

Supporting information

A novel pyrazoline-based fluorescent probe for detecting fluoride ion in water and its application on real sample

Ying Liu,^a Sheng-Qing Wang,^{ab} Bao-Xiang Zhao^{*a}

*a Institute of Organic Chemistry, School of Chemistry and Chemical Engineering,
Shandong University, Jinan 250100, P.R. China*

*b Linyi Engineering Consulting Institute, Shandong Province, Linyi 276000, P.R.
China*

*Corresponding author. Tel.: +86 531 88366425; fax: +86 531 88564464.

E-mail address: bxzhao@sdu.edu.cn (B.X. Zhao).

Fig. S1 The HRMS data of the reaction products of probe **1** and F⁻

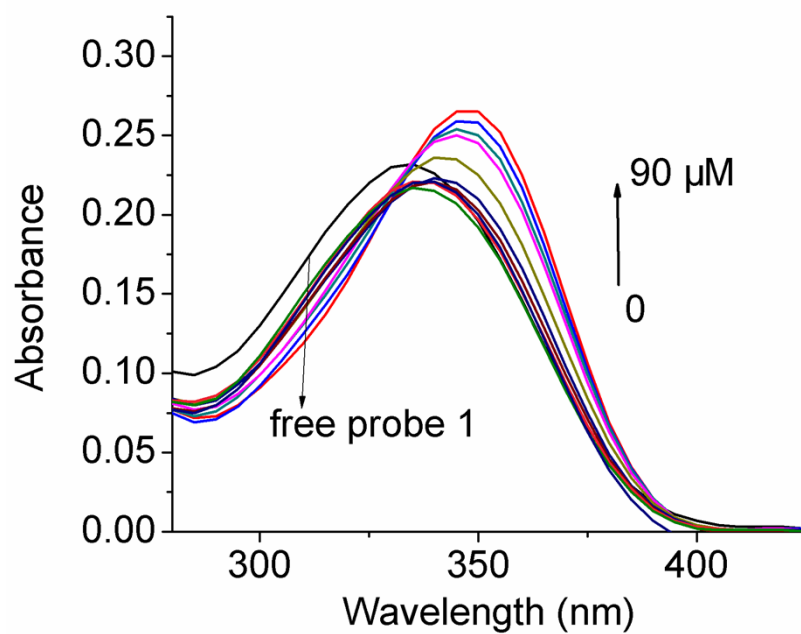


Fig. S2 Absorbance spectra of probe **1** + F⁻ in HEPES (pH = 7.4) solution (CH₃CN/water = 8:2, v/v) in the presence of increasing F⁻ concentrations (0, 2, 4, 6, 8, 10, 20, 30, 50, 70, 90 μM). The probe concentration is 1.0×10^{-5} M.

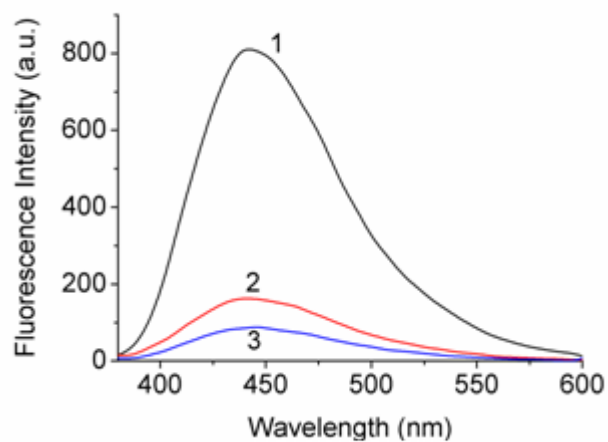


Fig. S3 The emission spectra in HEPES solution ($\text{CH}_3\text{CN}/\text{water} = 8:2$, v/v, pH = 7.4). 1: probe **1**; 2: the products of probe **1** upon addition of 0.4 mM F^- ; 3: compound **2**. ($\lambda_{\text{ex}} = 340$ nm). Both concentrations of probe **1** and compound **2** are 1.0×10^{-6} M.

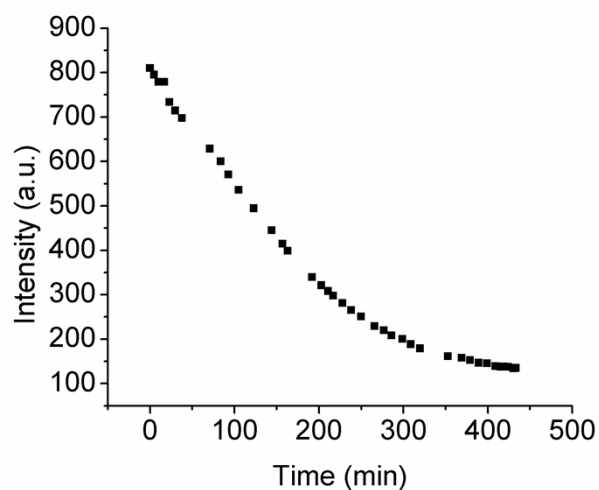


Fig. S4 Time course of the fluorescence response of probe **1** in HEPES (pH = 7.4) solution ($\text{CH}_3\text{CN}/\text{water} = 8:2$, v/v) upon addition of 0.4 mM F^- . The probe concentration is 1.0×10^{-6} M.

^1H -NMR

^{13}C -NMR

IR

HRMS