Electronic Supplementary Material (ESI) for CrystEngComm

Supporting information for:

Iron(II) thio- and selenocyanate coordination networks containing 3,3′-bipyridine.

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Figure S1: Powder patterns of 2D **3** and **4**

Figure S2: Powder patterns of *trans*-{$Fe(NCS)_2$(3,3′-bipy)$_2$($MeOH)_2$} **1**

Figure S3: Powder patterns of *trans*-{$Fe(NCSe)_2$(3,3′-bipy)$_2$($MeOH)_2$} **2**

Figure S4: Powder pattern of 3D **4**

Figure S5: TGA of **1**

Figure S6: TGA of **2**

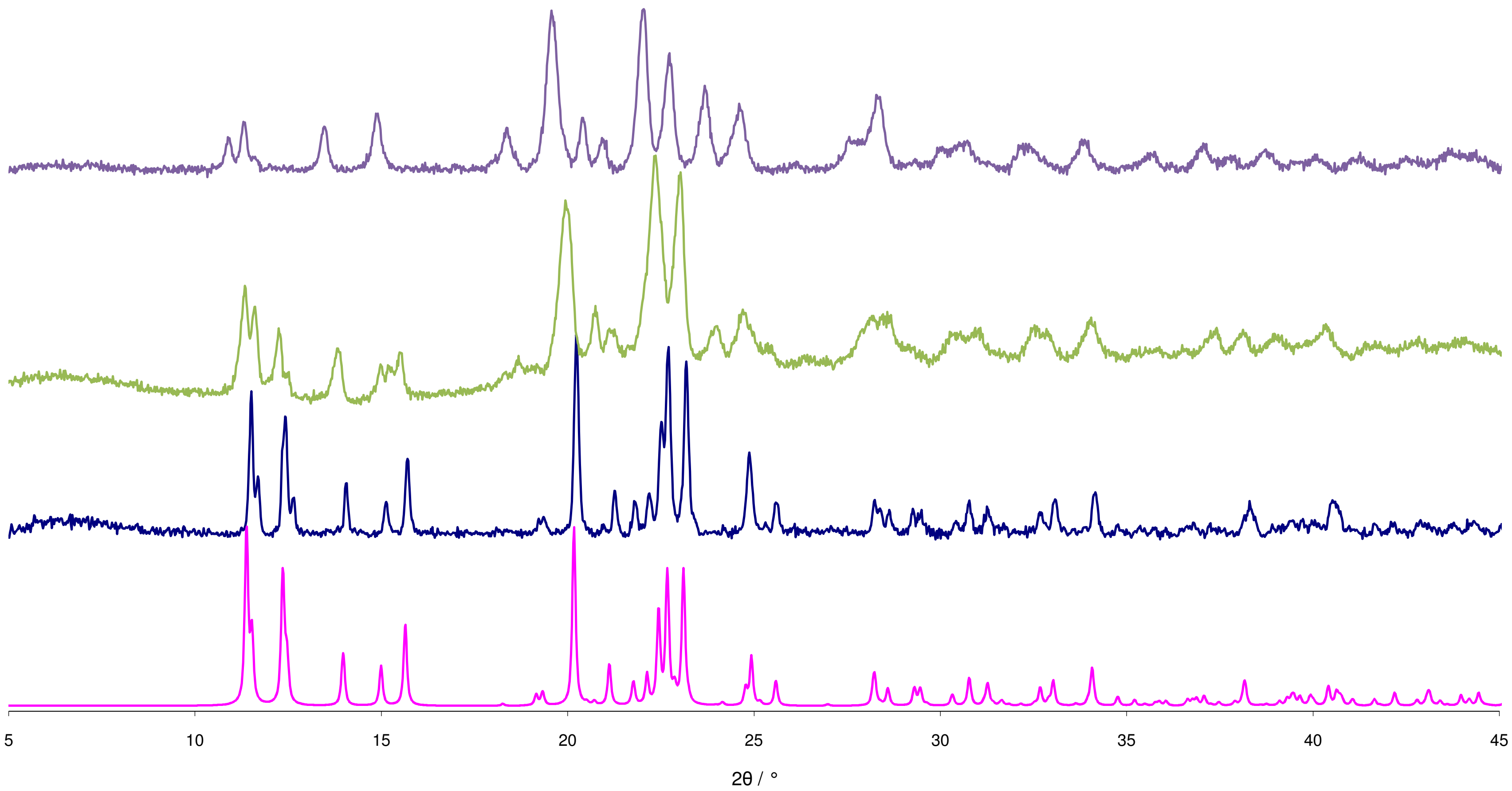

