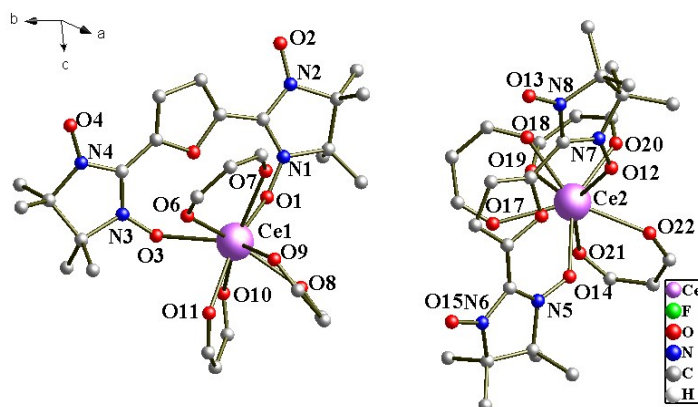


## Supporting Information

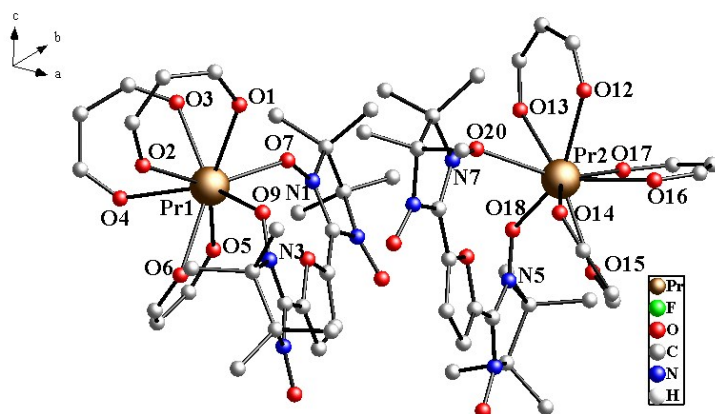
### **A family of rare earth complexes with chelating furan biradicals: syntheses, structures and magnetic properties**

Xin Li, Ting Li, Li Tian,\* Zhong Yi Liu, and Xiu Guang Wang

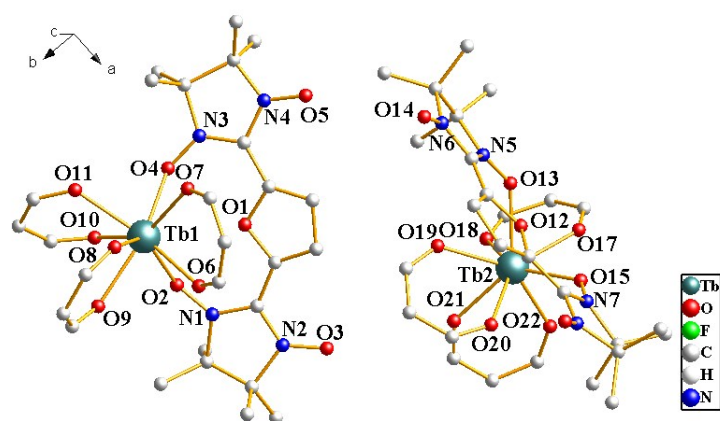
*Tianjin Key Laboratory of Structure and Performance for Functional Molecule, Key Laboratory of Inorganic-Organic Hybrid Functional Material Chemistry, Ministry of Education, College of Chemistry, Tianjin Normal University, Tianjin 300387, P. R. China.*



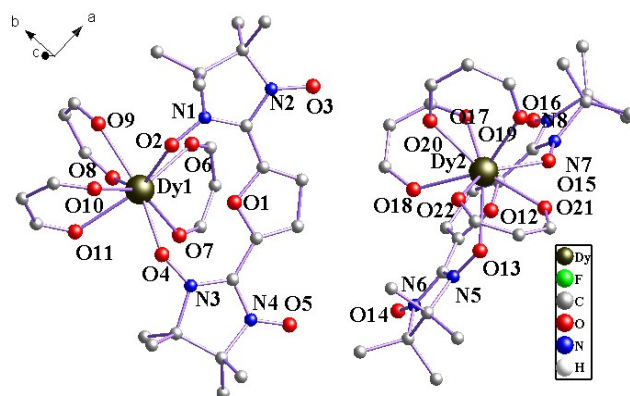
**Fig. S1** Simplified view of the crystal structure of **2**. Fluorine, hydrogen, and some carbon atoms are omitted for clarity.



