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## **Electronic Supporting Information**

## Lanthanide functionalized hybrid materials of polyoxometallate based metal-organic frameworks for multi-color luminescence

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Figure S1 The scheme for the crystal structure COK-15: red for O, blue for W, black for C and orange for Cu, respectively; a, b is the coordination mode of Cu ion.



Figure S2 The FTIR spectra of COK-15 and its lanthanide functionalized hybrid materials  $\rm Ln^{3+}{\subset} \rm COK{-}15$ 



Figure S3 The assignments for the main bands of FTIR spectrum of COK-15



Figure S4 The selected nitrogen adsorption –desorption isotherms of the COK-15.









 $\label{eq:Wavelength / nm} Wavelength / nm \\ Figure S7 The excitation and emission spectra of H_3BTC (a) and H_3PW_{12}O_{40} (b)$ 



Figure S8 The ultraviolet diffuse reflectance spectra of hybrid materials Ln<sup>3+</sup> COK-15