Determination of biogenic amines in alcoholic beverages using a novel fluorogenic compound as derivatizing reagent

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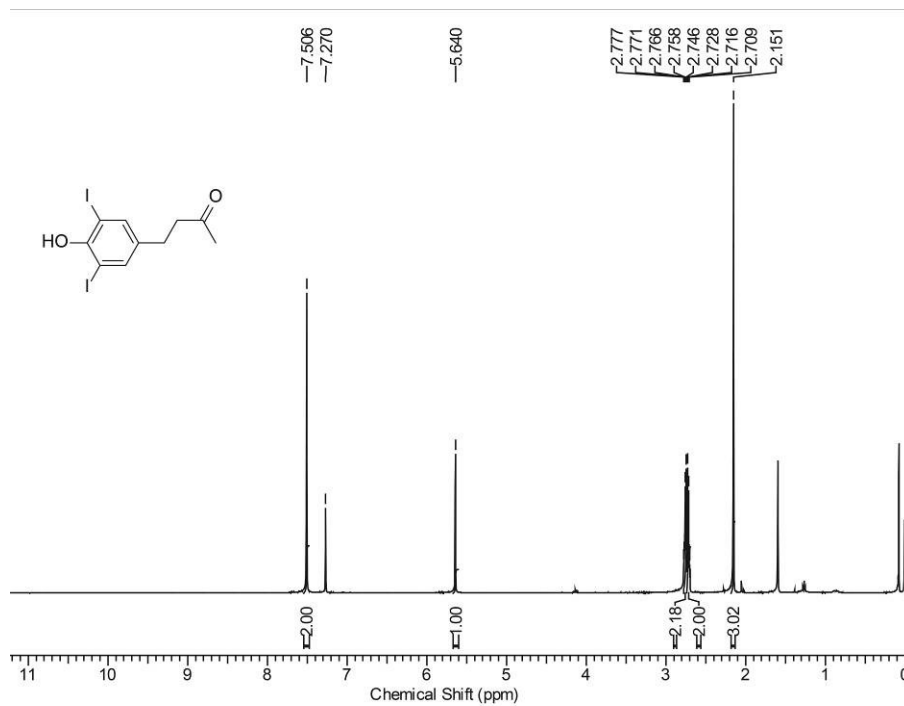[*] Email: xhu@whut.edu.cn (X. Hu), linyawei2012@whut.edu.cn (Y. Lin)

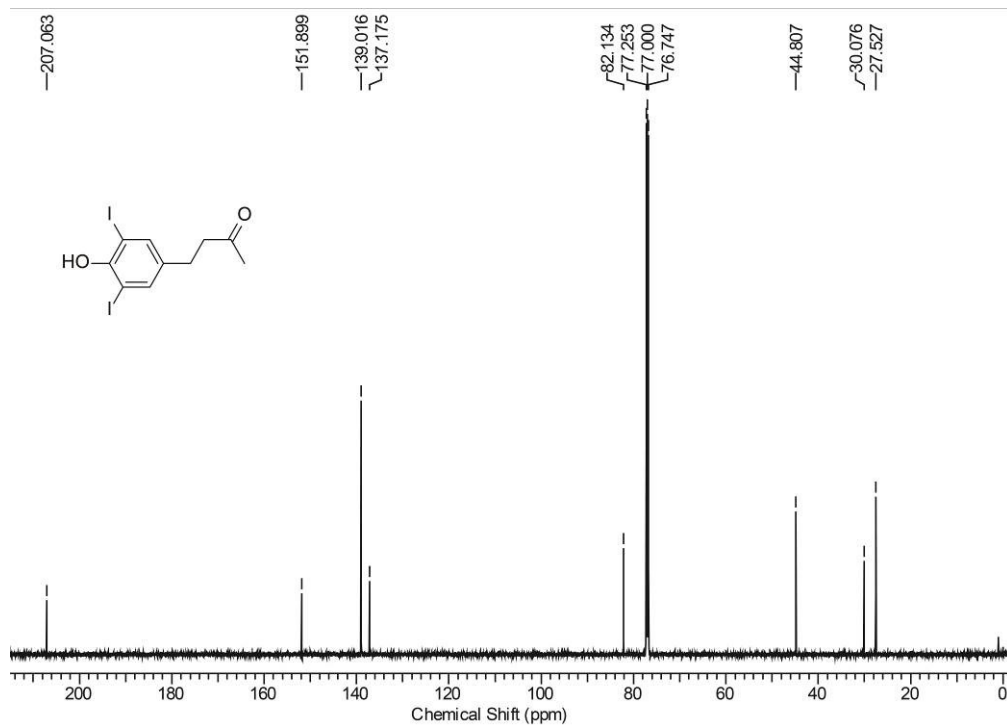**Fig. S1** ^{1}H NMR of compound **1** (500 MHz, CDCl$_3$).

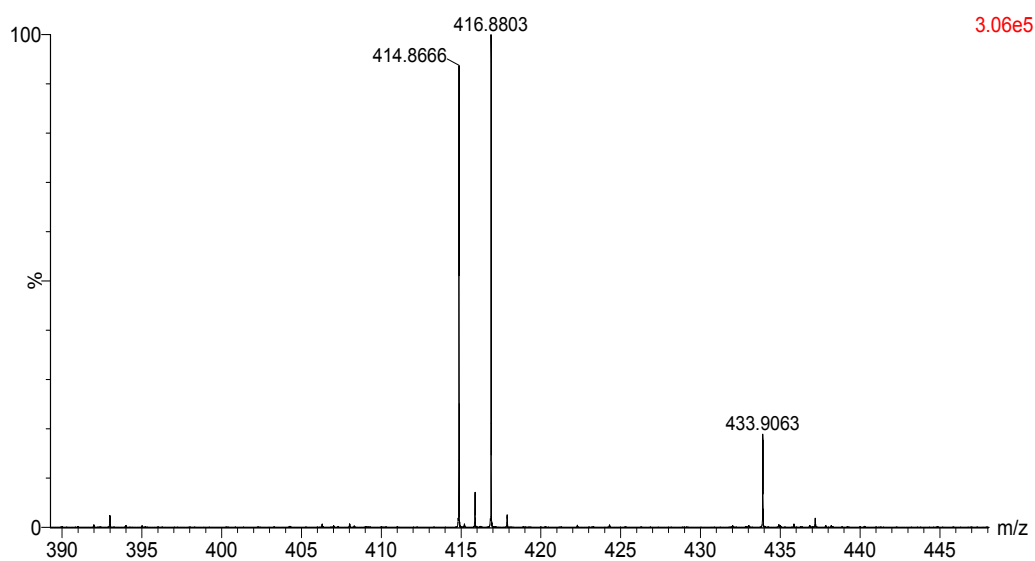**Fig. S2** ^{13}C NMR of compound **1** (126 MHz, CDCl$_3$).

