

UvA-DARE (Digital Academic Repository)

A facile building-block synthesis of multifunctional lanthanide MOFs

Tanase, S.; Mittelmeijer-Hazeleger, M.C.; Rothenberg, G.; Mathonière, C.; Jubera, V.; Smits, J.M.M.; de Gelder, R.

DOI

[10.1039/c1jm12789f](https://doi.org/10.1039/c1jm12789f)

Publication date

2011

Document Version

Other version

Published in

Journal of Materials Chemistry

[Link to publication](#)

Citation for published version (APA):

Tanase, S., Mittelmeijer-Hazeleger, M. C., Rothenberg, G., Mathonière, C., Jubera, V., Smits, J. M. M., & de Gelder, R. (2011). A facile building-block synthesis of multifunctional lanthanide MOFs. *Journal of Materials Chemistry*, 21(39), 15544-15551.
<https://doi.org/10.1039/c1jm12789f>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

UvA-DARE is a service provided by the library of the University of Amsterdam (<https://dare.uva.nl>)

Supplementary Material

A facile building-block synthesis of multifunctional lanthanide MOFs

Stefania Tanase,^{*a,b} Marjo C. Mittelmeijer-Hazeleger,^a Gadi Rothenberg,^{a*} Corine Mathonière,^c Véronique Jubera,^c Jan M. M. Smits,^d René de Gelder,^d

^a*Van 't Hoff Institute for Molecular Sciences, University of Amsterdam, Science Park 904, 1098 XH Amsterdam, The Netherlands.*

