Supplementary Information (SI) for ChemComm.
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Supplementary Information

Non-monotonic Lattice Expansion in Zeolitic Imidazolate Frameworks during Heating

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SI-1: Synthesis procedure for ZIF-62 and DM-ZIF-62

All chemicals in this approach were used from the supplier without further purification. $Zn(NO_3)_2{\cdot}6H_2O$ (≥99.0 %), imidazole (99.5 %), benzimidazole (≥98%) and 5,6-dimethylbenzimidazole (≥99 %) Were all acquired from Sigma-Aldrich. The solvents Dimethylformamide (DMF) (99.9 %) and Dichloromethane (99.8%) were purchased from VWR chemicals.

Each sample was prepared by weighing the appropriate mass of zinc nitrate hexahydrate, imidazole, benzimidazole, and 5,6-dimethylbenzimidazole and add them into a beaker in the sequence mentioned, followed by the addition of 50 mL DMF. The reactants used for ZIF-62 was 1.7460 g zinc nitrate hexahydrate, 5.3282 g imidazole and 1.6268 g benzimidazole. For DM-ZIF-62 it was 1.7571 g zinc nitrate hexahydrate, 5.3206 g imidazole and 1.2738 g 5,6-dimethylbenzimididazole. The solutions were stirred for 30 minutes before being transferred into 100 mL Teflon-lined autoclaves and sealed tightly. The autoclaves were placed in an oven at 130 °C for 96 hours. The autoclaves were left in the oven to cool naturally to ambient temperature overnight. The synthesized crystals were recovered and washed three times with approximately 40 mL DMF, followed by a single wash using approximately 40 mL dichloromethane. The washed crystals were placed in an oven at 110 °C to dry overnight. No evacuation was performed.

SI-2: Synchrotron Powder X-ray Diffraction for ZIF-62 and DM-ZIF-62

The synchrotron PXRD data were recorded on the beamline I12-JEEP[1] (Diamond Light Source Ltd., UK) using a 2D area flat panel detector Pilatus 2M CdTe.[2] The wavelength calibration (λ = 0.23204 Å) and 2D powder diffraction data reduction were performed with DAWN software.[3,4] Standard CeO_2 was used for wavelength calibration in DAWN according to algorithm.[5] The refinement of the powder diffraction patterns was performed with the Topas 4.1 software.[6] Le Bail refinement[7] as implemented in Topas 4.1 was used for precise determination of the temperature dependence of the lattice parameters. Linkam furnace TS1500 (Linkam Scientific Ltd.) was used for variable-temperature experiments.

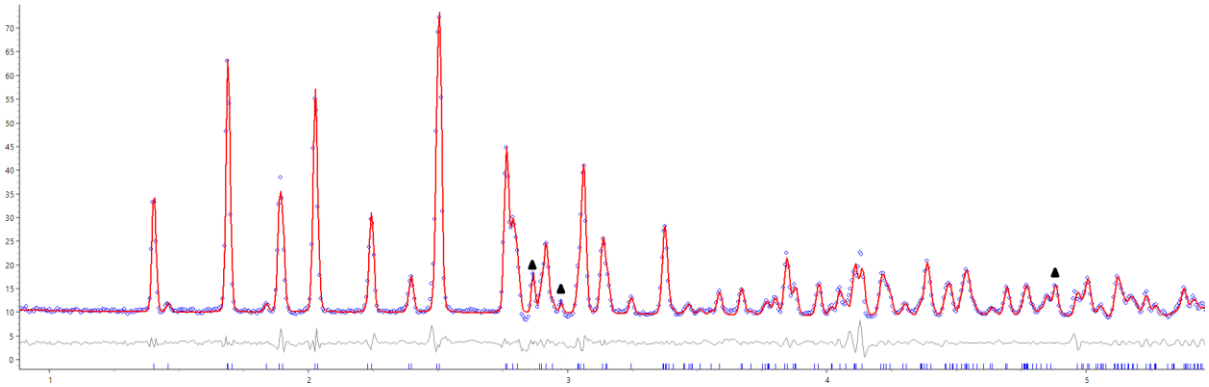

Fig. S1 - Powder diffraction pattern for the third ZIF-62 sample at room temperature (blue dots) and corresponding Le Bail refinement (red lines); filled triangles denote peaks from the furnace, which were described by individual peak phases.

References

1 M. Drakopoulos, T. Connolley, C. Reinhard, R. Atwood, O. Magdysyuk, N. Vo, M. Hart, L. Connor, B. Humphreys, G. Howell, S. Davies, T. Hill, G. Wilkin, U. Pedersen, A. Foster, N. De Maio, M. Basham, F. Yuan and K. Wanelik, *J. Synchrotron Radiation*, 2015, **22,** 828–838.

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7 A. Le Bail, H. Duroy and J. L. Fourquet, *Materials Research Bulletin*., 1988, **23**, 447–452.

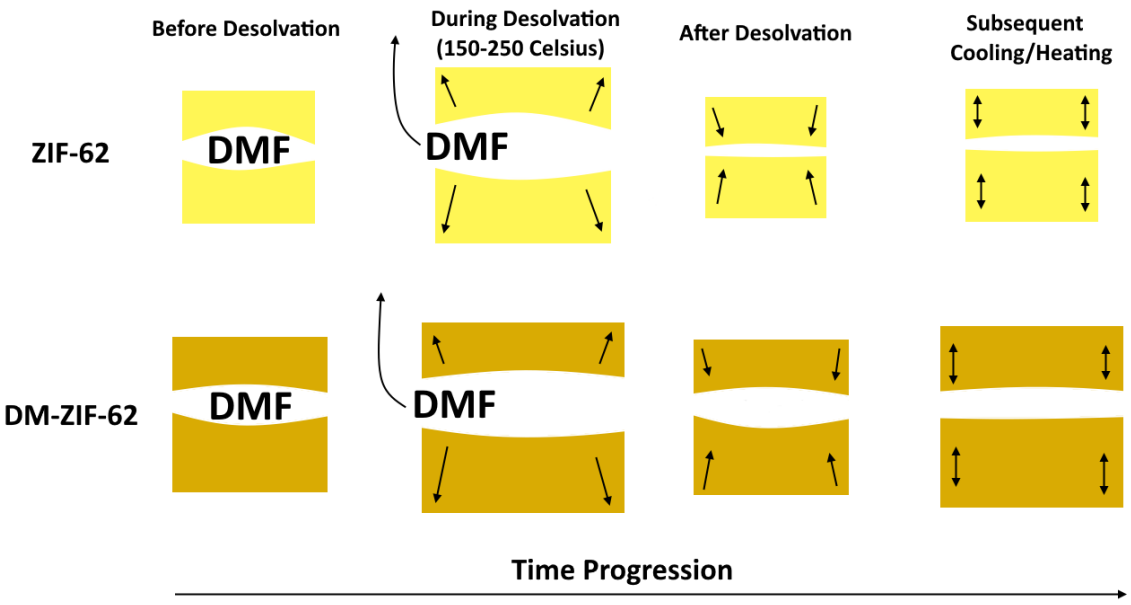

Fig. S2 - Sketch of the structural changes during heating. DMF trapped inside the pores is released as the structure expands. The expansion during desolvation is in all directions, with the b-lattice parameter expanding the most (indicated as the up direction being the dominant expansion direction). After desolvation, the structure contracts, with ZIF-62 contracting more than DM-ZIF-62. Subsequent cooling and heating only have unidirectional expansion/contraction (indicated as double-sided arrows only going up and down).

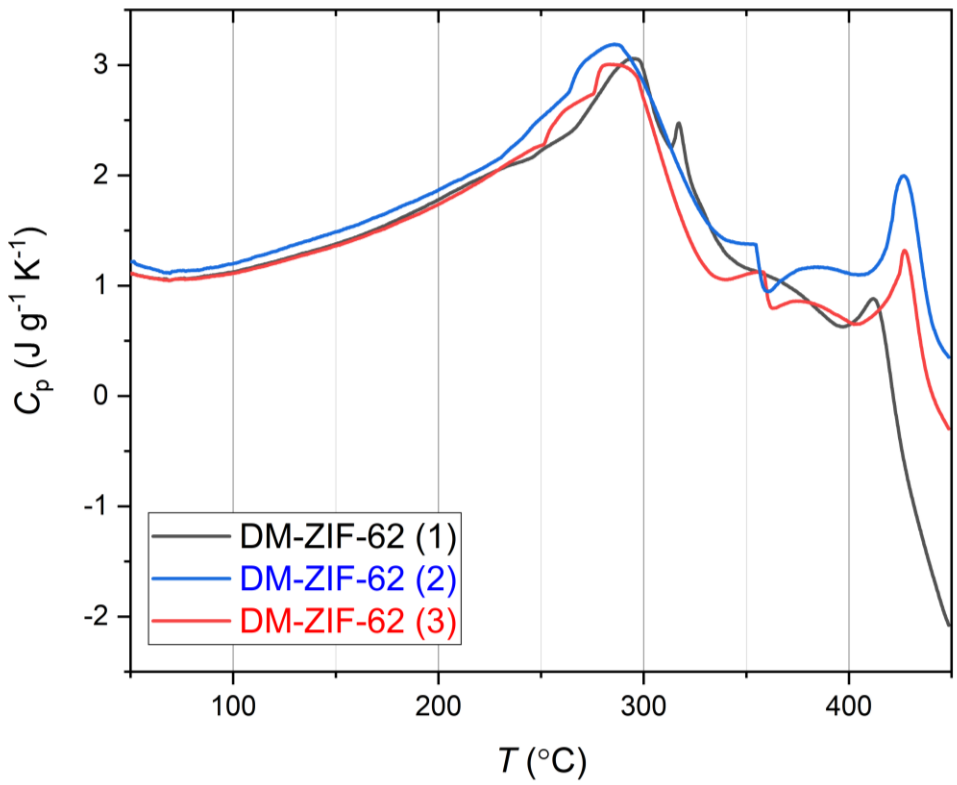

Fig. S3 - Differential Scanning Calorimetry of the DM-ZIF-62 samples.