Fig. S3 compound **1** high resolution mass spectrometry. Calculated: m/z = 416.8843, found: m/z = 416.8803, [M+H]$^+$.
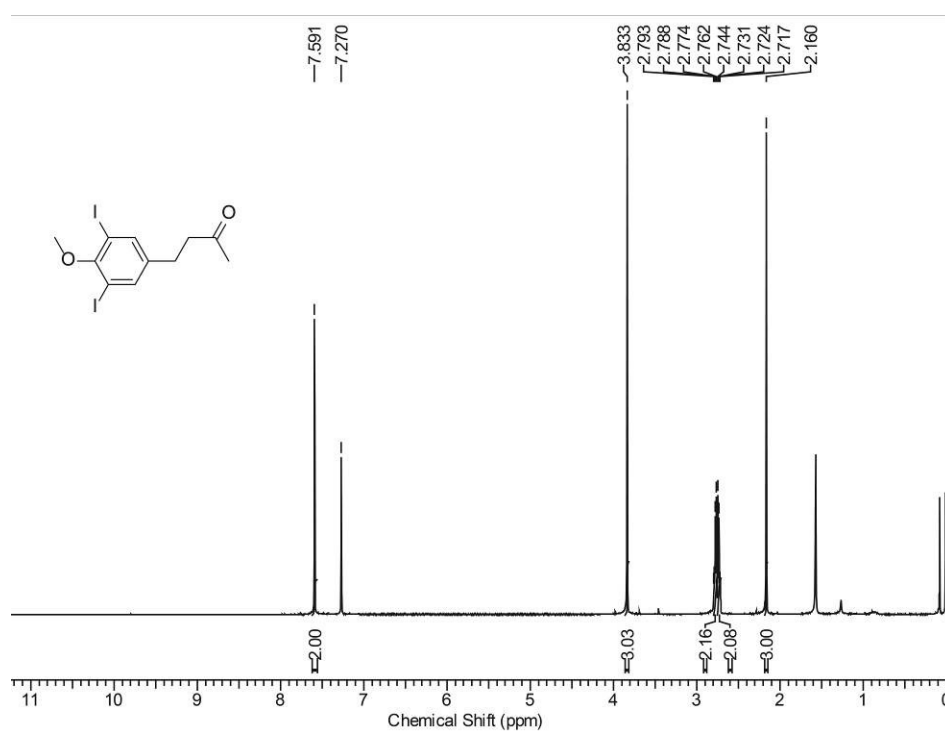

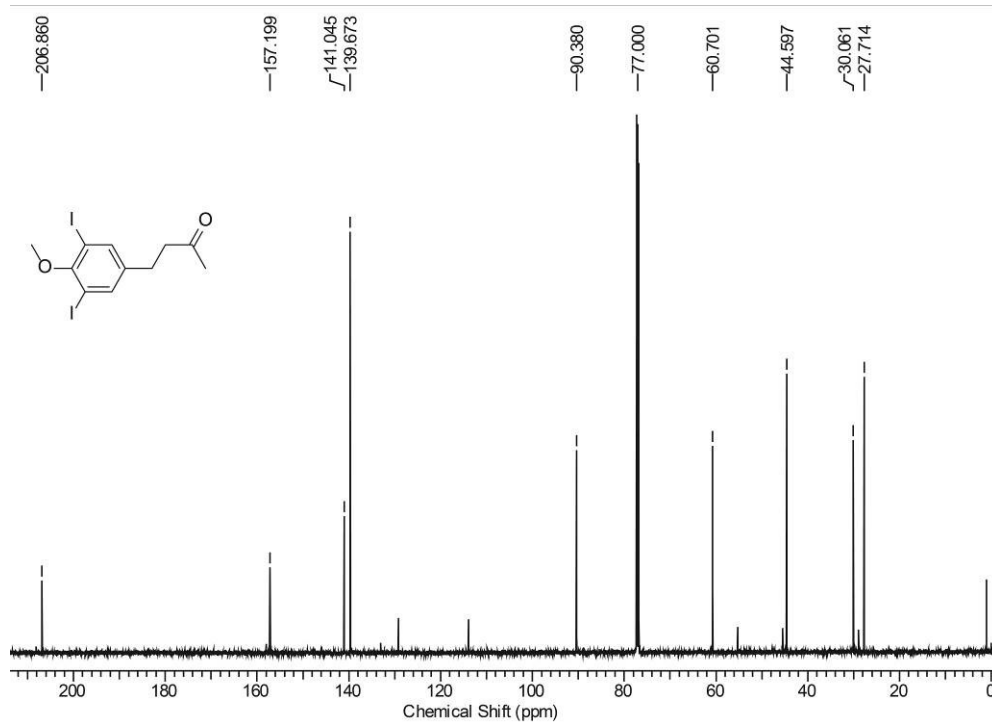**Fig. S4** ^{1}H NMR of compound **2** (500 MHz, CDCl$_3$).

Fig. S5 ^{13}C NMR of compound **2** (126 MHz, CDCl$_3$).

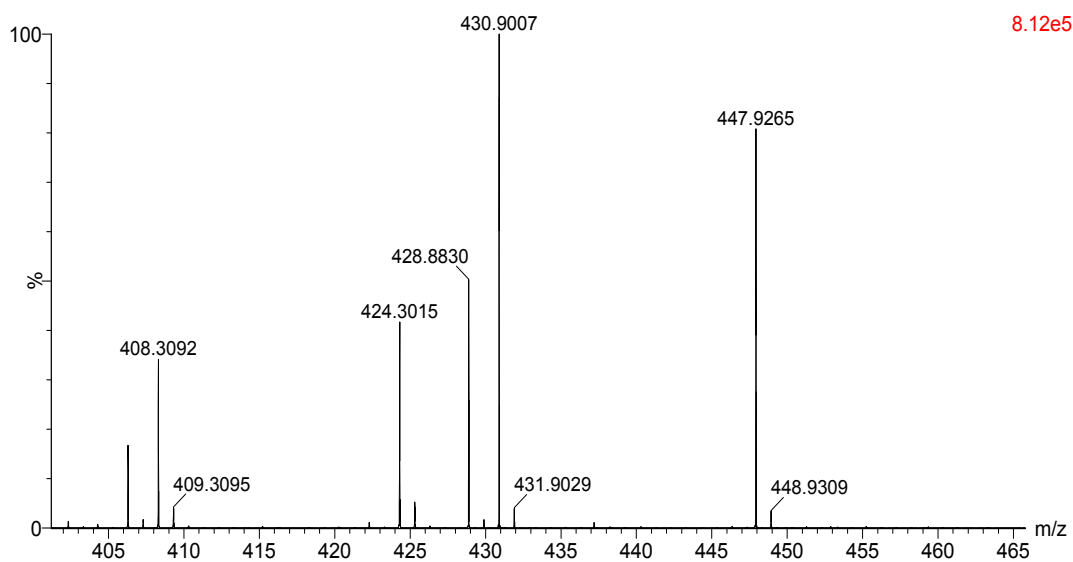**Fig. S6** compound **2** high resolution mass spectrometry. Calculated: m/z = 430.8999, found: m/z = 430.9007, [M+H] $^+$.

