Electronic Supplementary Information (ESI)

Introducing a Flexible Tetracarboxylic Acid Linker into Functional Coordination Polymers: Synthesis, Structural Traits, and Photocatalytic Dye Degradation

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†Electronic Supplementary Information (ESI) contains: Fig. S1: TGA curves, Fig. S2: PXRD patterns, Fig. S3: diffuse reflectance UV-vis spectra, Figs. S4–S8: absorption spectra of the MB solutions in catalytic tests including kinetic data, Figs. S9–S11: additional topological views of crystal structures, Tables S1 and S2: selected bonding and H-bonding parameters for 1–5.

Table S1 Selected bond	lengths (Å) and	l bond angles (°) for 1–5 ^{<i>a</i>} .

Mn(1) - O(1)	2.330(2)	1 Mn(1)–O(2)	2.362(2)	Mn(1)–O(3)i	2.129(2)
Mn(1) - O(8)ii	2.263(2)	Mn(1) - O(9)ii	2.368(2)	Mn(1) - N(1)	2.301(2)
Mn(1) - N(2)	2.285(2)	Mn(2) = O(2)	2.306(2)	Mn(2) = O(4)i	2.001(2)
Mn(2) = O(7)ii	2.205(2) 2.000(2)	Mn(2) = O(2)	2.500(2) 2.216(2)	Mn(2) - N(3)	2.100(2) 2.250(2)
Mn(2) - N(4)	2.000(2) 2.238(3)	MII(2) = O(3)II	2.210(2)	$\operatorname{Will}(2) = \operatorname{W}(3)$	2.230(2)
O(3); Mn(1) O(8);;	2.238(3)	O(2); Mn(1) N(2)	80.65(0)	$N(2) M_{p}(1) O(2)$	120 27(0)
O(3)I - WII(1) - O(3)II	80.42(9) 125.02(0)	N(1) = N(1) = N(2)	89.03(9) 82.15(8)	N(2) = Min(1) = O(8)ii	139.37(9)
O(3)I - MIn(1) - N(1)	135.03(9)	N(1) - Mn(1) - O(8) II	83.15(8)	N(1) - Mn(1) - N(2)	/1.50(9)
$O(3)_{1}-Mn(1)-O(1)$	136.58(8)	O(1) - Mn(1) - O(8)	127.40(9)	N(2)-Mn(1)-O(1)	80.33(8)
N(1)-Mn(1)-O(1)	81.34(8)	$O(3)_{1}-Mn(1)-O(9)_{11}$	93.32(8)	$O(8)_{11}-Mn(1)-O(9)_{11}$	56.03(7)
N(2)–Mn(1)–O(9)ii	164.55(8)	N(1)-Mn(1)-O(9)ii	115.69(8)	O(1)-Mn(1)-O(9)ii	87.15(7)
O(3)i-Mn(1)-O(2)	82.10(7)	O(8)ii-Mn(1)-O(2)	130.30(7)	N(2)-Mn(1)-O(2)	88.90(8)
N(1)-Mn(1)-O(2)	135.61(8)	O(1)-Mn(1)-O(2)	55.79(7)	O(9)ii-Mn(1)-O(2)	76.52(7)
O(4)i–Mn(2)–O(7)ii	99.73(9)	O(4)i–Mn(2)–O(9)ii	95.65(9)	O(9)ii–Mn(2)–O(7)ii	84.06(8)
O(4)i-Mn(2)-N(4)	92.63(10)	N(4)-Mn(2)-O(7)ii	104.15(9)	N(4)-Mn(2)-O(9)ii	167.21(9)
O(4)i-Mn(2)-N(3)	161.76(9)	O(7)ii-Mn(2)-N(3)	95.59(8)	O(9)ii-Mn(2)-N(3)	95.84(9)
N(4) - Mn(2) - N(3)	73.86(10)	O(4)i-Mn(2)-O(2)	80.88(7)	O(7)ii-Mn(2)-O(2)	164.74(8)
O(9)ii - Mn(2) - O(2)	80 71(7)	N(4) - Mn(2) - O(2)	91.02(8)	N(3) - Mn(2) - O(2)	87.05(8)
Mn(2) = O(2) = Mn(1)	95.87(7)	Mn(2) = O(9)ii = Mn(1)	98 19(8)	H(5) $H(2)$ $O(2)$	07.05(0)
$\operatorname{VIII}(2) = \operatorname{O}(2) = \operatorname{VIII}(1)$)5.87(7)	<u>2</u>	70.17(0)		
Cd(1)=O(1)	2 463(3)	$Cd(1) = O(2)^{\frac{2}{3}}$	2 122(2)	Cd(1)=O(3)i	2 256(3)
Cd(1) = O(1)	2.403(3)	Cd(1) = O(2)	2.423(3)	Cd(1) = O(3)I	2.230(3)
$C_{1}(1) = O(0) \prod_{i=1}^{n} O(0) \prod_{i=$	2.302(3)	$C_{0}(1) = O(7) \prod_{i=1}^{n} C_{i}(2)$	2.430(4)	Cd(1)=N(1)	2.303(4)
Ca(1) = N(2)	2.356(4)	Cd(2) = O(2)	2.422(3)	Cd(2) = O(4)I	2.204(3)
Ua(2) = O(7) m	2.363(3)	Cd(2)–O(9)11	2.217(3)	Cd(2) - N(3)	2.301(4)
Ca(2)–N(4)	2.316(4)	0.001 0100		A/AH A/H	
U(3)I-Cd(1)-N(2)	91.37(14)	O(3)1–Cd(1)–O(6)ii	86.54(13)	O(6)n-Cd(1)-N(2)	140.51(15)
N(1)-Cd(1)-O(3)i	136.99(15)	N(2)-Cd(1)-N(1)	70.14(14)	O(6)ii-Cd(1)-N(1)	84.89(13)
O(3)i-Cd(1)-O(2)	81.80(12)	O(2)-Cd(1)-N(2)	87.00(13)	O(6)ii-Cd(1)-O(2)	131.41(13)
O(2)-Cd(1)-N(1)	132.87(11)	O(3)i–Cd(1)–O(7)ii	91.94(13)	N(2)-Cd(1)-O(7)ii	164.93(13)
O(6)ii–Cd(1)–O(7)ii	54.41(13)	N(1)-Cd(1)-O(7)ii	116.06(13)	O(2)-Cd(1)-O(7)ii	78.94(11)
O(3)i-Cd(1)-O(1)	134.80(12)	O(1) - Cd(1) - N(2)	79.35(14)	O(6)ii-Cd(1)-O(1)	127.55(13)
N(1)-Cd(1)-O(1)	81.09(13)	O(1)-Cd(1)-O(2)	53.83(10)	O(1)-Cd(1)-O(7)ii	87.92(12)
O(4)i-Cd(2)-O(9)ii	97 36(13)	O(4)i-Cd(2)-N(3)	161 55(14)	N(3)-Cd(2)-O(9)ii	99 18(13)
O(4)i - Cd(2) - N(4)	94 63(15)	O(9)ii - Cd(2) - N(4)	109.05(14)	N(4) - Cd(2) - N(3)	72.24(15)
O(4)i = Cd(2) = IN(4)	94.03(13) 06.22(14)	O(7)ii $Cd(2) - N(4)$	109.03(14) 80.50(12)	N(4) = Cd(2) = N(3) N(3) = Cd(2) = O(7)	72.24(13) 04 51(13)
O(4) = O(2) = O(7) =	90.22(14)	O(7) = Cu(2) = O(9) = O(9) = O(2) = O(4) =	80.39(12)	N(3) = Cd(2) = O(7)II	94.31(13)
N(4) = Cd(2) = O(7)II	104.43(12)	O(2) - Cd(2) - O(4)	80.13(12)	O(2) = Cd(2) = O(9)II	100.81(12)
N(3) - Cd(2) - O(2)	86.84(12)	N(4) - Cd(2) - O(2)	90.13(13)	O(2) - Cd(2) - O(7)	80./9(11)
Cd(1) - O(2) - Cd(2)	95.61(10)	Cd(1) - O(7)n - Cd(2)	96.25(12)		
	0.105(0)	3	0.054(0)		0.01.4/0
$M_{\rm P}(1)$ $()(1)$	2.135(2)	Mn(1) - O(3)i	2.354(2)	Mn(1) - O(4)i	2.314(2)
$\operatorname{Win}(1) = O(1)$	· · · · · · · · · · · · · · · · · · ·	Mn(1) = O(9)11	2.402(2)	Mn(1)-N(1)	2.299(2)
Mn(1)-O(8)ii	2.243(2)		a 100(a)		
Mn(1)-O(1) Mn(1)-O(8)ii Mn(1)-N(2)	2.243(2) 2.264(2)	Mn(2)-O(2)	2.109(2)	Mn(2)–O(4)i	2.321(2)
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii	2.243(2) 2.264(2) 2.104(2)	Mn(2)–O(2) Mn(2)–O(9)ii	2.109(2) 2.207(2)	Mn(2)–O(4)i Mn(2)–N(3)	2.321(2) 2.228(2)
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4)	2.243(2) 2.264(2) 2.104(2) 2.249(2)	Mn(2)–O(2) Mn(2)–O(9)ii	2.109(2) 2.207(2)	Mn(2)–O(4)i Mn(2)–N(3)	2.321(2) 2.228(2)
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8)	Mn(2)–O(2) Mn(2)–O(9)ii O(1)–Mn(1)–N(2)	2.109(2) 2.207(2) 89.75(7)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii	2.321(2) 2.228(2) 141.07(8)
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii O(1)=Mn(1)=N(1)	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7)	Mn(2)–O(2) Mn(2)–O(9)ii O(1)–Mn(1)–N(2) N(1)–Mn(1)–O(8)ii	2.109(2) 2.207(2) 89.75(7) 84.39(7)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2)	2.321(2) 2.228(2) 141.07(8) 71.16(7)
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii O(1)=Mn(1)=O(1) O(4)i=Mn(1)=O(1)	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6)	Mn(2)–O(2) Mn(2)–O(9)ii O(1)–Mn(1)–N(2) N(1)–Mn(1)–O(8)ii O(8)ii–Mn(1)–O(4)i	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7)
Mn(1)=O(1) $Mn(1)=O(8)ii$ $Mn(1)=N(2)$ $Mn(2)=O(6)ii$ $Mn(2)=N(4)$ $O(1)=Mn(1)=O(8)ii$ $O(1)=Mn(1)=O(1)$ $O(4)i=Mn(1)=O(1)$ $N(1)=Mn(1)=O(4)i$	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6)	Mn(2)=O(2) Mn(2)=O(9)ii O(1)=Mn(1)=N(2) N(1)=Mn(1)=O(8)ii O(8)ii=Mn(1)=O(4)i O(3)i=Mn(1)=O(1) O(3)i=Mn(1)=O(1) O(3)i=Mn(1)=O(1) O(3)i=Mn(1)=O(1) O(3)i=Mn(1)=O(1) O(3)i=Mn(1)=O(1) O(3)i=Mn(1)=O(1) O(3)i=Mn(1)=O(1) O(3)i=Mn(1)=O(1) O(3)i=Mn(1)=O(3)i O(3)i O(3)i=Mn(1)=O(3)i O(3)i O(3)i O(3)i=O(3)i O(3)i	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ij–Mn(1)–O(3)i	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8)
