

## Supporting information

The XRD patterns of the sample after calcination at different temperatures are illustrated in Fig. S1. We found that at 600 °C, the initial framework structure collapsed in MOF-5 derived composites, the reflections locating at 31.7°(100), 34.4°(002), 36.3°(101), 47.4°(102), 56.6°(110), 62.8°(103), 67.9°(112) and 69.1°(201) were indexed to the characteristic peaks of wurtzite ZnO structure (JCPDS No. 36-1451).

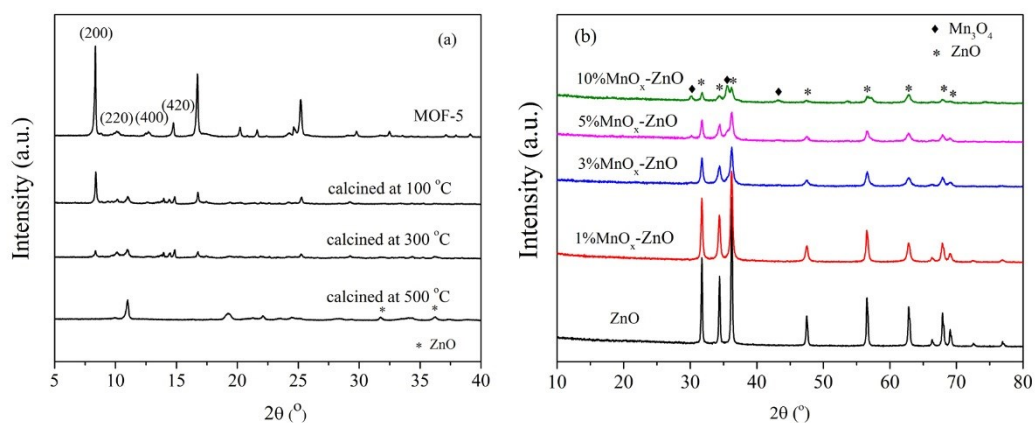


Fig. S1. XRD pattern of (a) MOF-5 and MOF-5 calcined at different temperatures, and (b) ZnO and MnO<sub>x</sub>-ZnO derived from the (Mn)MOF-5 calcined at 600 °C.