Figure S1: Powder patterns of the two-dimensional {$Fe(NCS)_2(3,3'\text{-bipy})_2$} grid **3**: calculated from the crystal structure (pink), powder synthesised by dropwise addition in acetonitrile (blue), and by thermal decomposition of **1** at 150 °C overnight (green). Pattern of **4** synthesised by thermal decomposition of **2** for comparison (lilac).

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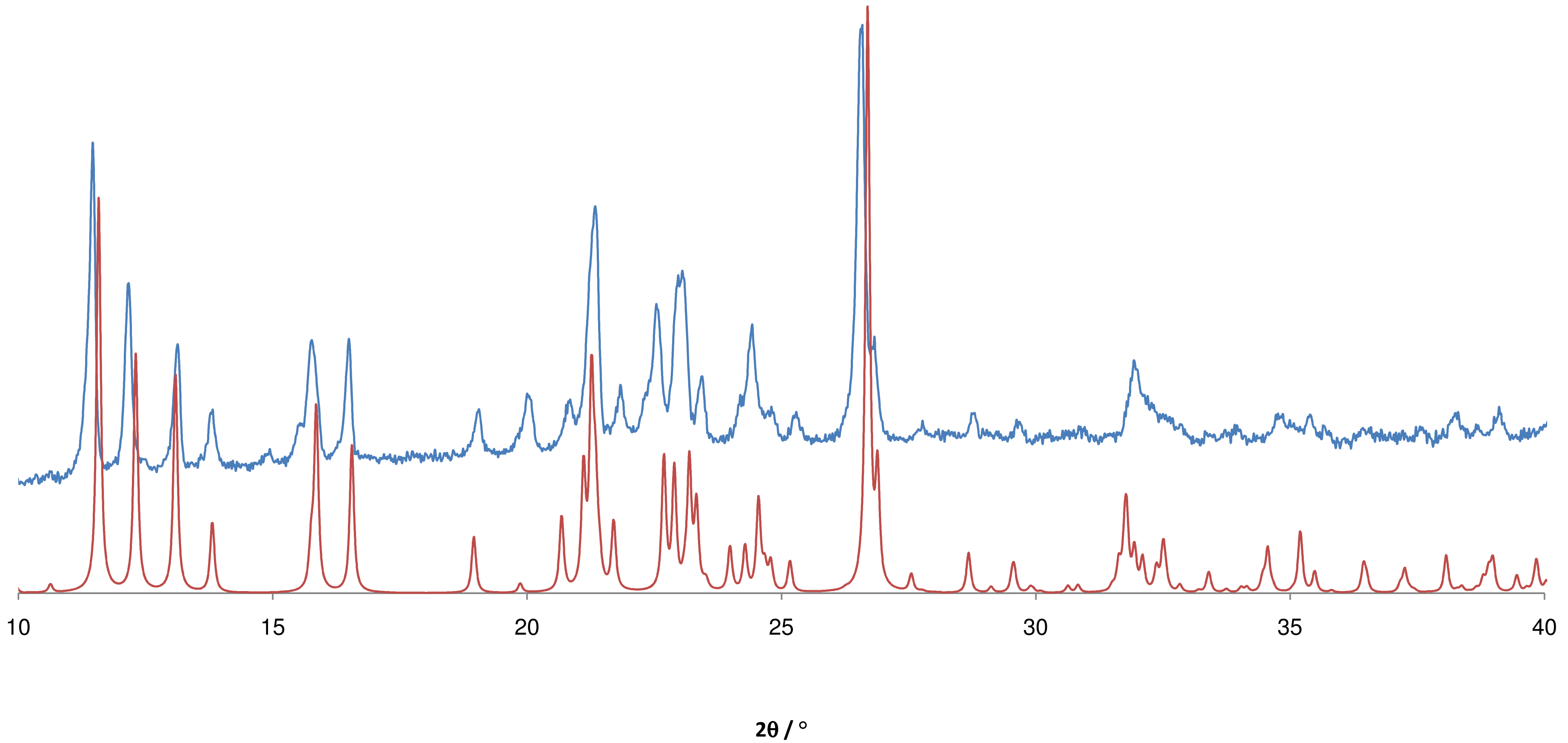

Figure S2: Powder patterns of *trans*-{$Fe(NCS)_2(3,3'\text{-bipy})_2(MeOH)_2$} **1**; calculated (brown), and by precipitation from methanol (blue).

