

Electronic Supplementary Material

**A novel dual-channel chemosensor for CN^- based on
Rhodamine B hydrazide derivatives and its
application in bitter almond**

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CONTENTS

1. Influence of pH on the fluorescence of PW and PW+ CN⁻	3
2. ¹ H NMR spectra of PW	4
3. ESI-MS spectra of PW	5
4. ESI-MS spectra of PW +CN⁻	6
5. ¹³ C NMR spectra of PW	7
6. Table S1	8

1. Influence of pH on the fluorescence of **PW** and **PW+ CN⁻**

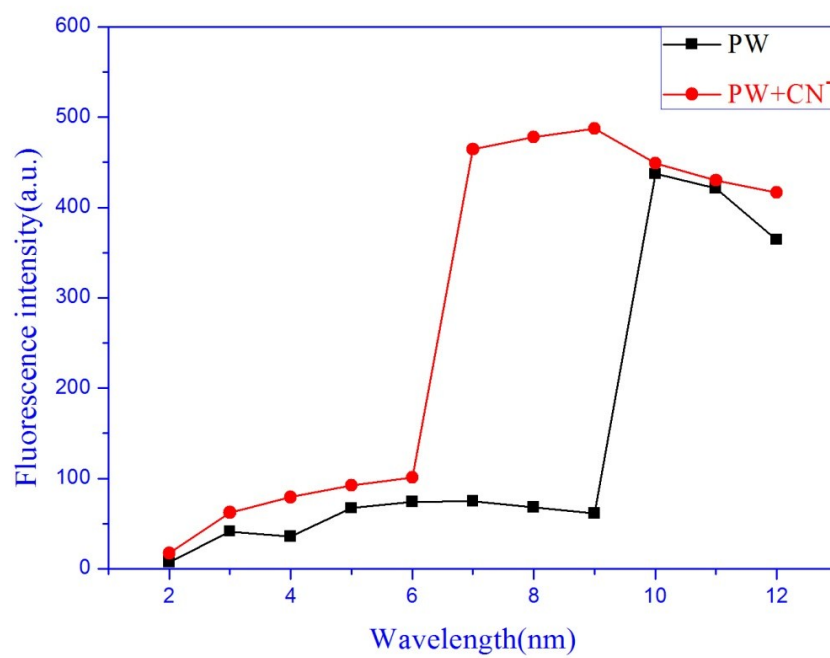


Fig. S1 Influence of pH on the fluorescence of **PW** and **PW+CN⁻**.

