Electronic Supplementary Material (ESI) for CrystEngComm.

Table S1 The selected bond lengths (Å) and bond angles (°) of Co-MOF 1

Co1—N1	1.921 (12)	Co2—O7	2.097 (5)
Co1—O5i	1.941 (6)	Co2—O1	2.119 (5)
Co1—N3ii	1.962 (10)	Co2—N5	2.130 (5)
Co1—O2	1.967 (6)	Co2—N7ii	2.138 (5)
Co2—O3i	2.046 (5)	Co2—O1W	2.172 (4)
N1—Co1—O5i	101.5 (4)	O5i—Co1—N3ii	118.6 (3)
N1—Co1—N3ii	98.3 (5)		

Symmetry codes: (i) −x, y−1/2, −z+3; (ii) x, y, z+1.

Table S2 The selected hydrogen bonds of Co-MOF 1

D—H···*A*	*D*—H	H···*A*	*D*···*A*	*D*—H···*A*
O1W—H11···O2	0.84 (1)	1.84 (2)	2.671 (5)	170 (5)
O1W—H12···O3W	0.84 (1)	1.98 (3)	2.761 (5)	155 (5)
O2W—H21···O3	0.84 (1)	1.94 (1)	2.768 (5)	172 (6)
O2W—H22···O4W	0.84 (1)	1.80 (1)	2.637 (5)	172 (6)
O3W—H31···O1	0.83 (1)	2.11 (1)	2.936 (5)	174 (6)
O3W—H32···O2	0.84 (1)	1.91 (2)	2.735 (5)	168 (5)
O4W—H41···O3W	0.84 (1)	2.06 (2)	2.859 (5)	158 (5)
O4W—H42···O3iii	0.84 (1)	1.91 (1)	2.741 (5)	175 (7)

Symmetry codes: (iii) x, y, z−1.

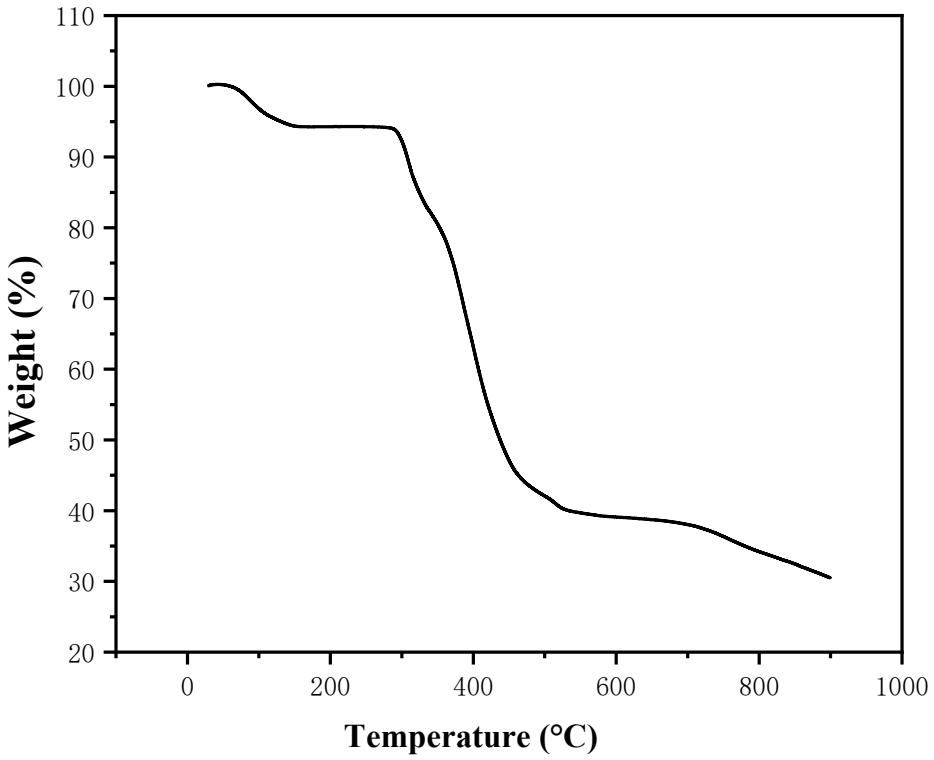


Fig. S1 Thermogravimetric analysis of Co-MOF **1**.