Mn(1)=O(1) $Mn(1)=O(8)ii$ $Mn(1)=N(2)$ $Mn(2)=O(6)ii$ $Mn(2)=N(4)$ $O(1)=Mn(1)=O(8)ii$ $O(1)=Mn(1)=O(1)$ $O(4)i=Mn(1)=O(1)$ $N(1)=Mn(1)=O(4)i$ $O(3)i=Mn(1)=N(2)$	2.243(2) $2.264(2)$ $2.104(2)$ $2.249(2)$ $85.89(8)$ $133.88(7)$ $81.89(6)$ $136.29(6)$ $82.00(7)$	Mn(2)=O(2) Mn(2)=O(9)ii O(1)=Mn(1)=N(2) N(1)=Mn(1)=O(8)ii O(8)ii=Mn(1)=O(4)i O(3)i=Mn(1)=O(1) N(1)=Mn(1)=O(3)i	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(4)i	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8) 56.24(5)
Mn(1)-O(1) Mn(1)-O(8)ii Mn(2)-O(6)ii Mn(2)-N(4) O(1)-Mn(1)-O(8)ii O(1)-Mn(1)-N(1) O(4)i-Mn(1)-O(1) N(1)-Mn(1)-O(4)i O(3)i-Mn(1)-O(2) O(9)ii-Mn(1)-O(1) (1)-O(1) (1)	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6)	Mn(2)=O(2) Mn(2)=O(9)ii O(1)=Mn(1)=N(2) N(1)=Mn(1)=O(8)ii O(8)ii=Mn(1)=O(4)i O(3)i=Mn(1)=O(1) N(1)=Mn(1)=O(3)i O(8)ii=Mn(1)=O(9)ii O(8)ii=Mn(1)=O(9)ii O(8)ii=Mn(1)=O(9)ii O(8)ii=Mn(1)=O(9)ii O(8)ii=Mn(1)=O(9)ii O(8)ii=Mn(1)=O(9)ii O(8)ii=Mn(1)=O(9)ii O(8)ii=Mn(1)=O(9)ii O(8)ii=Mn(1)=O(1) O(8)ii=Mn(1)=O(1) O(8)ii=Mn(1)=O(1) O(8)ii=Mn(1)=O(1) O(8)ii=Mn(1)=O(1) O(1)=Mn(1)=O(1) O(1)=O(1)=O(1) O(1)=O(1)=O(1) O(1)=O(1)=O(1) O(1)=O(1)=O(1) O(1)=O(1)=O(1)=O(1) O(1)=O(1)=O(1)=O(1) O(1)=O(1)=O(1)=O(1)=O(1)=O(1)=O(1)=O(1)=	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(4)i N(2)–Mn(1)–O(4)i	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8) 56.24(5) 163.10(7)
Mn(1)-O(1) Mn(1)-O(8)ii Mn(2)-O(6)ii Mn(2)-N(4) O(1)-Mn(1)-O(8)ii O(1)-Mn(1)-O(1) O(4)i-Mn(1)-O(1) N(1)-Mn(1)-O(4)i O(3)i-Mn(1)-O(2) O(9)ii-Mn(1)-O(1) N(1)-Mn(1)-O(2) (1) Mn(1)-O(2) (1	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7)	Mn(2)-O(2) Mn(2)-O(9)ii O(1)-Mn(1)-N(2) N(1)-Mn(1)-O(8)ii O(8)ii-Mn(1)-O(4)i O(3)i-Mn(1)-O(1) N(1)-Mn(1)-O(3)i O(8)ii-Mn(1)-O(9)ii O(9)ii Mn(1) O(4)i Mn(1)-O(4)ii O(9)ii Mn(1) O(4)i Mn(1)	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.52(5)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(4)i N(2)–Mn(1)–O(9)ii O(0)ii Mn(1)–O(2)i	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8) 56.24(5) 163.10(7) 85.61(6)
Mn(1)-O(1) Mn(1)-O(8)ii Mn(2)-O(6)ii Mn(2)-N(4) O(1)-Mn(1)-O(8)ii O(1)-Mn(1)-O(1) N(1)-Mn(1)-O(1) N(1)-Mn(1)-O(4)i O(3)i-Mn(1)-O(4)i O(3)i-Mn(1)-O(2) O(9)ii Mn(1)-O(9)ii N(1)-Mn(1)-O(9)ii N(1)-Mn(1)-O(1) N(1)-Mn(1)-O(1) N(1)-Mn(1)-O(1) N(1)-Mn(1)-O(1) N(1)-Mn(1)-O(1) N(1)-Mn(1)-O(1) N(1)-N(1)-N(1) N(1)-N(1)-N(1)-N(1) N(1)-N(1)-N(1)-N(1) N(1)-N(1)-N(1)-N(1) N(1)-N(1)-N(1)-N(1) N(1)-N(1)-N(1)-N(1) N(1)-N(1)-N(1)-N(1)-N(1) N(1)-N(1)-N(1)-N(1)-N(1)-N(1)-N(1)-N(1)-	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7)	$\begin{array}{l} Mn(2) - O(2) \\ Mn(2) - O(2) \\ Mn(2) - O(9) \\ ii \\ O(1) - Mn(1) - O(2) \\ N(1) - Mn(1) - O(3) \\ O(3) \\ i - Mn(1) - O(4) \\ i \\ O(3) \\ i - Mn(1) - O(3) \\ i \\ O(3) \\ i - Mn(1) - O(3) \\ i \\ O(9) \\ i - Mn(1) - O(4) \\ i \\ O(9) \\ i \\ i \\ Mn(2) \\ O(0) \\ i \\ i \\ Mn(2) \\ O(0) \\ i \\ Mn(2) \\ Mn(2) \\ O(0) \\ i \\ Mn(2) \\ Mn(2$	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 82.89(6)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(4)i N(2)–Mn(1)–O(4)i N(2)–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(3)i	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8) 56.24(5) 163.10(7) 85.61(6) 96.47(7) 2000 200
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii O(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(2) O(9)ii=Mn(1)=O(2) O(9)ii=Mn(1)=O(2) O(1)=Mn(1)=O(2) O(2)ii=Mn(2)=O(2) O(2)ii=Mn(2)(2)ii=Mn(2)(2) O(2)ii=Mn(2)(2)ii=Mn(2)(2)(2) O(2)ii=Mn(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7) 100.31(7)	$\begin{array}{c} Mn(2)-O(2) \\ Mn(2)-O(9)ii \\ \\ O(1)-Mn(1)-N(2) \\ N(1)-Mn(1)-O(8)ii \\ O(8)ii-Mn(1)-O(4)i \\ O(3)i-Mn(1)-O(1) \\ N(1)-Mn(1)-O(3)i \\ O(8)ii-Mn(1)-O(9)ii \\ O(9)ii-Mn(1)-O(4)i \\ O(6)ii-Mn(2)-O(9)ii \\ O(9)ii \\ O(1)-Mn(2)-O(1)i \\ O(1)-Mn(1)-O(1)i \\ O(2)-O(1)-Mn(1)-O(1)i \\ O(2)-O(2)-O(1)i \\ O(2)-O(2)-O(2)-O(2)ii \\ O(2)-O(2)-O(2)-O(2)ii \\ O(2)-O(2)-O(2)-O(2)ii \\ O(2)-O(2)-O(2)-O(2)ii \\ O(2)-O(2)-O(2)-O(2)-O(2)ii \\ O(2)-O(2)-O(2)-O(2)-O(2)-O(2)ii \\ O(2)-O(2)-O(2)-O(2)-O(2)-O(2)-O(2)-O(2)-$	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 21.62(7)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(4)i N(2)–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(3)i O(2)–Mn(2)–O(9)ii	$\begin{array}{c} 2.321(2) \\ 2.228(2) \\ 141.07(8) \\ 71.16(7) \\ 88.01(7) \\ 125.21(8) \\ 56.24(5) \\ 163.10(7) \\ 85.61(6) \\ 96.47(7) \\ 167.027 \end{array}$
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii O(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(2) O(9)ii=Mn(1)=O(2) O(6)ii=Mn(2)=O(2) O(6)ii=Mn(2)=N(3) O	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7) 100.31(7) 103.71(7)	$\begin{array}{l} Mn(2)-O(2) \\ Mn(2)-O(2) \\ Mn(2)-O(9)ii \\ \end{array}$ $\begin{array}{l} O(1)-Mn(1)-N(2) \\ N(1)-Mn(1)-O(8)ii \\ O(8)ii-Mn(1)-O(4)i \\ O(3)i-Mn(1)-O(3)i \\ O(8)ii-Mn(1)-O(3)i \\ O(8)ii-Mn(1)-O(9)ii \\ O(9)ii-Mn(1)-O(4)i \\ O(6)ii-Mn(2)-O(9)ii \\ O(2)-Mn(2)-N(3) \\ O(2)-N(3) \\ $	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 91.50(7)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(4)i N(2)–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(3)i O(2)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii	$\begin{array}{c} 2.321(2) \\ 2.228(2) \\ 141.07(8) \\ 71.16(7) \\ 88.01(7) \\ 125.21(8) \\ 56.24(5) \\ 163.10(7) \\ 85.61(6) \\ 96.47(7) \\ 167.88(7) \\ 167.88(7) \\ \end{array}$
