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Solvent-induced Mn(Ⅱ)/Zn(Ⅱ)/Co(Ⅱ) Organopolymolybdate Compounds Constructed by Bis-pyridyl-bis-amide Ligand through Mo-N Bond: Synthesis, Structures and Properties

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Table S1 **Selected bond distances (Å) and angles (°) for compounds 1–3.**

$C_{56}H_{66}MnMo_8N_{12}O_{44}$			
Mn-O(1W)	2.153(4)	Mo(2)-O(13)	2.154(3)
Mn-O(1W)#1	2.153(4)	Mo(2)-O(2)	2.414(3)
Mn-O(2W)#1	2.202(4)	Mo(3)-O(14)	1.702(4)
Mn-O(2W)	2.202(4)	Mo(3)-O(10)	1.718(4)
Mn-N(6)	2.299(5)	Mo(3)-O(1)	1.871(3)
Mn-N(6)#1	2.299(5)	Mo(3)-O(13)	2.105(3)
Mo(1)-O(8)	1.703(4)	Mo(3)-O(3)	2.256(3)
Mo(1)-O(7)	1.706(4)	Mo(3)-N(2)	2.273(4)
Mo(1)-O(13)#2	1.928(3)	Mo(4)-O(12)	1.705(4)
Mo(1)-O(11)	1.947(3)	Mo(4)-O(9)	1.713(4)
Mo(1)-O(2)	2.234(3)	Mo(4)-O(11)	1.946(3)
Mo(1)-O(5)	2.329(3)	Mo(4)-O(1)	1.970(3)
Mo(2)-O(6)	1.695(3)	Mo(4)-O(2)	2.228(3)
Mo(2)-O(5)	1.746(3)	Mo(4)-O(3)	2.276(3)
Mo(2)-O(3)	1.925(3)	O(2)-Mo(2)#2	1.937(3)
Mo(2)-O(2)#2	1.937(3)	O(13)-Mo(1)#2	1.928(3)
O(1W)-Mn-O(1W)#1	180.00(13)	O(14)-Mo(3)-O(13)	91.57(16)
O(1W)-Mn-O(2W)#1	91.57(14)	O(10)-Mo(3)-O(13)	155.76(16)
O(1W)#1-Mn-O(2W)#1	88.43(14)	O(1)-Mo(3)-O(13)	90.77(14)
O(1W)-Mn-O(2W)	88.43(14)	O(14)-Mo(3)-O(3)	161.65(16)
O(1W)#1-Mn-O(2W)	91.57(14)	O(10)-Mo(3)-O(3)	92.08(15)
O(2W)#1-Mn-O(2W)	180.000(1)	O(1)-Mo(3)-O(3)	76.88(13)
O(1W)-Mn-N(6)	91.66(16)	O(13)-Mo(3)-O(3)	70.09(12)
O(1W)#1-Mn-N(6)	88.34(16)	O(14)-Mo(3)-N(2)	93.57(17)
O(2W)#1-Mn-N(6)	93.93(17)	O(10)-Mo(3)-N(2)	84.79(16)
O(2W)-Mn-N(6)	86.07(17)	O(1)-Mo(3)-N(2)	159.41(15)
O(1W)-Mn-N(6)#1	88.34(16)	O(13)-Mo(3)-N(2)	77.12(14)
O(1W)#1-Mn-N(6)#1	91.66(16)	O(3)-Mo(3)-N(2)	83.30(13)

O(2W)#1-Mn-N(6)#1	86.07(17)	O(12)-Mo(4)-O(9)	104.83(18)
O(2W)-Mn-N(6)#1	93.93(17)	O(12)-Mo(4)-O(11)	100.86(17)
N(6)-Mn-N(6)#1	180.000(1)	O(9)-Mo(4)-O(11)	96.88(16)
O(8)-Mo(1)-O(7)	104.72(19)	O(12)-Mo(4)-O(1)	95.86(16)
O(8)-Mo(1)-O(13)#2	102.84(17)	O(9)-Mo(4)-O(1)	99.37(16)
O(7)-Mo(1)-O(13)#2	97.18(16)	O(11)-Mo(4)-O(1)	152.82(14)
O(8)-Mo(1)-O(11)	104.05(17)	O(12)-Mo(4)-O(2)	89.54(15)
O(7)-Mo(1)-O(11)	96.66(16)	O(9)-Mo(4)-O(2)	164.47(16)
O(13)#2-Mo(1)-O(11)	145.38(15)	O(11)-Mo(4)-O(2)	74.25(13)
O(8)-Mo(1)-O(2)	156.47(16)	O(1)-Mo(4)-O(2)	84.68(13)
O(7)-Mo(1)-O(2)	98.78(15)	O(12)-Mo(4)-O(3)	160.89(15)
O(13)#2-Mo(1)-O(2)	72.54(13)	O(9)-Mo(4)-O(3)	93.16(15)
O(11)-Mo(1)-O(2)	74.08(13)	O(11)-Mo(4)-O(3)	82.96(13)
O(8)-Mo(1)-O(5)	85.74(16)	O(1)-Mo(4)-O(3)	74.55(13)
O(7)-Mo(1)-O(5)	169.39(15)	O(2)-Mo(4)-O(3)	73.36(12)
O(13)#2-Mo(1)-O(5)	81.97(13)	C(27)-N(6)-Mn	115.9(4)
O(11)-Mo(1)-O(5)	78.72(14)	C(21)-N(6)-Mn	125.7(4)
O(2)-Mo(1)-O(5)	70.82(12)	Mo(3)-O(1)-Mo(4)	114.43(16)
O(6)-Mo(2)-O(5)	104.60(17)	Mo(2)#2-O(2)-Mo(4)	151.33(17)
O(6)-Mo(2)-O(3)	103.79(16)	Mo(2)#2-O(2)-Mo(1)	102.72(14)
O(5)-Mo(2)-O(3)	100.48(15)	Mo(4)-O(2)-Mo(1)	93.15(12)
O(6)-Mo(2)-O(2)#2	103.83(16)	Mo(2)#2-O(2)-Mo(2)	104.15(14)
O(5)-Mo(2)-O(2)#2	98.60(15)	Mo(4)-O(2)-Mo(2)	97.55(12)
O(3)-Mo(2)-O(2)#2	140.99(14)	Mo(1)-O(2)-Mo(2)	96.28(12)
O(6)-Mo(2)-O(13)	96.75(15)	Mo(2)-O(3)-Mo(3)	108.19(15)
O(5)-Mo(2)-O(13)	158.59(14)	Mo(2)-O(3)-Mo(4)	112.25(15)
O(3)-Mo(2)-O(13)	75.63(13)	Mo(3)-O(3)-Mo(4)	90.90(11)
O(2)#2-Mo(2)-O(13)	74.25(13)	Mo(2)-O(5)-Mo(1)	115.67(16)
O(6)-Mo(2)-O(2)	178.27(15)	Mo(4)-O(11)-Mo(1)	112.69(16)
O(5)-Mo(2)-O(2)	77.13(13)	Mo(1)#2-O(13)-Mo(3)	148.33(18)
O(3)-Mo(2)-O(2)	75.72(12)	Mo(1)#2-O(13)-Mo(2)	106.05(15)
O(2)#2-Mo(2)-O(2)	75.85(14)	Mo(3)-O(13)-Mo(2)	105.58(14)
O(13)-Mo(2)-O(2)	81.53(12)	Mn-O(1W)-H(1WA)	141.7
O(14)-Mo(3)-O(10)	105.69(19)	Mn-O(1W)-H(1WB)	105.8
O(14)-Mo(3)-O(1)	103.47(17)	Mn-O(2W)-H(2WA)	141.9
O(10)-Mo(3)-O(1)	101.30(17)	Mn-O(2W)-H(2WB)	104.9
Symmetry codes for **1**: #1 – x + 2, – y + 2, – z; #2 – x, – y + 2, – z + 1.			
$C_{56}H_{57}Mo_8N_{12}O_{39}Zn_2$			
Zn(1)-O(3W)#1	1.098(12)	Mo(2)-O(15)#3	1.919(5)
Zn(1)-O(3W)	2.014(12)	Mo(2)-O(17)	1.945(4)
Zn(1)-O(11)	2.064(14)	Mo(2)-O(19)	2.134(5)
Zn(1)-O(4W)	2.113(13)	Mo(2)-O(17)#3	2.426(5)
Zn(1)-O(9)	2.167(6)	Mo(3)-O(16)	1.701(5)
Zn(1)-N(6)	2.225(8)	Mo(3)-O(8)	1.710(5)

