Electronic Supplementary Material (ESI) for CrystEngComm.

Supporting Information

Efficient photodegradation of dyes by a new 3D Cd(II) MOF with rare fsh topology

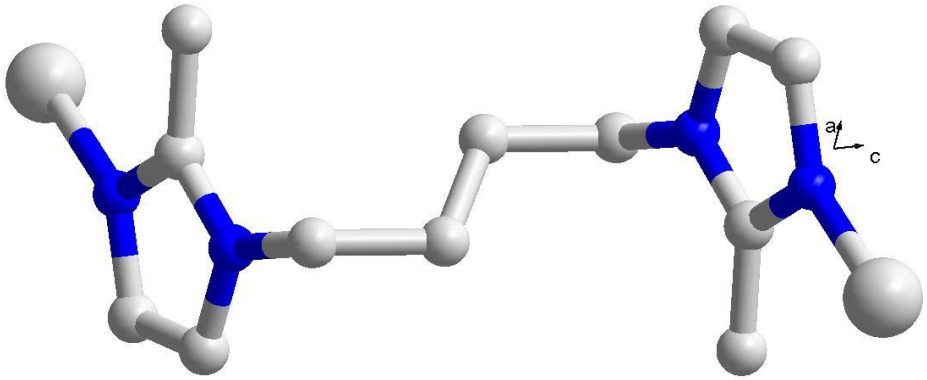

Fig. S1 view of the *trans* conformation of bmb.

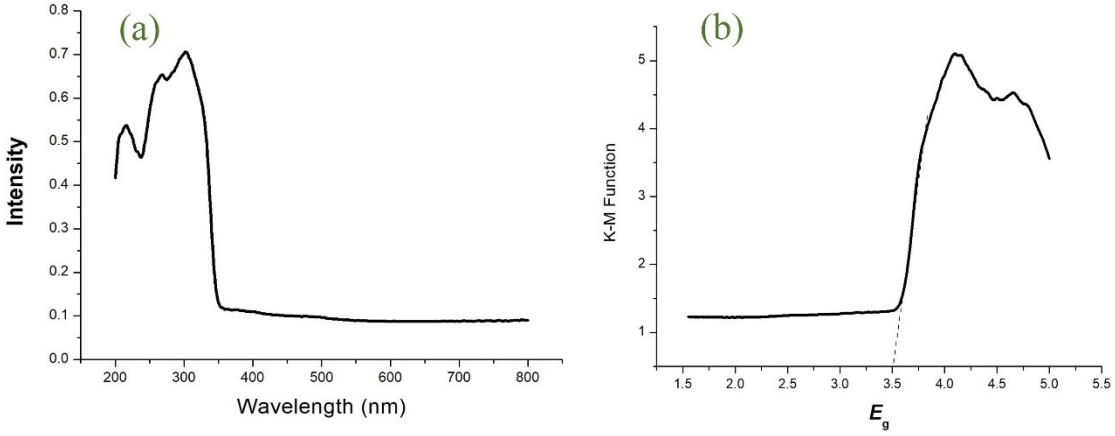

Fig. S2 UV-Vis diffuse-reflectance spectroscopy of 1.

