Supporting Information for

Size-controlled synthesis of lanthanide-organic frameworks and their performance as fluorescence sensors

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Table of Contents

Calculation of Limit of Detection.

For calculating the limit of detection, FA (0-30 μM) was added to Tb-MOFs in ethanol-HEPES buffer (2:3, v/v) (20mM) (6:4, v/v) solution and fluorescent intensity was recorded and a good linear relationship between the fluorescence intensity and concentrations of FA was obtained with slope (K) of 4374.8×10^6. Standard deviation (σ) was calculated from 10 replicate of Tb-MOFs samples. S is the slope of the calibration curve. Limit of detection was calculated according to the formula: LOD = 3σ/K .

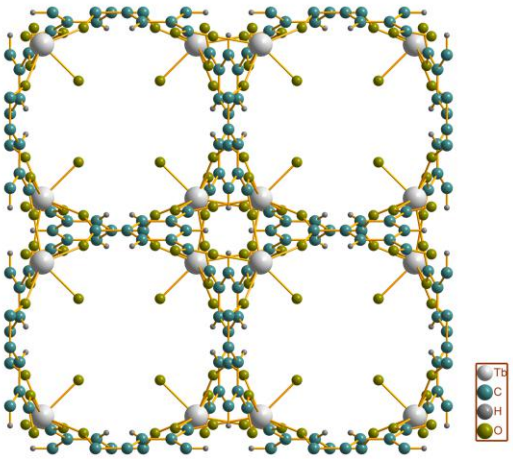

Figure S1. View of the space group of Tb-BTC-MOF along the c-axis, exhibiting 1D helical channels of about 6-7 Å .

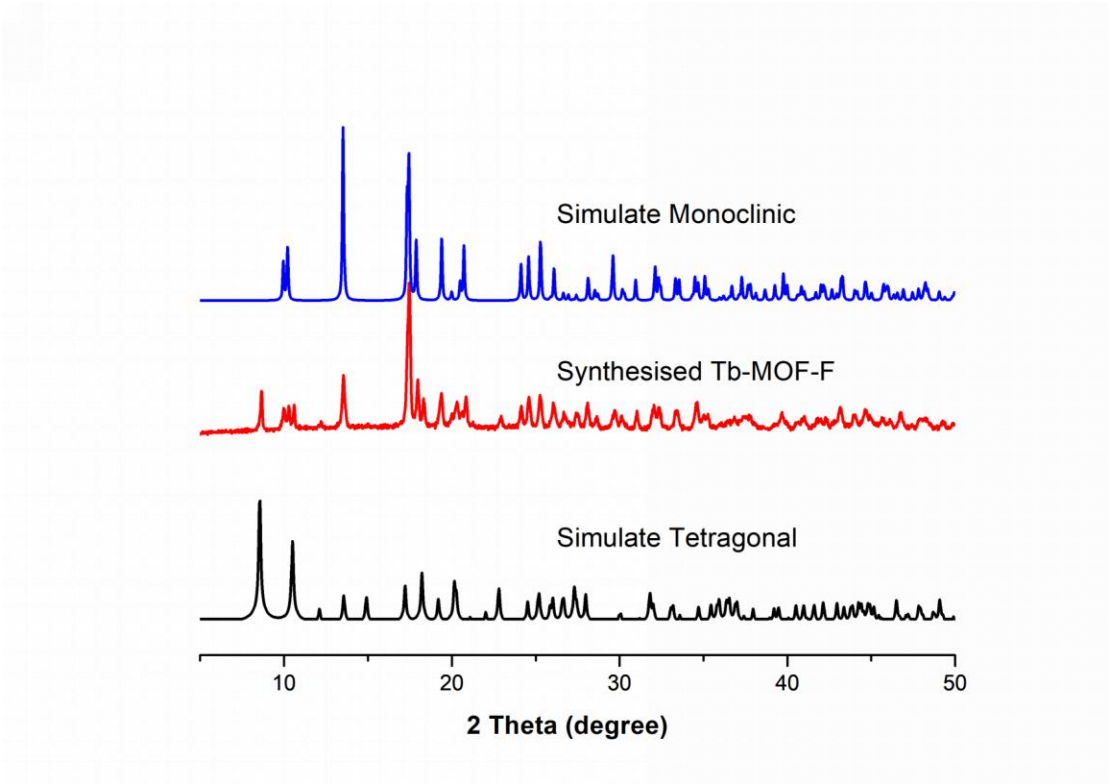

Figure S2. PXRD patterns of synthesized Tb-MOF-F and simulated from monoclinic (CCDC1499450) and tetragonal ((Inorg. Chem. 2010, 49, 10001-10006) **)** crystal data.

