

## A novel dehydroabiestic acid-based turn-on fluorescent probe for detection of bisulfide and its application in live-cell and zebrafish imaging

A-Liang Li,<sup>a</sup> Zhong-Long Wang,<sup>a</sup> Wen-Yan Wang,<sup>a</sup> Qing-Song Liu,<sup>a</sup> Yue Sun,<sup>a</sup> Wen Gu<sup>\*a</sup>

**Fig. S1.** <sup>1</sup>H NMR spectra of compound 6 in DMSO-d<sub>6</sub>.

**Fig. S2.** <sup>13</sup>C NMR spectra of compound 6 in DMSO-d<sub>6</sub>.

**Fig. S3.** HRMS of compound 6.

**Fig. S4.** <sup>1</sup>H NMR spectra of compound 7 in DMSO-d<sub>6</sub>.

**Fig. S5.** <sup>13</sup>C NMR spectra of compound 7 in DMSO-d<sub>6</sub>.

**Fig. S6.** HRMS of compound 7.

**Fig. S7.** <sup>1</sup>H NMR spectra of probe **DBE** in DMSO-d<sub>6</sub>.

**Fig. S8.** <sup>13</sup>C NMR spectra of probe **DBE** in DMSO-d<sub>6</sub>.

**Fig. S9.** HRMS of probe **DBE**.

**Fig. S10.** (a) Photographs of **DBE** (50 μM) with the addition of various metal ions (100 μM) in DMF/ PBS buffer (pH = 7.4, 3/7, 10 mM) solution under sunlight and (b) 365 nm UV light.

**Fig. S11.** FT-IR spectra of probe **DBE** and complex **DBE**+ HSO<sub>3</sub><sup>-</sup>.

**Fig. S12.** HRMS of complex **DBE**+ HSO<sub>3</sub><sup>-</sup>.

**Fig. S13.** Cytotoxic effects of **DBE**.

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<sup>a</sup> Jiangsu Provincial Key Lab for the Chemistry and Utilization of Agro-forest Biomass, Jiangsu Key Lab of Biomass-based Green Fuels and Chemicals, Co-Innovation Center for Efficient Processing and Utilization of Forest Products, College of Chemical Engineering, Nanjing Forestry University, Nanjing 210037, P. R. China.  
E-mail address: njguwen@163.com.



