

Supporting Information for:

Dermacozines, a New Phenazine Family from Deep-sea Dermacocci Isolated from a Mariana Trench Sediment

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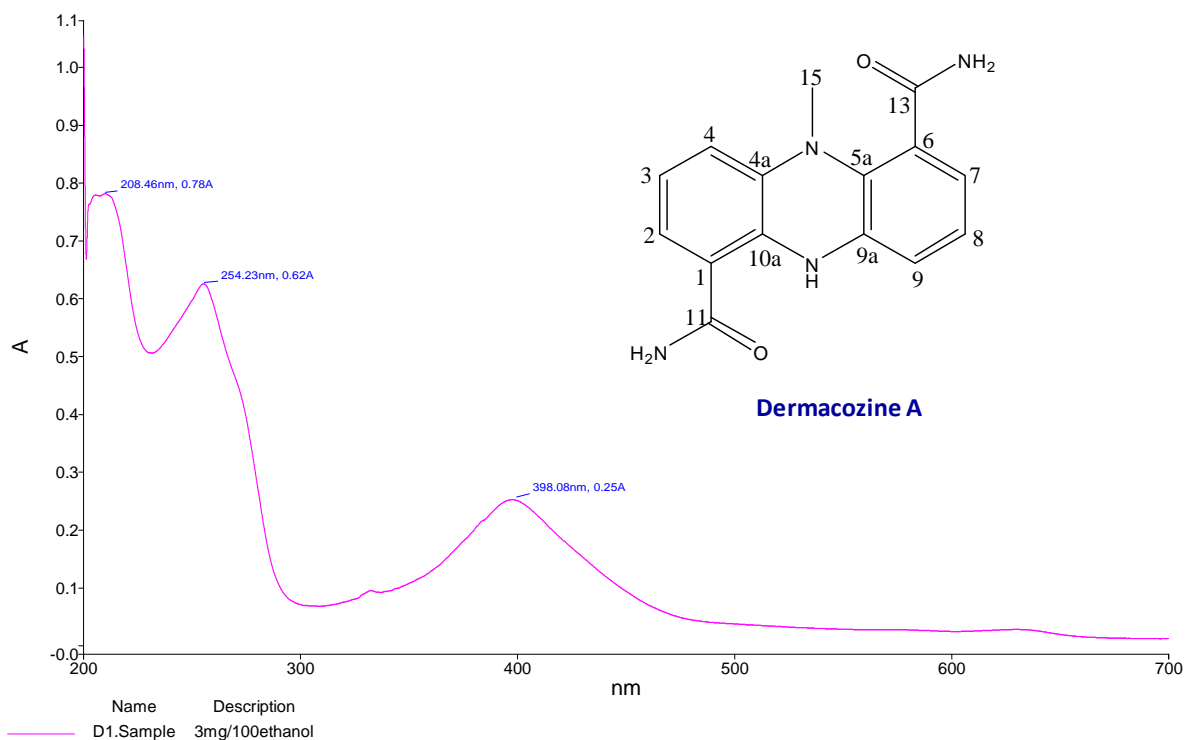
i.) Extremobiosphere Research Center, Japan Agency for Marine-Earth Science and Technology, 2-15 Natsushima-cho, Yokosuka 237-0061, Japan.

