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Co-btec 配合物的合成、结构及表面光电性能

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Syntheses, Structures, and Surface Photoelectric Properties of Co-btec Complexes

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表 S1 均苯四甲酸常见的配位模式

Table S1 The familiar coordination modes of the betc

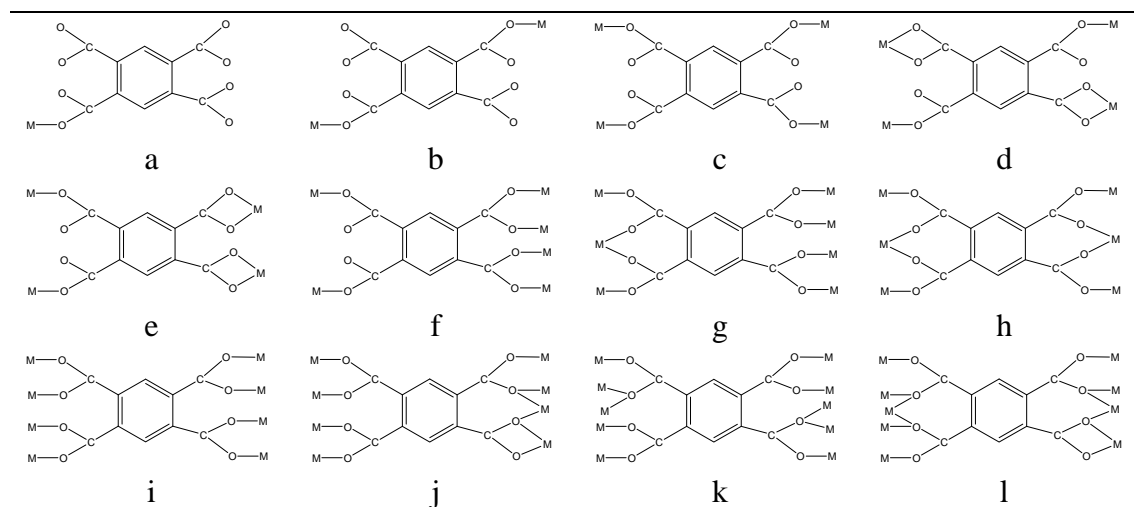


表 S2 化合物的主要键长和键角(°)

Table S2 Selected bond lengths (nm) and bond angles (°) for the complexes

Complex 1					
Co(1)-O(2)	0.21065(13)	O(2)-Co(1)-O(2)#1	180.00(7)	O(2)-Co(1)-O(1)#1	93.51(5)
Co(1)-O(2)#1	0.21065(13)	O(2)-Co(1)-O(2)#2	86.40(8)	O(2)#1-Co(1)-O(1)#1	86.49(5)
Co(1)-O(2)#2	0.21065(13)	O(2)#1-Co(1)-O(2)#2	93.60(8)	O(2)#2-Co(1)-O(1)#1	86.49(5)
Co(1)-O(2)#3	0.21065(13)	O(2)-Co(1)-O(2)#3	93.60(8)	O(2)#3-Co(1)-O(1)#1	93.51(5)
Co(1)-O(1)#1	0.21290(19)	O(2)#1-Co(1)-O(2)#3	86.40(8)	O(2)-Co(1)-O(1)	86.49(5)
Co(1)-O(1)	0.21290(19)	O(2)#2-Co(1)-O(2)#3	180.00(5)	O(2)#1-Co(1)-O(1)	93.51(5)
O(2)#2-Co(1)-O(1)	93.51(5)	O(2)#3-Co(1)-O(1)	86.49(5)	O(1)#1-Co(1)-O(1)	180.000(5)
Symmetry code: #1 -x,-y,-z #2 -x,y,-z #3 x,-y,z #4 -x,y,-z+1 #5 x,-y+1,z					
Complex 2					
Co-O(2)	0.20653(16)	O(2)-Co-N(1)	95.51(7)	O(2)-Co-O(1)	87.99(6)
Co-N(1)	0.21153(17)	O(2)-Co-O(3)	90.78(6)	N(1)-Co-O(1)	93.80(6)
Co-O(3)	0.21248(14)	N(1)-Co-O(3)	170.57(6)	O(3)-Co-O(1)	93.44(6)
Co-O(4)	0.21248(14)	O(2)-Co-O(4)	175.50(6)	O(4)-Co-O(1)	92.85(5)
Co-O(1)	0.21392(13)	N(1)-Co-O(4)	88.85(6)	O(2)-Co-N(2)	86.37(6)
Co-N(2)	0.21394(16)	O(3)-Co-O(4)	84.76(6)	N(1)-Co-N(2)	76.90(7)
O(3)-Co-N(2)	96.55(6)	O(4)-Co-N(2)	93.54(6)	O(1)-Co-N(2)	168.59(6)
Complex 3					
Co(1)-O(2)	0.17345(18)	O(2)-Co(1)-N(1)	89.90(9)	N(1)-Co(1)-N(2)	86.11(9)
Co(1)-O(1)	0.17530(17)	O(1)-Co(1)-N(1)	95.29(10)	O(3)-Co(1)-N(2)	89.21(8)
Co(1)-N(1)	0.2197(2)	O(2)-Co(1)-O(3)	82.70(8)	O(2)-Co(1)-O(6)	107.80(9)
Co(1)-O(3)	0.2291(2)	O(1)-Co(1)-O(3)	91.85(9)	O(1)-Co(1)-O(6)	76.75(9)