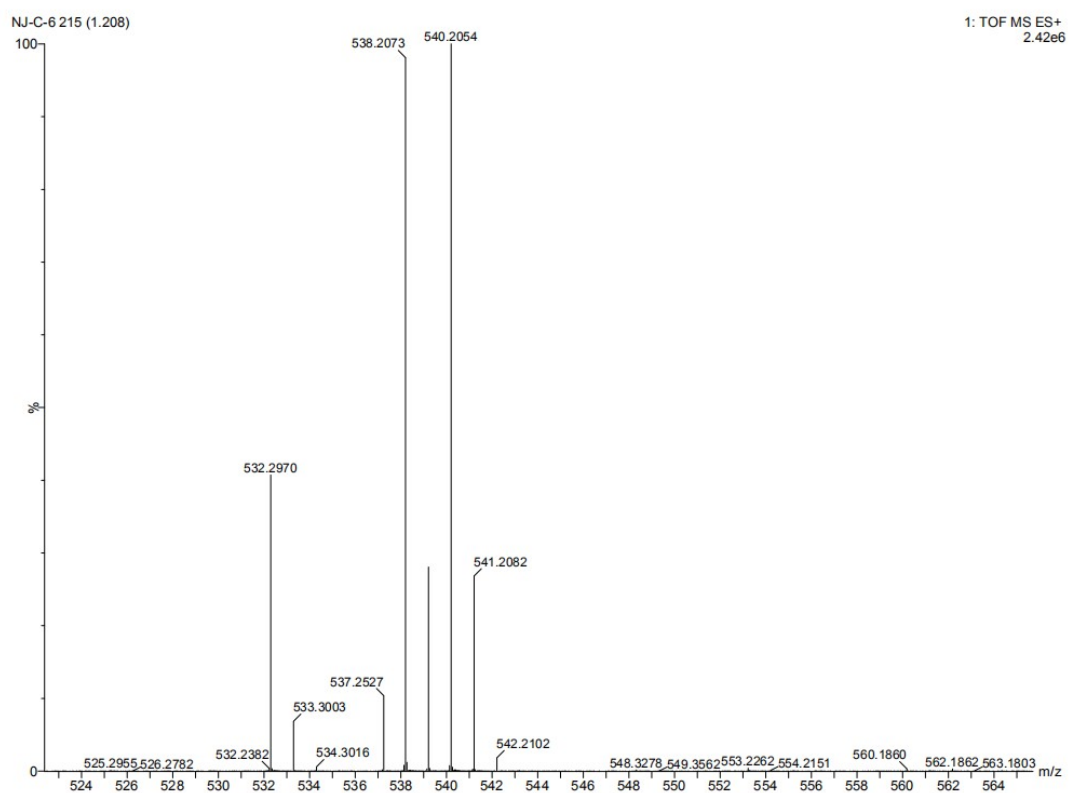


Fig. S3. HRMS of compound 6.

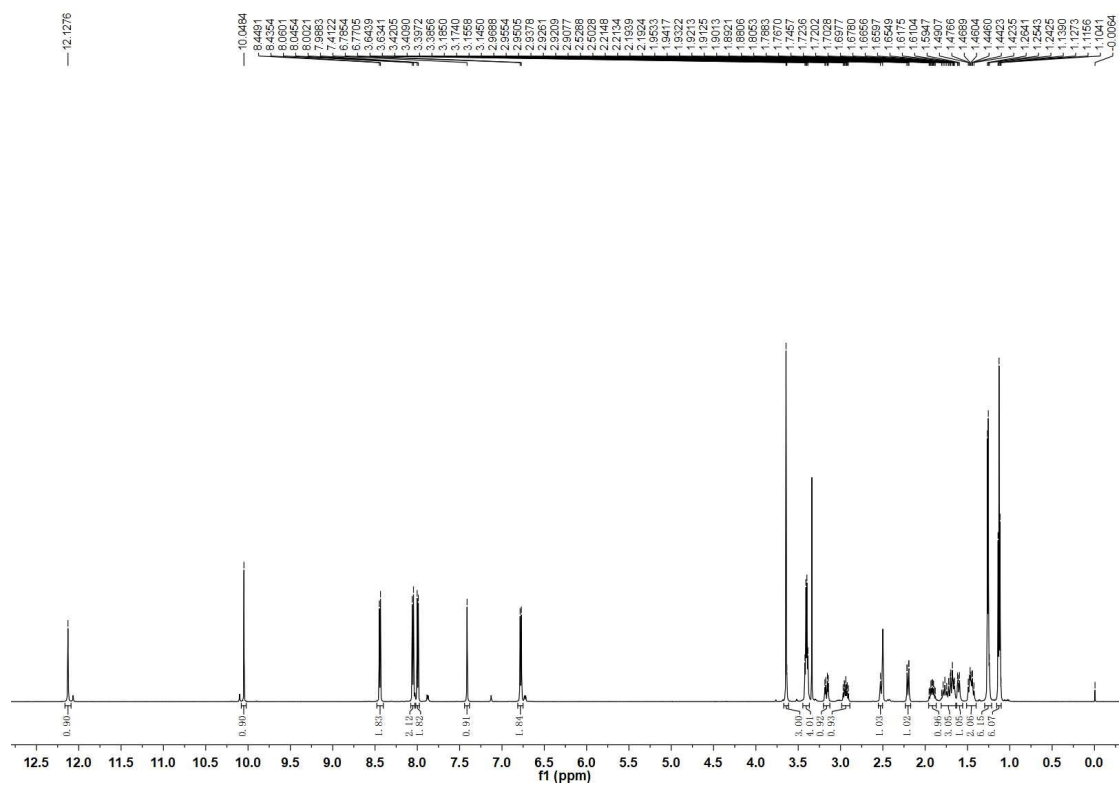


Fig. S4. <sup>1</sup>H NMR spectra of compound 7 in DMSO-d<sub>6</sub>.

