Electronic supplementary information

Magnetic and optoelectronic modulation of Cu-MOF-74 films by quantum dots

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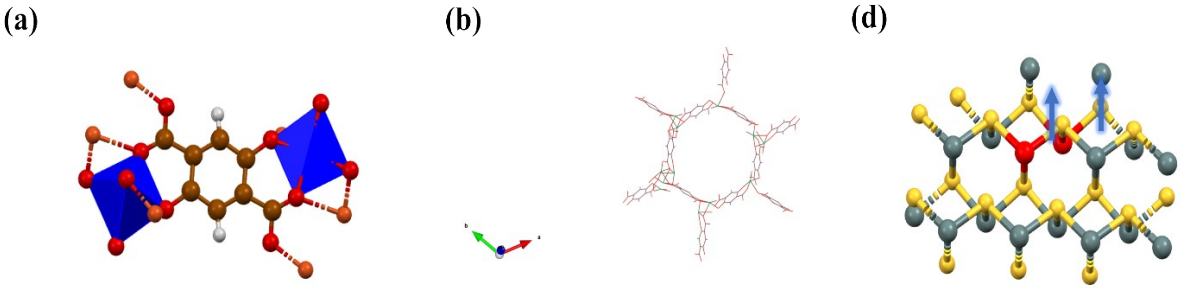

Figure S1. (a) and (b) Structural of Cu-MOF-74. (c) Structural of SnS:Co.

