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Two novel porous MOFs with square-shaped cavities for removing toxic dyes: adsorption or degradation?

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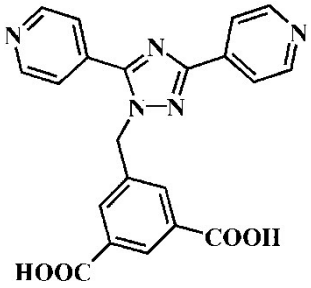
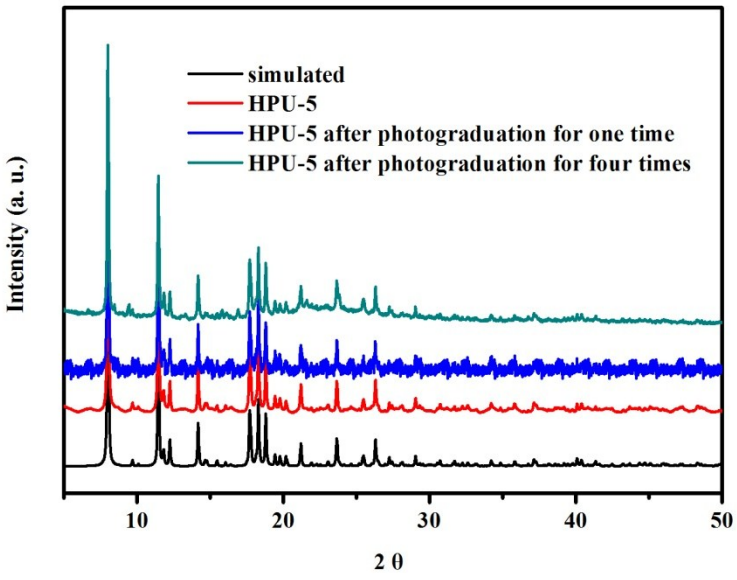


Scheme S1. The ligand used in this article.



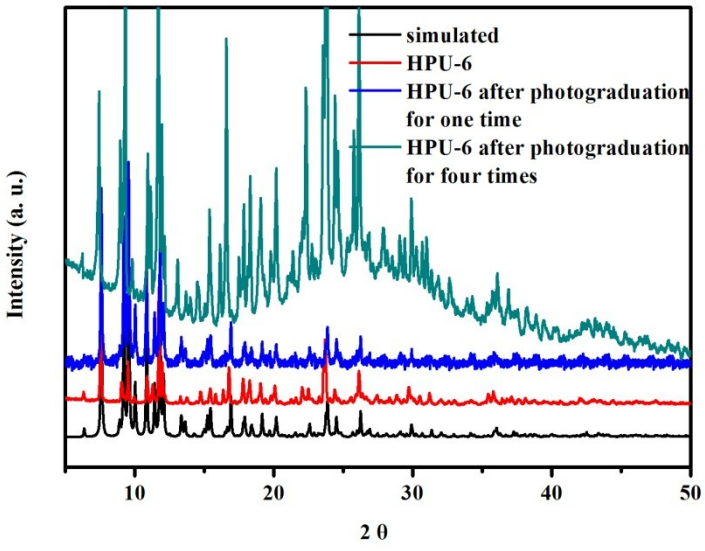


Figure S1 the XRD patterns of **HPU-5** and **HPU-6**.

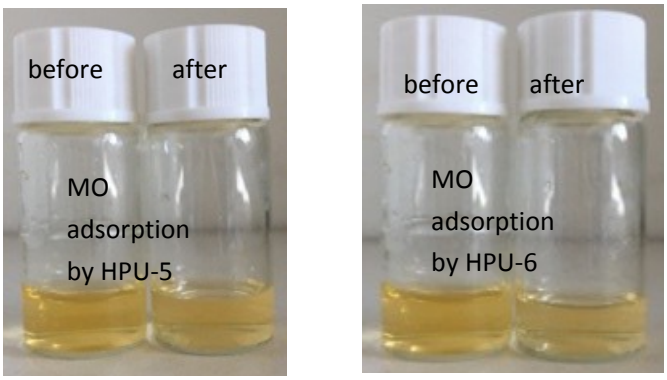


Figure S2 The photographs of MO solutions (before and after-adsorption by the two complexes).

