

Electronic Supplementary Information

Synthesis and the Crystal Structure of a new 1D Metal–Organic Coordination Polymer with Cu²⁺ ions based on a Chiral Terephthalic Acid Derivative synthesized for the first time

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Content

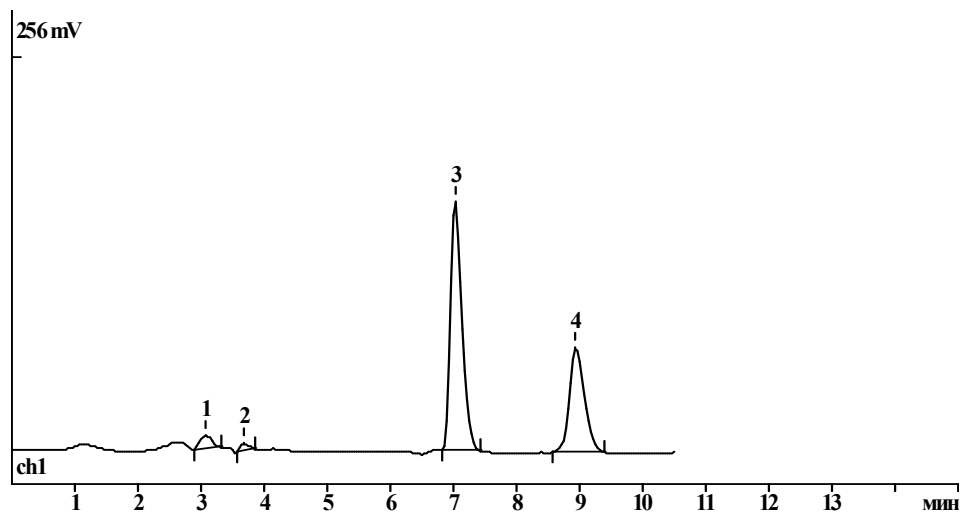
I. HPLC analysis data

II. Thermal stability of the {Cu[bdc-(N-MePro)H₂O]•0.25H₂O}_n polymer

III. FTIR Studies of the {Cu[bdc-(N-MePro)H₂O]•0.25H₂O}_n polymer

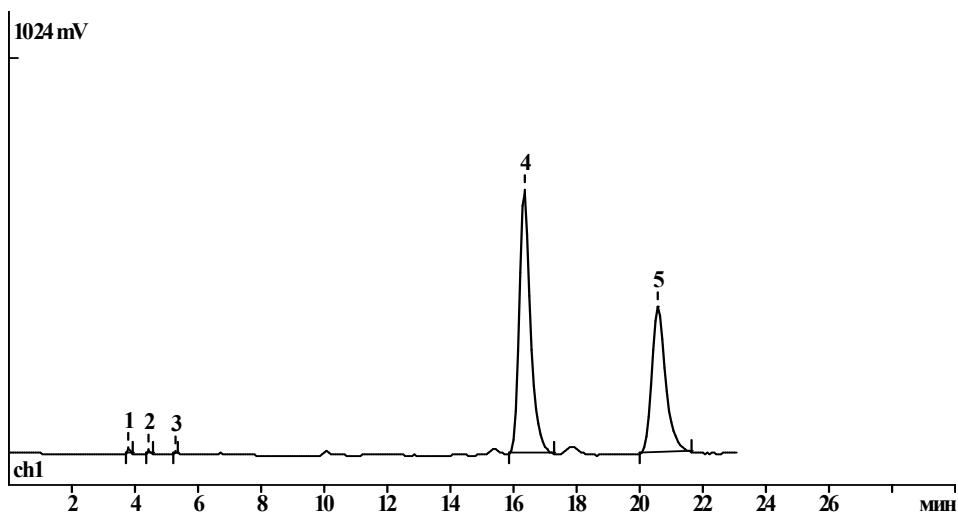
IV. Structural stability of the {Cu[bdc-(N-MePro)H₂O]•0.25H₂O}_n catalytic material

I. HPLC analysis data



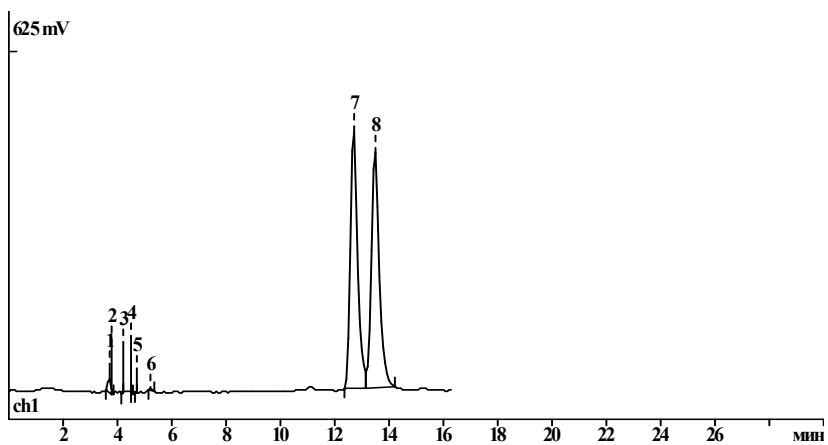
Peak No	Index Time (min)	Area (mV/sec)	Area (%)
1	3.07	104.55	3.38
2	3.67	48.13	1.56
3	7.03	1898.99	61.44
4	8.94	1039.15	33.62
Total	10.52	3090.83	100.00

