Supporting Information for

Polymeric templates and solvent effects: syntheses and properties of polymeric iodoargentates containing solvated $[Mn(4,4'\text{-bpy})]^{2+}$ cations

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Table S1. Selected Bond Lengths (Å) and angles (deg) for **1**

Ag(1)–I(1)	3.0463(13)	Ag(1)–I(2)	2.8276(12)
Ag(1)–I(3)	2.8976(12)	Ag(1)–I(4)	2.8322(12)
Ag(2)–I(1)	3.1279(12)	Ag(2)–I(4)	2.8659(12)
Ag(2)–I(5)	2.8306(11)	Ag(2)–I(6)	2.7861(12)
Ag(2)···Ag(4)#1	3.1181(14)	Ag(3)–I(1)	3.0785(12)
Ag(3)–I(2)	2.8478(12)	Ag(3)–I(6)	2.7815(11)
Ag(3)–I(7)#1	2.7842(11)	Ag(3)···Ag(5)#1	3.1986(14)
Ag(4)–I(1)#2	2.9743(12)	Ag(4)–I(2)	2.8640(12)
Ag(4)–I(3)	2.8386(12)	Ag(4)–I(5)#2	2.7707(11)
Ag(5)–I(3)	2.8455(12)	Ag(5)–I(1)#2	2.9583(12)
Ag(5)–I(7)	2.7758(12)	Ag(5)–I(4)	2.9500(13)
Mn(1)–O(1)	2.184(8)	Mn(1)–O(2)	2.147(6)
Mn(1)–O(3)	2.138(7)	Mn(1)–O(4)	2.161(7)
Mn(1)–N(1)	2.303(7)	Mn(1)–N(2)#3	2.314(7)
I(1)–Ag(1)–I(2)	114.49(4)	I(1)–Ag(1)–I(3)	100.40(4)
I(1)–Ag(1)–I(4)	101.38(3)	I(2)–Ag(1)–I(3)	107.68(4)
I(2)–Ag(1)–I(4)	127.54(5)	I(3)–Ag(1)–I(4)	101.58(4)
I(1)–Ag(2)–I(5)	106.76(4)	I(1)–Ag(2)–I(4)	98.69(3)
I(4)–Ag(2)–I(5)	106.42(4)	I(1)–Ag(2)–I(6)	106.45(3)
I(5)–Ag(2)–I(6)	111.17(4)	I(4)–Ag(2)–I(6)	125.41(4)
I(1)–Ag(3)–I(6)	107.91(4)	I(1)–Ag(3)–I(2)	112.92(3)
I(2)–Ag(3)–I(6)	110.82(4)	I(1)–Ag(3)–I(7)#1	102.25(4)
I(6)–Ag(3)–I(7)#1	109.90(4)	I(2)–Ag(3)–I(7)#1	112.64(4)

I(1)#2–Ag(4)–I(3)	110.13(4)	I(1)#2–Ag(4)–I(2)	97.83(4)
I(2)–Ag(4)–I(3)	108.31(4)	I(1)#2–Ag(4)–I(5)#2	112.77(4)
I(3)–Ag(4)–I(5)#2	111.04(4)	I(2)–Ag(4)–I(5)#2	115.99(4)
I(1)#2–Ag(5)–I(4)	112.81(4)	I(1)#2–Ag(5)–I(3)	110.39(4)
I(3)–Ag(5)–I(4)	99.99(4)	I(1)#2–Ag(5)–I(7)	105.58(4)
I(4)–Ag(5)–I(7)	105.17(4)	I(3)–Ag(5)–I(7)	122.82(4)
Ag(1)–I(1)–Ag(3)	58.19(3)	Ag(1)–I(1)–Ag(2)	61.86(3)
Ag(1)–I(1)–Ag(5)#1	122.11(3)	Ag(1)–I(1)–Ag(4)#2	123.02(3)
Ag(2)–I(1)–Ag(4)#1	61.40(3)	Ag(2)–I(1)–Ag(3)	63.07(3)
Ag(3)–I(1)–Ag(4)#1	99.28(3)	Ag(2)–I(1)–Ag(5)#1	94.26(3)
Ag(4)#1–I(1)–Ag(5)#1	67.11(3)	Ag(3)–I(1)–Ag(5)#1	63.95(3)
Ag(1)–I(2)–Ag(4)	68.31(3)	Ag(1)–I(2)–Ag(3)	63.31(3)
Ag(1)–I(3)–Ag(4)	67.70(3)	Ag(3)–I(2)–Ag(4)	127.57(4)
Ag(4)–I(3)–Ag(5)	70.47(3)	Ag(1)–I(3)–Ag(5)	67.92(3)
Ag(1)–I(4)–Ag(5)	67.37(3)	Ag(1)–I(4)–Ag(2)	67.70(3)
Ag(2)–I(5)–Ag(4)#1	67.64(3)	Ag(2)–I(4)–Ag(5)	135.06(4)
Ag(3)#2–I(7)–Ag(5)	70.24(3)	Ag(2)–I(6)–Ag(3)	71.33(3)
O(1)–Mn(1)–O(2)	88.4(3)	O(1)–Mn(1)–O(3)	90.9(3)
O(1)–Mn(1)–O(4)	175.3(3)	O(2)–Mn(1)–O(3)	177.7(3)
O(2)–Mn(1)–O(4)	88.6(3)	O(3)–Mn(1)–O(4)	92.3(3)
O(1)–Mn(1)–N(1)	87.6(3)	O(1)–Mn(1)–N(2)#3	88.0(3)
O(2)–Mn(1)–N(1)	88.9(2)	O(2)–Mn(1)–N(2)#3	93.0(3)
O(3)–Mn(1)–N(1)	88.9(3)	O(3)–Mn(1)–N(2)#3	89.2(3)
O(4)–Mn(1)–N(1)	95.9(3)	O(4)–Mn(1)–N(2)#3	88.6(3)
N(1)–Mn(1)–N(2)#3	175.1(3)		

Symmetry transformations used to generate equivalent atoms: #1 –x+2, y+1/2, –z; #2 –x+2, y–1/2, –z; #3 x+1, y, z; #4 x–1, y, z.