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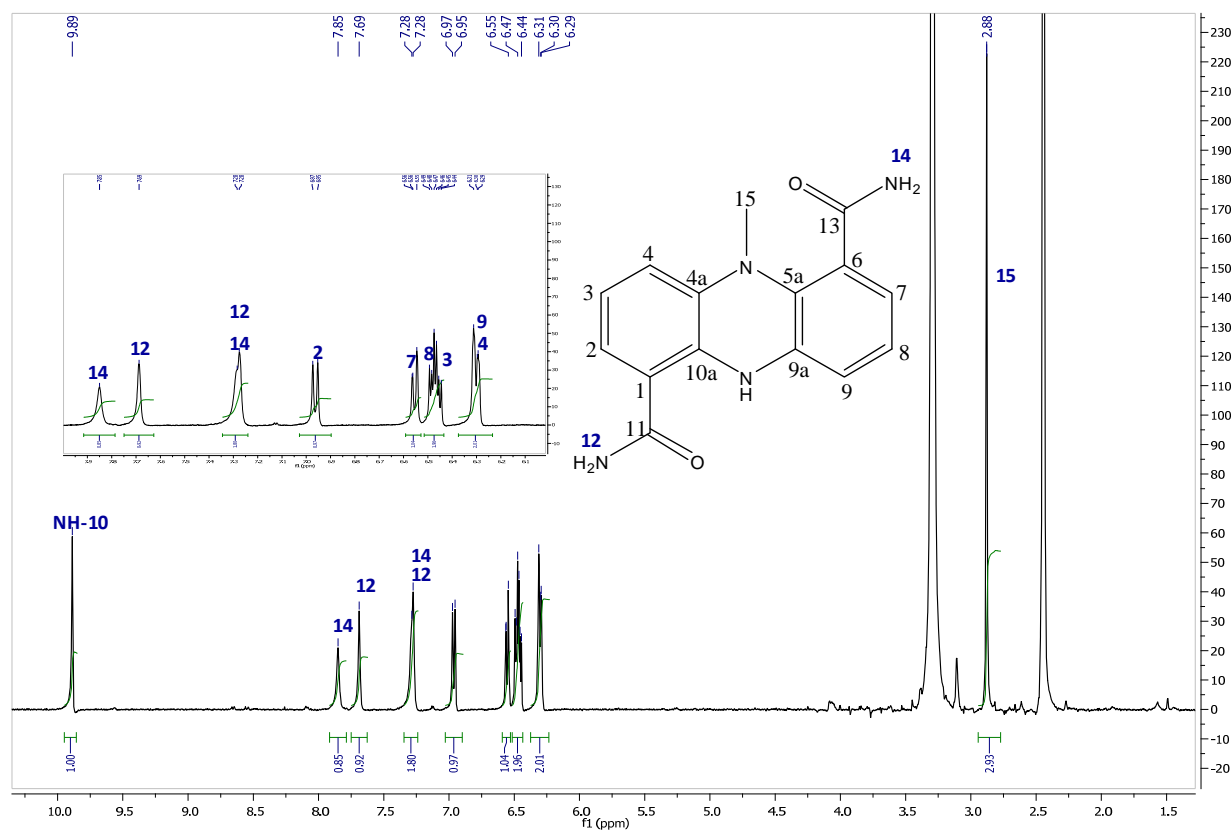
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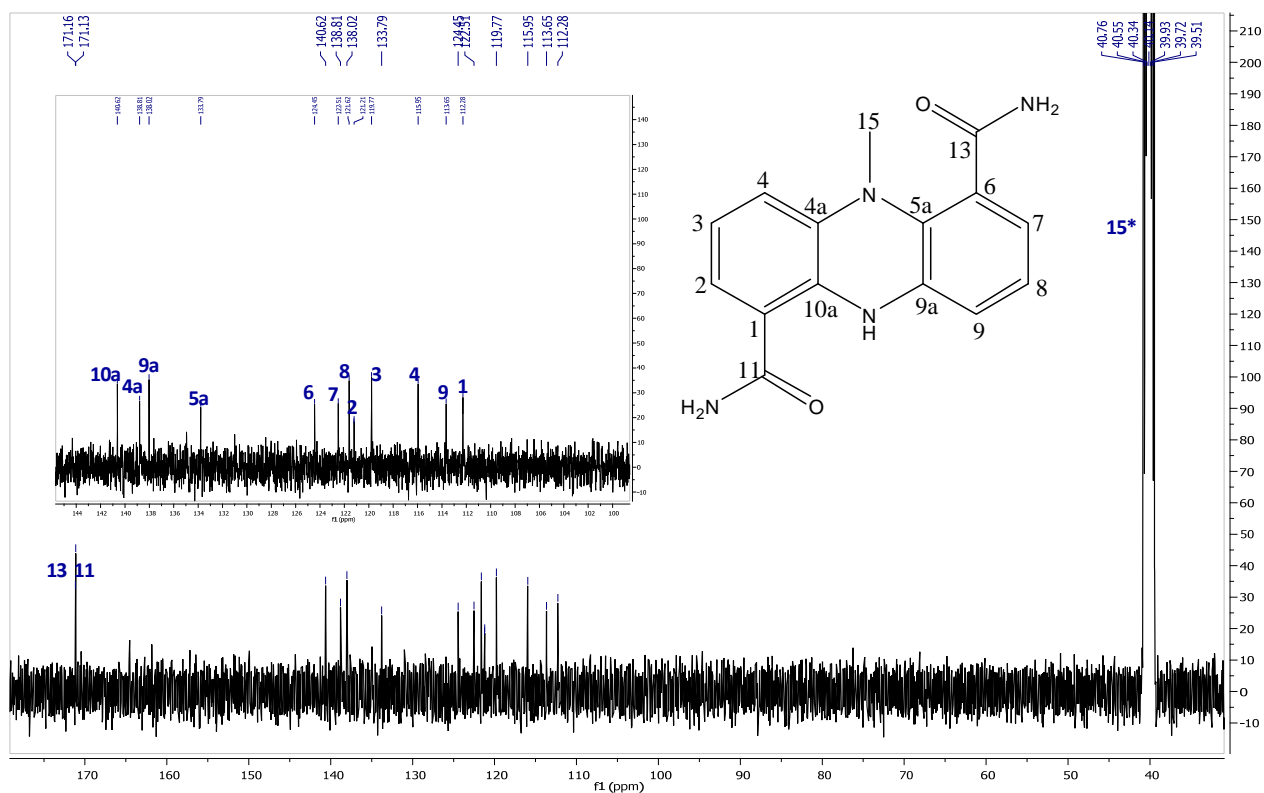
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S1. UV spectrum of dermacozine A (1) (in Ethanol)

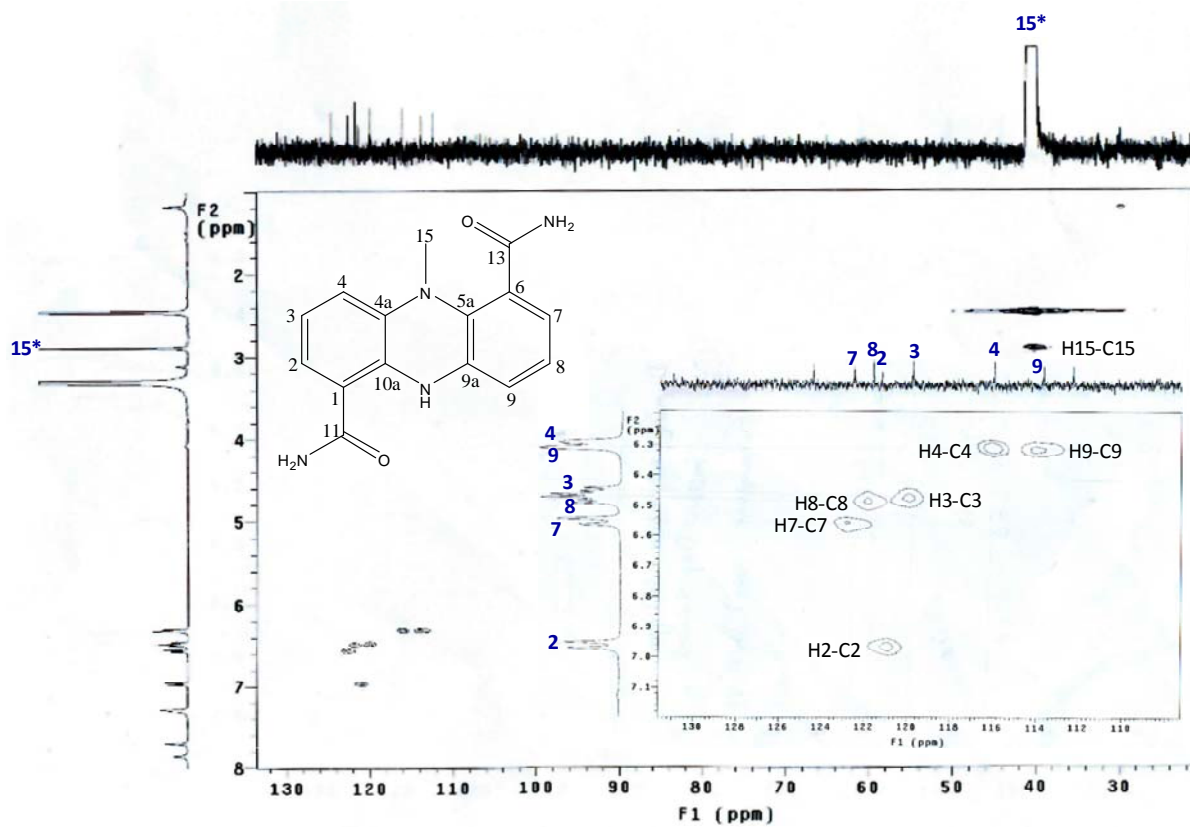


S2. ^1H NMR spectrum of dermacozine A (1) (400 MHz, DMSO- d_6)