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii O(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(2) O(9)ii=Mn(1)=O(2) O(9)ii=Mn(2)=O(2) O(6)ii=Mn(2)=N(3) O(6)ii=Mn(2)=N(4) Mn(1)=O(1) Mn(1)=Mn(1)=O(2) O(6)ii=Mn(2)=N(4) Mn(1)=Mn(1)=O(1) Mn(1)=Mn(1)=O(2) Mn(1)=Mn(1)=O(2) Mn(1)=Mn(2)=N(1) Mn(1)=Mn(1)=Mn(1) Mn(1)=Mn(1)=Mn(1)=Mn(1) Mn(1)=Mn(1)=Mn(1) Mn(1)=Mn(1)=Mn(1)=Mn(2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7) 100.31(7) 103.71(7) 94.10(7)	$\begin{array}{l} Mn(2)-O(2) \\ Mn(2)-O(2) \\ Mn(2)-O(9)ii \\ \end{array} \\ \hline O(1)-Mn(1)-N(2) \\ N(1)-Mn(1)-O(8)ii \\ O(8)ii-Mn(1)-O(4)i \\ O(3)i-Mn(1)-O(3)i \\ O(8)ii-Mn(1)-O(3)i \\ O(8)ii-Mn(1)-O(9)ii \\ O(9)ii-Mn(1)-O(4)i \\ O(6)ii-Mn(2)-O(9)ii \\ O(2)-Mn(2)-N(3) \\ O(2)-Mn(2)-N(4) \\ \end{array}$	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 91.50(7) 160.98(7)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(4)i N(2)–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(2)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(9)ii–Mn(2)–N(4)	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8) 56.24(5) 163.10(7) 85.61(6) 96.47(7) 167.88(7) 97.36(7)
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii O(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(2) O(9)ii=Mn(1)=O(2) O(9)ii=Mn(1)=O(2) O(6)ii=Mn(2)=O(2) O(6)ii=Mn(2)=N(3) O(6)ii=Mn(2)=N(4) N(3)=Mn(2)=N(4) $Mn(1)=O(1) Mn(1)=Mn(1)=O(2) Mn(1)=Mn(2)=N(1) Mn(1)=Mn(2)=N(1) Mn(1)=Mn(2)=N(1) Mn(1)=Mn(2)=N(1) Mn(1)=Mn(2)=N(1) Mn(1)=Mn(1)=Mn(1) Mn(1)=Mn(1)=Mn($	$\begin{array}{c} 2.243(2)\\ 2.264(2)\\ 2.104(2)\\ 2.249(2)\\ 85.89(8)\\ 133.88(7)\\ 81.89(6)\\ 136.29(6)\\ 82.00(7)\\ 91.65(6)\\ 118.55(7)\\ 100.31(7)\\ 103.71(7)\\ 94.10(7)\\ 72.93(7)\end{array}$	$\begin{array}{l} Mn(2)-O(2) \\ Mn(2)-O(2) \\ Mn(2)-O(9)ii \\ \end{array} \\ \hline O(1)-Mn(1)-N(2) \\ N(1)-Mn(1)-O(8)ii \\ O(8)ii-Mn(1)-O(4)i \\ O(3)i-Mn(1)-O(1) \\ N(1)-Mn(1)-O(3)i \\ O(8)ii-Mn(1)-O(9)ii \\ O(9)ii-Mn(1)-O(9)ii \\ O(9)ii-Mn(1)-O(4)i \\ O(6)ii-Mn(2)-O(9)ii \\ O(2)-Mn(2)-N(3) \\ O(2)-Mn(2)-N(4) \\ O(6)ii-Mn(2)-O(4)i \\ \end{array}$	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 91.50(7) 160.98(7) 163.13(6)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(4)i N(2)–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(2)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(9)ii–Mn(2)–N(4) O(4)i–Mn(2)–O(2)	$\begin{array}{c} 2.321(2)\\ 2.228(2)\\ 141.07(8)\\ 71.16(7)\\ 88.01(7)\\ 125.21(8)\\ 56.24(5)\\ 163.10(7)\\ 85.61(6)\\ 96.47(7)\\ 167.88(7)\\ 97.36(7)\\ 81.91(6)\\ \end{array}$
$\begin{array}{l} \text{Mn}(1) = O(1) \\ \text{Mn}(1) = O(8) \text{ii} \\ \text{Mn}(1) = N(2) \\ \text{Mn}(2) = O(6) \text{ii} \\ \text{Mn}(2) = N(4) \\ O(1) = \text{Mn}(1) = O(8) \text{ii} \\ O(1) = \text{Mn}(1) = O(1) \\ O(4) \text{i} = \text{Mn}(1) = O(1) \\ O(4) \text{i} = \text{Mn}(1) = O(1) \\ O(3) \text{i} = \text{Mn}(1) = O(1) \\ O(3) \text{i} = \text{Mn}(1) = O(2) \\ O(9) \text{ii} = \text{Mn}(1) = O(2) \\ O(6) \text{ii} = \text{Mn}(2) = O(2) \\ O(6) \text{ii} = \text{Mn}(2) = N(3) \\ O(6) \text{ii} = \text{Mn}(2) = N(4) \\ O(9) \text{ii} = \text{Mn}(2) = O(4) \text{i} \\ \end{array}$	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7) 100.31(7) 103.71(7) 94.10(7) 72.93(7) 79.25(6)	$\begin{array}{l} Mn(2)-O(2) \\ Mn(2)-O(2) \\ Mn(2)-O(9)ii \\ \end{array} \\ \hline O(1)-Mn(1)-N(2) \\ N(1)-Mn(1)-O(8)ii \\ O(8)ii-Mn(1)-O(4)i \\ O(3)i-Mn(1)-O(1) \\ N(1)-Mn(1)-O(3)i \\ O(8)ii-Mn(1)-O(9)ii \\ O(9)ii-Mn(1)-O(4)i \\ O(6)ii-Mn(2)-O(9)ii \\ O(2)-Mn(2)-N(3) \\ O(2)-Mn(2)-N(4) \\ O(6)ii-Mn(2)-O(4)i \\ O(4)i-Mn(2)-N(3) \\ \end{array}$	2.109(2) $2.207(2)$ $89.75(7)$ $84.39(7)$ $129.33(6)$ $137.40(6)$ $82.46(6)$ $55.82(6)$ $75.53(5)$ $83.88(6)$ $91.50(7)$ $160.98(7)$ $163.13(6)$ $92.91(6)$	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii N(3)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(9)ii–Mn(2)–N(4) O(4)i–Mn(2)–N(4)	$\begin{array}{c} 2.321(2)\\ 2.228(2)\\ 141.07(8)\\ 71.16(7)\\ 88.01(7)\\ 125.21(8)\\ 56.24(5)\\ 163.10(7)\\ 85.61(6)\\ 96.47(7)\\ 167.88(7)\\ 97.36(7)\\ 81.91(6)\\ 87.91(6)\\ \end{array}$
Mn(1)=O(1) $Mn(1)=O(8)ii$ $Mn(2)=O(6)ii$ $Mn(2)=O(6)ii$ $Mn(2)=N(4)$ $O(1)=Mn(1)=O(8)ii$ $O(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(2)$ $O(9)ii=Mn(1)=O(2)$ $O(6)ii=Mn(2)=O(2)$ $O(6)ii=Mn(2)=N(4)$ $N(3)=Mn(2)=N(4)$ $O(9)ii=Mn(2)=O(4)i$ $Mn(2)=O(4)i=Mn(1)$	$\begin{array}{c} 2.243(2)\\ 2.264(2)\\ 2.104(2)\\ 2.249(2)\\ 85.89(8)\\ 133.88(7)\\ 81.89(6)\\ 136.29(6)\\ 82.00(7)\\ 91.65(6)\\ 118.55(7)\\ 100.31(7)\\ 103.71(7)\\ 94.10(7)\\ 72.93(7)\\ 79.25(6)\\ 97.66(5) \end{array}$	$\begin{array}{l} Mn(2)-O(2) \\ Mn(2)-O(2) \\ Mn(2)-O(9)ii \\ \\ O(1)-Mn(1)-N(2) \\ N(1)-Mn(1)-O(8)ii \\ O(8)ii-Mn(1)-O(4)i \\ O(3)i-Mn(1)-O(1) \\ N(1)-Mn(1)-O(3)i \\ O(8)ii-Mn(1)-O(9)ii \\ O(9)ii-Mn(1)-O(9)ii \\ O(9)ii-Mn(1)-O(9)ii \\ O(6)ii-Mn(2)-O(9)ii \\ O(2)-Mn(2)-N(3) \\ O(2)-Mn(2)-N(4) \\ O(6)ii-Mn(2)-O(4)i \\ O(4)i-Mn(2)-N(3) \\ Mn(2)-O(9)ii-Mn(1) \\ \end{array}$	$\begin{array}{c} 2.109(2) \\ 2.207(2) \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(9)ii N(2)–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii N(3)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(9)ii–Mn(2)–N(4) O(4)i–Mn(2)–N(4)	$\begin{array}{c} 2.321(2)\\ 2.228(2)\\ 141.07(8)\\ 71.16(7)\\ 88.01(7)\\ 125.21(8)\\ 56.24(5)\\ 163.10(7)\\ 85.61(6)\\ 96.47(7)\\ 167.88(7)\\ 97.36(7)\\ 81.91(6)\\ 87.91(6)\\ \end{array}$
Mn(1)=O(1) $Mn(1)=O(8)ii$ $Mn(2)=O(6)ii$ $Mn(2)=O(6)ii$ $Mn(2)=N(4)$ $O(1)=Mn(1)=O(8)ii$ $O(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(2)$ $O(9)ii=Mn(1)=O(2)$ $O(6)ii=Mn(2)=O(2)$ $O(6)ii=Mn(2)=N(3)$ $O(6)ii=Mn(2)=N(4)$ $N(3)=Mn(2)=N(4)$ $O(9)ii=Mn(2)=O(4)i$ $Mn(2)=O(4)i=Mn(1)$	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7) 100.31(7) 103.71(7) 94.10(7) 72.93(7) 79.25(6) 97.66(5)	Mn(2)–O(2) Mn(2)–O(9)ii O(1)–Mn(1)–N(2) N(1)–Mn(1)–O(8)ii O(8)ii–Mn(1)–O(4)i O(3)i–Mn(1)–O(1) N(1)–Mn(1)–O(3)i O(8)ii–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(6)ii–Mn(2)–O(9)ii O(2)–Mn(2)–N(3) O(2)–Mn(2)–N(4) O(6)ii–Mn(2)–O(4)i O(4)i–Mn(2)–N(3) Mn(2)–O(9)ii–Mn(1) 4	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 91.50(7) 160.98(7) 163.13(6) 92.91(6) 98.30(6)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii N(3)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(4)i–Mn(2)–N(4) O(4)i–Mn(2)–N(4)	$\begin{array}{c} 2.321(2)\\ 2.228(2)\\ 141.07(8)\\ 71.16(7)\\ 88.01(7)\\ 125.21(8)\\ 56.24(5)\\ 163.10(7)\\ 85.61(6)\\ 96.47(7)\\ 167.88(7)\\ 97.36(7)\\ 81.91(6)\\ 87.91(6)\\ \end{array}$
