Electronic Supplementary Material (ESI) for Journal of Materials Chemistry
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Supplementary Material

A facile building-block synthesis of multifunctional lanthanide MOFs

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

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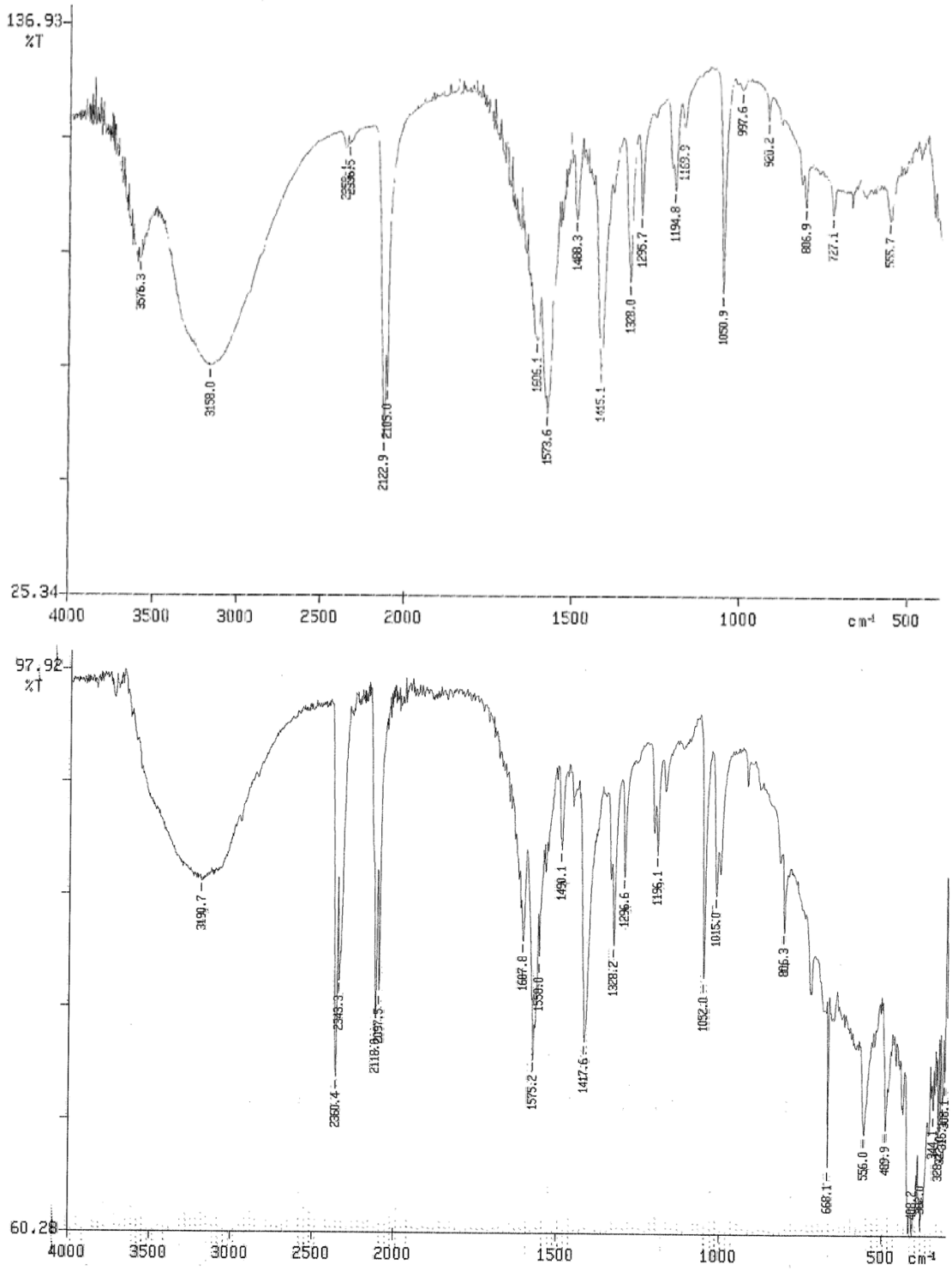