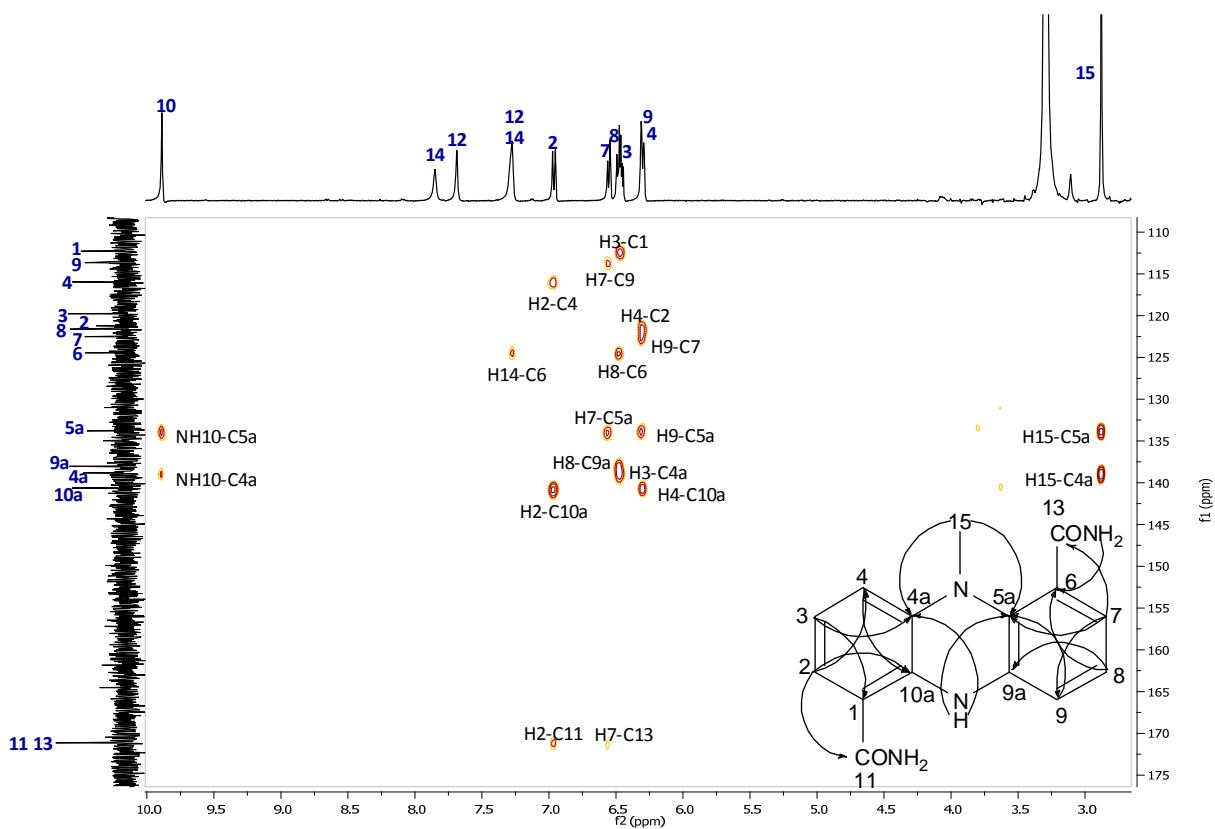
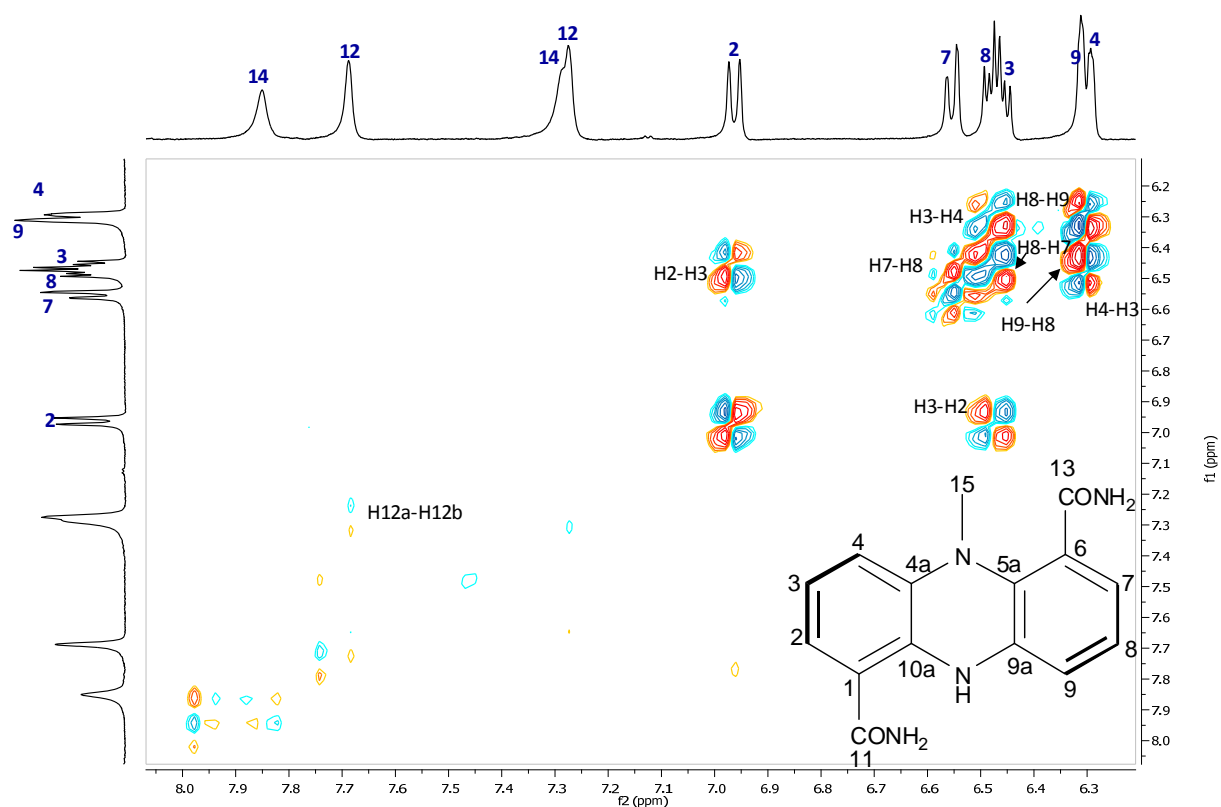


