

## **Supplementary Information**

# **Seven New Alkaloids Isolated from Marine *Flavobacterium Tenacibaculum discolor sv11***

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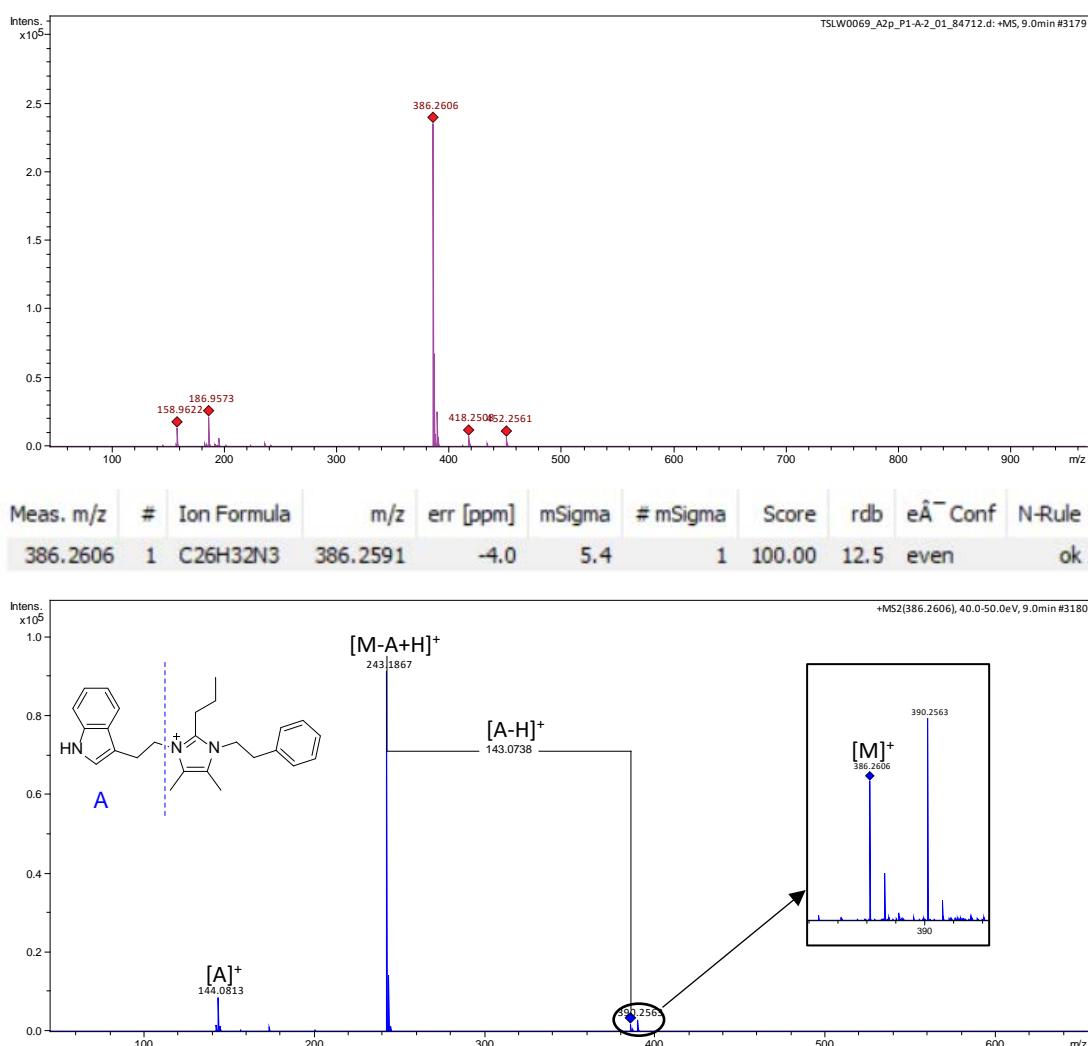
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Liu.Yang@agrar.uni-giessen.de (Y.L.)

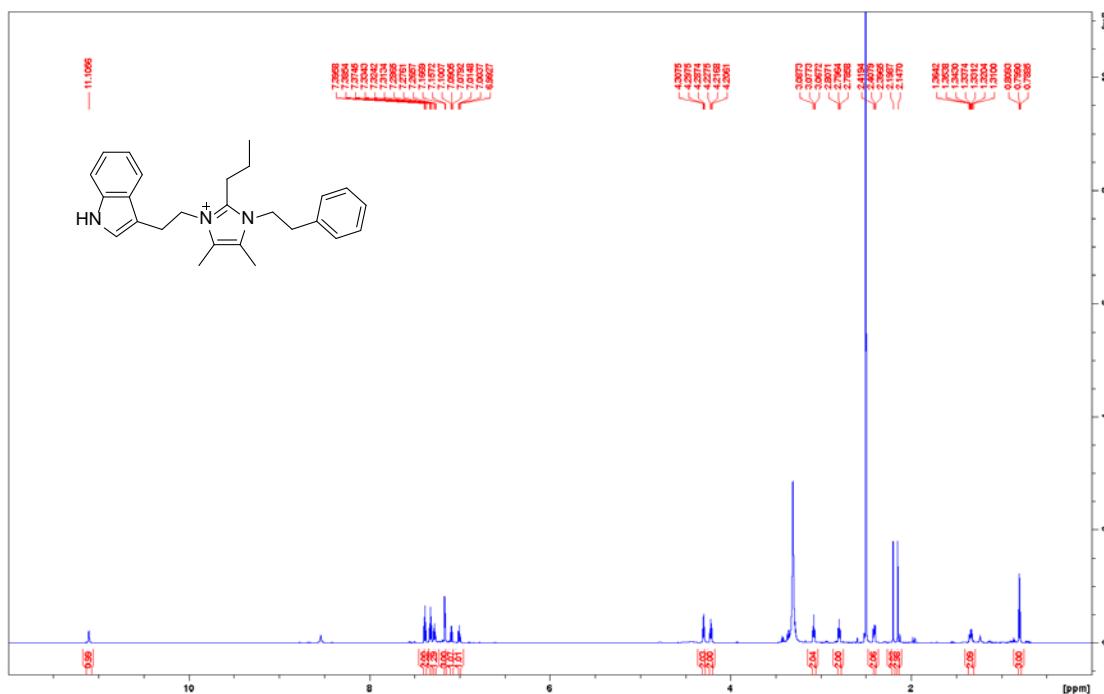
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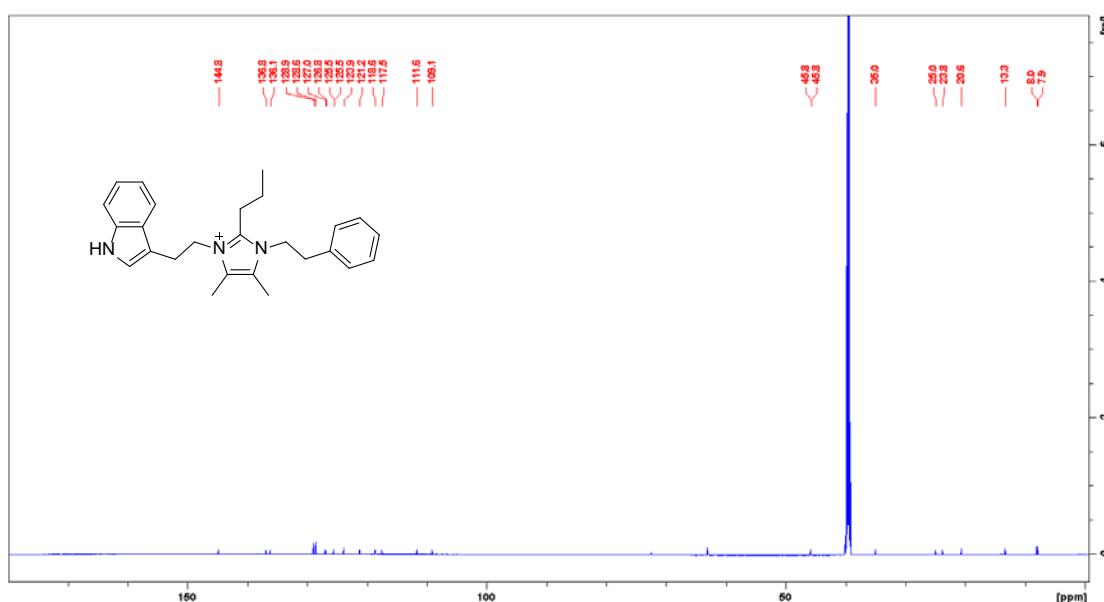
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**Figure S1.** The HR-ESI-MS and HR-ESI-MS/MS of compound 1.



**Figure S2.** The  $^1\text{H-NMR}$  (700 MHz,  $\text{DMSO-}d_6$ ) spectrum of compound 1.



**Figure S3.** The  $^{13}\text{C}$ -NMR (175 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 1.

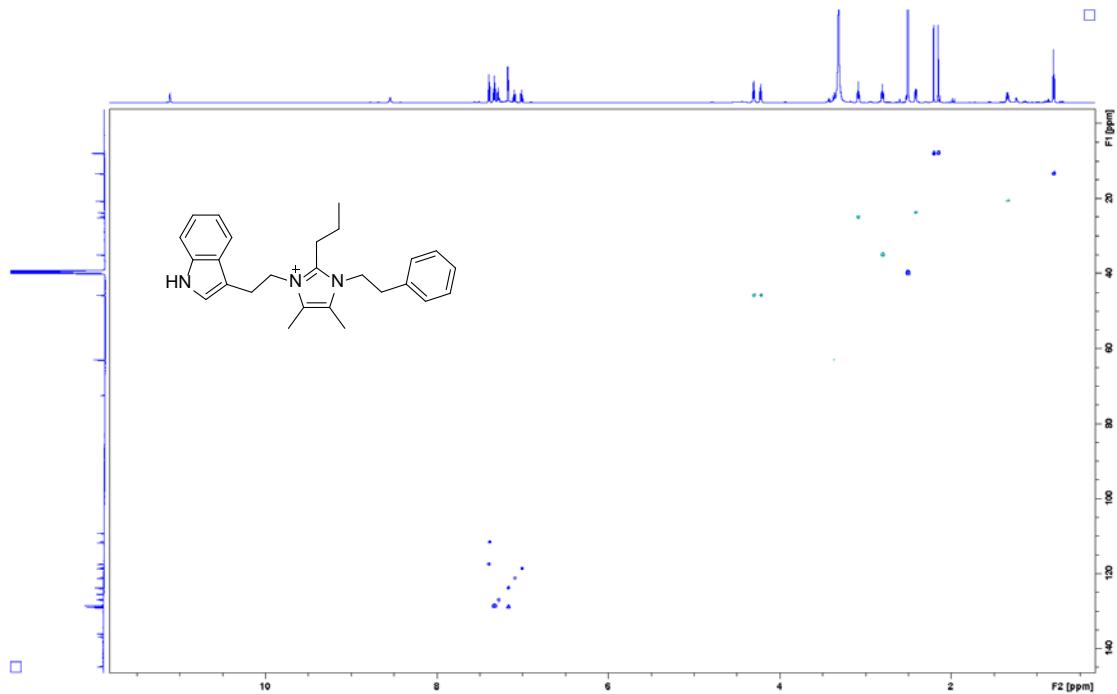


Figure S4. The HSQC (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 1.

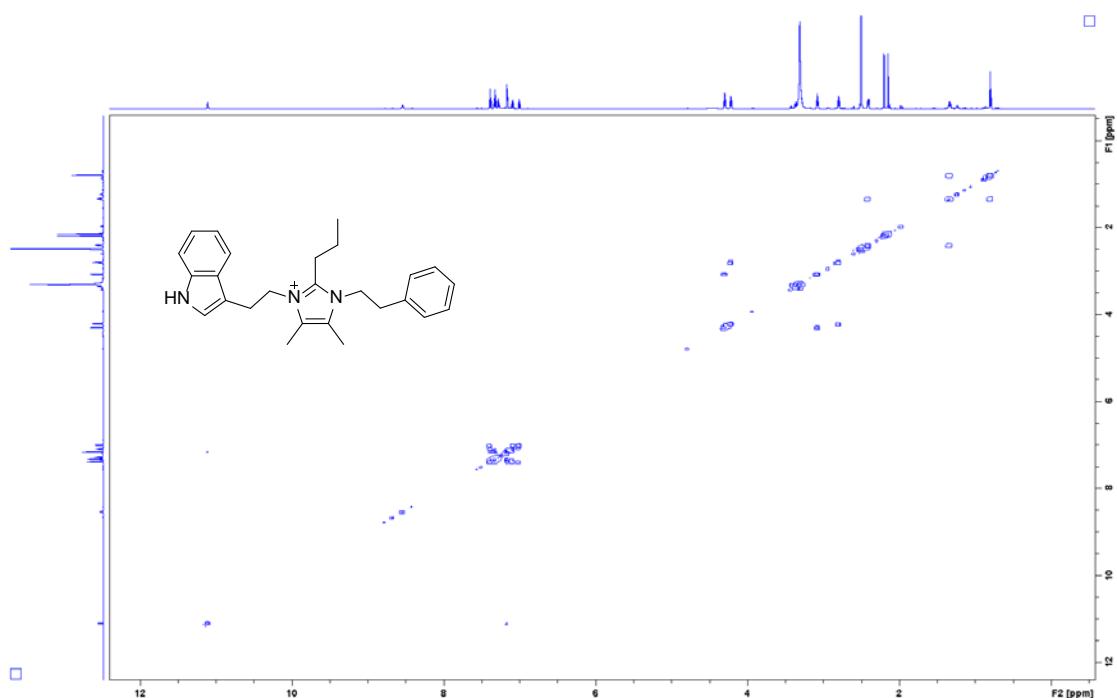
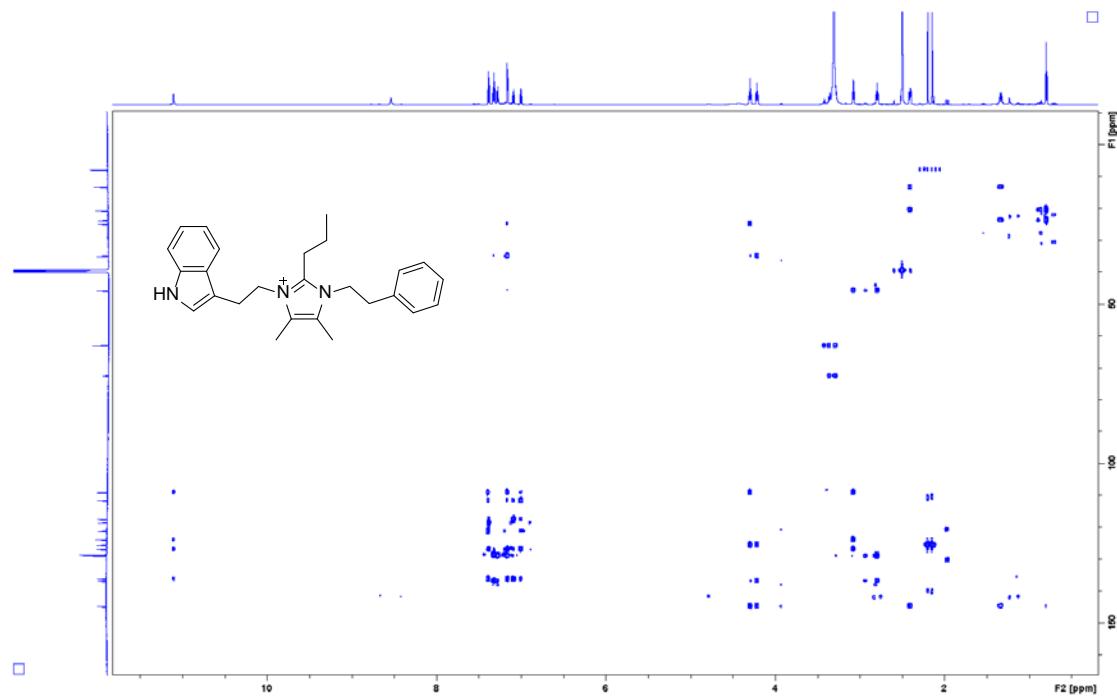
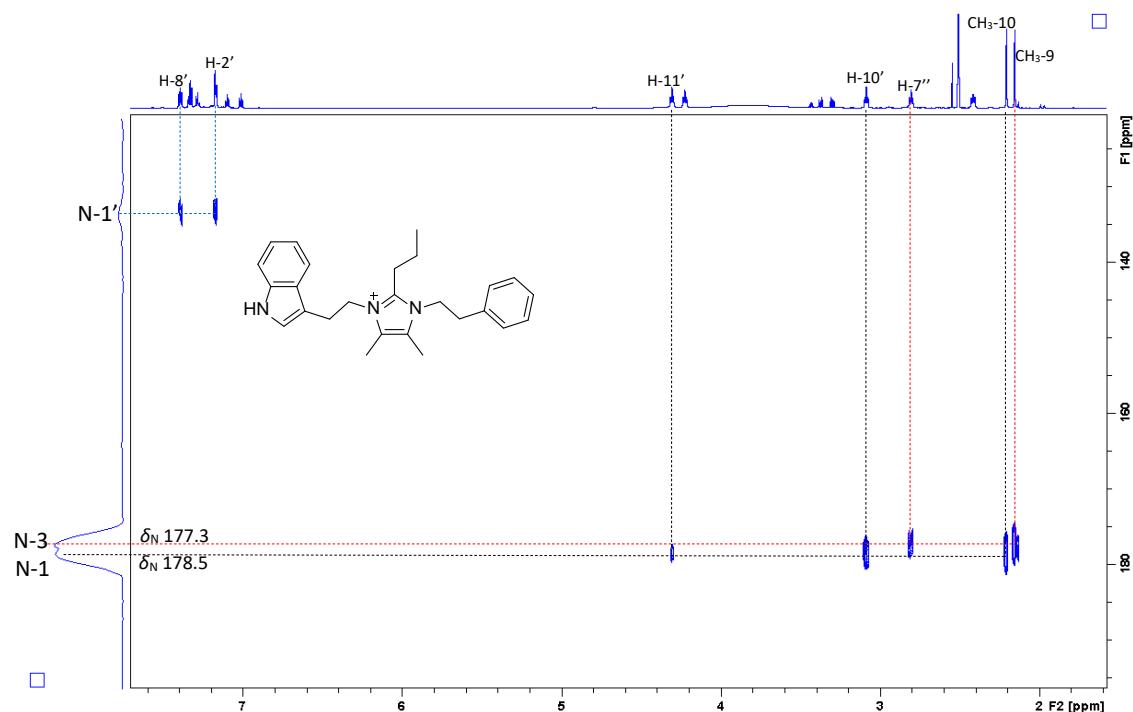