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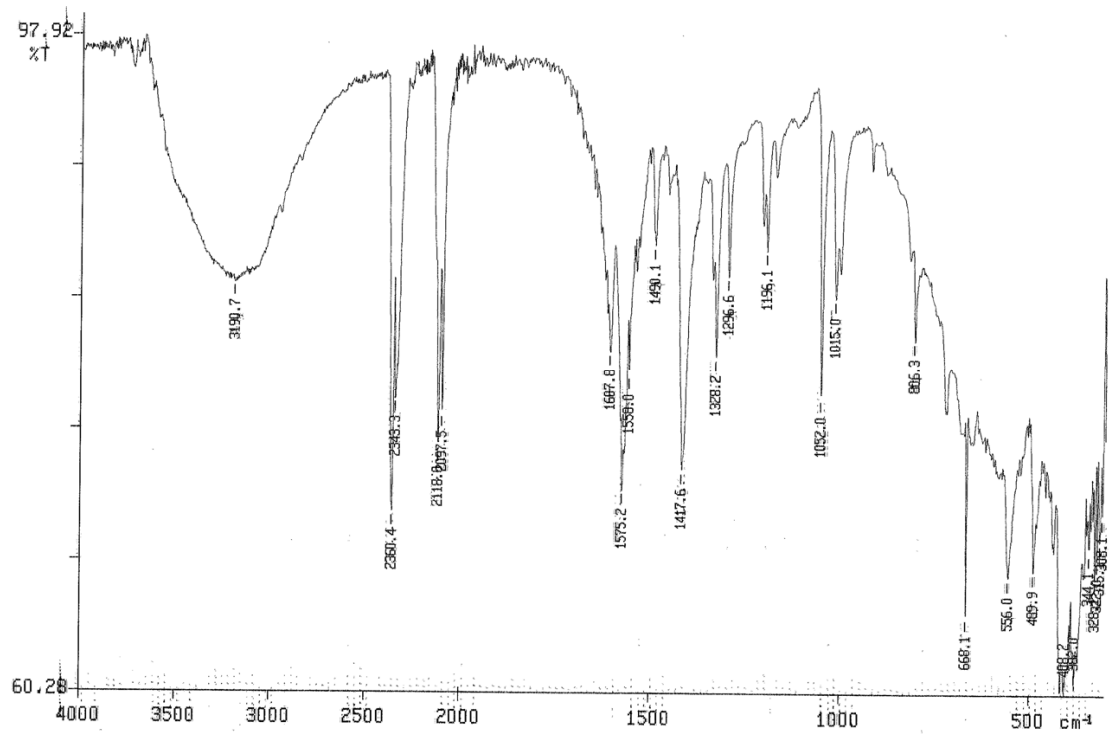