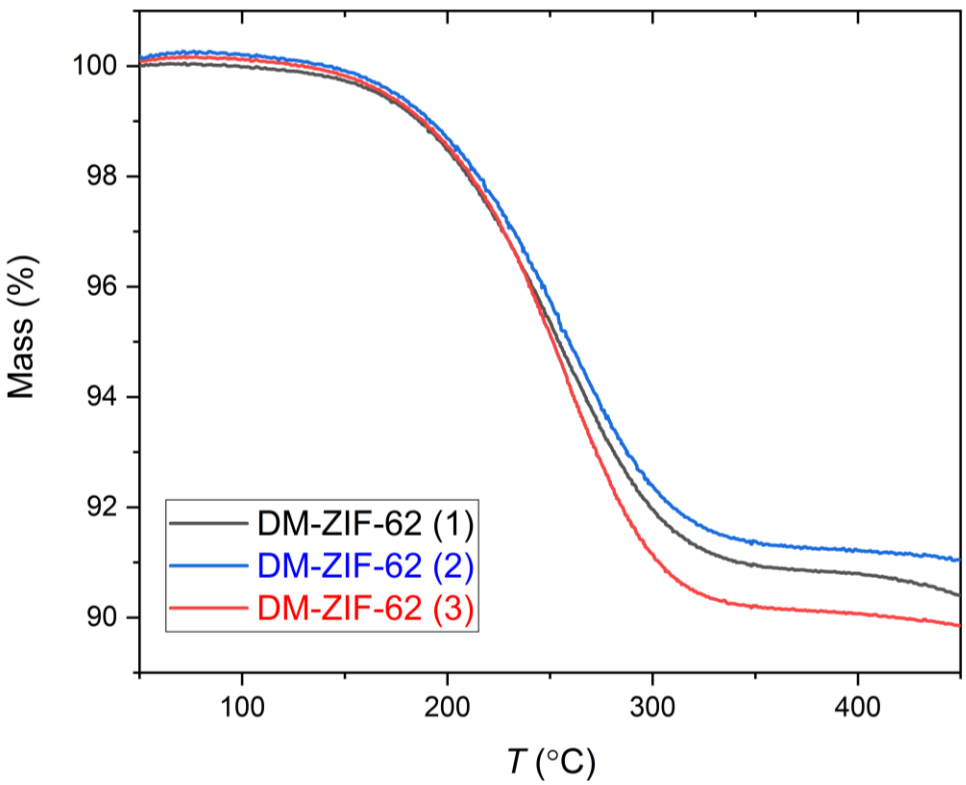

Fig. S4 - Thermo Gravimetric Analysis of the DM-ZIF-62 samples. The slight increase in Mass (%) above 100 % is due to displacement of regular air with Argon gas, and the increase stops once the displacement process is complete.

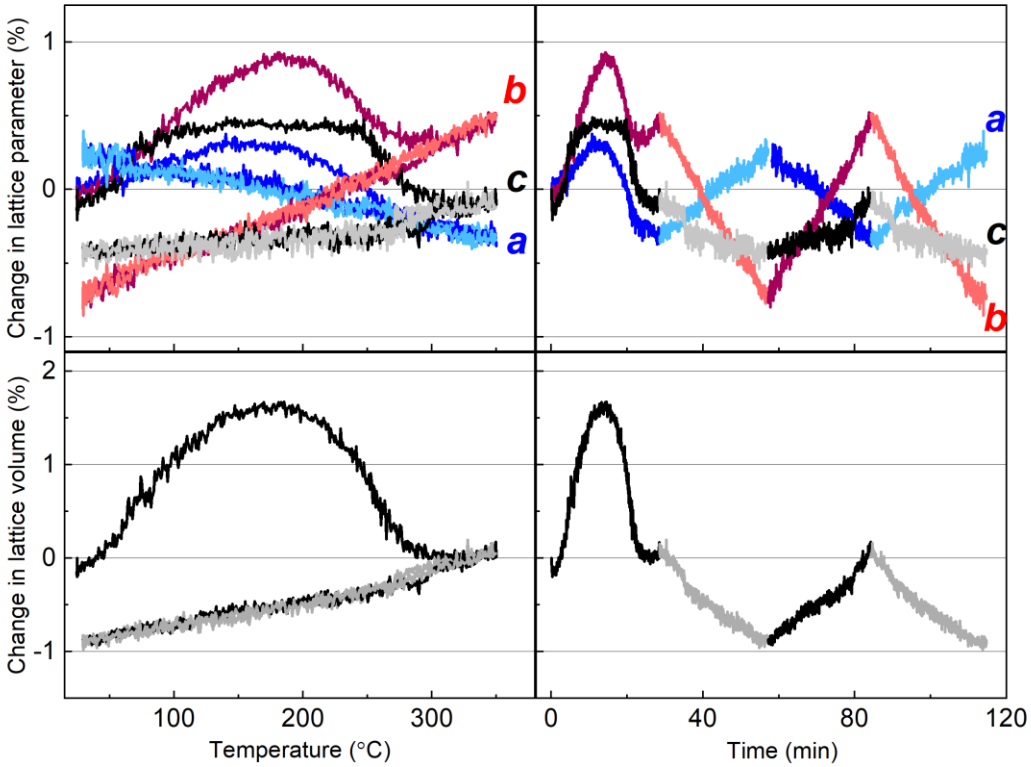

Fig. S5 - Estimated lattice parameters and lattice volume of the third DM-ZIF-62 sample. Dark red, dark blue, and black indicate heating, while light red, light blue, and grey indicate cooling.

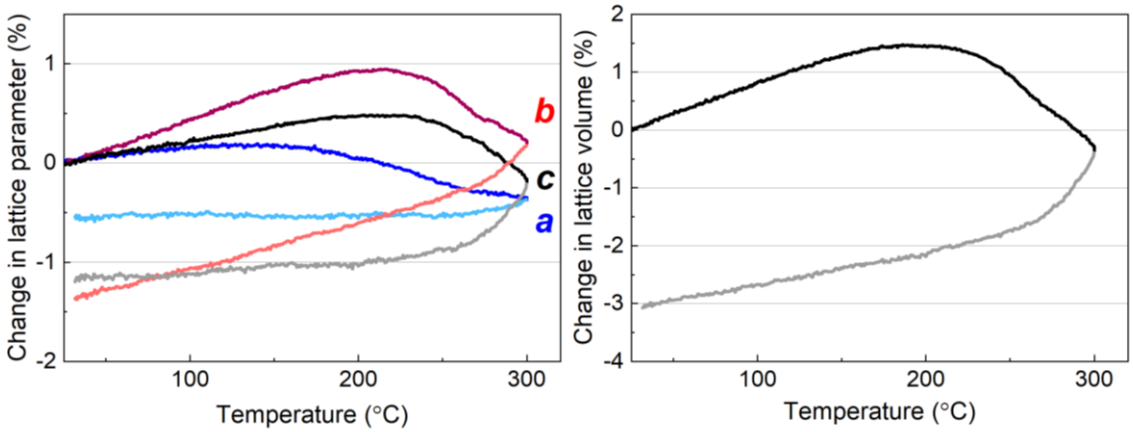

Fig. S6 - Estimated lattice parameters and lattice volume of the third ZIF-62 sample. Dark red, dark blue, and black indicate heating, while light red, light blue, and grey indicate cooling.

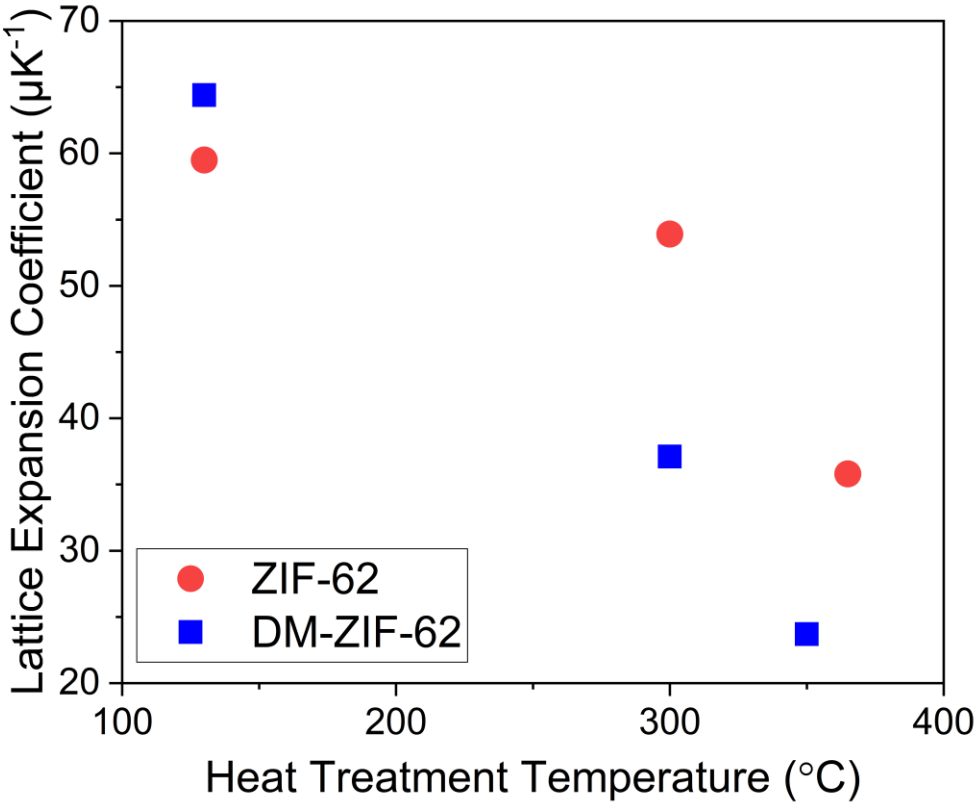

Fig. S7 - The thermal expansion coefficients plotted against the temperature of the heat treatment.

