

Electronic Supplementary Information

on

Luminescence Tuning of MOFs via Ligand to Metal and Metal to Metal Energy Transfer by Co-Doping of ${}^2\infty[\text{Gd}_2\text{Cl}_6(\text{bipy})_3]\cdot 2\text{bipy}$ with Europium and Terbium

P. R. Matthes^a, C. J. Höller^a, M. Mai^b, S. Schmiechen^c, S. J. Sedlmaier^c, C. Feldmann^b, W. Schnick^c and K. Müller-Buschbaum^{*a}

^a Institute for Inorganic Chemistry, Julius-Maximilians-University Würzburg, Am Hubland, 97074 Würzburg, Germany. Fax: +49-931-3184785; Tel: +49-931-3188724; E-mail: k.mueller-buschbaum@uni-wuerzburg.de

^b Institute for Inorganic Chemistry, Karlsruhe Institute of Technology (KIT), Engesserstr. 15, 76131 Karlsruhe, Germany. Fax: +49-721-6084892; Tel: +49-721-6082856; E-mail: claus.feldmann@kit.edu

^c Department of Chemistry, University of Munich (LMU), Butenandtstr. 5-13, 81377 München, Germany. Fax: +49-89-218077440; Tel: +49-89-218077436; E-mail: wolfgang.schnick@uni-muenchen.de

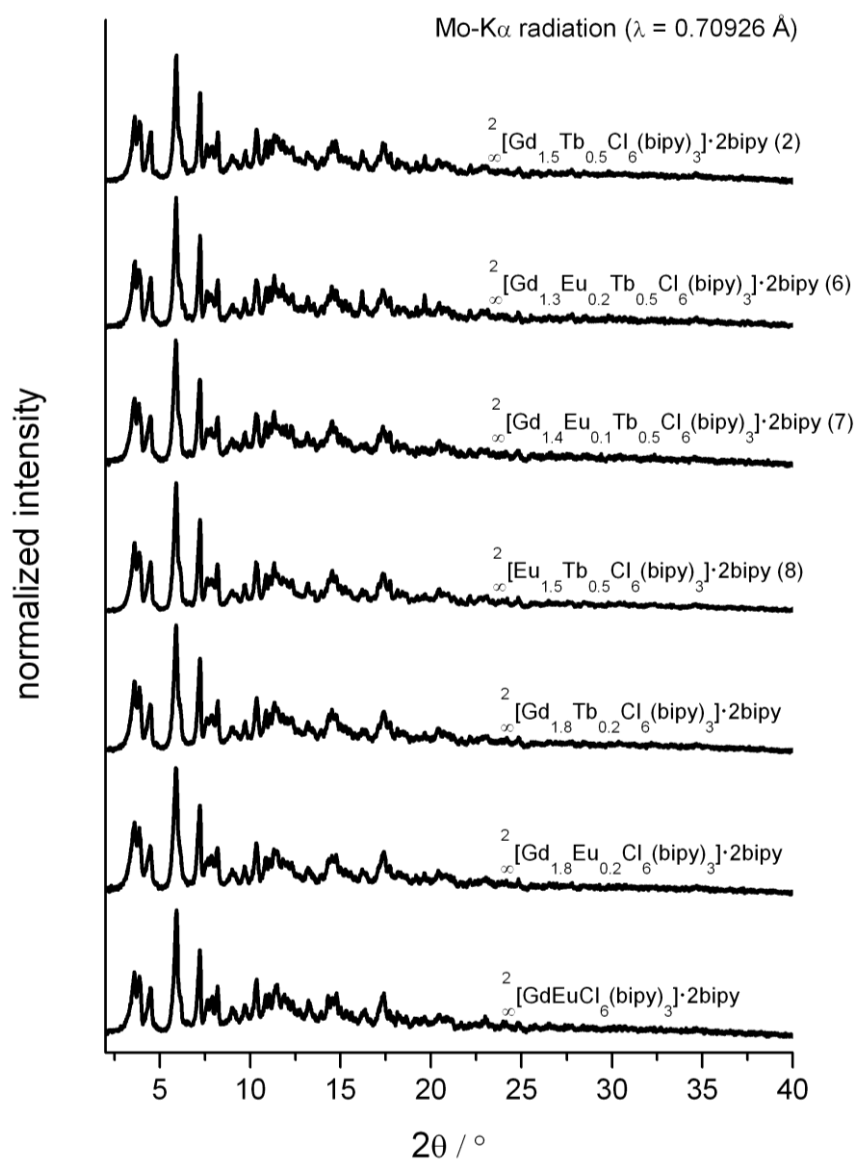


Fig. S1. Comparison of XRPD bulk data of different constitutions of the co-doped solid solutions ${}^2\infty[\text{Ln}_2\text{Cl}_6(\text{bipy})_3]\cdot 2\text{bipy}$, Ln = Gd, Eu, Tb.

