

Article

Terbium-Tetracarboxylate Framework as a Luminescent Probe for the Selective Detection of Nitrofurazone

Qipeng Li ¹, Yanqiong Shen ^{2,*}, Junsong Zhao ¹, Zejun Zhang ¹ and Jinjie Qian ^{3,*}

¹ Science and Technology Department, College of Chemistry and Chemical Engineering, Zhaotong University, Zhaotong 657000, China.

² Green Food Development Center of Zhaotong, Zhaotong 657000, China

³ College of Chemistry and Materials Engineering, Wenzhou University, Wenzhou, 325035, China; jinjieqian@wzu.edu.cn

* Correspondence: shenyanqiong@foxmail.com (Y.Q.S.); jinjieqian@wzu.edu.cn (J.J.Q.)

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Supporting Information

Table S1. The selected bond distances and angles of ZTU-5.

ZTU-5			
Tb1—O6 ⁱ	2.2617 (16)	Tb1—O8 ⁱⁱⁱ	2.4056 (16)
Tb1—O5 ⁱⁱ	2.3189 (16)	Tb1—O11	2.4430 (17)
Tb1—O10	2.3578 (18)	Tb1—O1	2.4577 (16)
Tb1—O9	2.3938 (17)	Tb1—O2	2.4609 (16)
O6 ⁱ —Tb1—O5 ⁱⁱ	92.27 (6)	O9—Tb1—O8 ⁱⁱⁱ	88.93 (6)
O6 ⁱ —Tb1—O10	89.23 (7)	O6 ⁱ —Tb1—O11	78.93 (7)
O5 ⁱⁱ —Tb1—O10	71.59 (6)	O5 ⁱⁱ —Tb1—O11	73.04 (6)
O6 ⁱ —Tb1—O9	160.96 (6)	O10—Tb1—O11	142.08 (7)
O5 ⁱⁱ —Tb1—O9	77.61 (6)	O9—Tb1—O11	82.68 (6)
O10—Tb1—O9	102.49 (6)	O8 ⁱⁱⁱ —Tb1—O11	68.77 (6)
O6 ⁱ —Tb1—O8 ⁱⁱⁱ	88.97 (6)	O6 ⁱ —Tb1—O1	126.89 (6)
O5 ⁱⁱ —Tb1—O8 ⁱⁱⁱ	140.78 (6)	O5 ⁱⁱ —Tb1—O1	127.61 (6)
O10—Tb1—O8 ⁱⁱⁱ	147.63 (6)	O10—Tb1—O1	75.37 (7)
O9—Tb1—O1	71.23 (5)	O10—Tb1—O2	74.51 (6)
O8 ⁱⁱⁱ —Tb1—O1	80.03 (6)	O9—Tb1—O2	123.39 (5)
O11—Tb1—O1	139.49 (7)	O8 ⁱⁱⁱ —Tb1—O2	73.94 (6)
O6 ⁱ —Tb1—O2	73.96 (5)	O11—Tb1—O2	133.76 (6)
O5 ⁱⁱ —Tb1—O2	143.48 (6)	O1—Tb1—O2	53.01 (5)

Symmetry codes: (i) $x + 1, y, z - 1$; (ii) $-x, -y, -z + 2$; (iii) $-x, -y + 1, -z + 2$; (iv) $x - 1, y, z + 1$.

Table S2. Bond lengths (Å) and angles (°) of hydrogen bonds of ZTU-5.

$D-H\cdots A$	$D-H$	$H\cdots A$	$D\cdots A$	$D-H\cdots A$
O7-H7 ⁱⁱⁱ ...O3 ⁱⁱ	0.84	1.68	2.4951	162

O10-H10B...O3 ⁱⁱⁱ	0.84	2.05	2.8561	161
O10-H10C...O4 ^v	0.84	2.03	2.7306	141
O10-H11A...O3 ⁱⁱ	0.84	2.18	3.0217	175
O11-H11A...O4 ^{vi}	0.84	2.22	2.8120	128

Symmetry codes: (i) $1-x, 2-y, -z$; (ii) $1-x, 1-y, 1-z$; (iii) $2-x, 1-y, 1-z$; (iv) $x, 1+y, z$; (v) $-1+x, 1+y, z$; (vi) $1+x, y, -1+z$.