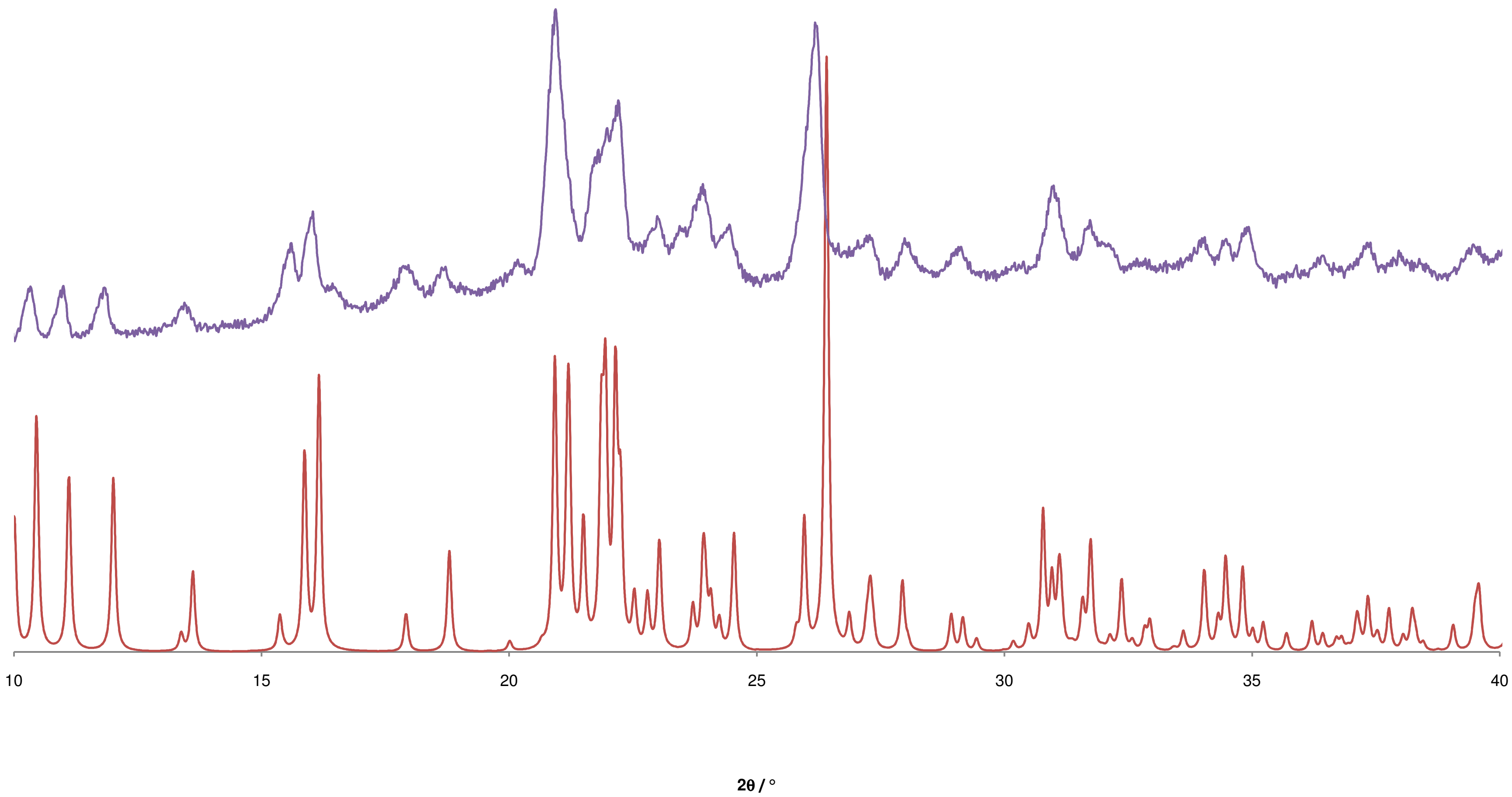

Figure S3: Powder patterns of *trans*-{Fe(NCSe)$_2$(3,3′-bipy)$_2$(MeOH)$_2$} **2**; Calculated from the crystal structure (brown), and by precipitation from methanol (lilac)

