Supporting Information

Eu MOF-Enhanced FeNCDs Nanozymes for Fluorescence and Highly Sensitive Colorimetric Detection of Tetracycline

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Reagents and Instruments. The reagents used in this experiment were all purchased and have not been further purified. Neomycin sulfate, $FeCl_2 \cdot 4H_2O$, anhydrous sodium acetate, 1,3,5-benzenetricarboxylic acid (H_3BTC), TC, glutathione, KCl, NaF were purchased from Shanghai Aladdin Biochemical Technology Co, Ltd. TMB, $Eu(NO_3)_3 \cdot 6H_2O$, H_2O_2, histidine, tyrosine, $CuSO_4$, $MgSO_4$ were purchased from Shanghai McLean Biochemical Co, Ltd.. Citric acid (CA), ethylenediamine (EDA), anhydrous ethanol (EtOH), Na_3PO_4, $Na_2C_2O_4$ were purchased from Sinopharm Chemical Reagent Co, Ltd. Phenylalanine was purchased from Beijing Bailingwei Technology Co, Ltd. Glucose purchased from Shanghai Shenggong Biological Engineering Co, Ltd.

The absorption spectrum of tetracycline was detected by Multiskan GO full-wavelength microplate reader purchased from Thermo Fisher Scientific. The fluorescence spectrum of tetracycline was detected by F-4600 FLSPECTOROP0HOTOMRT purchased from Hitachi High-tech Corporation. All solutions use deionized water prepared from DirectQ3 UV system (conductivity 18.2 MΩ/cm, equipment purchased from Merkmillibour, Germany).

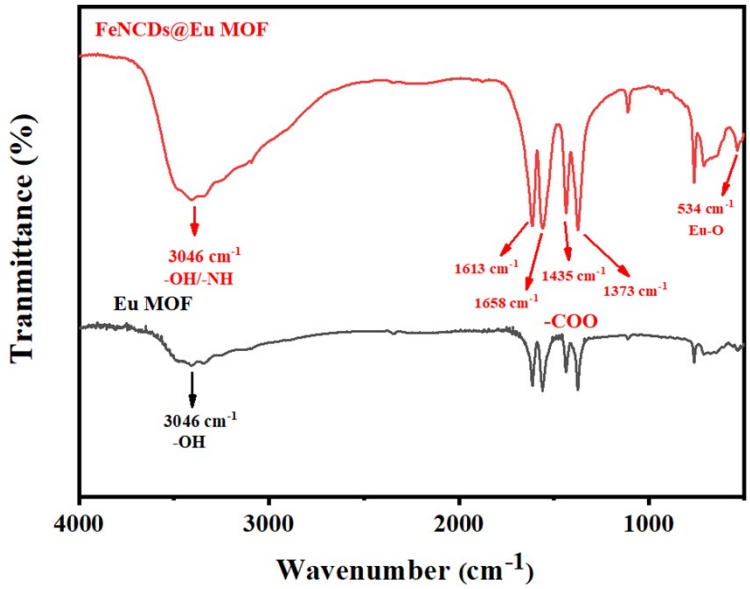

Figure S1. FITR of Eu MOF and FeNCDs@Eu MOF.