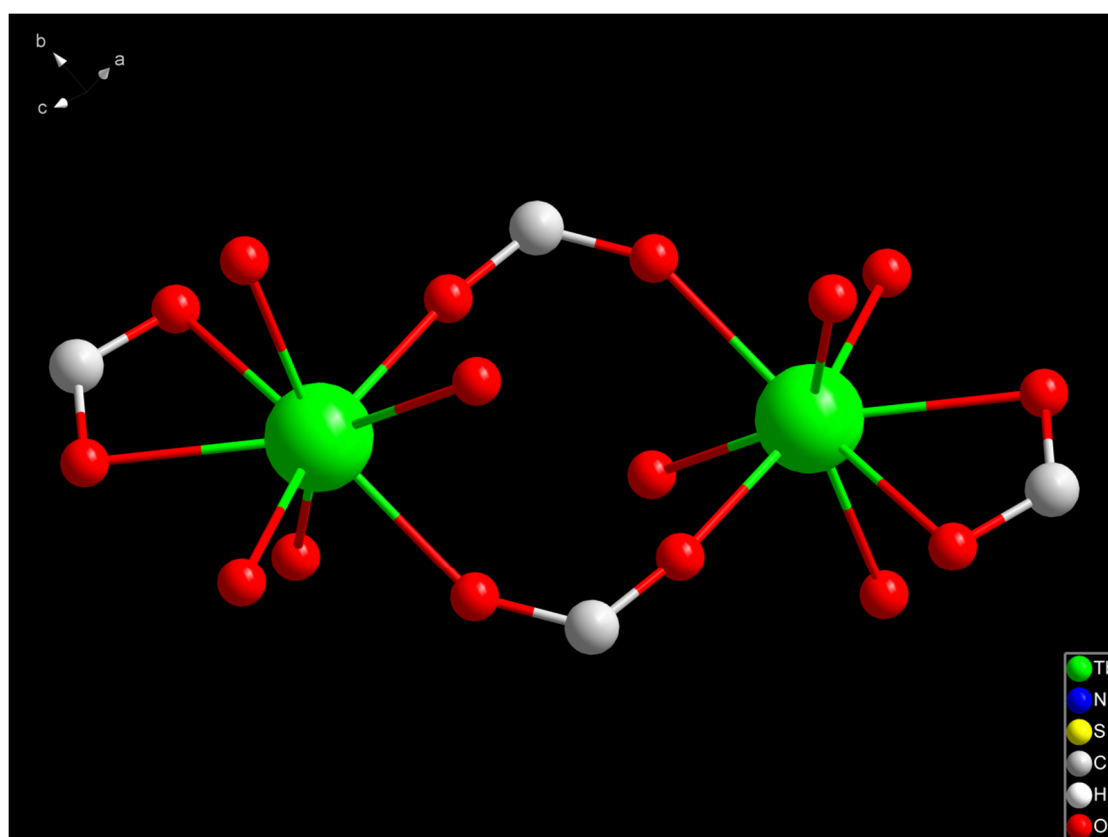


Figure S1. The binuclear terbium secondary building units (SBUs) in ZTU-5.

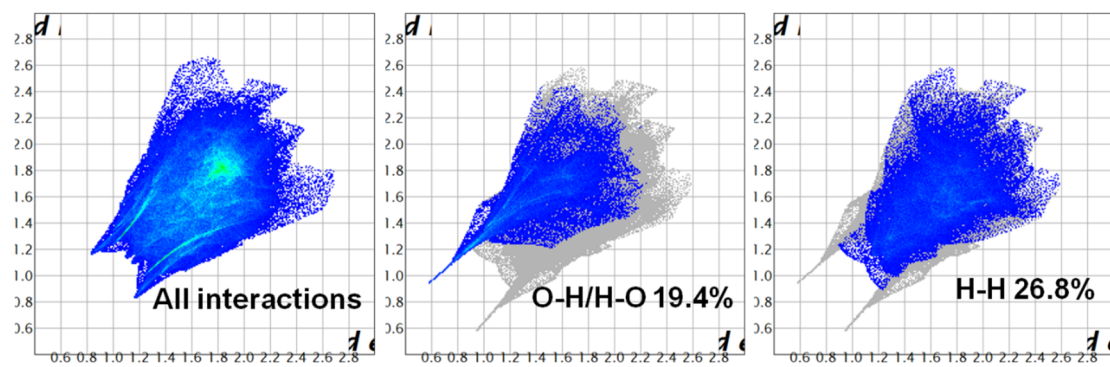


Figure S2. Hirshfeld surface mapped with the fingerprint plots of compound ZTU-5.