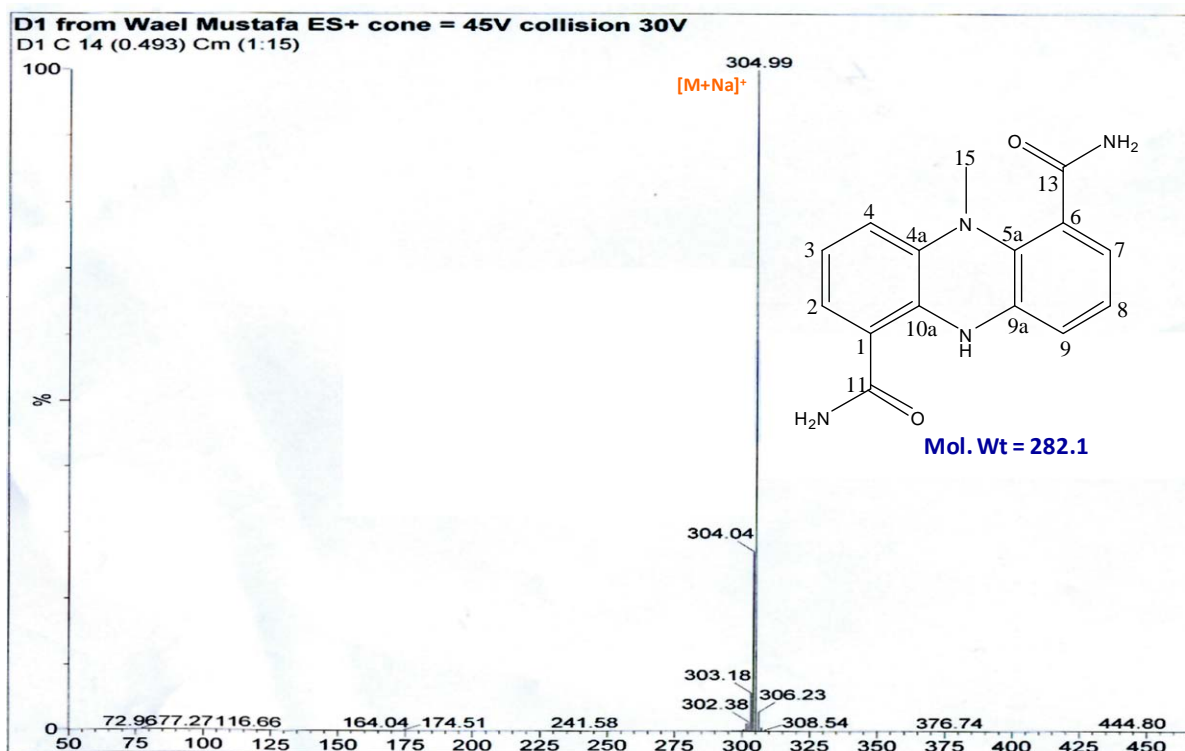
* Obscured by solvent peak

S3. ^{13}C NMR spectrum of dermacozine A (**1**) (100 MHz, $\text{DMSO-}d_6$)

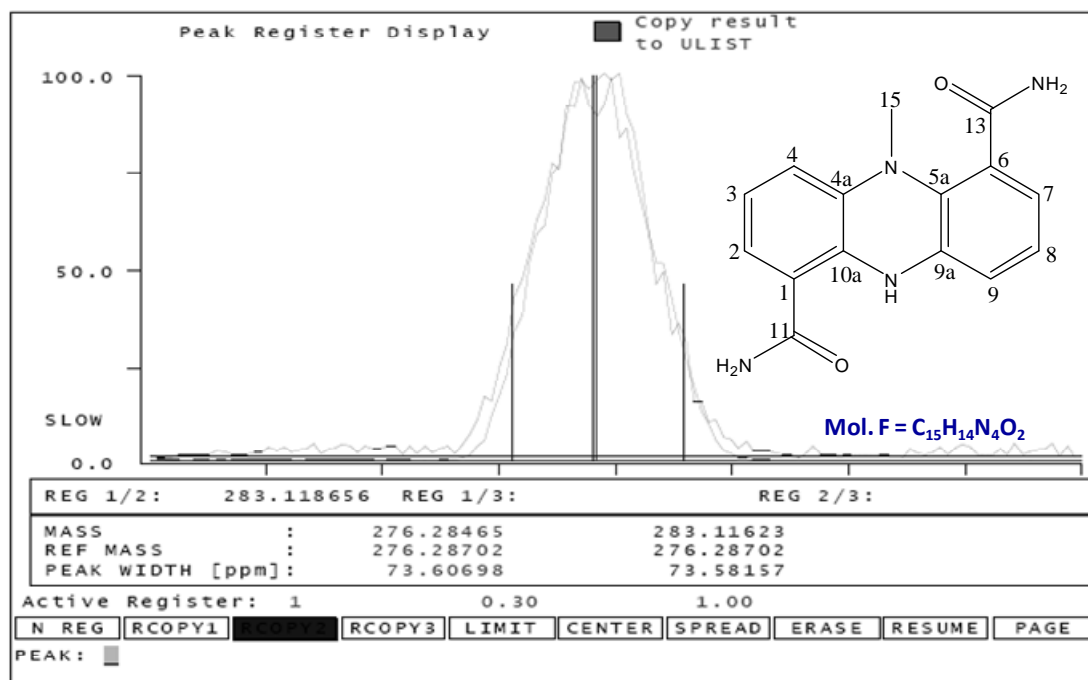


S4. HSQC spectrum of dermacozine A (**1**) (400 MHz, $\text{DMSO-}d_6$)