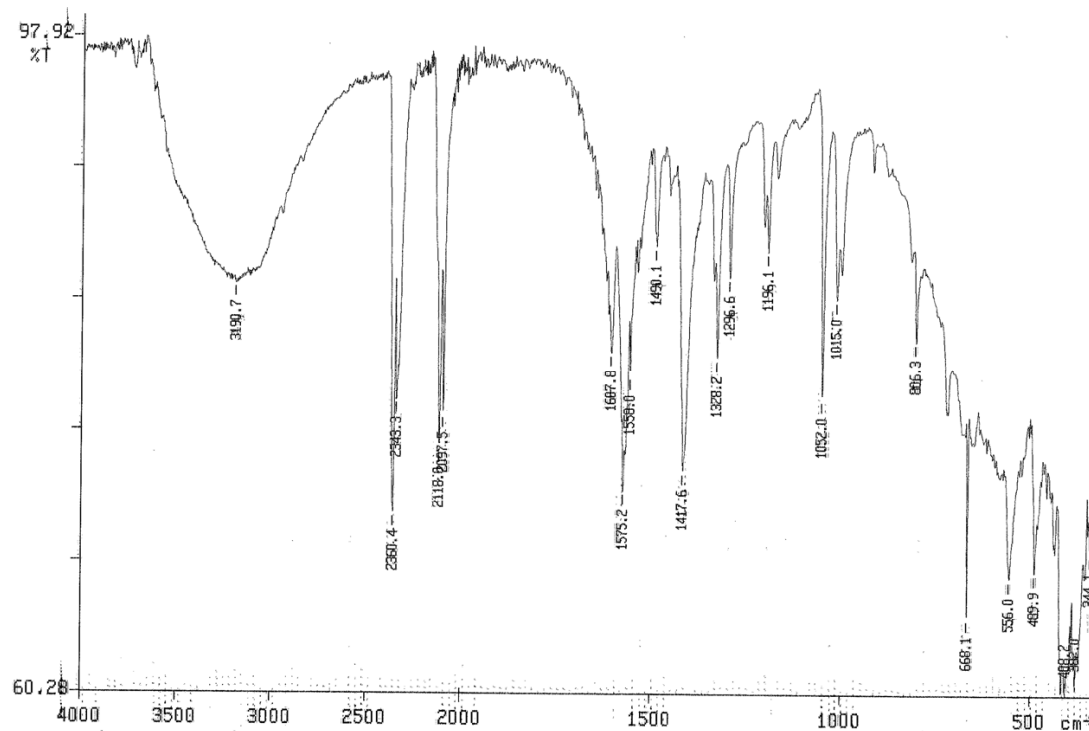
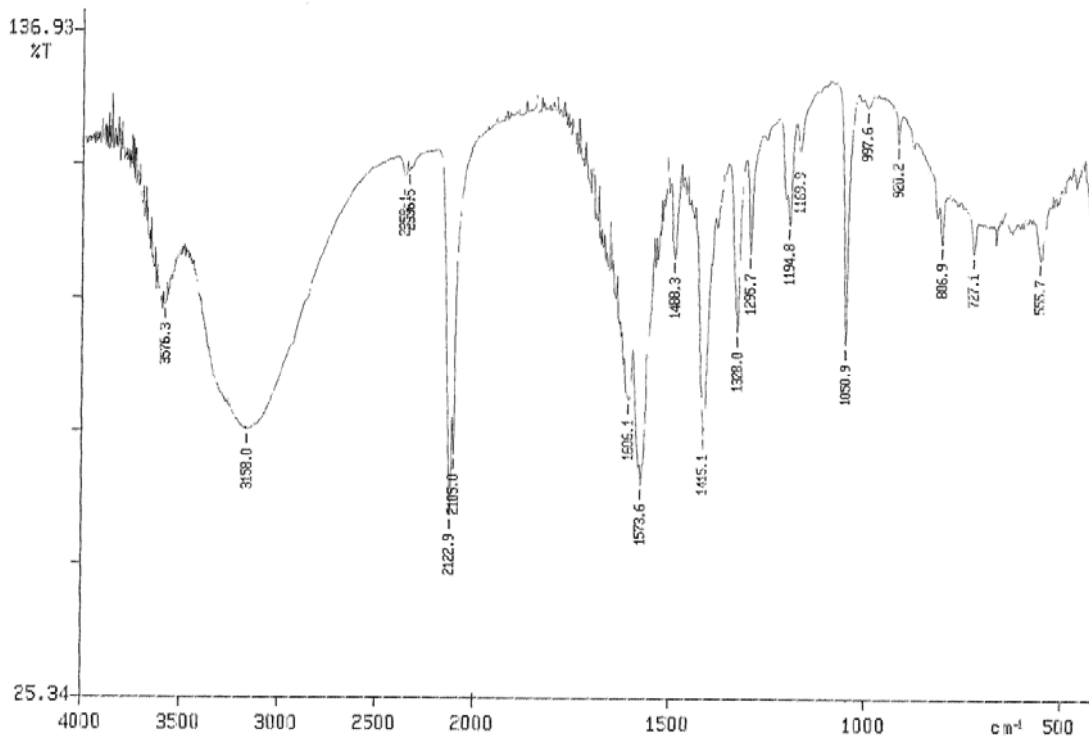
s.grecea@uva.nl (S. Tanase); g.rothenberg@uva.nl (G. Rothenberg)