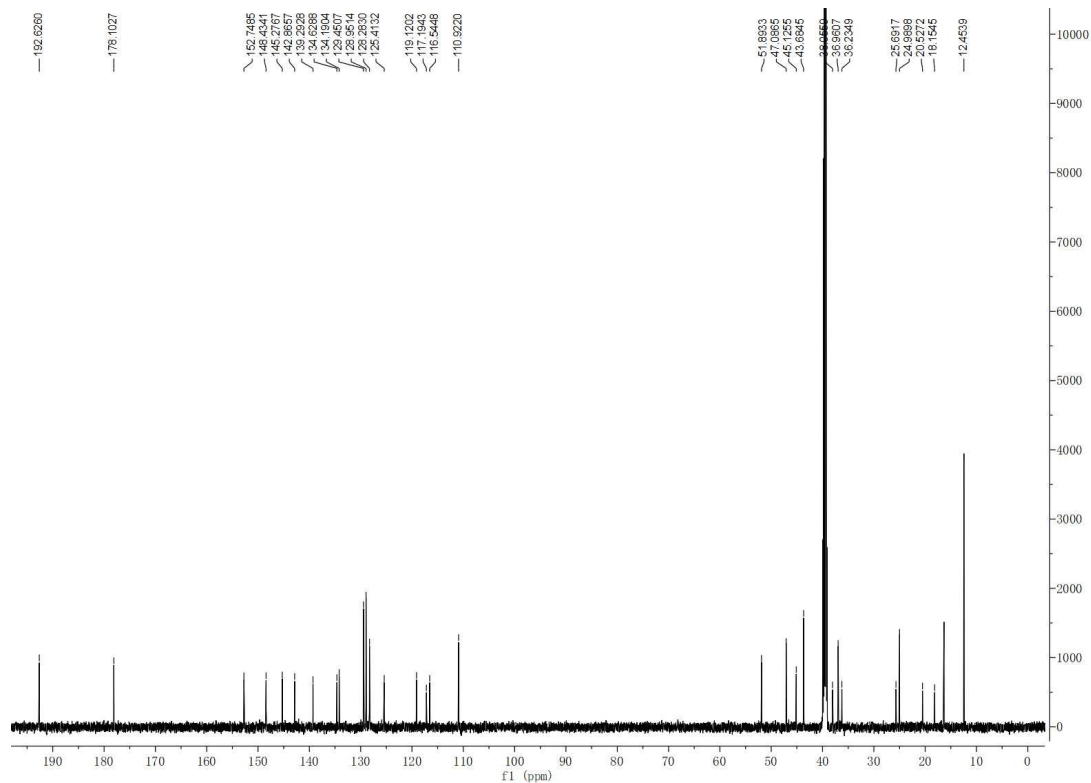


Fig. S5.  $^{13}\text{C}$  NMR spectra of compound 7 in  $\text{DMSO-d}_6$ .