Table S2. Selected Bond Lengths (Å) and angles (deg) for **2**

Ag(1)–I(1)	3.052(3)	Ag(1)–I(2)	2.800(3)
Ag(1)–I(3)#1	2.892(3)	Ag(1)–I(7)	2.910(3)
Ag(2)–I(1)	2.992(3)	Ag(2)–I(2)	2.776(3)
Ag(2)–I(3)	2.913(3)	Ag(2)–I(4)	2.935(3)
Ag(2)–Ag(6)#2	2.887(4)	Ag(3)–I(1)	2.930(3)
Ag(3)–I(4)	2.917(3)	Ag(3)–I(5)	2.904(3)
Ag(3)–I(6)#2	2.894(3)	Ag(3)–Ag(6)#2	2.898(4)
Ag(4)–I(1)	2.862(3)	Ag(4)–I(5)	2.898(3)

Ag(4)–I(6)	2.837(2)	Ag(4)–I(7)	2.986(3)
Ag(5)–I(4)	2.859(2)	Ag(5)–I(5)	2.825(2)
Ag(5)–I(7)	2.871(2)	Ag(5)–I(8)	2.7403(19)
Ag(6)–I(3)#1	2.815(4)	Ag(6)–I(4)#1	2.935(3)
Ag(6)–I(6)	2.834(3)	Ag(6)–I(7)	2.821(3)
Ag(6)–Ag(2)#1	2.887(4)	Ag(6)–Ag(3)#1	2.898(4)
Mn(1)–O(1)	2.174(14)	Mn(1)–O(2)	2.192(11)
Mn(1)–O(3)	2.128(11)	Mn(1)–O(4)	2.107(12)
Mn(1)–N(1)	2.277(13)	Mn(1)–N(2)#4	2.325(14)
I(1)–Ag(1)–I(2)	104.94(9)	I(1)–Ag(1)–I(3)#1	103.83(9)
I(1)–Ag(1)–I(7)	100.96(9)	I(2)–Ag(1)–I(3)#1	128.79(11)
I(2)–Ag(1)–I(7)	107.11(9)	I(3)#1–Ag(1)–I(7)	107.80(9)
I(1)–Ag(2)–I(2)	107.15(9)	I(1)–Ag(2)–I(3)	106.12(9)
I(1)–Ag(2)–I(4)	104.39(9)	I(2)–Ag(2)–I(3)	115.84(10)
I(2)–Ag(2)–I(4)	107.09(10)	I(3)–Ag(2)–I(4)	115.35(9)
I(1)–Ag(3)–I(4)	106.47(9)	I(1)–Ag(3)–I(5)	103.87(8)
I(1)–Ag(3)–I(6)#2	112.68(9)	I(4)–Ag(3)–I(5)	107.74(9)
I(4)–Ag(3)–I(6)#2	112.83(8)	I(5)–Ag(3)–I(6)#2	112.63(9)
I(1)–Ag(4)–I(5)	105.75(8)	I(1)–Ag(4)–I(6)	110.49(9)
I(1)–Ag(4)–I(7)	103.70(9)	I(5)–Ag(4)–I(6)	113.16(10)
I(5)–Ag(4)–I(7)	114.03(8)	I(6)–Ag(4)–I(7)	109.22(8)
I(4)–Ag(5)–I(4)	111.63(7)	I(4)–Ag(5)–I(7)	96.72(8)
I(4)–Ag(5)–I(8)	113.42(7)	I(5)–Ag(5)–I(7)	120.14(8)
I(5)–Ag(5)–I(8)	111.49(8)	I(7)–Ag(5)–I(8)	102.57(7)
I(3)#1–Ag(6)–I(4)#1	118.48(11)	I(3)#1–Ag(6)–I(6)	109.06(11)
I(3)#1–Ag(6)–I(7)	112.55(11)	I(4)#1–Ag(6)–I(6)	114.08(12)
I(4)#1–Ag(6)–I(7)	87.13(9)	I(6)–Ag(6)–I(7)	114.21(11)
Ag(1)–I(1)–Ag(2)	67.29(7)	Ag(1)–I(1)–Ag(3)	107.78(8)
Ag(1)–I(1)–Ag(4)	72.88(8)	Ag(2)–I(1)–Ag(3)	66.53(7)
Ag(2)–I(1)–Ag(4)	105.07(8)	Ag(3)–I(1)–Ag(4)	69.49(8)
Ag(1)–I(2)–Ag(2)	73.82(9)	Ag(1)#2–I(3)–Ag(2)	115.15(9)
Ag(1)#2–I(3)–Ag(6)#2	66.88(8)	Ag(2)–I(3)–Ag(6)#2	60.50(8)
Ag(2)–I(4)–Ag(3)	67.44(8)	Ag(2)–I(4)–Ag(5)	107.12(8)
Ag(2)–I(4)–Ag(6)#2	58.92(8)	Ag(3)–I(4)–Ag(5)	66.69(7)
Ag(3)–I(4)–Ag(6)#2	59.36(8)	Ag(5)–I(4)–Ag(6)#2	125.51(9)
Ag(3)–I(5)–Ag(4)	69.37(8)	Ag(3)–I(5)–Ag(5)	67.31(7)
Ag(4)–I(5)–Ag(5)	62.38(7)	Ag(3)#1–I(6)–Ag(4)	118.70(8)
Ag(3)#1–I(6)–Ag(6)	60.76(8)	Ag(4)–I(6)–Ag(6)	65.00(8)
Ag(1)–I(7)–Ag(4)	73.21(8)	Ag(1)–I(7)–Ag(5)	110.49(8)

Ag(1)–I(7)–Ag(6)	66.57(9)	Ag(4)–I(7)–Ag(5)	60.78(6)
Ag(4)–I(7)–Ag(6)	63.24(8)	Ag(5)–I(7)–Ag(6)	121.49(9)
Ag(5)–I(8)–Ag(5)#3	180.00(7)		
O(1)–Mn(1)–O(2)	171.1(5)	O(1)–Mn(1)–O(3)	91.5(5)
O(1)–Mn(1)–O(4)	95.3(6)	O(2)–Mn(1)–O(3)	86.9(5)
O(2)–Mn(1)–O(4)	93.5(6)	O(3)–Mn(1)–O(4)	89.4(5)
O(1)–Mn(1)–N(1)	88.5(5)	O(1)–Mn(1)–N(2)#4	85.5(5)
O(2)–Mn(1)–N(1)	93.9(5)	O(2)–Mn(1)–N(2)#4	85.7(5)
O(3)–Mn(1)–N(1)	174.9(5)	O(3)–Mn(1)–N(2)#4	90.4(5)
O(4)–Mn(1)–N(1)	85.4(6)	O(4)–Mn(1)–N(2)#4	179.2(6)
N(1)–Mn(1)–N(2)#4	94.7(5)		

Symmetry transformations used to generate equivalent atoms: #1 x+1, y, z; #2 x–1, y, z; #3 –x+1, –y+1, –z+2; #4 x–1/2, –y+3/2, z–1/2; #5 x+1/2, –y+3/2, z+1/2.

