetic properties obtained up to the present such energy barrier (U_{eff}) and relaxation time (τ_0), a literature search have been made using the Cambridge Crystallographic Database (or Crystallographic Structural Database, CSD), of all coordination compounds that contains the building block $[Dy_2(RCOO)_4]^{2+}$. The data on the magnetic properties contained in each of the publications have been extracted, some geometric parameters have been measured such as the distance between the metallic centres of the dinuclear complex (Dy-Dy), the angle bond between the metal centres and the oxygen (Dy-O-Dy) or the torsion angle formed by anisotropy axes of each structure. An analysis of all the collected data has been made.

Finally, three SMMs obtained in GMMF group (Group of Magnetism and Functional Molecules) prior to this project, have been measured the same geometric parameters as the structures of the literature search and have been compared.