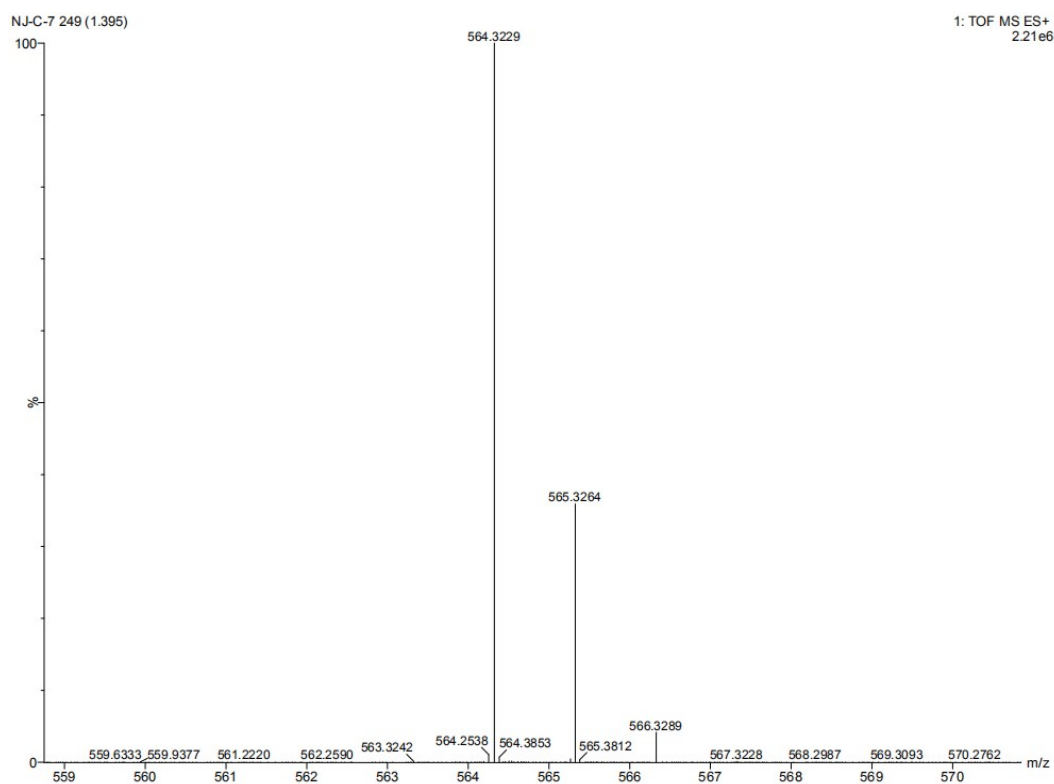


Fig. S6. HRMS of compound 7.

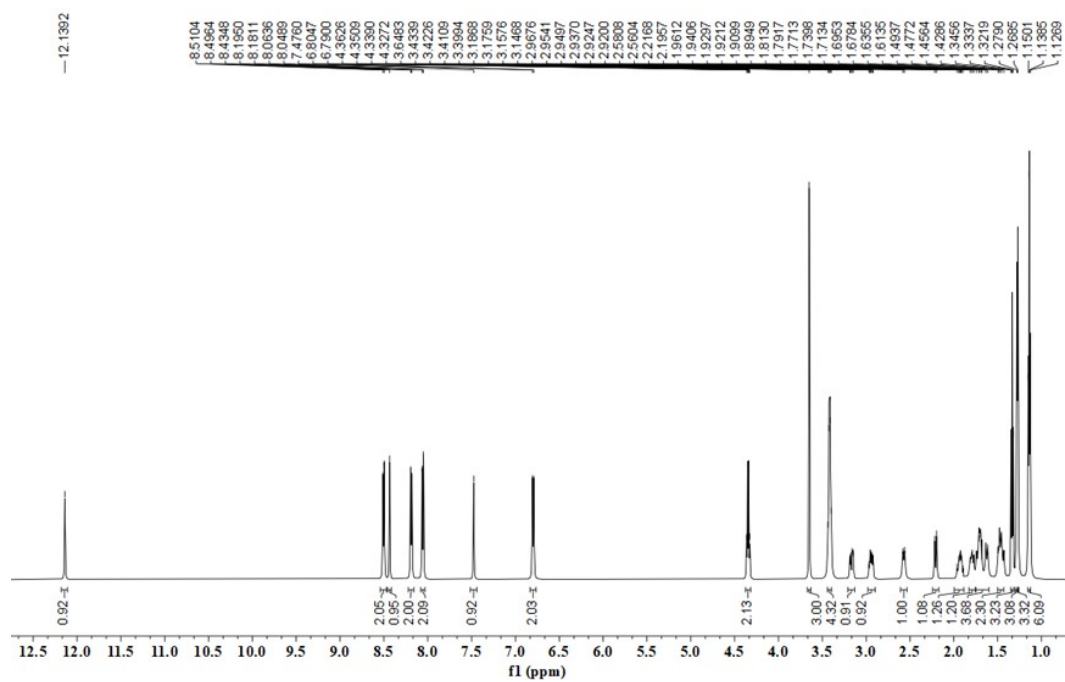


Fig. S7.  $^1\text{H}$  NMR spectra of probe DBE in  $\text{DMSO-d}_6$ .