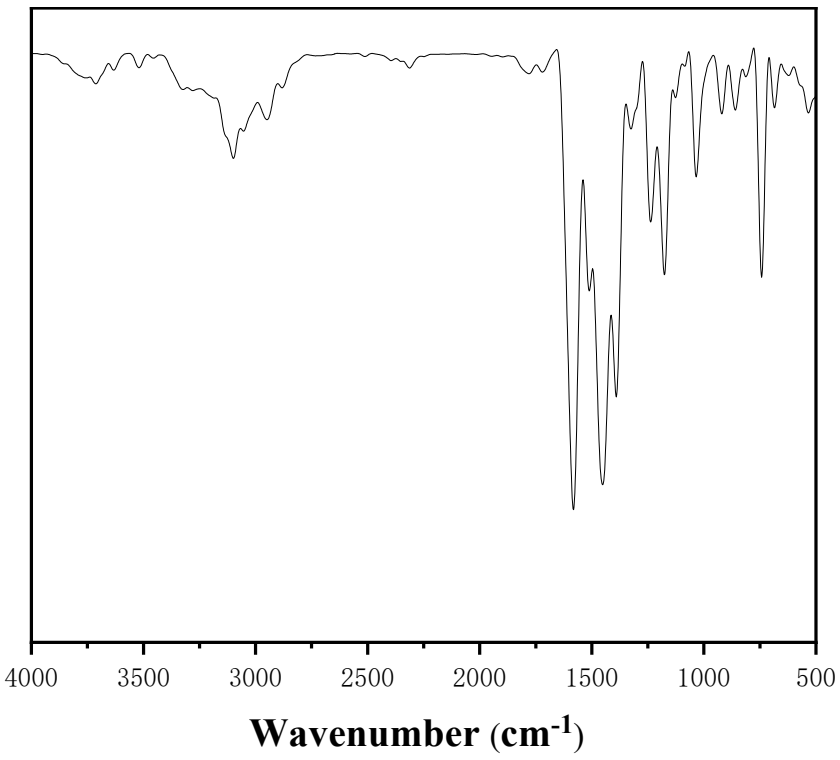


Fig. S2 The FT-IR spectrum of Co-MOF **1**

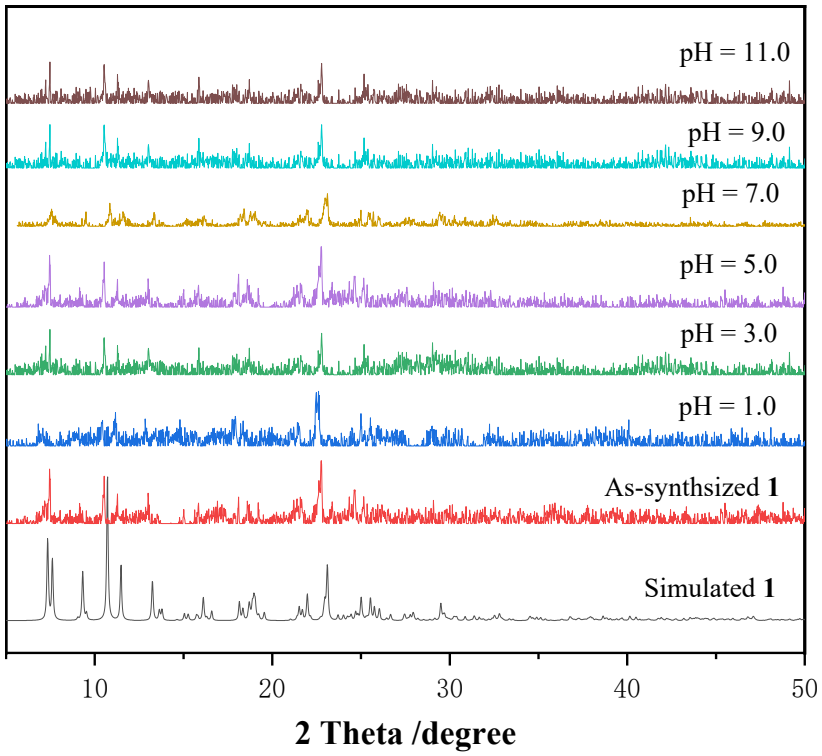
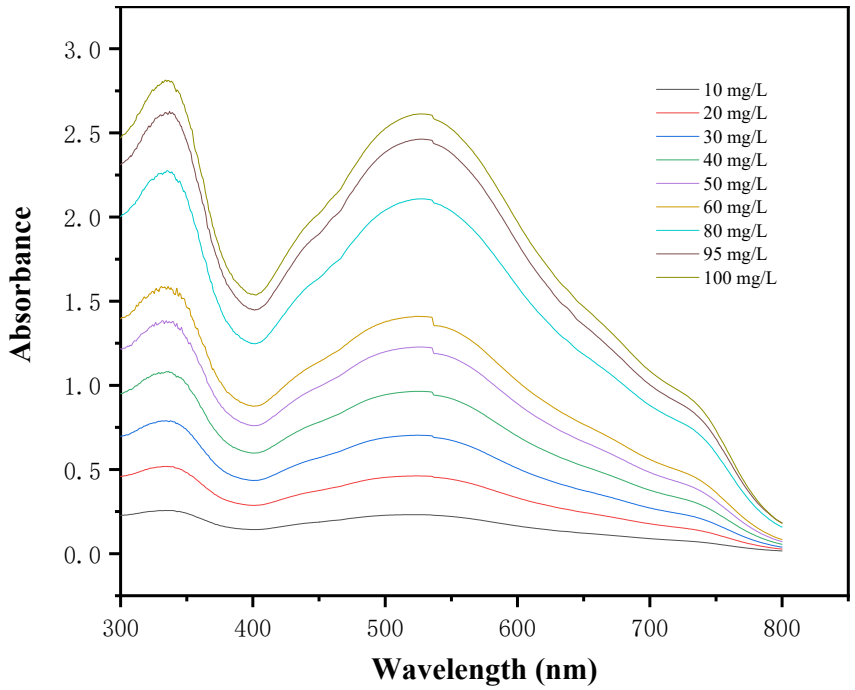
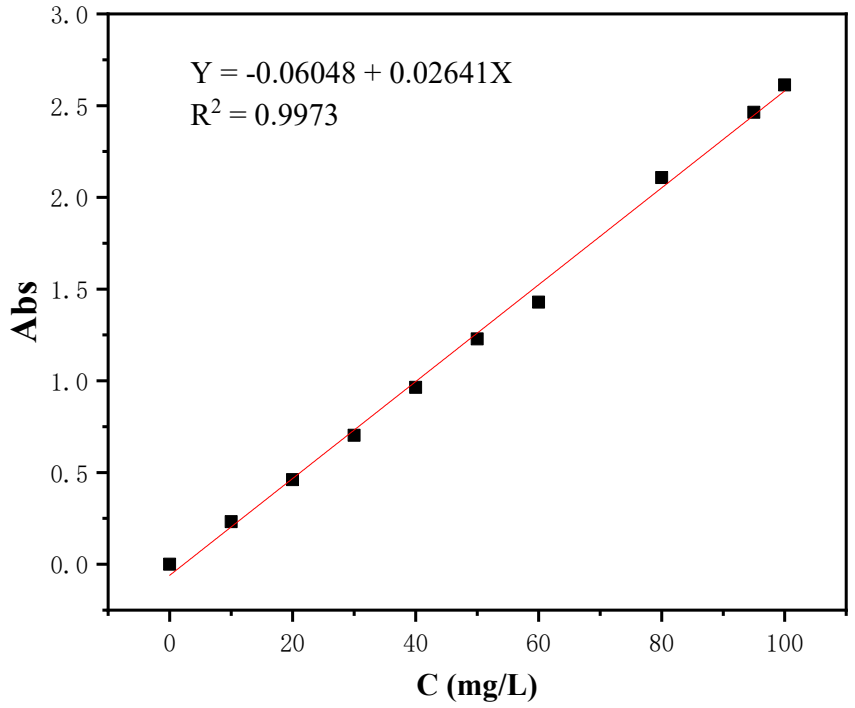


Fig. S3. PXRD patterns of the samples after being soaked in water with pH ranging from 1 to 11.



(a)



(b)

Fig. S4 (a) UV-Vis spectra of a series of standard CR solutions (0 – 100 mg/L). (b) The calibration curve of the absorbance values (A) against the CR concentrations.