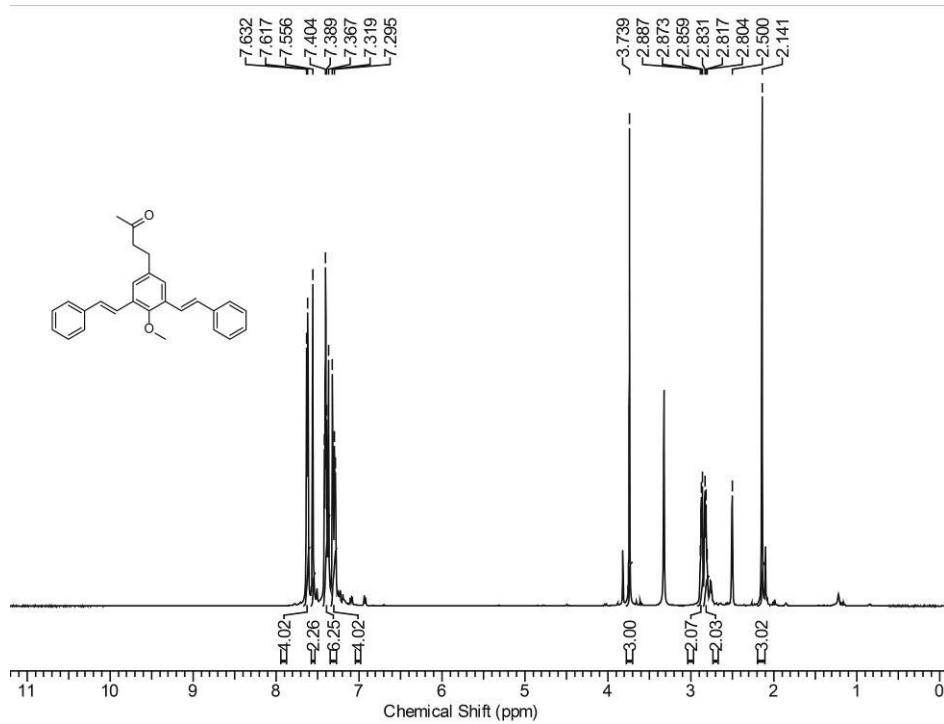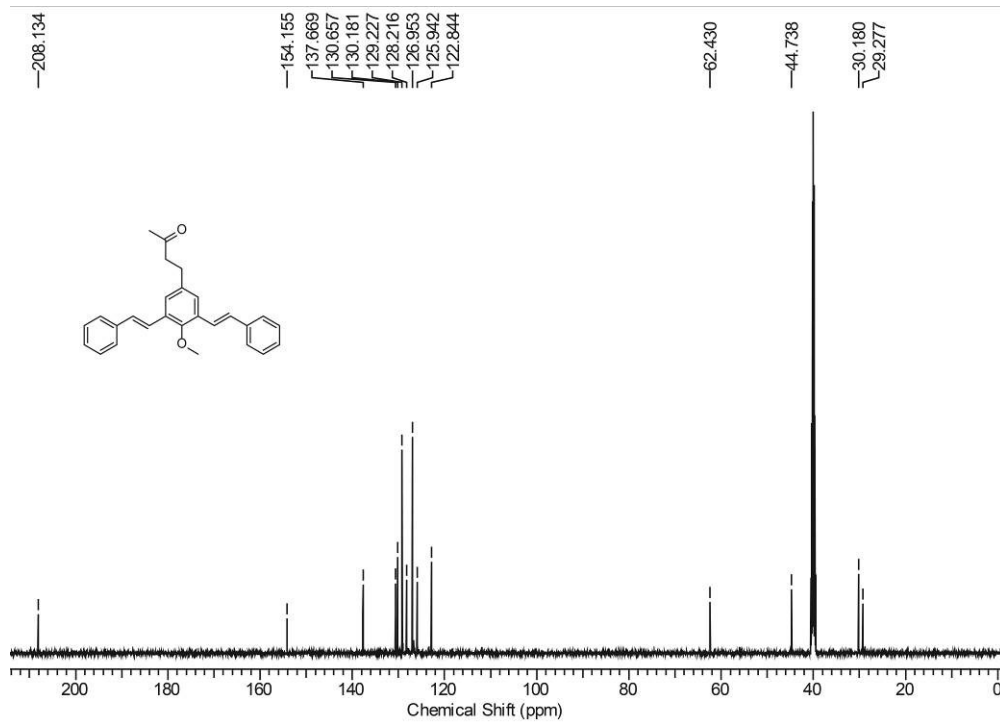**Fig. S7** ¹H NMR of compound **3** (500 MHz, DMSO-*d*6).

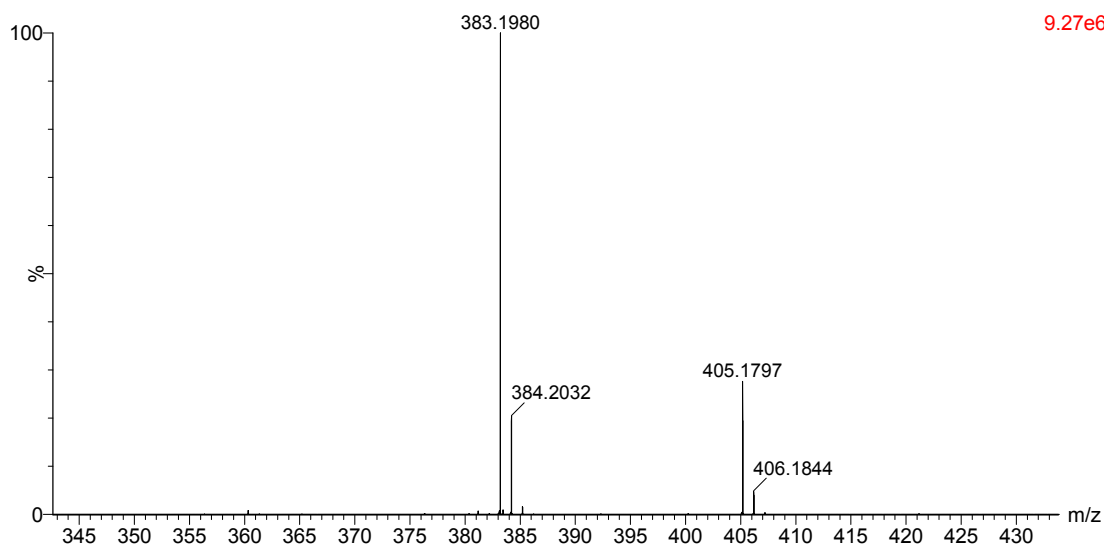**Fig. S8** ¹³C NMR of compound **3** (126 MHz, DMSO-*d*6).