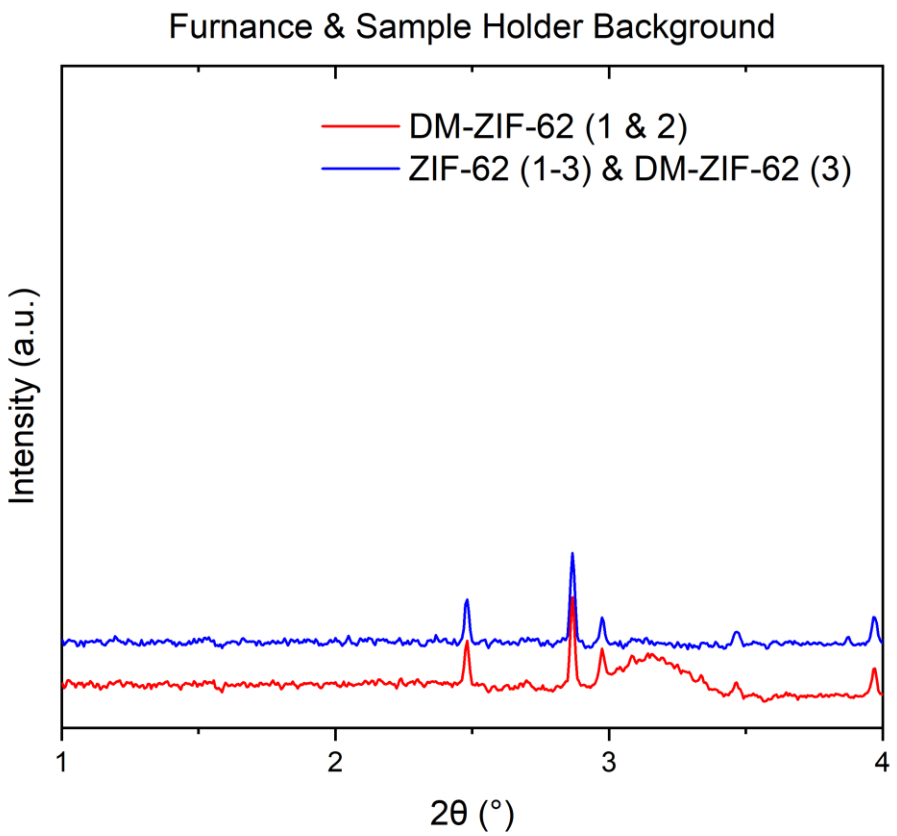

Fig. S8 - Powder x-ray diffractogram collected at the Diamond Light I-12 beamline (λ = 0.23204 Å). The background was not measured during the experiment. These diffractograms represent the sample after heating to 450 °C and holding the temperature for 20 minutes, ensuring that the ZIF samples are molten. The remaining peaks belong to the combination of the furnace and the various components of the sample holder and are present in all following diffractograms.

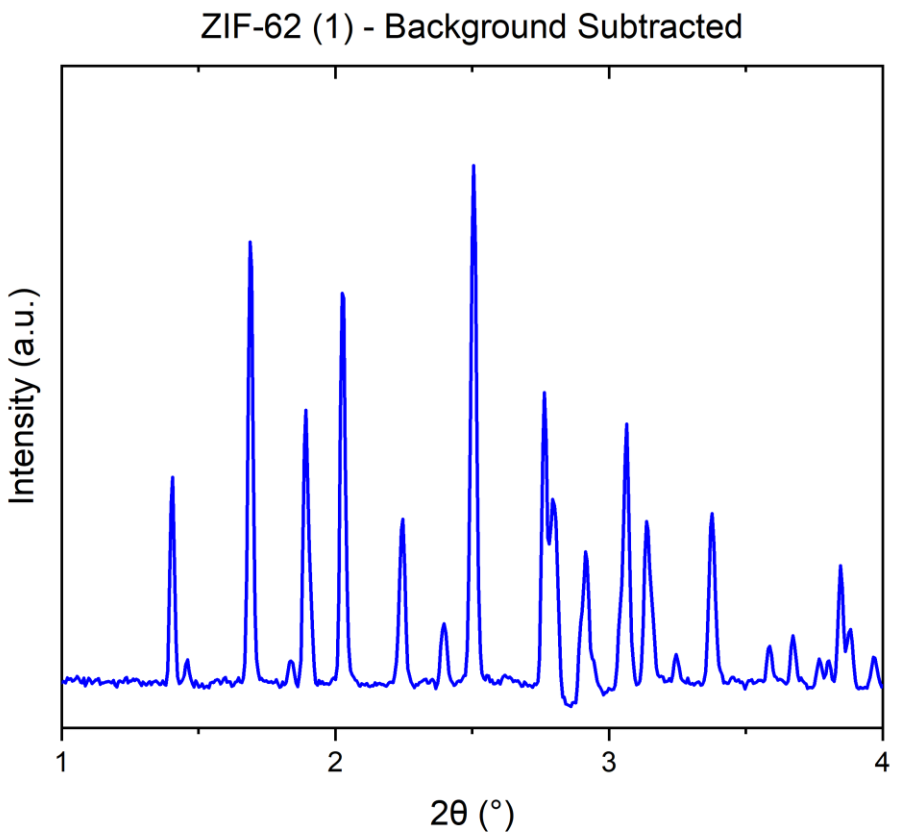

Fig. S9 - Room-temperature diffractogram of ZIF-62 after subtracting the background in Fig. S8. The additional signals not belonging to the *Pcba* space group disappear after subtraction.

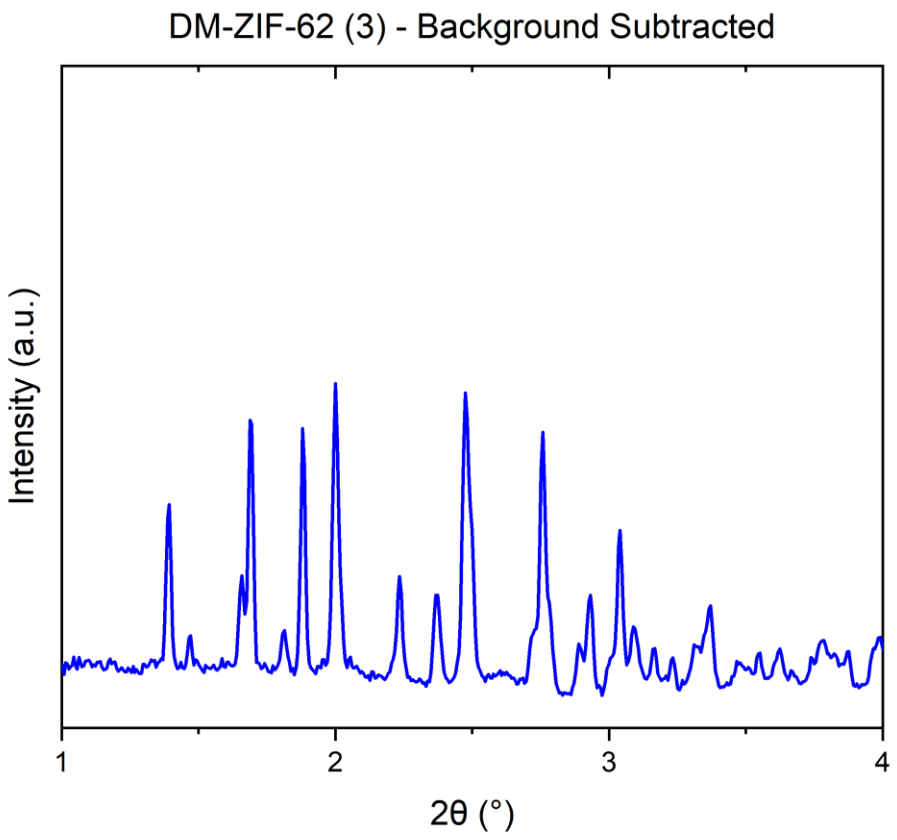

Fig. S10 - Room-temperature diffractogram of DM-ZIF-62 after subtracting the background in Fig. S8. The additional signals not belonging to the *Pcba* space group disappear after subtraction.

