Supporting Information

A Time-Resolved Diffraction Study of a Window of Stability in the Synthesis of a Copper Carboxylate Metal-Organic Framework F. Millange, R. El Osta, M.E. Medina, and R. I. Walton

Characterisation Data for MOF-14 Crystallisation

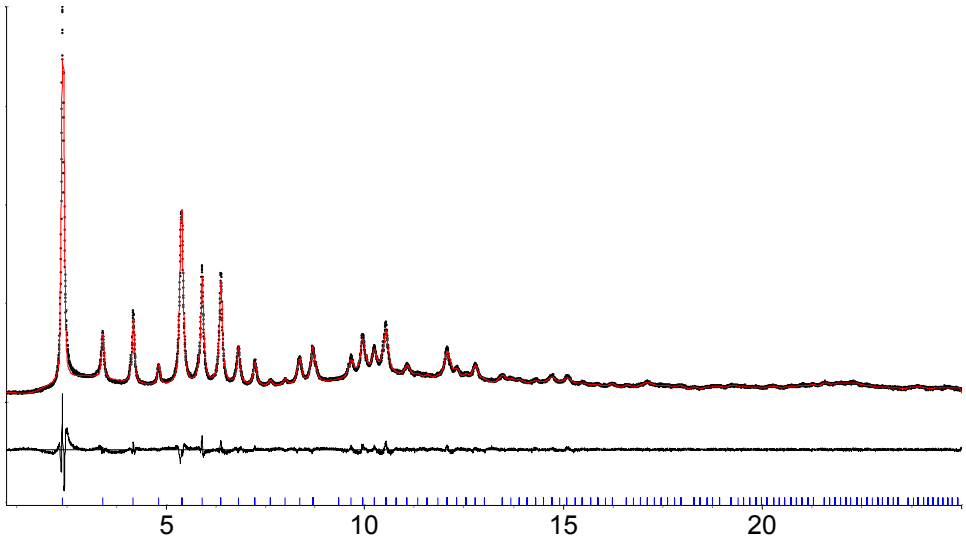

Figure S1: Profile refinement (le Bail method) for a sample of MOF-14 made using the conditions used for the* in situ *diffraction experiments at 110 °C. λ = 0.79991 Å, Im-3, a=26.8896(1) Å.

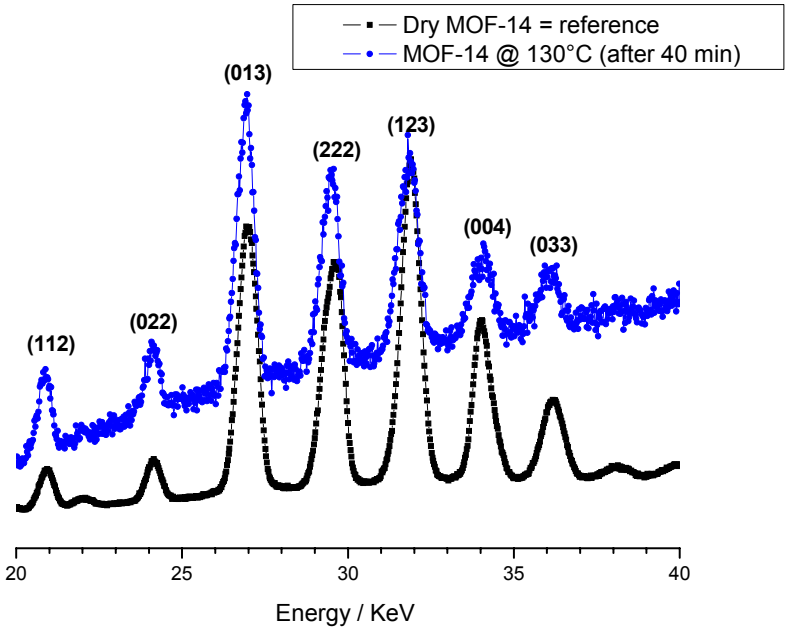

Figure S2: Comparison of EDXRD data recorded from a dry, pre-made sample of MOF-14 and the material observed* in situ *after crystallisation

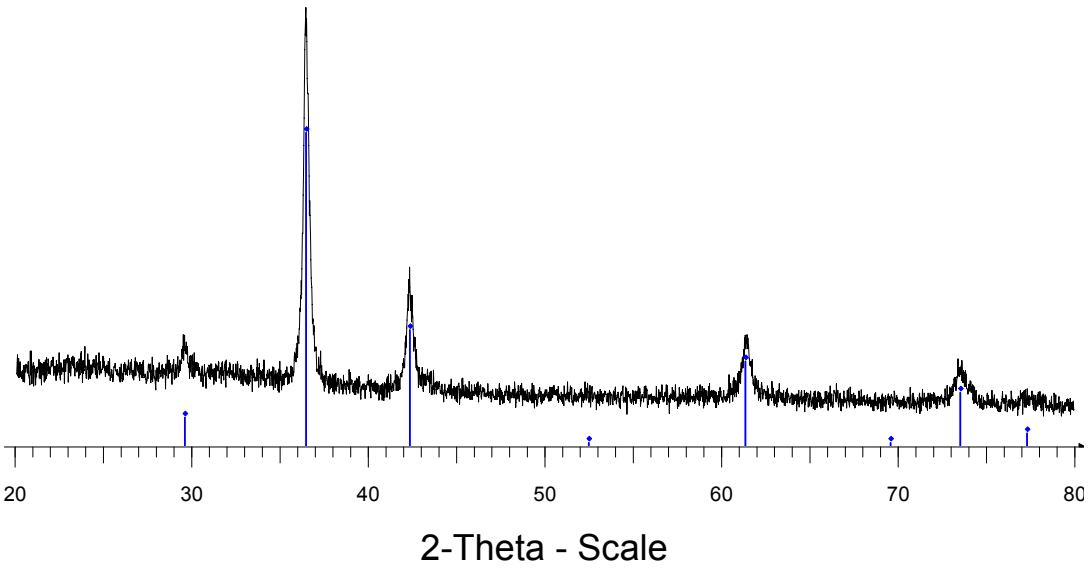

Figure S3:* ex situ *identification of the decomposition product after MOF-14 crystallisation at 140 °C using powder XRD: the blue bars show the expected peak positions for Cu_2O from JCPDS card 05-0667.

Table S1: Fits to MOF-14 crystallisation using the modified Gualtieri model, showing the crystal growth and dissolution parameters. The physically unreasonable fit to the 140 °C data for MOF-14 clearly indicates how the dissolution of the product commences significantly before the crystal growth has completed, making these simple models invalid at the highest temperature.

T **/ °C**	***a*** **/ min**	***b*** **/ min**	***k*****g / min^{-1}**	***k*****n / min^{-1}**	***E*****a(growth) /kJ mol^{-1}**	**Ea(nucleation) /kJ mol^{-1}**	***k*****d / min^{-1}**	***m***
110	72.5(5)	42.0(5)	0.0514(18)	0.0138(1)			-	-
120	20.8(5)	14.2(5)	0.128(8)	0.048(1)			8.4(1) $\times 10^{-13}$	5.2(3)
130	12.35(3)	5.7(3)	0.186(22)	0.0810(2)			3(1) $\times 10^{-7}$	3.2(1)
140	56 (1)	-8.0(5)	0.0952(33)	0.1786(3)			0.03(3)	0.2(3)
					82.8	113.9		