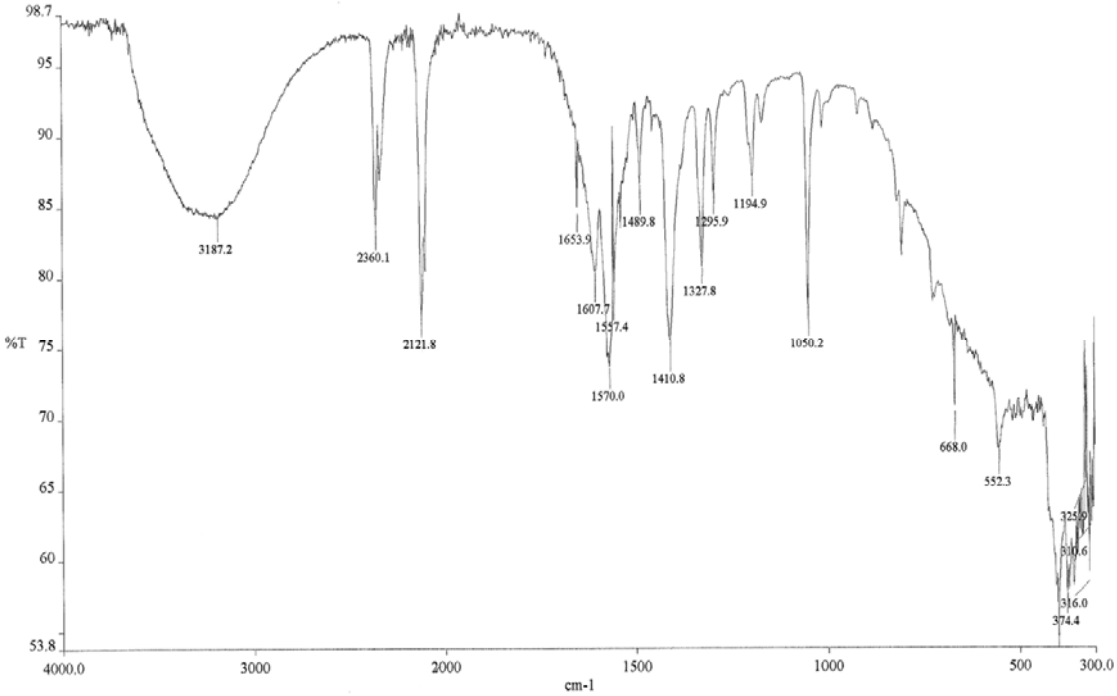

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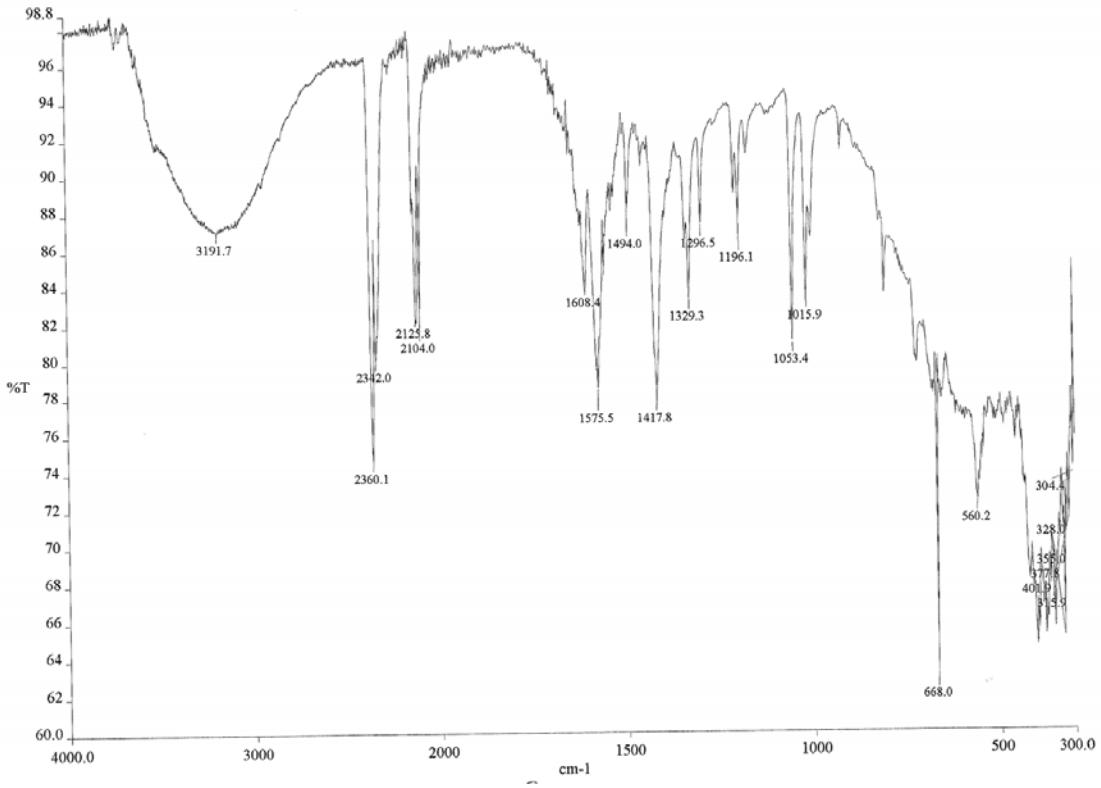