Table S3. Selected Bond Lengths (Å) and angles (deg) for **3**

Ag(1)–I(1)	2.9444(10)	Ag(1)–I(2)	2.8576(10)
Ag(1)–I(5)#2	2.8688(10)	Ag(1)–I(6)#1	2.8385(10)
Ag(1)–Ag(5)#1	3.2088(13)		
Ag(2)–I(1)	2.9618(11)	Ag(2)–I(2)	2.8123(10)
Ag(2)–I(3)	2.8075(10)	Ag(2)–I(4)	2.8291(10)
Ag(3)–I(1)	2.9646(10)	Ag(3)–I(3)	2.8268(11)
Ag(3)–I(5)	2.8165(11)	Ag(3)–I(6)	2.8454(10)
Ag(4)–I(1)	2.9814(11)	Ag(4)–I(2)#2	2.8772(10)
Ag(4)–I(4)#1	2.8274(10)	Ag(4)–I(5)	2.8403(10)
Ag(4)–Ag(5)#1	3.1670(11)	Ag(5)–I(1)#2	2.9448(10)
Ag(5)–I(3)#3	2.8323(10)	Ag(5)–I(4)	2.7992(11)
Ag(5)–I(6)	2.8089(10)	Ag(5)–Ag(1)#2	3.2088(13)
Ag(5)–Ag(4)#2	3.1670(11)		
Mn(1)–O(1)	2.134(6)	Mn(1)–O(2)	2.173(5)
Mn(1)–N(1)	2.316(7)		
I(1)–Ag(1)–I(2)	112.79(3)	I(1)–Ag(1)–I(5)#2	98.22(3)
I(1)–Ag(1)–I(6)#1	111.29(3)	I(2)–Ag(1)–I(5)#2	109.59(3)
I(2)–Ag(1)–I(6)#1	114.33(3)	I(5)#2–Ag(1)–I(6)#1	109.40(3)
I(1)–Ag(1)–Ag(5)#1	56.99(2)	I(2)–Ag(1)–Ag(5)#1	142.49(3)
I(5)#2–Ag(1)–Ag(5)#1	107.68(3)	I(6)#1–Ag(1)–Ag(5)#1	54.94(2)
I(1)–Ag(2)–I(2)	113.61(3)		
I(1)–Ag(2)–I(3)	106.34(3)	I(1)–Ag(2)–I(4)	95.50(3)
I(2)–Ag(2)–I(3)	115.41(3)	I(2)–Ag(2)–I(4)	115.14(4)
I(3)–Ag(2)–I(4)	108.79(3)	I(1)–Ag(3)–I(3)	105.76(3)

I(1)–Ag(3)–I(5)	113.60(3)	I(1)–Ag(3)–I(6)	94.64(3)
I(3)–Ag(3)–I(5)	114.86(3)	I(3)–Ag(3)–I(6)	109.40(3)
I(5)–Ag(3)–I(6)	116.38(4)	I(1)–Ag(4)–I(2)#2	93.81(3)
I(1)–Ag(4)–I(4)#1	111.79(3)	I(1)–Ag(4)–I(5)	112.40(3)
I(2)#2–Ag(4)–I(4)#1	110.77(3)	I(2)#2–Ag(4)–I(5)	108.13(3)
I(4)#1–Ag(4)–I(5)	117.37(3)	I(1)–Ag(4)–Ag(5)#1	57.14(2)
I(1)#2–Ag(5)–I(4)	113.73(3)	I(1)#2–Ag(5)–I(6)	112.13(3)
I(3)#3–Ag(5)–I(4)	113.02(4)	I(3)#3–Ag(5)–I(6)	109.41(3)
I(4) –Ag(5)–I(6)	113.09(3)	I(1)#2–Ag(5)–Ag(1)#2	56.98(2)
Ag(1)–I(1)–Ag(2)	64.17(3)	Ag(1)–I(1)–Ag(3)	126.31(3)
Ag(1)–I(1)–Ag(4)	121.76(3)	Ag(1)–I(1)–Ag(5)#1	66.03(3)
Ag(2)–I(1)–Ag(3)	70.99(3)	Ag(2)–I(1)–Ag(4)	124.60(3)
Ag(2)–I(1)–Ag(5)#1	122.57(3)	Ag(3)–I(1)–Ag(4)	64.37(3)
Ag(3)–I(1)–Ag(5)#1	122.71(3)	Ag(4)–I(1)–Ag(5)#1	64.61(2)
Ag(1)–I(2)–Ag(2)	67.19(3)		
Ag(1)–I(2)–Ag(4)#1	99.70(3)	Ag(2)–I(2)–Ag(4)#1	99.55(3)
Ag(2)–I(3)–Ag(3)	75.28(3)	Ag(2)–I(3)–Ag(5)#4	99.18(3)
Ag(3)–I(3)–Ag(5)#4	101.29(3)	Ag(2)–I(4)–Ag(4)#2	95.28(3)
Ag(2)–I(4)–Ag(5)	100.51(3)	Ag(4)#2–I(4)–Ag(5)	68.51(3)
Ag(1)#1–I(5)–Ag(3)	97.52(3)	Ag(1)#1–I(5)–Ag(4)	94.74(3)
Ag(3)–I(5)–Ag(4)	68.10(3)	Ag(1)#2–I(6)–Ag(3)	96.24(3)
Ag(1)#2–I(6)–Ag(5)	69.24(3)	Ag(3)–I(6)–Ag(5)	100.50(3)
O(1)–Mn(1)–O(1)#5	180.0(3)	O(1)–Mn(1)–O(2)	87.1(2)
O(1)–Mn(1)–O(2)#5	92.9(2)	O(2)–Mn(1)–O(2)#5	180.000(2)
O(1)–Mn(1)–N(1)	87.5(2)	O(1)–Mn(1)–N(1)#5	92.5(2)
O(2)–Mn(1)–N(1)	89.9(2)	O(2)–Mn(1)–N(1)#5	90.1(2)
N(1)#5–Mn(1)–N(1)	180.000(1)		

Symmetry transformations used to generate equivalent atoms: #1 –x+2, y+1/2, –z+3/2; #2 –x+2, y–1/2, –z+3/2; #3 x, y–1, z; #4 x, y+1, z; #5 –x+1, –y+1, –z+1.