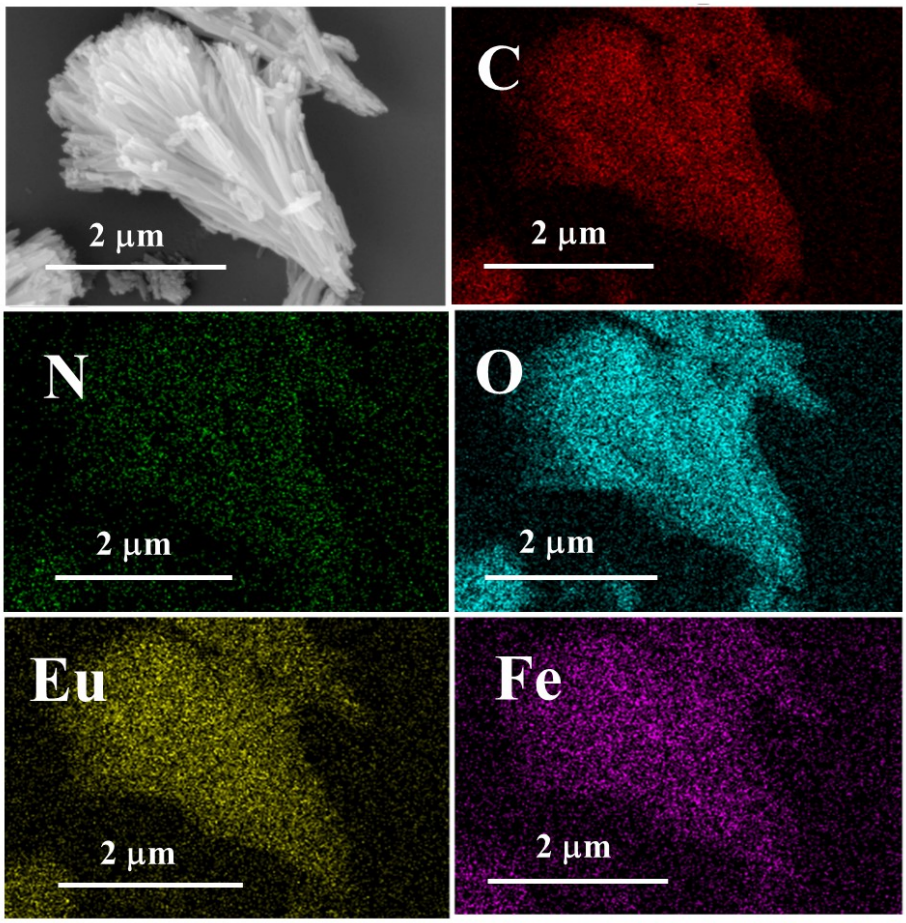

Figure S2. SEM image and corresponding EDS mapping images of C, N, O, Eu and Fe of FeNCDs@Eu MOF.

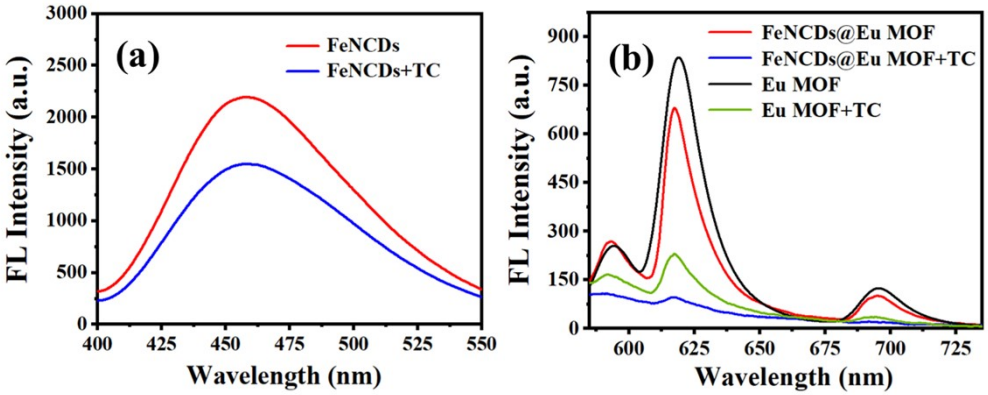

Figure S3. Fluorescence emission spectrum of (a) FeNCDs and FeNCDs+TC (λ_{ex} = 365 nm), (b) FeNCDs@Eu MOF, FeNCDs@Eu MOF+TC, Eu MOF and Eu MOF+TC (λ_{ex} = 280 nm). The concentration of TC is 250 μM.

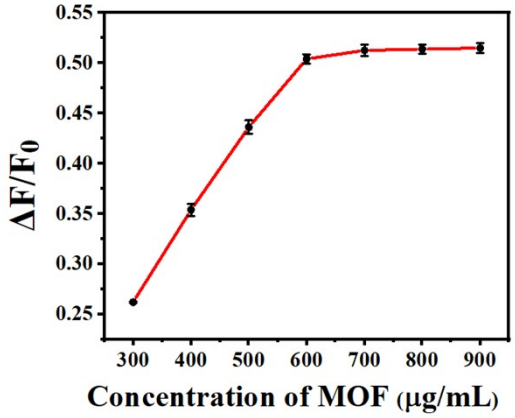

Figure S4. Optimize the concentration of FeNCDs@Eu MOF. The TC concentration is 50 μM, $\Delta F/F_0 = (F_{H_2O} - F_{TC})/F_{H_2O}$.

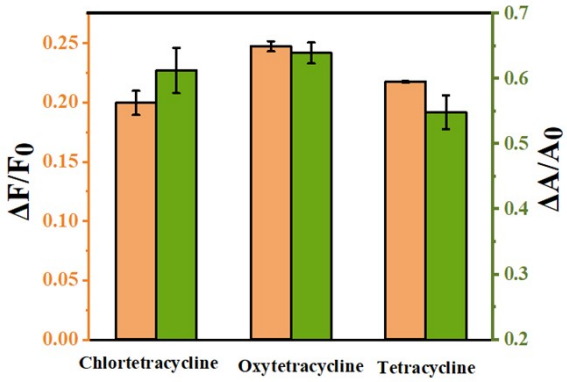

Figure S5. Sensor responses to chlortetracyline, oxytetracycline and TC. Their concentrations are 500 nM.