Electronic Supplementary Material for CrystEngComm

Coordination polymers constructed by linking metal ions with azodibenzoate anions

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Supplementary Information

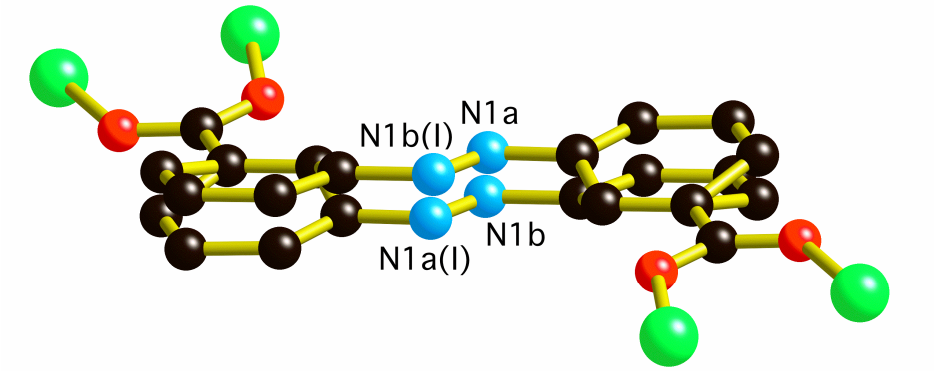

Figure S1. The two orientations of the disordered 3,3'-ADB ligand in compound **6** [Zn(3,3'-ADB)(CH_3CH_2OH)]. An inversion centre lies at the midpoint of the four nitrogen positions. Symmetry code I: 3/2-*x*, 1/2-*y*, 3-*z*.

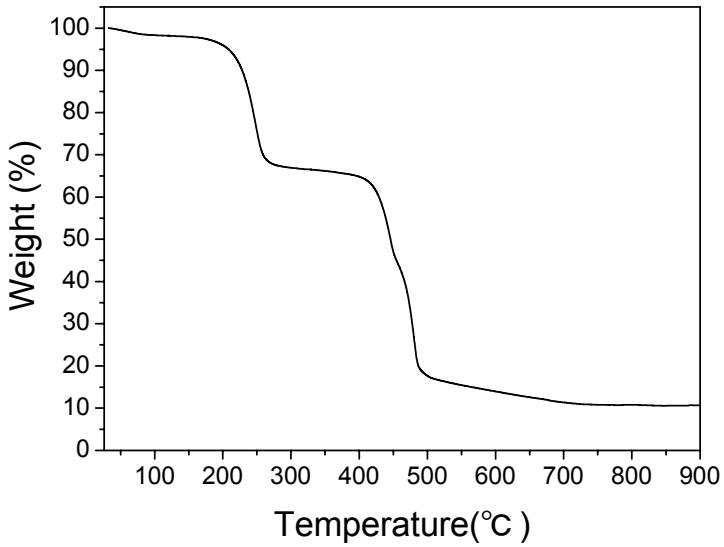

Figure S2. Thermogravimetric analyses for compound **3**.