Co(1)-N(2)	0.2405(3)	N(1)-Co(1)-O(3)	171.79(7)	N(1)-Co(1)-O(6)	85.55(8)
Co(1)-O(6)	0.2448(3)	O(2)-Co(1)-N(2)	81.01(10)	O(3)-Co(1)-O(6)	100.06(7)
O(2)-Co(1)-O(1)	173.40(12)	O(1)-Co(1)-N(2)	95.24(9)	N(2)-Co(1)-O(6)	167.84(7)

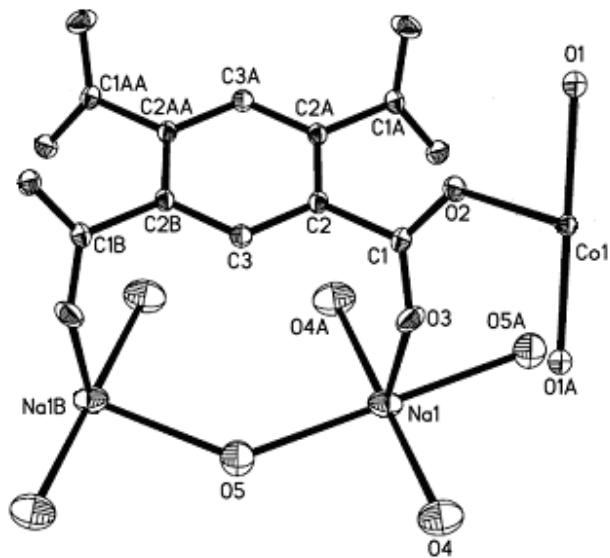


图 S1 配聚物(1)的构建单元

Fig.S1 The building unit of the complex (1)

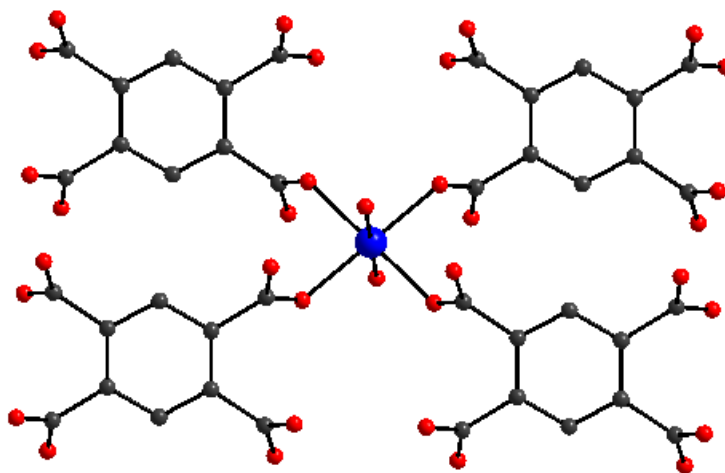


图 S2 配聚物 1 中 Co 离子的配位模式

Fig.S2 The coordination modes of Co ion in complex (1)