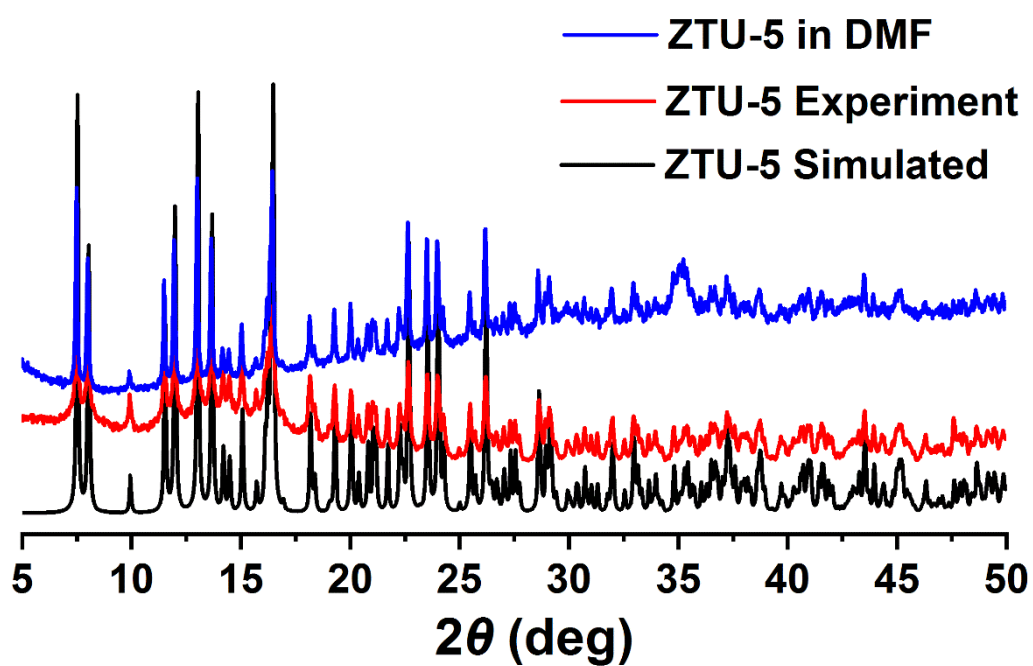


Figure S3. The X-ray diffraction (XRD) patterns of ZTU-5.

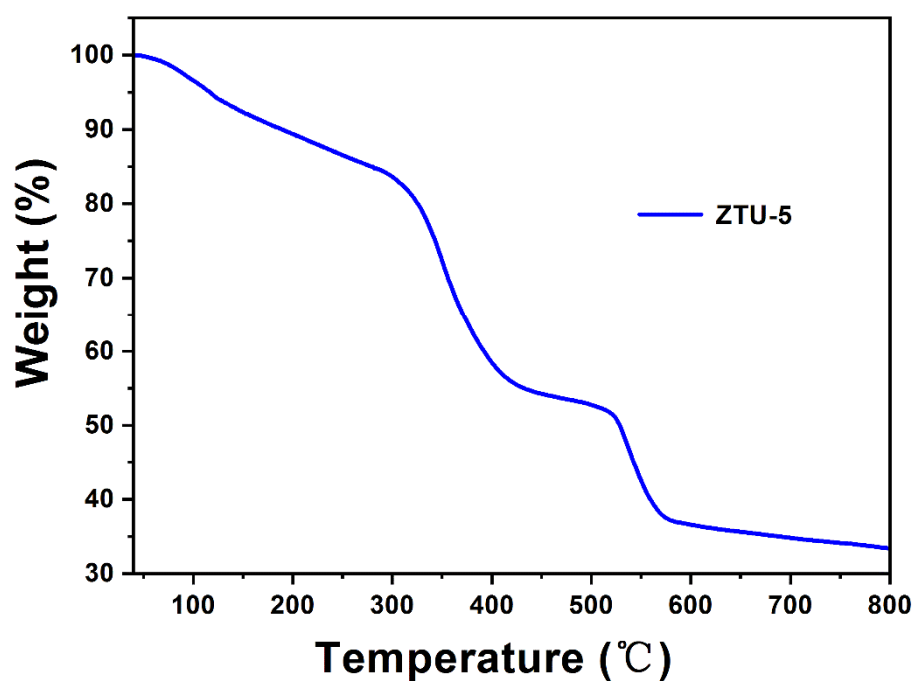


Figure S4. The thermo gravimetric analyzer (TGA) curves of ZTU-5.