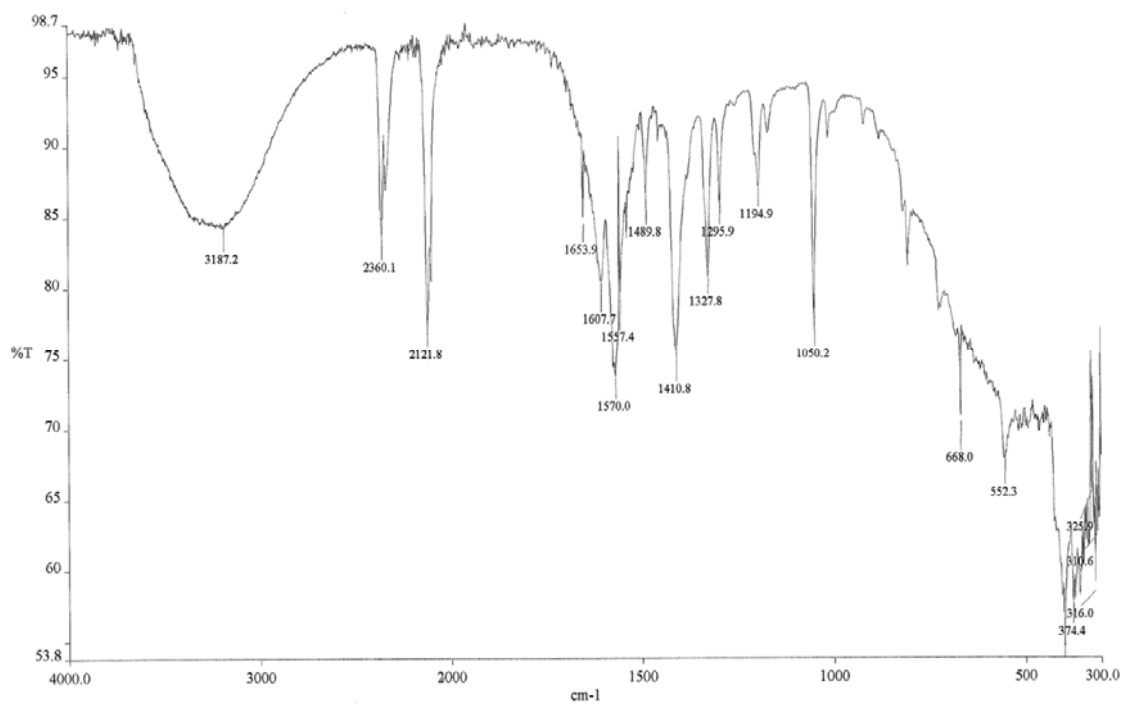
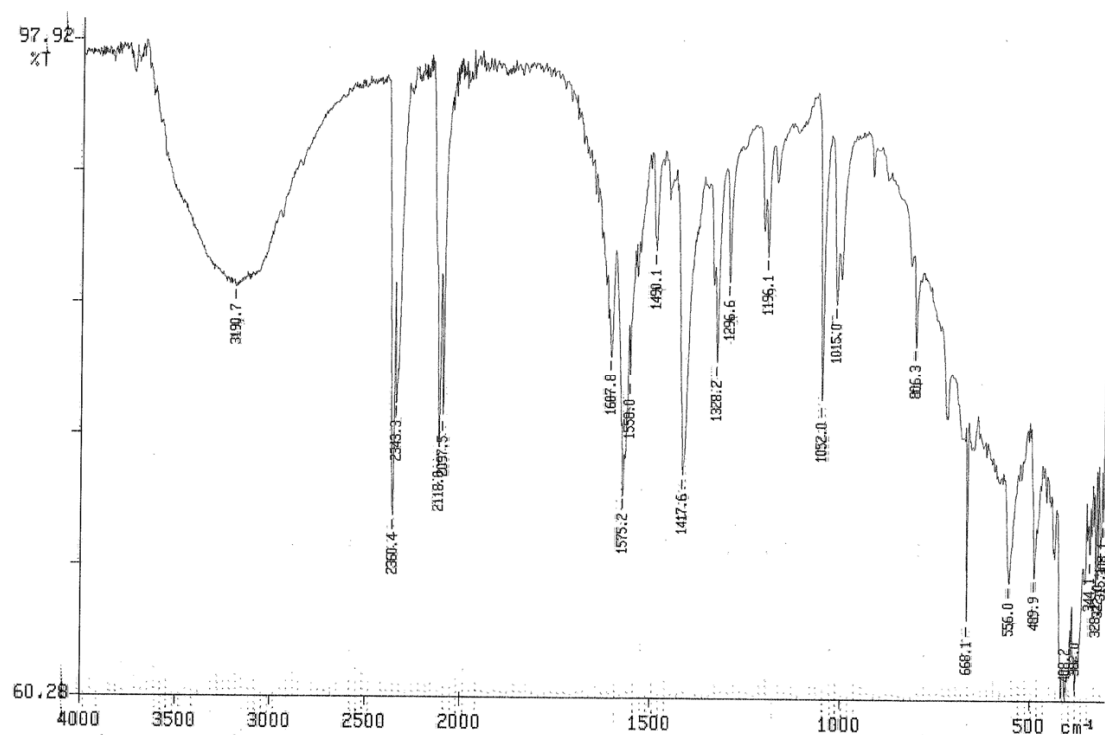
^b*Leiden Institute of Chemistry, Gorlaeus Laboratories, Leiden University, PO Box 9502, 2300 RA, Leiden, The Netherlands.*