Figure S1. HPLC analysis of residual non-racemic styrene oxide **4** remaining after reaction completion.



Peak No	Index Time (min)	Area (mV/sec)	Area (%)
1	3.80	81.56	0.31
2	4.45	44.98	0.17
3	5.28	16.15	0.06
4	16.34	15633.40	58.95
5	20.58	10743.44	40.51
Total	23.11	26519.52	100.00

Figure S2. HPLC analysis of isolated non-racemic aminoalcohol **5**.



Peak No	Index Time (min)	Area (mV/sec)	Area (%)
1	3.70	213.16	1.26
2	3.80	75.81	0.45
3	4.19	56.48	0.33
4	4.52	61.61	0.36
5	4.68	26.86	0.16
6	5.24	25.67	0.15
7	12.69	8291.48	48.91
8	13.48	8201.34	48.38
Total	16.32	16952.41	100.00

Figure S3. HPLC analysis of isolated non-racemic aminoalcohol **8**.

II. Thermal stability of the $\{\text{Cu}[\text{bdc}-(\text{N-MePro})\text{H}_2\text{O}]\cdot 0.25\text{H}_2\text{O}\}_n$ polymer

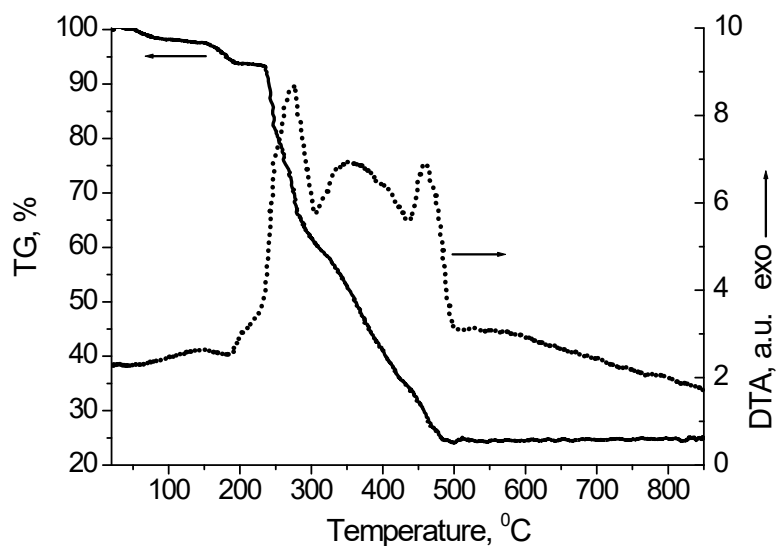


Figure S4. TG, DTA curves for $\{\text{Cu}[\text{bdc}-(\text{N-MePro})\text{H}_2\text{O}]\cdot 0.25\text{H}_2\text{O}\}_n$ polymer.

III. FTIR Studies of the $\{\text{Cu}[\text{bdc}-(\text{N-MePro})\text{H}_2\text{O}]\cdot 0.25\text{H}_2\text{O}\}_n$ polymer