S7. LRESIMS spectrum of dermacozine A (1) (in Methanol)

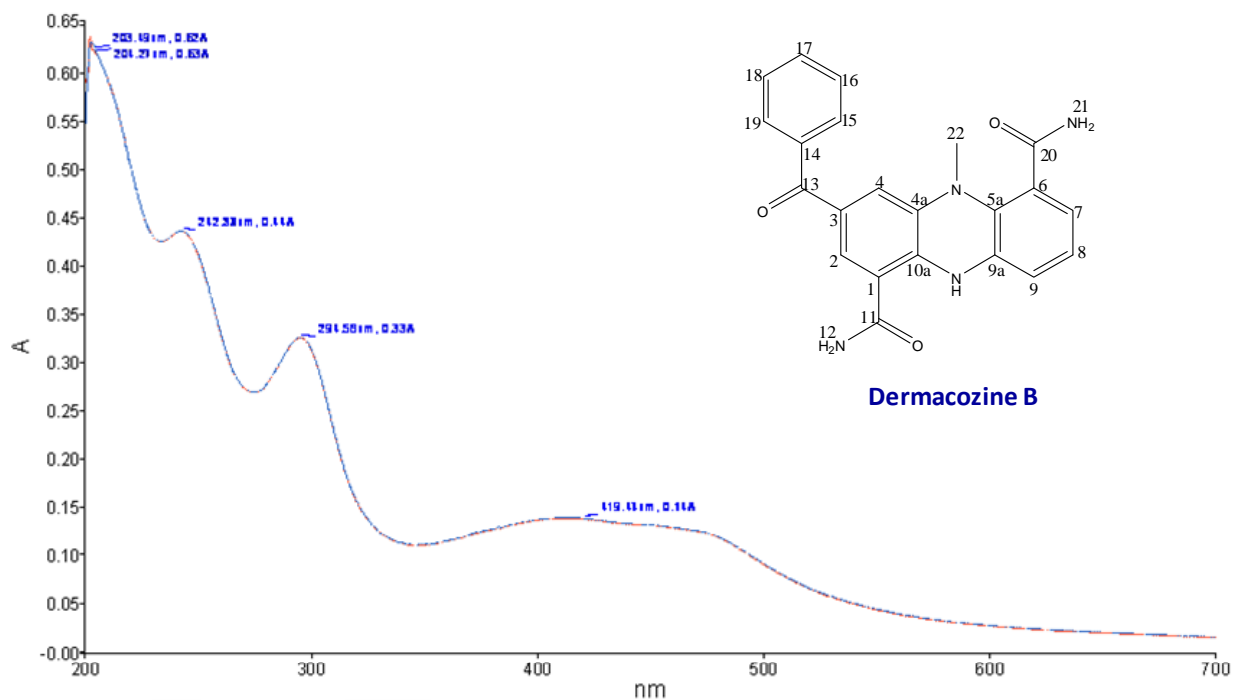


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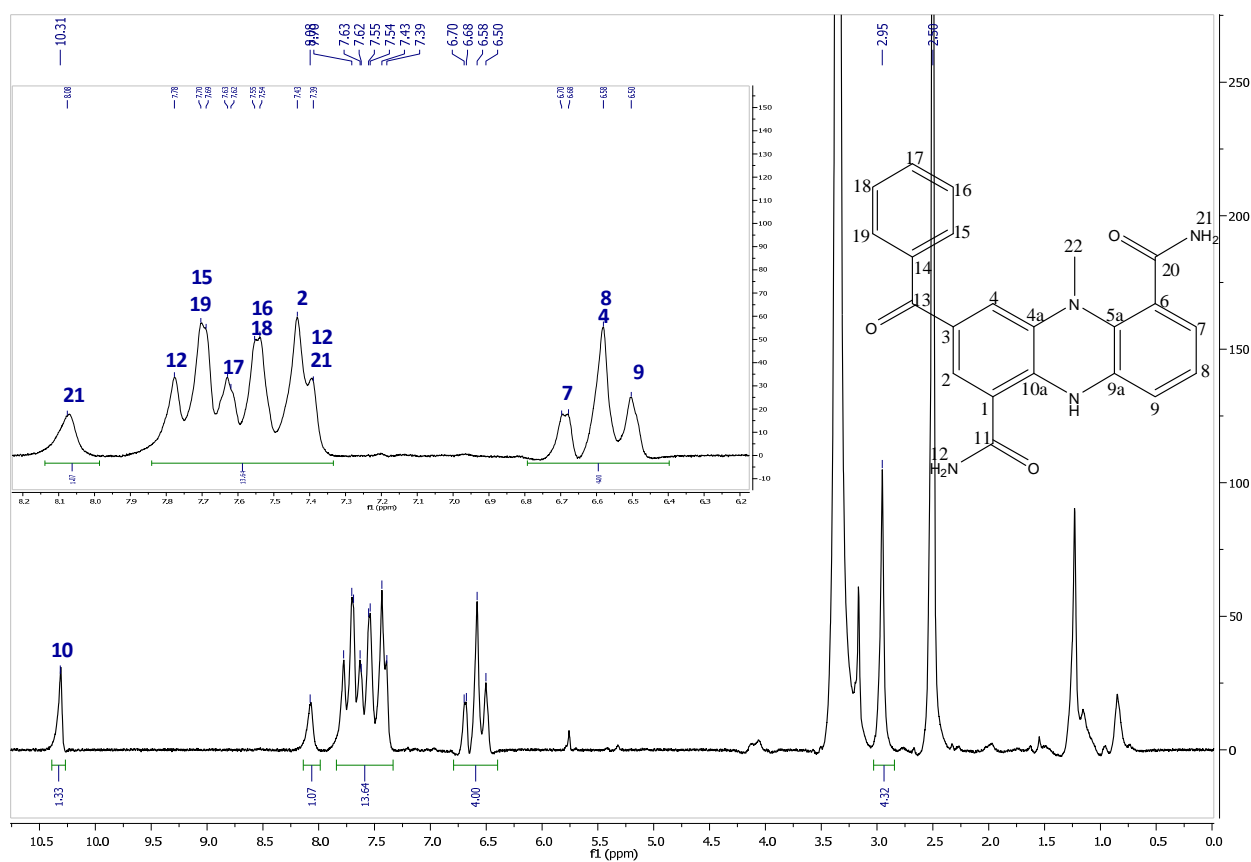