Zn(1)-O(10)	2.557(8)	Mo(3)-O(7)	1.961(5)
Zn(1)-Zn(1)#1	3.057(4)	Mo(3)-O(18)	1.962(5)
Zn(2)-O(2W)	2.101(5)	Mo(3)-O(17)	2.211(5)
Zn(2)-O(2W)#2	2.101(5)	Mo(3)-O(15)	2.290(5)
Zn(2)-O(1W)	2.144(6)	Mo(4)-O(10)	1.698(5)
Zn(2)-O(1W)#2	2.144(6)	Mo(4)-O(6)	1.715(5)
Zn(2)-N(2)#2	2.188(7)	Mo(4)-O(7)	1.877(5)
Zn(2)-N(2)	2.188(7)	Mo(4)-O(19)#3	2.090(5)
Mo(1)-O(12)	1.709(5)	Mo(4)-O(15)	2.245(5)
Mo(1)-O(9)	1.710(5)	Mo(4)-N(5)	2.252(7)
Mo(1)-O(18)	1.932(5)	O(14)-Mo(1)#3	2.321(5)
Mo(1)-O(19)	1.933(5)	O(15)-Mo(2)#3	1.919(5)
Mo(1)-O(17)	2.225(5)	O(17)-Mo(2)#3	2.426(5)
Mo(1)-O(14)#3	2.321(5)	O(19)-Mo(4)#3	2.090(5)
Mo(2)-O(13)	1.684(5)	O(3W)-Zn(1)#1	1.098(12)
Mo(2)-O(14)	1.746(5)	O(3W)#1-Zn(1)-O(9)	153.4(8)
O(3W)#1-Zn(1)-O(3W)	22.5(12)	O(3W)-Zn(1)-O(9)	166.3(4)
O(3W)#1-Zn(1)-O(11)	112.0(9)	O(11)-Zn(1)-O(9)	91.8(4)
O(3W)-Zn(1)-O(11)	89.5(6)	O(4W)-Zn(1)-O(9)	84.9(4)
O(3W)#1-Zn(1)-O(4W)	69.1(8)	O(3W)#1-Zn(1)-N(6)	99.7(7)
O(3W)-Zn(1)-O(4W)	90.4(6)	O(3W)-Zn(1)-N(6)	103.7(5)
O(11)-Zn(1)-O(4W)	165.4(5)	O(11)-Zn(1)-N(6)	94.4(4)
O(4W)-Zn(1)-N(6)	99.7(4)	O(10)-Mo(4)-O(6)	106.5(3)
O(9)-Zn(1)-N(6)	89.8(3)	O(10)-Mo(4)-O(7)	103.5(2)
O(3W)#1-Zn(1)-Zn(1)#1	14.6(8)	O(6)-Mo(4)-O(7)	101.7(2)
O(3W)-Zn(1)-Zn(1)#1	7.9(4)	O(10)-Mo(4)-O(19)#3	90.7(2)
O(11)-Zn(1)-Zn(1)#1	97.4(4)	O(6)-Mo(4)-O(19)#3	155.5(2)
O(4W)-Zn(1)-Zn(1)#1	82.9(3)	O(7)-Mo(4)-O(19)#3	90.6(2)
O(9)-Zn(1)-Zn(1)#1	164.0(2)	O(10)-Mo(4)-O(15)	160.4(2)
N(6)-Zn(1)-Zn(1)#1	102.5(2)	O(6)-Mo(4)-O(15)	92.4(2)
O(2W)-Zn(2)-O(2W)#2	180.000(1)	O(7)-Mo(4)-O(15)	77.10(19)
O(2W)-Zn(2)-O(1W)	89.5(2)	O(19)#3-Mo(4)-O(15)	69.63(18)
O(2W)#2-Zn(2)-O(1W)	90.5(2)	O(10)-Mo(4)-N(5)	93.4(3)
O(2W)-Zn(2)-O(1W)#2	90.5(2)	O(6)-Mo(4)-N(5)	84.4(2)
O(2W)#2-Zn(2)-O(1W)#2	89.5(2)	O(7)-Mo(4)-N(5)	159.4(2)
O(1W)-Zn(2)-O(1W)#2	180.0(3)	O(19)#3-Mo(4)-N(5)	77.2(2)
O(2W)-Zn(2)-N(2)#2	89.7(2)	O(15)-Mo(4)-N(5)	83.1(2)
O(2W)#2-Zn(2)-N(2)#2	90.3(2)	C(16)-N(2)-Zn(2)	125.1(6)
O(1W)-Zn(2)-N(2)#2	87.8(3)	C(10)-N(2)-Zn(2)	116.9(6)
O(1W)#2-Zn(2)-N(2)#2	92.2(3)	C(4)-N(6)-Zn(1)	112.7(7)
O(2W)-Zn(2)-N(2)	90.3(2)	C(17)-N(6)-Zn(1)	129.1(7)
O(2W)#2-Zn(2)-N(2)	89.7(2)	Mo(4)-O(7)-Mo(3)	114.5(2)
O(1W)-Zn(2)-N(2)	92.2(3)	Mo(1)-O(9)-Zn(1)	141.5(3)
O(1W)#2-Zn(2)-N(2)	87.8(3)	N(2)#2-Zn(2)-N(2)	180.000(1)