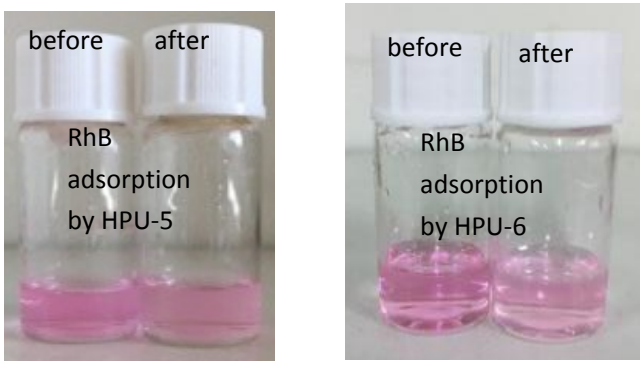


Figure S3 The photographs of RhB solutions (before and after-adsorption by the two complexes)

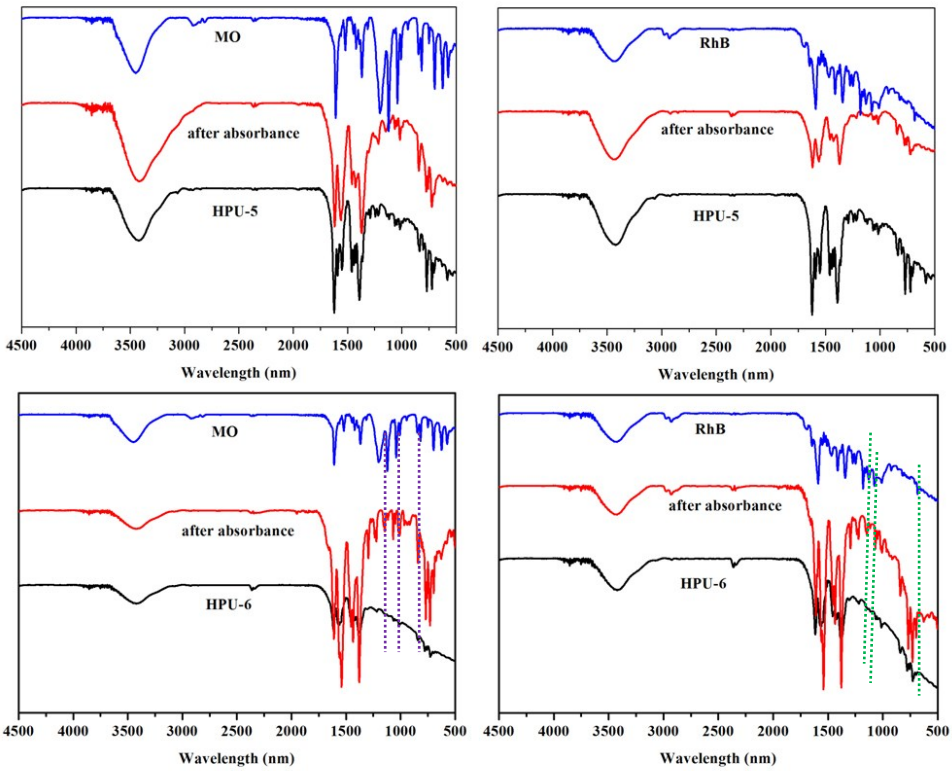


Figure S4 The IR spectra of respective products.

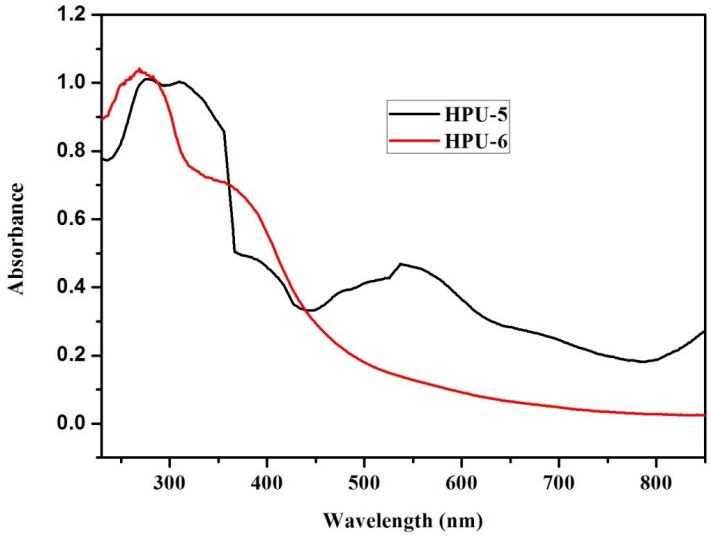


Figure S5 The UV-spectra of **HPU-5** and **HPU-6**.

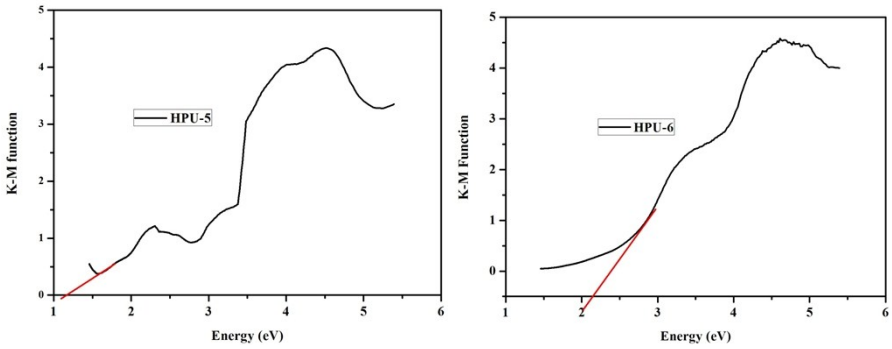


Figure S6 Kubelka-Munk-transformed diffuse reflectance of the two complexes.