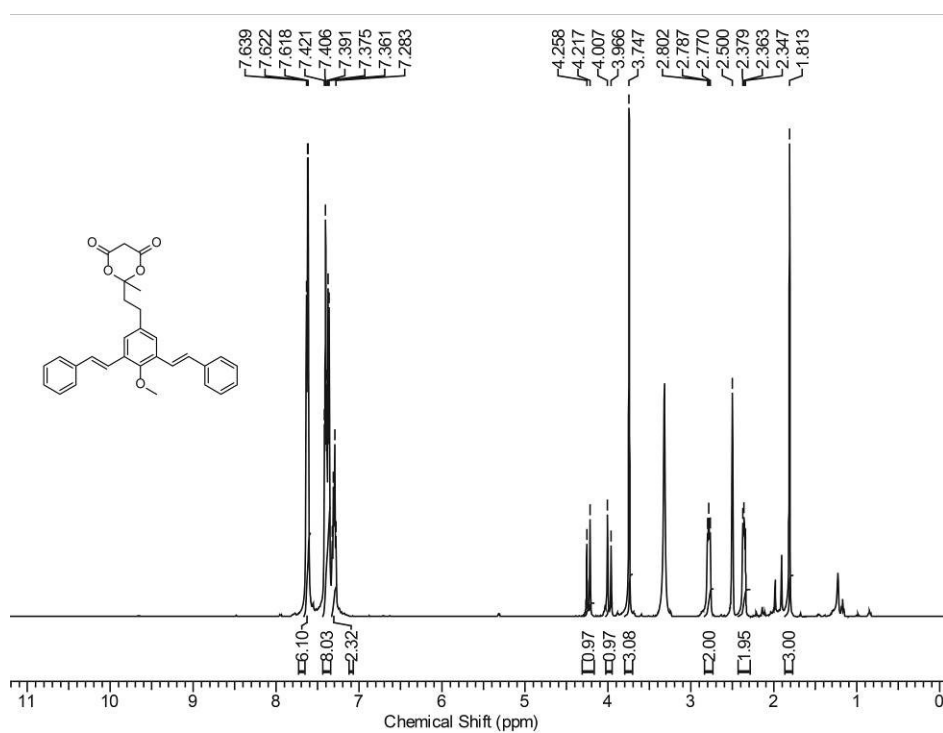**Fig. S9** compound **3** high resolution mass spectrometry. Calculated: *m/z* = 383.2006, found: *m/z* = 383.2032, [M+H] [+].

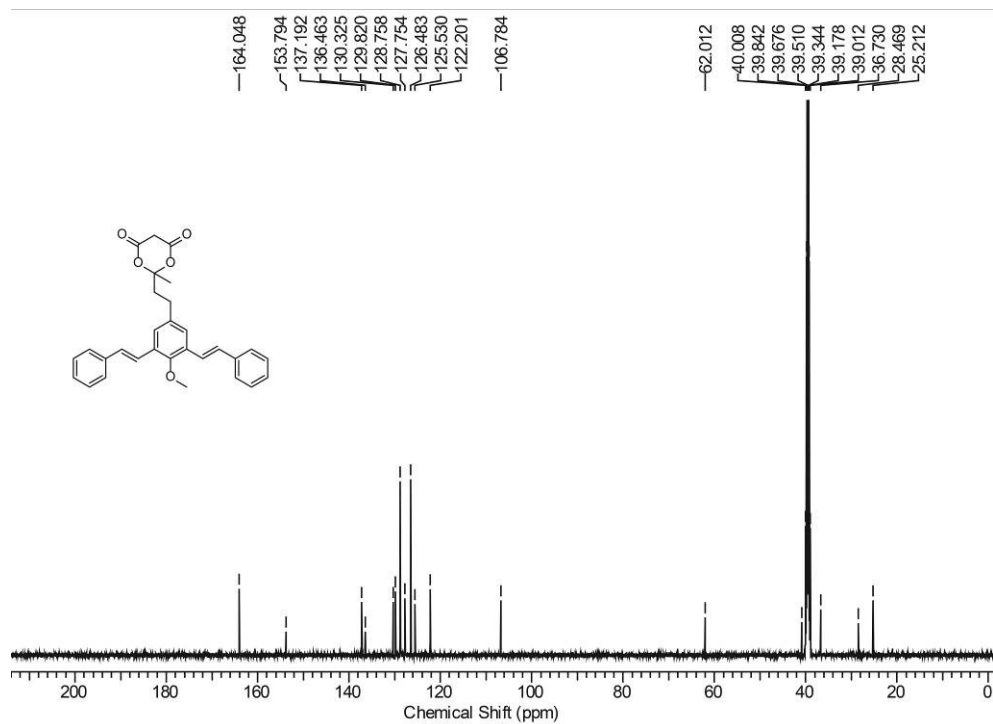**Fig. S10** ^{1}H NMR of compound **4** (500 MHz, DMSO-*d*6).

Fig. S11 ^{13}C NMR of compound **4** (126 MHz, DMSO-d6).

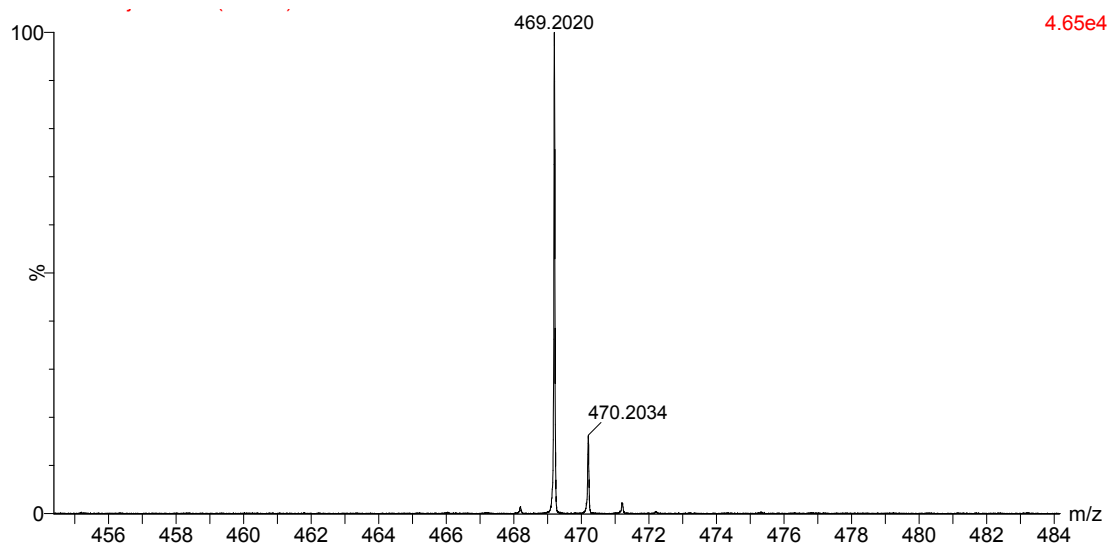**Fig. S12** compound **4** high resolution mass spectrometry. Calculated: *m/z* =469.2010, found: *m/z*
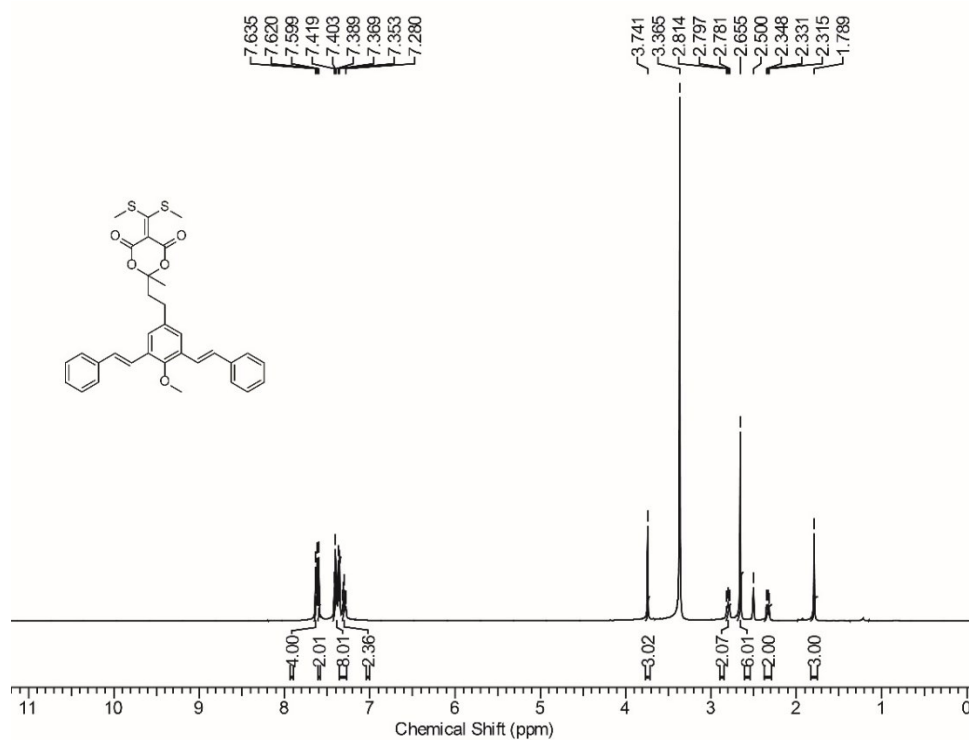
= 469.2020, [M+H] $^+$.