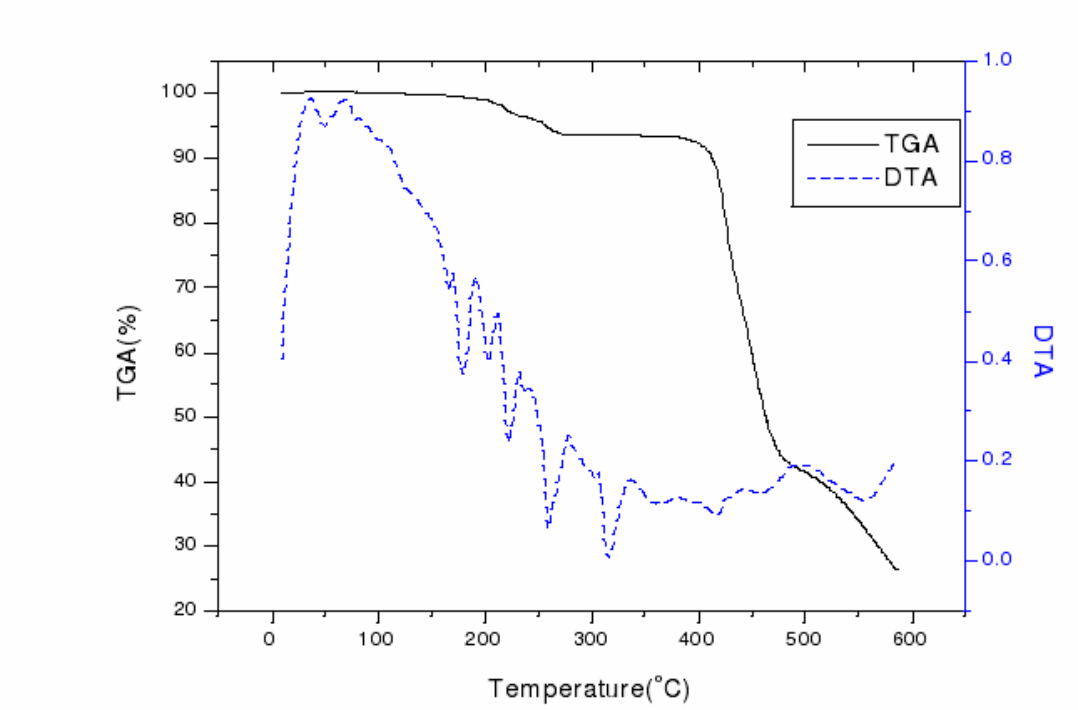

Figure **S3**. Thermogravimetric analyses for compound **4**.

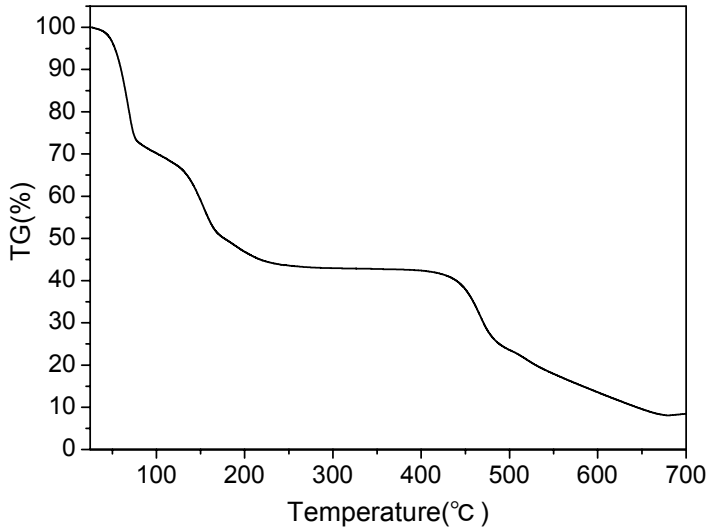

Figure **S4**. Thermogravimetric analyses for compound **5**.

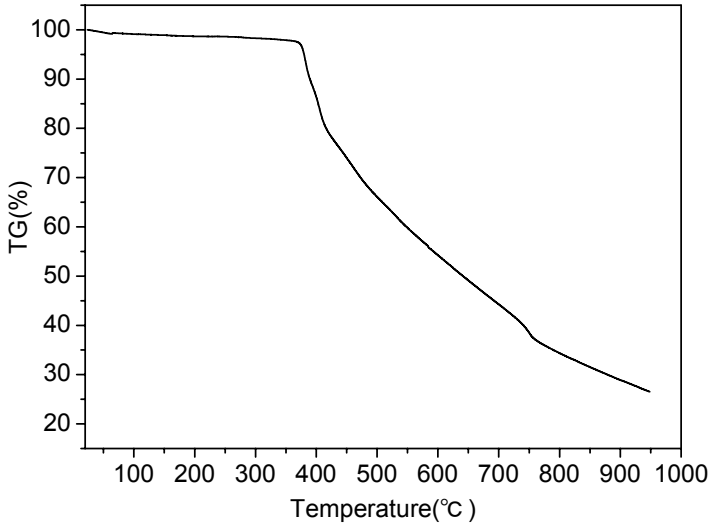

Figure **S5**. Thermogravimetric analyses for compound **7**.