Mo(4)-O(15)-Mo(3)	90.72(17)	C(30)-O(11)-Zn(1)	141.3(10)
Mo(1)-O(19)-Mo(4)#3	147.0(3)	Mo(2)#3-O(15)-Mo(4)	108.3(2)
Mo(4)#3-O(19)-Mo(2)	106.4(2)	Zn(1)#1-O(3W)-Zn(1)	157.5(12)
Zn(2)-O(1W)-H(1WA)	109.3	Zn(1)#1-O(3W)-H(3WA)	75.1
Zn(2)-O(1W)-H(1WB)	109.2	Zn(1)-O(3W)-H(3WA)	109.3
Zn(2)-O(2W)-H(2WA)	109.3	Zn(1)#1-O(3W)-H(3WB)	50.2
Zn(2)-O(2W)-H(2WB)	109.2	Zn(1)-O(3W)-H(3WB)	109.3
O(3W)#1-O(3W)-Zn(1)#1	135(2)	Zn(1)-O(4W)-H(4WA)	109.2
O(3W)#1-O(3W)-Zn(1)	22.8(11)	Zn(1)-O(4W)-H(4WB)	109.1

Symmetry codes for **2**: #1 – x + 1, – y + 1, – z; #2 – x – 1, – y, – z + 1; #3 – x + 1, – y + 2, – z.

$C_{56}H_{57}Mo_8N_{12}O_{39}Co_2$

Co(1)-O(2W)#1	1.237(12)	Mo(2)-O(14)	1.922(4)
Co(1)-O(2W)	2.010(10)	Mo(2)-O(8)	1.943(4)
Co(1)-O(17)	2.122(12)	Mo(2)-O(12)	2.129(4)
Co(1)-O(1W)	2.126(12)	Mo(2)-O(8)#3	2.430(4)
Co(1)-O(11)	2.132(6)	Mo(3)-O(5)	1.704(5)
Co(1)-N(6)	2.291(8)	Mo(3)-O(4)	1.712(5)
Co(1)-O(16)	2.380(6)	Mo(3)-O(7)	1.956(5)
Co(2)-O(4W)	2.083(5)	Mo(3)-O(6)	1.972(5)
Co(2)-O(4W)#2	2.083(5)	Mo(3)-O(8)	2.214(4)
Co(2)-O(3W)#2	2.126(5)	Mo(3)-O(14)#3	2.284(4)
Co(2)-O(3W)	2.126(5)	Mo(4)-O(15)	1.707(5)
Co(2)-N(5)#2	2.198(6)	Mo(4)-O(16)	1.709(5)
Co(2)-N(5)	2.198(6)	Mo(4)-O(6)#3	1.869(4)
Mo(1)-O(9)	1.705(5)	Mo(4)-O(12)	2.093(4)
Mo(1)-O(11)	1.706(5)	Mo(4)-O(14)	2.245(5)
Mo(1)-O(12)	1.931(4)	Mo(4)-N(1)	2.263(5)
Mo(1)-O(7)	1.937(4)	O(6)-Mo(4)#3	1.869(4)
Mo(1)-O(8)	2.225(4)	O(8)-Mo(2)#3	2.430(4)
Mo(1)-O(10)	2.314(4)	O(10)-Mo(2)#3	1.740(5)
Mo(2)-O(13)	1.683(4)	O(14)-Mo(3)#3	2.284(4)
Mo(2)-O(10)#3	1.740(5)	O(2W)-Co(1)#1	1.237(12)
O(2W)#1-Co(1)-O(2W)	22.5(10)	O(15)-Mo(4)-O(16)	106.6(3)
O(2W)#1-Co(1)-O(17)	109.9(7)	O(15)-Mo(4)-O(6)#3	101.8(2)
O(2W)-Co(1)-O(17)	88.0(6)	O(16)-Mo(4)-O(6)#3	103.0(2)
O(2W)#1-Co(1)-O(1W)	70.7(7)	O(15)-Mo(4)-O(12)	155.1(2)
O(2W)-Co(1)-O(1W)	91.4(5)	O(16)-Mo(4)-O(12)	90.8(2)
O(17)-Co(1)-O(1W)	170.8(5)	O(6)#3-Mo(4)-O(12)	91.07(18)
O(2W)#1-Co(1)-O(11)	156.6(7)	O(15)-Mo(4)-O(14)	92.3(2)
O(2W)-Co(1)-O(11)	174.1(4)	O(16)-Mo(4)-O(14)	160.4(2)
O(17)-Co(1)-O(11)	93.5(4)	O(6)#3-Mo(4)-O(14)	77.35(18)
O(1W)-Co(1)-O(11)	86.1(3)	O(12)-Mo(4)-O(14)	69.57(16)
O(2W)#1-Co(1)-N(6)	91.2(6)	O(15)-Mo(4)-N(1)	84.2(2)
O(2W)-Co(1)-N(6)	97.6(4)	O(16)-Mo(4)-N(1)	93.6(2)