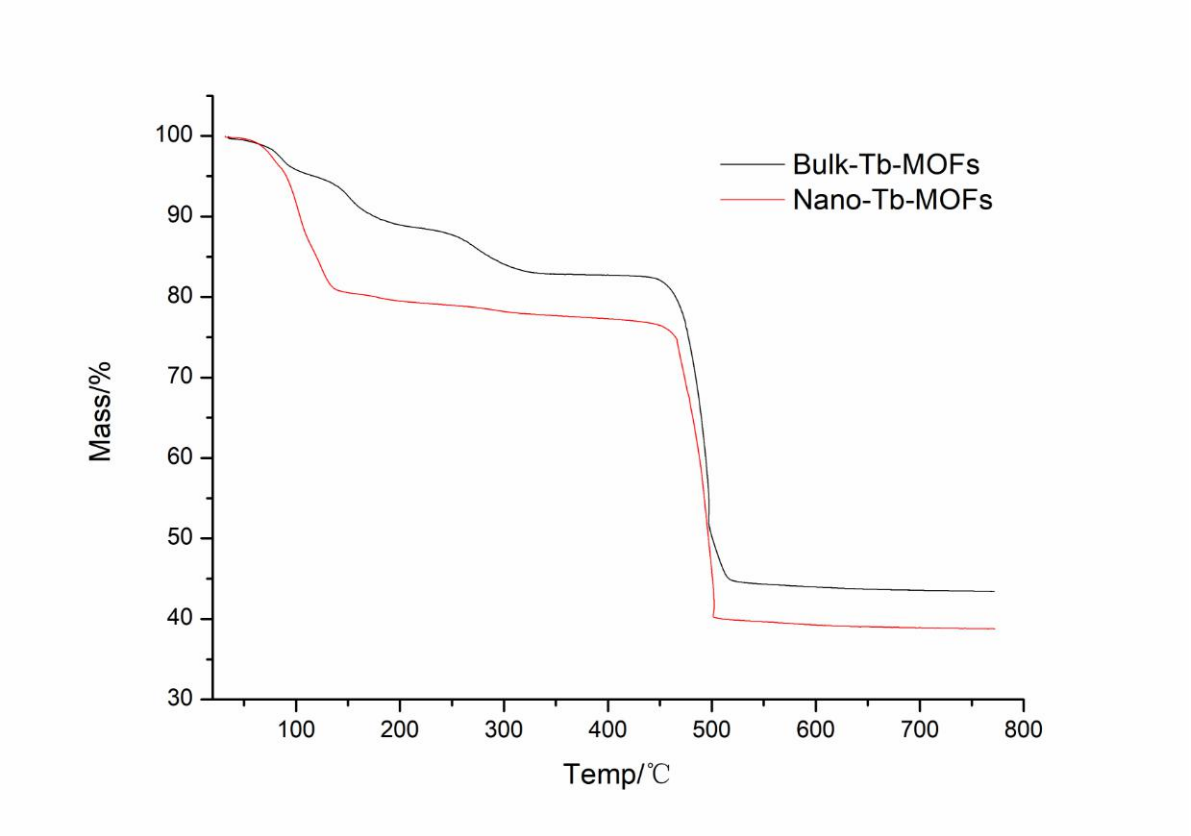

Figure S3. TGA trace of Tb-MOFs with a heating rate of 5 ℃ per minute measured in nitrogen.