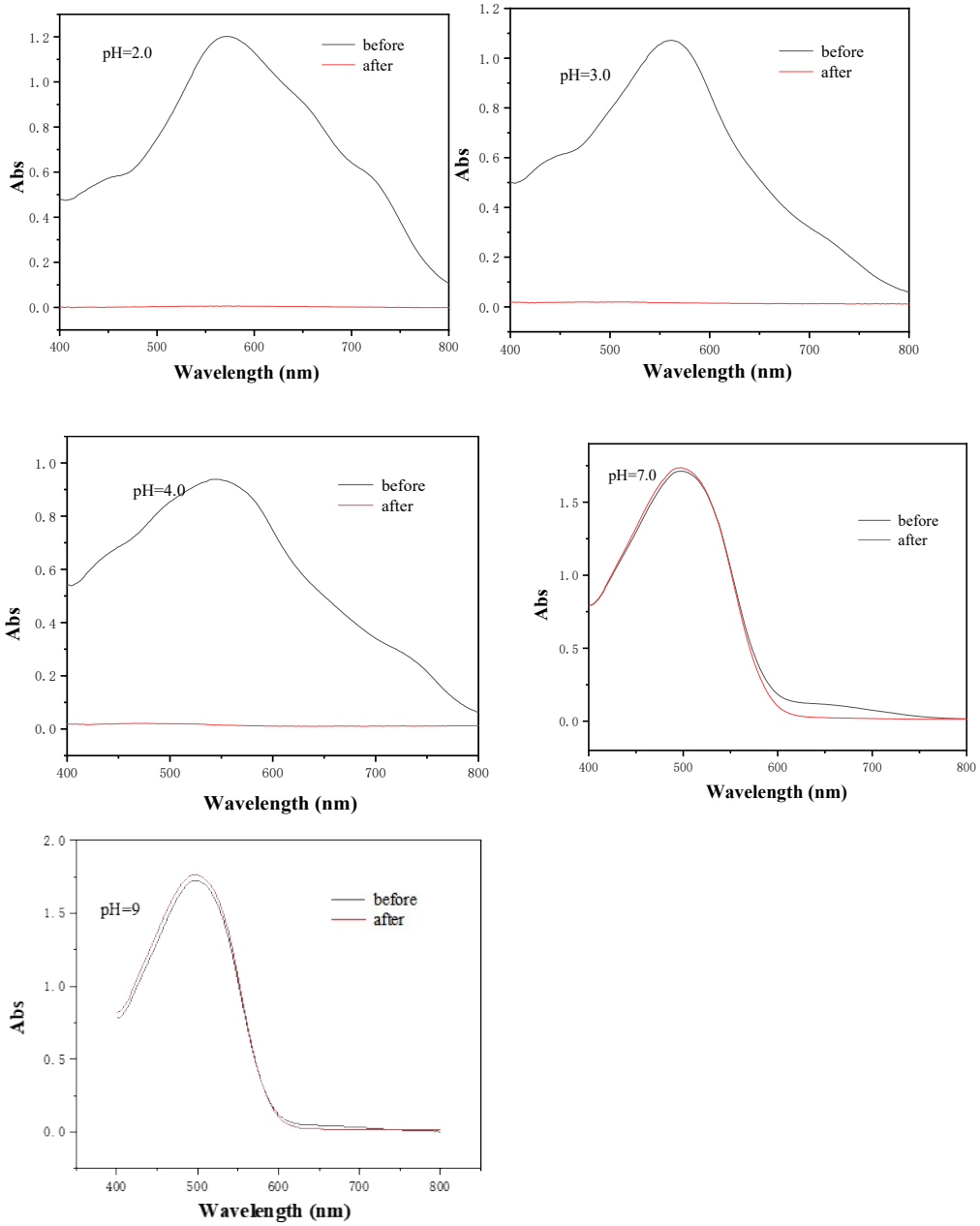


Fig. S5 UV-Vis spectra of the CR solution (50 ml, 40 mg/L) before and after the addition of Co-MOF **1** at different pH.