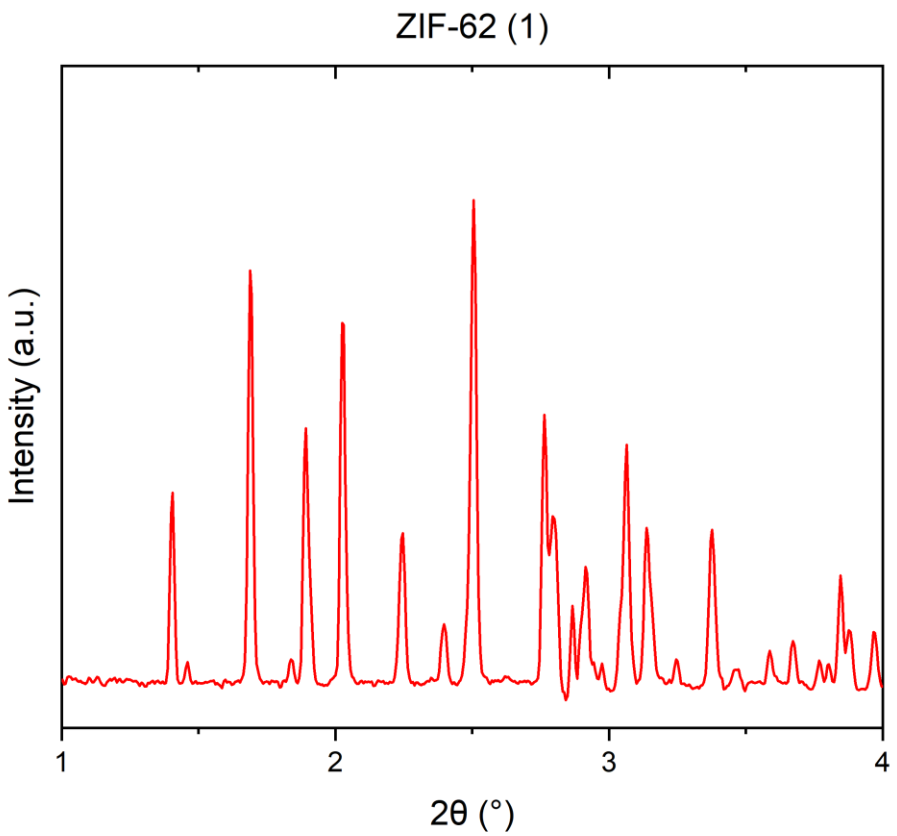

Fig. S11 - Room-temperature powder x-ray diffractogram collected at the Diamond Light I-12 beamline (λ = 0.23204 Å) for the first ZIF-62 sample. The angle interval 1 - 4° is equivalent to 6.6 - 26.5° when using a 1.5406 Å light source. The peaks correspond to the *Pbca* space group, with additional peaks from the background shown in Fig. S8.

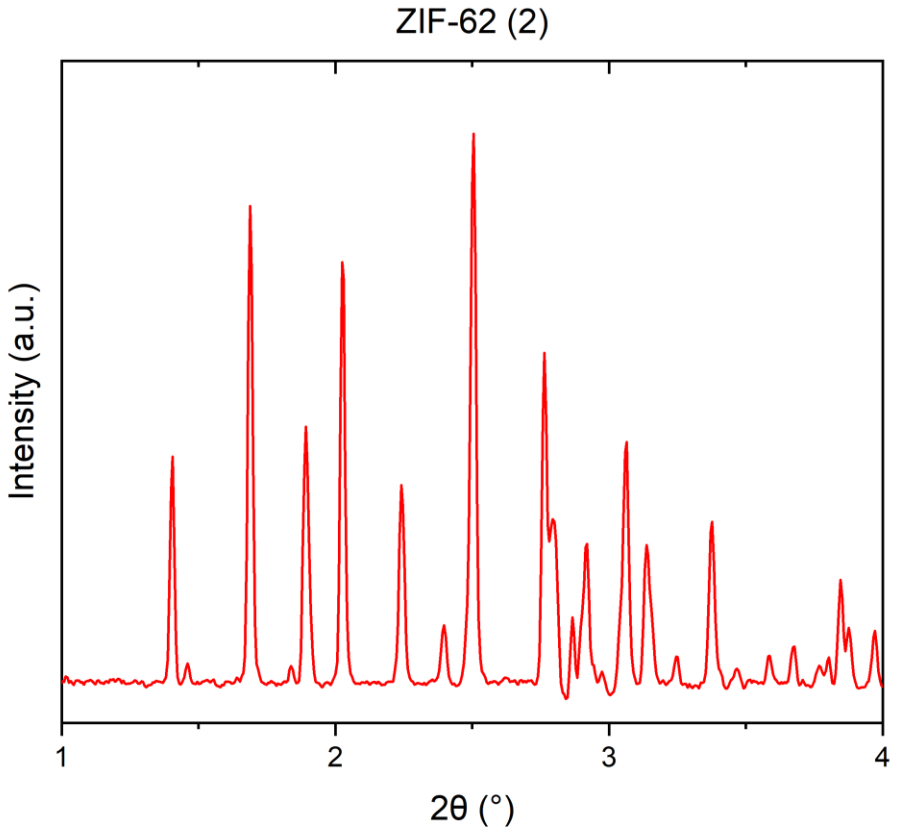

Fig. S12 - Room-temperature powder x-ray diffractogram for the second ZIF-62 sample. There is no notable difference between the first and the second sample.

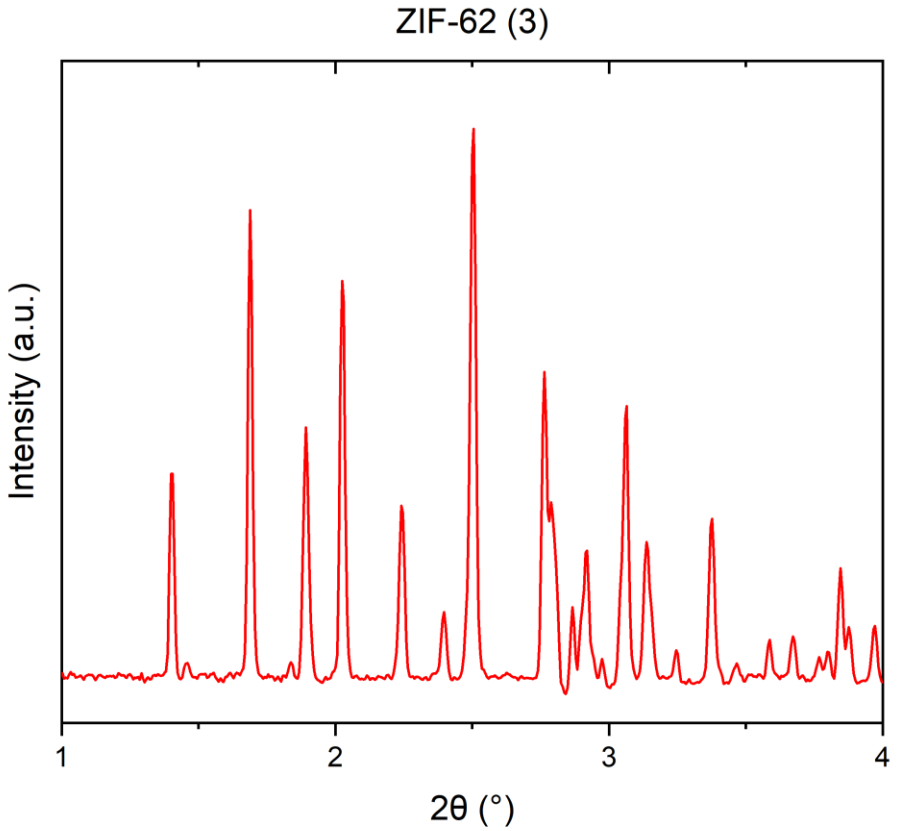

Fig. S13 - Room-temperature powder x-ray diffractogram for the third ZIF-62 sample. There is no notable difference between the third and previous two ZIF-62 samples.

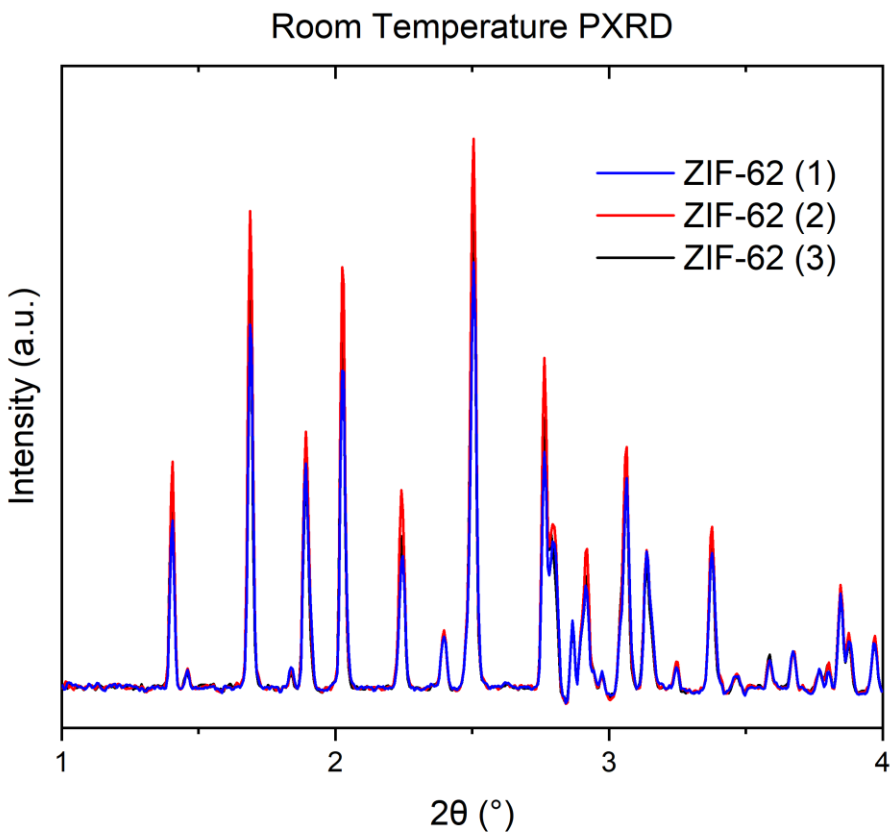

Fig. S14 - Room-temperature powder x-ray diffractogram for the three ZIF-62 samples overlayed. Besides a slight difference in intensity, there is no difference in the shape of the peaks.