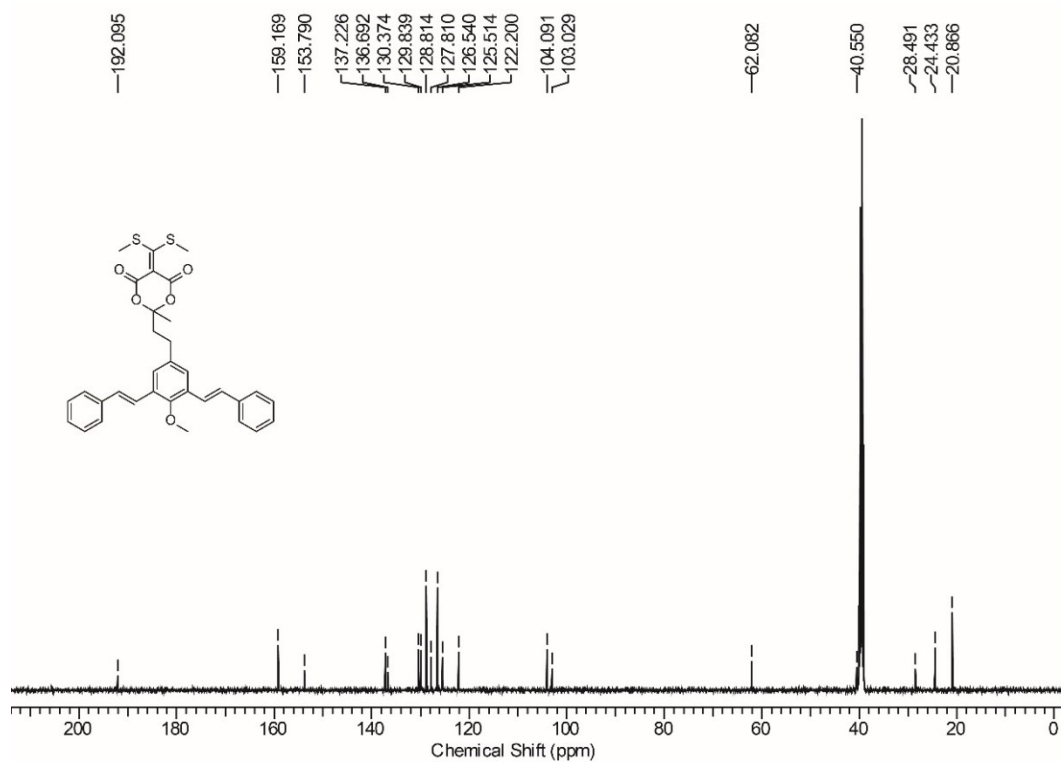**Fig. S13** ¹H NMR of **BSMAD** (500MHz, DMSO-*d*6).

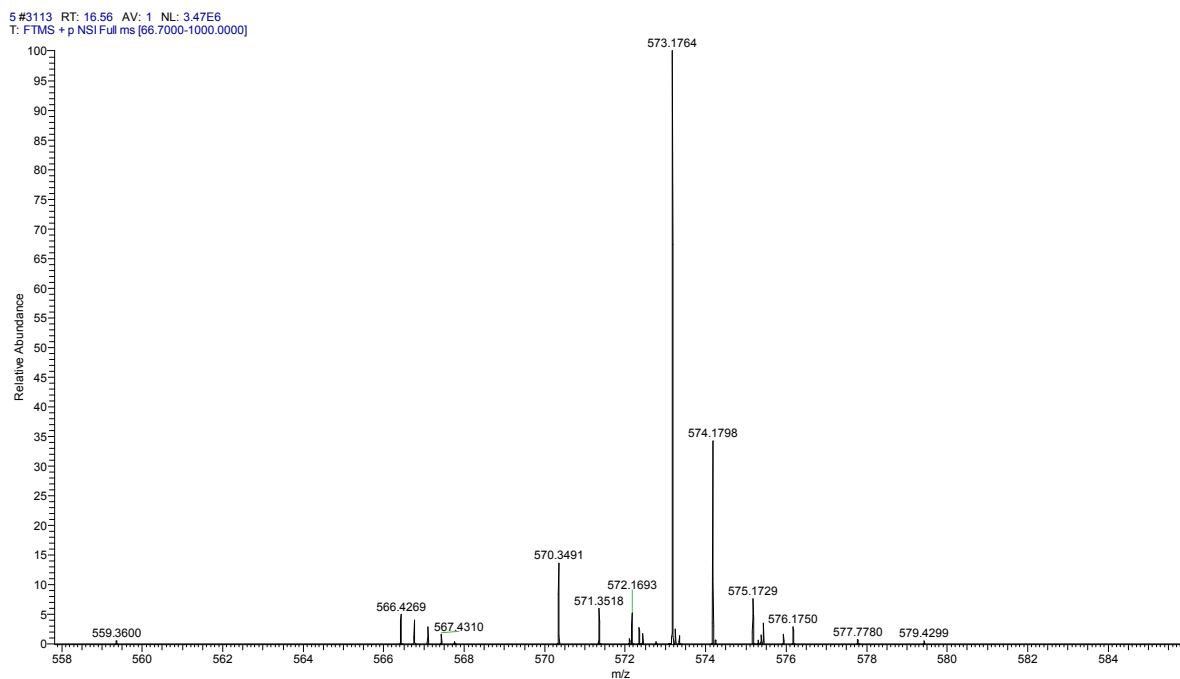**Fig. S14** ¹³C NMR of **BSMAD** (126MHz, DMSO-*d*6).