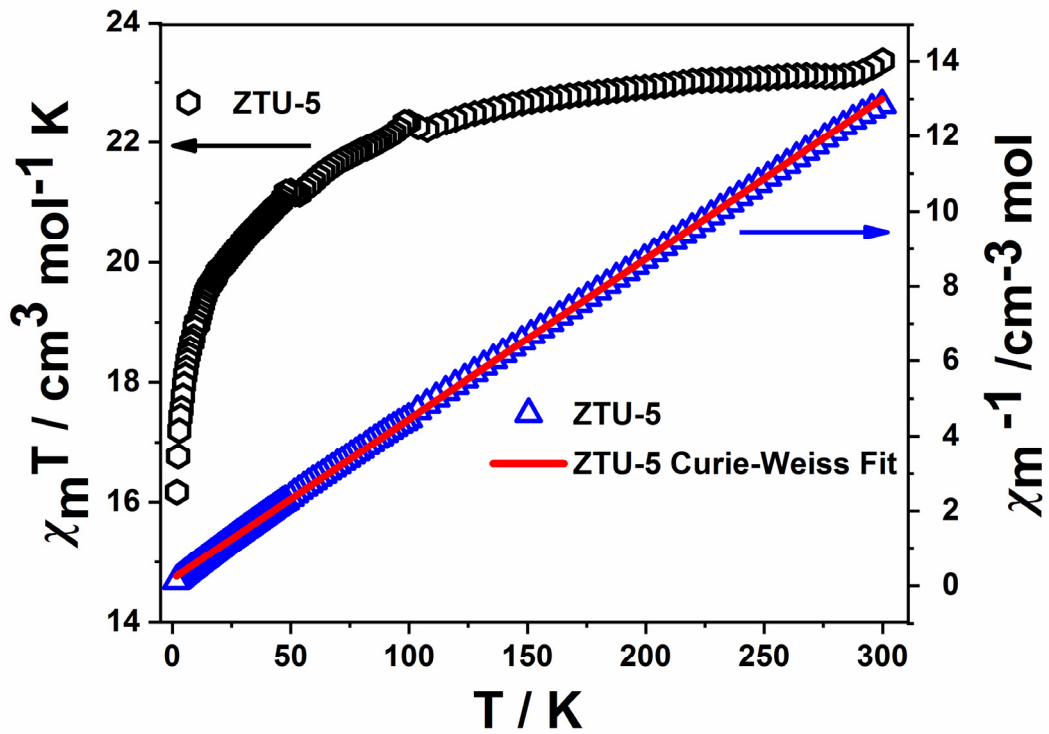
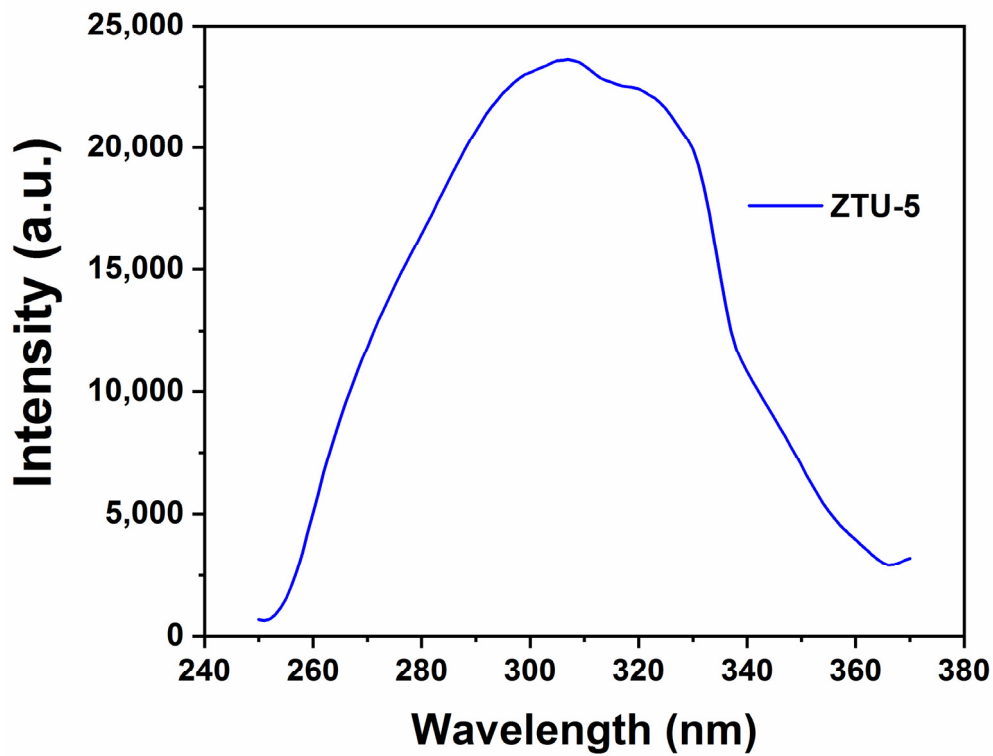
Figure S5. Dependence of $\chi_m T$ and χ_m^{-1} for ZTU-5.