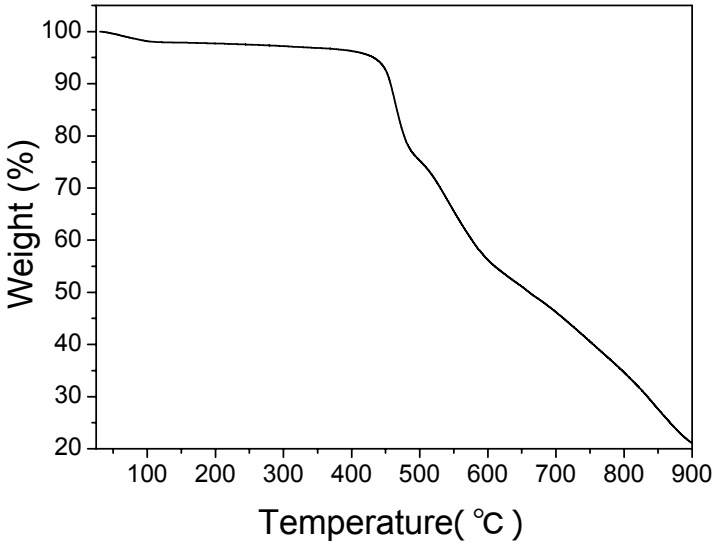

Figure **S6**. Thermogravimetric analyses for compound **9.**

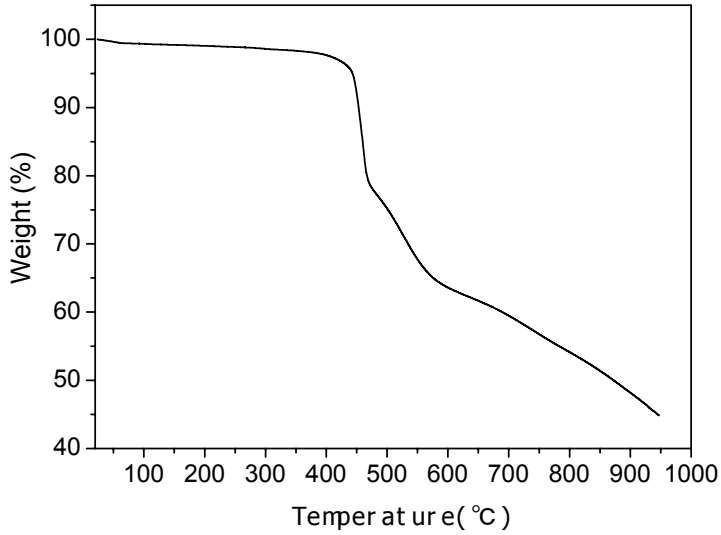

Figure **S7**. Thermogravimetric analyses for compound **10.**

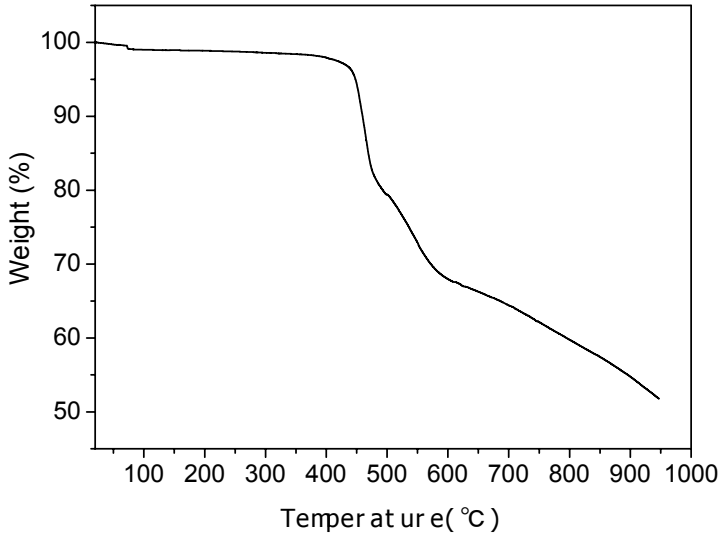

Figure **S8**. Thermogravimetric analyses for compound **11.**

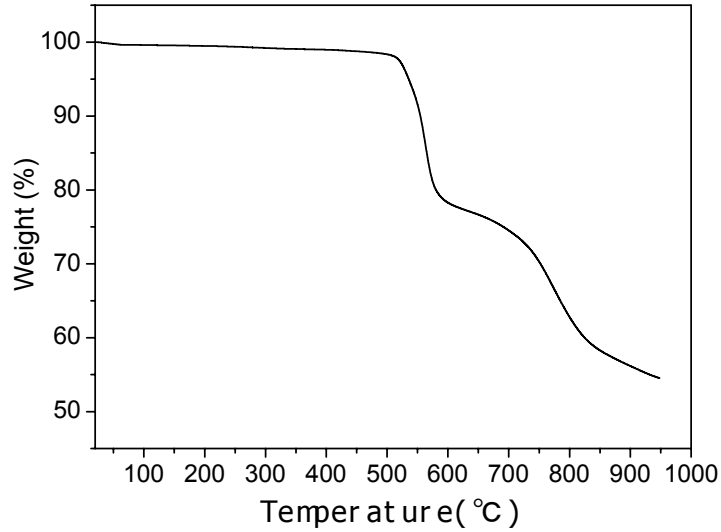

Figure **S9**. Thermogravimetric analyses for compound **12.**

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Table **S1** Selected bond distances (Å) and angles (°) for compound **10**.