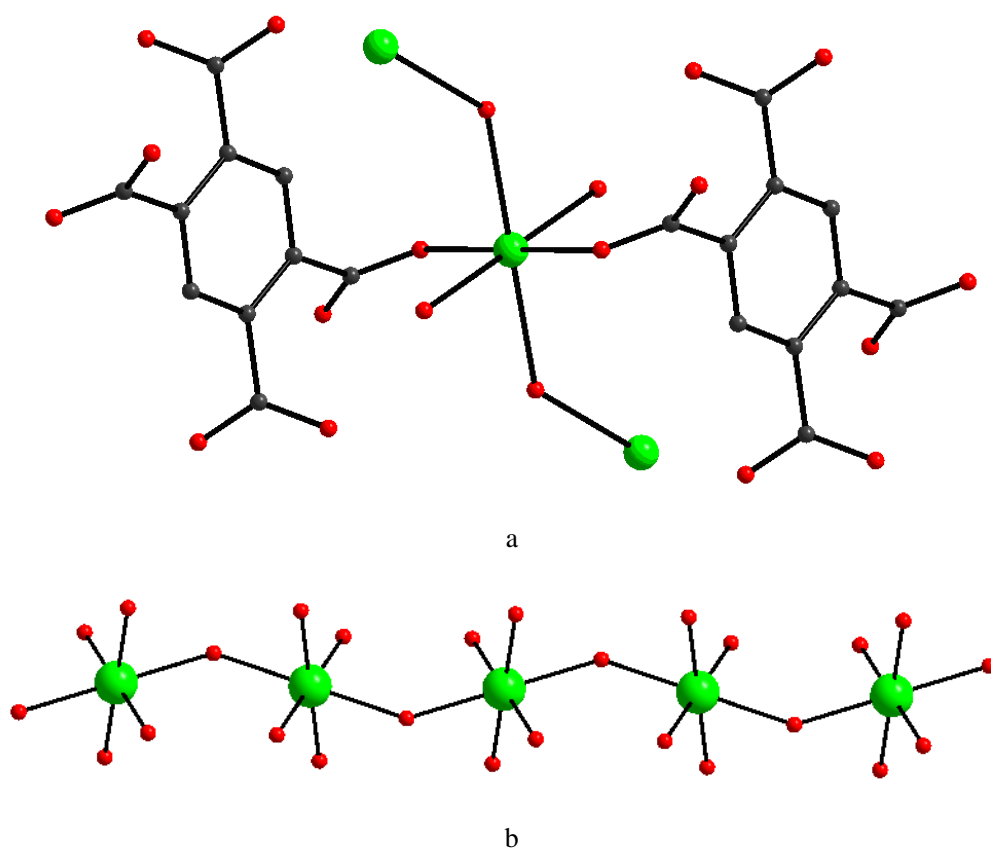


图 S3 配聚物 1 中 Na 离子的配位模式

Fig.S3 The coordination modes of Na ion in complex (1)

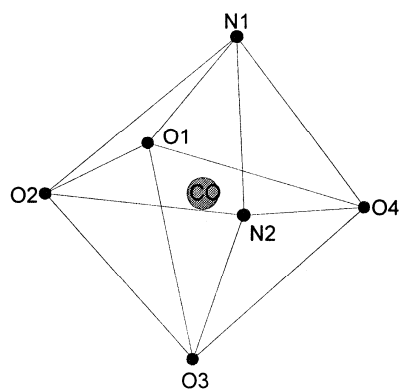


图 S4 化合物 (2) 中 Co(II)离子周围的配位多面体

Fig. S4 The coordinated polyhedron structure of Co(II) in complex (2)

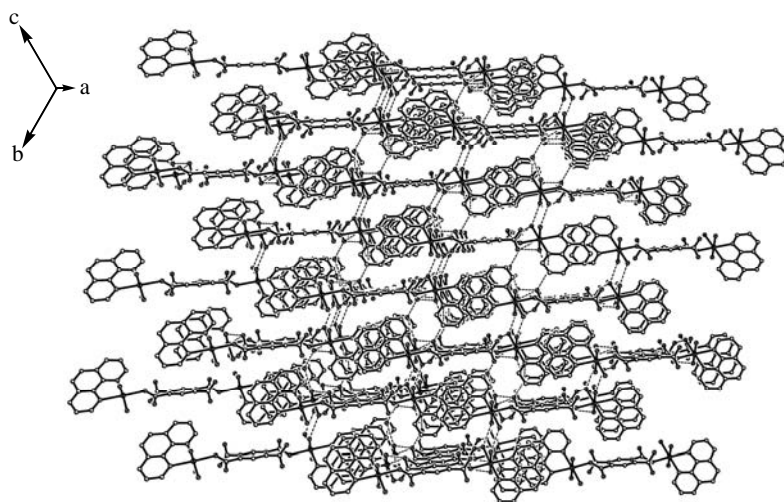


图 S5 化合物(3)的3D网络结构

Fig.S5 The 3D structure of complex (3)