Table S4. Selected Bond Lengths (Å) and angles (deg) for **4**

Ag(1)–I(1)	2.938(4)	Ag(1)–I(2)	2.807(4)
Ag(1)–I(3)	2.928(4)	Ag(1)–I(4)	2.817(4)
Ag(1)–Ag(10)#1	3.251(6)		
Ag(2)–I(1)	2.912(4)	Ag(2)–I(3)	2.867(6)
Ag(2)–I(5)	2.794(8)	Ag(2)–I(12)#1	3.099(9)
Ag(3)–I(1)	2.985(4)	Ag(3)–I(5)	2.812(4)
Ag(3)–I(6)	2.843(4)	Ag(3)–I(7)	2.764(4)

Ag(4)–I(1)	2.980(4)	Ag(4)–I(2)	2.814(3)
Ag(4)–I(6)	2.868(3)	Ag(4)–I(8)	2.859(3)
Ag(5)–I(7)	2.766(5)	Ag(5)–I(8)	2.858(4)
Ag(5)–I(9)	2.993(5)	Ag(5)–I(10)	2.847(4)
Ag(6)–I(6)	2.863(3)	Ag(6)–I(8)	2.862(4)
Ag(6)–I(9)	2.977(4)	Ag(6)–I(11)	2.828(5)
Ag(7)–I(9)	2.947(5)	Ag(7)–I(10)	2.754(8)
Ag(7)–I(12)	3.184(8)	Ag(7)–I(13)	2.825(5)
Ag(8)–I(9)	2.940(5)	Ag(8)–I(11)	2.812(5)
Ag(8)–I(13)	2.924(4)	Ag(8)–I(14)	2.824(4)
Ag(9)–I(3)#2	2.976(7)	Ag(9)–I(12)	2.746(10)
Ag(9)–I(14)	2.682(8)	Ag(10)–I(3)#2	3.251(8)
Ag(10)–I(4)#2	2.663(7)	Ag(10)–I(12)	2.900(10)
Ag(10)–I(13)	2.828(6)	Ag(10)–Ag(1)#2	3.251(6)
Ag(10)#1–Ag(9)	2.834(6)		
Mn(1)–O(1)	2.13(2)	Mn(1)–O(2)	2.03(3)
Mn(1)–O(3)	2.157(17)	Mn(1)–O(4)	2.063(19)
Mn(1)–N(1)	2.16(2)	Mn(1)–N(3)	2.26(3)
Mn(2)–O(5)	2.21(3)	Mn(2)–O(6)	2.116(19)
Mn(2)–O(7)	2.13(3)	Mn(2)–O(8)	2.22(4)
Mn(2)–N(2)	2.14(3)	Mn(2)–N(4)#1	2.32(4)
I(1)–Ag(1)–I(2)	102.61(11)	I(1)–Ag(1)–I(3)	109.45(14)
I(1)–Ag(1)–I(4)	105.79(16)	I(2)–Ag(1)–I(3)	106.11(14)
I(2)–Ag(1)–I(4)	120.46(16)	I(3)–Ag(1)–I(4)	111.75(14)
I(1)–Ag(1)–Ag(10)#1	106.5(2)	I(2)–Ag(1)–Ag(10)#1	150.9(2)
I(3)–Ag(1)–Ag(10)#1	63.23(15)	I(4)–Ag(1)–Ag(10)#1	51.44(15)
I(1)–Ag(2)–I(3)	111.91(17)	I(1)–Ag(2)–I(5)	102.25(19)
I(3)–Ag(2)–I(5)	129.9(2)	I(1)–Ag(2)–I(12)#1	110.4(3)
I(3)–Ag(2)–I(12)#1	95.6(2)	I(5)–Ag(2)–I(12)#1	105.8(2)
I(1)–Ag(3)–I(5)	100.04(16)	I(1)–Ag(3)–I(6)	106.74(11)
I(1)–Ag(3)–I(7)	104.65(12)	I(5)–Ag(3)–I(6)	105.96(13)
I(5)–Ag(3)–I(7)	120.18(15)	I(6)–Ag(3)–I(7)	117.12(15)
I(1)–Ag(4)–I(2)	101.39(11)	I(1)–Ag(4)–I(6)	106.21(11)
I(1)–Ag(4)–I(8)	114.63(12)	I(2)–Ag(4)–I(6)	120.53(12)
I(2)–Ag(4)–I(8)	109.93(10)	I(6)–Ag(4)–I(8)	104.55(10)
I(7)–Ag(5)–I(8)	118.20(15)	I(7)–Ag(5)–I(9)	107.18(12)
I(7)–Ag(5)–I(10)	117.97(16)	I(8)–Ag(5)–I(9)	105.46(15)
I(8)–Ag(5)–I(10)	106.28(13)	I(9)–Ag(5)–I(10)	99.43(16)
I(6)–Ag(6)–I(8)	104.59(12)	I(6)–Ag(6)–I(9)	113.29(12)
I(6)–Ag(6)–I(11)	107.11(12)	I(8)–Ag(6)–I(9)	105.75(12)