2. ^1H NMR spectra of PW

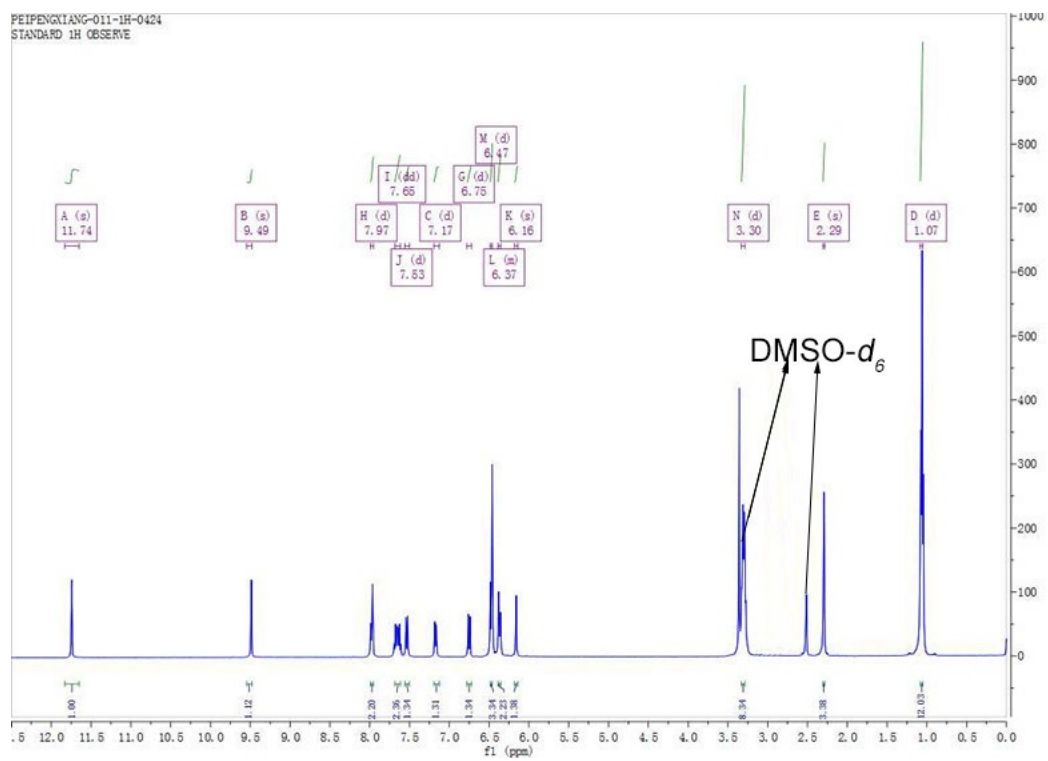


Fig. S2 ^1H NMR spectra of PW

3. ESI-MS spectra of PW

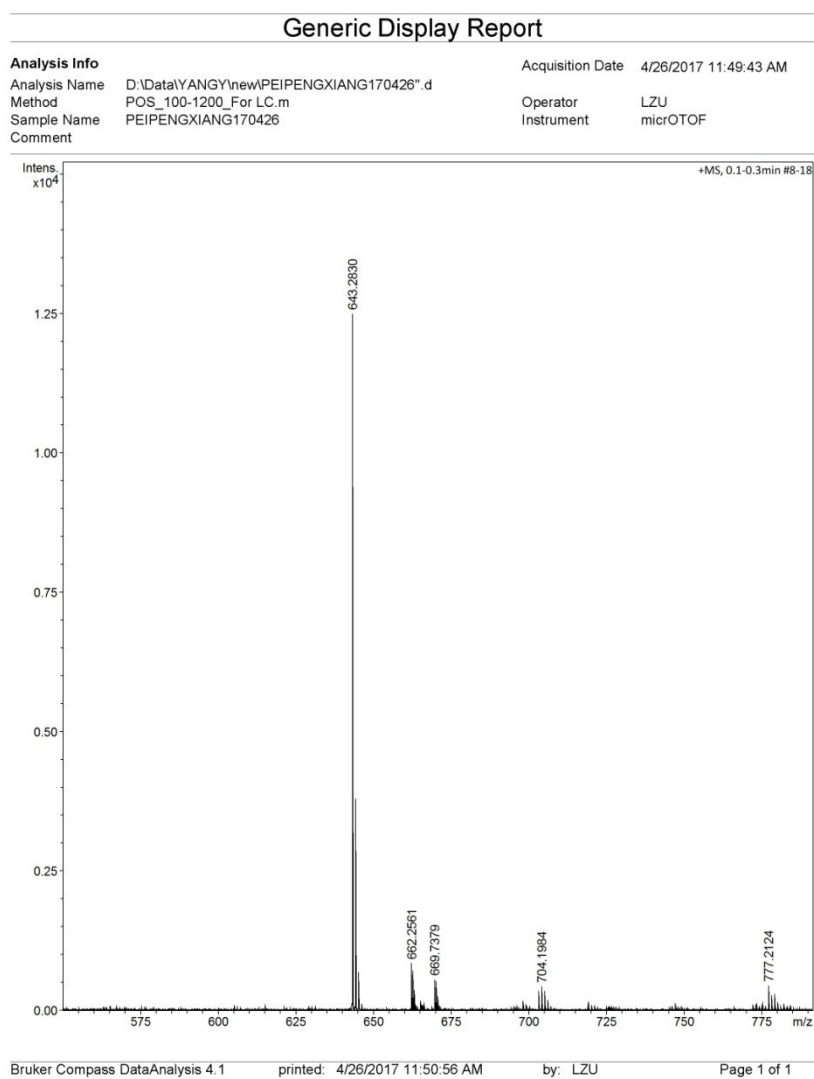


Fig. S3 ESI-MS spectra of PW

4. ESI-MS spectra of PW+CN⁻

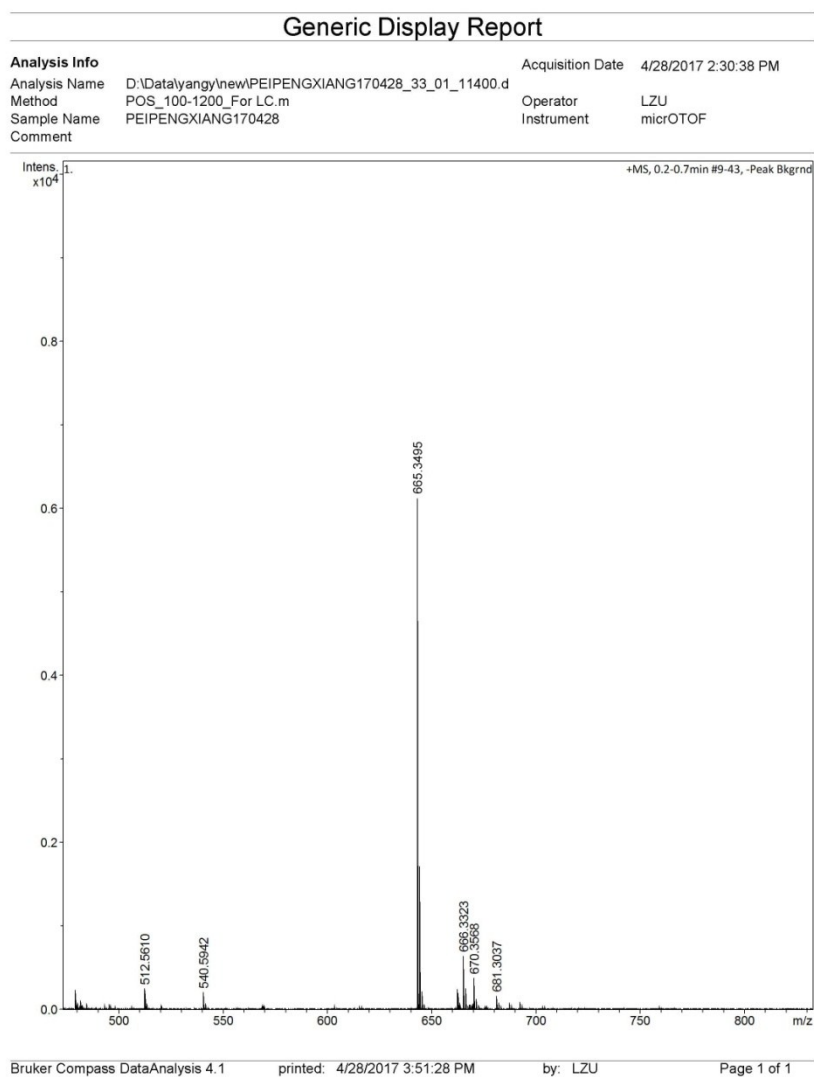


Fig. S4 ESI-MS spectra of PW+CN⁻

5. ^{13}C NMR spectra of PW

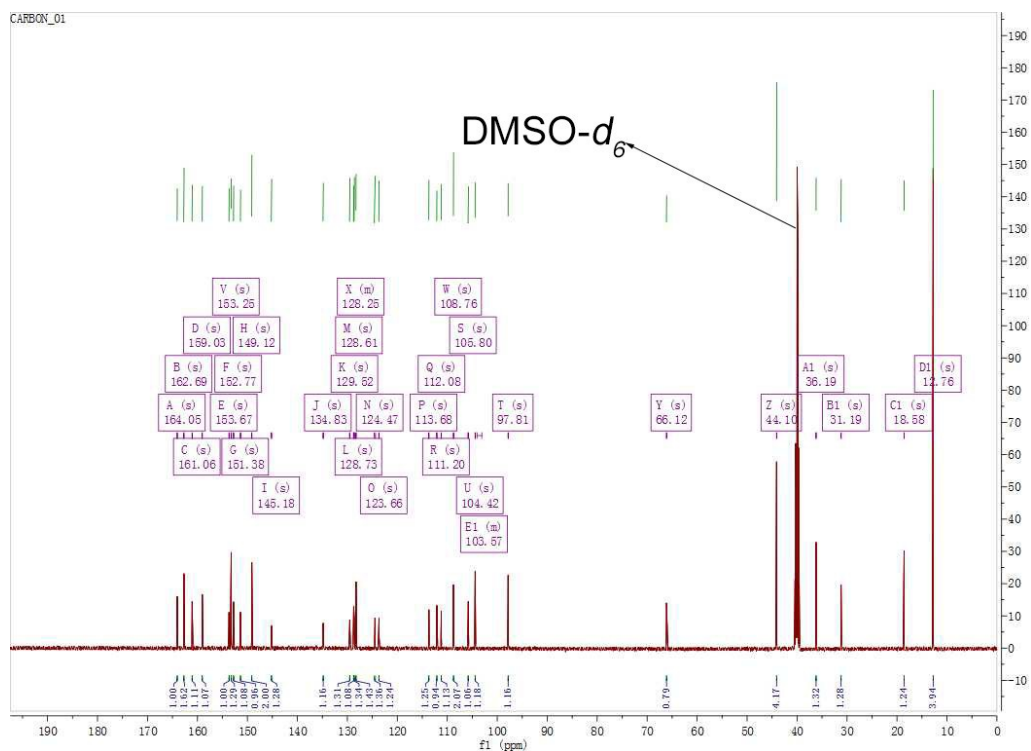


Fig. S5 ^{13}C NMR spectra of PW

A part of the literatures was provided in the followed table:

Table S1:

Journal Year. Volume. Page.	Response channel	Solvent medium	Detection limits	Application