Mn(1)=O(1) $Mn(1)=O(8)ii$ $Mn(2)=O(6)ii$ $Mn(2)=O(6)ii$ $Mn(2)=N(4)$ $O(1)=Mn(1)=O(8)ii$ $O(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(2)$ $O(6)ii=Mn(2)=O(2)$ $O(6)ii=Mn(2)=N(3)$ $O(6)ii=Mn(2)=N(4)$ $N(3)=Mn(2)=N(4)$ $N(3)=Mn(2)=N(4)$ $O(9)ii=Mn(2)=O(4)i$ $Mn(2)=O(4)i=Mn(1)$ $Cd(1)=O(1)$	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7) 100.31(7) 103.71(7) 94.10(7) 72.93(7) 79.25(6) 97.66(5) 2.416(5)	Mn(2)–O(2) Mn(2)–O(2) Mn(2)–O(9)ii O(1)–Mn(1)–N(2) N(1)–Mn(1)–O(8)ii O(8)ii–Mn(1)–O(4)i O(3)i–Mn(1)–O(1) N(1)–Mn(1)–O(3)i O(8)ii–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(6)ii–Mn(2)–O(9)ii O(2)–Mn(2)–N(3) O(2)–Mn(2)–N(4) O(6)ii–Mn(2)–O(4)i O(4)i–Mn(2)–N(3) Mn(2)–O(9)ii–Mn(1) 4 Cd(1)–O(2)	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 91.50(7) 160.98(7) 163.13(6) 92.91(6) 98.30(6) 2.318(5)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii N(3)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(9)ii–Mn(2)–N(4) O(4)i–Mn(2)–N(4) Cd(1)–O(4)i	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8) 56.24(5) 163.10(7) 85.61(6) 96.47(7) 167.88(7) 97.36(7) 81.91(6) 87.91(6) 2.209(5)
Mn(1)=O(1) $Mn(1)=O(8)ii$ $Mn(2)=O(6)ii$ $Mn(2)=O(6)ii$ $Mn(2)=N(4)$ $O(1)=Mn(1)=O(8)ii$ $O(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(2)$ $O(6)ii=Mn(2)=O(2)$ $O(6)ii=Mn(2)=N(4)$ $N(3)=Mn(2)=N(4)$ $O(9)ii=Mn(2)=O(4)i$ $Mn(2)=O(4)i=Mn(1)$ $Cd(1)=O(1)$ $Cd(1)=O(1)$ $Cd(1)=O(8)ii$	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7) 100.31(7) 103.71(7) 94.10(7) 72.93(7) 79.25(6) 97.66(5) 2.416(5) 2.334(5)	Mn(2)–O(2) Mn(2)–O(9)ii O(1)–Mn(1)–N(2) N(1)–Mn(1)–O(8)ii O(8)ii–Mn(1)–O(4)i O(3)i–Mn(1)–O(1) N(1)–Mn(1)–O(3)i O(8)ii–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(6)ii–Mn(2)–O(9)ii O(2)–Mn(2)–N(3) O(2)–Mn(2)–N(4) O(6)ii–Mn(2)–O(4)i O(6)ii–Mn(2)–O(4)i O(4)i–Mn(2)–N(3) Mn(2)–O(9)ii–Mn(1) 4 Cd(1)–O(2) Cd(1)–O(9)ii	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 91.50(7) 160.98(7) 163.13(6) 92.91(6) 98.30(6) 2.318(5) 2.339(6)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(4)i N(2)–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii N(3)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(9)ii–Mn(2)–N(4) O(4)i–Mn(2)–N(4) Cd(1)–O(4)i Cd(1)–O(4)i Cd(1)–N(1)	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8) 56.24(5) 163.10(7) 85.61(6) 96.47(7) 167.88(7) 97.36(7) 81.91(6) 87.91(6) 2.209(5) 2.272(6)
Mn(1)=O(1) $Mn(1)=O(8)ii$ $Mn(2)=O(6)ii$ $Mn(2)=O(6)ii$ $Mn(2)=N(4)$ $O(1)=Mn(1)=O(8)ii$ $O(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(1)$ $N(1)=Mn(1)=O(2)$ $O(6)ii=Mn(2)=O(2)$ $O(6)ii=Mn(2)=N(3)$ $O(6)ii=Mn(2)=N(4)$ $N(3)=Mn(2)=N(4)$ $N(3)=Mn(2)=N(4)$ $O(9)ii=Mn(2)=O(4)i$ $Mn(2)=O(4)i=Mn(1)$ $Cd(1)=O(1)$ $Cd(1)=O(1)$ $Cd(1)=O(6)$ $Cd(2)=O(6)$	$\begin{array}{c} 2.243(2) \\ 2.264(2) \\ 2.104(2) \\ 2.249(2) \\ 85.89(8) \\ 133.88(7) \\ 81.89(6) \\ 136.29(6) \\ 82.00(7) \\ 91.65(6) \\ 118.55(7) \\ 100.31(7) \\ 103.71(7) \\ 94.10(7) \\ 72.93(7) \\ 79.25(6) \\ 97.66(5) \\ \hline \\ 2.416(5) \\ 2.303(4) \\ \end{array}$	$\begin{array}{c} Mn(2)-O(2) \\ Mn(2)-O(2) \\ Mn(2)-O(9)ii \\ \\ O(1)-Mn(1)-N(2) \\ N(1)-Mn(1)-O(8)ii \\ O(8)ii-Mn(1)-O(4)i \\ O(3)i-Mn(1)-O(1) \\ N(1)-Mn(1)-O(3)i \\ O(8)ii-Mn(1)-O(9)ii \\ O(9)ii-Mn(1)-O(4)i \\ O(6)ii-Mn(2)-O(9)ii \\ O(2)-Mn(2)-N(3) \\ O(2)-Mn(2)-N(3) \\ O(2)-Mn(2)-N(4) \\ O(6)ii-Mn(2)-O(4)i \\ O(6)ii-Mn(2)-O(4)i \\ O(6)ii-Mn(2)-O(4)i \\ O(6)ii-Mn(2)-N(3) \\ Mn(2)-O(9)ii-Mn(1) \\ \hline \\ 4 \\ Cd(1)-O(2) \\ Cd(1)-O(9)ii \\ Cd(2)-O(6)iii \\ \end{array}$	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 91.50(7) 160.98(7) 163.13(6) 92.91(6) 98.30(6) 2.318(5) 2.339(6) 2.303(4)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(4)i N(2)–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii N(3)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(9)ii–Mn(2)–N(4) O(4)i–Mn(2)–N(4) Cd(1)–O(4)i Cd(1)–N(1) Cd(2)–O(10)	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8) 56.24(5) 163.10(7) 85.61(6) 96.47(7) 167.88(7) 97.36(7) 81.91(6) 87.91(6) 2.209(5) 2.272(6) 2.300(6)
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii O(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(2) O(6)ii=Mn(2)=N(3) O(6)ii=Mn(2)=N(3) O(6)ii=Mn(2)=N(4) N(3)=Mn(2)=N(4) O(9)ii=Mn(2)=O(4)i Mn(2)=O(4)i=Mn(1) Cd(1)=O(1) Cd(1)=O(1) Cd(2)=O(6) Cd(2)=O(10)iii Mn(2)=O(10)iii Mn(2)=O(10)iii Cd(2)=O(1) Cd(2)	$\begin{array}{c} 2.243(2) \\ 2.264(2) \\ 2.104(2) \\ 2.249(2) \\ 85.89(8) \\ 133.88(7) \\ 81.89(6) \\ 136.29(6) \\ 82.00(7) \\ 91.65(6) \\ 118.55(7) \\ 100.31(7) \\ 103.71(7) \\ 94.10(7) \\ 72.93(7) \\ 79.25(6) \\ 97.66(5) \end{array}$	$\begin{array}{c} Mn(2) - O(2) \\ Mn(2) - O(2) \\ Mn(2) - O(9)ii \\ \\ O(1) - Mn(1) - O(2) \\ N(1) - Mn(1) - O(3)i \\ O(3)i - Mn(1) - O(4)i \\ O(3)i - Mn(1) - O(3)i \\ O(3)i - Mn(1) - O(3)i \\ O(3)i - Mn(1) - O(4)i \\ O(6)ii - Mn(2) - O(9)ii \\ O(2) - Mn(2) - N(3) \\ O(2) - Mn(2) - N(3) \\ O(2) - Mn(2) - N(4) \\ O(6)ii - Mn(2) - N(4) \\ O(6)ii - Mn(2) - N(4) \\ O(6)ii - Mn(2) - N(3) \\ Mn(2) - O(9)ii \\ Mn(2) - O(9)ii - Mn(1) \\ \hline \\ 4 \\ Cd(1) - O(2) \\ Cd(1) - O(9)ii \\ Cd(2) - O(6)iii \\ Cd(2) - N(2) \\ \end{array}$	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 91.50(7) 160.98(7) 163.13(6) 92.91(6) 98.30(6) 2.318(5) 2.339(6) 2.303(4) 2.379(6)	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(4)i N(2)–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(9)ii–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(9)ii–Mn(2)–N(4) O(4)i–Mn(2)–N(4) Cd(1)–O(4)i Cd(1)–N(1) Cd(2)–O(10) Cd(2)–N(2)iii	$\begin{array}{c} 2.321(2) \\ 2.228(2) \\ 141.07(8) \\ 71.16(7) \\ 88.01(7) \\ 125.21(8) \\ 56.24(5) \\ 163.10(7) \\ 85.61(6) \\ 96.47(7) \\ 167.88(7) \\ 97.36(7) \\ 81.91(6) \\ 87.91(6) \\ \hline \\ 2.209(5) \\ 2.272(6) \\ 2.300(6) \\ 2.379(6) \\ \end{array}$