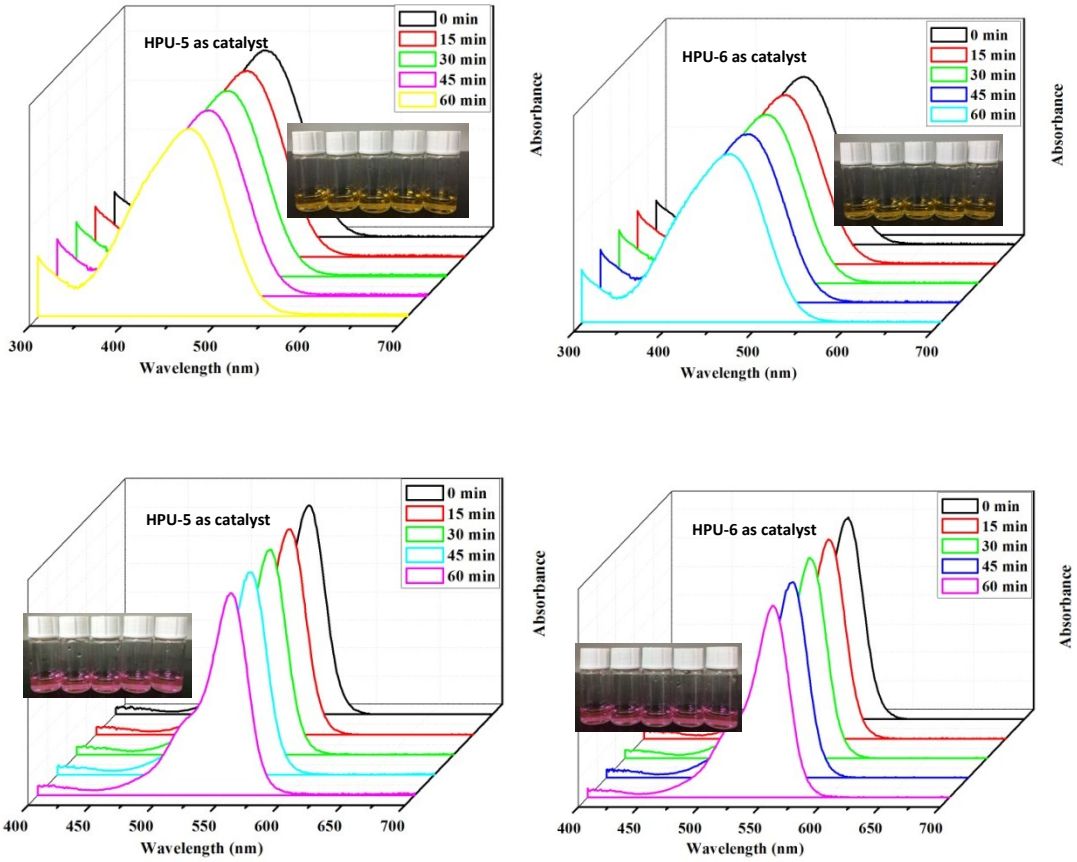


Figure S7 The time-dependent absorption spectra of MO and RhB using **HPU-5** and **HPU-6** as catalysts without UV light irradiation. Inset: the corresponding color variations of the supernatant solutions.