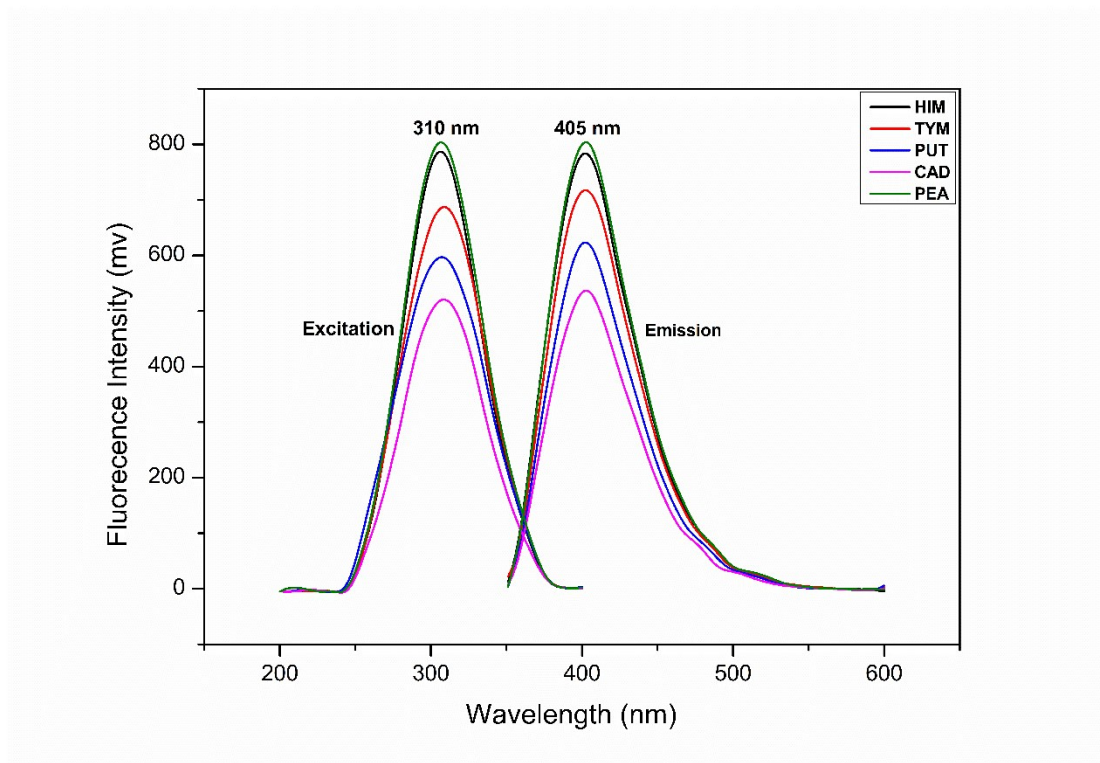**Fig. S15** BSMAD high resolution mass spectrometry. Calculated: *m/z* = 573.1764, found: *m/z* = 573.1764, [M+H] [+].

Fig. S16 fluorescence excitation and emission spectra of derivative products (HIM-BSMAD, TYM-BSMAD, PUT-BSMAD, CAD-BSMAD, PEA-BSMAD), λ ex = 310nm, λ Em = 405nm.
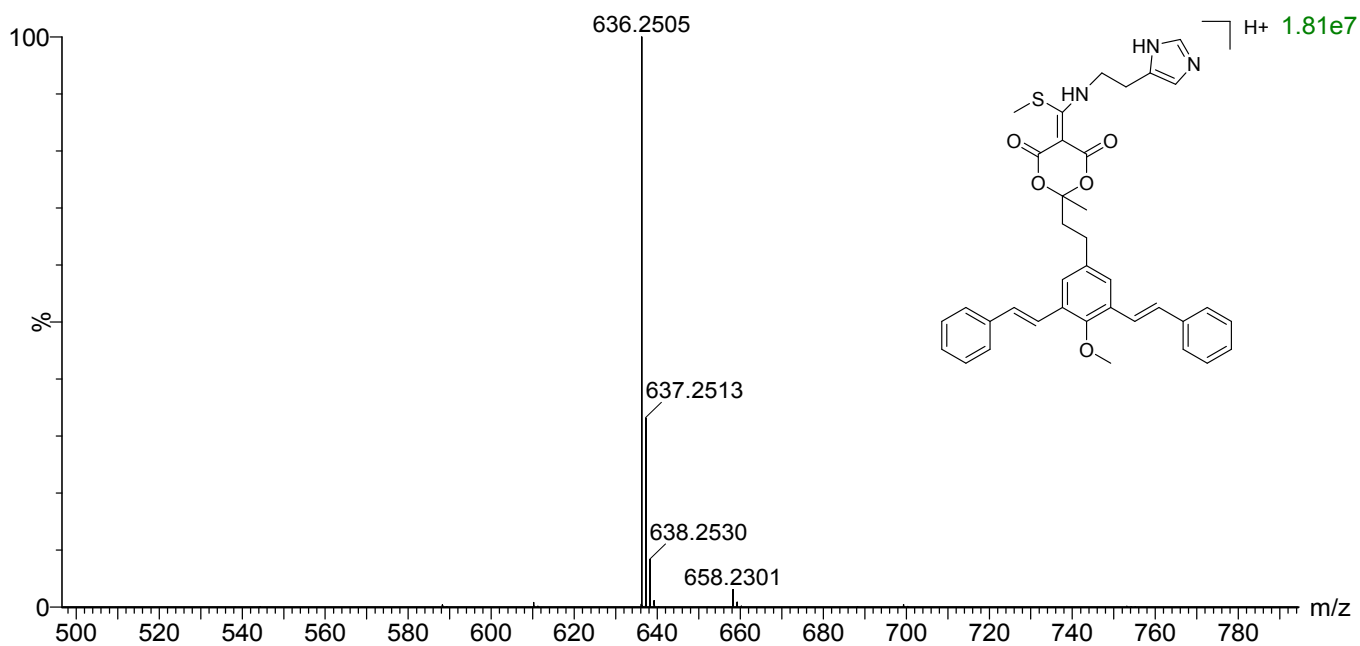
Fig. S17 HIM-BSMAD high resolution mass spectrometry Calculated: m/z = 636.2527, found: m/z = 636.2505, [M+H] $^+$.
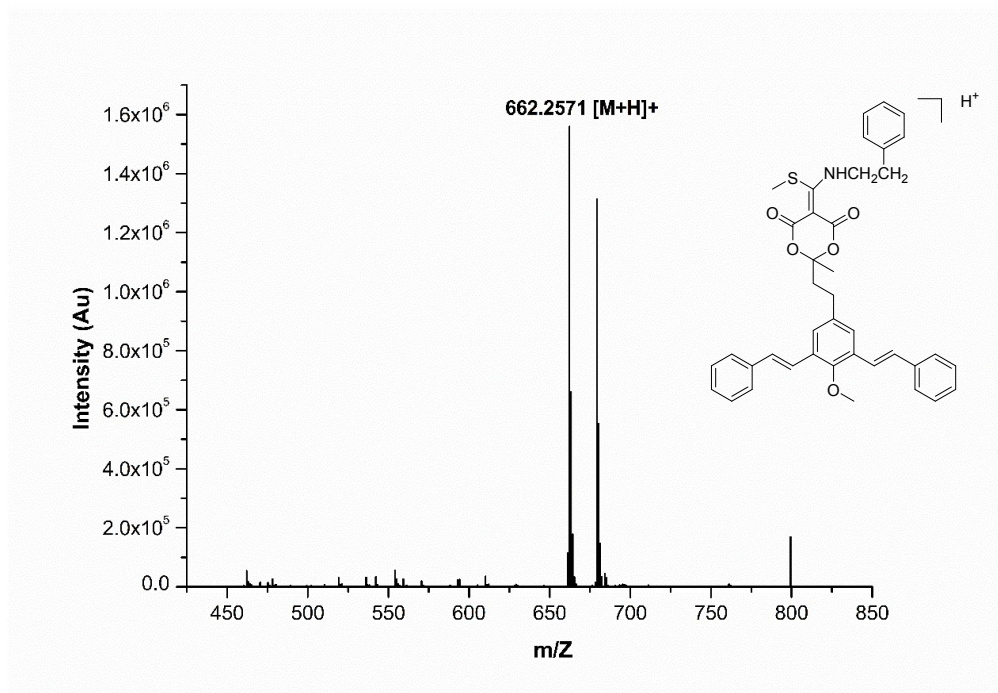