I(8)–Ag(6)–I(11)	123.13(13)	I(9)–Ag(6)–I(11)	103.24(13)
I(9)–Ag(7)–I(10)	102.75(18)	I(9)–Ag(7)–I(12)	113.9(3)
I(9)–Ag(7)–I(13)	109.89(19)	I(10)–Ag(7)–I(12)	97.8(2)
I(10)–Ag(7)–I(13)	135.0(3)	I(12)–Ag(7)–I(13)	96.3(2)
I(9)–Ag(8)–I(11)	104.59(13)	I(9)–Ag(8)–I(13)	107.41(15)
I(9)–Ag(8)–I(14)	103.21(17)	I(11)–Ag(8)–I(13)	106.68(13)
I(11)–Ag(8)–I(14)	119.4(2)	I(13)–Ag(8)–I(14)	114.44(13)
I(3)#2–Ag(9)–I(12)	101.11(18)	I(3)#2–Ag(9)–I(14)	103.9(3)
I(12)–Ag(9)–I(14)	146.0(3)	I(3)#2–Ag(10)–I(4)#2	106.7(2)
I(3)#2–Ag(10)–I(12)	91.7(3)	I(3)#2–Ag(10)–I(13)	110.0(2)
I(4)#2–Ag(10)–I(12)	122.7(3)	I(4)#2–Ag(10)–I(13)	119.1(3)
I(12)–Ag(10)–I(13)	103.00(19)	Ag(1)–I(1)–Ag(2)	67.01(14)
Ag(1)–I(1)–Ag(3)	114.26(12)	Ag(1)–I(1)–Ag(4)	71.25(10)
Ag(2)–I(1)–Ag(3)	69.36(17)	Ag(2)–I(1)–Ag(4)	95.61(15)
Ag(3)–I(1)–Ag(4)	66.84(9)	Ag(1)–I(2)–Ag(4)	75.65(11)
Ag(1)–I(3)–Ag(2)	67.72(13)	Ag(1)–I(3)–Ag(9)#1	113.12(19)
Ag(1)–I(3)–Ag(10)#1	63.24(12)	Ag(2)–I(3)–Ag(9)#1	76.07(19)
Ag(2)–I(3)–Ag(10)#1	75.0(2)	Ag(9)#1–I(3)–Ag(10)#1	53.92(17)
Ag(1)–I(4)–Ag(10)#1	72.72(18)	Ag(2)–I(5)–Ag(3)	73.55(14)
Ag(3)–I(6)–Ag(4)	70.23(10)	Ag(3)–I(6)–Ag(6)	103.78(12)
Ag(4)–I(6)–Ag(6)	73.53(9)	Ag(3)–I(7)–Ag(5)	99.84(13)
Ag(4)–I(8)–Ag(5)	101.01(11)	Ag(4)–I(8)–Ag(6)	73.69(9)
Ag(5)–I(8)–Ag(6)	70.40(11)	Ag(5)–I(9)–Ag(6)	67.05(10)
Ag(5)–I(9)–Ag(7)	66.15(17)	Ag(5)–I(9)–Ag(8)	113.11(11)
Ag(6)–I(9)–Ag(7)	91.38(15)	Ag(6)–I(9)–Ag(8)	67.77(11)
Ag(7)–I(9)–Ag(8)	68.48(14)	Ag(5)–I(10)–Ag(7)	70.70(16)
Ag(6)–I(11)–Ag(8)	71.60(13)	Ag(2)#2–I(12)–Ag(7)	144.1(2)
Ag(2)#2–I(12)–Ag(9)	75.8(2)	Ag(2)#2–I(12)–Ag(10)	77.03(19)
Ag(7)–I(12)–Ag(9)	71.09(18)	Ag(7)–I(12)–Ag(10)	74.8(2)
Ag(9)–I(12)–Ag(10)	60.18(18)	Ag(7)–I(13)–Ag(8)	70.34(15)
Ag(7)–I(13)–Ag(10)	81.8(2)	Ag(8)–I(13)–Ag(10)	112.69(18)
Ag(8)–I(14)–Ag(9)	70.85(16)		
O(1)–Mn(1)–O(2)	86.2(10)	O(1)–Mn(1)–O(3)	170.8(10)
O(1)–Mn(1)–O(4)	83.7(9)	O(2)–Mn(1)–O(3)	86.0(9)
O(2)–Mn(1)–O(4)	94.3(11)	O(3)–Mn(1)–O(4)	92.1(8)
O(1)–Mn(1)–N(1)	91.1(8)	O(1)–Mn(1)–N(3)	94.2(9)
O(2)–Mn(1)–N(1)	89.4(11)	O(2)–Mn(1)–N(3)	179.0(10)

O(3)–Mn(1)–N(1)	93.5(7)	O(3)–Mn(1)–N(3)	93.7(8)
O(4)–Mn(1)–N(1)	173.4(9)	O(4)–Mn(1)–N(3)	86.7(11)
N(1)–Mn(1)–N(3)	89.6(11)	O(5)–Mn(2)–O(6)	94.7(17)
O(5)–Mn(2)–O(7)	87.3(17)	O(5)–Mn(2)–O(8)	88.7(17)
O(6)–Mn(2)–O(7)	176.0(15)	O(6)–Mn(2)–O(8)	95.1(18)
O(7)–Mn(2)–O(8)	88.5(12)	O(5)–Mn(2)–N(2)	176.2(17)
O(6)–Mn(2)–N(2)	89.1(14)	O(7)–Mn(2)–N(2)	88.9(13)
O(8)–Mn(2)–N(2)	91.7(12)	O(5)–Mn(2)–N(4)#1	93.3(18)
O(6)–Mn(2)–N(4)#1	90.9(17)	O(7)–Mn(2)–N(4)#1	85.4(11)
O(8)–Mn(2)–N(4)#1	173.5(12)	N(2)–Mn(2)–N(4)#1	85.9(12)

Symmetry transformations used to generate equivalent atoms: #1 x, y–1, z; #2 x, y+1, z.

Table S5. Hydrogen Bond Lengths (Å) and Angles (deg) for **1** and **3**

D–H···A	d(D–H)	d(H···A)	d(D···A)	<(DHA)
1				
O(4)–H(4A)···N(4)#1	0.83	1.92	2.742(10)	170.1
O(4)–H(4B)···N(3)#2	0.83	2.09	2.777(12)	141.0
3				
O(4)–H(4A)···O(1)	0.82	2.16	2.964(9)	164.2
O(4)–H(4B)···N(2)#1	0.83	2.00	2.811(11)	167.1
O(2)–H(2B)···S(2)#2	0.83	2.97	3.764(6)	160.4
O(2)–H(2B)···O(3)#2	0.83	1.91	2.699(9)	157.8
O(2)–H(2A)···O(4)#3	0.83	1.92	2.704(9)	157.0

Symmetry transformations used to generate equivalent atoms: for **1**: #1 –x+1, y–1/2, –z+1; #2 –x, y–1/2, –z+1. for **3**: #1 –x+1, y+1/2, –z+1/2; #2 –x+1, –y+1, –z+1; #3 –x+1, –y+2, –z+1

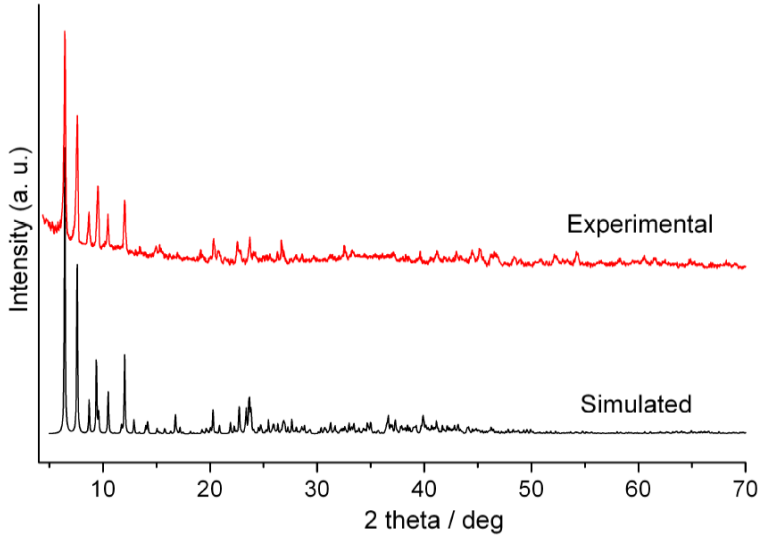

Fig. S1. Powder X-Ray diffraction pattern (red) of the polycrystalline sample of compound **1** and the simulated pattern (black) base on the single crystal data.