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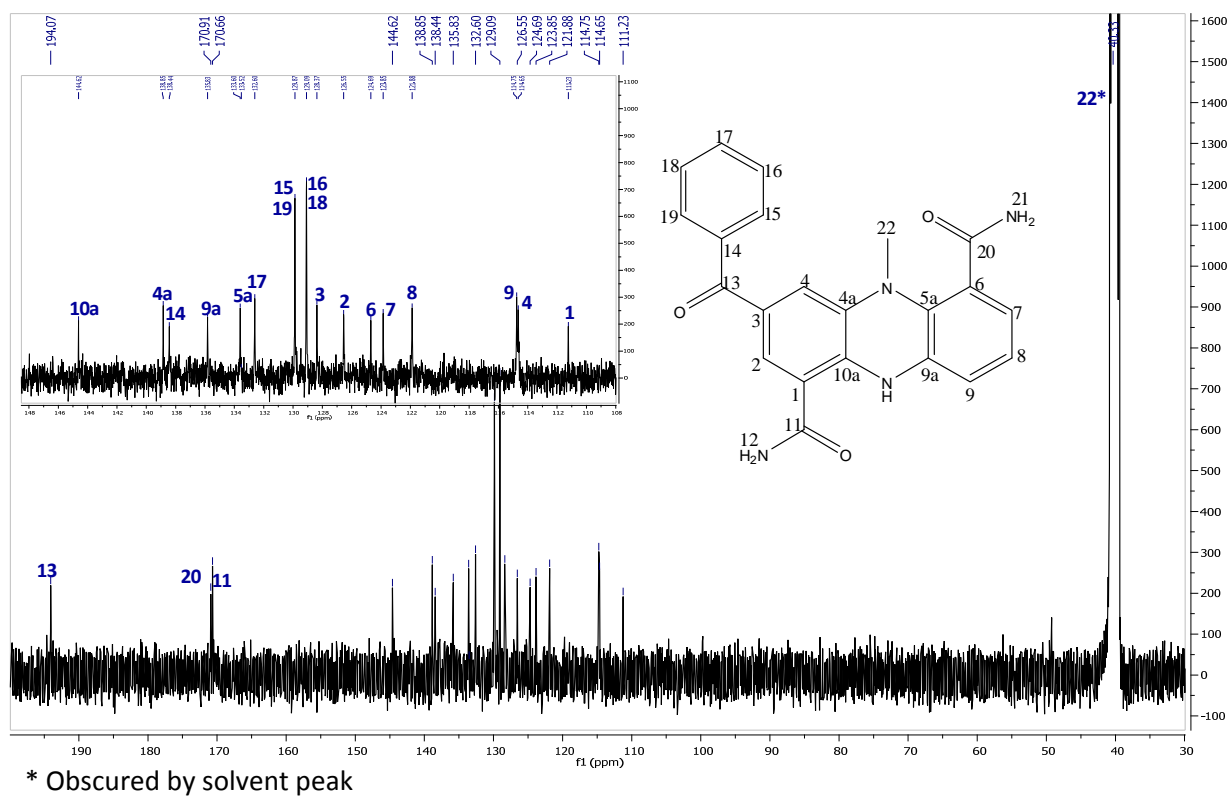
S8. HRESIMS spectrum of dermacozine A (1) (in Methanol)



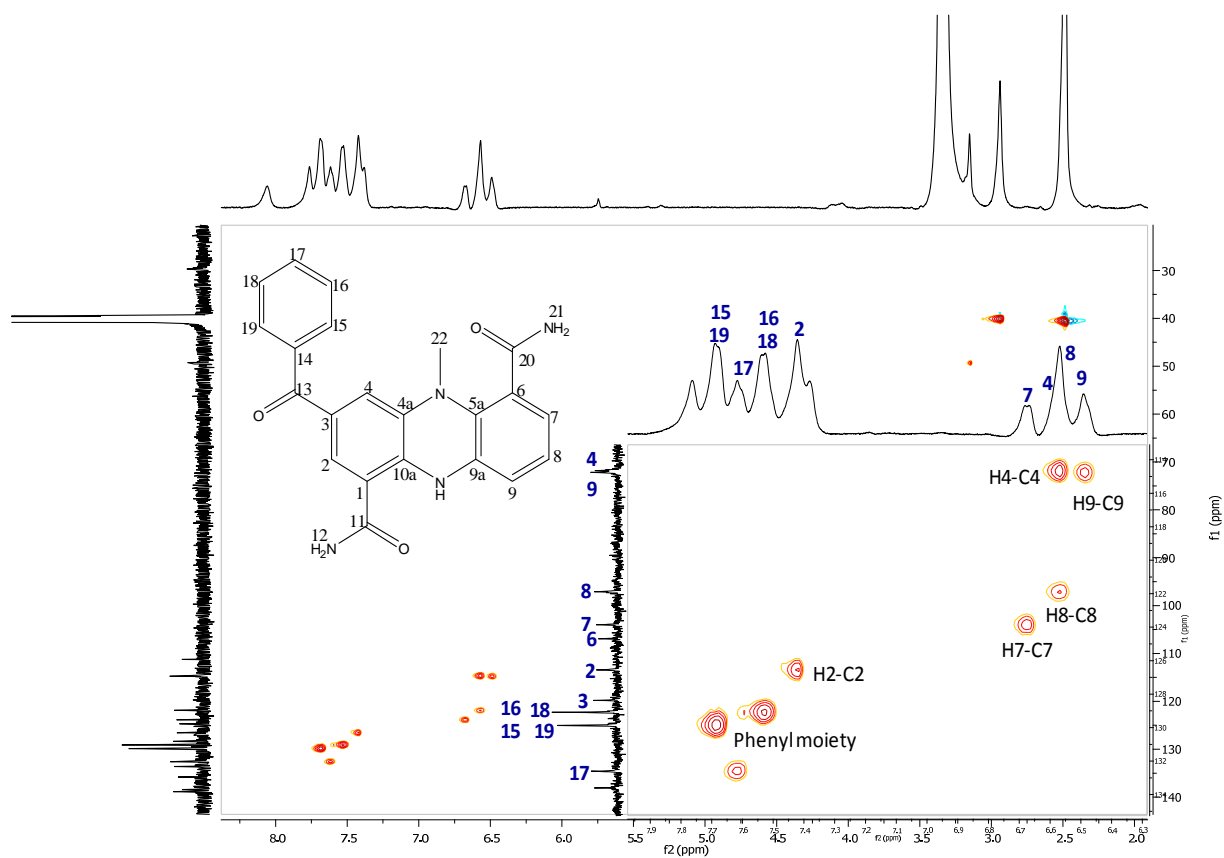
S9. UV spectrum of dermacozine B (**2**) (in Ethanol)



