

Supplementary

## A GSH Fluorescent Probe with a Large Stokes Shift and Its Application in Living Cells

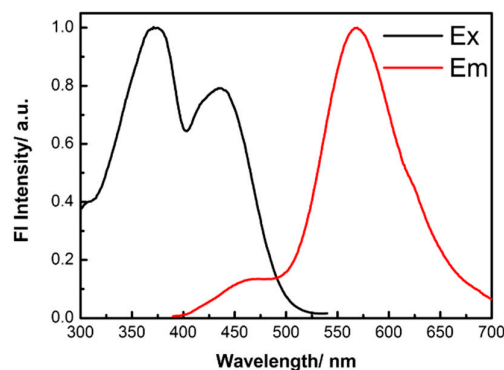
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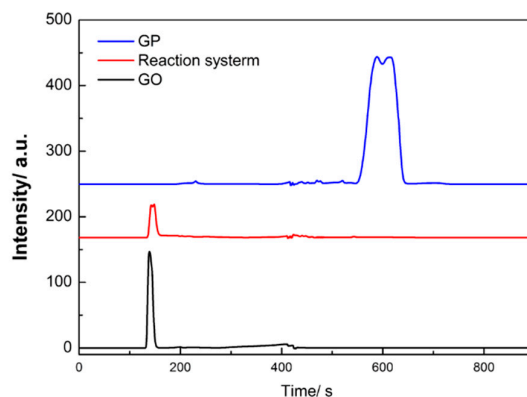
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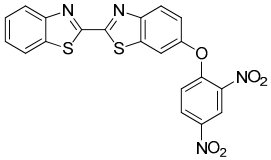
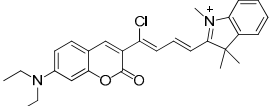
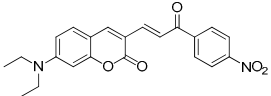
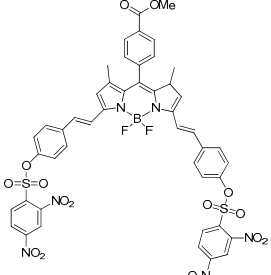
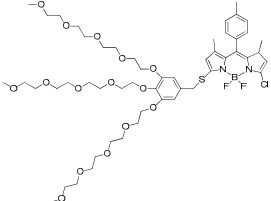
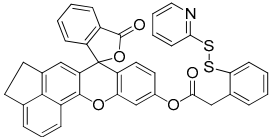
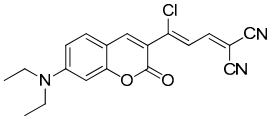


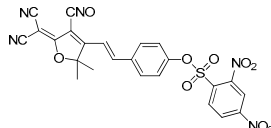
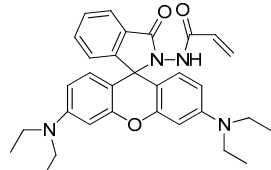
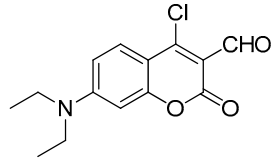
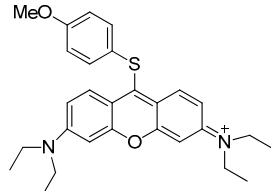
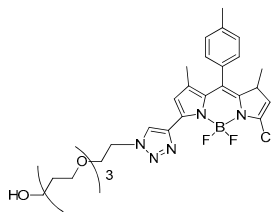
**Figure S1.** Excitation (Ex) and emission (Em) spectra of GO, which is the product of GP (10  $\mu$ M) reacting with GSH (1000  $\mu$ M). The excitation wavelength of emission spectrum is 370 nm and the settled emission wavelength of excitation spectrum is 569 nm.



**Figure S2.** HPLC (High Performance Liquid Chromatography) of GP (Blue line), GO (Black line) and detecting reaction system (Red line). Acetonitrile acts as the mobile liquid phase and the velocity was 0.4 ml/min.