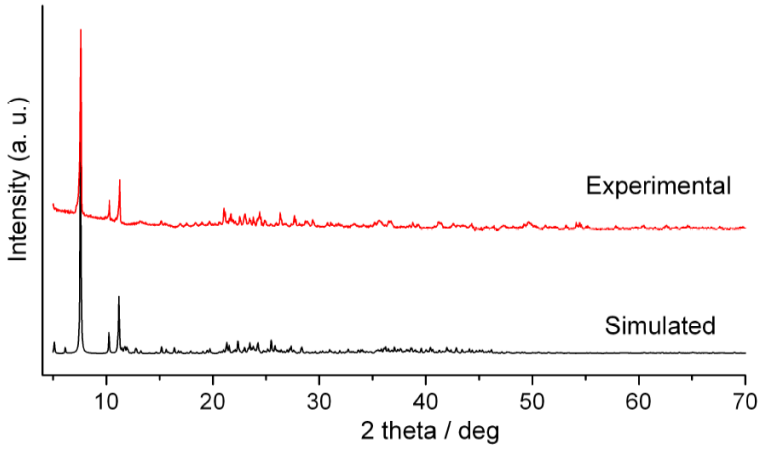

Fig. S2. Powder X-Ray diffraction pattern (red) of the polycrystalline sample of compound **2** and the simulated pattern (black) base on the single crystal data.

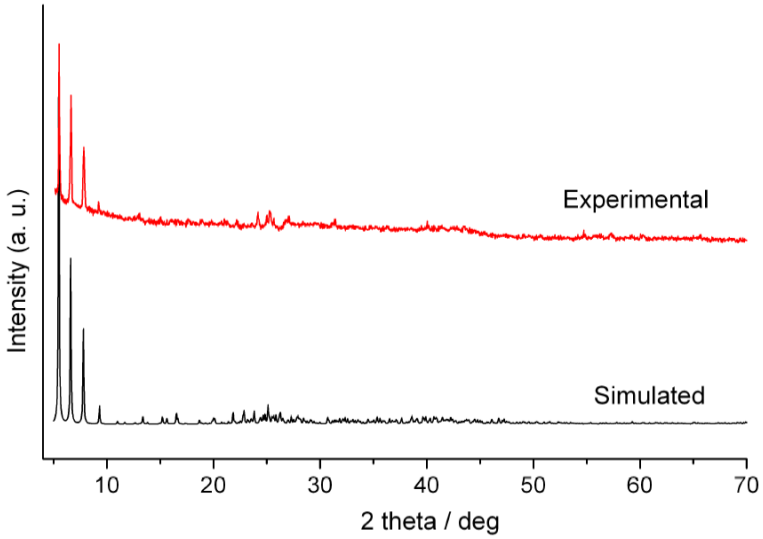

Fig. S3. Powder X-Ray diffraction pattern (red) of the polycrystalline sample of compound **3** and the simulated pattern (black) base on the single crystal data.

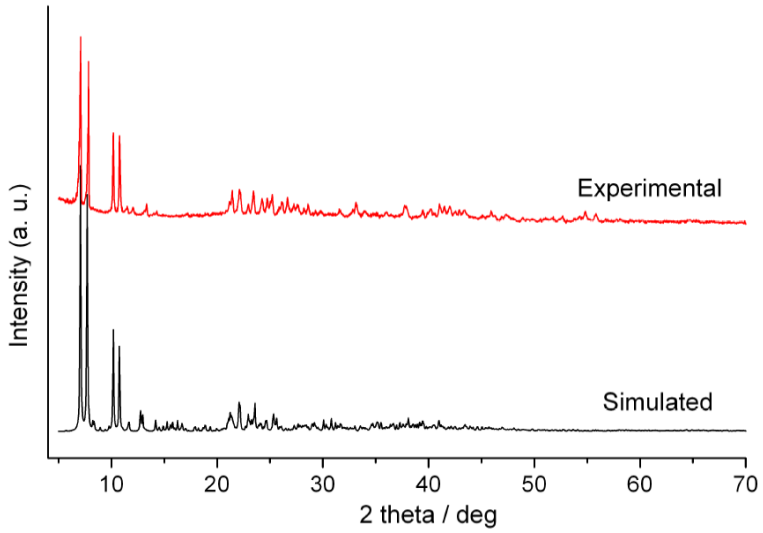

Fig. S4. Powder X-Ray diffraction pattern (red) of the polycrystalline sample of compound **4** and the simulated pattern (black) base on the single crystal data.

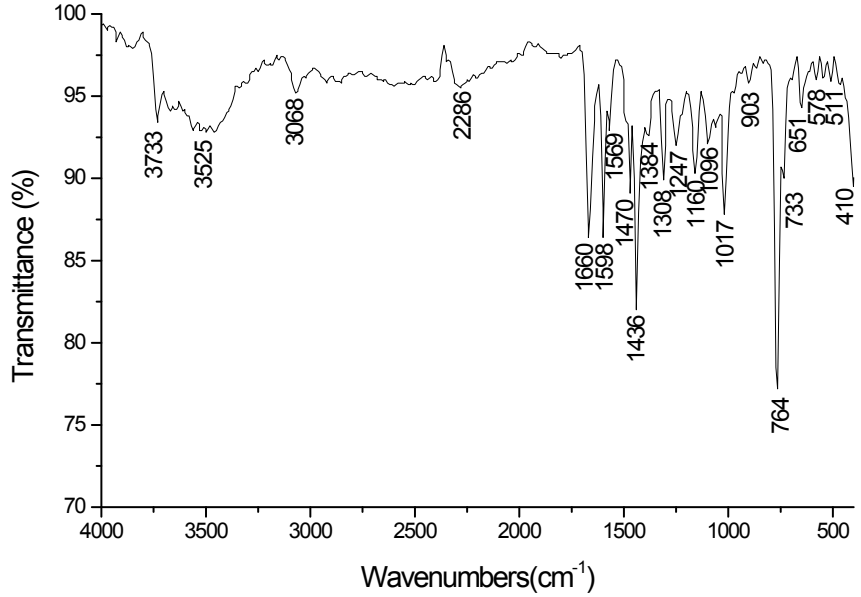

Fig. S5. IR spectrum of complex **1**.