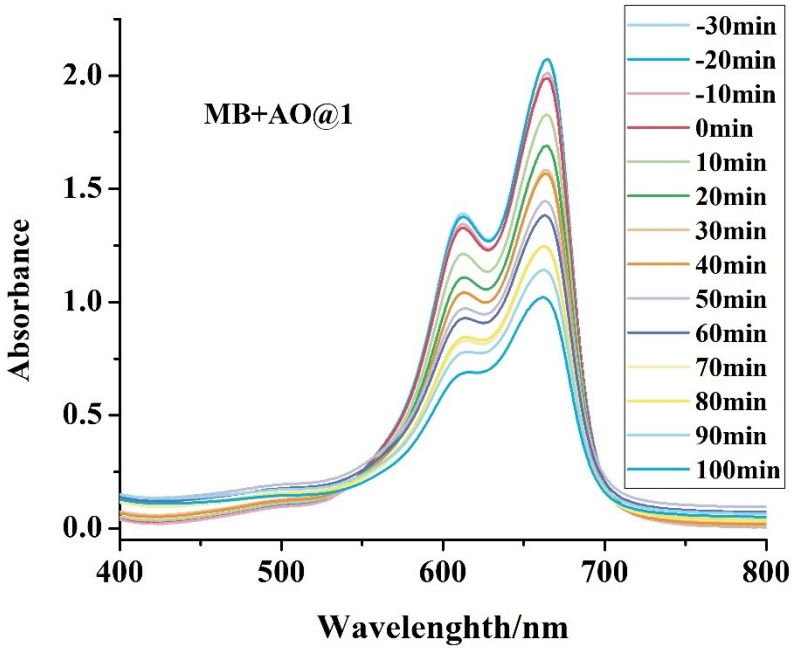

Fig. S3 the alternation of the adsorption intensity after adding different concentration MB/AO

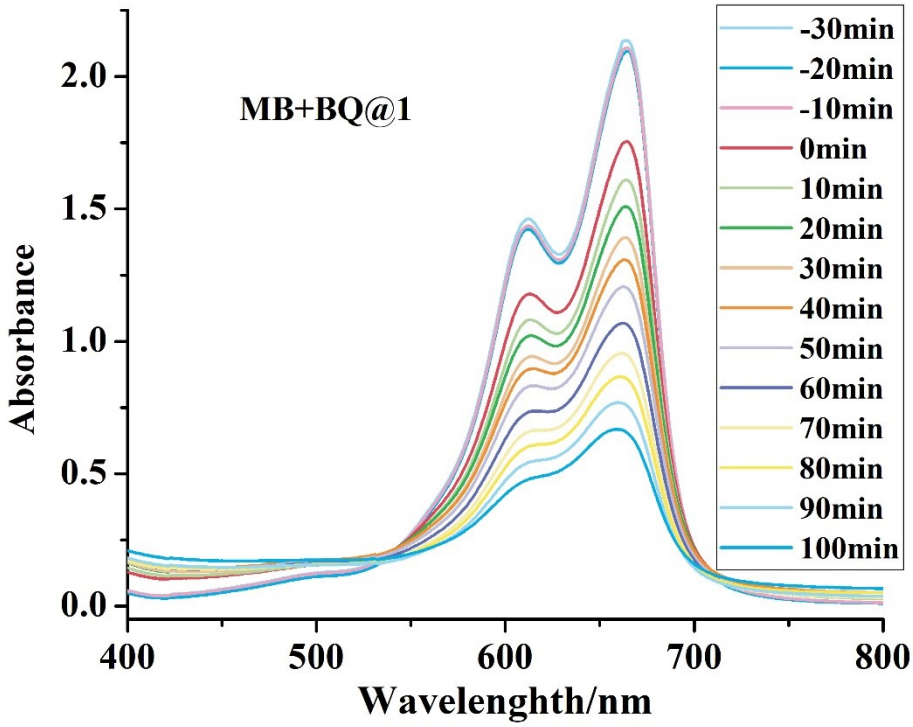

Fig. S4 the alternation of the adsorption intensity after adding different concentration MB/BQ