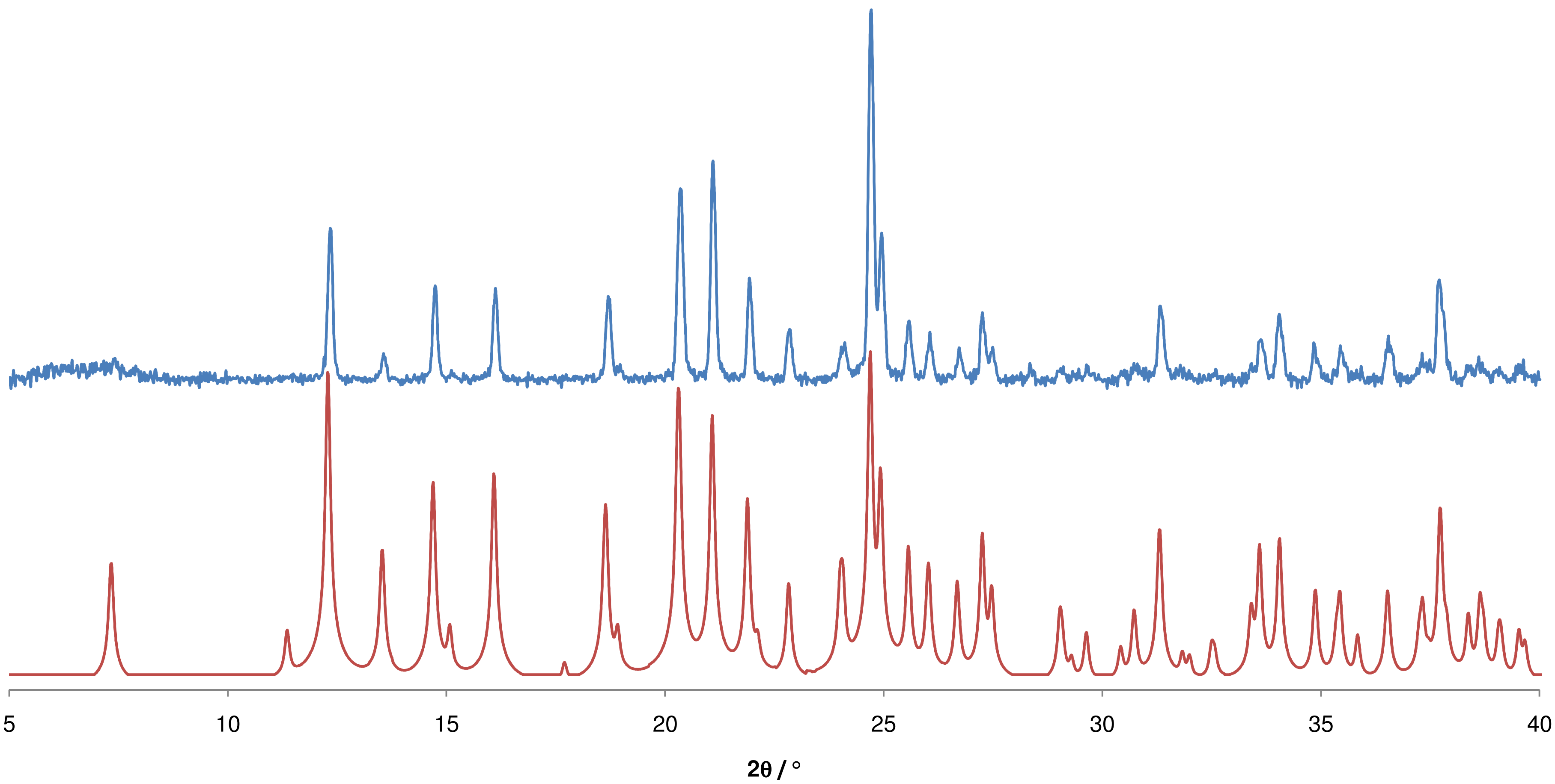

Figure S4: Experimental powder pattern of **4** (blue) compared with a tetragonal model using the cell lengths $a = b = 15.60$, $c = 19.02$ Å and atom coordinates based on published structure of $\{Ni(NCS)_2(3,3'\text{-bipy})_2\}$ (with Fe and Se replacing Ni and S respectively).