O(17)-Co(1)-N(6)	91.7(4)	O(6)#3-Mo(4)-N(1)	159.7(2)
O(1W)-Co(1)-N(6)	97.5(4)	O(12)-Mo(4)-N(1)	76.89(18)
O(11)-Co(1)-N(6)	88.1(3)	O(14)-Mo(4)-N(1)	83.06(18)
O(2W)#1-Co(1)-O(16)	89.8(6)	C(25)-N(1)-Mo(4)	116.0(4)
O(2W)-Co(1)-O(16)	82.2(4)	C(12)-N(1)-Mo(4)	125.2(4)
O(17)-Co(1)-O(16)	85.1(4)	C(9)-N(5)-Co(2)	116.4(6)
O(1W)-Co(1)-O(16)	85.8(4)	C(13)-N(5)-Co(2)	125.6(5)
O(11)-Co(1)-O(16)	92.2(2)	C(19)-N(6)-C(23)	117.1(8)
N(6)-Co(1)-O(16)	176.7(2)	C(19)-N(6)-Co(1)	112.3(6)
O(4W)-Co(2)-O(4W)#2	180.000(1)	C(23)-N(6)-Co(1)	130.0(6)
O(4W)-Co(2)-O(3W)#2	89.6(2)	Mo(4)#3-O(6)-Mo(3)	114.2(2)
O(4W)#2-Co(2)-O(3W)#2	90.4(2)	Mo(1)-O(11)-Co(1)	138.6(3)
O(4W)-Co(2)-O(3W)	90.4(2)	Mo(1)-O(12)-Mo(4)	146.9(2)
O(4W)#2-Co(2)-O(3W)	89.6(2)	Mo(4)-O(12)-Mo(2)	106.43(18)
O(3W)#2-Co(2)-O(3W)	180.0(3)	Mo(2)-O(14)-Mo(4)	108.29(19)
O(4W)-Co(2)-N(5)#2	89.4(2)	Mo(4)-O(14)-Mo(3)#3	90.87(16)
O(4W)#2-Co(2)-N(5)#2	90.6(2)	Mo(4)-O(16)-Co(1)	137.1(3)
O(3W)#2-Co(2)-N(5)#2	87.2(2)	C(1)-O(17)-Co(1)	138.6(11)
O(3W)-Co(2)-N(5)#2	92.8(2)	Co(1)-O(1W)-H(1WA)	109.1
O(4W)-Co(2)-N(5)	90.6(2)	Co(1)-O(1W)-H(1WB)	109.1
O(4W)#2-Co(2)-N(5)	89.4(2)	O(2W)#1-O(2W)-Co(1)#1	129(2)
O(3W)#2-Co(2)-N(5)	92.8(2)	O(2W)#1-O(2W)-Co(1)	28.7(13)
O(3W)-Co(2)-N(5)	87.2(2)	Co(1)#1-O(2W)-Co(1)	157.5(10)
N(5)#2-Co(2)-N(5)	180	Co(1)#1-O(2W)-H(2WA)	65.2
Co(1)-O(2W)-H(2WB)	109.3	Co(1)-O(2W)-H(2WA)	109.1
Co(2)-O(3W)-H(3WA)	109.3	O(2W)#1-O(2W)-H(2WB)	89.4
Co(2)-O(3W)-H(3WB)	109.4	Co(1)#1-O(2W)-H(2WB)	57
Co(2)-O(4W)-H(4WA)	109.2	Co(2)-O(4W)-H(4WB)	109.4

Symmetry codes for **3**: #1 – x + 1, – y + 1, – z; #2 – x – 1, – y, – z + 1; #3 – x + 1, – y + 2, – z.

Table S2 Selected hydrogen bonding geometry (Å, °) for compound **1**.

D–H···A	D–H / Å	H···A / Å	D···A / Å	D–H···A / °
O(11)–H(2WA)···O(2W)	0.85	1.97	2.671	154

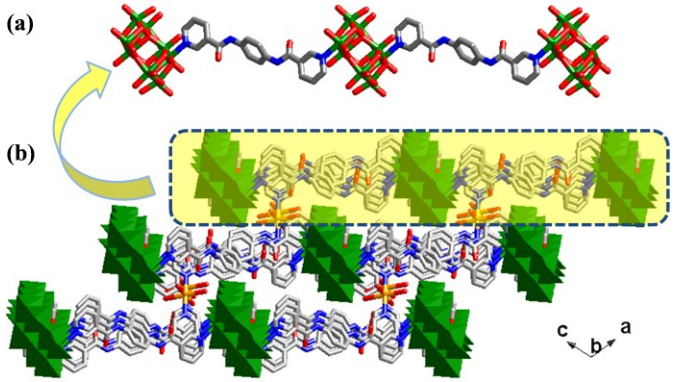


Figure S1 The 3D framework of compound **2**.

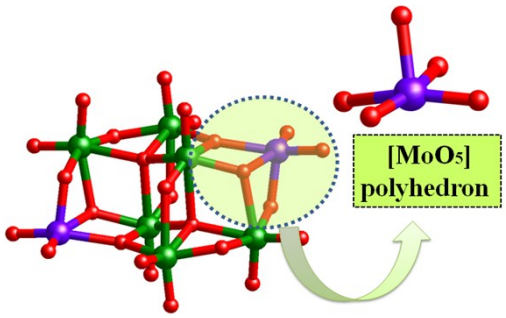


Figure S2 The γ-Mo8 anion in compounds **1**-**3** including six [MoO6] and two [MoO5] polyhedra.