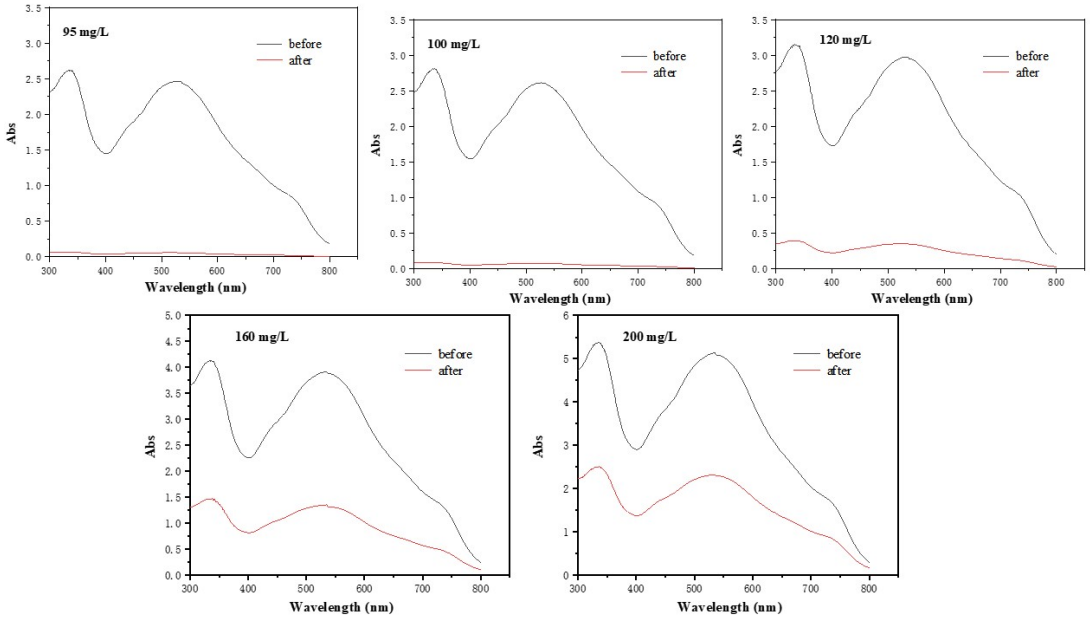


Fig. S6 UV-Vis spectra of the different concentration solution of CR before and after the addition of Co-MOF **1**.

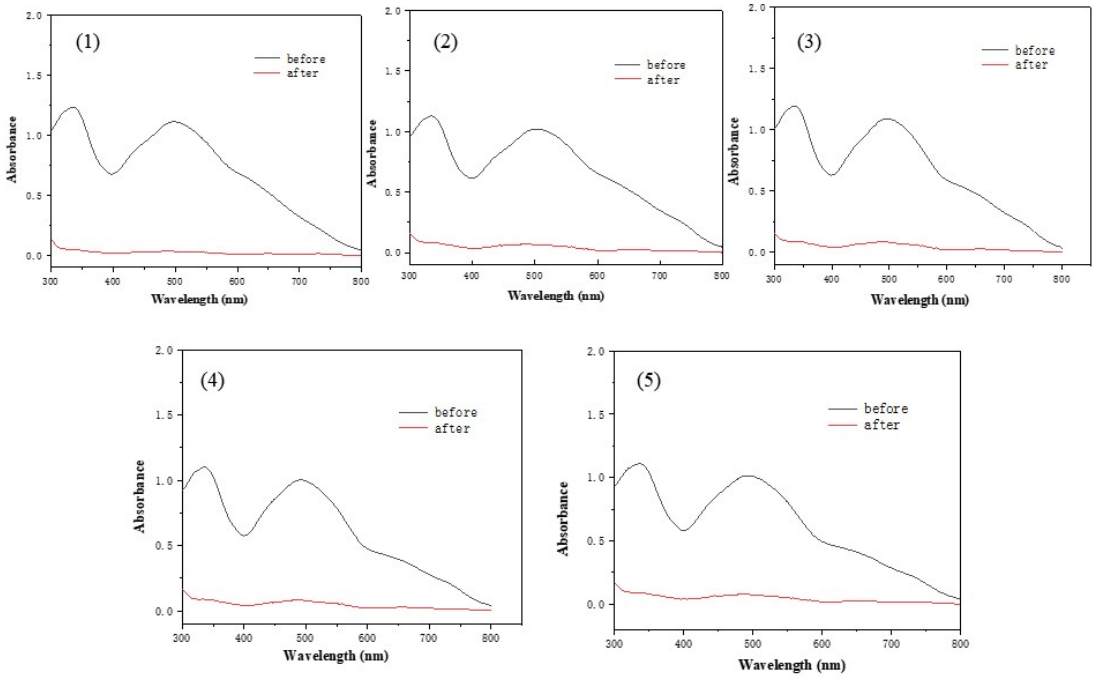


Fig. S7 UV-Vis spectra of the CR solution before and after the addition of Co-MOF **1** after each of four cycles.