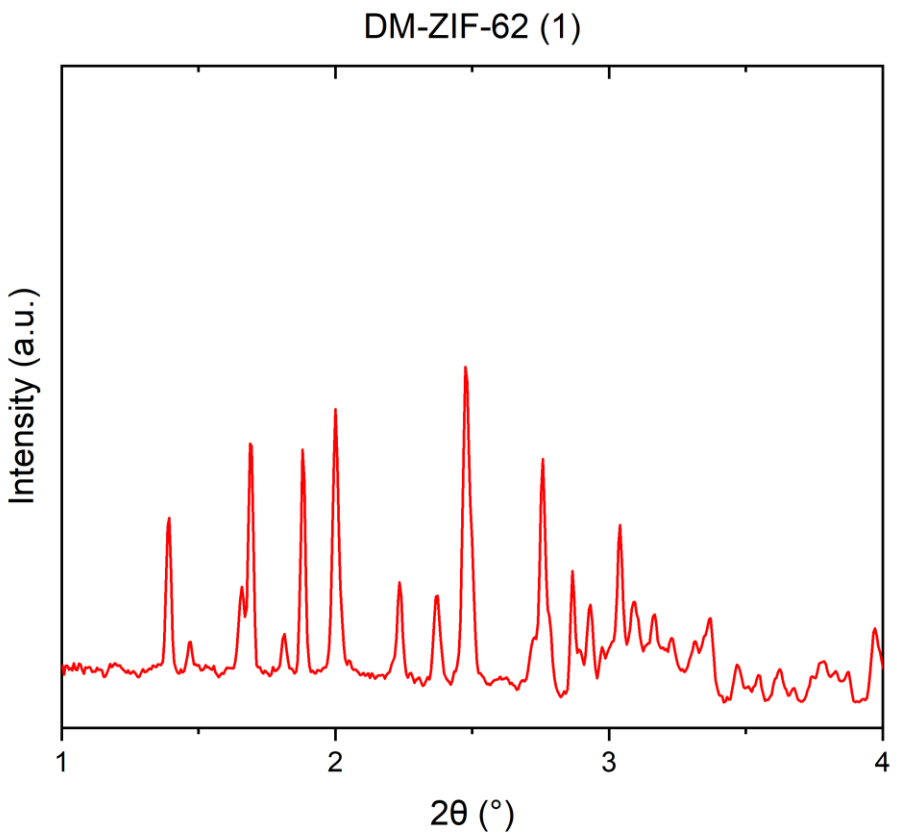

Fig. S15 - Room-temperature powder x-ray diffractogram for the first DM-ZIF-62 sample. DM-ZIF-62 has a lower peak intensity than all three of the ZIF-62 samples. DM-ZIF-62 has a diffuse peak in the 2.9 - 3.4° region, present in two of the DM-ZIF-62 samples. The diffuse peak is a result of changes to the background (see Fig. S8). This effect is more noticeable in Fig. S18.

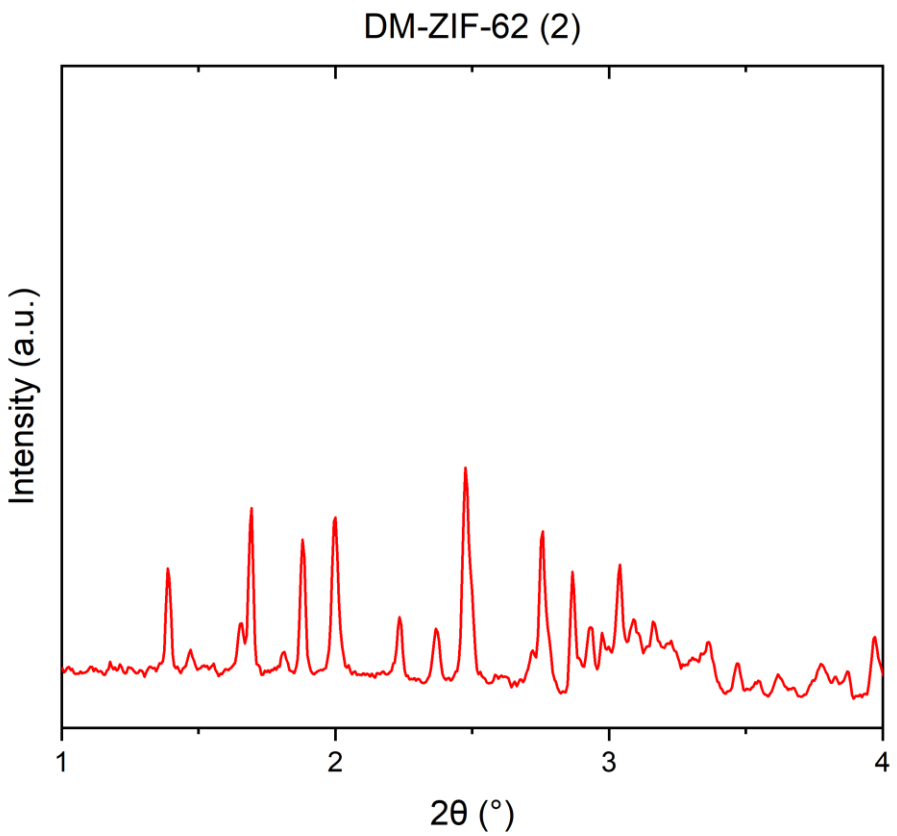

Fig. S16 - Room-temperature powder x-ray diffractogram for the second DM-ZIF-62 sample. The peak intensity is slightly lower than the first sample. This sample also has a diffuse peak belonging to the background.

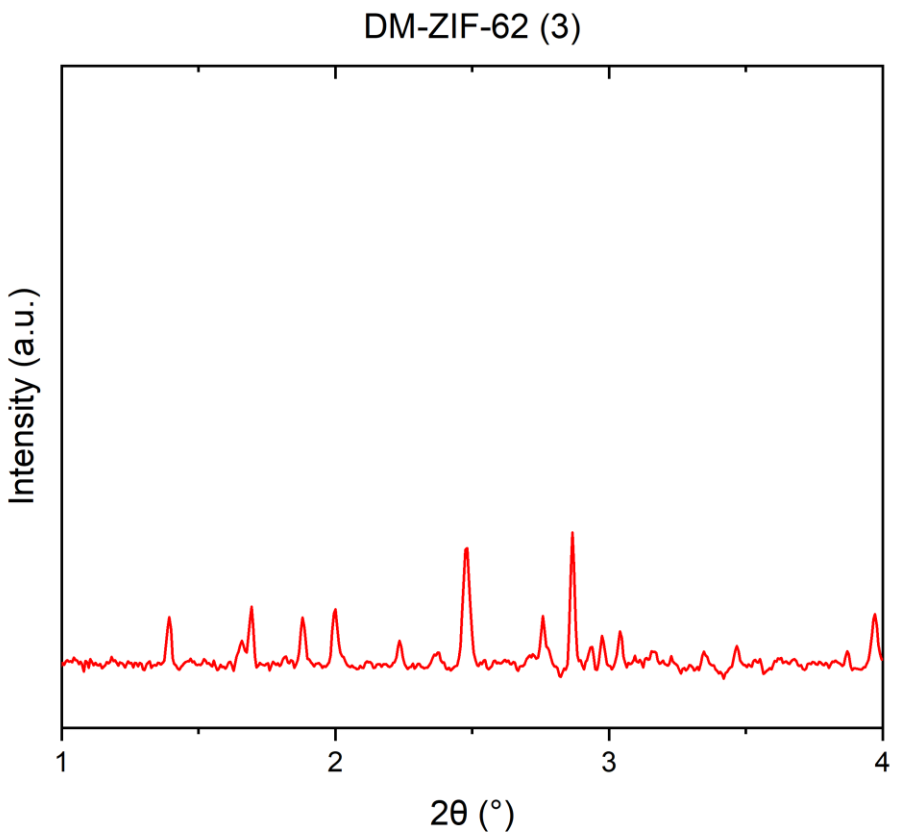

Fig. S17 - Room-temperature powder x-ray diffractogram for the third DM-ZIF-62 sample. The intensity is lower than the other two DM-ZIF-62 samples. The expansion behaviour of this sample is shown in Fig. S5.

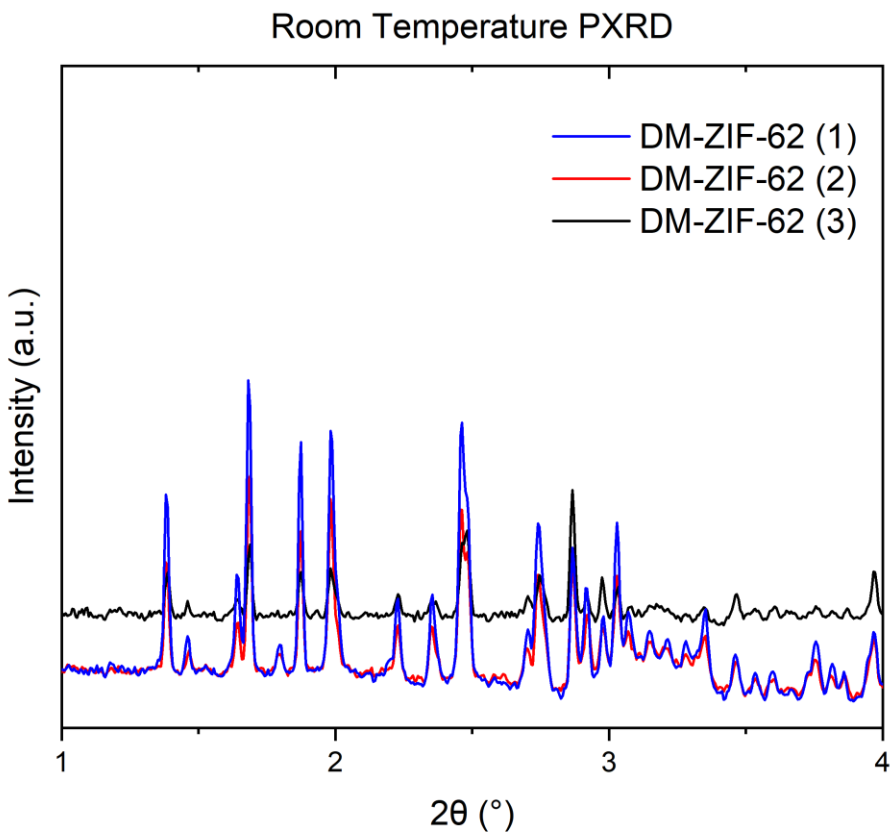

Fig. S18 - Room-temperature powder x-ray diffractogram for the three DM-ZIF-62 samples overlayed. All three samples fit with the *Pbca* space group. The third sample has the lowest intensity. The first and second samples show consistent peaks.