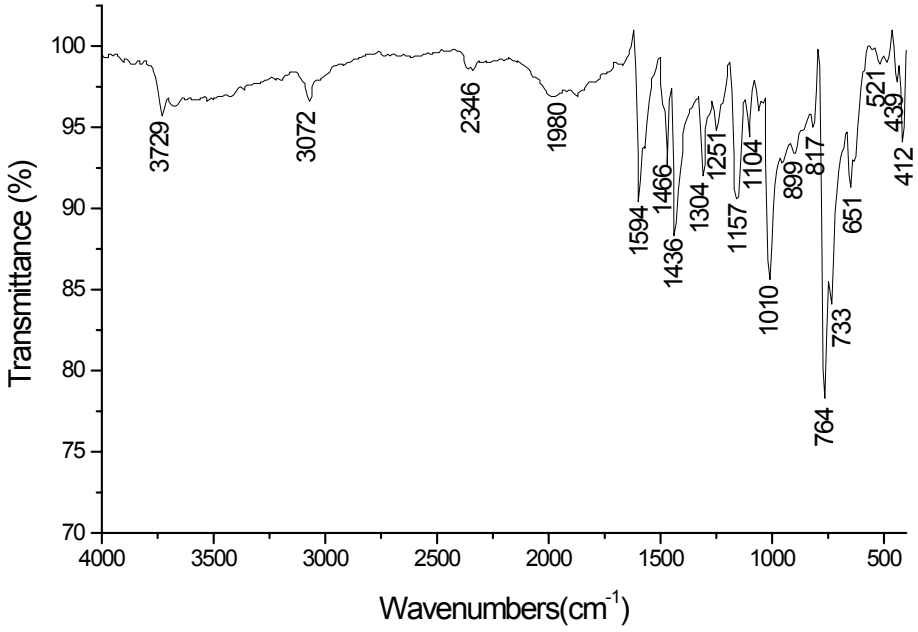

Fig. S6. IR spectrum of complex **2**.

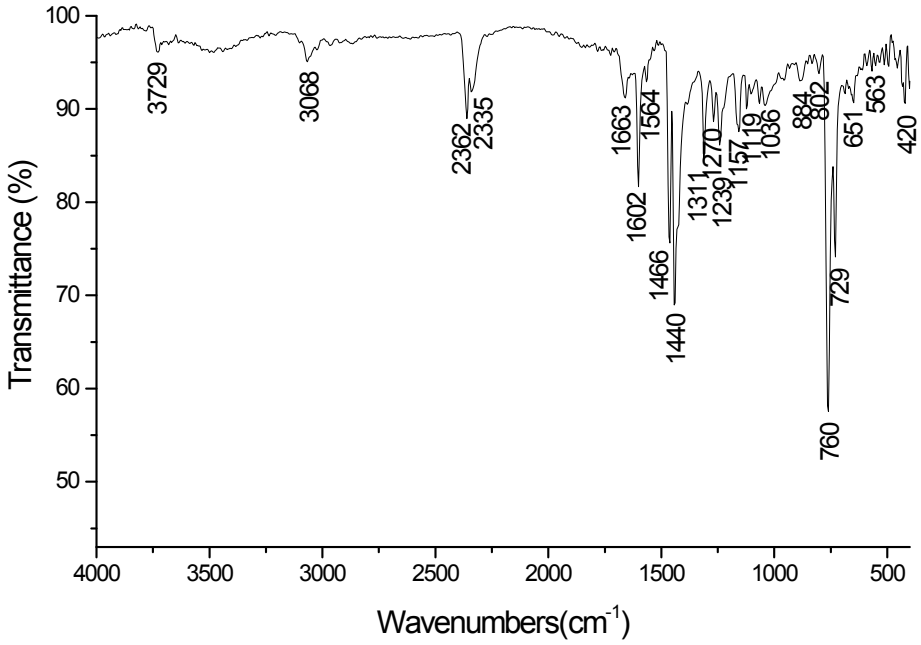

Fig. S7. IR spectrum of complex **3**.

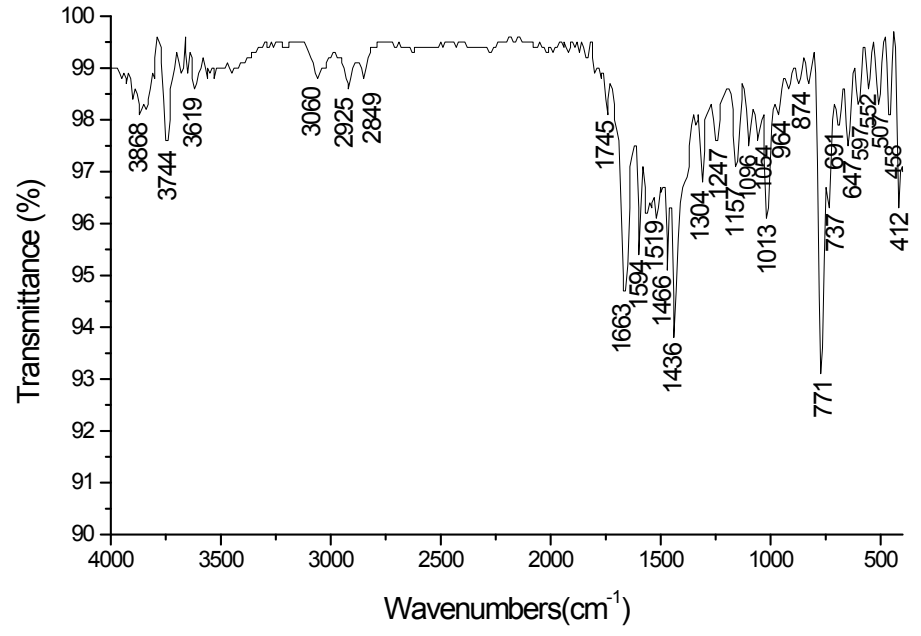

Fig. S8 IR spectrum of complex **4**.

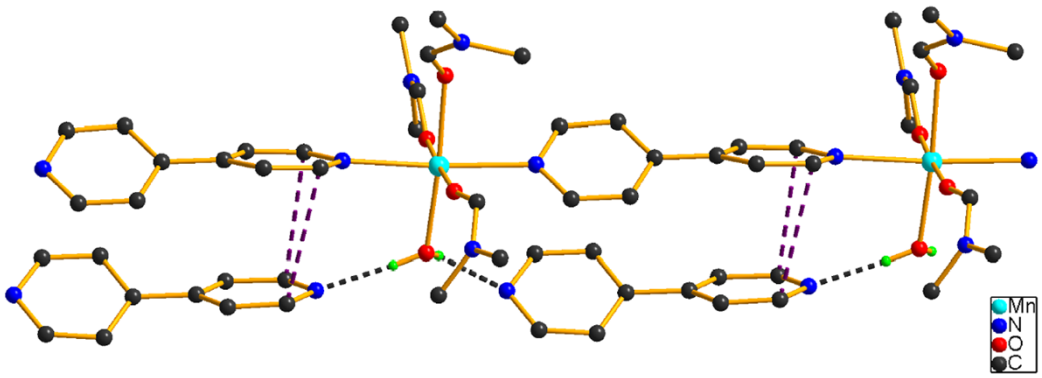

Fig. S9. Crystal structure of the cationic chain $\{[Mn(4,4'\text{-bpy})(DMF)_3(H_2O)]^{2+}\cdot 4,4'\text{-bipy}\}_n$ constructed by $\{[Mn(4,4'\text{-bpy})(DMF)_3(H_2O)]^{2+}\}_n$ and 4,4′-bipy via π–π stacking interaction and N–H···O interaction in **1**.