**Table S1.** Limit of detection (LOD), responding time and Sticks shift of reported probes for GSH.

Ref.	Structure	LOD	Responding Time	Type	Detection Species	Stocks Shift
This work		0.36 $\mu\text{M}$	5 min	on	GSH	135 nm
1[1]		6.847 $\mu\text{M}$	70 min	on	GSH	70 nm
2[2]		0.0065 $\mu\text{M}$	30 min	Ratio metric	GSH	100 nm
3[3]		0.17 $\mu\text{M}$	20 min	on	GSH	125 nm
4[4]		1.2 $\mu\text{M}$	Not mention	on	GSH	50 nm
5[5]		0.12 $\mu\text{M}$	10 min	on	GSH/ Cys	30 nm
6[6]		0.30 $\mu\text{M}$	5 min	on	GSH	65 nm

7[7]		0.89 $\mu$ M	Not mention	on	GSH	Not mention
8[8]		0.19 $\mu$ M	10 s	on	GSH	62 nm
9[9]		0.08 $\mu$ M	Not mention	Ratio metri c	GSH	86 nm
10[10]		Not mentio n	2 min	on	GSH	40 nm
11[11]		0.86 nM	10 min	Ratio metri c	GSH	40 nm

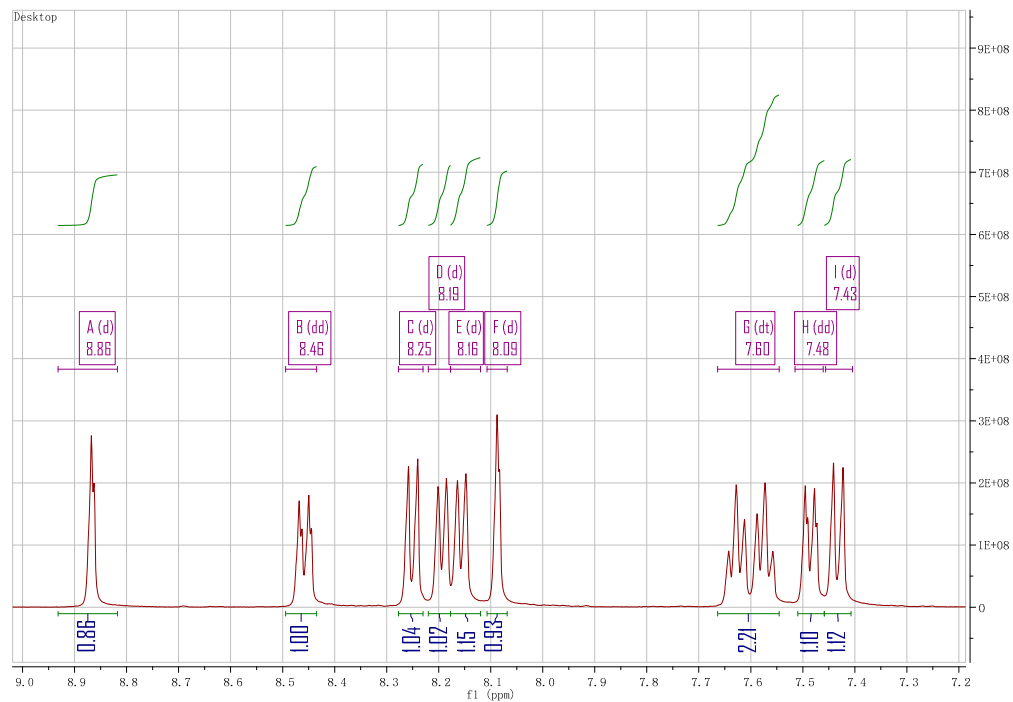


Figure S3. <sup>1</sup>H NMR of compound GP was conducted in d<sub>6</sub>-DMSO.