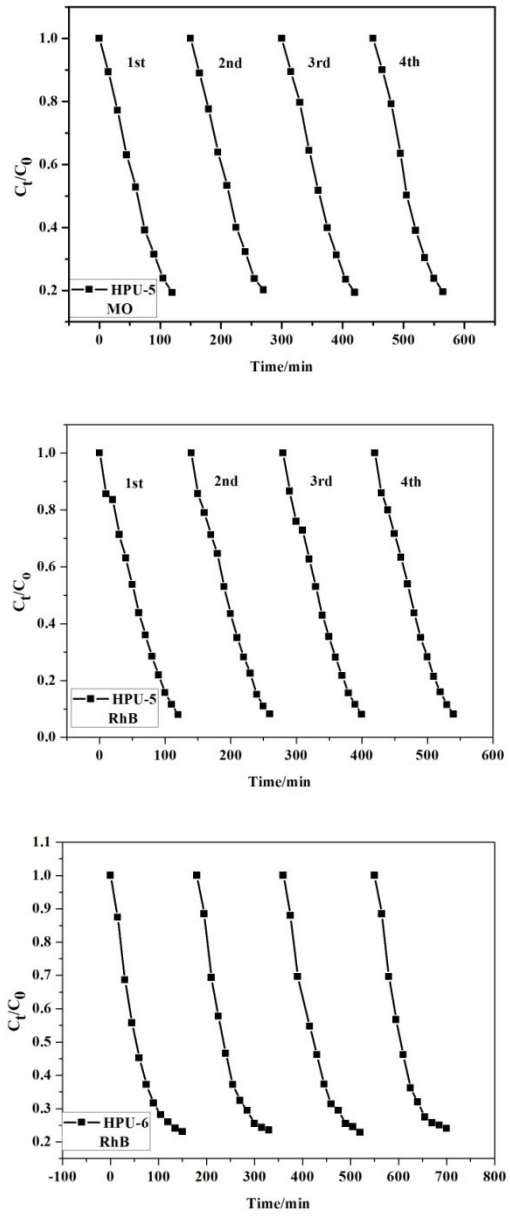


Figure S8 The recycle curves of **HPU-5** and **HPU-6.**

Table S1 Selected bonds (Å) and angles (deg) for **HPU-5** and **HPU-6**.

HPU-5			
Co(1)-O(1)	2.007(3)	Co(1)-O(2)#1	2.040(3)
Co(1)-O(3)#2	2.143(3)	Co(1)-N(1)#3	2.153(4)
Co(1)-N(5)#4	2.185(4)	Co(1)-O(4)#2	2.232(3)
O(1)-Co(1)-O(2)#1	104.67(14)	O(1)-Co(1)-O(3)#2	156.38(14)
O(2)#1-Co(1)-O(3)#2	98.56(13)	O(1)-Co(1)-N(1)#3	90.73(15)
O(2)#1-Co(1)-N(1)#3	89.24(15)	O(3)#2-Co(1)-N(1)#3	85.33(14)
O(1)-Co(1)-N(5)#4	96.14(16)	O(2)#1-Co(1)-N(5)#4	87.26(16)
O(3)#2-Co(1)-N(5)#4	89.08(15)	N(1)#3-Co(1)-N(5)#4	172.90(16)
O(1)-Co(1)-O(4)#2	96.55(13)	O(2)#1-Co(1)-O(4)#2	158.77(14)
HPU-6			
Mn(1)-O(3)	2.110(7)	Mn(1)-O(21)	2.116(8)
Mn(1)-O(6)	2.139(7)	Mn(1)-O(7)#1	2.230(8)
Mn(1)-N(10)#2	2.279(8)	Mn(1)-O(8)#1	2.299(8)
Mn(2)-O(4)	2.105(6)	Mn(2)-O(5)	2.098(6)
Mn(2)-N(5)#3	2.253(8)	Mn(2)-O(2)#4	2.253(7)
Mn(2)-N(13)#5	2.271(8)	Mn(2)-O(1)#4	2.271(8)
O(3)-Mn(1)-O(21)	88.8(4)	O(3)-Mn(1)-O(6)	126.2(3)
O(21)-Mn(1)-O(6)	86.2(3)	O(3)-Mn(1)-O(7)#1	89.8(3)
O(21)-Mn(1)-O(7)#1	93.4(4)	O(6)-Mn(1)-O(7)#1	143.9(3)
O(3)-Mn(1)-N(10)#2	86.4(3)	O(21)-Mn(1)-N(10)#2	169.2(4)
O(4)-Mn(2)-O(5)	122.6(3)	O(4)-Mn(2)-N(5)#3	91.8(3)
O(5)-Mn(2)-N(5)#3	86.3(3)	O(4)-Mn(2)-O(2)#4	148.2(3)
O(5)-Mn(2)-O(2)#4	89.2(3)	N(5)#3-Mn(2)-O(2)#4	90.3(3)
O(4)-Mn(2)-N(13)#5	91.9(3)	O(5)-Mn(2)-N(13)#5	87.4(3)
N(5)#3-Mn(2)-N(13)#5	173.7(3)	O(2)#4-Mn(2)-N(13)#5	89.2(3)
O(4)-Mn(2)-O(1)#4	90.6(3)	N(5)#3-Mn(2)-O(1)#4	90.7(3)
N(13)#5-Mn(2)-O(1)#4	94.4(3)	O(5)-Mn(2)-O(1)#4	146.7(3)

Symmetry transformations used to generate equivalent atoms: **HPU-5**: #1 -x,-y+1,-z+2 #2 x-1,y,z #3 x-1,y,z+1 #4 x-1,y+1,z. **HPU-6**: #1 x-1,y,z #2 x,-y+1/2,z+1/2 #3 -x+2,-y,-z+1 #4 x+1,y,z #5 x,-y+1/2,z-1/2.