^c*CNRS, Université de Bordeaux, ICMCB, 87 av. Dr. A. Schweitzer, Pessac, F-33608, France.*

^d*Radboud University Nijmegen, Institute for Molecules and Materials, Toernooiveld 1, 6525 ED, Nijmegen, The Netherlands.*

The supplementary information available: IR and optical spectra, XRD and TGA data, decay time curve of Nd-MOF and magnetic properties of Tb-MOF.





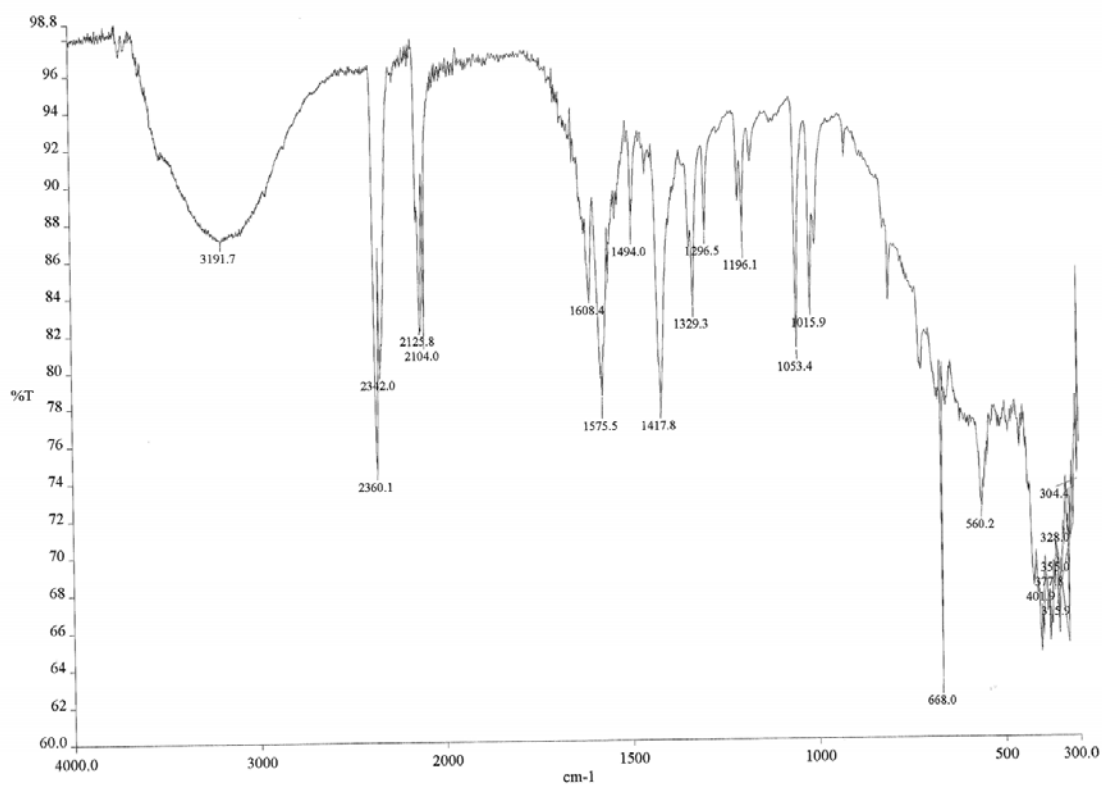


Figure S1. IR spectra of Ln-MOFs (from top to bottom: Nd, Eu, Gd, Tb and Er).