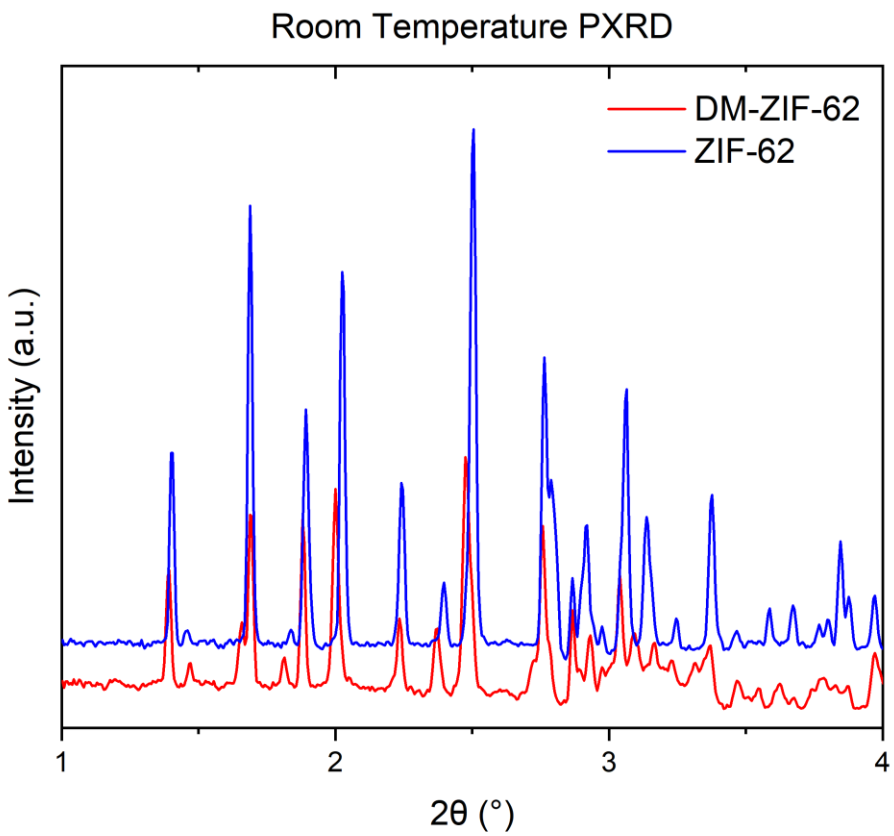

Fig. S19 - Room-temperature powder x-ray diffractogram comparing ZIF-62 and DM-ZIF-62. The crystallinity of DM-ZIF-62 is lower than that of ZIF-62. However, there is only a single crystalline phase, and all the expected *Pbca* Bragg peaks are present in both samples.

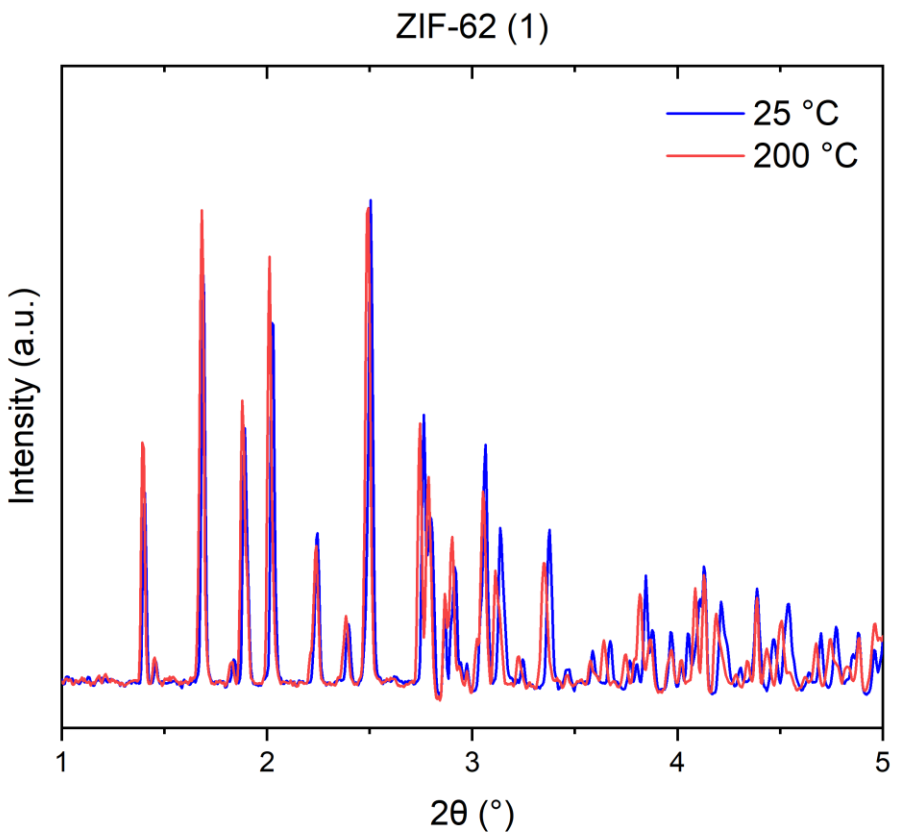

Fig. S20 - Powder x-ray diffractogram comparing ZIF-62 at 25 °C and 200 °C (temperature where the lattice volume is the largest). We see no change in the space group, and none of the peaks disappear. There is some shift in the peaks, indicating expansion as the temperature increases.

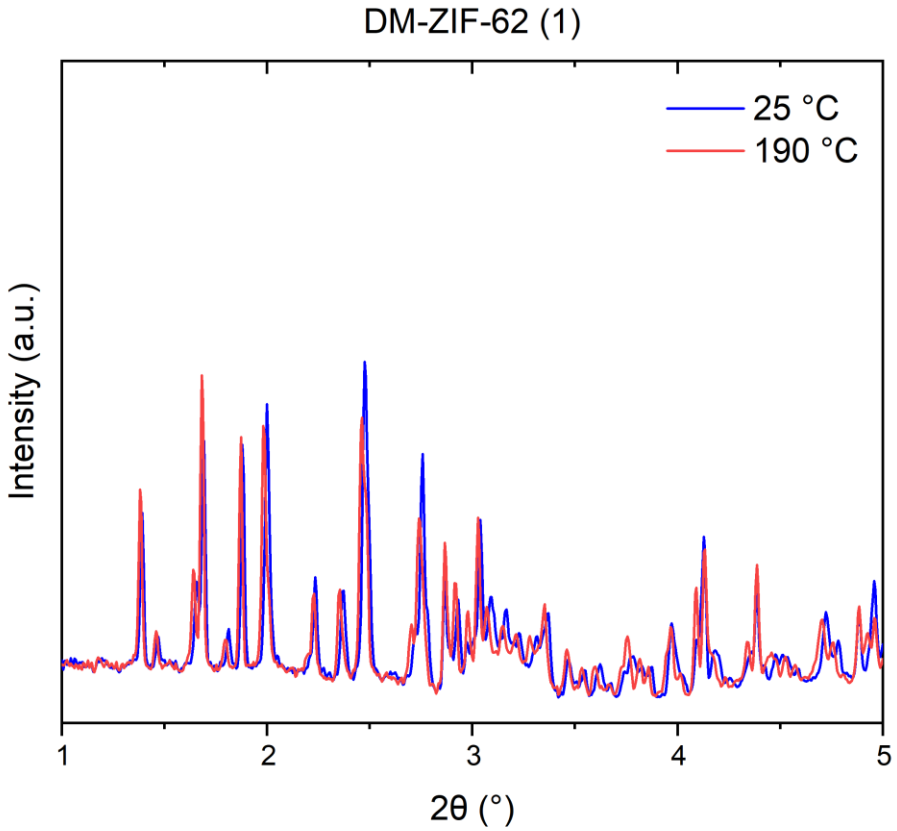

Fig. S21 - Powder x-ray diffractogram comparing DM-ZIF-62 at 25 °C and 190 °C (reaches maximum lattice volume at a lower temperature than ZIF-62). Similar to ZIF-62, no change in space group or disappearance of peaks is observed. There is also a shift in peak position, indicating expansion.