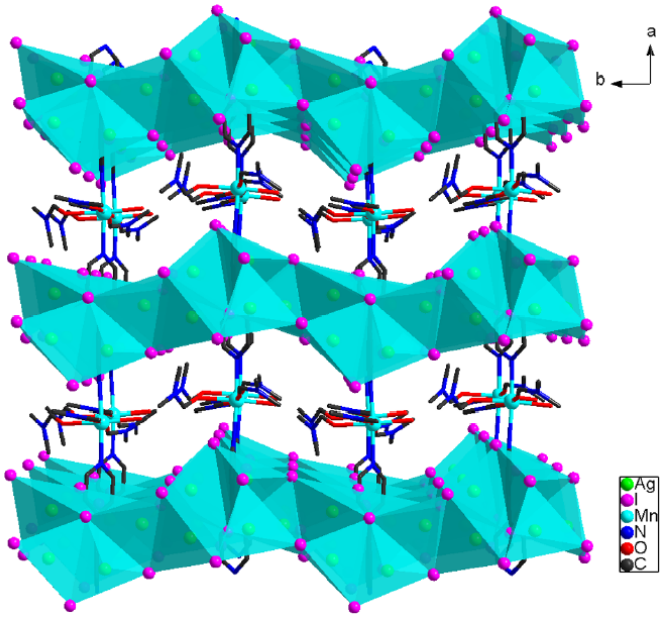

Fig. S10. View of **1** along the *c* axis. The AgI_4 units are shown as blue tetrahedra. Hydrogen atoms are omitted for clarity.

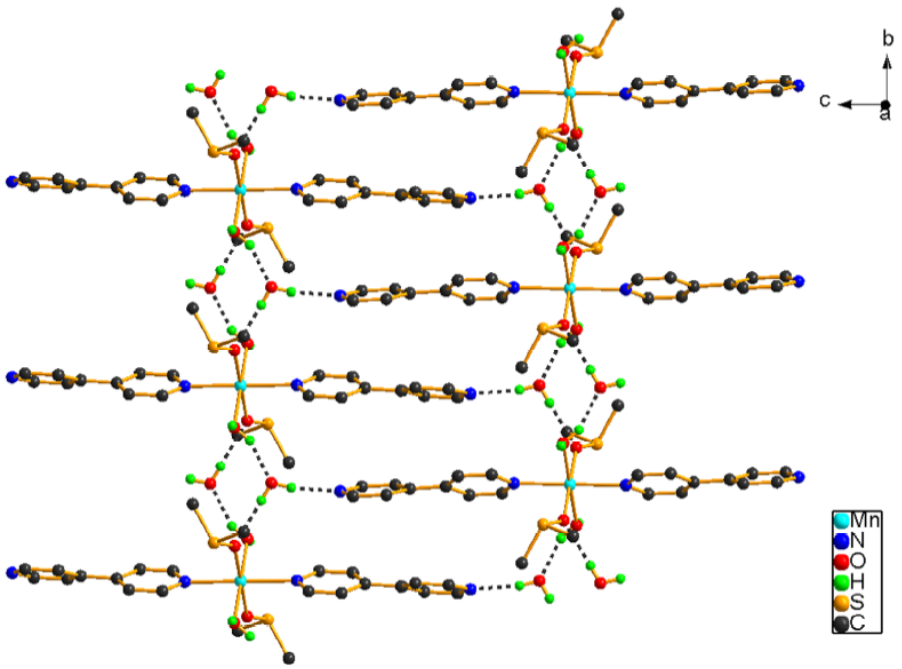

Fig. S11. The $[Mn(4,4'\text{-bpy})_2(DMSO)_2(H_2O)_2]^{2+}$/DMSO/$H_2O$ cationic layer connected via O–H···O and O–H···N intermolrcular interactions in **3**.

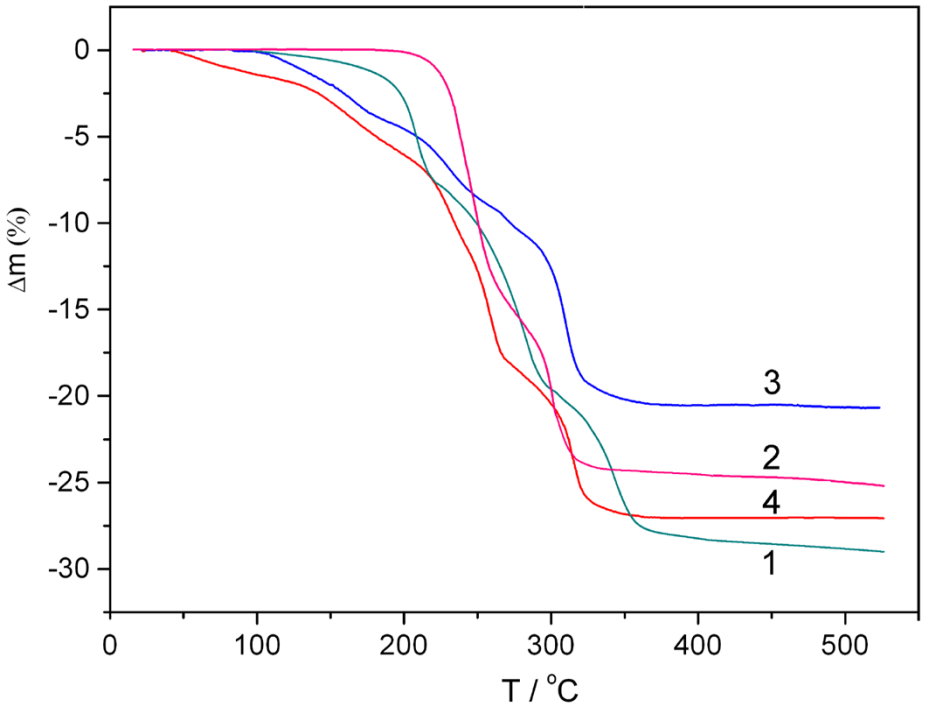

Fig. S12. TG curves of compounds **1**, **2**, **3**, and **4**.