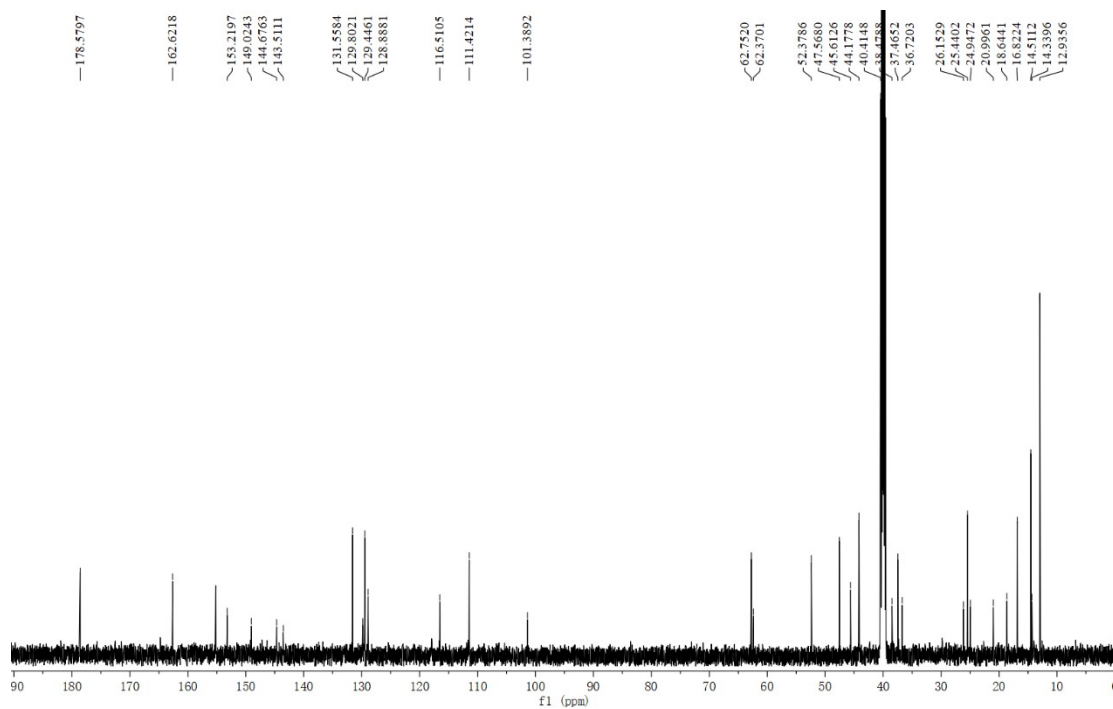
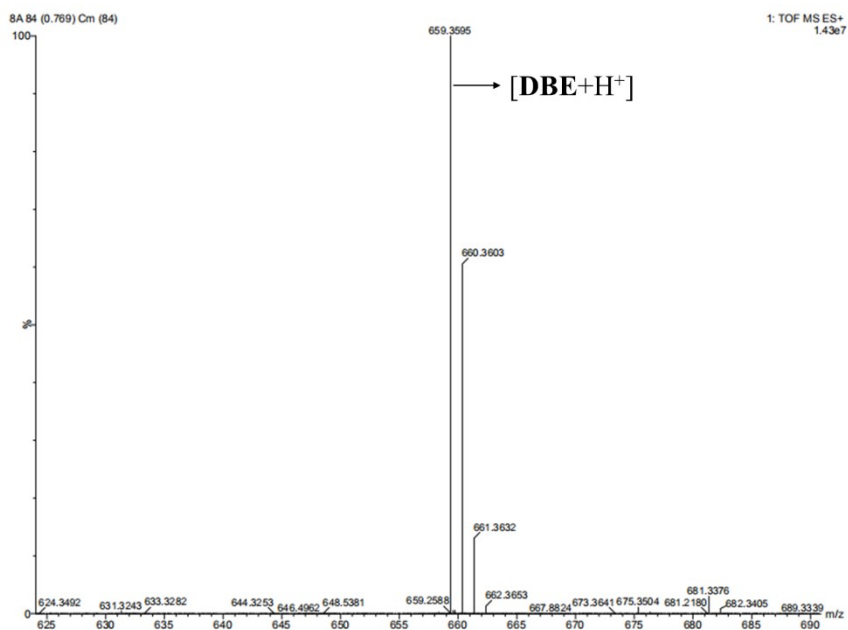
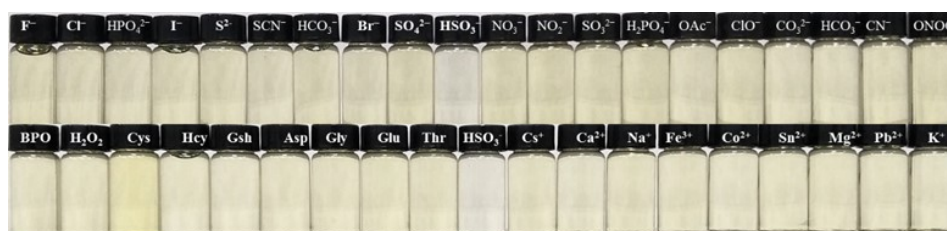


