

Table S1. Selected bond [\AA] and angles [$^\circ$] for **Co-MOFs**.

Table S2. Effect of the reaction temperature and time for the oxidative coupling reaction.

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Co1-O1	2.154(3)	Co1-O2	2.193(4)
Co1-O3#1	2.019(4)	Co1-O4#1	2.060(3)
Co1-N1	2.118(3)	Co1-N2	2.159(3)
O1-Co1-N1	98.70(12)	O3#1-Co1-O4#2	119.66(14)
O3#2-Co1-N1	92.20(13)	O4#2-Co1-N1	89.77(12)
O3#1-Co1-O1	89.16(14)	O4#2-Co1-O1	149.75(14)
O3#1-Co1-N2	89.22(14)	O4#2-Co1-N2	84.97(12)
N1-Co1-N2	174.56(13)	O1-Co1-N2	86.56(12)
O3#1-Co1-O2	148.93(12)	O4#2-Co1-O2	91.41(13)
N1-Co1-O2	87.48(14)	O1-Co1-O2	60.28(12)
N2-Co1-O2	94.01(14)		
Symmetry codes for Co-MOF-1 : #1 $-x+y+2/3, -x+1/3, z+1/3$; #2 $x-y+1/3, x-1/3, -z+5/3$.			
Co1-O1#1	1.997(3)	Co1-O2	1.998(3)
Co1-O3#3	2.201(3)	Co1-O4#3	2.249(3)
Co1-N1	2.153(3)	Co1-N3#2	2.147(3)
O1#1-Co1-O2	120.73(13)	O1#1-Co1-N3#2	93.43(12)
O2-Co1-N3#2	88.97(12)	O1#1-Co1-N1	88.68(12)
O2-Co1-N1	88.01(12)	N3#2-Co1-N1	176.91(12)
O1#1-Co1-O3#3	87.21(13)	O2-Co1-O3#3	151.40(13)
N3#2-Co1-O3#3	95.77(12)	N1-Co1-O3#3	86.59(12)
O1#1-Co1-O4#3	146.25(12)	O2-Co1-O4#3	92.61(12)
N3#2-Co1-O4#3	92.16(12)	N1-Co1-O4#3	87.32(12)
O3#3-Co1-O4#3	59.11(12)		
Symmetry code for Co-MOF-2 : #1 $-x+1/2, -y+1/2, -z$; #2			

x-1/2, -y+1/2, z-1/2; #3 -x+1/2, y+1/2, -z+1/2.			
Co1-O3#1	2.199(3)	Co1-O4#1	2.178(3)
Co1-O1	2.008(3)	Co1-O2#2	2.048(2)
Co1-N1	2.160(3)	Co1-N2	2.137(3)
O1-Co1-O2#2	118.29(11)	O1-Co1-N2	92.53(12)
O2#2-Co1-N2	89.92(10)	O1-Co1-N1	89.55(11)
O2#2-Co1-N1	85.13(10)	N2-Co1-N1	175.04(10)
O3#1-Co1-O2#2	150.15(12)	O2#2-Co1-O4#1	92.18(11)
N2-Co1-O4#1	87.55(12)	N1-Co1-O4#1	92.94(12)
O3#1-Co1-O1	90.20(12)	O4#1-Co1-O3#1	59.70(11)
N2-Co1-O3#1	98.00(11)	N1-Co1-O3#1	86.49(11)
Symmetry code for Co-MOF-3 : #1 -x+y+2/3, -x+4/3, z+1/3; #2 -x+4/3, -y+5/3, -z+2/3.			
Co1-O1	2.0001(10)	Co1-O2#1	2.0082(8)
Co1-O6#2	2.1219(8)	Co1-O5#2	2.2833(10)
Co1-N1	2.1756(11)	Co1-N2#2	2.1627(12)
Co2-O3	2.0810(8)	Co2-O7	2.1096(11)
Co2-N3#4	2.1633(11)		
O1-Co1-O2#1	113.13(4)	O1-Co1-O6#2	91.80(4)
O2#1-Co1-O6#2	154.95(4)	O1-Co1-N2#2	91.10(5)
O2#2-Co1-N2#2	89.43(4)	O6#2-Co1-N2#2	87.62(4)
O1-Co1-N1	89.20(5)	O2#1-Co1-N1	90.47(4)
O6#2-Co1-N1	92.34(4)	N2#2-Co1-N1	179.70(4)
O1-Co1-O5#2	150.93(4)	O2#1-Co1-O5#2	95.92(3)
O6#2-Co1-O5#2	59.25(3)	N2#2-Co1-O5#2	90.38(4)
N1-Co1-O5#2	89.34(4)	O3-Co2-O3#3	180.00(5)
O3-Co2-O7	88.94(4)	O3#3-Co2-O7	91.05(4)
O7-Co2-O7#3	180.0	O3-Co2-N3#4	91.21(4)
O3#3-Co2-N3#4	88.79(4)	O7-Co2-N3#4	89.33(5)

O7#3-Co2-N3#4	90.67(5)	N3#4-Co2-N3#5	180.0
Symmetry code for Co-MOF-4 : #1 -x+1, -y, -z+1; #2 -x, -y, -z+1; #3 -x+1, -y+1, -z; #4 -x, -y+1, -z+1; #5 x+1, y, z-1.			

Table S2 Effect of the reaction temperature and time for the oxidative coupling reaction.^a

Entry	Catalyst	Base	Temp.(°C)	Time (h)	Conv.(%) ^b
1				2	7
2	Co-MOF-4	KOH	rt.	6	30
3				12	50
4				2	13
5	Co-MOF-4	KOH	60	6	42
6				12	76
7				2	18
8	Co-MOF-4	KOH	100	6	54
9				8	73
10				2	48
11	Co-MOF-4	KOH	120	8	85
12				12	74

^a 1a (1.0 mmol), 2a (1.5 mmol), **Co-MOF-4** (0.2 mmol%), KOH (0.1 mmol), pyrene (100 μ L, as an internal standard), solvent-free conditions; ^b determined by GC-MS.