Figure S6. The solid-state excitation spectra of ZTU-5.

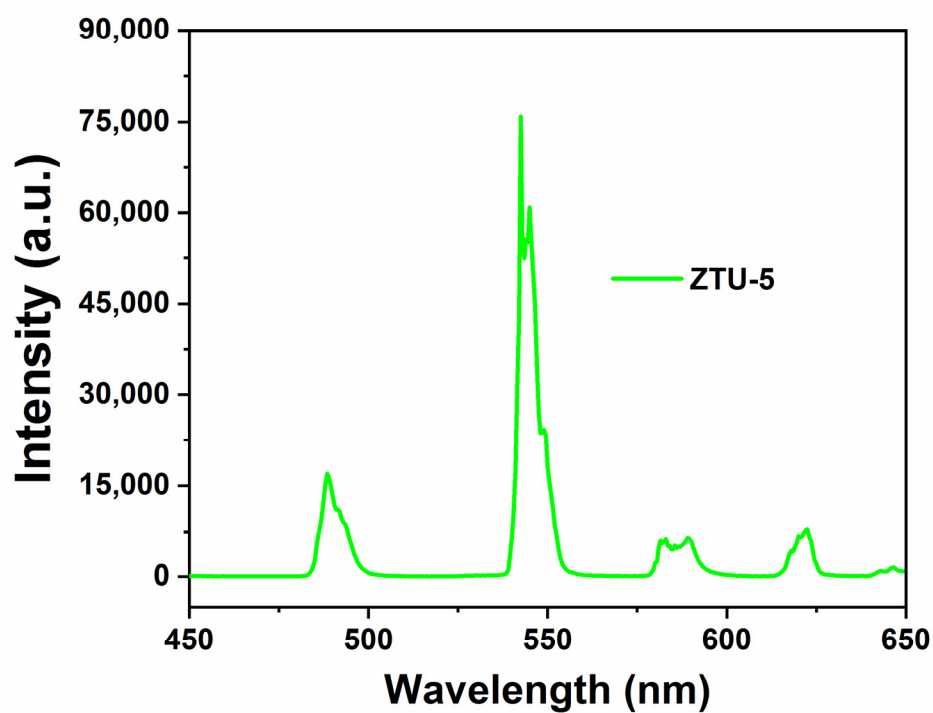


Figure S7. The solid-state emission spectra of ZTU-5.