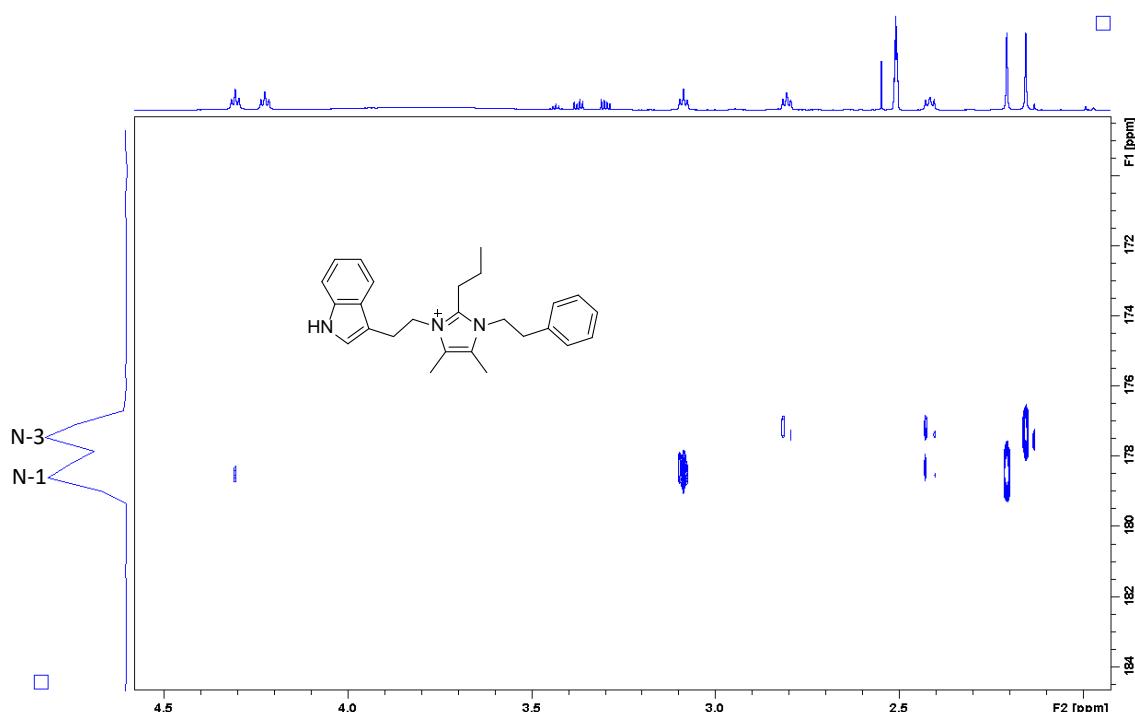
Figure S5. The <sup>1</sup>H-<sup>1</sup>H COSY (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 1.



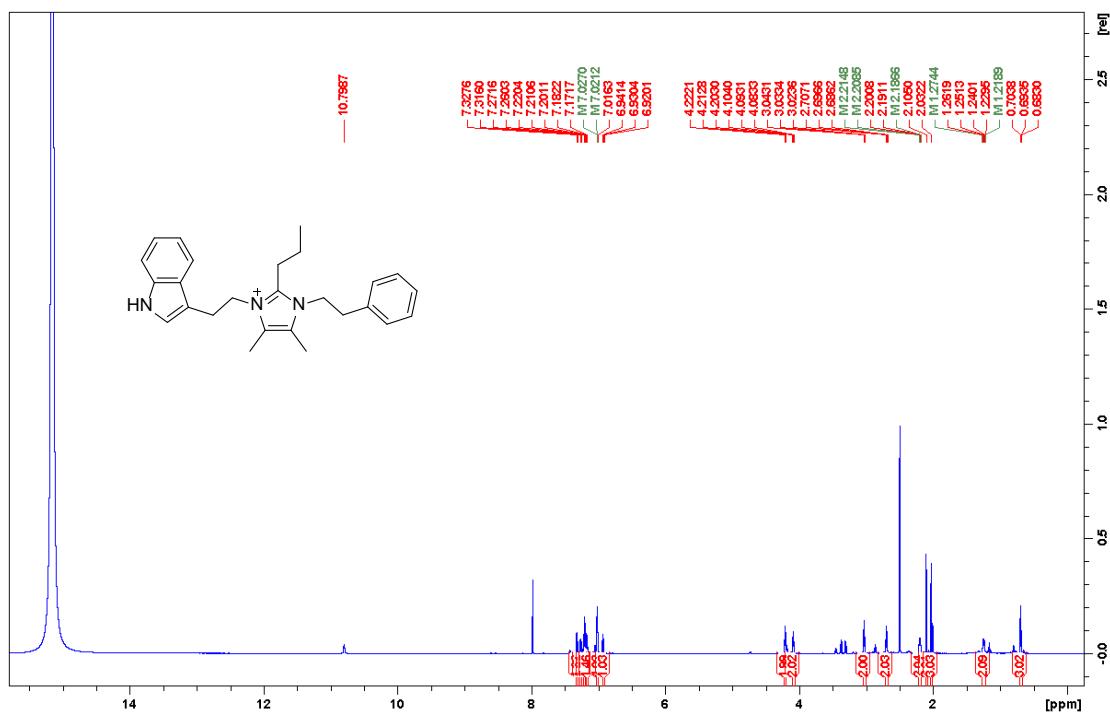
**Figure S6.** The  $^1\text{H}$ - $^{13}\text{C}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 1.



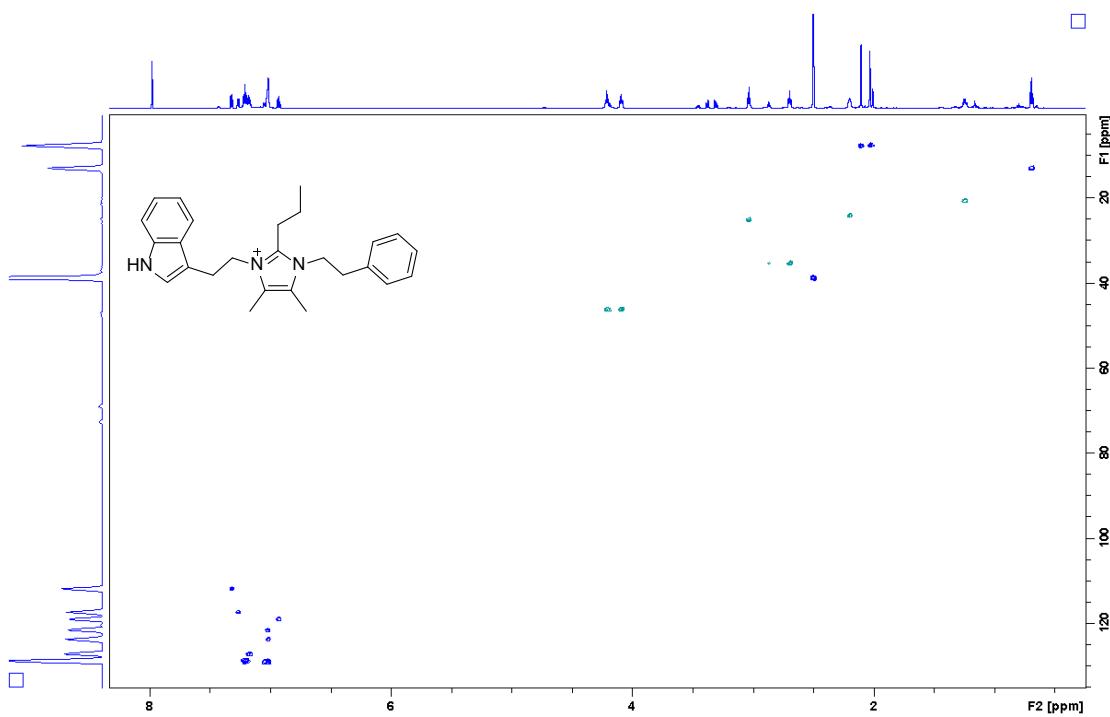
**Figure S7.** The  $^1\text{H}$ - $^{15}\text{N}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 1.



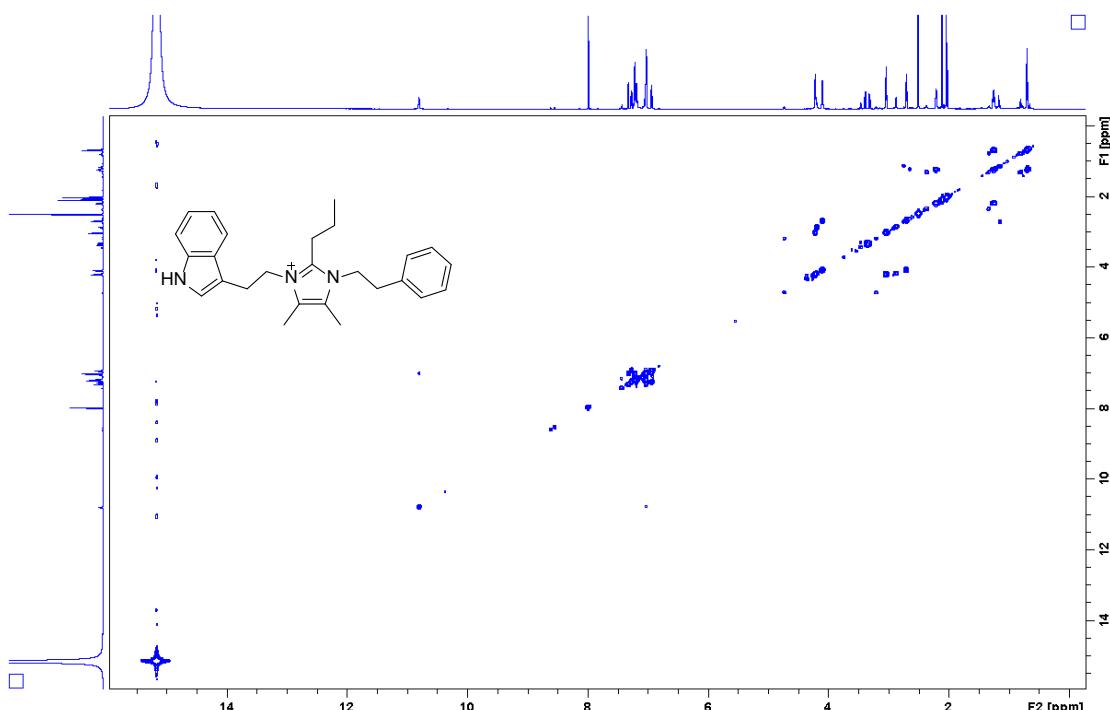
**Figure S8.** The  $^1\text{H}$ - $^{15}\text{N}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 1 (measured with non-uniform sampling).



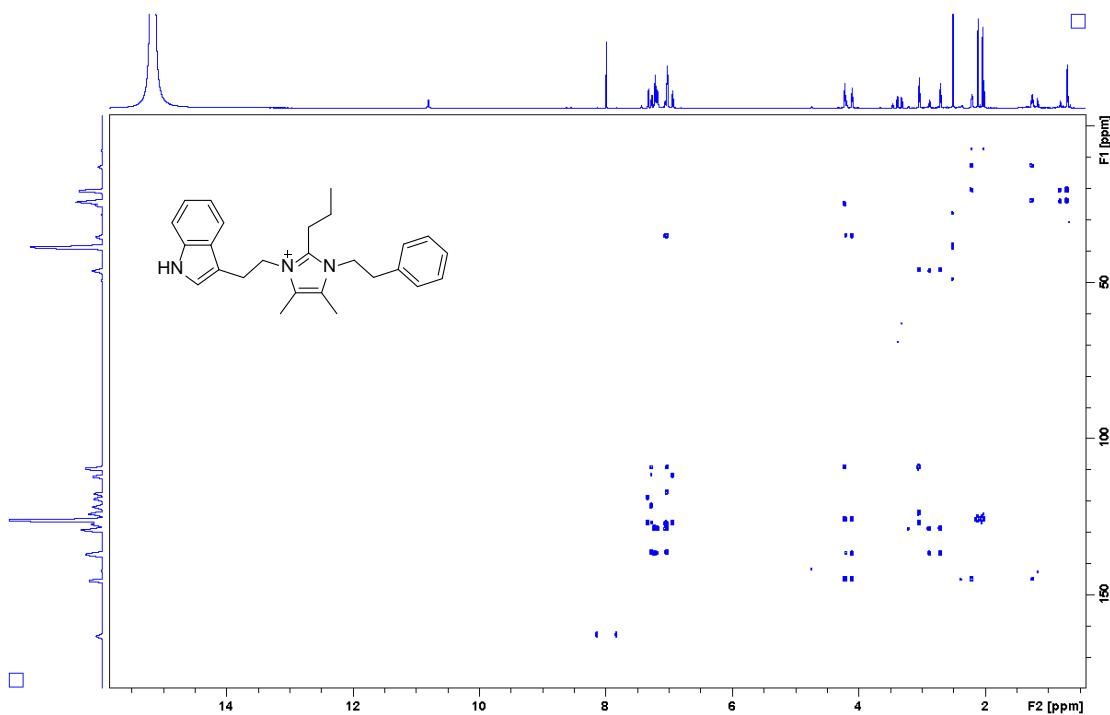
**Figure S9.** The  $^1\text{H}$ -NMR (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 1 with TFA added.