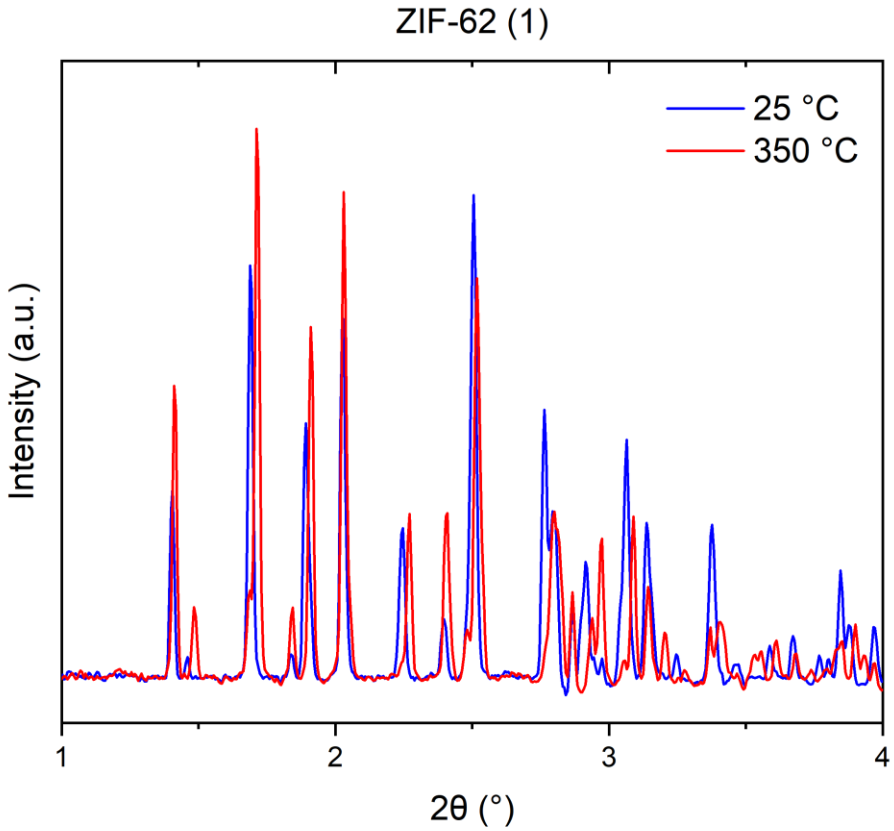

Fig. S22 - Powder x-ray diffractogram comparing ZIF-62 at 25 °C and 350 °C. We observe no change in the space group after desolvation and some shift in the peaks during heating. Some of the peaks do not shift, which agrees with the anisotropic expansion of the ZIF-62 crystals.

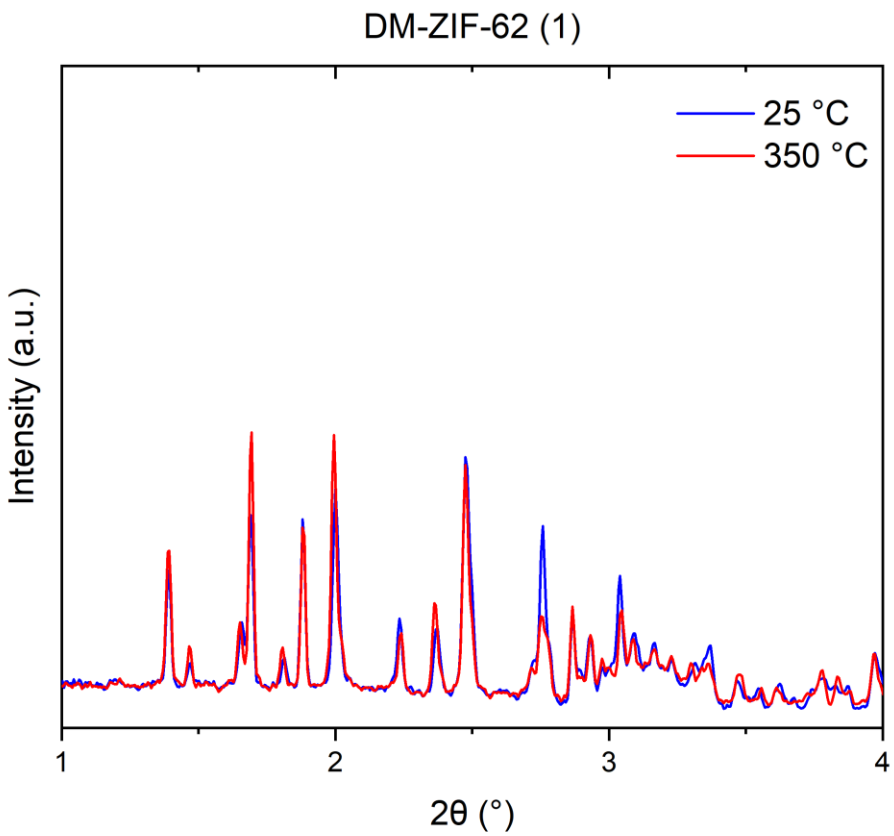

Fig. S23 - Powder x-ray diffractogram comparing DM-ZIF-62 at 25 C and 350 C. We can see no noticeable shift in the peaks, corresponding to no significant expansion when comparing the lattice parameters at 25 °C and 350 °C. There is no change in the space group after desolvation.

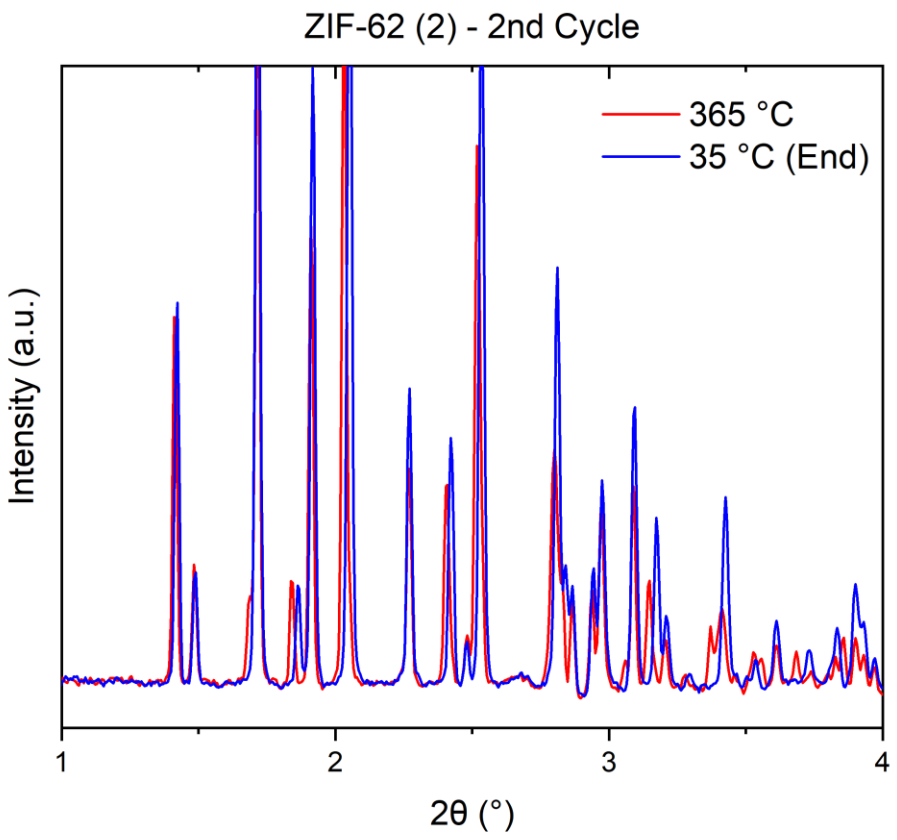

Fig. S24 - Powder x-ray diffractogram comparing ZIF-62 during the second heating cycle. The expansion/contraction occurs only in the b-lattice parameter. We can see that only a few peaks shift during cooling.

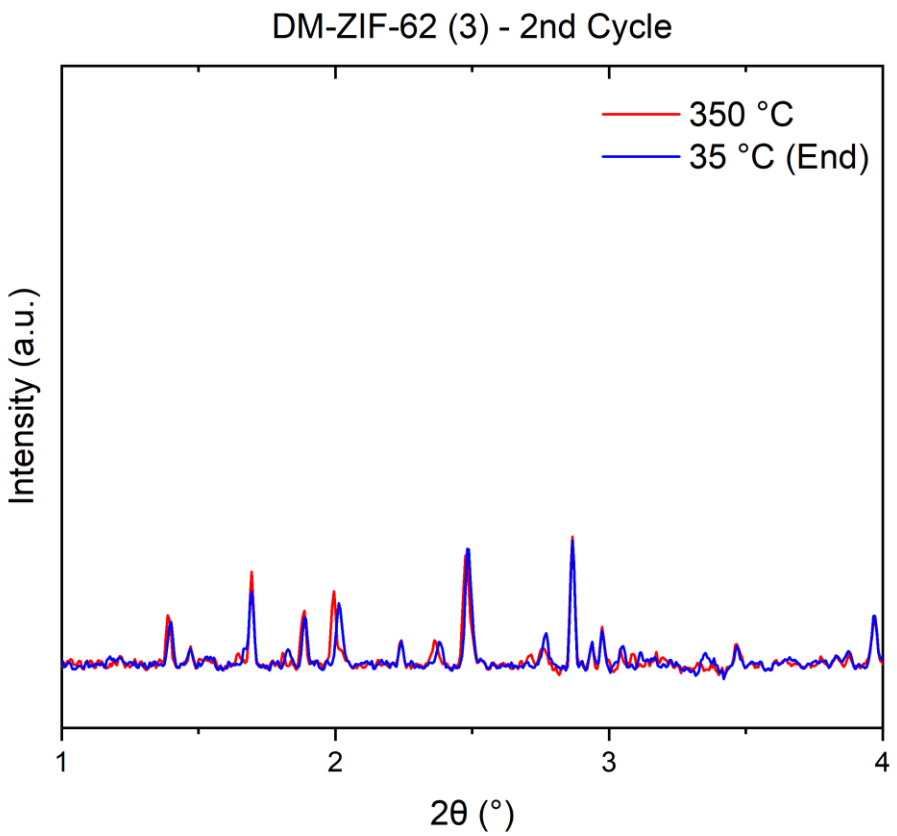

Fig. S25 - Powder x-ray diffractogram comparing DM-ZIF-62 during the second heating cycle. The only significant expansion/contraction occurs in the b-lattice parameter. Similarly to ZIF-62, the shift only occurs in a few peaks. Despite the lower intensity, the shift is still noticeable.

