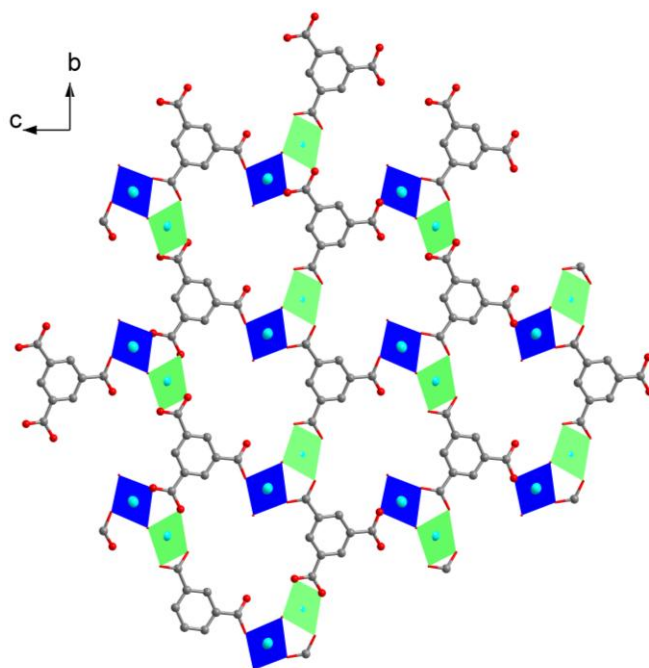
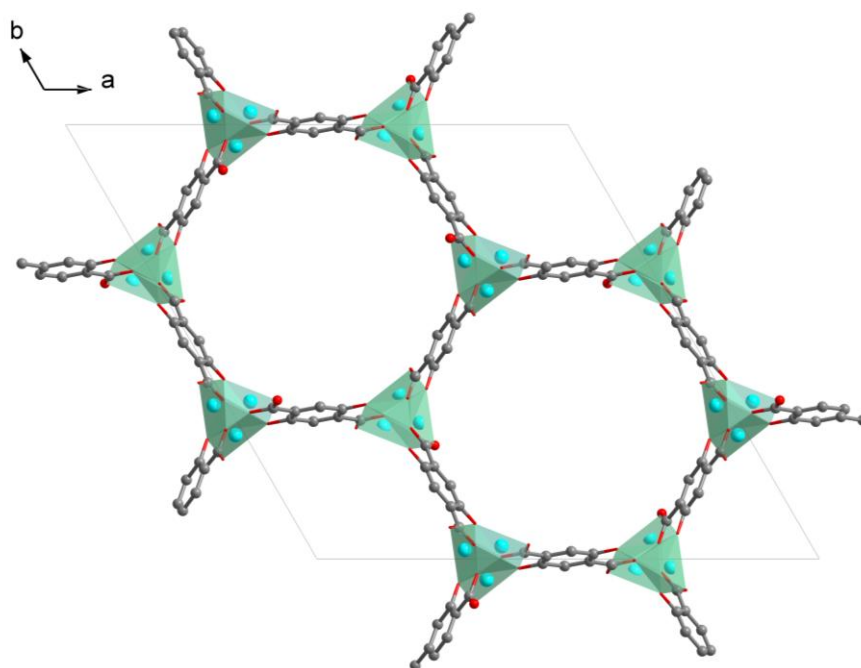


## Supporting information

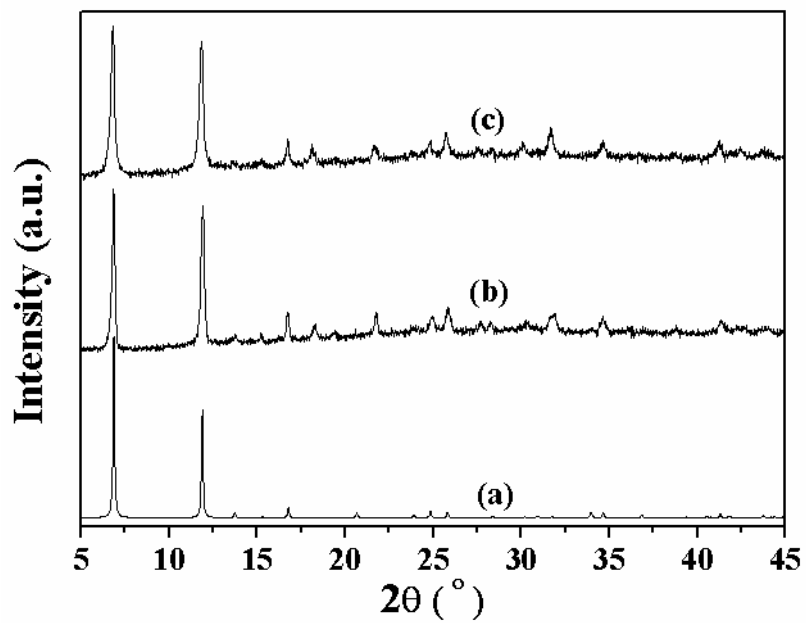
**Fig. S1** A schematic drawing of the structure of Cu-MOF.