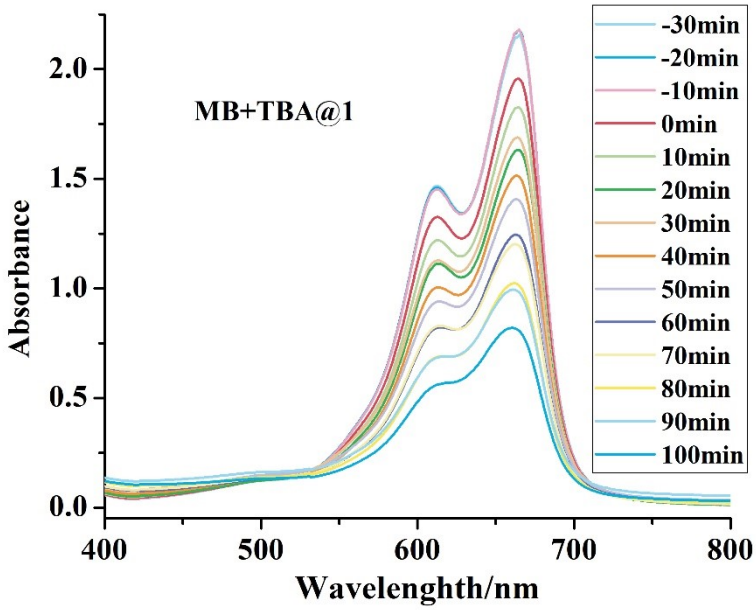

Fig. S5 the alternation of the adsorption intensity after adding different concentration MB/TBA

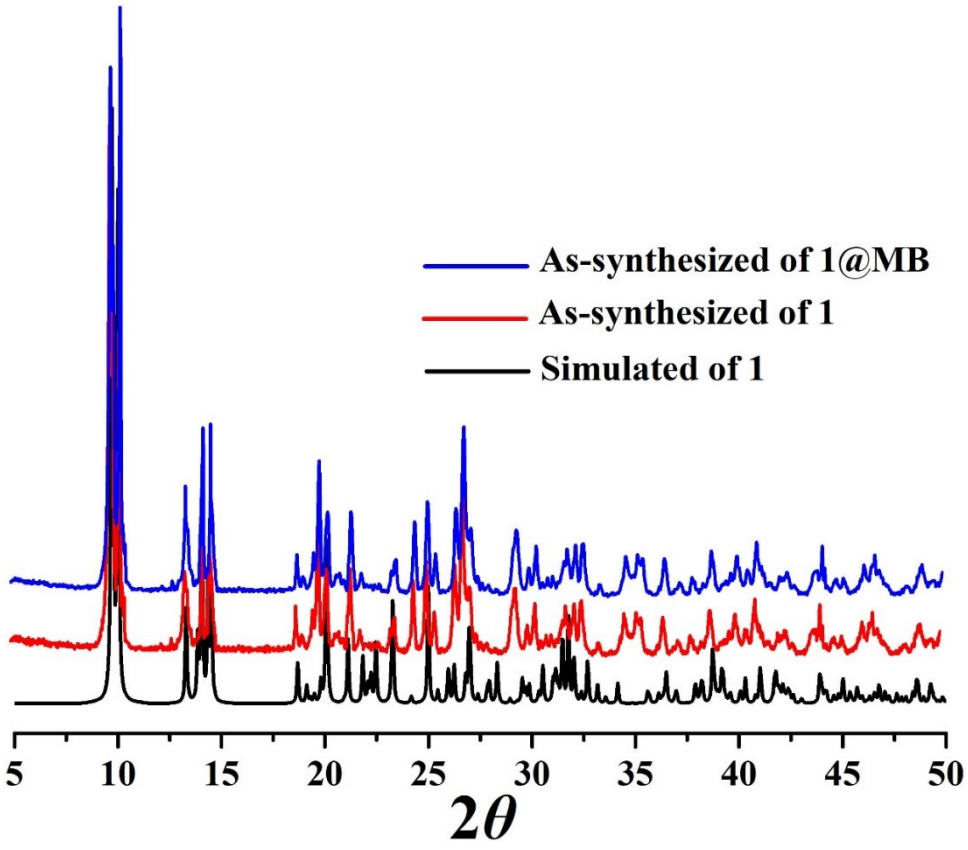

Fig. S6 These PXRD after photocatalytic degradation of MB repeatedly.

