

Electronic Supplementary Information (ESI)

Tunable colors and white-light emission based on a microporous luminescent Zn(II)-MOF

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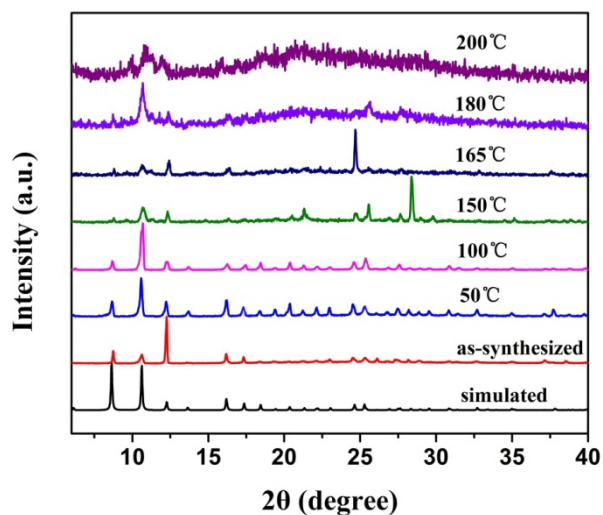


Fig. S1 The powder X-ray diffraction of JUC-113 at different temperatures.

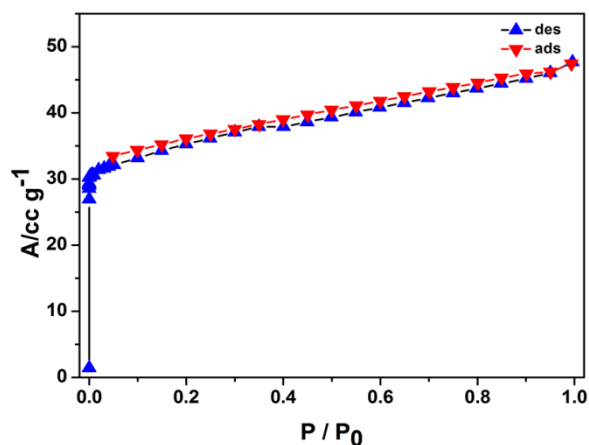


Fig. S2 N_2 sorption isotherms of the guest-free JUC-113 at 77 K, 1 atm.

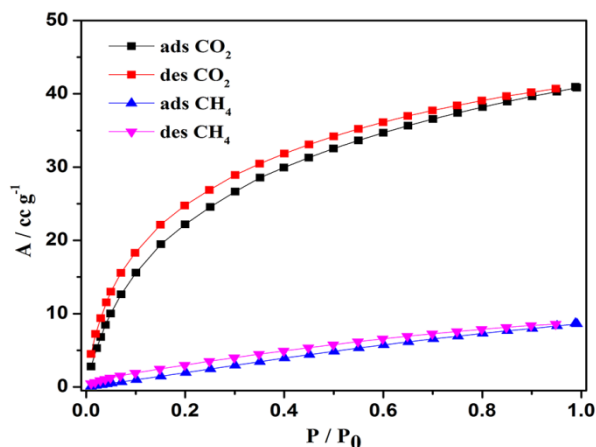


Fig. S3 Gas sorption isotherms of the guest-free JUC-113 for CO₂ and CH₄ at 273K.

Table S1 ICP analysis for Ln-encapsulated JUC-113

Sample	Element	Concentration	Ln: Zn	Ln percent in weight
JUC-113 ⊃ Tb1	Zn	14.5	1:100.69	/
	Tb	0.144	/	0.99
JUC-113 ⊃ Tb2	Zn	17.6	1:10.43	/
	Tb	1.687	/	9.59
JUC-113 ⊃ Eu1	Zn	16.5	1:24.8	/
	Eu	0.665	/	4.03
JUC-113 ⊃ Eu2	Zn	15.78	1:16.91	/
	Eu	0.933	/	5.91
JUC-113 ⊃ Ln1	Zn	15.6	1: 24.81	/
	Eu	0.164	1: 95.12	1.05
	Tb	0.244	1: 63.93	1.56
JUC-113 ⊃ Ln2	Zn	15.27	/	/
	Eu	0.576	1: 26.51	3.77
	Tb	0.423	1: 36.10	2.77

Table S2 Selected bond lengths (Å) and angles (deg) for JUC-113

bond lengths and angles		bond lengths and angles	
Zn(1)-O(1)#1	2.073(3)	Zn(1)-O(1)#2	2.073(3)
Zn(1)-O(1)#3	2.073(3)	Zn(1)-O(1)	2.073(3)
Zn(1)-O(1)#4	2.073(3)	Zn(1)-O(1)#5	2.073(3)

Zn(2)-O(2)#3	1.900(4)	Zn(2)-O(2)#5	1.900(4)
Zn(2)-O(2)	1.900(4)	Zn(2)-O(4)	1.979(10)
O(1)#1-Zn(1)-O(1)#2	94.22(18)	O(1)#1-Zn(1)-O(1)#3	87.2(2)
O(1)#2-Zn(1)-O(1)#3	84.4(2)	O(1)#1-Zn(1)-O(1)	84.4(2)
O(1)#2-Zn(1)-O(1)	178.07(19)	O(1)#3-Zn(1)-O(1)	94.22(18)
O(1)#1-Zn(1)-O(1)#4	94.22(18)	O(1)#2-Zn(1)-O(1)#4	94.22(18)
O(1)#3-Zn(1)-O(1)#4	178.07(19)	O(1)-Zn(1)-O(1)#4	87.2(2)
O(1)#1-Zn(1)-O(1)#5	178.07(19)	O(1)#2-Zn(1)-O(1)#5	87.2(2)
O(1)#3-Zn(1)-O(1)#5	94.22(18)	O(1)-Zn(1)-O(1)#5	94.22(18)
O(1)#4-Zn(1)-O(1)#5	84.4(2)	O(2)#3-Zn(2)-O(2)#5	117.36(7)
O(2)#3-Zn(2)-O(2)	117.35(7)	O(2)#5-Zn(2)-O(2)	117.35(7)
O(2)#3-Zn(2)-O(4)	99.46(13)	O(2)#5-Zn(2)-O(4)	99.46(13)
O(2)-Zn(2)-O(4)	99.46(13)		

Symmetry transformations used to generate equivalent atoms:

#1: -y+1, -x+1, -z+1/2; #2: x, x-y+1, -z+1/2; #3: -y+1, x-y+1, z; #4: -x+y, y, -z+1/2; #5: -x+y, -x+1, z; #6: -x+y, -x, z; #7: -y,

x-y, z.