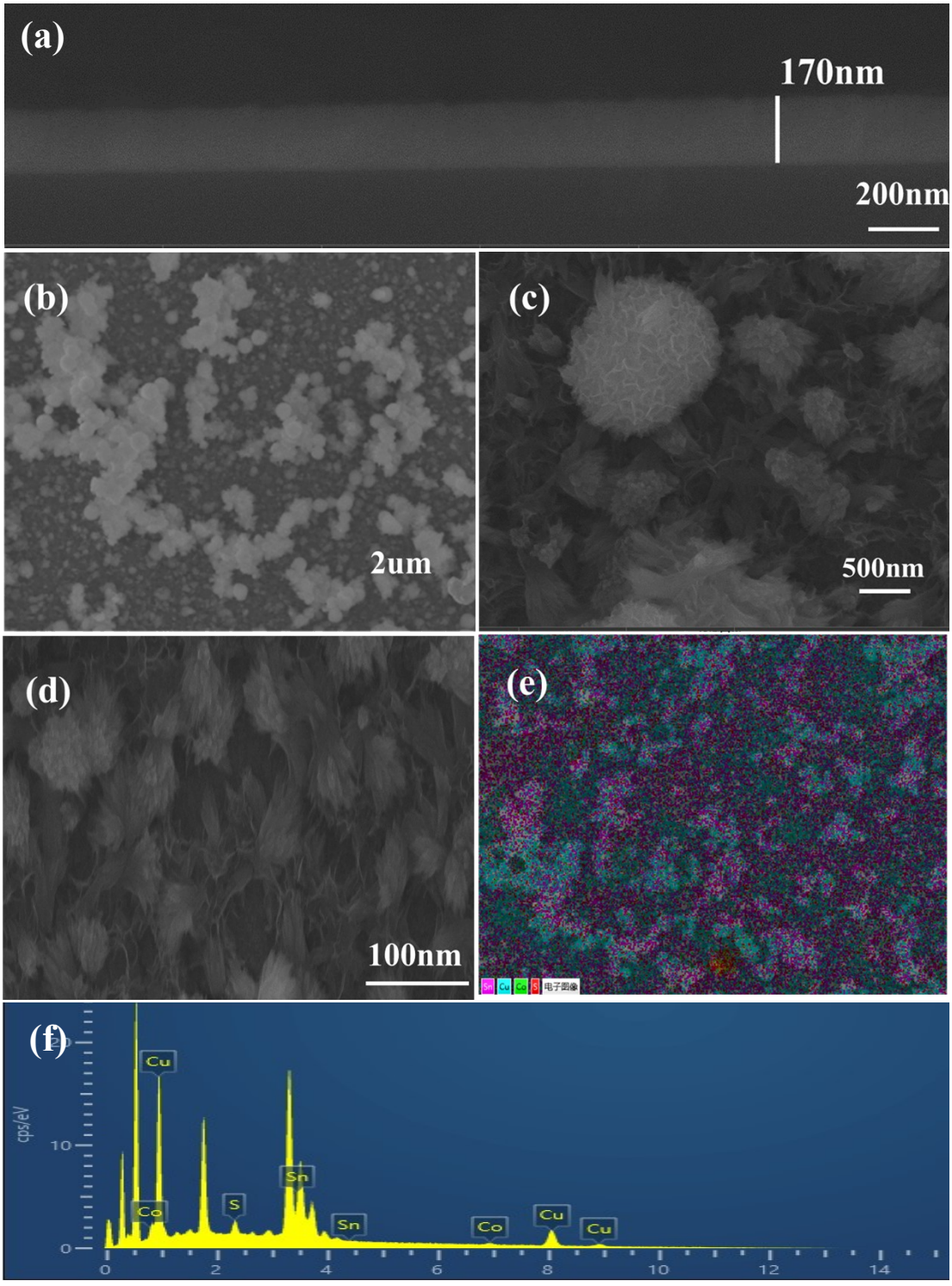

Figure S2. (a) Cross-sectional SEM images of the QD@Cu-MOF. (b), (c) and (d) Surface SEM images of the QD@Cu-MOF at different magnifications. (e) Distribution of Sn, Cu, Co, S elements on the Surface of the QD@Cu-MOF. (f) EDS spectrum of the QD@MOF.

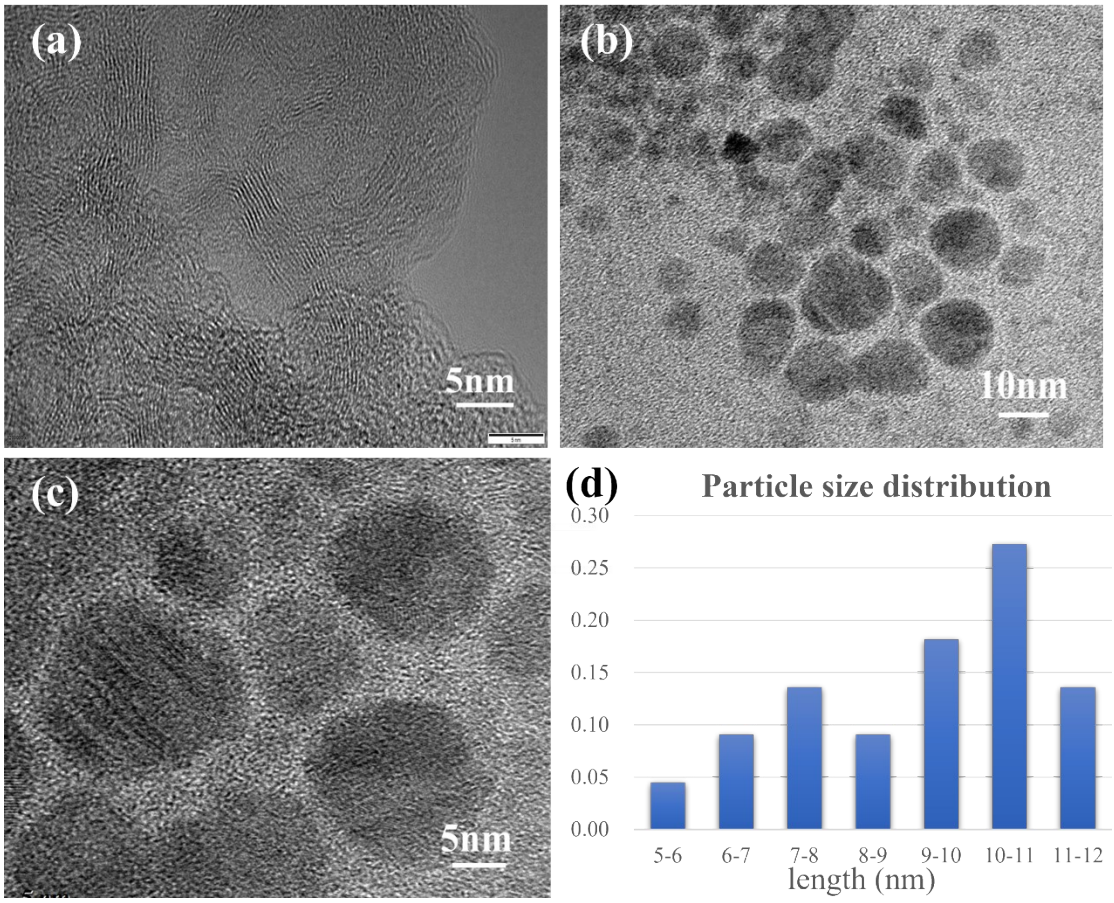

Figure S3. (a) Crystal lattice stripes images of Cu-MOF. (b) and (c) TEM images of SnS:Co QDs. (d) The size statistics of the QDs.