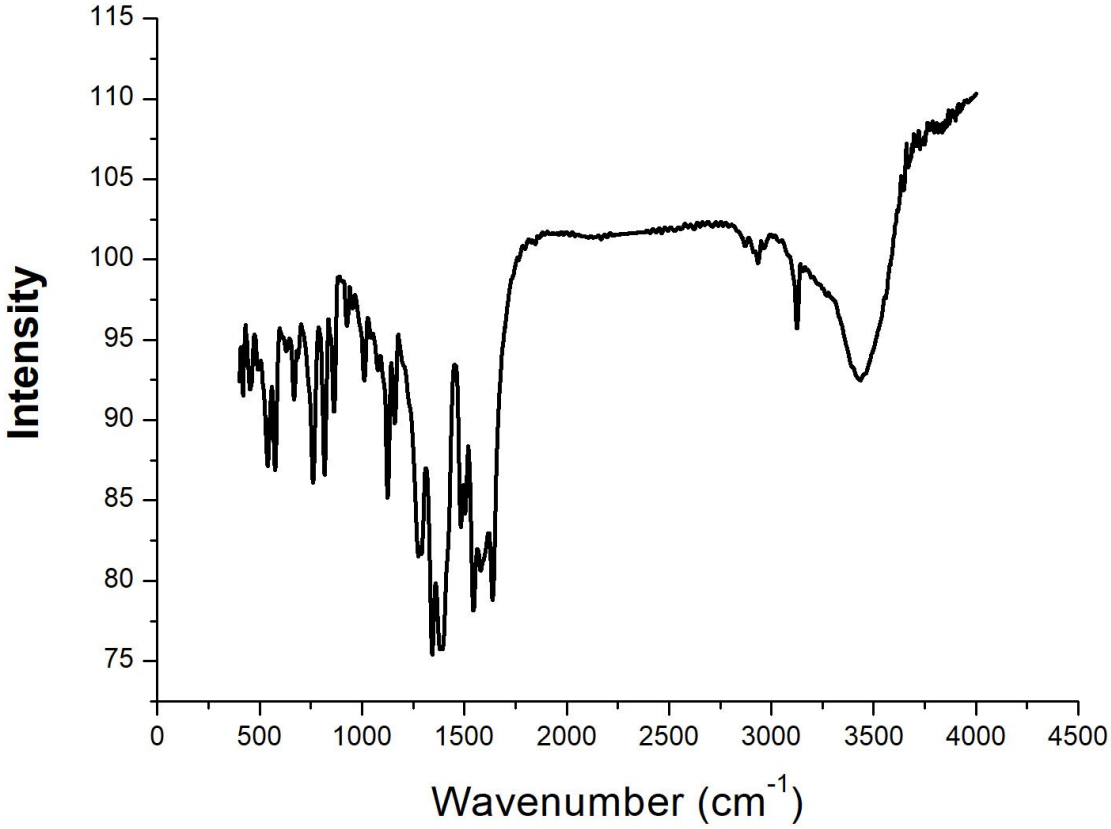

Fig. S7 IR of as-synthesized sample 1.