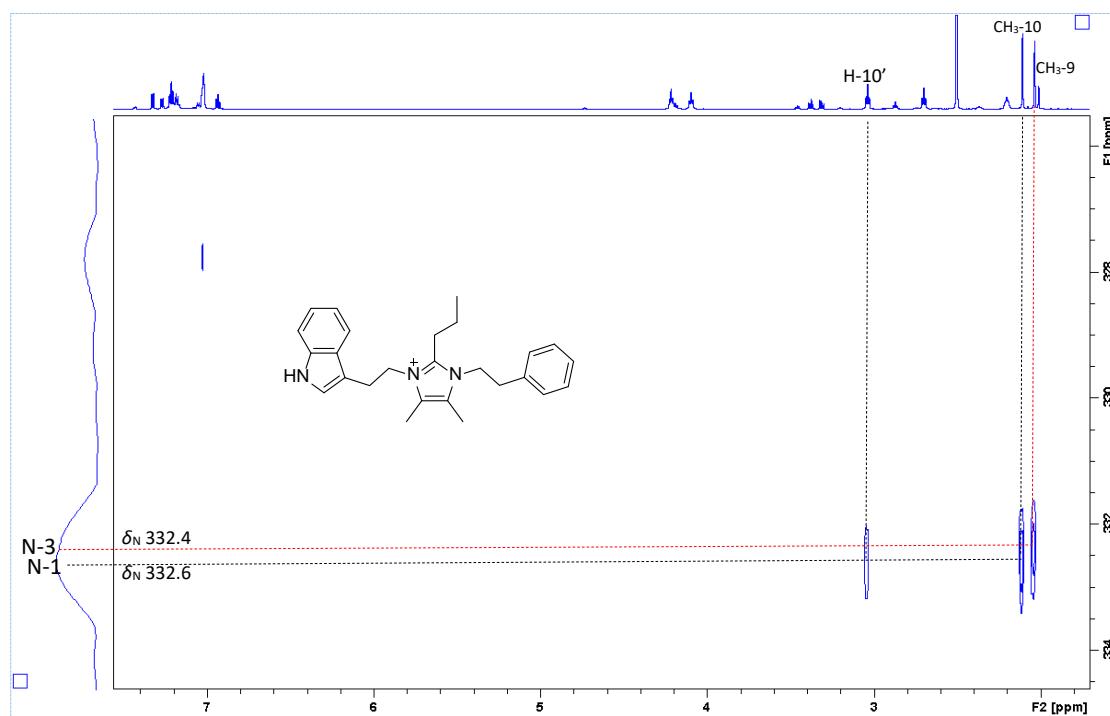
**Figure S10.** The HSQC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 1 with TFA added.



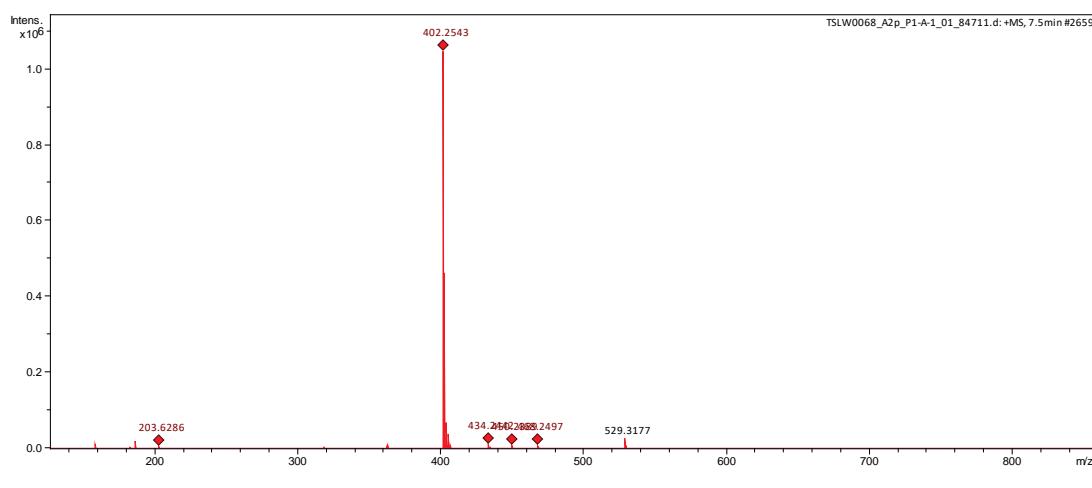
**Figure S11.** The  $^1\text{H}$ - $^1\text{H}$  COSY (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 1 with TFA added.



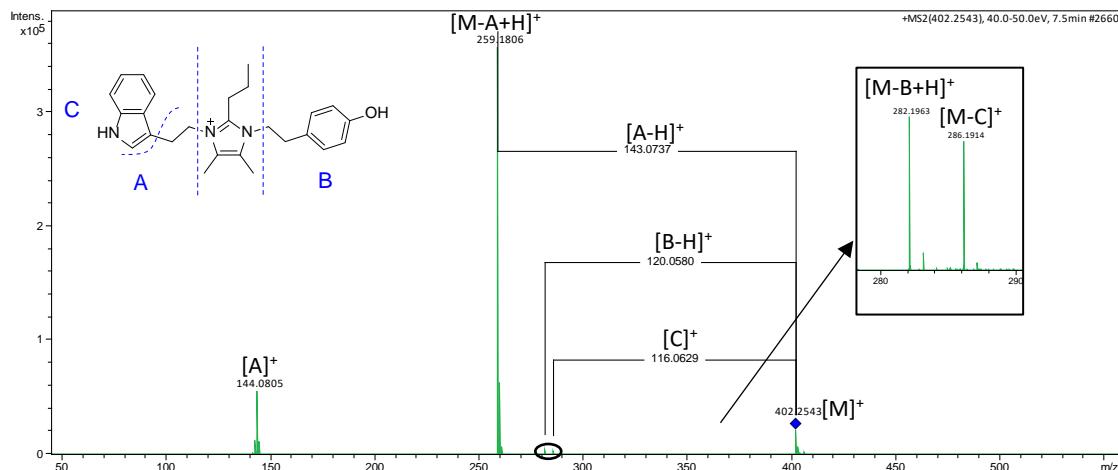
**Figure S12.** The  $^1\text{H}$ - $^{13}\text{C}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 1with TFA added.



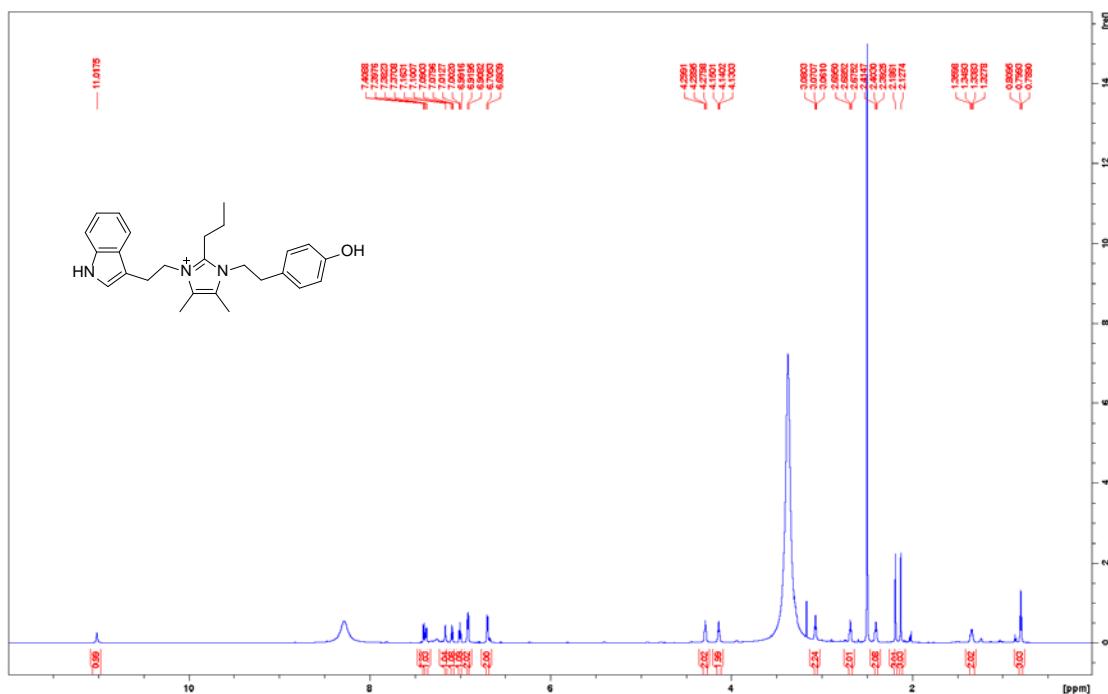
**Figure S13.** The  $^1\text{H}$ - $^{15}\text{N}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 1 with TFA added.



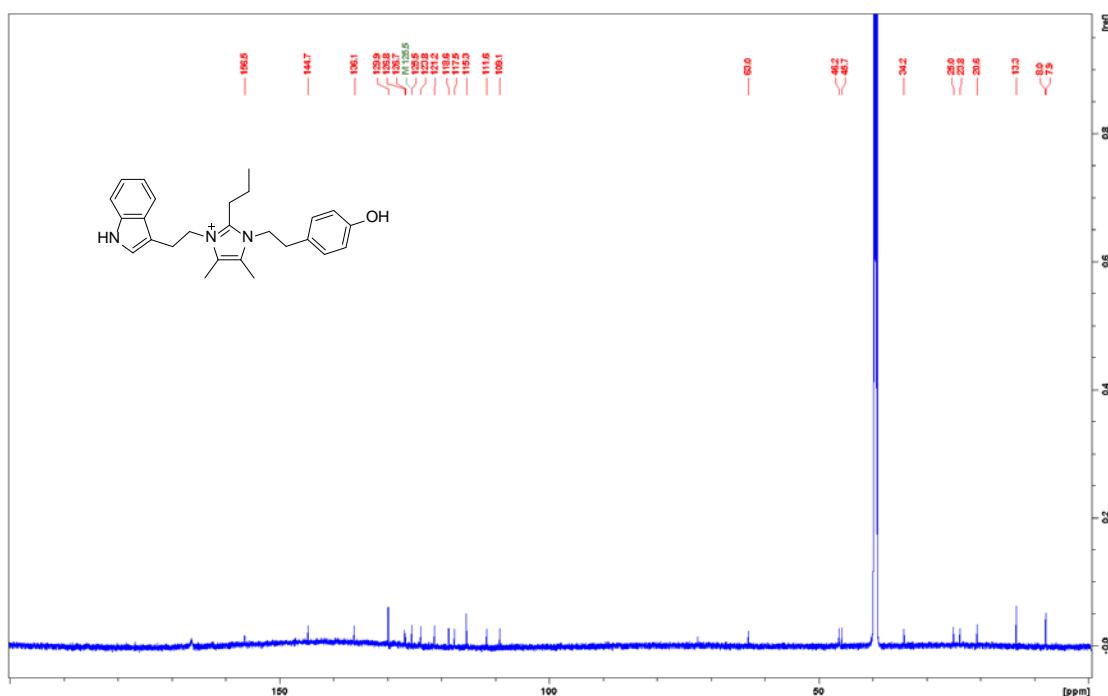
Meas. m/z	#	Ion Formula	m/z	err [ppm]	mSigma	# mSigma	Score	rdb	eÅ⁻ Conf	N-Rule
402.2543	1	C <sub>26</sub> H <sub>32</sub> N <sub>3</sub> O	402.2540	-0.9	85.1	1	100.00	12.5	even	ok
402.2543	2	C <sub>14</sub> H <sub>36</sub> N <sub>5</sub> O <sub>8</sub>	402.2558	3.7	154.4	2	1.20	-0.5	even	ok
402.2543	3	C <sub>11</sub> H <sub>28</sub> N <sub>15</sub> O <sub>2</sub>	402.2545	0.4	154.9	3	2.40	5.5	even	ok



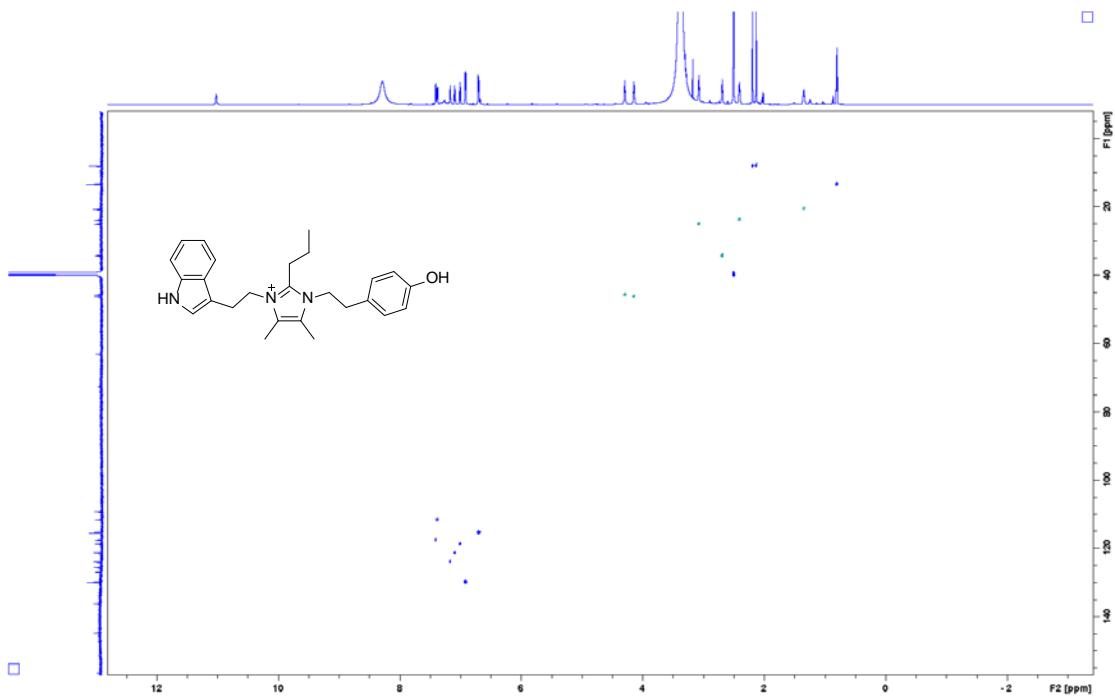
**Figure S14.** The HR-ESI-MS and HR-ESI-MS/MS of compound 2.