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii O(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(2) O(6)ii=Mn(2)=O(2) O(6)ii=Mn(2)=N(4) N(3)=Mn(2)=N(4) N(3)=Mn(2)=N(4) O(9)ii=Mn(2)=N(4) N(3)=Mn(2)=O(4) Mn(2)=O(4)i=Mn(1) Cd(1)=O(1) Cd(1)=O(1) Cd(2)=O(6) Cd(2)=O(6) Cd(2)=O(10)iii Cd(3)=O(3) Mn(2)=O(3) Mn(2)=O(3) Mn(2)=O(3) Mn(2)=O(3) Mn(2)=O(3) Mn(2)=O(3) Mn(2)=O(3) Mn(2)=O(1) Mn(2)=O(3) Mn(2)=	$\begin{array}{c} 2.243(2) \\ 2.264(2) \\ 2.104(2) \\ 2.249(2) \\ 85.89(8) \\ 133.88(7) \\ 81.89(6) \\ 136.29(6) \\ 82.00(7) \\ 91.65(6) \\ 118.55(7) \\ 100.31(7) \\ 103.71(7) \\ 94.10(7) \\ 72.93(7) \\ 79.25(6) \\ 97.66(5) \end{array}$	$\begin{array}{c} Mn(2) - O(2) \\ Mn(2) - O(2) \\ Mn(2) - O(9)ii \\ \\ O(1) - Mn(1) - O(2) \\ N(1) - Mn(1) - O(3)i \\ O(3)i - Mn(1) - O(4)i \\ O(3)i - Mn(1) - O(3)i \\ O(8)ii - Mn(1) - O(9)ii \\ O(9)ii - Mn(1) - O(9)ii \\ O(6)ii - Mn(2) - O(9)ii \\ O(2) - Mn(2) - N(3) \\ O(2) - Mn(2) - N(4) \\ O(6)ii - Mn(2) - N(4) \\ O(6)ii - Mn(2) - N(4) \\ O(6)ii - Mn(2) - N(3) \\ Mn(2) - O(9)ii \\ O(4)i - Mn(2) - N(3) \\ Mn(2) - O(9)ii - Mn(1) \\ \hline \\ 4 \\ Cd(1) - O(2) \\ Cd(1) - O(2) \\ Cd(2) - N(2) \\ Cd(3) - O(3)iv \\ \end{array}$	2.109(2) $2.207(2)$ $89.75(7)$ $84.39(7)$ $129.33(6)$ $137.40(6)$ $82.46(6)$ $55.82(6)$ $75.53(5)$ $83.88(6)$ $91.50(7)$ $160.98(7)$ $163.13(6)$ $92.91(6)$ $98.30(6)$ $2.318(5)$ $2.339(6)$ $2.303(4)$ $2.379(6)$ $2.340(5)$	Mn(2)–O(4)i Mn(2)–N(3) N(2)–Mn(1)–O(8)ii N(1)–Mn(1)–N(2) N(2)–Mn(1)–O(4)i O(8)ii–Mn(1)–O(3)i O(3)i–Mn(1)–O(9)ii O(9)ii–Mn(1)–O(9)ii O(9)ii–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii N(3)–Mn(2)–O(9)ii O(4)i–Mn(2)–N(4) O(4)i–Mn(2)–N(4) Cd(1)–O(4)i Cd(1)–N(1) Cd(2)–O(10) Cd(2)–N(2)iii Cd(3)–O(11)	$\begin{array}{c} 2.321(2) \\ 2.228(2) \\ 141.07(8) \\ 71.16(7) \\ 88.01(7) \\ 125.21(8) \\ 56.24(5) \\ 163.10(7) \\ 85.61(6) \\ 96.47(7) \\ 167.88(7) \\ 97.36(7) \\ 81.91(6) \\ 87.91(6) \\ \hline \\ 2.209(5) \\ 2.272(6) \\ 2.300(6) \\ 2.379(6) \\ 2.329(6) \\ \end{array}$
Mn(1)=O(1) Mn(1)=O(8)ii Mn(1)=N(2) Mn(2)=O(6)ii Mn(2)=N(4) O(1)=Mn(1)=O(8)ii O(1)=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(4)i O(3)i=Mn(1)=O(1) N(1)=Mn(1)=O(1) N(1)=Mn(1)=O(2) O(6)ii=Mn(2)=O(2) O(6)ii=Mn(2)=O(2) O(6)ii=Mn(2)=N(4) N(3)=Mn(2)=N(4) O(9)ii=Mn(2)=O(4)i Mn(2)=O(4)i=Mn(1) Cd(1)=O(1) Cd(1)=O(1) Cd(2)=O(6) Cd(2)=O(10)iii Cd(3)=O(3) Cd(3)=O(11)iv	2.243(2) 2.264(2) 2.104(2) 2.249(2) 85.89(8) 133.88(7) 81.89(6) 136.29(6) 82.00(7) 91.65(6) 118.55(7) 100.31(7) 103.71(7) 94.10(7) 72.93(7) 79.25(6) 97.66(5) 2.416(5) 2.334(5) 2.303(4) 2.300(6) 2.340(5) 2.329(6)	$\begin{array}{c} Mn(2) - O(2) \\ Mn(2) - O(2) \\ Mn(2) - O(9)ii \\ \\ O(1) - Mn(1) - O(8)ii \\ O(8)ii - Mn(1) - O(4)i \\ O(3)i - Mn(1) - O(4)i \\ O(3)i - Mn(1) - O(3)i \\ O(8)ii - Mn(1) - O(9)ii \\ O(9)ii - Mn(1) - O(9)ii \\ O(6)ii - Mn(2) - O(9)ii \\ O(2) - Mn(2) - N(3) \\ O(2) - Mn(2) - N(3) \\ O(2) - Mn(2) - N(4) \\ O(6)ii - Mn(2) - O(4)i \\ O(1) - O(2) \\ Cd(1) - O(2) \\ Cd(1) - O(2) \\ Cd(2) - O(6)iii \\ Cd(2) - N(2) \\ Cd(3) - O(3)iv \\ Cd(3) - N(3) \\ \end{array}$	2.109(2) $2.207(2)$ $89.75(7)$ $84.39(7)$ $129.33(6)$ $137.40(6)$ $82.46(6)$ $55.82(6)$ $75.53(5)$ $83.88(6)$ $91.50(7)$ $160.98(7)$ $163.13(6)$ $92.91(6)$ $98.30(6)$ $2.318(5)$ $2.339(6)$ $2.303(4)$ $2.379(6)$ $2.340(5)$ $2.317(8)$	$\begin{array}{c} Mn(2)-O(4)i\\ Mn(2)-N(3)\\\\ N(2)-Mn(1)-O(8)ii\\ N(1)-Mn(1)-N(2)\\ N(2)-Mn(1)-O(4)i\\ O(8)ii-Mn(1)-O(3)i\\ O(3)i-Mn(1)-O(9)ii\\ O(9)ii-Mn(1)-O(9)ii\\ O(9)ii-Mn(1)-O(9)ii\\ O(9)ii-Mn(2)-O(9)ii\\ N(3)-Mn(2)-O(9)ii\\ N(3)-Mn(2)-O(9)ii\\ O(4)i-Mn(2)-N(4)\\ O(4)i-Mn(2)-N(4)\\ O(4)i-Mn(2)-N(4)\\ \hline\\ Cd(1)-O(4)i\\ Cd(1)-N(1)\\ Cd(2)-O(10)\\ Cd(2)-N(2)iii\\ Cd(3)-O(11)\\ Cd(3)-N(3)iy\\ \end{array}$	$\begin{array}{c} 2.321(2) \\ 2.228(2) \\ 141.07(8) \\ 71.16(7) \\ 88.01(7) \\ 125.21(8) \\ 56.24(5) \\ 163.10(7) \\ 85.61(6) \\ 96.47(7) \\ 167.88(7) \\ 97.36(7) \\ 81.91(6) \\ 87.91(6) \\ \hline \\ 2.209(5) \\ 2.272(6) \\ 2.300(6) \\ 2.379(6) \\ 2.329(6) \\ 2.317(8) \\ \end{array}$
Mn(1)-O(8)ii Mn(1)-N(2) Mn(2)-O(6)ii Mn(2)-N(4) O(1)-Mn(1)-O(8)ii O(1)-Mn(1)-O(1) N(1)-Mn(1)-O(1) N(1)-Mn(1)-O(1) N(1)-Mn(1)-O(4)i O(3)i-Mn(1)-O(4)i O(3)i-Mn(1)-O(1) N(1)-Mn(1)-O(9)ii O(6)ii-Mn(2)-N(3) O(6)ii-Mn(2)-N(4) O(6)ii-Mn(2)-N(4) O(6)ii-Mn(2)-N(4) O(9)ii-Mn(2)-N(4) O(9)ii-Mn(2)-N(4) O(9)ii-Mn(2)-O(4)i Mn(2)-O(4)i-Mn(1) Cd(1)-O(1) Cd(1)-O(1) Cd(2)-O(6) Cd(2)-O(1))ii Cd(3)-O(3) Cd(3)-O(1))iv O(4)i-Cd(1)-N(1)	$\begin{array}{c} 2.243(2)\\ 2.264(2)\\ 2.104(2)\\ 2.249(2)\\ 85.89(8)\\ 133.88(7)\\ 81.89(6)\\ 136.29(6)\\ 82.00(7)\\ 91.65(6)\\ 118.55(7)\\ 100.31(7)\\ 103.71(7)\\ 94.10(7)\\ 72.93(7)\\ 79.25(6)\\ 97.66(5)\\ \hline \\ 2.416(5)\\ 2.334(5)\\ 2.303(4)\\ 2.300(6)\\ 2.340(5)\\ 2.329(6)\\ 123.3(2)\\ \hline \end{array}$	$\begin{array}{c} Mn(2) - O(2) \\ Mn(2) - O(2) \\ Mn(2) - O(9)ii \\ \hline \\ O(1) - Mn(1) - O(8)ii \\ O(8)ii - Mn(1) - O(8)ii \\ O(3)i - Mn(1) - O(4)i \\ O(3)i - Mn(1) - O(3)i \\ O(8)ii - Mn(1) - O(9)ii \\ O(9)ii - Mn(1) - O(9)ii \\ O(6)ii - Mn(2) - O(9)ii \\ O(2) - Mn(2) - N(3) \\ O(2) - Mn(2) - N(3) \\ O(2) - Mn(2) - N(4) \\ O(6)ii - Mn(2) - O(4)i \\ O(6)ii - Mn(2) - O(4)i \\ O(6)ii - Mn(2) - O(4)i \\ O(6)ii - Mn(2) - N(3) \\ Mn(2) - O(9)ii \\ O(4)i - Mn(2) - N(3) \\ Mn(2) - O(9)ii \\ Cd(1) - O(2) \\ Cd(1) - O(2) \\ Cd(3) - O(3)iv \\ Cd(3) - N(3) \\ O(4)i - Cd(1) - O(2) \\ \end{array}$	2.109(2) 2.207(2) 89.75(7) 84.39(7) 129.33(6) 137.40(6) 82.46(6) 55.82(6) 75.53(5) 83.88(6) 91.50(7) 160.98(7) 163.13(6) 92.91(6) 98.30(6) 2.318(5) 2.339(6) 2.303(4) 2.303(4) 2.340(5) 2.317(8) 84.07(19)	$\begin{array}{c} Mn(2)-O(4)i\\ Mn(2)-N(3)\\\\ N(2)-Mn(1)-O(8)ii\\ N(1)-Mn(1)-N(2)\\ N(2)-Mn(1)-O(4)i\\ O(8)ii-Mn(1)-O(3)i\\ O(3)i-Mn(1)-O(3)i\\ O(3)i-Mn(1)-O(9)ii\\ O(9)ii-Mn(1)-O(9)ii\\ O(9)ii-Mn(2)-O(9)ii\\ N(3)-Mn(2)-O(9)ii\\ N(3)-Mn(2)-O(9)ii\\ O(4)i-Mn(2)-N(4)\\ O(4)i-Mn(2)-N(4)\\ O(4)i-Mn(2)-N(4)\\ \hline\\ Cd(1)-O(4)i\\ Cd(1)-N(1)\\ Cd(2)-O(10)\\ Cd(2)-N(2)iii\\ Cd(3)-O(11)\\ Cd(3)-N(1)\\ N(1)\\ Cd(3)-N(1)\\ N(1)\\ Cd(3)-N(1)\\ N(1)\\ Cd(3)-N(1)\\ N(1)\\ N(1)\\$	2.321(2) 2.228(2) 141.07(8) 71.16(7) 88.01(7) 125.21(8) 56.24(5) 163.10(7) 85.61(6) 96.47(7) 167.88(7) 97.36(7) 81.91(6) 87.91(6) 2.209(5) 2.272(6) 2.300(6) 2.379(6) 2.329(6) 2.317(8) 133.9(2)