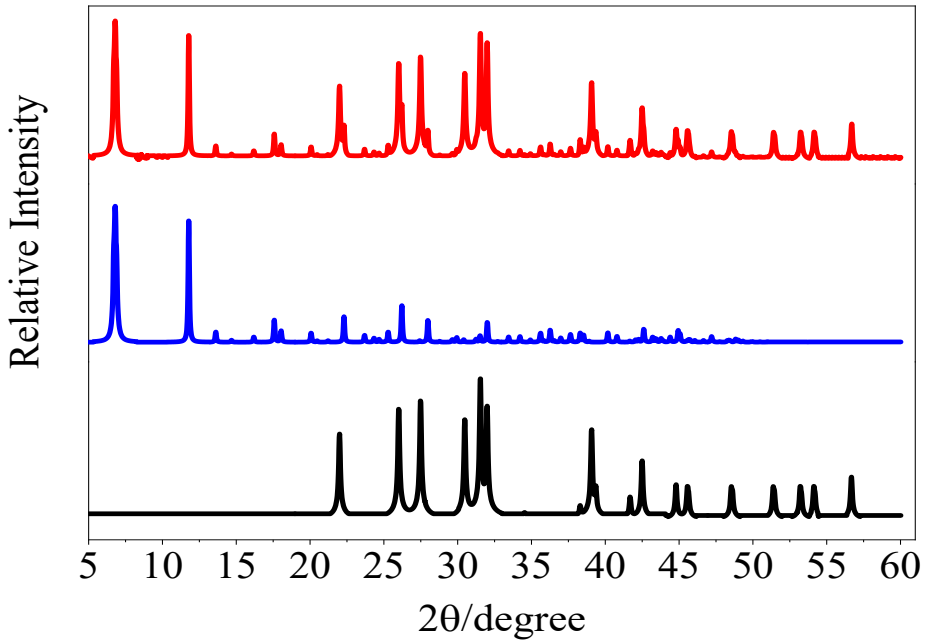

Figure S4. XRD pattern of QD@Cu-MOF film (red) and simulated XRD patterns of Cu-MOF-74 (blue) and QDs (black).