Fig. S18 TYM-BSMAD high resolution mass spectrometry. Calculated: m/z = 662.2571, found: m/z = 662.2571, [M+H] $^+$.
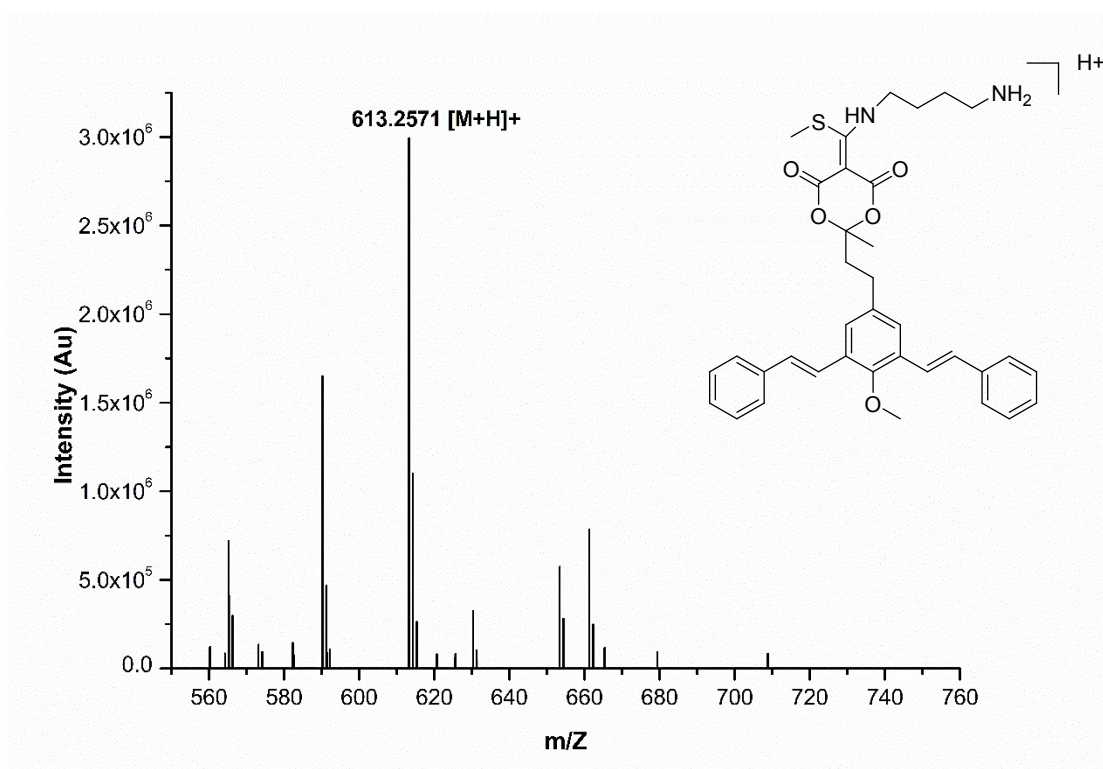
Fig. S19 PUT-BSMAD high resolution mass spectrometry. Calculated: *m/z* = 613.2571, found: *m/z* = 613.2571, [M+H]⁺.
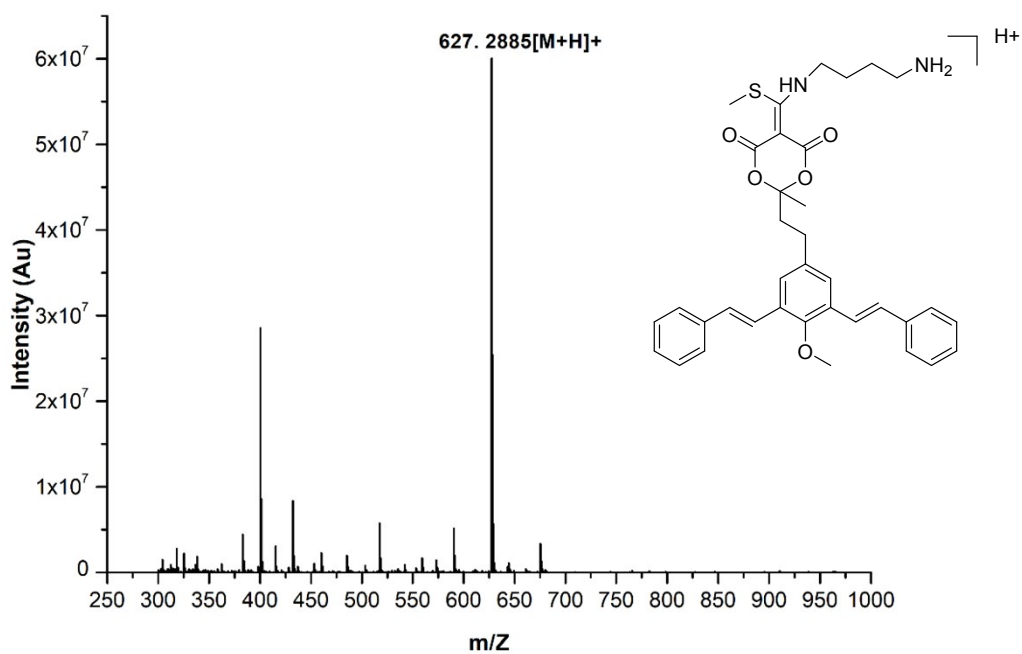