O(4)i-Cd(1)-O(9)ii	85.3(2)	O(9)ii–Cd(1)–N(1)	91.9(2)	O(9)ii–Cd(1)–O(2)	129.8(2)	
O(8)ii–Cd(1)–O(9)ii	55.31(17)	O(4)i-Cd(1)-O(1)	90.5(2)	N(1)-Cd(1)-O(1)	85.5(2)	
O(1)-Cd(1)-O(2)	55.32(17)	O(8)ii-Cd(1)-O(1)	131.62(19)	O(9)ii-Cd(1)-O(1)	172.78(19)	
O(6)–Cd(2)–O(10)	92.9(2)	O(6)iii–Cd(2)–O(10)	87.1(2)	O(10)-Cd(2)-N(2)	92.0(2)	
O(10)iii–Cd(2)–N(2)	88.0(2)	O(6)-Cd(2)-N(2)	88.61(19)	O(6)iii–Cd(2)–N(2)	91.39(19)	
O(11)iv-Cd(3)-N(3)	98.8(3)	O(11)-Cd(3)-N(3)	81.2(3)	O(3)-Cd(3)-N(3)	93.4(2)	
O(3)–Cd(3)–N(3)iv	86.6(2)	O(11)iv–Cd(3)–O(3)	101.91(18)	O(11)-Cd(3)-O(3)	78.09(18)	
		5				
Cd(1)-O(1)	2.468(3)	Cd(1)-O(4)	2.402(3)	Cd(1)–O(3)i	2.363(3)	
Cd(1)–O(4)i	2.402(3)	Cd(1)–O(6)ii	2.264(3)	Cd(1)–O(8)ii	2.341(3)	
Cd(1)–O(9)ii	2.387(3)	Cd(2)-O(1)	2.291(3)	Cd(2)–O(2)	2.487(4)	
Cd(2)–O(6)iii	2.339(3)	Cd(2)–O(10)	2.221(4)	Cd(2)–O(11)	2.281(3)	
Cd(2) - N(1)	2.285(5)					
O(6)iii–Cd(1)–O(8)ii	97.73(12)	O(3)i–Cd(1)–O(6)iii	94.32(12)	O(3)i–Cd(1)–O(8)ii	133.79(11)	
O(4)–Cd(1)–O(6)iii	146.01(11)	O(8)ii-Cd(1)-O(4)	88.94(11)	O(3)i-Cd(1)-O(4)	104.94(11)	
O(6)iii–Cd(1)–O(9)ii	125.94(11)	O(9)ii–Cd(1)–O(8)ii	55.01(11)	O(9)ii–Cd(1)–O(3)i	82.08(12)	
O(9)ii–Cd(1)–O(4)	84.92(12)	O(6)iii–Cd(1)–O(4)i	94.04(12)	O(8)ii–Cd(1)–O(4)i	164.07(10)	
O(3)i-Cd(1)-O(4)i	55.33(10)	O(4)i-Cd(1)-O(4)	75.34(12)	O(9)ii–Cd(1)–O(4)i	124.51(11)	
O(6)iii-Cd(1)-O(1)	74.03(10)	O(8)ii-Cd(1)-O(1)	85.74(11)	O(3)i-Cd(1)-O(1)	140.38(11)	
O(1)-Cd(1)-O(4)	73.29(10)	O(9)ii-Cd(1)-O(1)	135.57(11)	O(4)i-Cd(1)-O(1)	87.23(10)	
O(10)–Cd(2)–O(11)	96.08(14)	O(10)-Cd(2)-N(1)	95.54(17)	O(11)-Cd(2)-N(1)	87.77(15)	
O(10)-Cd(2)-O(1)	148.10(14)	O(1)-Cd(2)-O(11)	99.65(13)	N(1)-Cd(2)-O(1)	112.58(15)	
O(10)–Cd(2)–O(6)iii	87.66(12)	O(11)–Cd(2)–O(6)iii	175.73(13)	N(1)-Cd(2)-O(6)iii	93.95(13)	
O(1)-Cd(2)-O(6)iii	76.08(11)	O(10)-Cd(2)-O(2)	100.63(13)	O(11)-Cd(2)-O(2)	82.21(13)	
N(1)-Cd(2)-O(2)	161.76(13)	O(1)-Cd(2)-O(2)	54.83(11)	O(6)iii–Cd(2)–O(2)	95.09(12)	
$\frac{1}{2} Summatry adds; (1) i: u + 1, u = ii: u + 1, u + 1, z; (2) i: u + 1, u = ii: u + 1, u + 1, z; (2) i: u - 1, u = ii: u + 1, z; (1) i: u + 1, u = 1, $						