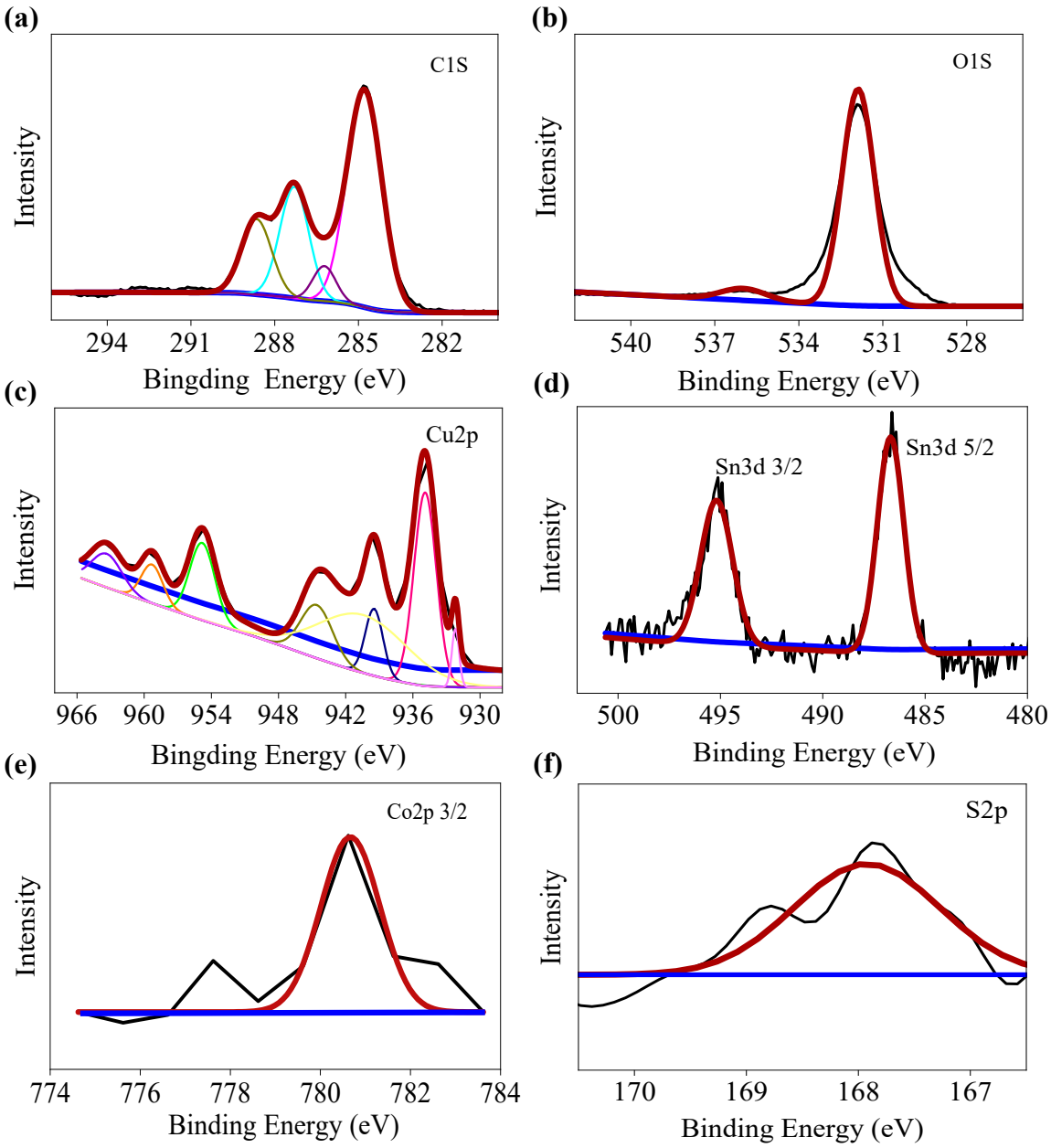

Figure S5. XPS spectra of QD@MOF film.

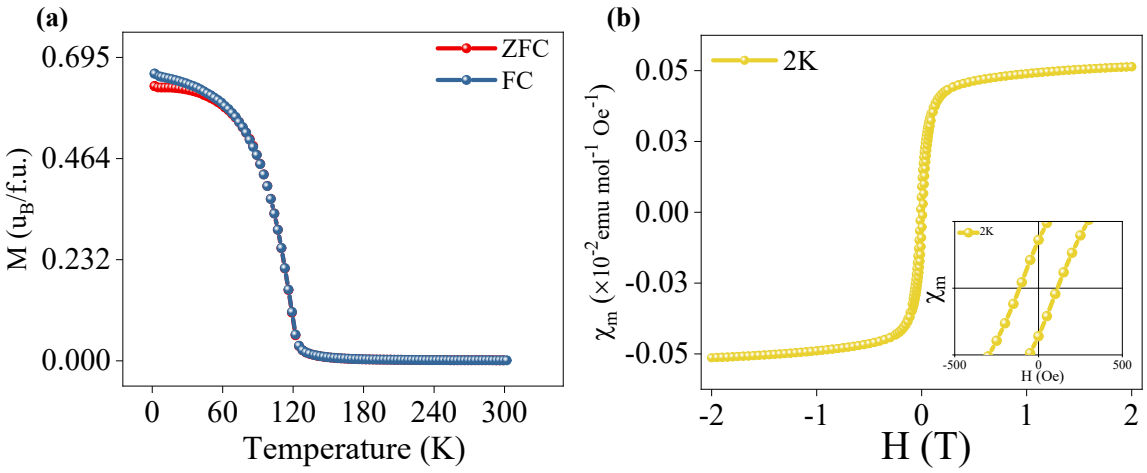

Figure S6. Magnetic properties of SnS:Co. a) ZFC (red) and FC (blue) curves at H=1000 Oe. b) Magnetization as a function of field at 2 K.