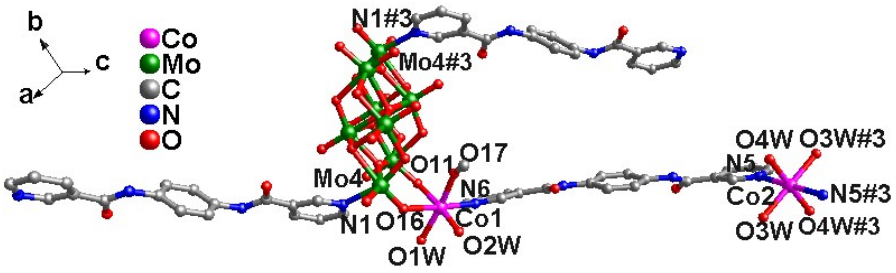


Figure S3 Stick/ball view of the asymmetric unit of **3**. The hydrogen atoms are omitted for clarity. Symmetry code: #1 – x + 1, – y + 1, – z, #3 – x – 1, – y, – z + 1.

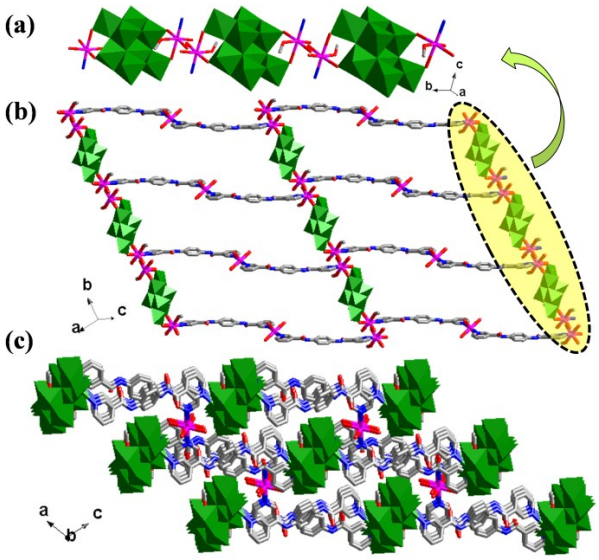
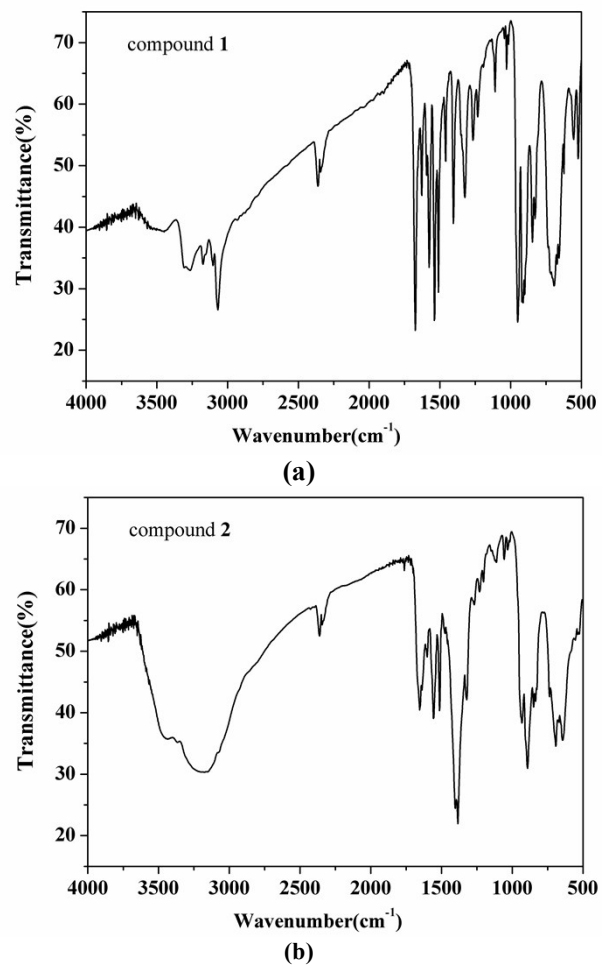
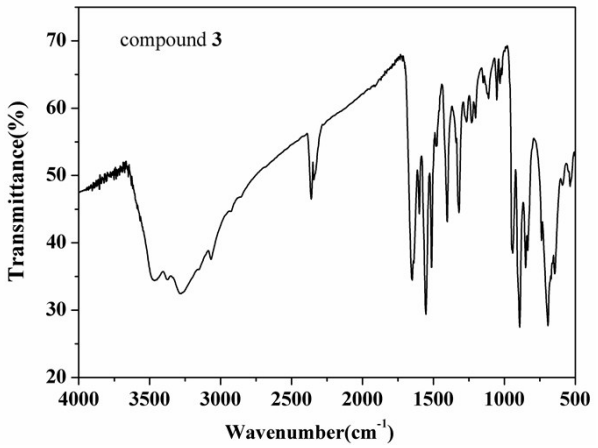


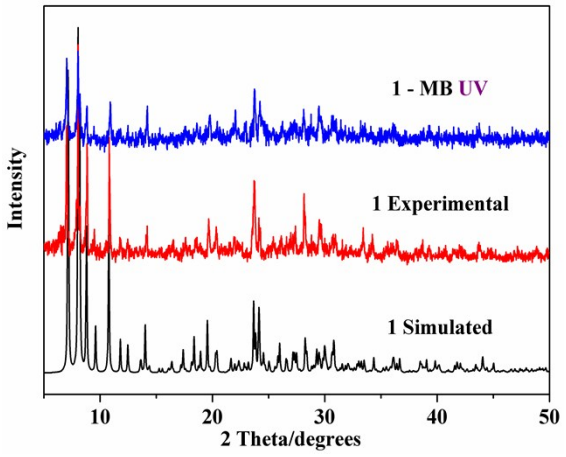
Figure S4 (a) View of the 1D Zn_2-Mo_8 chain in compound **3**. (b) The 2D layer of compound **3**. (c) The 3D framework of compound **3**.