^{*a*} Symmetry codes: (1) i: x + 1, y, z; ii: x + 1, y + 1, z; (2) i: x + 1, y, z; ii: x + 1, y + 1, z; (3) i: x - 1, y, z; ii: x, y + 1, z; (4) i: x + 1, y, z; ii: x + 1, y + 1, z; iii: x + 1, y + 2, -z + 1; ii: -x + 1, -y + 1, -z + 2; iii: x, y, z - 1.

Table S2 Hydrogen bonds in crystal packing [Å, °] for 4 and 5.

Compound	D–H…A	<i>d</i> (D–H)	<i>d</i> (H···A)	<i>d</i> (D···A)	∠DHA	Symmetry code
4	O(10)–H(1W)···O(7)	0.850	1.866	2.716	179.58	-x + 1, -y, -z + 1
	O(10)-H(2W)···O(12)	0.850	2.016	2.866	179.72	-x+2, -y+1, -z+1
	O(11)-H(4W)…N(4)	0.850	1.849	2.699	178.08	x, y - 1, z
	O(12)–H(5W)···O(6)	0.850	2.049	2.899	179.09	<i>x</i> , <i>y</i> + 1, <i>z</i>
	O(12)-H(6W)…O(13)	0.884	1.880	2.752	168.59	x + 1, y, z
	O(13)–H(7W)···O(2)	0.850	2.125	2.975	179.60	x - 1, y, z
	O(13)–H(8W)···O(7)	0.900	2.490	3.386	174.09	<i>x</i> , <i>y</i> + 1, <i>z</i>
5	O(10)–H(1W)···O(8)	0.850	1.872	2.722	179.20	x + 1, y, z - 1
	O(11)–H(3W)···O(9)	0.849	1.865	2.693	164.50	-x+2, -y+1, -z+2
	O(11)-H(4W)···O(1)	0.829	2.271	3.057	158.49	-x+2, -y+2, -z+1