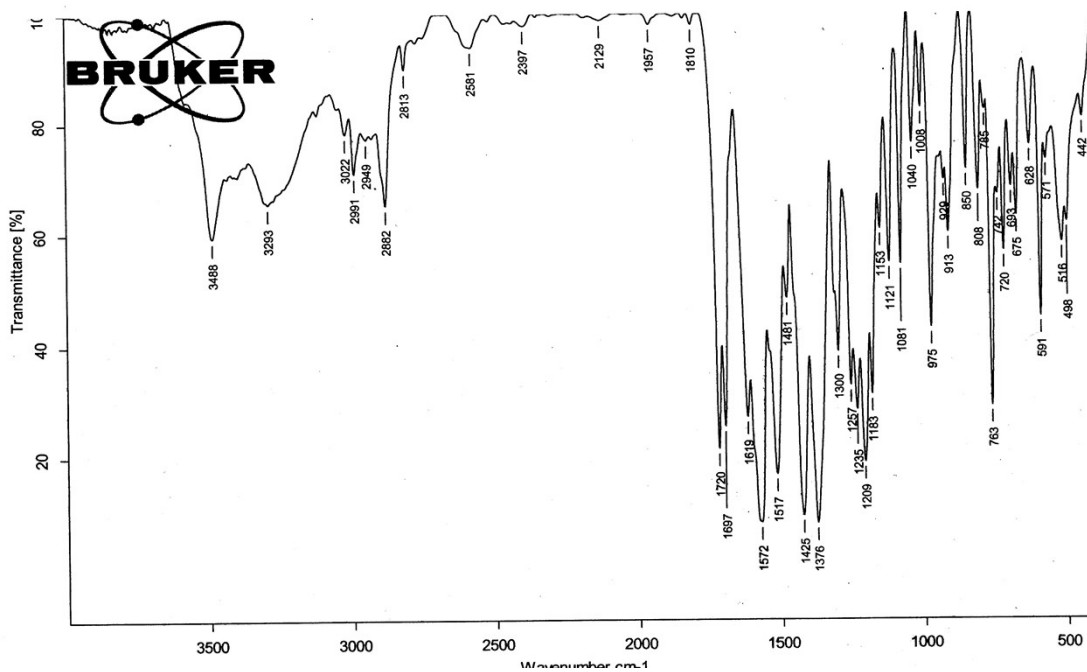


Figure S5. FTIR spectrum of the $\{\text{Cu}[\text{bdc}-(\text{N-MePro})\text{H}_2\text{O}]\cdot 0.25\text{H}_2\text{O}\}_n$ polymer.

IV. Structural stability of the $\{\text{Cu}[\text{bdc}-(\text{N-MePro})\text{H}_2\text{O}]\cdot 0.25\text{H}_2\text{O}\}_n$ catalytic material

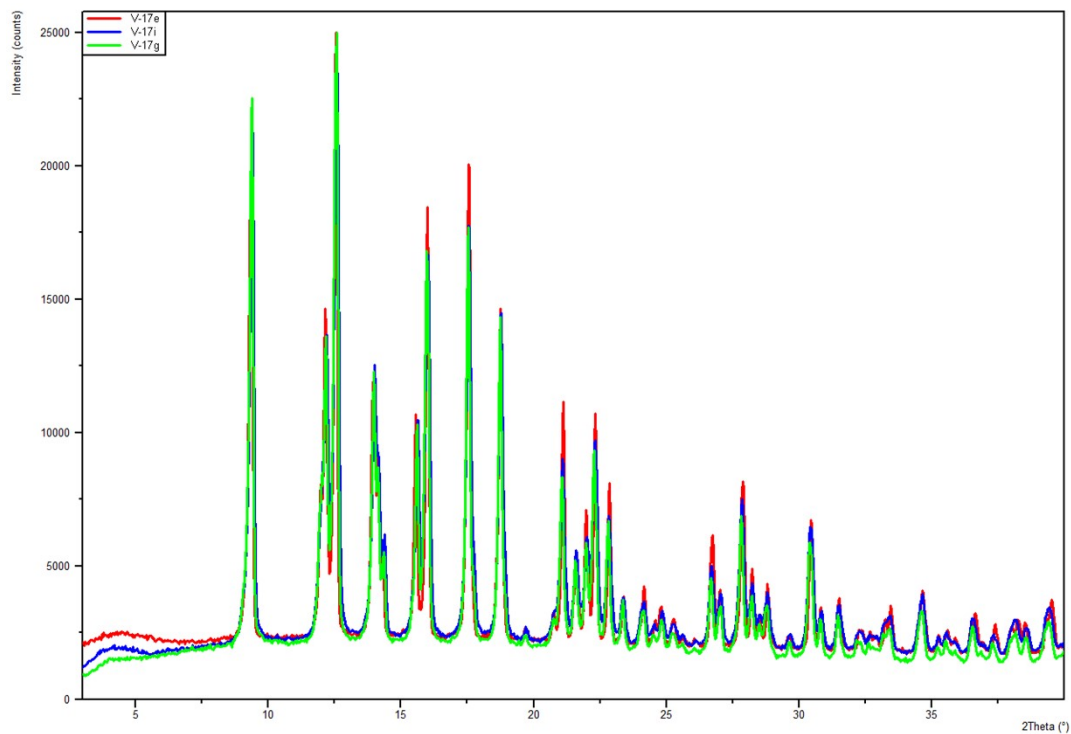


Figure S6. PXRD patterns of the $\{\text{Cu}[\text{bdc}-(\text{N-MePro})\text{H}_2\text{O}]\cdot 0.25\text{H}_2\text{O}\}_n$ polymer before (red) and after catalytic reactions of ring opening of styrene oxide (blue) and cyclohexene oxide (green).