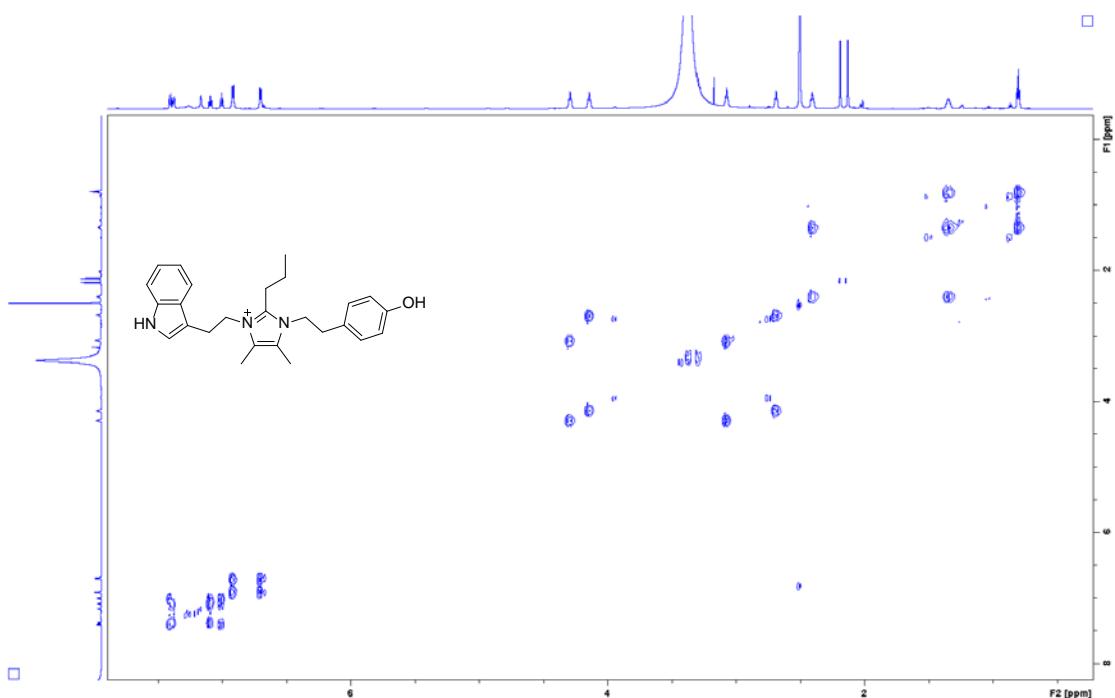
**Figure S15.** The  $^1\text{H-NMR}$  (700 MHz, DMSO- $d_6$ ) spectrum of compound 2



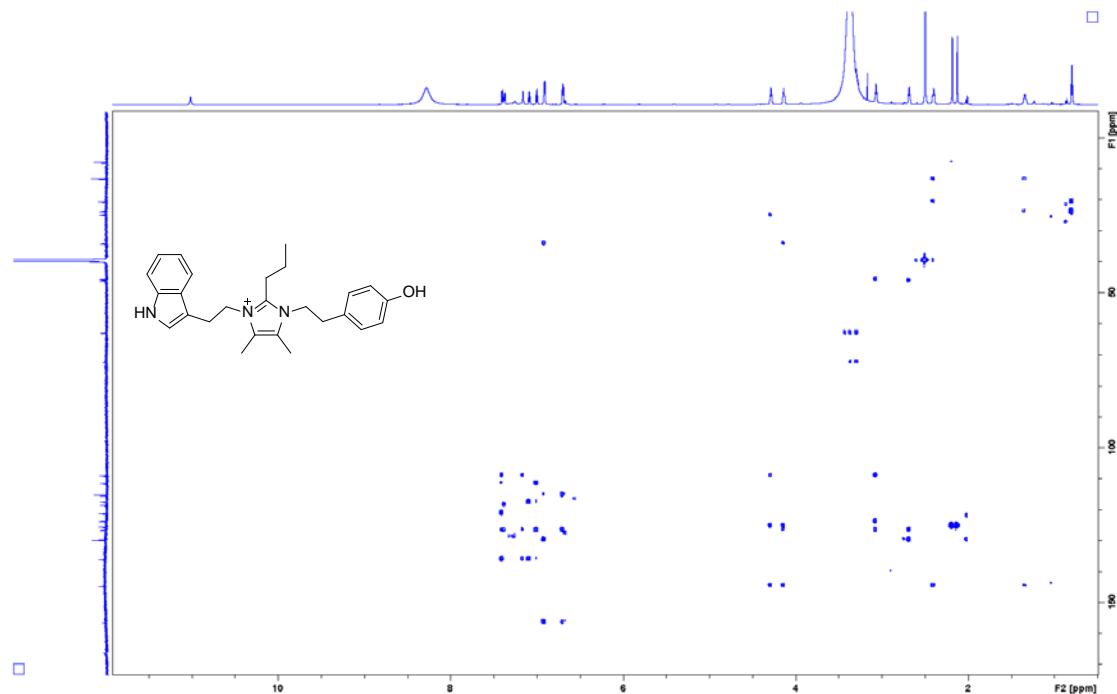
**Figure S16.** The  $^{13}\text{C}$ -NMR (175 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 2.



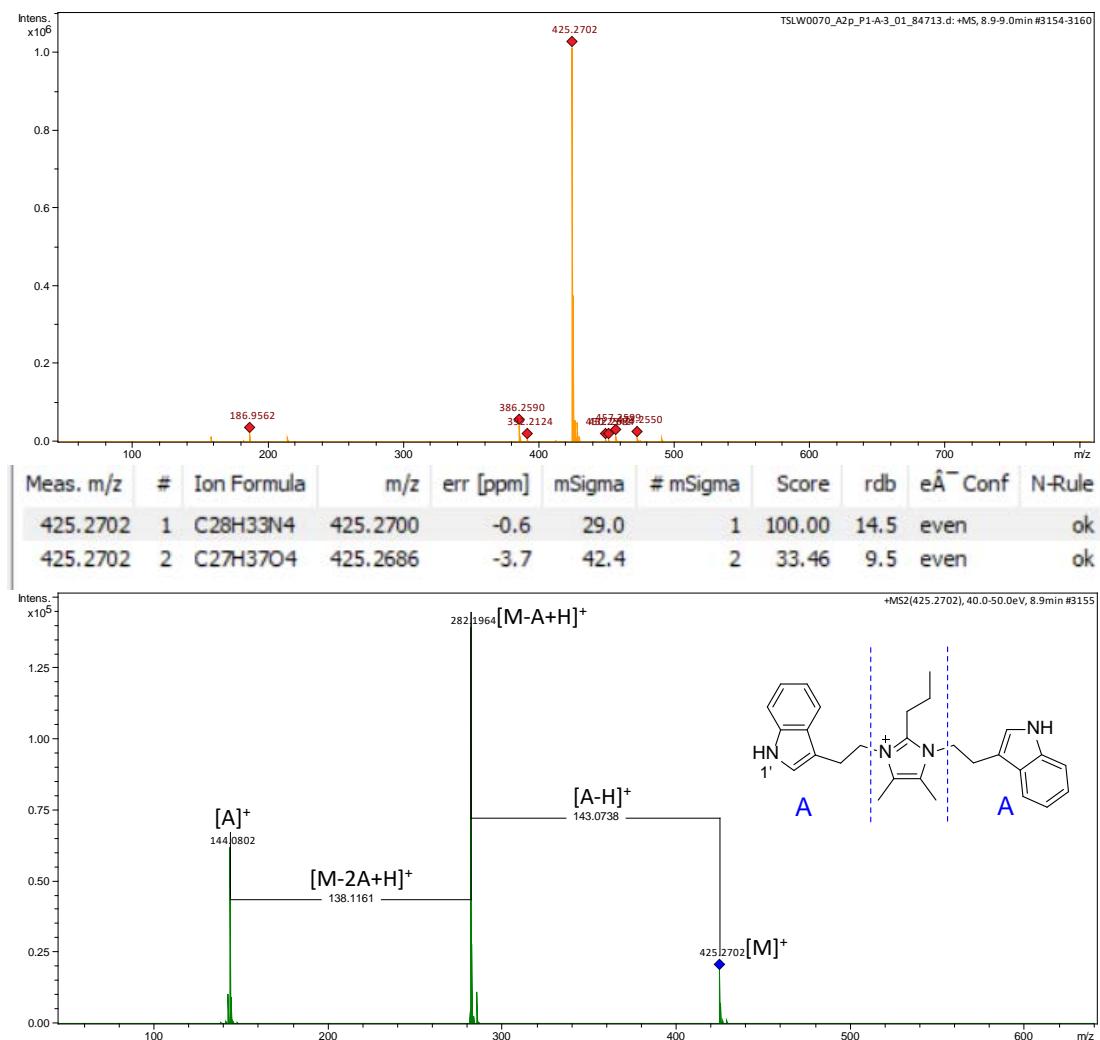
**Figure S17.** The HSQC (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 2.



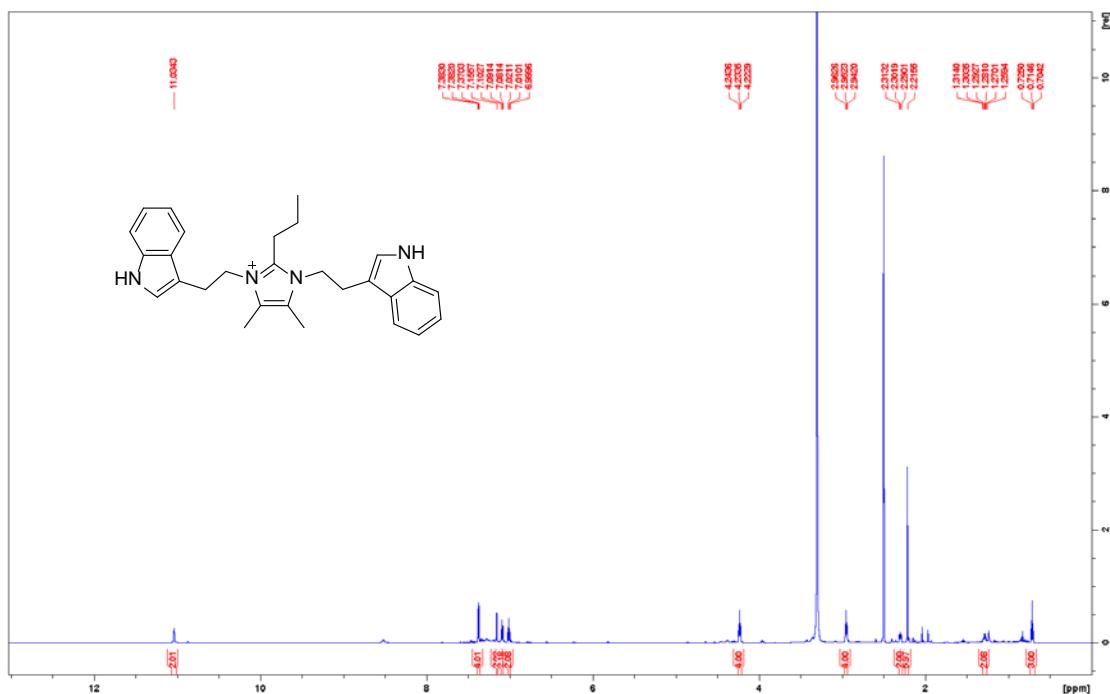
**Figure S18.** The <sup>1</sup>H-<sup>1</sup>H COSY (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 2.



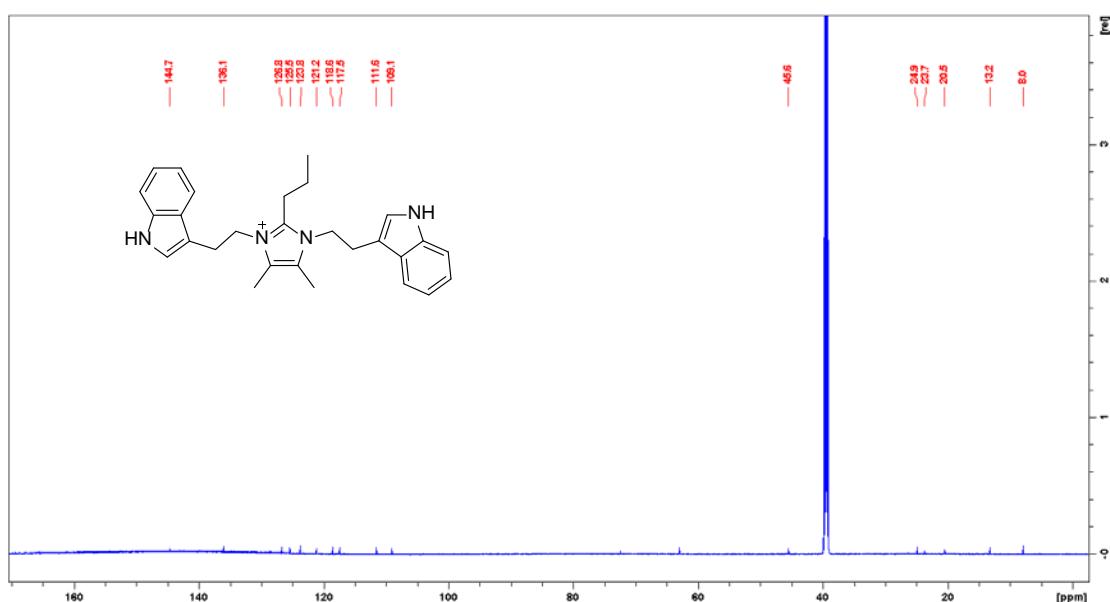
**Figure S19.** The  $^1\text{H}$ - $^{13}\text{C}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 2.



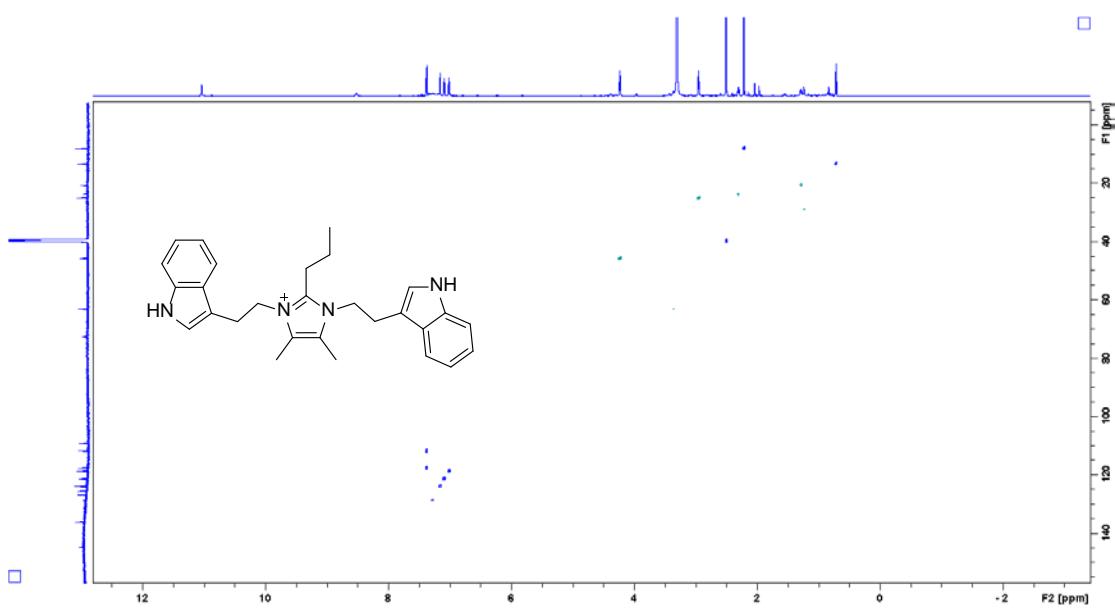
**Figure S20. The HR-ESI-MS and HR-ESI-MS/MS of compound 3.**



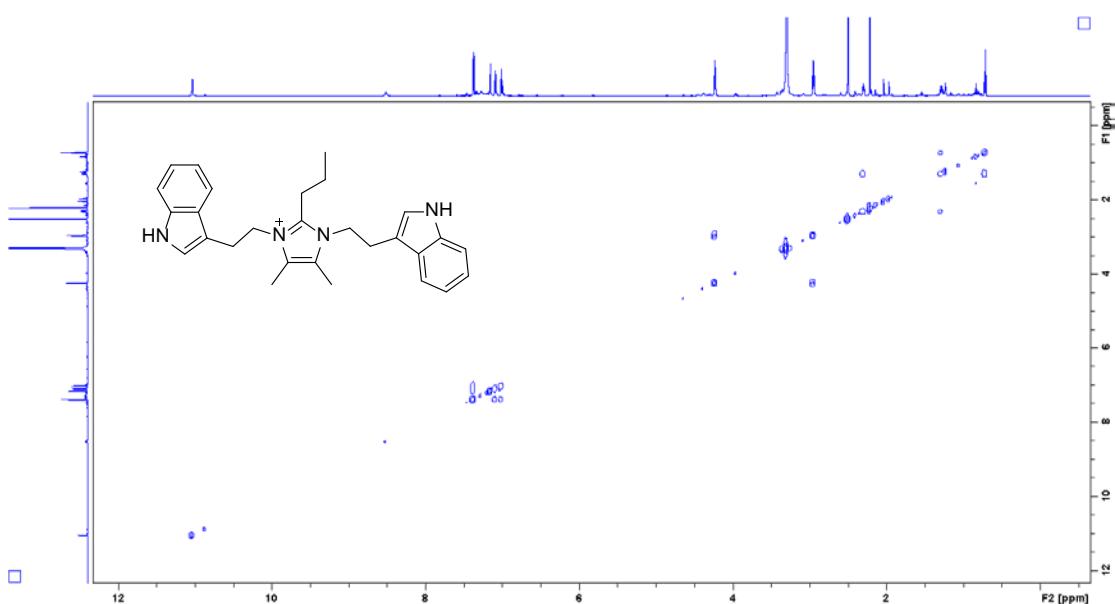
**Figure S21.** The  $^1\text{H}$ -NMR (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 3