Table S1 - Initial lattice parameters and unit cell volume of each sample. There was a total of 6 samples, 3 for both ZIF-62 and DM-ZIF-62 respectively.

Sample	a (Å)	b (Å)	c (Å)	V (Å^3)
ZIF-62 (1)	15.49932	15.75922	17.91792	4376.5804
ZIF-62 (2)	15.49982	15.56165	17.88422	4313.72436
ZIF-62 (3)	15.51956	15.57386	18.02439	4356.48546
DM-ZIF-62 (1)	15.76549	16.04693	18.13306	4587.44384
DM-ZIF-62 (2)	15.73087	16.04868	18.16076	4584.86007
DM-ZIF-62 (3)	15.76381	16.06683	18.13715	4593.67517

Table S2 - The percentage volume changes relative to the initial value at each important stage for each sample. Values in parentheses indicate the change relative to the previous stage. Desolvation Maximum temperature is not consistent due to the differences in sample batches.

Sample	Heating Stage	V/V_0
ZIF-62 (1)	Desolvation Maximum	+1.38%
ZIF-62 (2)	Desolvation Maximum	+1.43%
ZIF-62 (3)	Desolvation Maximum	+1.47%
DM -ZIF-62 (1)	Desolvation Maximum	+1.73%
DM -ZIF-62 (3)	Desolvation Maximum	+1.67%
DM -ZIF-62 (2)	Desolvation Maximum	+1.58%
ZIF-62 (1)	Post-Desolvation Minimum	-2.22%
DM -ZIF-62 (1)	Post-Desolvation Minimum	+0.05%
ZIF-62 (1)	End of heating (450 C)	-1.58%
ZIF-62 (2)	End of heating (365 C)	-2.34%
ZIF-62 (3)	End of heating (300 C)	-0.36%
DM-ZIF-62 (1)	End of heating (450 C)	+0.62%
DM -ZIF-62 (3)	End of heating (350 C)	+0.17%
DM -ZIF-62 (2)	End of heating (300 C)	+0.15%

ZIF-62 (2)	End of first cooling	-3.76% (-1.42%)
ZIF-62 (3)	End of first cooling	-3.08% (-2.72%)
DM -ZIF-62 (3)	End of first cooling	-0.96% (-1.13%)
DM -ZIF-62 (2)	End of first cooling	-1.01% (-1.16%)
ZIF-62 (2)	Cycle 2 Maximum (365 C)	-2.33% (+1.43%)
DM -ZIF-62 (3)	Cycle 2 Maximum (350 C)	+0.17% (+1.13%)
DM -ZIF-62 (2)	Cycle 2 Maximum (400 C)	+0.37% (+1.38%)
ZIF-62 (2)	End of second cooling	-3.79% (-1.46%)
DM -ZIF-62 (3)	End of second cooling	-0.98% (-1.15%)
DM -ZIF-62 (2)	End of second cooling	-1.20% (-1.57%)

Table S3 - Thermal expansion coefficients determined from the volume expansion. The temperature interval used to determine the coefficient is noted in the second column.

Sample	Interval	Coefficient a_V (μK^{-1})
ZIF-62 (1)	1st Upscan 370-450 °C	58
ZIF-62 (2)	2nd Upscan 30-365 °C	36
DM-ZIF-62 (1)	1st Upscan 370-450 °C	54
DM-ZIF-62 (3)	2nd Upscan 30-350 °C	26
DM-ZIF-62 (2)	2nd Upscan 30-400 °C	37

SI-3: Data for lattice parameter and lattice volume in the order ZIF-62 (1), ZIF-62 (2), ZIF-62 (3), DM-ZIF-62 (1), DM-ZIF-62 (2), DM-ZIF-62 (3).

T	Step	a	L_{2T}	b	L_{2T}	c	L_{2T}	d	L_{2T}
0.1000	1	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	2	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	4	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	8	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	16	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	32	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	64	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	128	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
25.6000	256	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000
51.2000	512	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000
102.4000	1024	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000
204.8000	2048	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000
409.6000	4096	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000
819.2000	8192	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000
1638.4000	16384	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000
3276.8000	32768	3276.8000	3276.8000	3276.8000	3276.8000	3276.8000	3276.8000	3276.8000	3276.8000
6553.6000	65536	6553.6000	6553.6000	6553.6000	6553.6000	6553.6000	6553.6000	6553.6000	6553.6000
0.0500	1	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	2	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	4	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	8	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	16	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	32	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	64	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	128	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	256	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
25.6000	512	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000
51.2000	1024	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000
102.4000	2048	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000
204.8000	4096	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000
409.6000	8192	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000
819.2000	16384	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000
1638.4000	32768	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000
3276.8000	65536	3276.8000	3276.8000	3276.8000	3276.8000	3276.8000	3276.8000	3276.8000	3276.8000
0.0250	1	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	2	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	4	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	8	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	16	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	32	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	64	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	128	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	256	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	512	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
25.6000	1024	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000
51.2000	2048	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000
102.4000	4096	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000
204.8000	8192	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000
409.6000	16384	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000
819.2000	32768	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000
1638.4000	65536	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000	1638.4000
0.0125	1	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	2	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	4	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	8	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	16	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	32	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	64	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	128	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	256	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	512	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	1024	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
25.6000	2048	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000
51.2000	4096	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000
102.4000	8192	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000
204.8000	16384	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000
409.6000	32768	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000
819.2000	65536	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000	819.2000
0.0063	1	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
0.0125	2	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	4	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	8	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	16	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	32	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	64	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	128	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	256	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	512	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	1024	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	2048	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
25.6000	4096	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000
51.2000	8192	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000
102.4000	16384	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000
204.8000	32768	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000
409.6000	65536	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000	409.6000
0.0031	1	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
0.0063	2	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
0.0125	4	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	8	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	16	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	32	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	64	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	128	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	256	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	512	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	1024	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	2048	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	4096	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
25.6000	8192	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000
51.2000	16384	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000
102.4000	32768	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000
204.8000	65536	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000	204.8000
0.0016	1	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
0.0031	2	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
0.0063	4	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
0.0125	8	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	16	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	32	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	64	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	128	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	256	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	512	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	1024	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	2048	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	4096	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	8192	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
25.6000	16384	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000
51.2000	32768	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000
102.4000	65536	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000	102.4000
0.0008	1	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
0.0016	2	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
0.0031	4	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
0.0063	8	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
0.0125	16	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	32	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	64	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	128	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	256	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	512	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	1024	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	2048	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	4096	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	8192	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	16384	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
25.6000	32768	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000
51.2000	65536	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000	51.2000
0.0004	1	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
0.0008	2	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
0.0016	4	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
0.0031	8	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
0.0063	16	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
0.0125	32	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	64	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	128	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	256	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	512	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	1024	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	2048	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	4096	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	8192	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	16384	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	32768	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
25.6000	65536	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000	25.6000
0.0002	1	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
0.0004	2	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
0.0008	4	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
0.0016	8	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
0.0031	16	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
0.0063	32	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
0.0125	64	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	128	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	256	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	512	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	1024	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	2048	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	4096	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	8192	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	16384	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	32768	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
12.8000	65536	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000	12.8000
0.0001	1	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0002	2	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
0.0004	4	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
0.0008	8	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
0.0016	16	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
0.0031	32	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
0.0063	64	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
0.0125	128	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	256	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	512	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	1024	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	2048	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	4096	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	8192	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	16384	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	32768	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
6.4000	65536	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000	6.4000
0.0000	1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0001	2	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0002	4	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
0.0004	8	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
0.0008	16	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
0.0016	32	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
0.0031	64	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
0.0063	128	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
0.0125	256	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	512	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	1024	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	2048	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	4096	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	8192	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	16384	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	32768	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
3.2000	65536	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000	3.2000
0.0000	1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0001	4	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0002	8	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
0.0004	16	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
0.0008	32	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
0.0016	64	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
0.0031	128	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
0.0063	256	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
0.0125	512	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
0.0250	1024	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
0.0500	2048	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
0.1000	4096	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
0.2000	8192	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
0.4000	16384	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
0.8000	32768	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
1.6000	65536	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000	1.6000
0.0000	1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0001	8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0002	16	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
0.0004	32	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
0.0008	64	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
0.0016	128	0.0016	0.0016	0.0016

Date	Open	High	Low	Close	Volume
2-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Jan-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Feb-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Mar-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Apr-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-May-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Jun-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Jul-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Aug-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Sep-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Oct-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
2-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
3-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
4-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
5-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
6-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
7-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
8-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
9-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
10-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
11-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
12-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
13-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
14-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
15-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
16-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
17-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
18-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
19-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
20-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
21-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
22-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
23-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
24-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
25-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
26-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
27-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
28-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
29-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
30-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
31-Nov-18	0.0000	0.0000	0.0000	0.0000	0.0000
1-Dec-18	0.0000	0.0000	0.0000	0.0000	0.0000

Z	Mag	u	σ_M	v	σ_M	r	σ_M
24.414	-4.0291	0.15968	0.00918	0.76968	0.00384	0.25148	0.01560
24.414

T	Seq	x	y_ref	y	y_pr	c	c_ref	y'	y'_pr
28.384	0.00000	0.7600	0.00000	0.00000	0.00000	0.1000	0.0000	0.0000	0.0000
28.479	0.01000	0.7600	0.00000	0.00000	0.00000	0.1000	0.0000	0.0000	0.0000
28.574	0.02000	0.7600	0.00000	0.00000	0.00000	0.1000	0.0000	0.0000	0.0000

| Time | | |

0001	0.0000	0000	0000	0000	0000	0000	0000	0000	0000
0002	0.0000	0000	0000	0000	0000	0000	0000	0000	0000
0003	0.0000	0000	0000	0000	0000	0000	0000	0000	0000