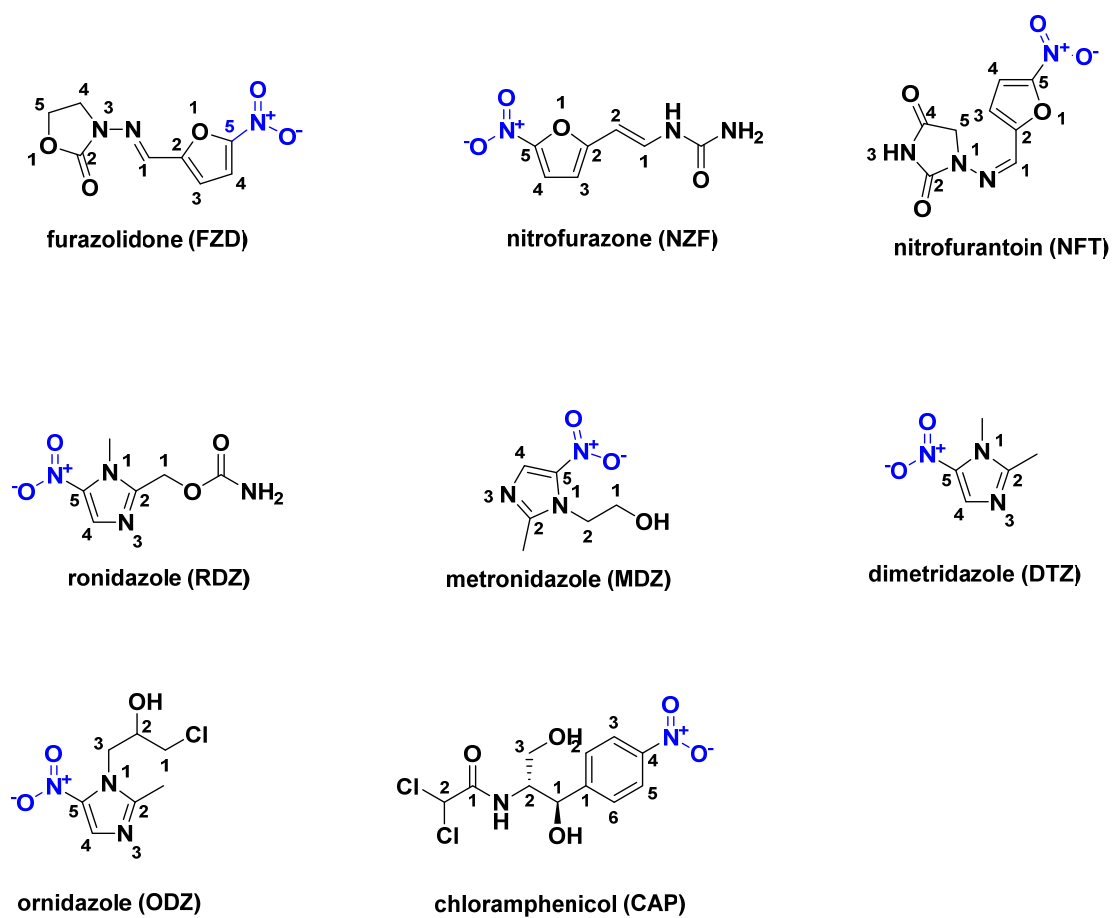


Figure S8. Molecular structures of the explored nitro-antibiotics in this work.

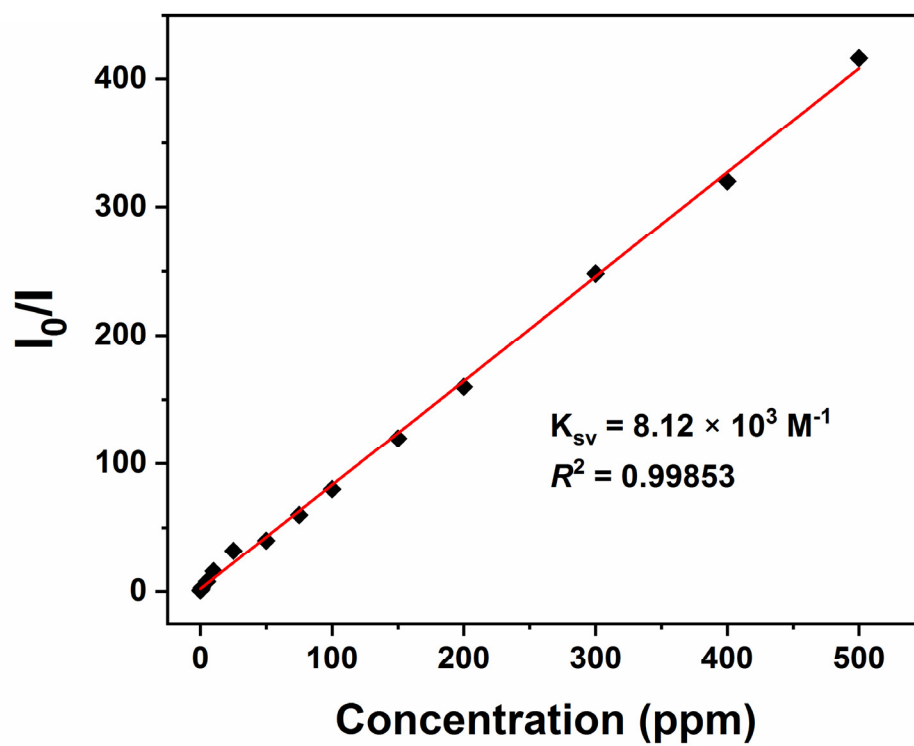


Figure S9. The linear correlation of (I_0/I) vs. concentrations of NZF.