This work	Colorimetric and fluorometric (off-on)	DMSO/H ₂ O (1:1, v/v)	1.592×10^{-7} M	Test strips and bitter almond
<i>J. Fluoresc.</i> 26 (2016) 1857-1864	Colorimetric	DMSO/EtOH (v/v=1:9)	3.07×10^{-7} M	—
<i>Sens Actuators B.</i> 202 (2014) 645-655.	Colorimetric and fluorometric (off-on)	DMSO/bis-tris buffer (8/2, v/v)	7.8×10^{-7} M	—
Tetrahedron 70 (2014) 1889-1894	Colorimetric and fluorometric (off-on)	DMSO/H ₂ O (v/v=9:1)	4.0×10^{-7} M	—
Tetrahedron 72 (2016) 1244-1248	Colorimetric and fluorometric (on-off))	CH ₃ CN	3.9024×10^{-6} M	—

- [1] P. Gholamzadeh, G. M. Ziarani, N. Lashgari, A. Badiei, A. Shayesteh, M. Jafari, *J. Fluoresc.* **26** (2016) 1857-1864.
- [2] G. R. You, G. J. Park, S. A. Lee, Y. W. Choi, Y. S. Kim, J. J. Lee, C. Kim, *Sens Actuators B.* **202** (2014) 645-655.
- [3] P. Zhang, B. B. Shi, X. M. You, Y. M. Zhang, Q. Lin, H. Yao, T. B. Wei, *Tetrahedron* **70** (2014) 1889–1894.
- [4] S.Y. Gwon, B. A. Rao, H. S. Kim, Y. A. Son, S. H. Kim, *Spectrochim. Acta Part A* **144** (2015) 226-234.