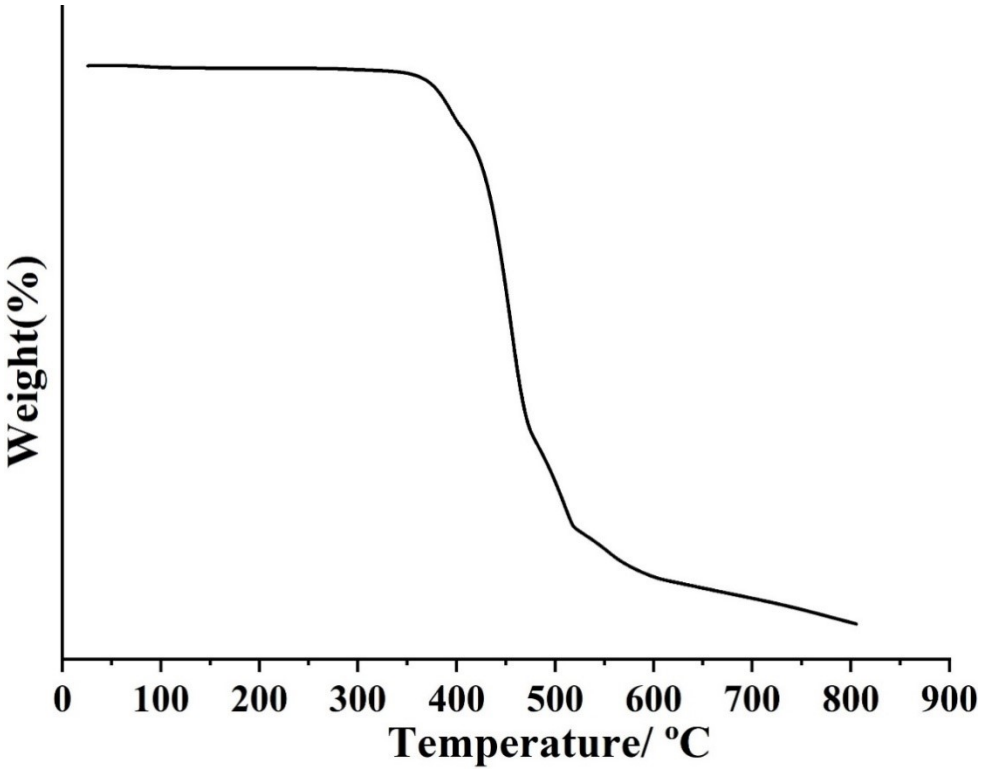

Fig. S8 TGA of as-synthesized sample **1**.

Table S1. Crystallographic data and structure refinement details for 1

Formula	$C_{22}H_{20}Cd_2N_4O_8$
Formula weight	693. 22
Crystal system	Triclinic
Space group	*P-1*
a, Å	7.421(3)
b, Å	9.209(4)
c, Å	9.781(4)
α, °	84.786(6)
β, °	68.478(6)
γ, °	73.697(5)
V, Å ^{3}	596.8(4)
Z	1
ρ_{calcd}, g/cm^3	1.929
μ, mm^{-1}	1.837
F(000)	340
Reflection Collected	3621
Independent reflections (R_{int})	0.026
Reflections with $I > 2\sigma(I)$	2266
R_1, wR_2 ($I > 2\sigma(I)$)*	0.0603, 0.1697
R_1, wR_2 (all data)**	0.0695, 0.1747

* $R = \sum(F_o - F_c)/\sum(F_o)$, ** $wR_2 = \{\sum[w(F_o^2 - F_c^2)^2]/\sum(F_o^2)^2\}^{1/2}$.

Table S2. Selected bond distances (Å) and angles (deg) for **1**

Bond	*d*, Å	Bond	*d*, Å
		1	
Cd(1)-O(4)	2.225(7)	Cd(1)-N(1)	2.196(8)
Cd(1)-O(1)#1	2.285(6)	Cd(1)-O(2)#1	2.591(8)
Cd(1)-O(1)#2	2.430(7)	Cd(1)-O(3)#2	2.320(7)
Angle	ω, deg	Angle	ω, deg
O(4)-Cd(1)-N(1)	119.7(3)	O(1)#1-Cd(1)-O(4)	82.7(3)
O(2)#1-Cd(1)-O(4)	80.6(3)	O(1)#2-Cd(1)-O(4)	150.2(3)
O(3)-Cd(1)-O(4)	93.4(3)	O(1)#1-Cd(1)-N(1)	141.4(3)
O(1)#2-Cd(1)-N(1)	89.8(3)	O(3)#2-Cd(1)-N(1)	99.9(3)
O(1)#1-Cd(1)-O(2)#1	53.0(2)	O(1)#1-Cd(1)-O(1)#2	75.0(2)

O(1)#1-Cd(1)-O(3)#2	110.3(2)	O(1)#2-Cd(1)-O(2)#1	100.8(2)
O(2)#1-Cd(1)-O(3)#2	162.7(2)	O(1)#2-Cd(1)-O(3)#2	76.4(2)

Symmetry Codes: **For 1**: #1 = 1+x, y, z; #2 = 1-x, -y, 1-z.