Figure S1. *IR spectra of Ln–MOFs (from top to bottom: Nd, Eu, Gd, Tb and Er).*

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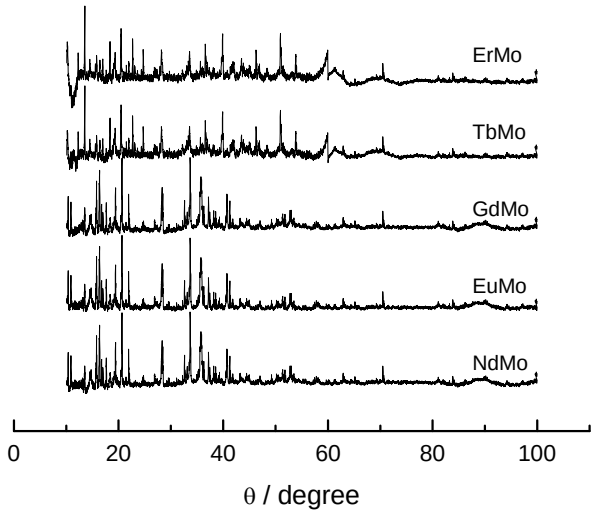

Figure S2. *XRD powder diffraction patterns for Ln–MOFs.*

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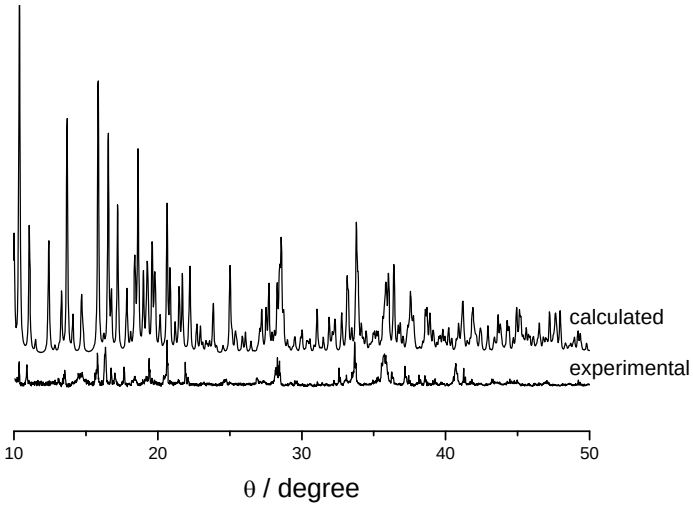

Figure S3. XRD powder diffraction patterns and the simulated pattern of Eu–MOF.

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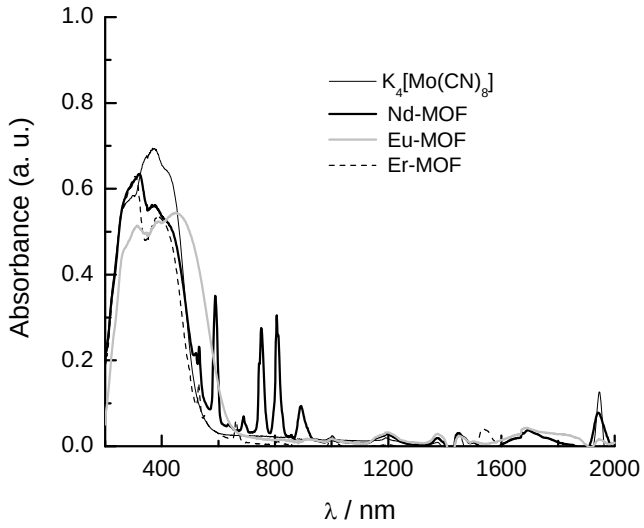