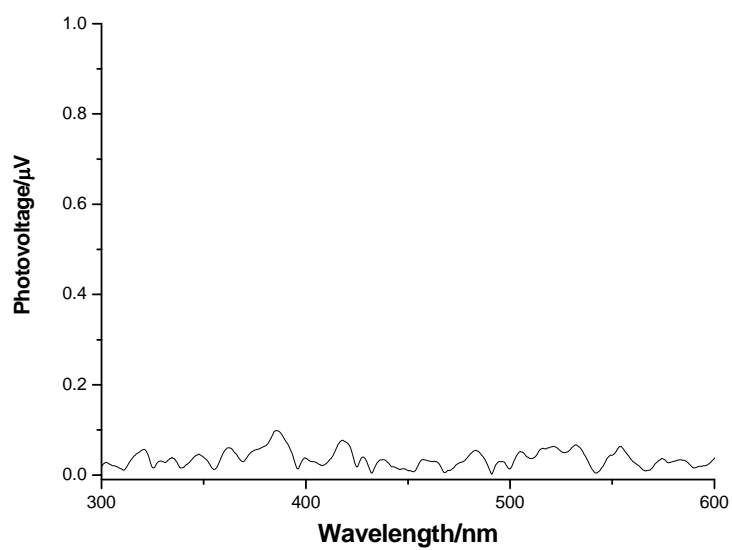


图 S6 $\text{Co}(\text{NO}_3)_3$ 的表面光电压谱图

Fig.S6 The SPS of $\text{Co}(\text{NO}_3)_3$

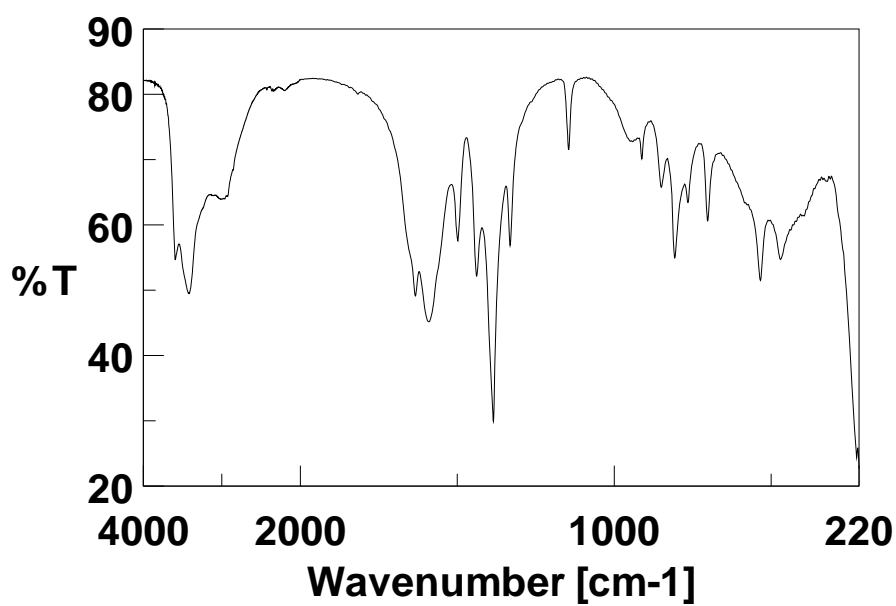


图 S7 配聚物 1 的红外光谱

Fig.S7 The IR spectra of complex (1)