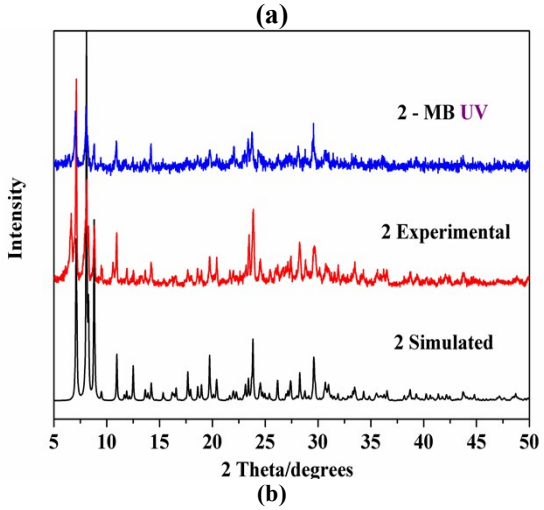


(c)

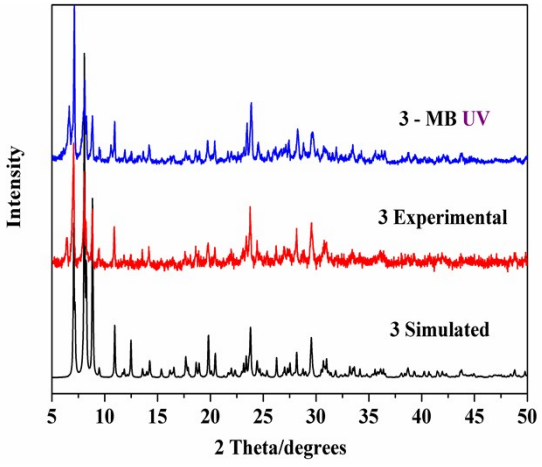
Figure S5 The IR spectra of compounds **1**–**3**.



(a)



(b)



(c)

Figure S6 The PXRD patterns of compounds **1 – 3**

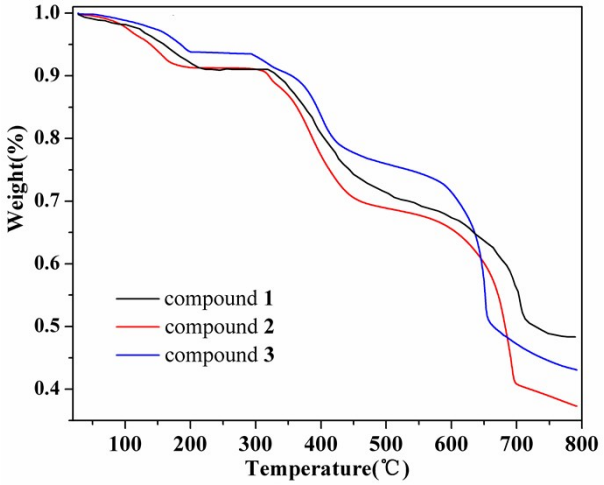


Figure S7 The TG curves of compounds **1**–**3**.