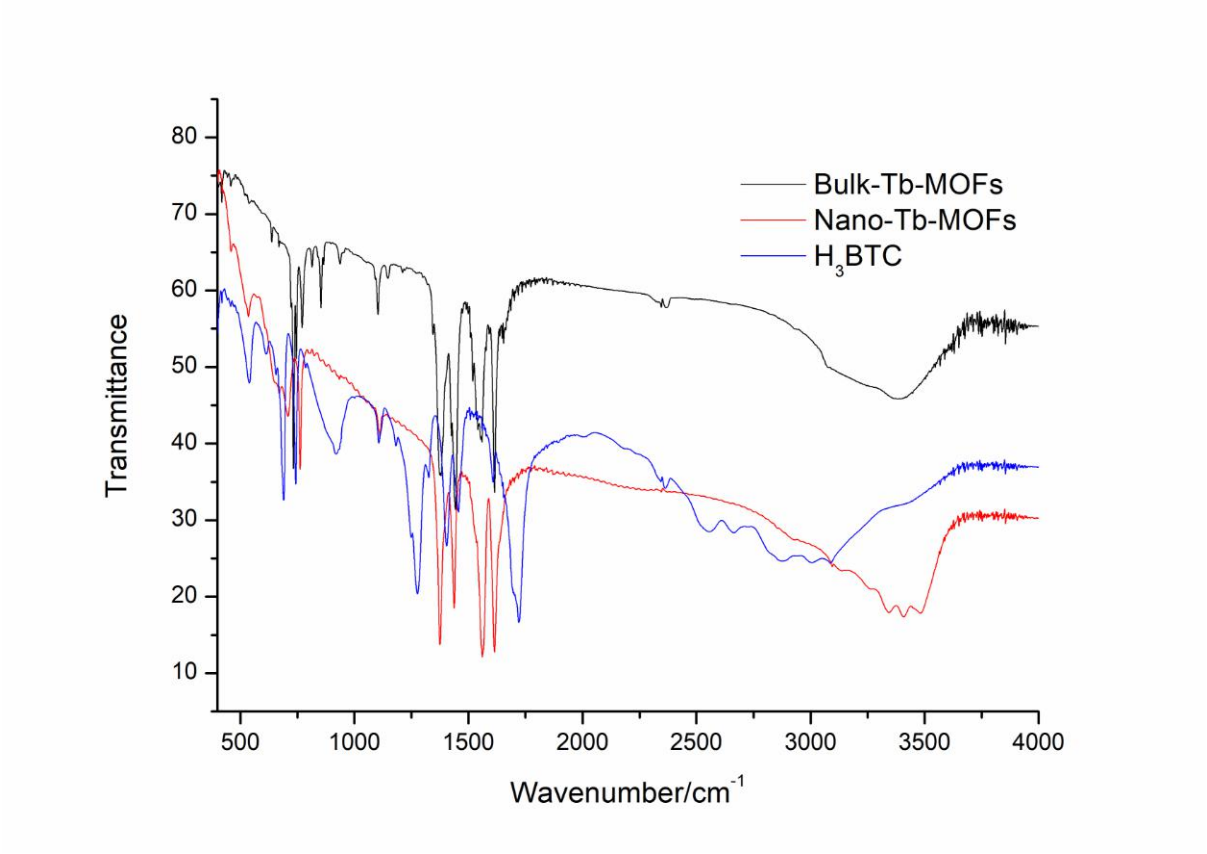

Figure S4. The IR spectra of H_3BTC ligand and Tb-MOFs.