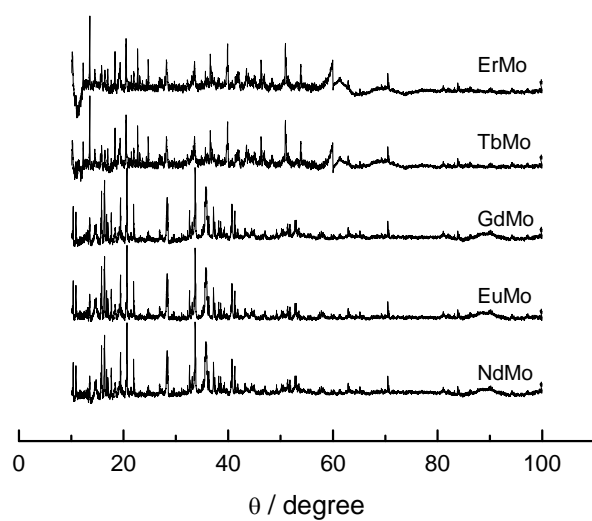


Figure S2. XRD powder diffraction patterns for Ln-MOFs.

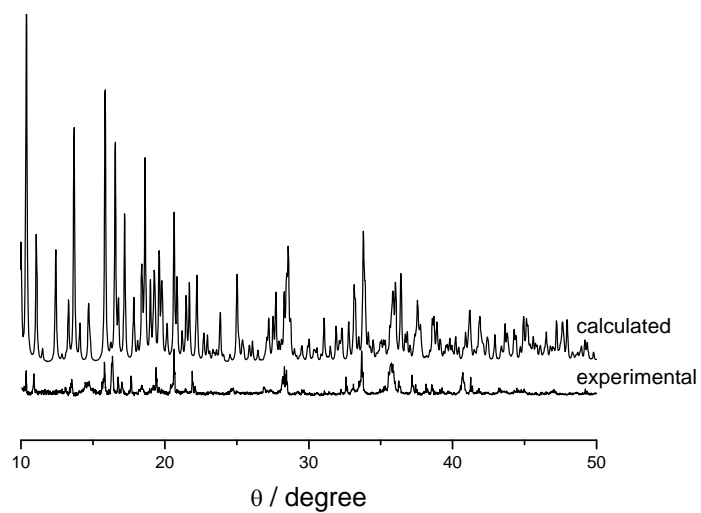


Figure S3. XRD powder diffraction patterns and the simulated pattern of Eu-MOF.

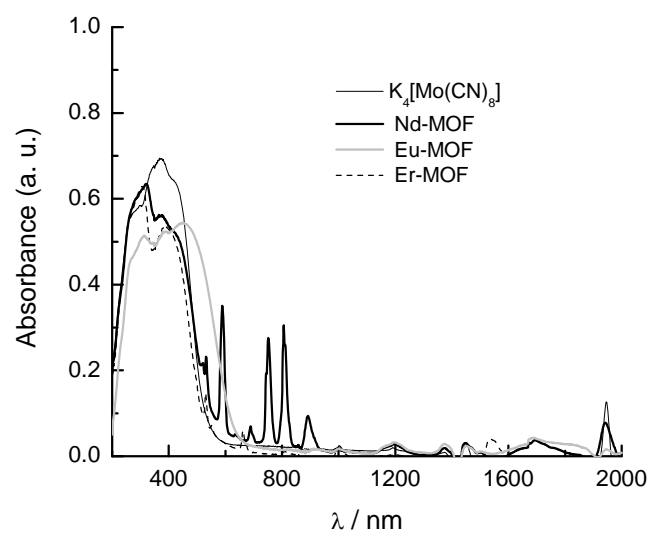


Figure S4. Absorption spectra collected at room temperature for the compounds $K_4[Mo(CN)_8]$, Nd, Eu and Er MOFs.