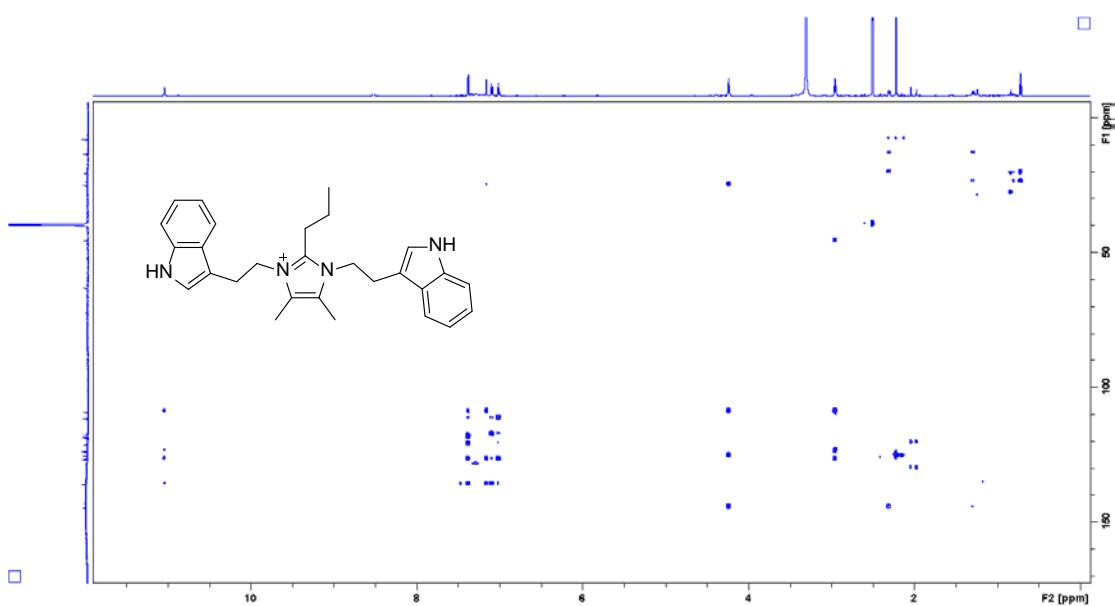
**Figure S22.** The  $^{13}\text{C}$ -NMR (175 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 3



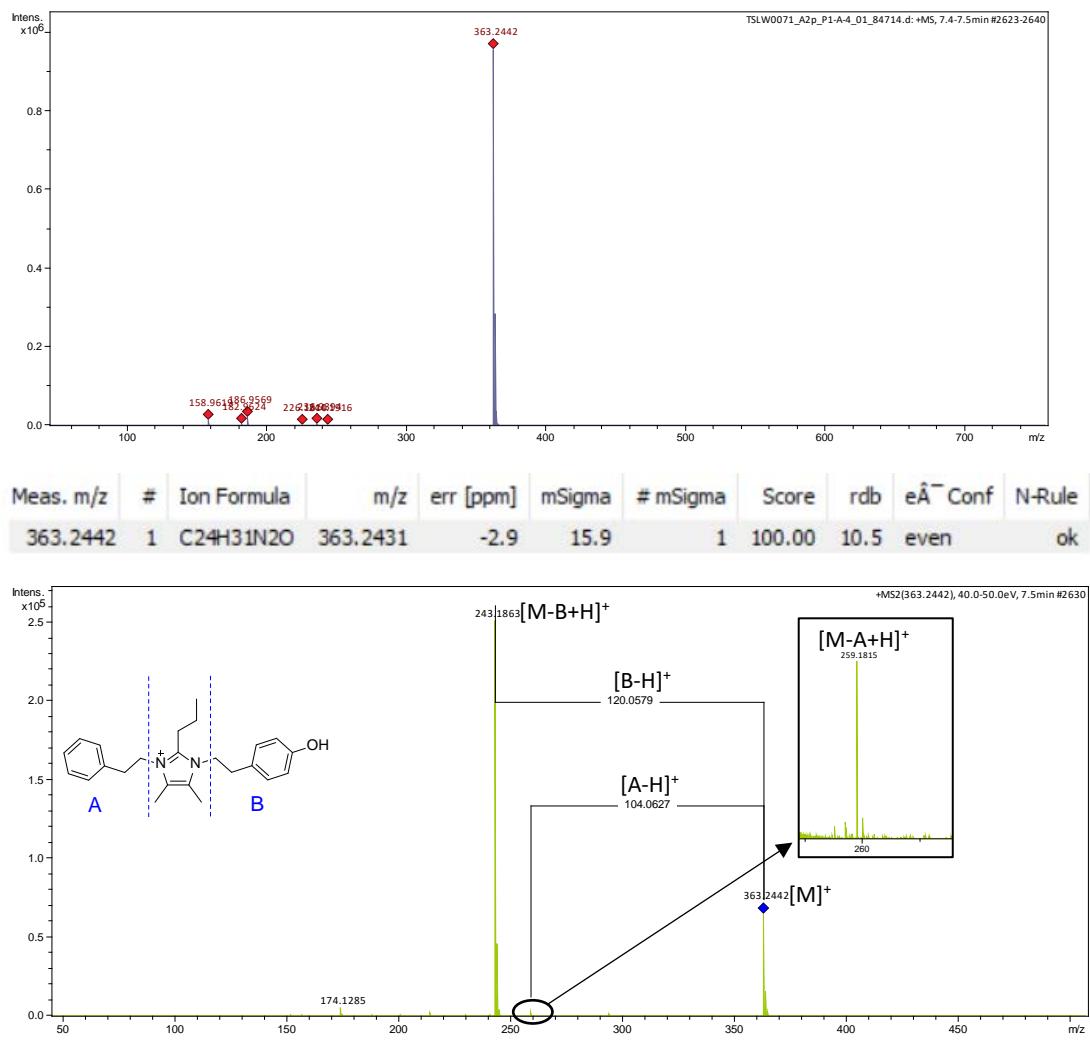
**Figure S23.** The HSQC (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 3.



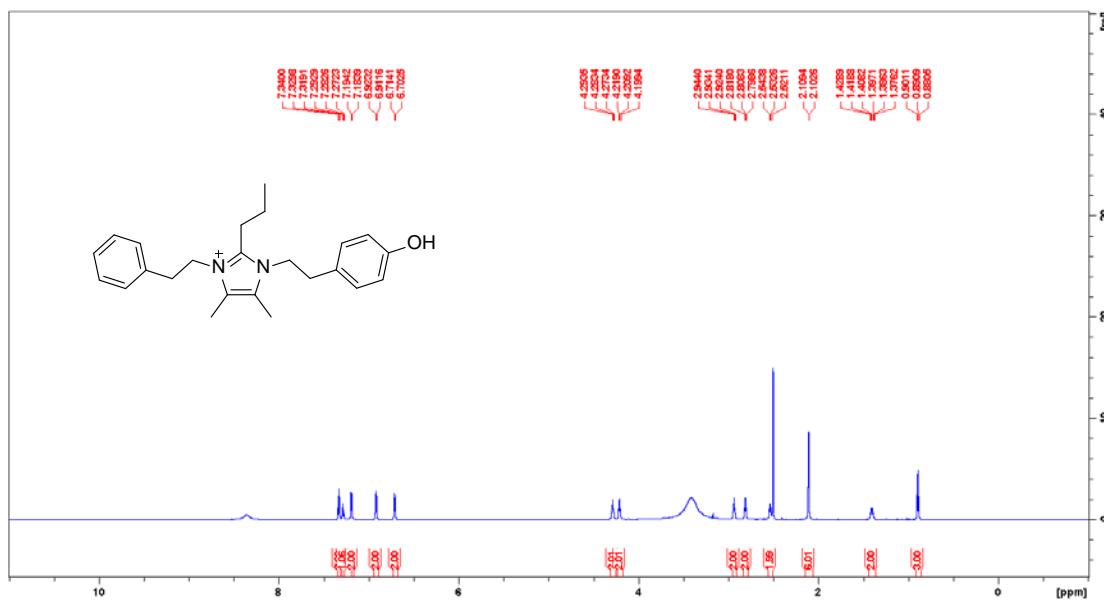
**Figure S24.** The <sup>1</sup>H-<sup>1</sup>H COSY (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 3.



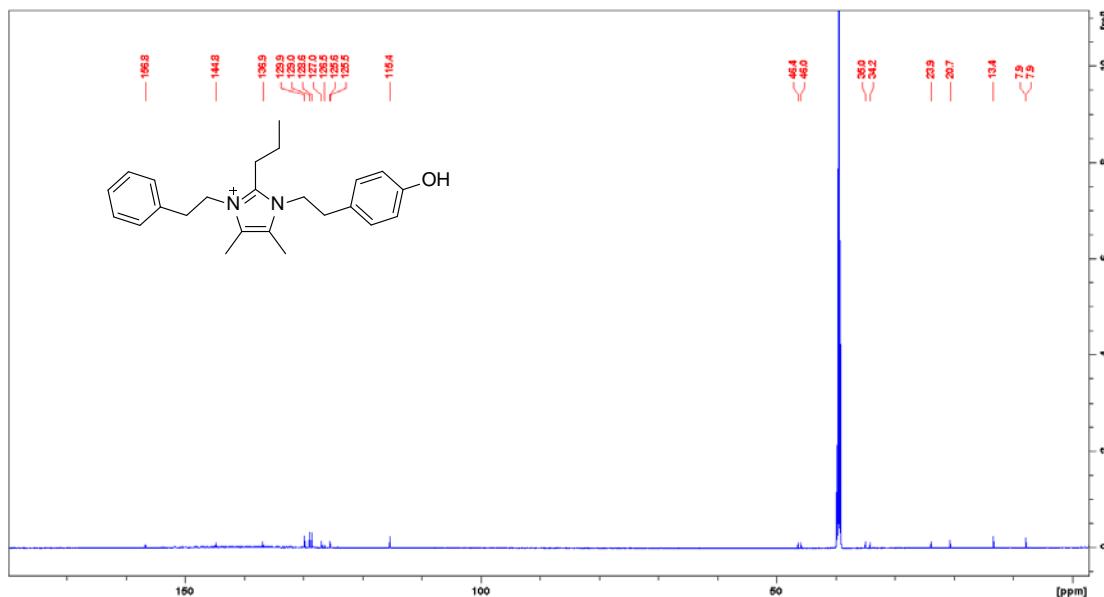
**Figure S25.** The  $^1\text{H}$ - $^{13}\text{C}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 3.



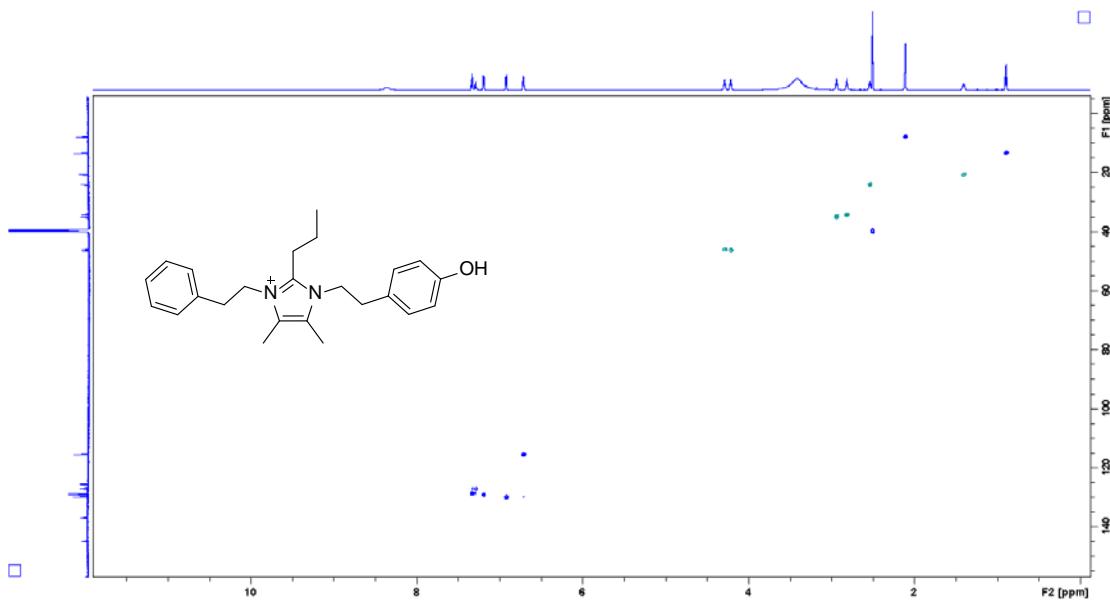
**Figure S26. The HR-ESI-MS and HR-ESI-MS/MS of compound 4.**



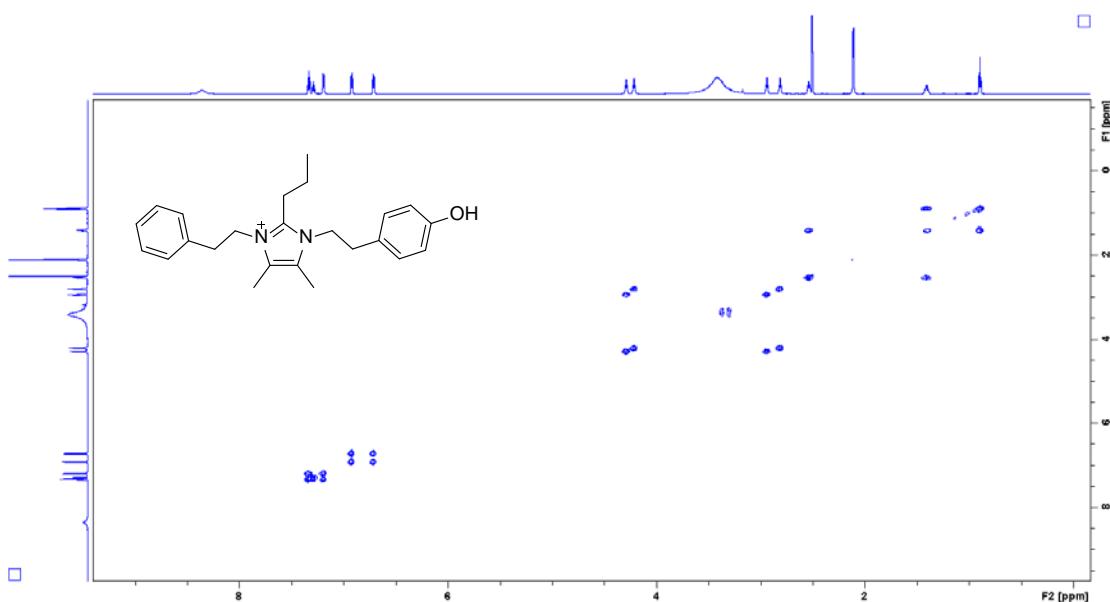
**Figure S27.** The  $^1\text{H}$ -NMR (700 MHz, DMSO- $d_6$ ) spectrum of compound 4