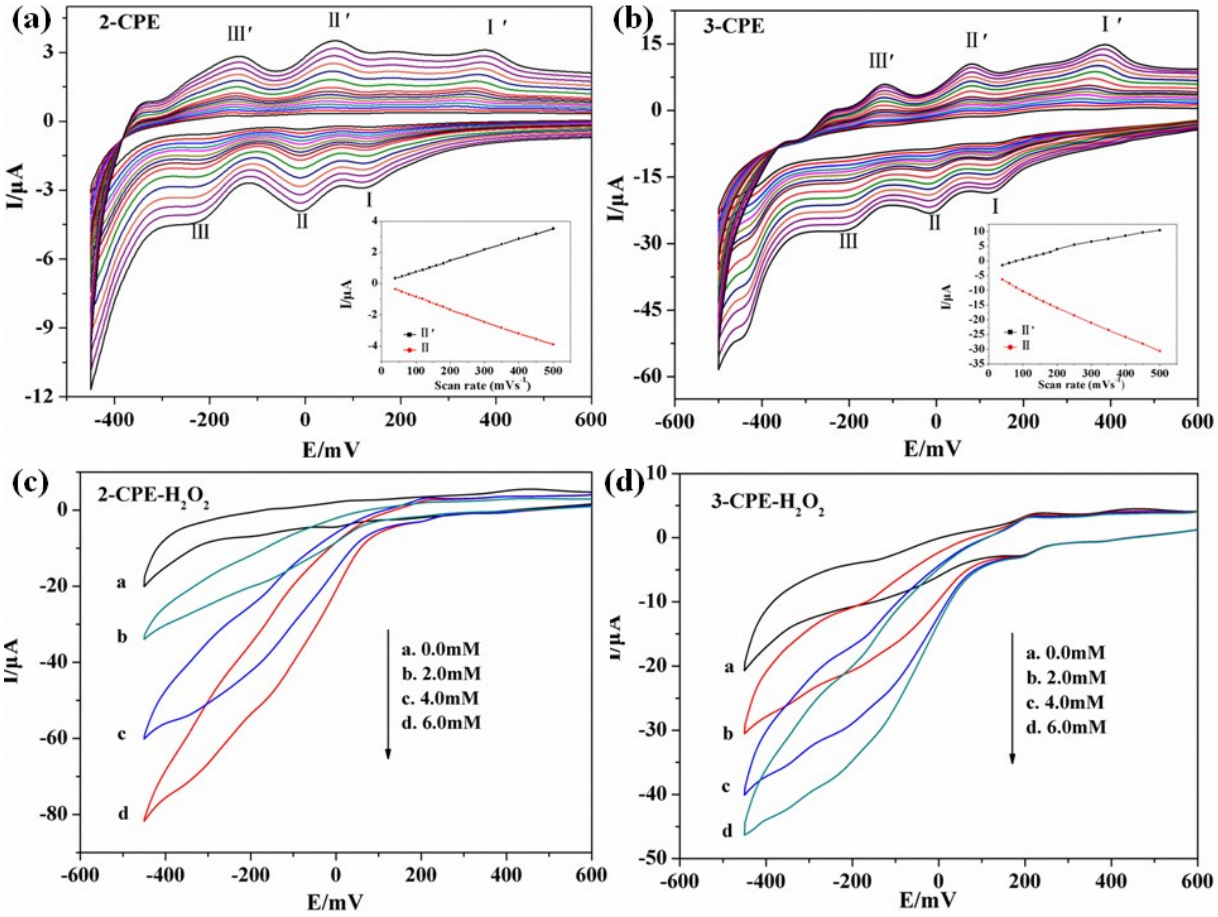


Figure S8 Cyclic voltammograms of **2**-CPE (a) and **3**-CPE (b) in a 0.1 M H_2SO_4 + 0.5 M Na_2SO_4 solution at different scan rates (from inner to outer: 40, 80, 120, 140, 160, 180, 200, 250, 300, 350, 400, 450 and 500 mV·s^{-1}). The insets show the relationship of the redox peak currents (II- II′) *versus* scan rates. Cyclic voltammograms of **2**-CPE (c) and **3**-CPE (d) in a 0.1M H_2SO_4 + 0.5 M Na_2SO_4 solution containing 0.0−6.0 mM H_2O_2. Scan rate: 400 mV·s^{-1}

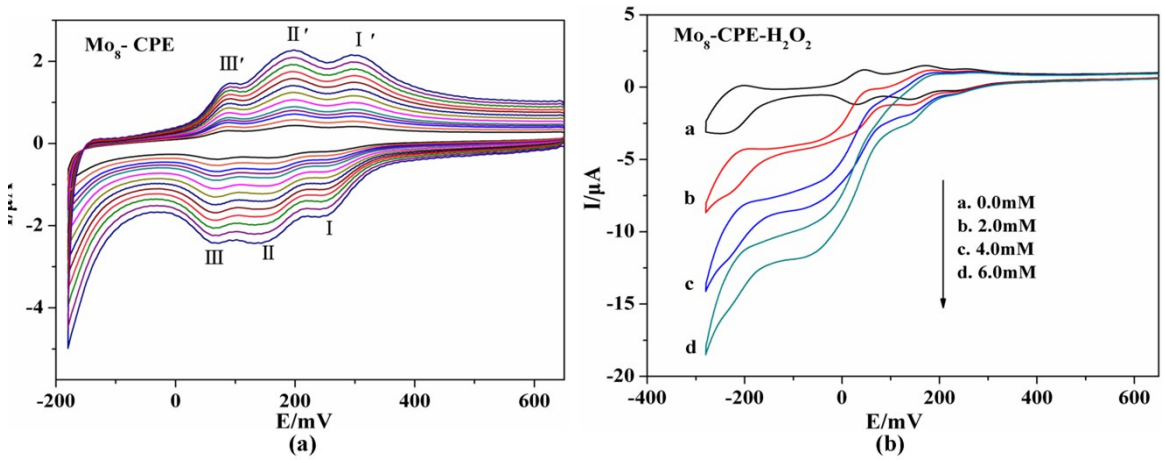


Figure S9 (a) Cyclic voltammograms of Mo_8-CPE in a 0.1 M H_2SO_4 + 0.5 M Na_2SO_4 solution at different scan rates (from inner to outer: 40, 80, 120, 140, 160, 180, 200, 250, 300, 350, 400, 450 and 500 mV·s^{-1}). (b) Cyclic voltammograms of Mo_8-CPE in a 0.1M H_2SO_4 + 0.5 M Na_2SO_4 solution containing 0.0−6.0 mM H_2O_2. Scan rate: 400 mV·s^{-1}

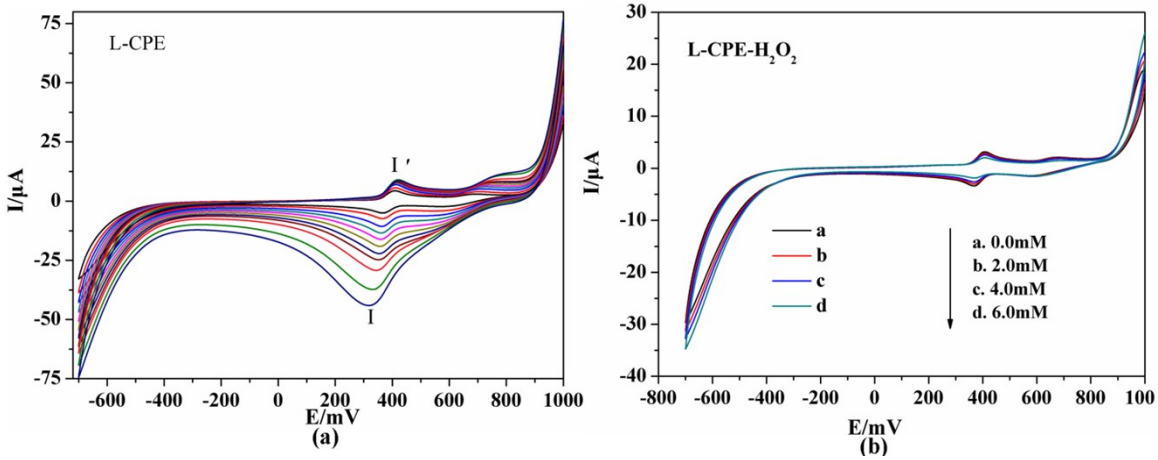


Figure S10 (a) Cyclic voltammograms of **L**-CPE in a 0.1 M H_2SO_4 + 0.5 M Na_2SO_4 solution at different scan rates (from inner to outer: 40, 100, 160, 180, 200, 250, 300, 350, 400, 450 and 500 $mV \cdot s^{-1}$). (b) Cyclic voltammograms of **L**-CPE in a 0.1M H_2SO_4 + 0.5 M Na_2SO_4 solution containing 0.0−6.0 mM H_2O_2 in a 0.1M H_2SO_4 + 0.5 M Na_2SO_4 solution. Scan rate: 400 $mV \cdot s^{-1}$.