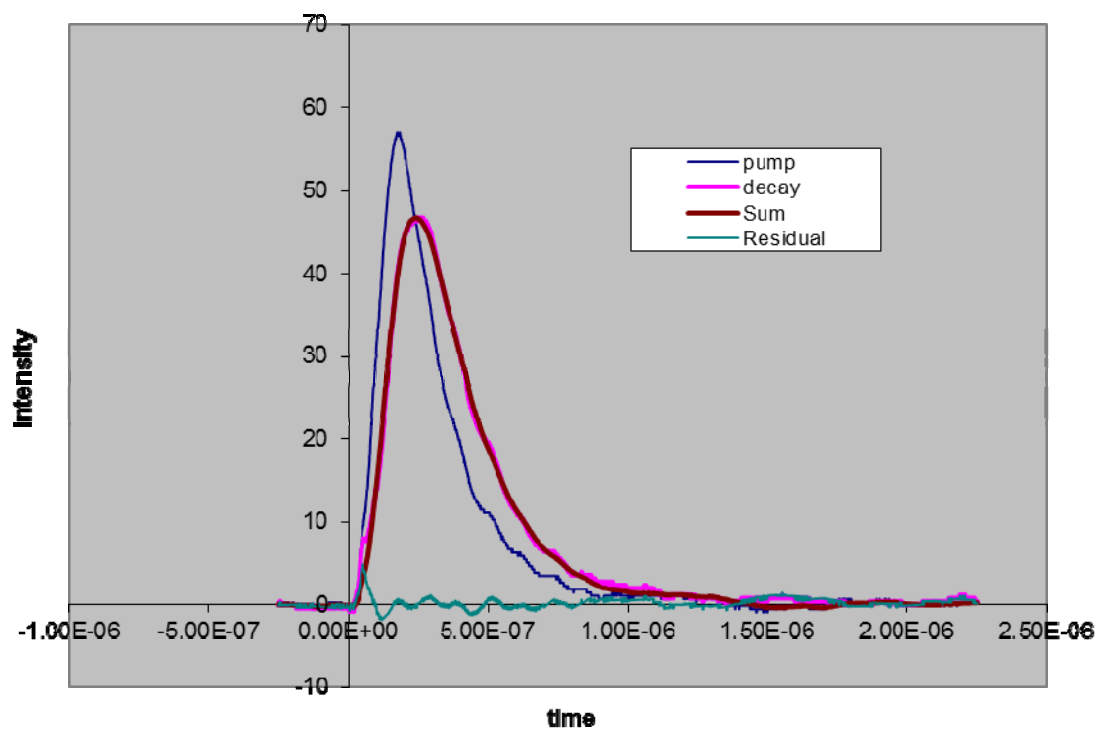


Figure S5. Decay time curve of Nd-MOF.