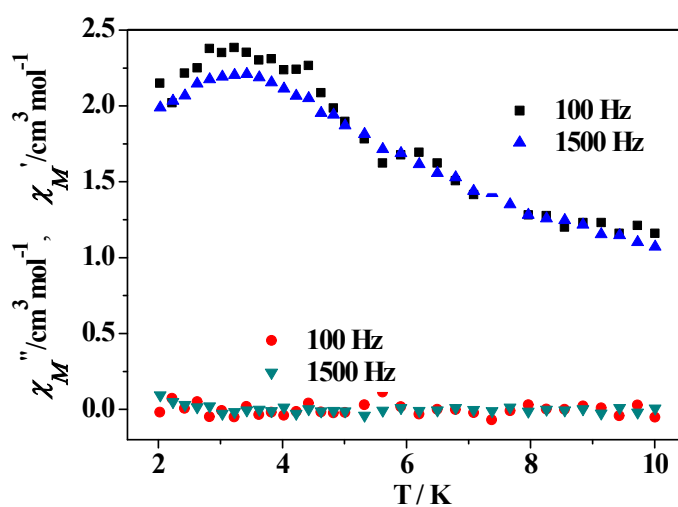
**Fig. S2** Simplified view of the crystal structure of **3**. Fluorine, hydrogen, and some carbon atoms are omitted for clarity.



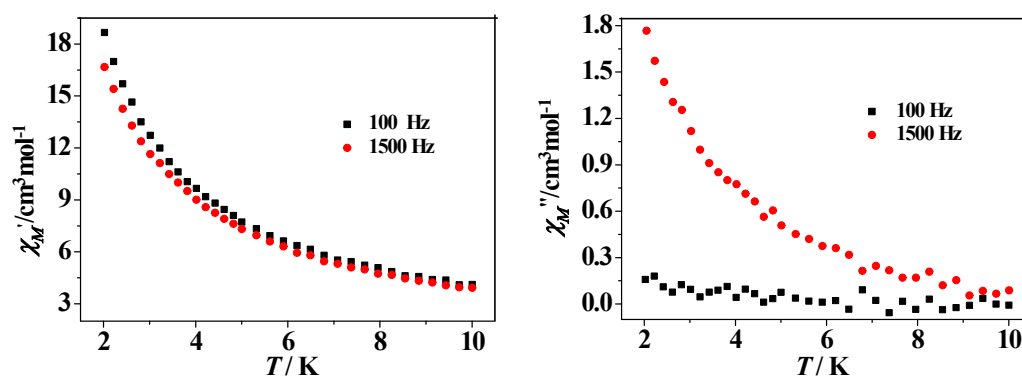
**Fig. S3** Simplified view of the crystal structure of **5**. Fluorine, hydrogen, and some carbon atoms are omitted for clarity.



**Fig. S4** Simplified view of the crystal structure of **6**. Fluorine, hydrogen, and some carbon atoms are omitted for clarity.



**Fig. S5** Temperature dependence of the in-phase(top) and out-of-phase(bottom) components of the AC magnetic susceptibility for complex **5** in a 3000 Oe DC field with an oscillation of 3 Oe.



**Fig. S6** Temperature dependence of the in-phase(top) and out-of-phase(bottom) components of the AC magnetic susceptibility for complex **6** (right) in zero DC field with an oscillation of 3 Oe.

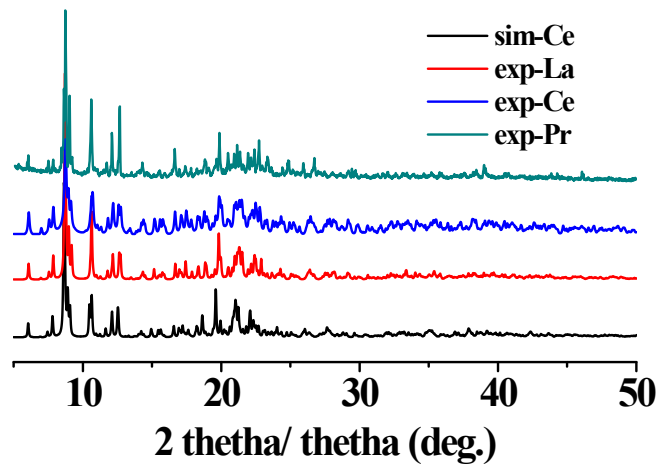


Fig. S7 Powder X-ray diffractions of 1-3.

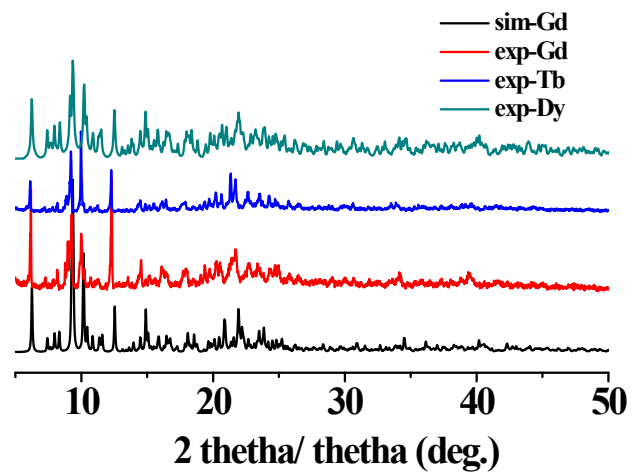


Fig. S8 Powder X-ray diffractions of 4-6.