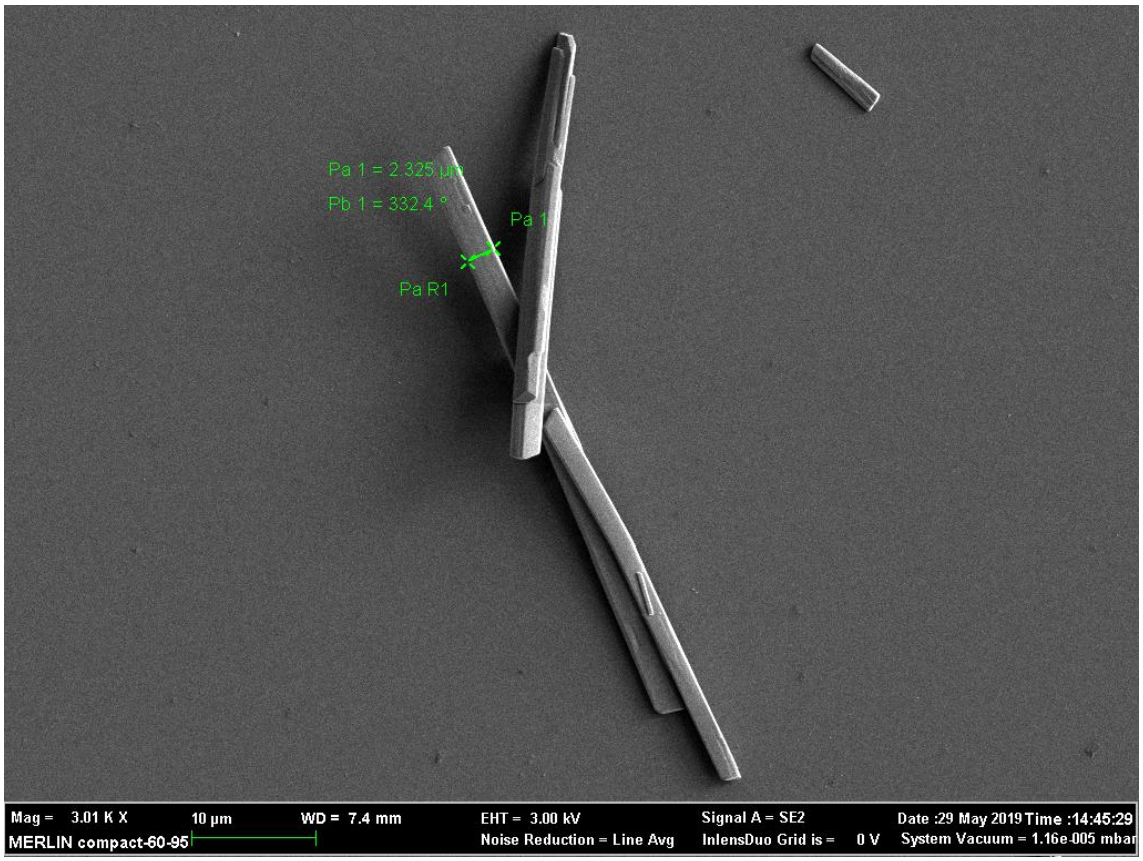

Figure S5. SEM images for Tb-MOF-B with a width about 2.3 µm.