Figure S4. *Absorption spectra collected at room temperature for the compounds $K_4[Mo(CN)_8]$, Nd, Eu and Er MOFs.*

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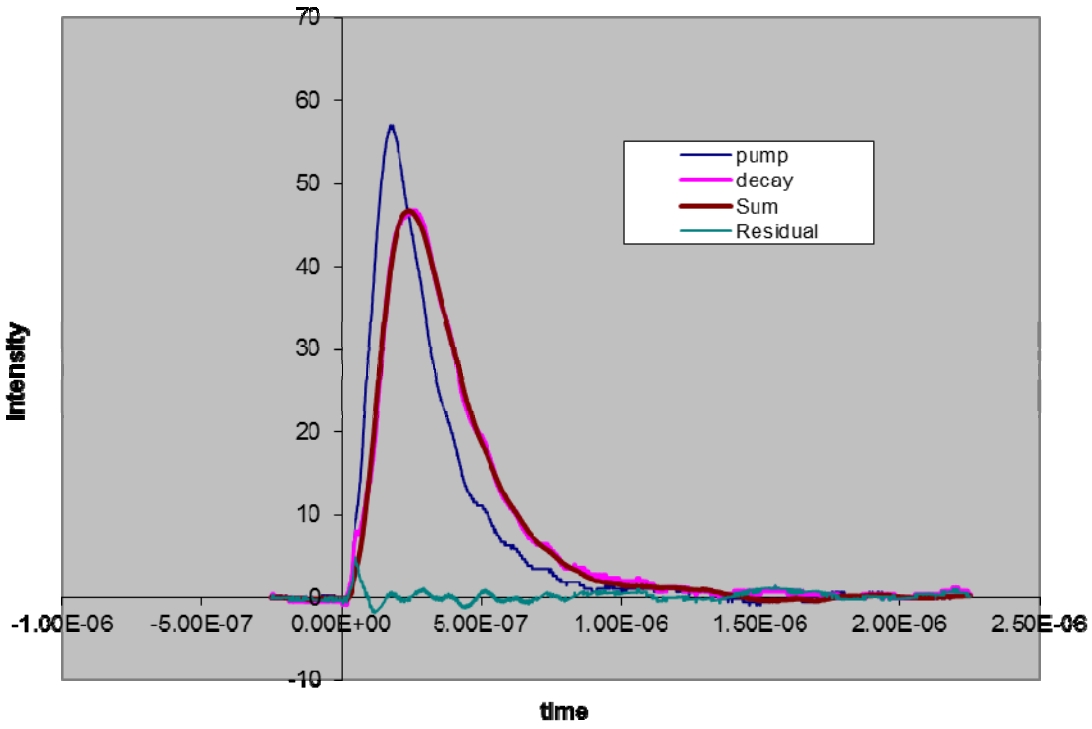