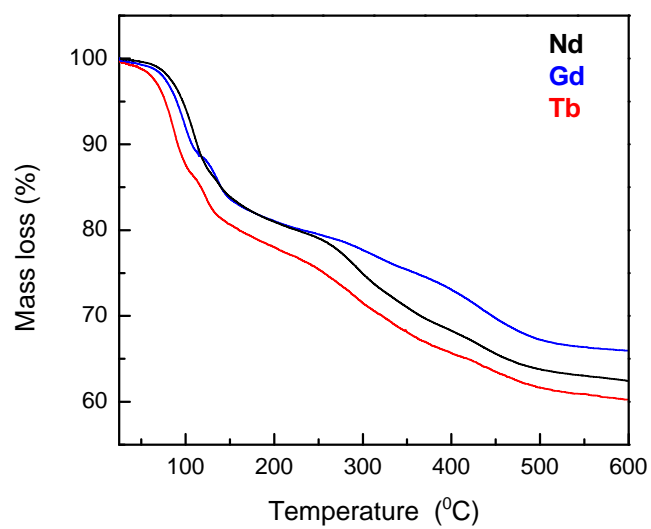


Figure S6. TGA curves of Nd, Gd and Tb MOFs.

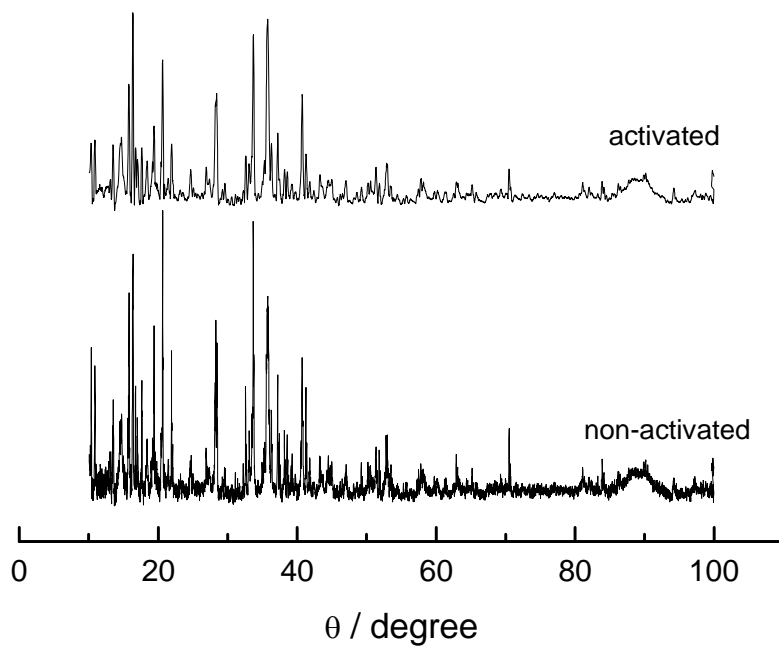


Figure S7. PXRD pattern of compound Eu-MOF.

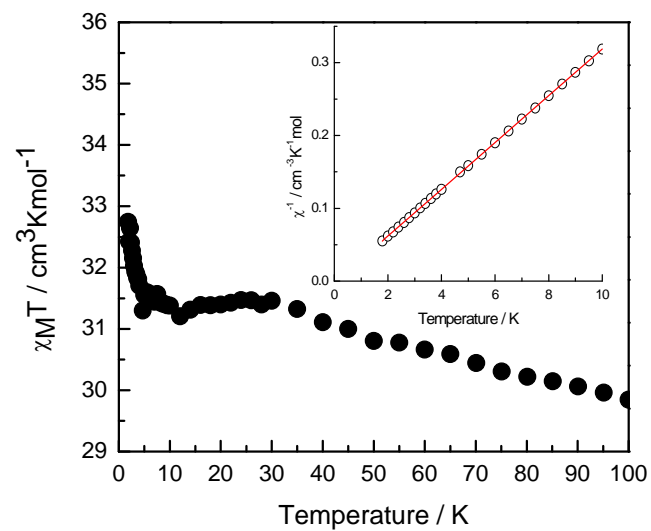


Figure S8. Temperature dependence of the $\chi_M T$ recorded at 0.1 T for MOF4 in the temperature range 2 to 100 K. Inset: The Curie-Weiss fit between 1.8 and 10 K giving the parameters $C = 31.10 \text{ cm}^3 \text{Kmol}^{-1}$ and $\theta = 0.1 \text{ K}$.