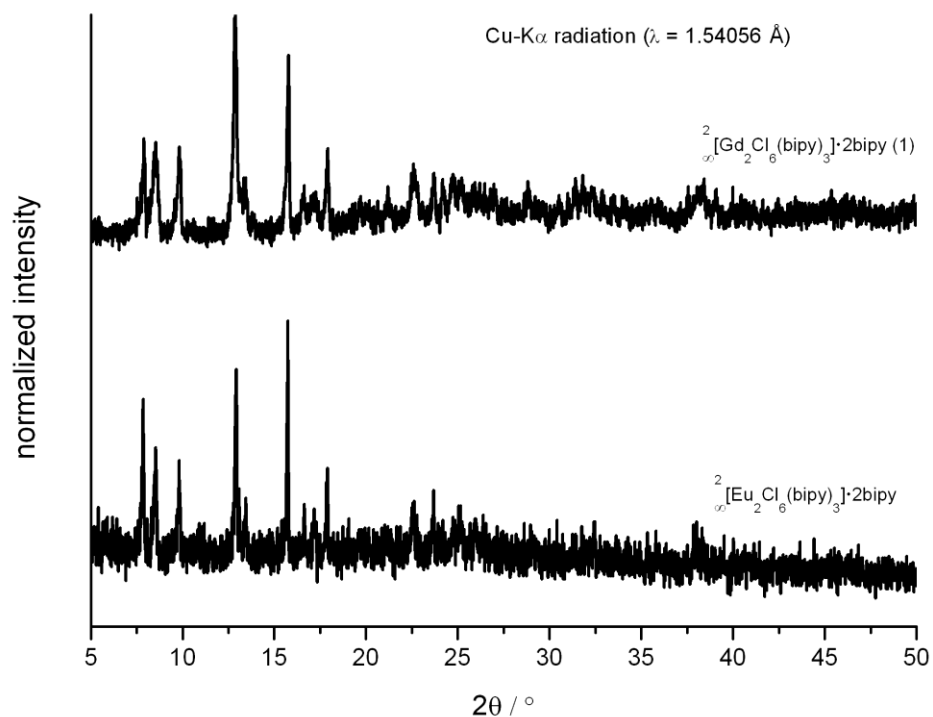


Fig. S2. XRPD data revealing the isotypic character of ${}^2_{\infty}[\text{Ln}_2\text{Cl}_6(\text{bipy})_3]\cdot 2\text{bipy}$, Ln = Gd, Eu

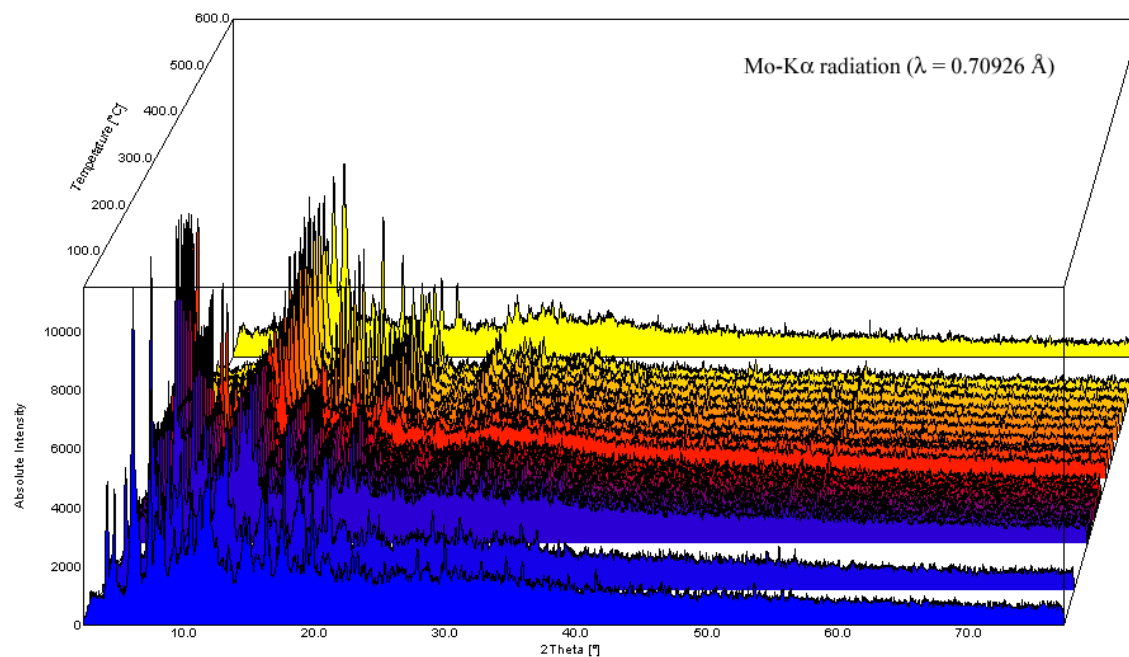


Fig. S3. Temperature dependent XRPD of ${}^2_{\infty}[\text{Gd}_2\text{Cl}_6(\text{bipy})_3]\cdot 2\text{bipy}$ (1). Change in constitution upon release of framework constitution bipy limits the activation temperature for release of template bipy molecules.