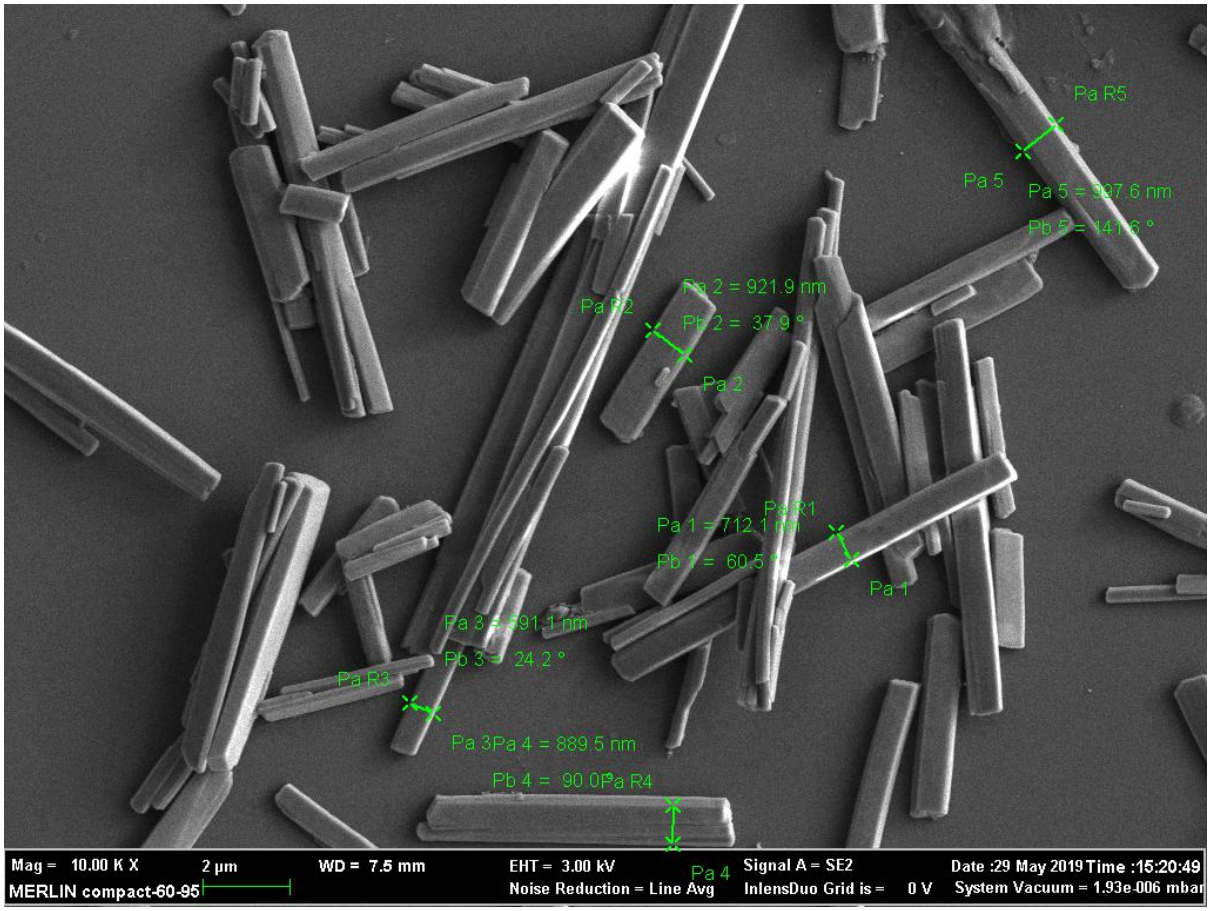

Figure S6. SEM images for Tb-MOF-C with a width from 600 nm to 997 nm

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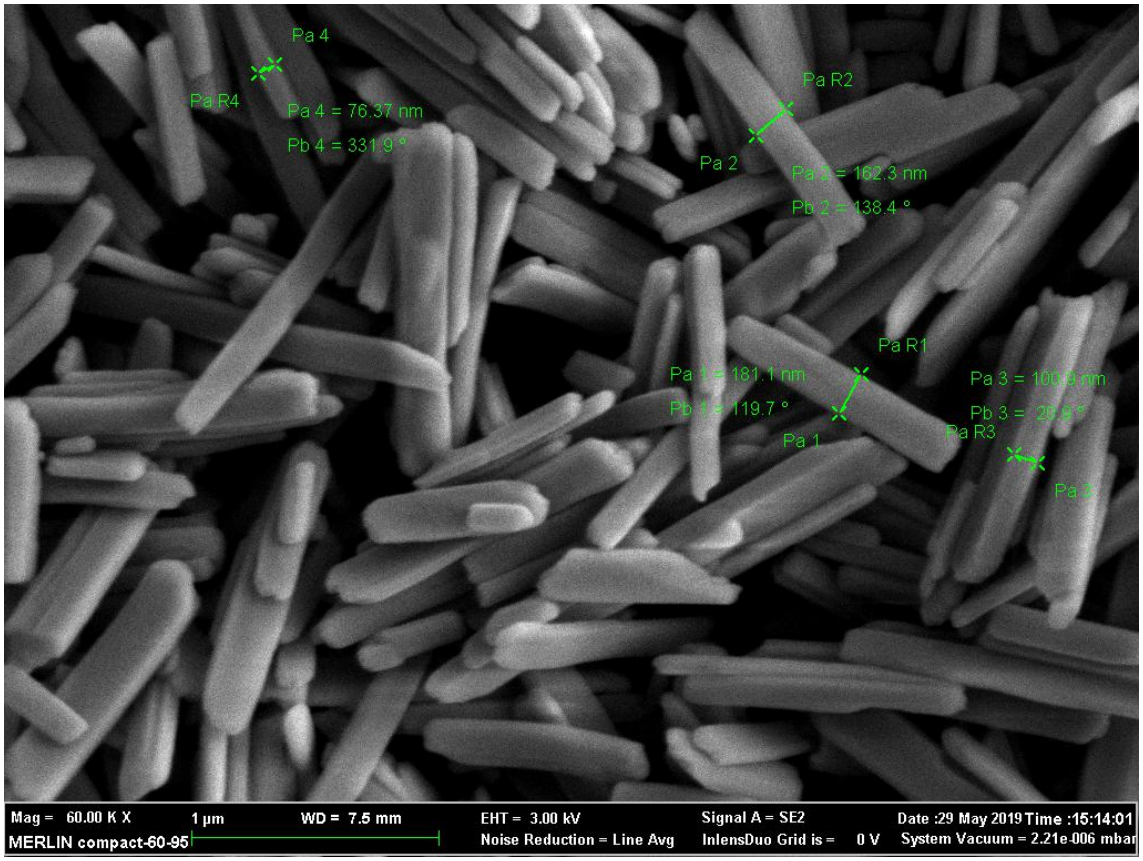