Fig. S1. TGA curves for 1–5.



Fig. S2. PXRD patterns of compounds 1–5 at room temperature. Black paterns correspond to the experimental data obtained using the as-synthesized bulk samples. Red patterns were simulated from the single crystal X-ray data.



Fig. S3. Kubelka-Munk-transformed diffuse reflectance spectra for 1–5.



Fig. S4. Time-dependent UV-Vis spectra of the reaction mixture in the course of the MB photodegradation (blank test without catalyst). Reaction conditions: 100 mL aqueous solution, MB (1 mg), under 125 W Hg lamp irradiation.



Fig. S5. Time-dependent UV-Vis spectra of the reaction mixture in the course of the MB photodegradation catalyzed by H_4 deta (blank test). Reaction conditions: H_4 deta (50 mg), 100 mL aqueous solution, MB (1 mg), under 125 W Hg lamp irradiation.



Fig. S6. Time-dependent UV-Vis spectra of the reaction mixtures in the course of the MB photodegradation catalyzed by 4,4'-bipy (blank test). Reaction conditions: 4,4'-bipy (50 mg), 100 mL aqueous solution, MB (1 mg), under 125 W Hg lamp irradiation.



Fig. S7. Time-dependent UV-Vis spectra of the reaction mixtures in the course of the MB photodegradation catalyzed by 1–3 and 5. Reaction conditions: catalyst (50 mg), 100 mL aqueous solution, MB (1 mg), under 125 W Hg lamp irradiation.



Fig. S8. Relationship between lg[c] and reaction time in the course of the MB photodegradation catalyzed by 4. The red line corresponds to a linear fit. Reaction conditions: catalyst (50 mg), 100 mL aqueous solution, MB (1 mg), under 125 W Hg lamp irradiation.



Fig. S9. Alternative topological view of a binodal 3,6-connected 2D layer with a 3,6L66 topology in 1; rotated view along the *b* axis; 3-connected Mn centers (green balls), centroids of μ_6 -deta⁴⁻ blocks (gray).



Fig. S10. Alternative topological views of a trinodal 4,4,5-connected 3D net in 4 with a unique topology; representation along the *a* (a) and *c* (b) axis; 2-connected Cd3 and 4-connected Cd1/Cd2 centers (turquoise balls), centroids of 5-connected μ_5 -deta⁴⁻ blocks (gray), centroids of 2-connected μ_4 ,4'-bipy linkers (blue).



Fig. S11. Alternative topological view of a binodal 4,6-connected layer in 5 with a 4,6L45 topology; rotated view along the *b* axis; 4-connected Cd1 and 2-connected Cd2 centers (turquoise balls), centroids of μ_6 -deta⁴⁻ blocks (gray).