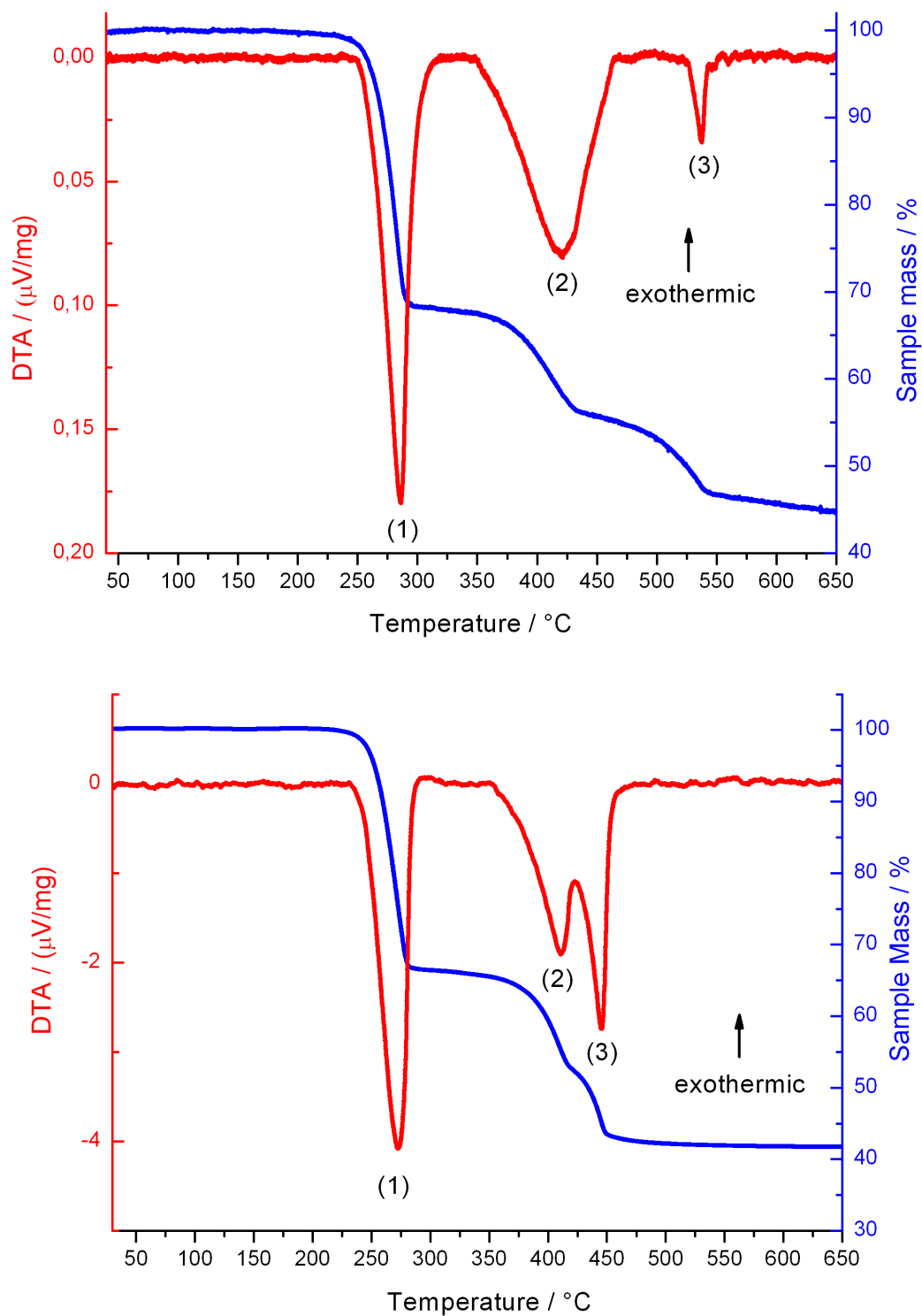


Fig. S4. Simultaneous DTA/TG of ${}^2_8[\text{Ln}_2\text{Cl}_6(\text{bipy})_3] \cdot 2\text{bipy}$, Ln = Gd (top, 1), Eu (bottom), indicating a decomposition in three steps. The thermal plateau in step (1) was used for activation of the MOFs. Steps (2) and (3) mark release steps of framework constituting bipy molecules.