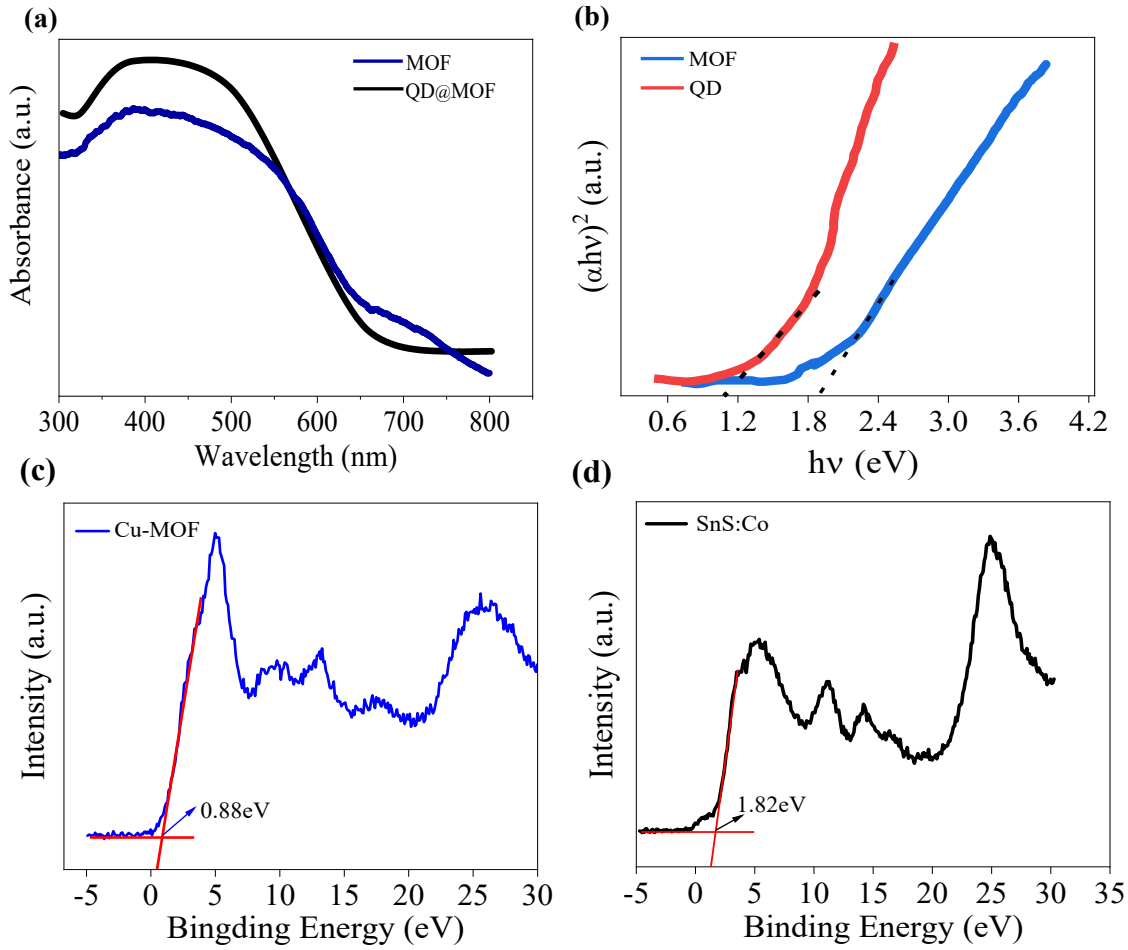

Figure S7. (a) UV-vis-NIR absorption spectra of MOF and QD@MOF. (b) $(\alpha h\nu)^2$ versus photon energy (hν) of MOF (blue) and SnS:Co QD (red). (c) and (d) Valence band spectra of Cu-MOF and

SnS:Co QD

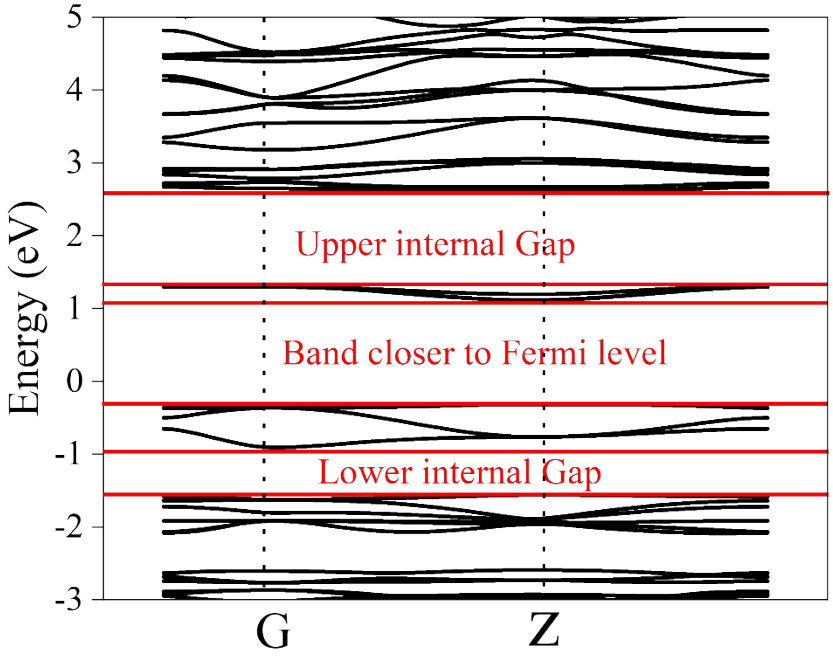

Figure S8. The electronic band structures of Cu-MOF-74.