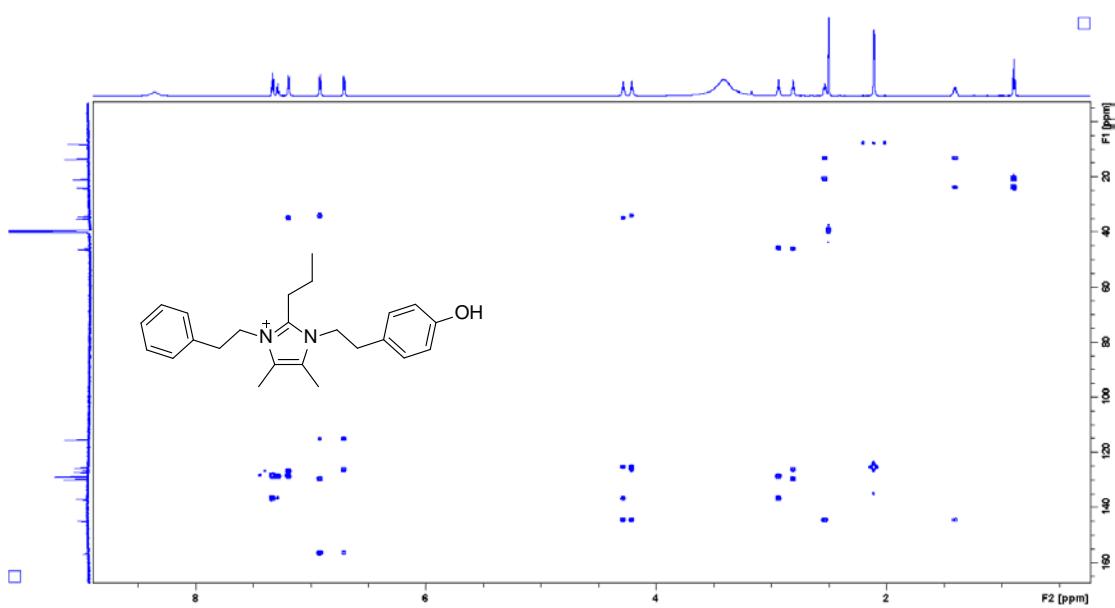
**Figure S28.** The  $^{13}\text{C}$ -NMR (175 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 4



**Figure S29.** The HSQC (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 4.



**Figure S30.** The <sup>1</sup>H-<sup>1</sup>H COSY (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 4.



**Figure S31.** The  $^1\text{H}$ - $^{13}\text{C}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 4.

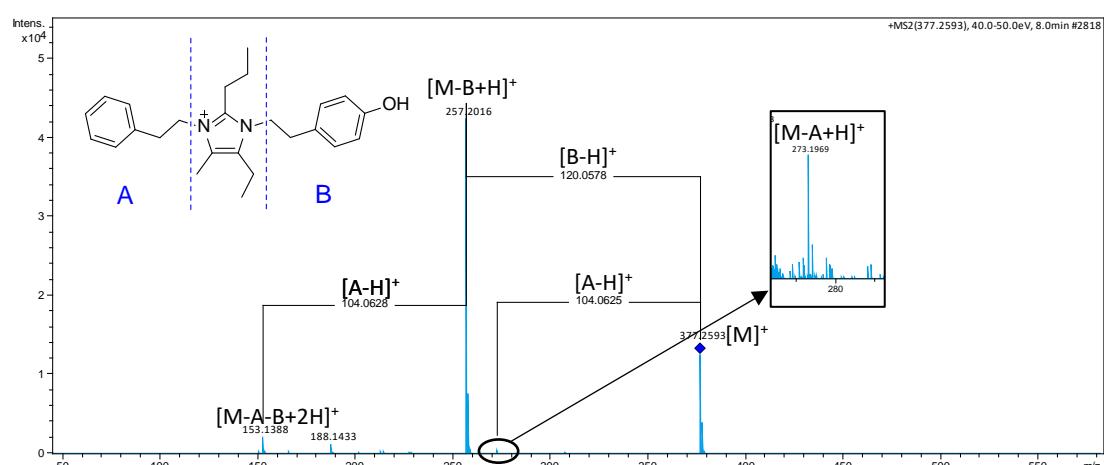
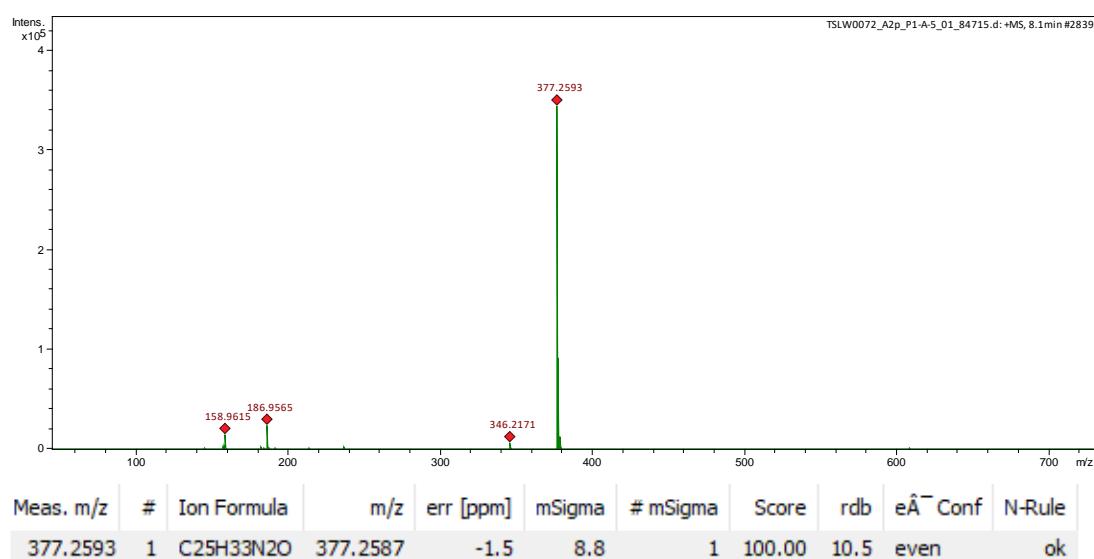
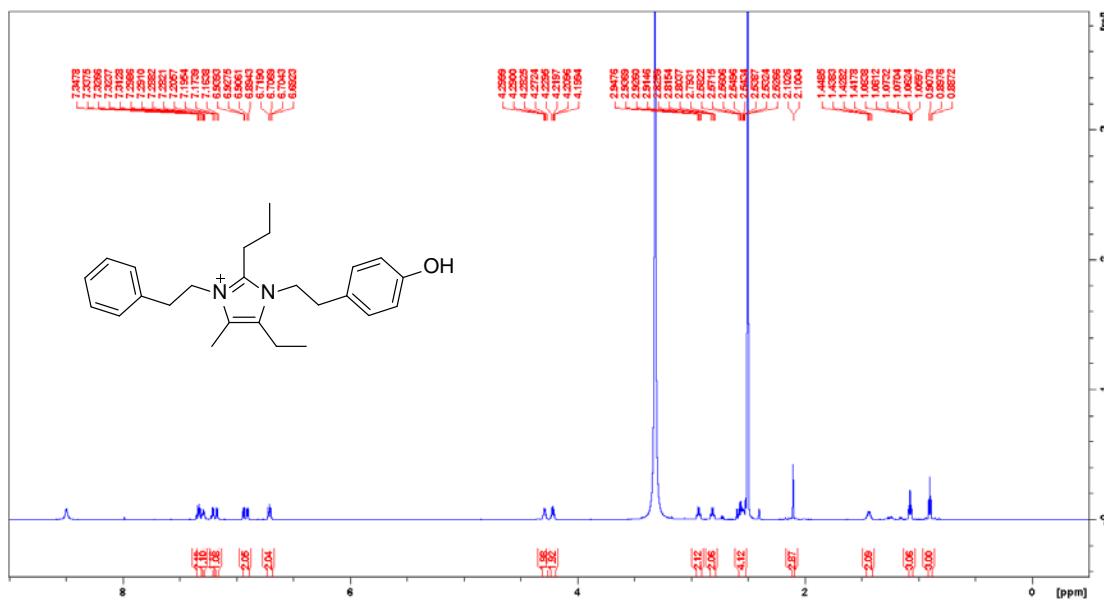
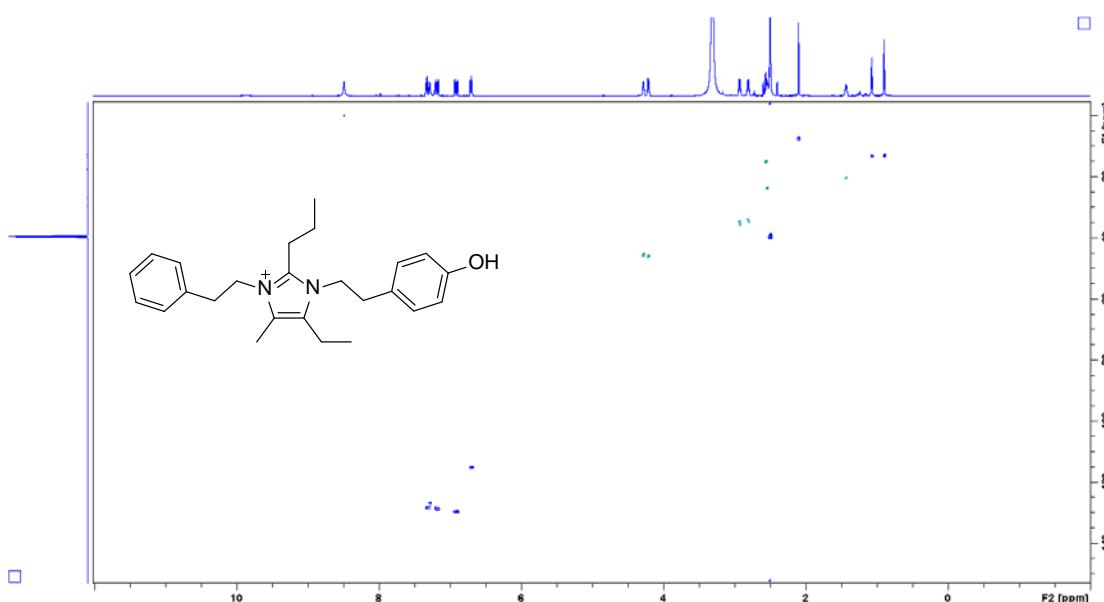


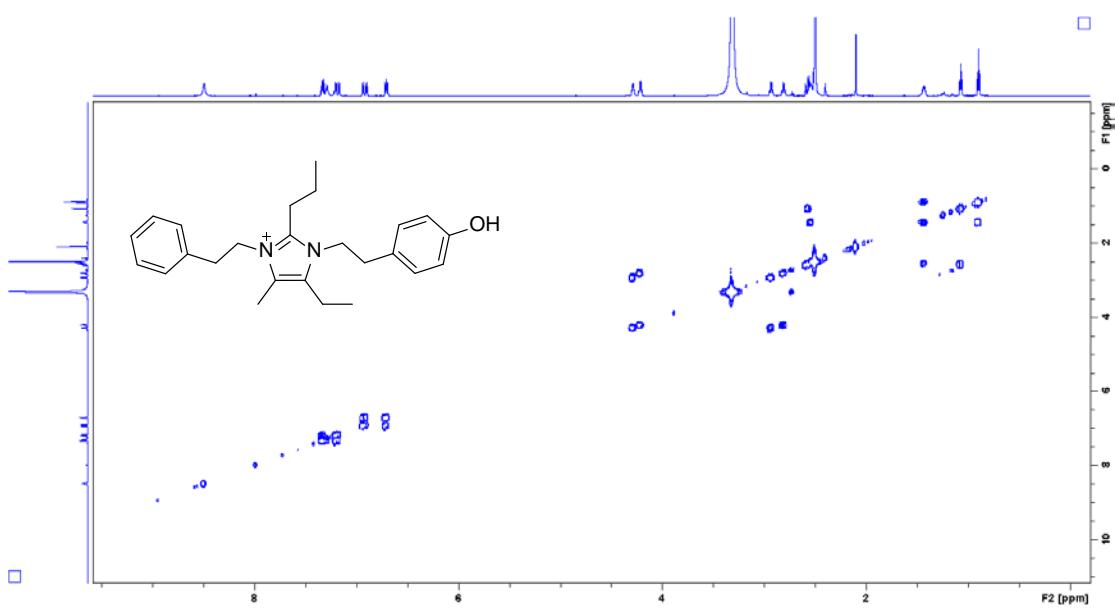
Figure S32. The HR-ESI-MS and HR-ESI-MS/MS of compound 5.



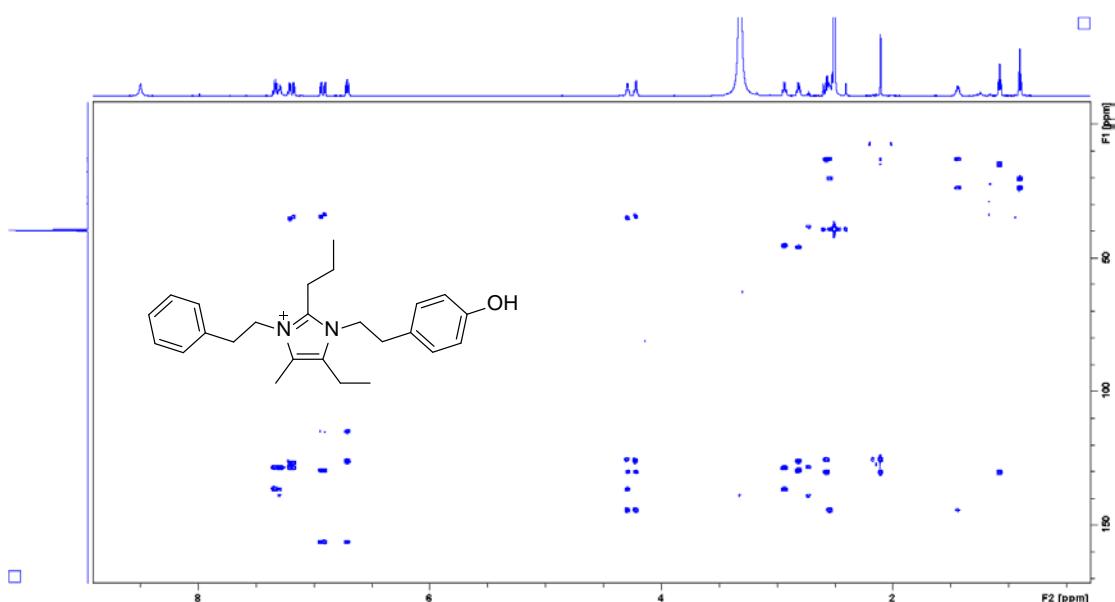
**Figure S33.** The  $^1\text{H-NMR}$  (700 MHz, DMSO- $d_6$ ) spectrum of compound 5



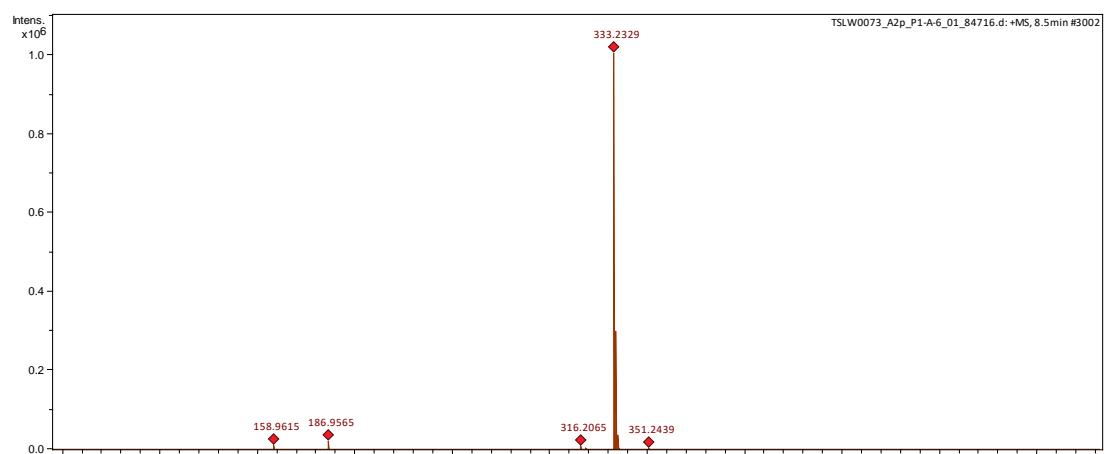
**Figure S34.** The HSQC (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 5.