Bond	Distances	Bond	Distances
Sm(1)-O(1)	2.338(7)	Sm(1)-O(2)#1	2.286(7)
Sm(1)-O(3)#2	2.473(7)	Sm(1)-O(4)#2	2.456(7)
Sm(1)-O(5)	2.443(6)	Sm(1)-O(6)	2.437(6)
Sm(1)-N(1)	2.598(8)	Sm(1)-N(2)	2.551(8)
Bond	Angles	Bond	Angles
O(1)-Sm(1)-O(2)#1	89.9(2)	O(1) -Sm(1)-O(3) #2	154.4(2)
O(1)-Sm(1)- O(4)#2	150.6(2)	O(1)-Sm(1)- O(5)	80.7(2)
O(1)-Sm(1)-O(6)	81.8(2)	O(2)#1-Sm(1)- O(3)#2	111.0(2)
O(2)#1-Sm(1)- O(4)#2	78.6(2)	O(2)#1-Sm(1)- O(5)	135.5(2)
O(2)#1-Sm(1)-O(6)	81.7(2)	O(3)#2 -Sm(1)- O(4)#	52.8(2)
O(3)#2-Sm(1)-O(5)	74.0(2)	O(3)#2 -Sm(1)- O(6)	86.6(2)
O(4)#2-Sm(1)-O(5)	126.0(2)	O(4)#2 -Sm(1)- O(6)	122.3(3)
O(5) -Sm(1)- O(6)	54.0(2)	O(1)-Sm(1)-N(1)	77.9(3)
O(2)#1-Sm(1)-N(1)	87.5(3)	O(3)#2-Sm(1)-N(1)	116.4(3)
O(4)#2-Sm(1)-N(1)	74.7(3)	O(5)-Sm(1)-N(1)	131.6(3)
O(6)-Sm(1)-N(1)	156.9(3)	O(1)-Sm(1)-N(2)	93.9(3)
O(2)#1-Sm(1)-N(2)	148.7(3)	O(3)#2-Sm(1)-N(2)	76.1(3)
O(4)#2-Sm(1)-N(2)	83.1(3)	O(5)-Sm(1)-N(2)	75.6(2)
O(6)-Sm(1)-N(2)	129.6(2)	N(1)-Sm(1)-N(2)	63.2(3)

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

Table **S2** Selected bond distances (Å) and angles (°) for compound **11**.

Bond	Distances	Bond	Distances
Er(1)-O(1)	2.261(11)	Er(1)-O(2)#1	2.239(12)
Er(1)-O(3)#2	2.420(10)	Er(1)-O(4)#2	2.402(11)
Er(1)-O(5)	2.387(10)	Er(1)-O(6)	2.368(11)
Er(1)-N(1)	2.520(13)	Er(1)-N(2)	2.514(14)
Bond	Angles	Bond	Angles
O(1)-Er(1)-O(2)#1	89.7(4)	O(1) -Er(1)-O(3)#2	154.5(4)
O(1)-Er(1)- O(4)#2	149.8(4)	O(1)-Er(1)- O(5)	79.8(4)
O(1)-Er(1)-O(6)	84.6(4)	O(2)#1-Er(1)-O(3)#2	110.1(4)
O(2)#1-Er(1)-O(4)#2	77.6(4)	O(2)#1-Er(1)- O(5)	135.5(4)
O(2)#1-Er(1)- O(6)	81.1(4)	O(3)#2 -Er(1)-O(4)#2	54.1(4)
O(3)#2 - Er(1)-O(5)	74.8(4)	O(3)#2 -Er(1)- O(6)	82.9(4)
O(4)#2-Er(1)-O(5)	128.0(3)	O(4)#2 -Er(1)- O(6)	119.6(4)
O(5) -Er(1)- O(6)	55.0(4)	O(1)-Er(1)-N(1)	78.1(4)
O(2)#1-Er(1)-N(1)	85.6(4)	O(3)#2-Er(1)-N(1)	118.0(4)
O(4)#2-Er(1)-N(1)	73.7(4)	O(5)-Er(1)-N(1)	132.7(5)
O(6)-Er(1)-N(1)	158.2(4)	O(1) -Er(1)-N(2)	95.0(4)
O(2)#1-Er(1)-N(2)	148.5(4)	O(3)#2-Er(1)-N(2)	76.7(4)
O(4)#2-Er(1)-N(2)	82.9(4)	O(5)-Er(1)-N(2)	76.0(4)
O(6)-Er(1)-N(2)	130.4(4)	N(1)-Er(1)-N(2)	65.1(4)

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