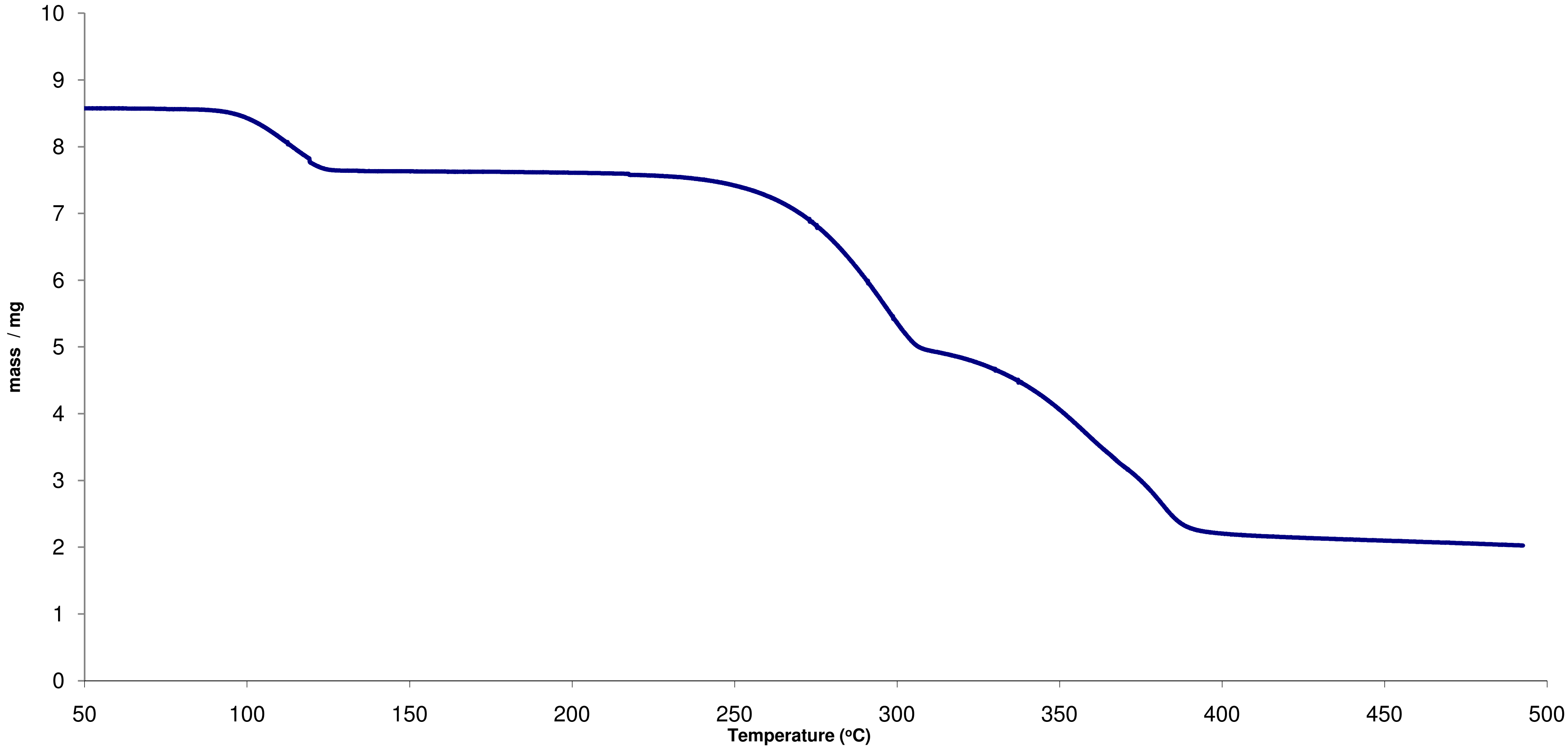

Figure S5: TGA of **1**.