Figure S5. *Decay time curve of Nd–MOF.*

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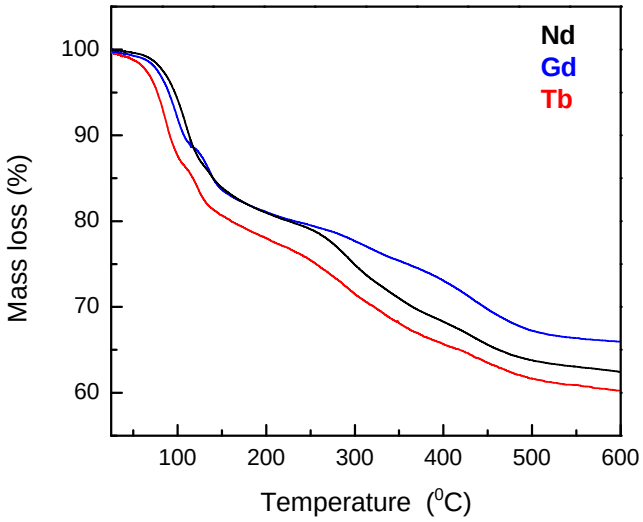

Figure S6. *TGA curves of Nd, Gd and Tb MOFs.*

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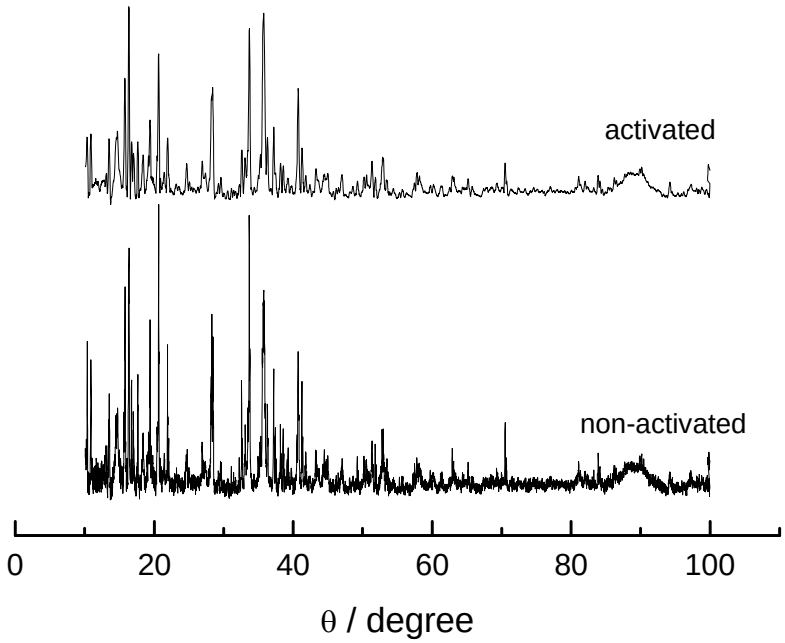

Figure S7. *PXRD pattern of compound Eu-MOF.*

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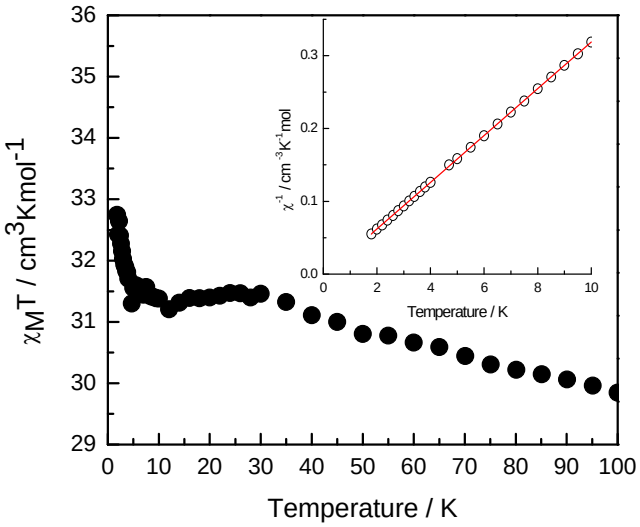

Figure S8. *Temperature dependence of the $\chi_M T$ recorded at 0.1 T for MOF4 in the temperature range 2 to 100 K. Inset: The Curie-Weiss fit between 1.8 and 10 K giving the parameters C = 31.10 cm^3Kmol^{-1} and θ = 0.1 K.*