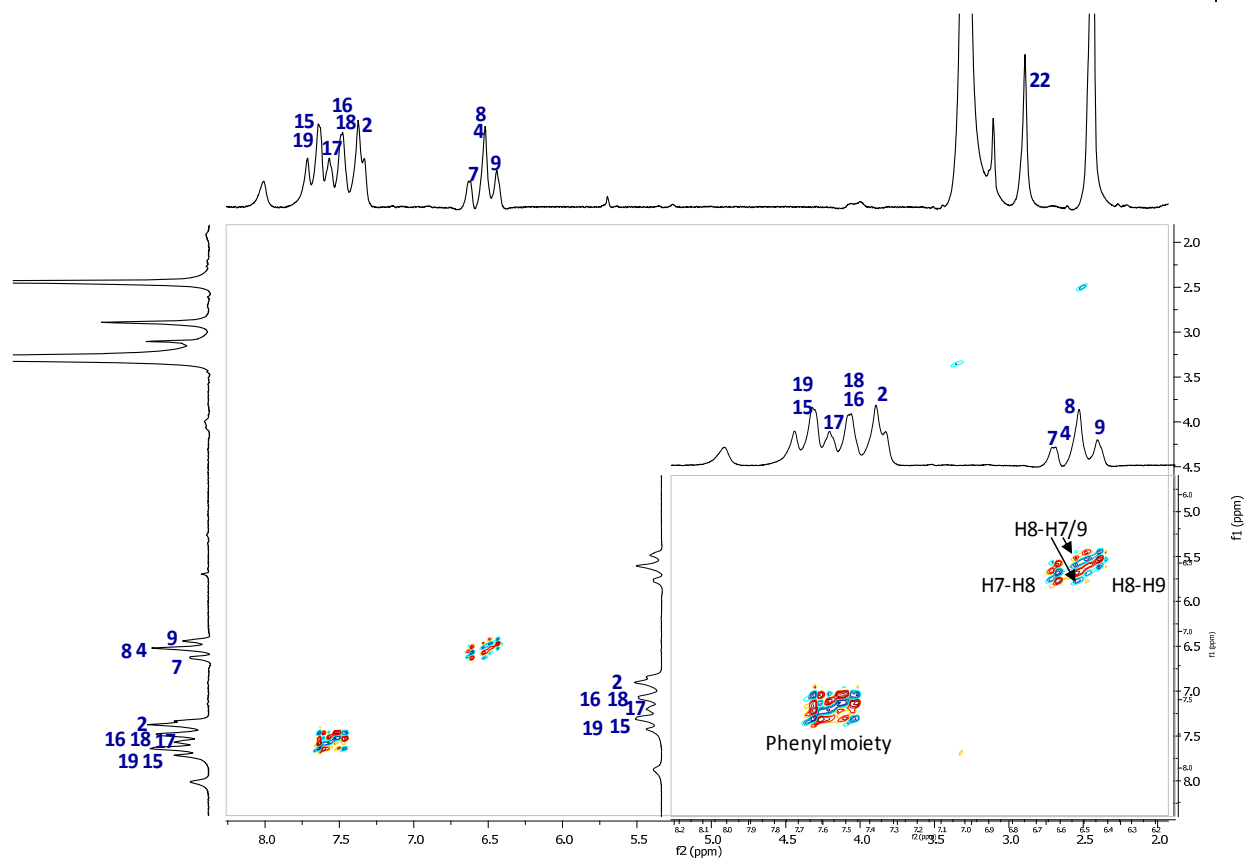
S10. ^1H NMR spectrum of dermacozine B (**2**) (400 MHz, $\text{DMSO}-d_6$)