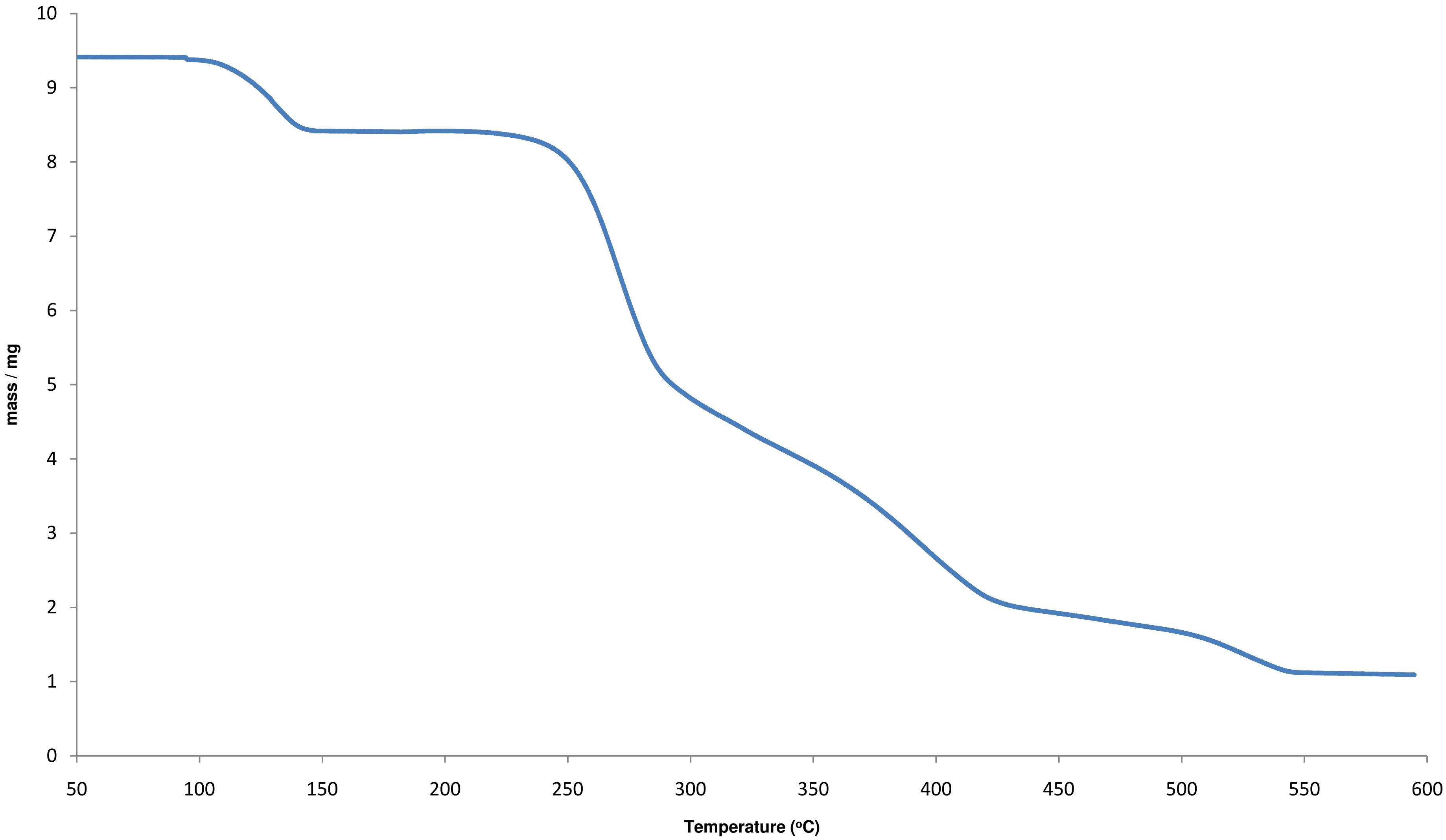

Figure S6: TGA of **2**.