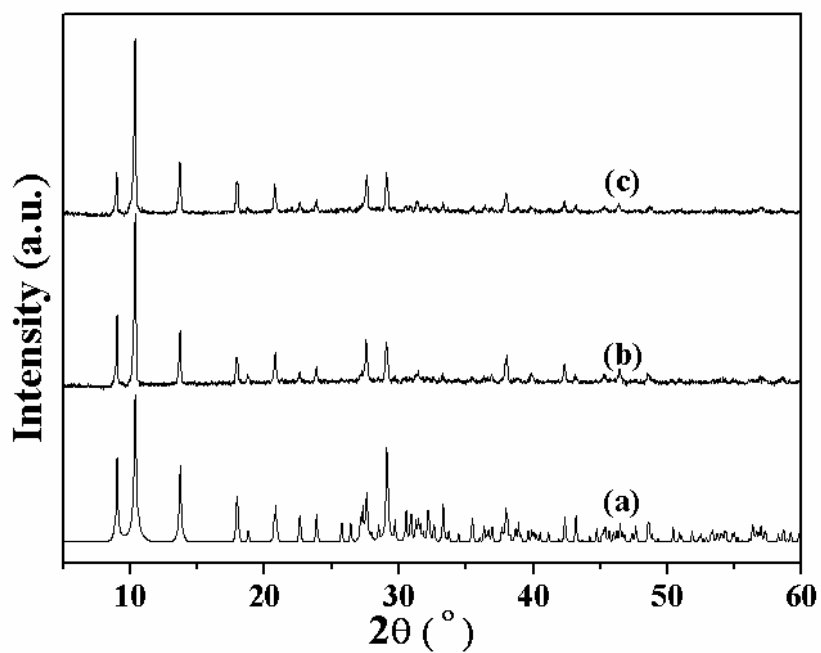
**Fig. S2** A schematic drawing of the structure of M-MOF (M=Co or Ni).



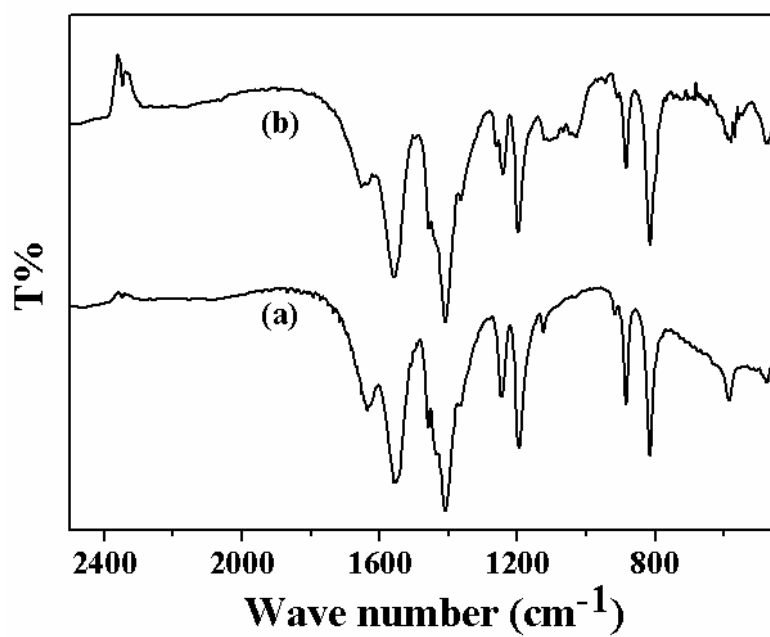
**Fig. S3** XRD patterns of Co-MOF: (a) calculated Co-MOF, (b) fresh Co-MOF and (c) used Co-MOF after cyclohexene oxidation.



**Fig. S4** XRD patterns of Cu-MOF: (a) calculated Cu-MOF, (b) fresh Cu-MOF and (c) used Cu-MOF after cyclohexene oxidation.



**Fig. S5** IR spectra of Co-MOF (a) before and (b) after oxidation of cyclohexene.



**Fig. S6** IR spectra of Cu-MOF (a) before and (b) after oxidation of cyclohexene.