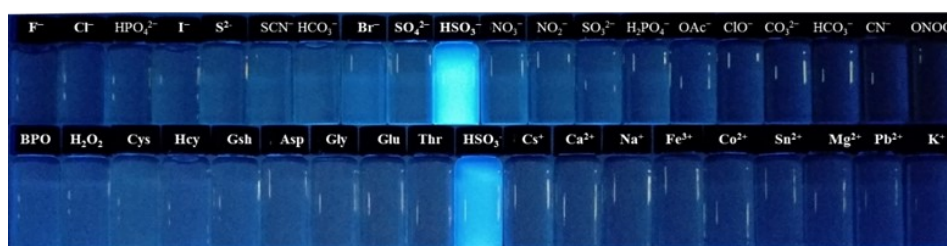
Fig. S8.  $^{13}\text{C}$  NMR spectra of probe DBE in  $\text{DMSO-d}_6$ .



**Fig. S9.** HRMS of probe DBE.



**(a)**



**(b)**

**Fig. S10.** (a) Photographs of DBE (50  $\mu\text{M}$ ) with the addition of various metal ions (100  $\mu\text{M}$ ) in DMF/ PBS buffer (pH = 7.4, 3/7, 10 mM) solution under sunlight and (b) 365 nm UV light.

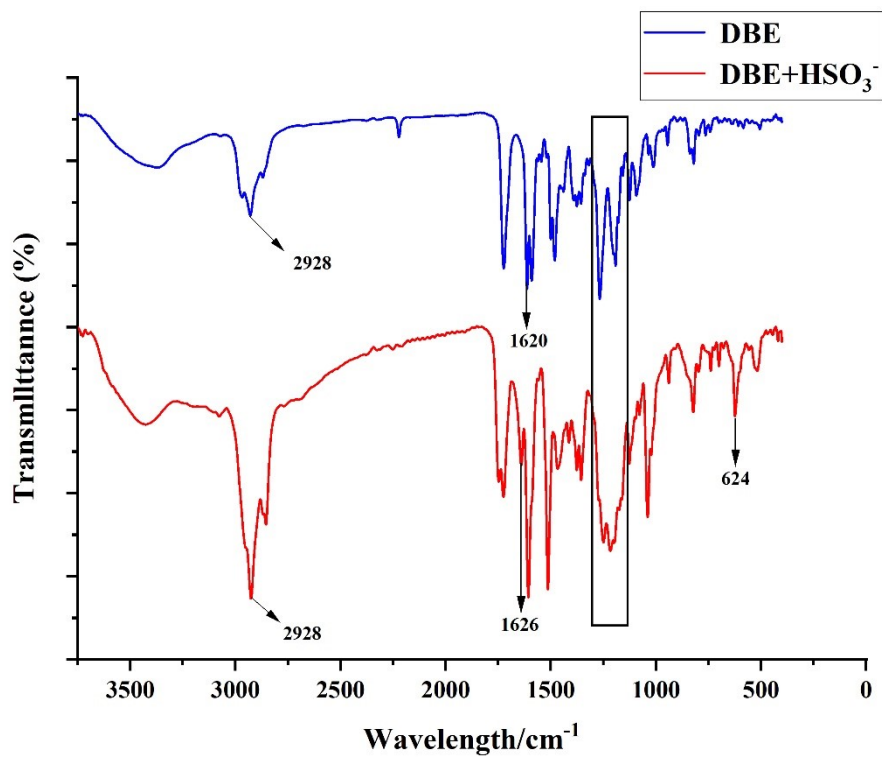


Fig. S11. FT-IR spectra of probe **DBE** and complex **DBE+HSO<sub>3</sub><sup>-</sup>**.