Figure S7. SEM images for Tb-MOF-E with a width about 162 nm and height of 76 nm.

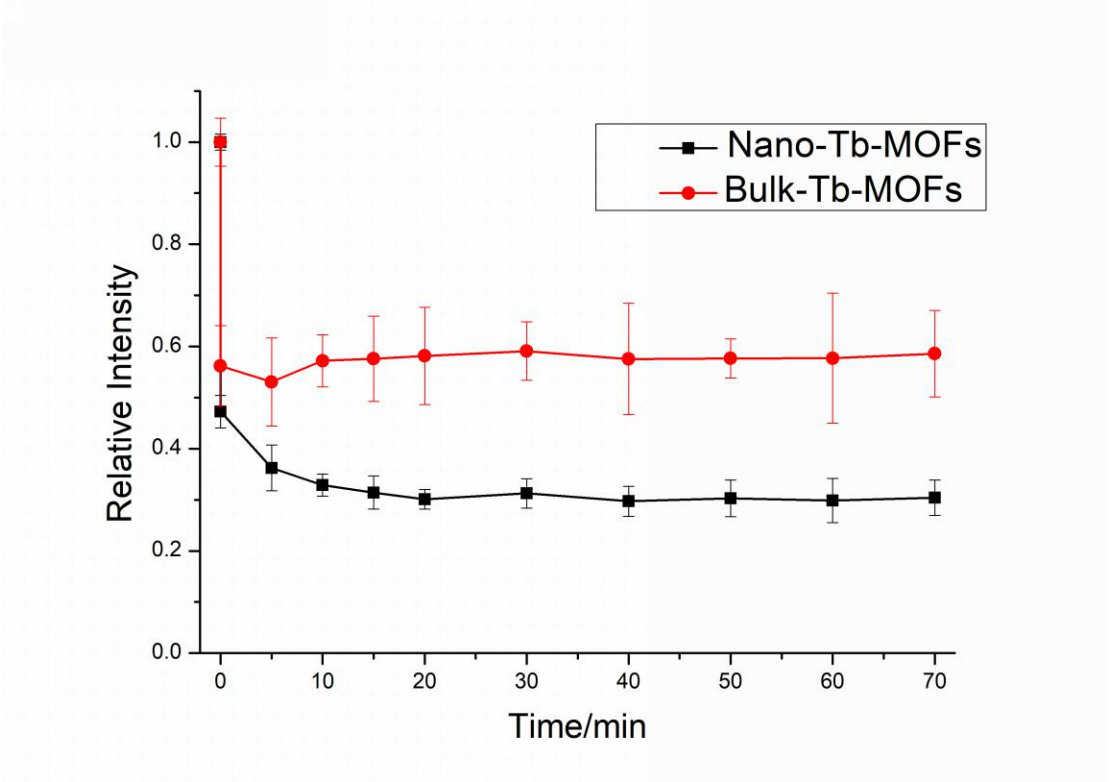

Figure S8. Time-dependent fluorescent intensity changes of Bulk-Tb-MOFs and Nano-Tb-MOFs towards Folic acid (40μM).