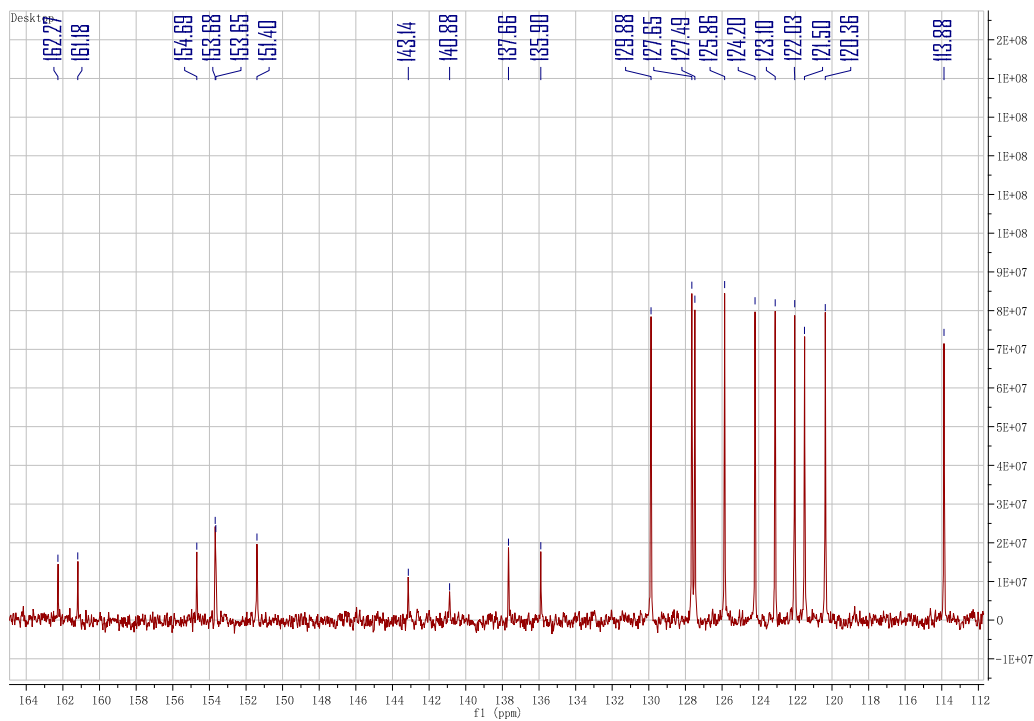
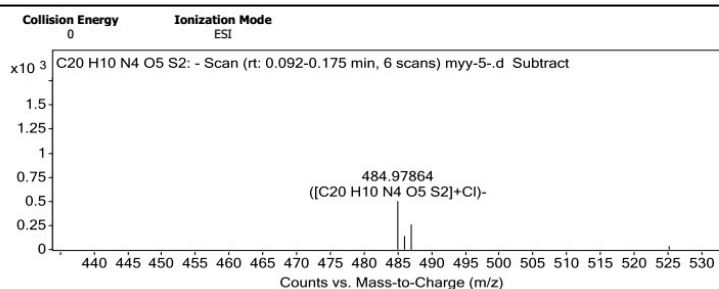


Figure S4. <sup>13</sup>C NMR of compound GP in d<sub>6</sub>-DMSO.

### Qualitative Analysis Report

<b>Data Filename</b>	myy-5-.d	<b>Sample Name</b>	myy-5
<b>Sample Type</b>	Sample	<b>Position</b>	Vial 21
<b>Instrument Name</b>	Instrument 1	<b>User Name</b>	
<b>Acq Method</b>	method-NEG.m	<b>Acquired Time</b>	9/25/2019 8:37:31 AM (UTC+08:00)
<b>IRM Calibration Status</b>	Success	<b>DA Method</b>	1.m
<b>Comment</b>			
<b>Sample Group</b>		<b>Info.</b>	
<b>Stream Name</b>	LC 1	<b>Acquisition Time (Local)</b>	9/25/2019 8:37:31 AM (UTC+08:00)
<b>Acquisition SW Version</b>	6200 series TOF/6500 series Q-TOF B.06.01 (B6157)	<b>TOF Driver Version</b>	6.00.01
<b>TOF Firmware Version</b>	17.643		

#### Spectra



**Figure S5.** HRMS of compound GP.

#### References

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