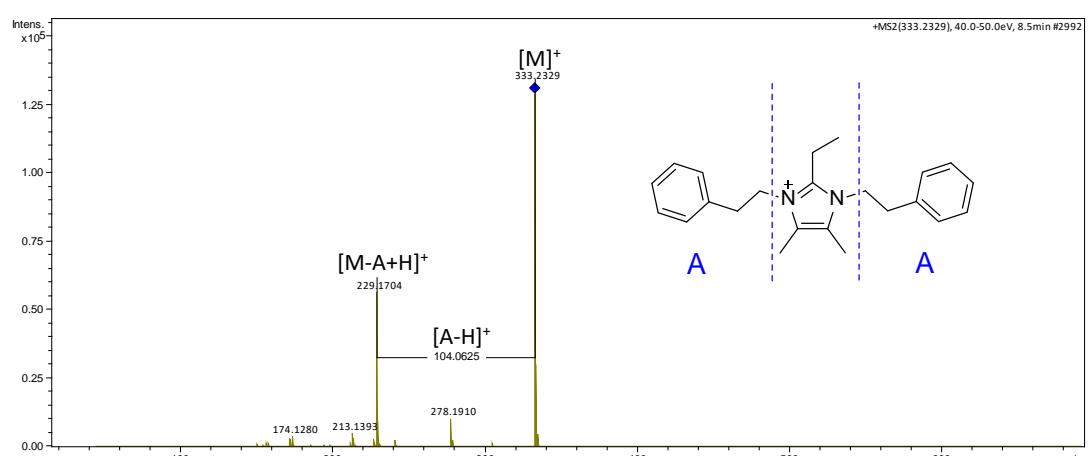
**Figure S35.** The  $^1\text{H}$ - $^1\text{H}$  COSY (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 5.



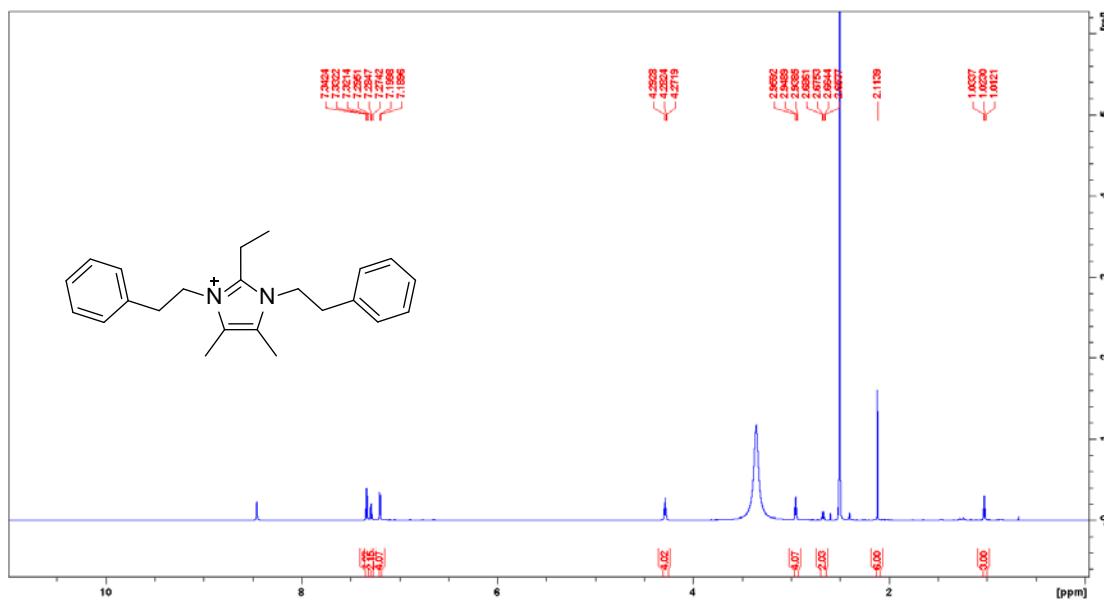
**Figure S36.** The  $^1\text{H}$ - $^{13}\text{C}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 5.



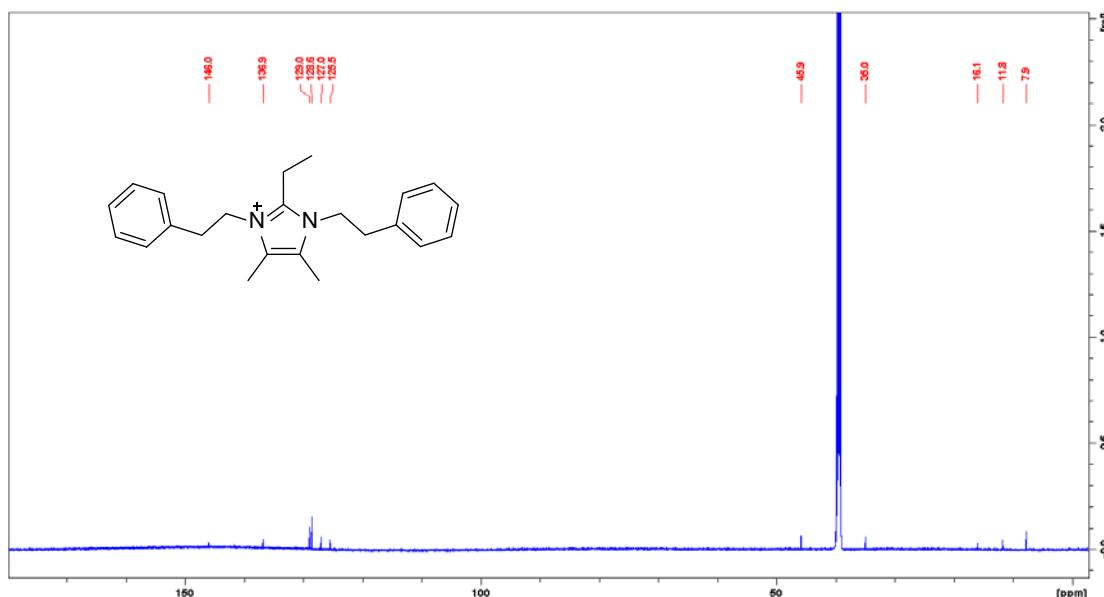
Meas. m/z	#	Ion Formula	m/z	err [ppm]	mSigma	# mSigma	Score	rdb	eÅ <sup>-</sup> Conf	N-Rule
333.2329	1	C <sub>23</sub> H <sub>29</sub> N <sub>2</sub>	333.2325	-1.2	23.6	1	100.00	10.5	even	ok



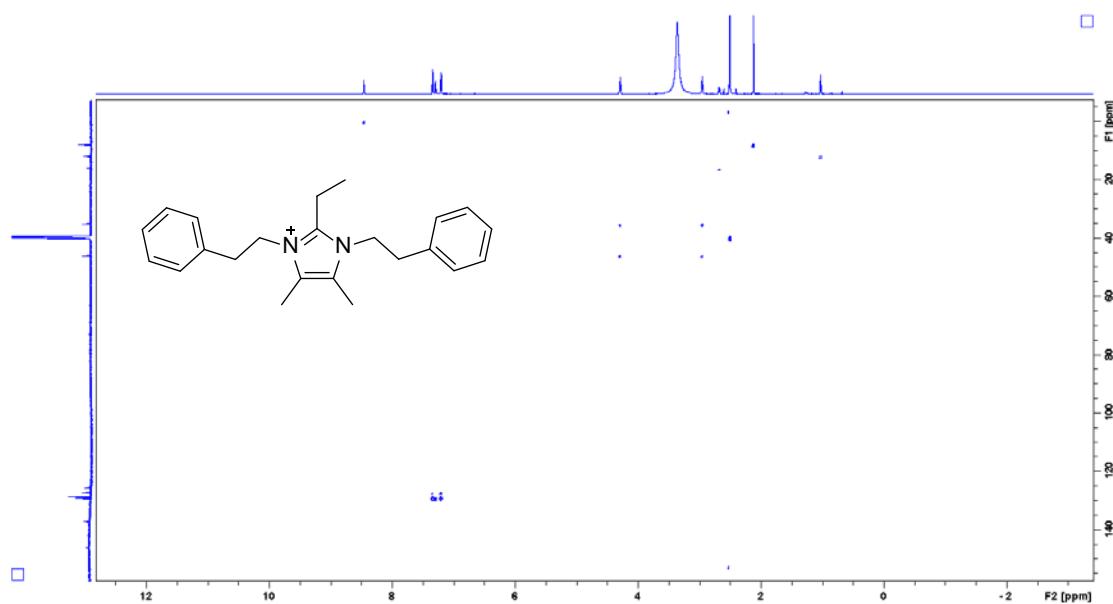
**Figure S37. The HR-ESI-MS and HR-ESI-MS/MS of compound 6.**



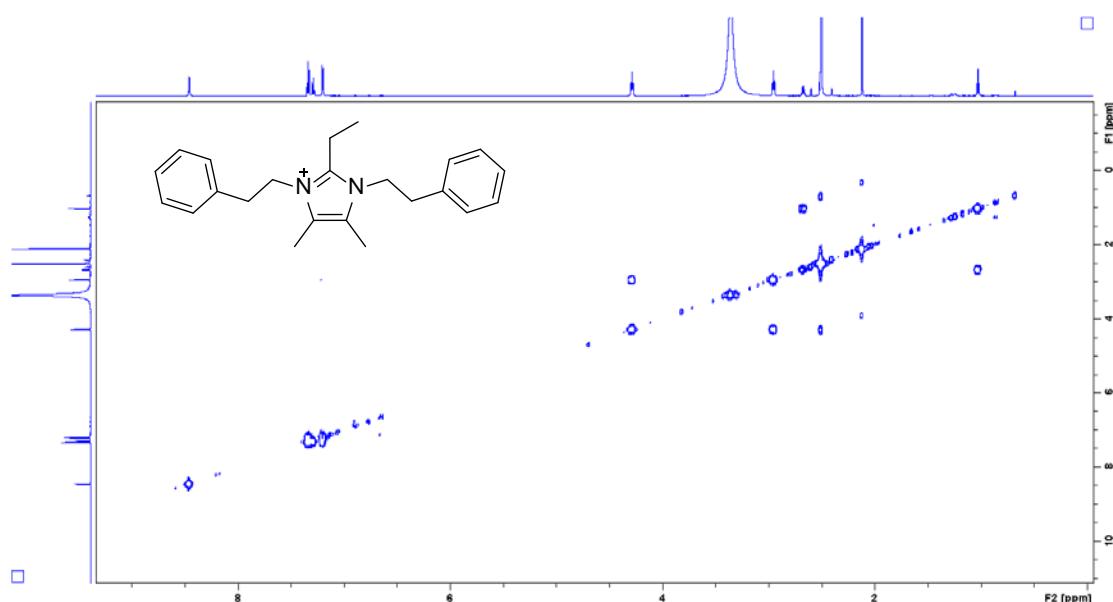
**Figure S38.** The  $^1\text{H-NMR}$  (700 MHz,  $\text{DMSO-}d_6$ ) spectrum of compound 6



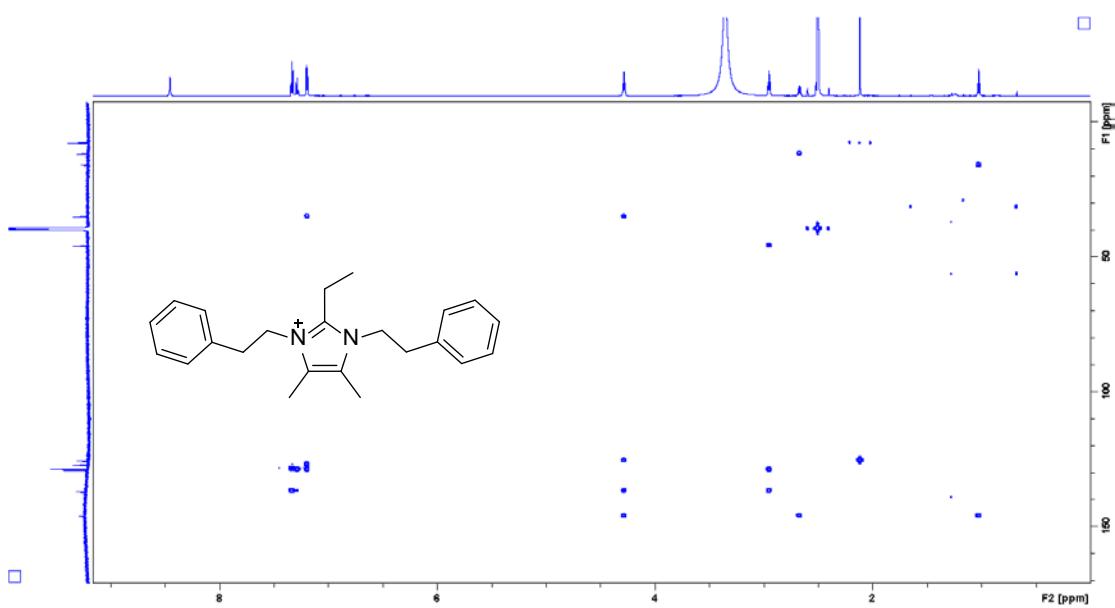
**Figure S39.** The  $^{13}\text{C}$ -NMR (175 MHz, DMSO- $d_6$ ) spectrum of compound 6



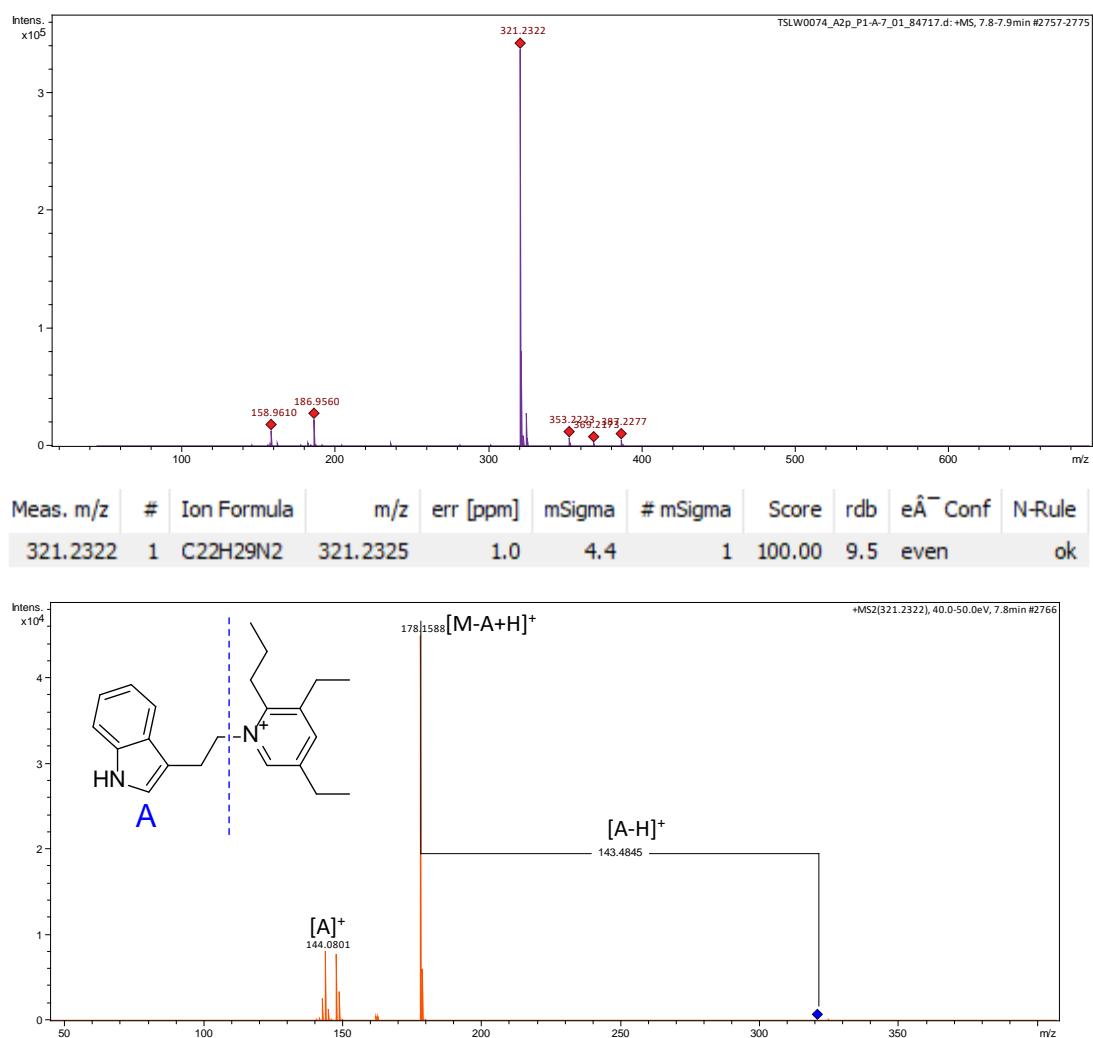
**Figure S40.** The HSQC (700 MHz, DMSO-*d*<sub>6</sub>) spectrum of compound 6.