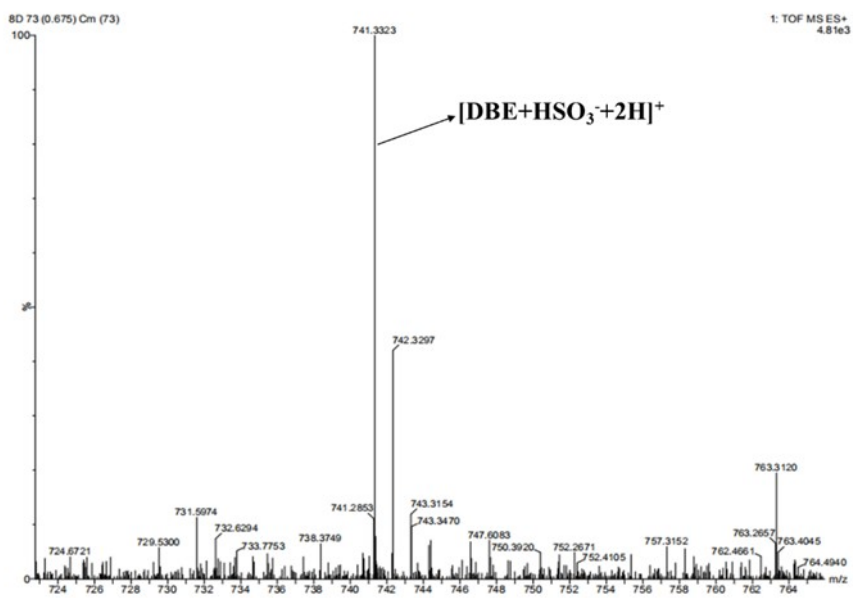


Fig. S12 HRMS of complex **DBE+HSO<sub>3</sub><sup>-</sup>**.

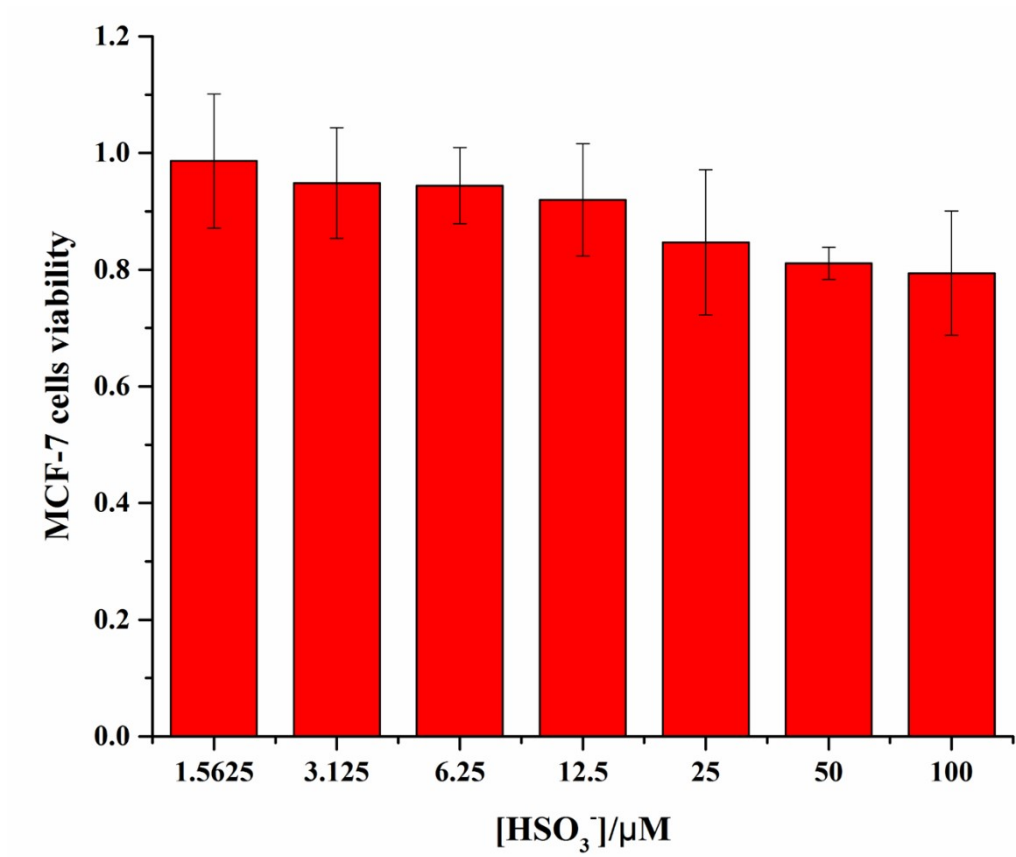


Fig. S13. Cytotoxic effects of DBE.