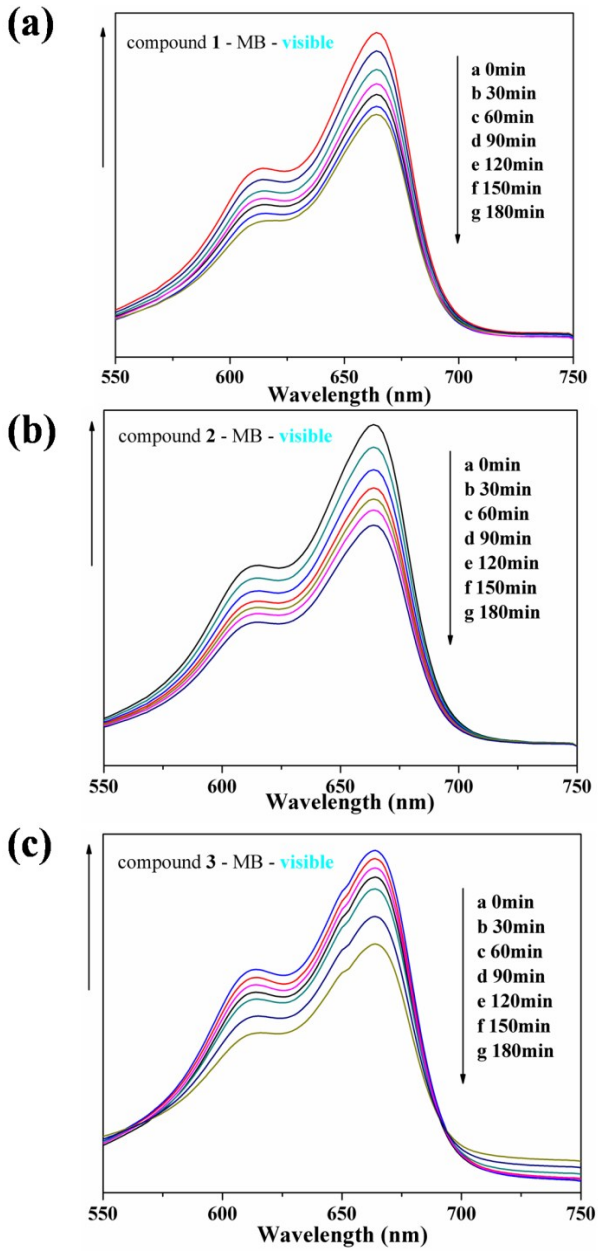


Figure S11 Absorption spectra of the MB solution during the decomposition reaction under visible light irradiation in the presence of compound **1** (a); **2** (b) and **3** (c).

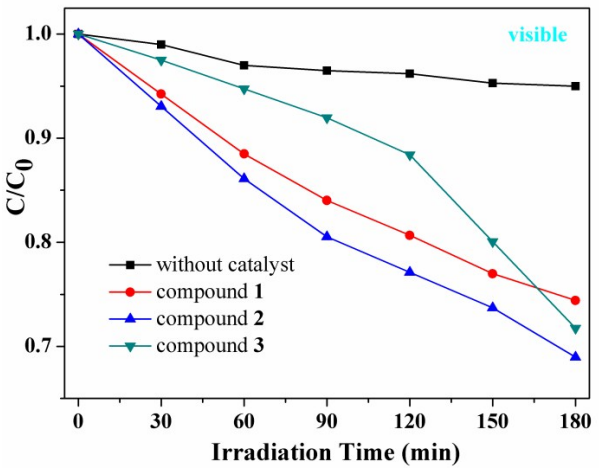


Figure S12 Photocatalytic decomposition rate of MB solution under visible light irradiation with the use of compounds **1**-**3**.

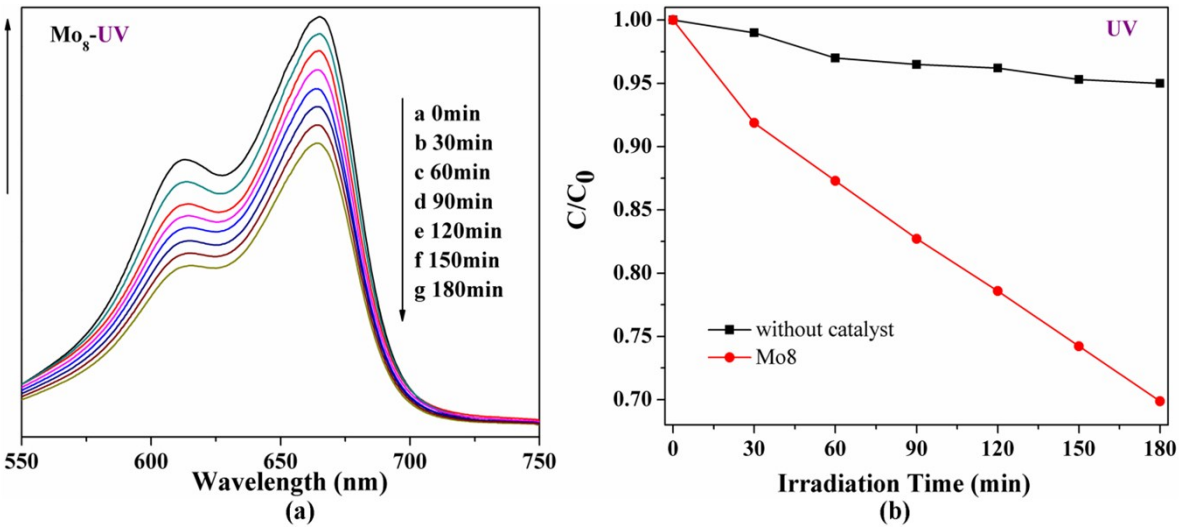


Figure S13 (a) Absorption spectra of the MB solution during the decomposition reaction under UV irradiation in the presence of Mo_8; (b) Photocatalytic decomposition rate of MB solution under UV irradiation with the use of Mo_8.