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Supporting information

Facile synthesis of 3D flower-like SiO_2-MOF architecture with copper oxide as copper source for enantioselective capture

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Experimental section

Materials and chemicals

Tetraethyl orthosilicate, (3-Aminopropyl)triethoxysilane(APTES), cupric acetate monohydrate were purchased from Aladdin. L-(-)-malic acid, 4,4'-bipyridyl, Cupric chloride dihydrate were purchased from Macklin. Methyl phenyl sulfoxide was purchased from Alfa Aesar. Ammonia solution were purchased from HaoHua Chemical reagent Co. Ltd. Hexane, isopropanol, acetonitrile, methanol were purchased from Kermel. Water was purified with Milli-Q purification equipment.

Apparatus and methods

Scanning electron microscopy (SEM) was carried out on a S-4300 instrument. The energy dispersive X-ray (EDS) analysis recorded on a JSM-700F instrument. Infrared absorption spectra were obtained from a Nicolet 6700 infrared Fourier transform spectrometer. X-ray diffraction (XRD) data were collected on an ARL X'TRA diffractometer. Thermogravimetric analysis (TGA) was measured on STA 409 PC thermogravimetric analysis. High performance liquid chromatography (HPLC) analysis was performed on an Agilent 1260 series system.

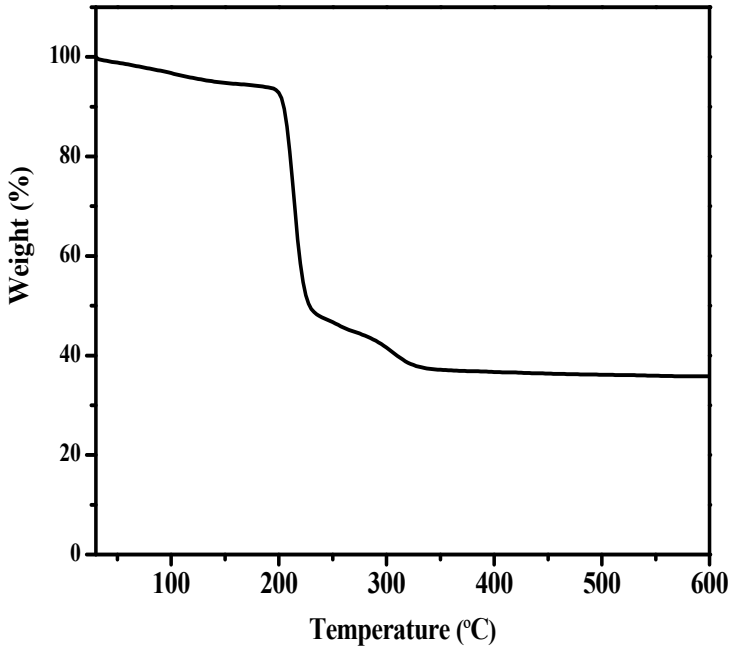

Fig. S1 Thermogravimetric curve of SiO_2-CuLBH composite. Conditions: air atmosphere; temperature range, from 30 °C to 800 °C; heating rate, 10 K/min.

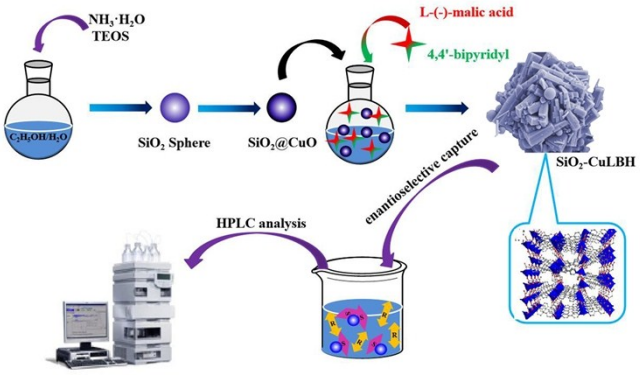

Fig. S2 Preparation of SiO_2-CuLBH