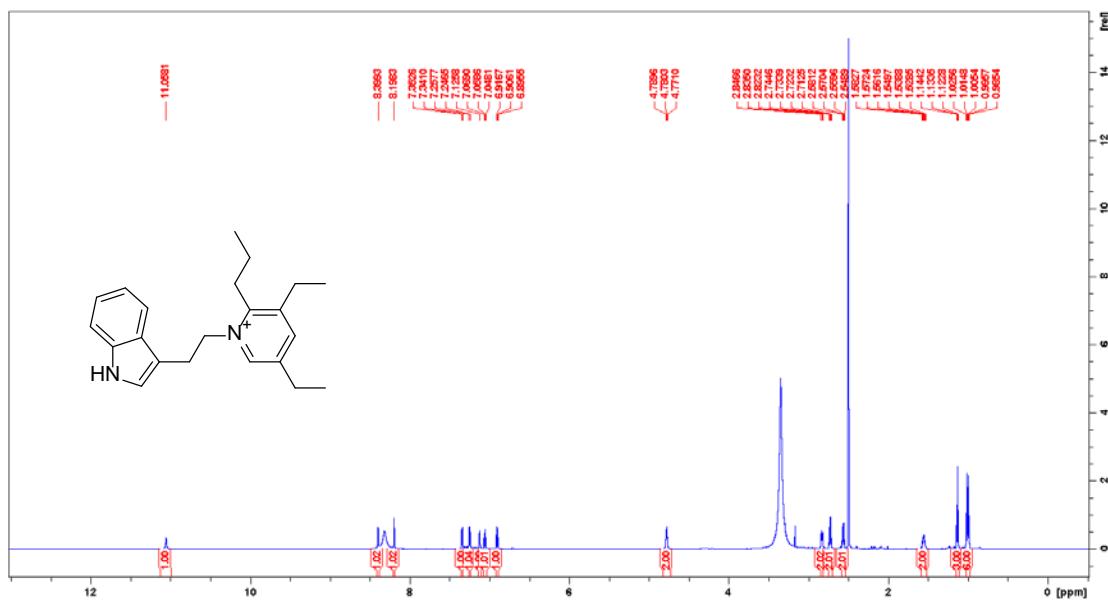
**Figure S41.** The  $^1\text{H}$ - $^1\text{H}$  COSY (700 MHz, DMSO- $d_6$ ) spectrum of compound 6.



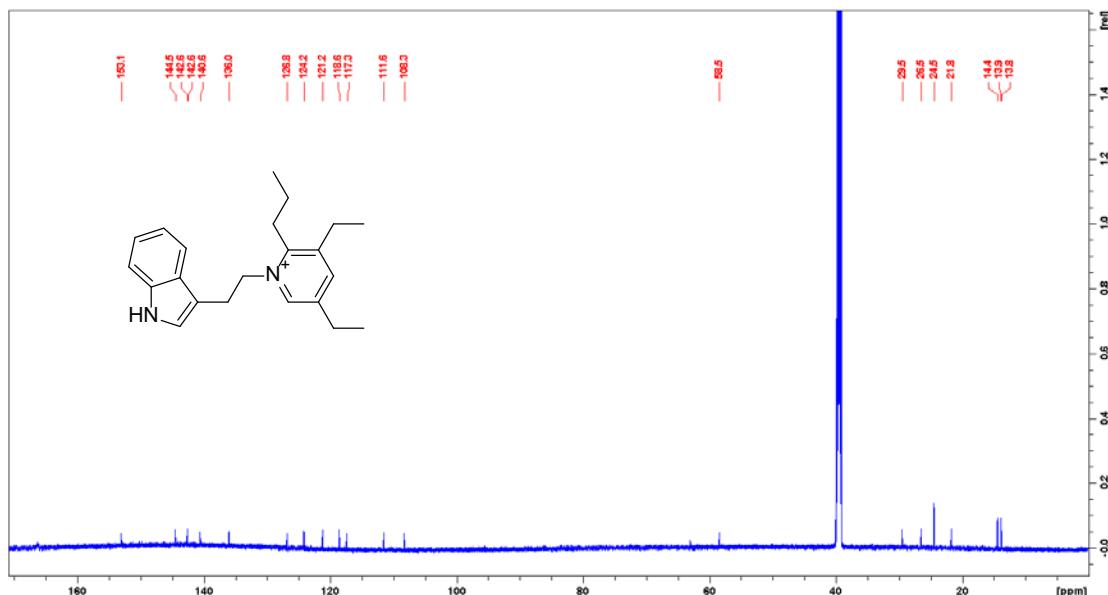
**Figure S42.** The  $^1\text{H}$ - $^{13}\text{C}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 6.



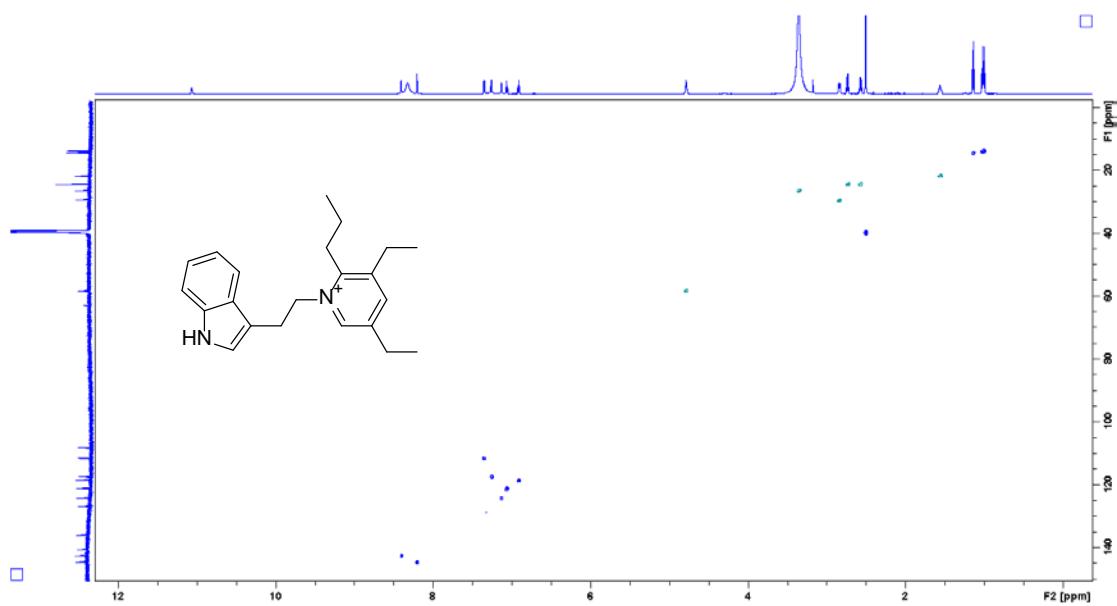
**Figure S43. The HR-ESI-MS and HR-ESI-MS/MS of compound 7.**



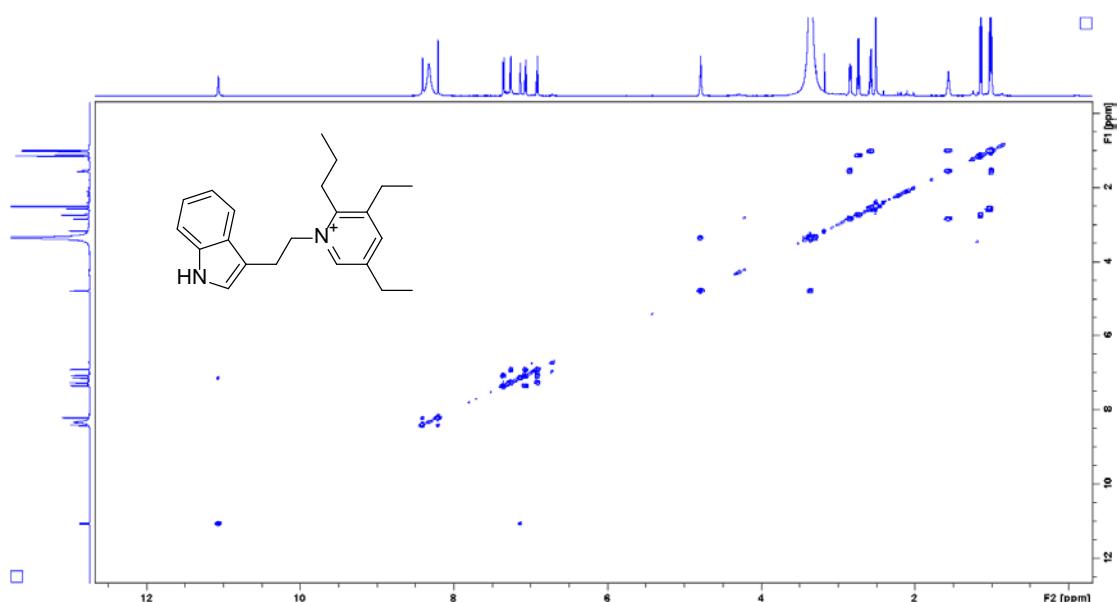
**Figure S44.** The  $^1\text{H-NMR}$  (700 MHz, DMSO- $d_6$ ) spectrum of compound 7



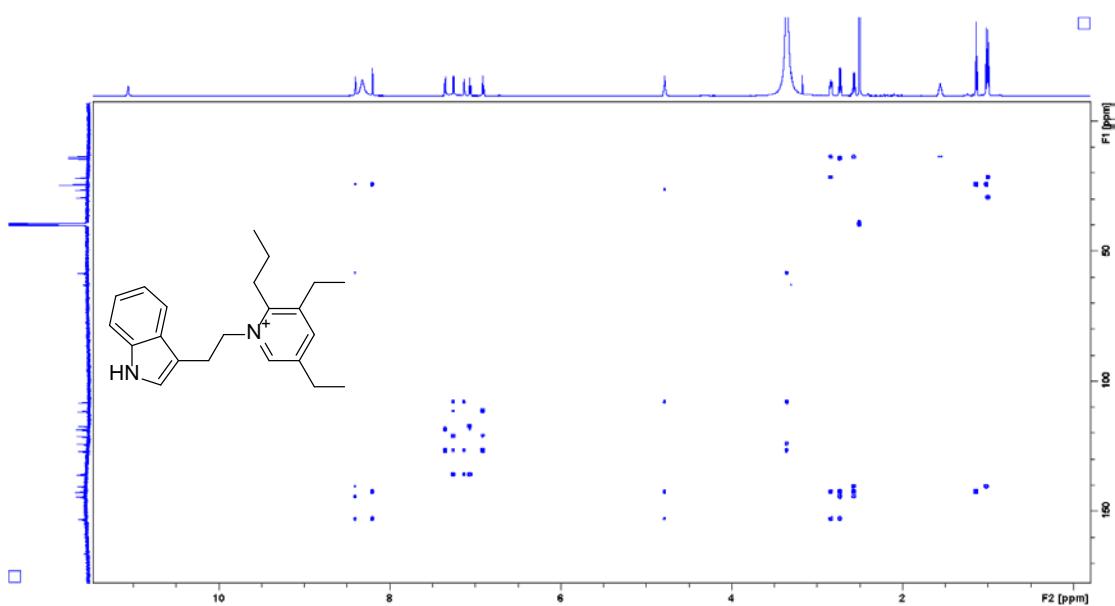
**Figure S45.** The  $^{13}\text{C}$ -NMR (175 MHz,  $\text{DMSO-}d_6$ ) spectrum of compound 7



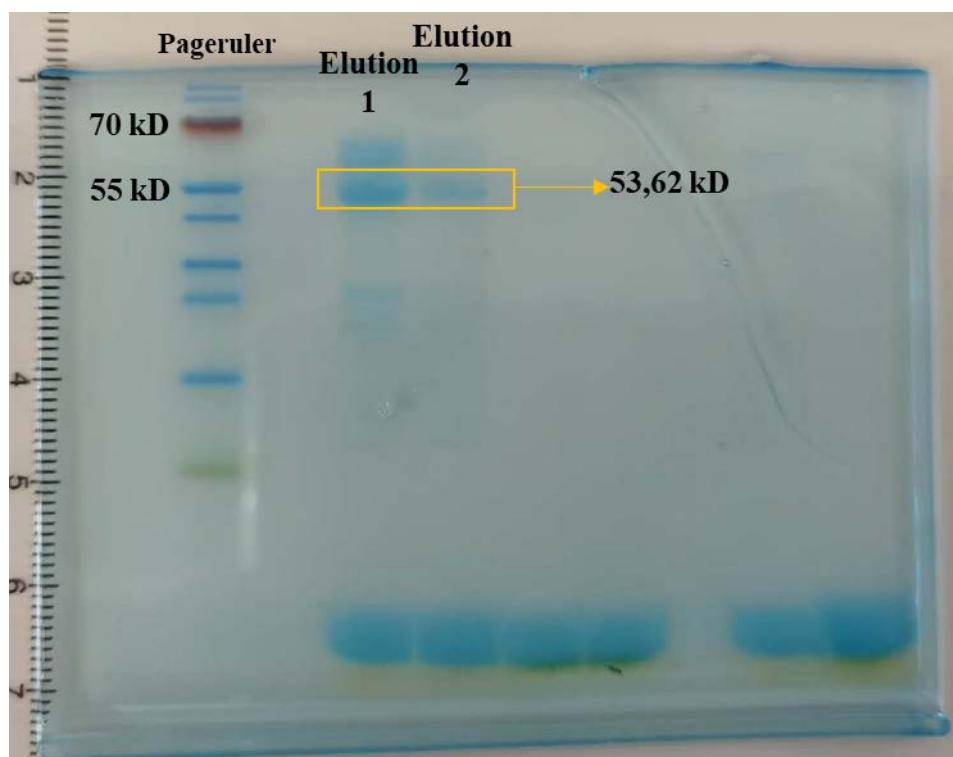
**Figure S46.** The HSQC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 7.



**Figure S47.** The  $^1\text{H}$ - $^1\text{H}$  COSY (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 7.



**Figure S48.** The  $^1\text{H}$ - $^{13}\text{C}$  HMBC (700 MHz,  $\text{DMSO}-d_6$ ) spectrum of compound 7.



**Figure S49.** SDS-PAGE gel showing the purification of His-tagged DisA.