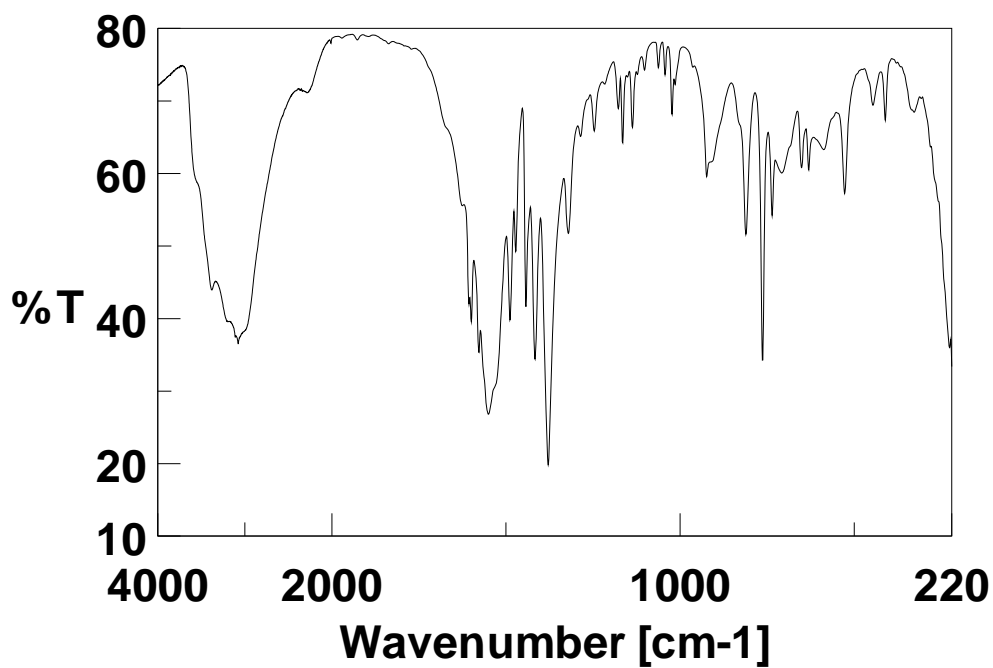


图 S8 配聚物 2 的红外光谱

Fig.S8 The IR spectra of complex (2)

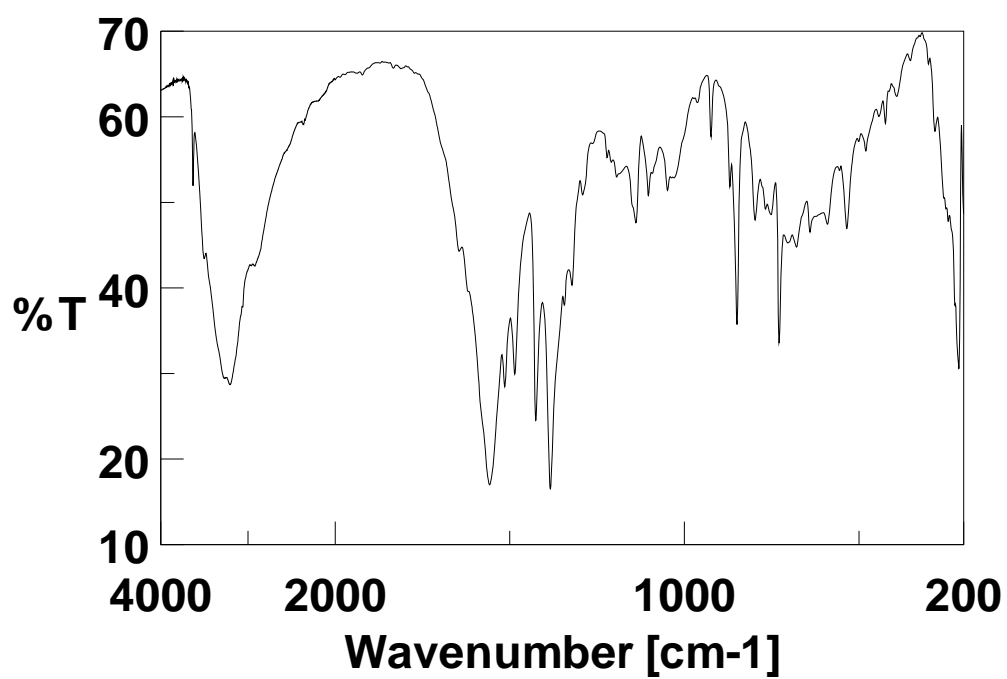


图 S9 配聚物 3 的红外光谱

Fig.S9 The IR spectra of complex (3)