Fig. S20 CAD-BSMAD high resolution mass spectrometry. Calculated: *m/z* = 627.2887, found: *m/z* = 627.2885, [M+H]⁺.
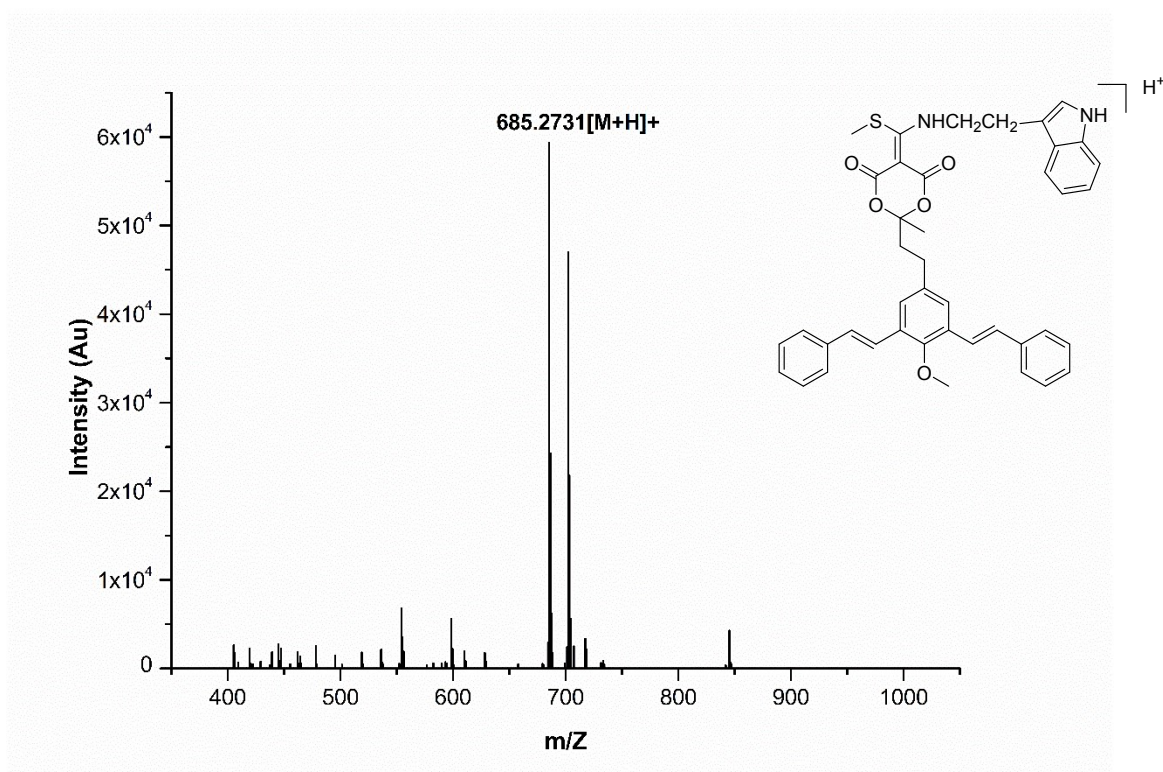
Fig. S21 TRM-BSMAD high resolution mass spectrometry. Calculated: *m/z* = 685.2731, found:
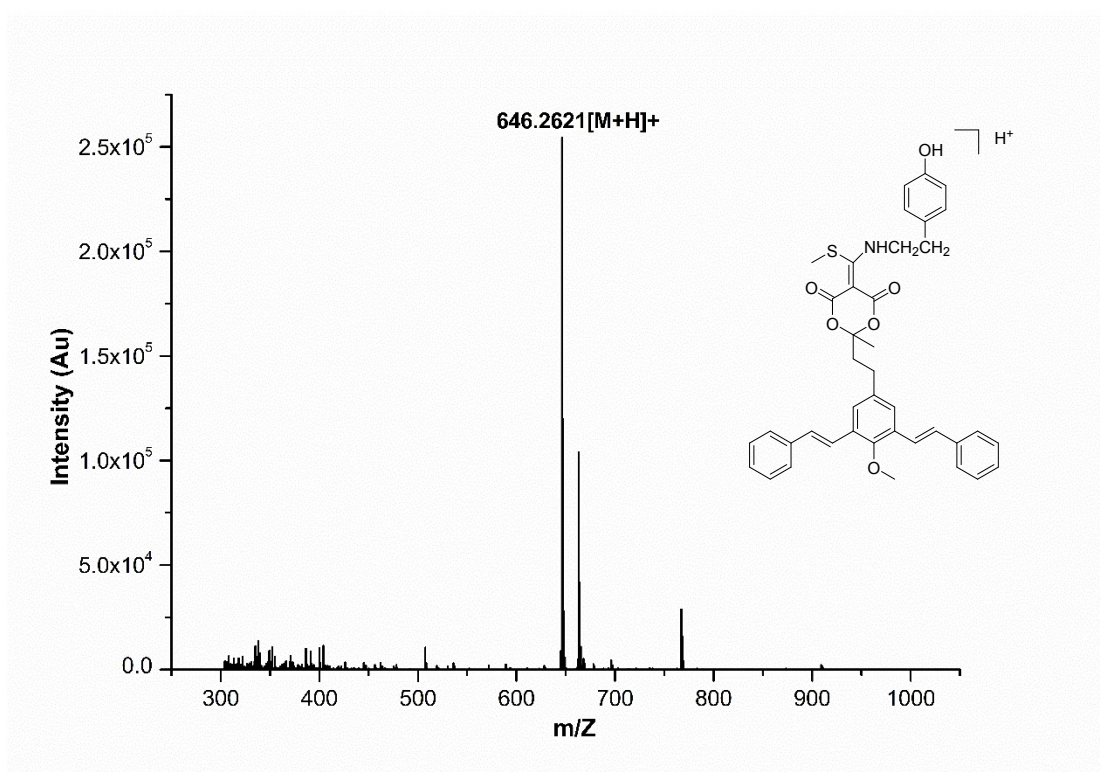
m/z = 685.2731, [M+H] +.

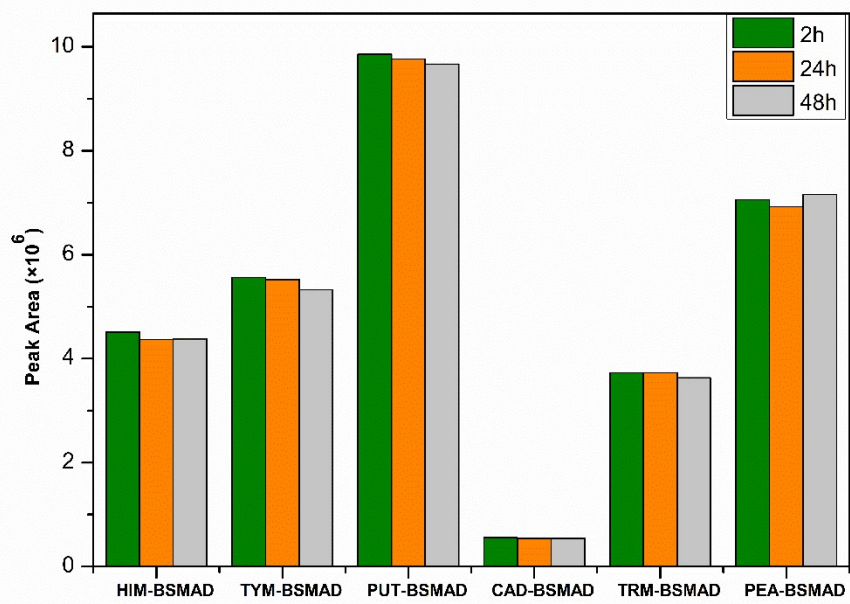**Fig. S22 PEA-BSMAD** high resolution mass spectrometry. Calculated: *m/z* = 646.2622, found: *m/z*

= 646.2621, [M+H] +.

Fig. S23 Stability of amine derivatives