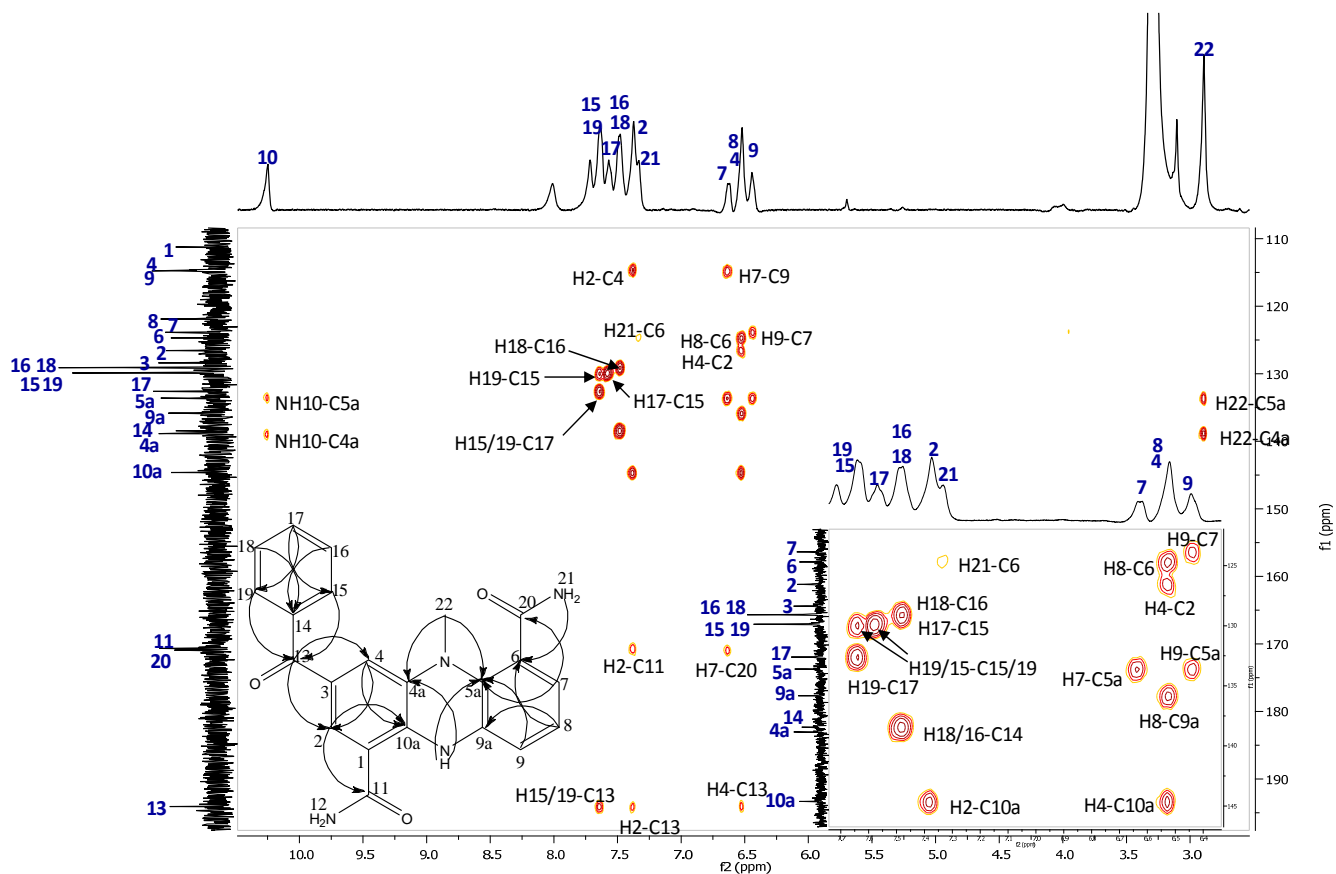
S11. ^{13}C NMR spectrum of dermacozine B (**2**) (100 MHz, $\text{DMSO}-d_6$)



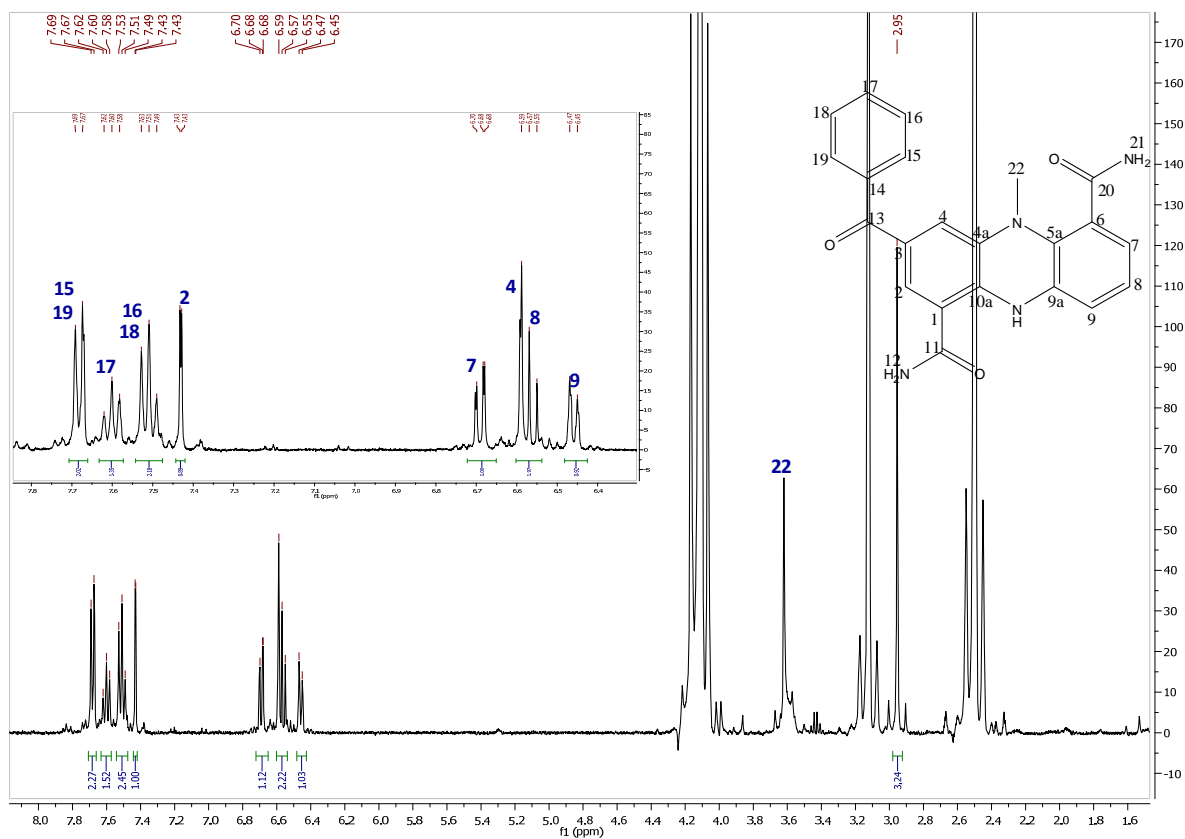
S12. HSQC NMR spectrum of dermacozine B (**2**) (400 MHz, $\text{DMSO}-d_6$)



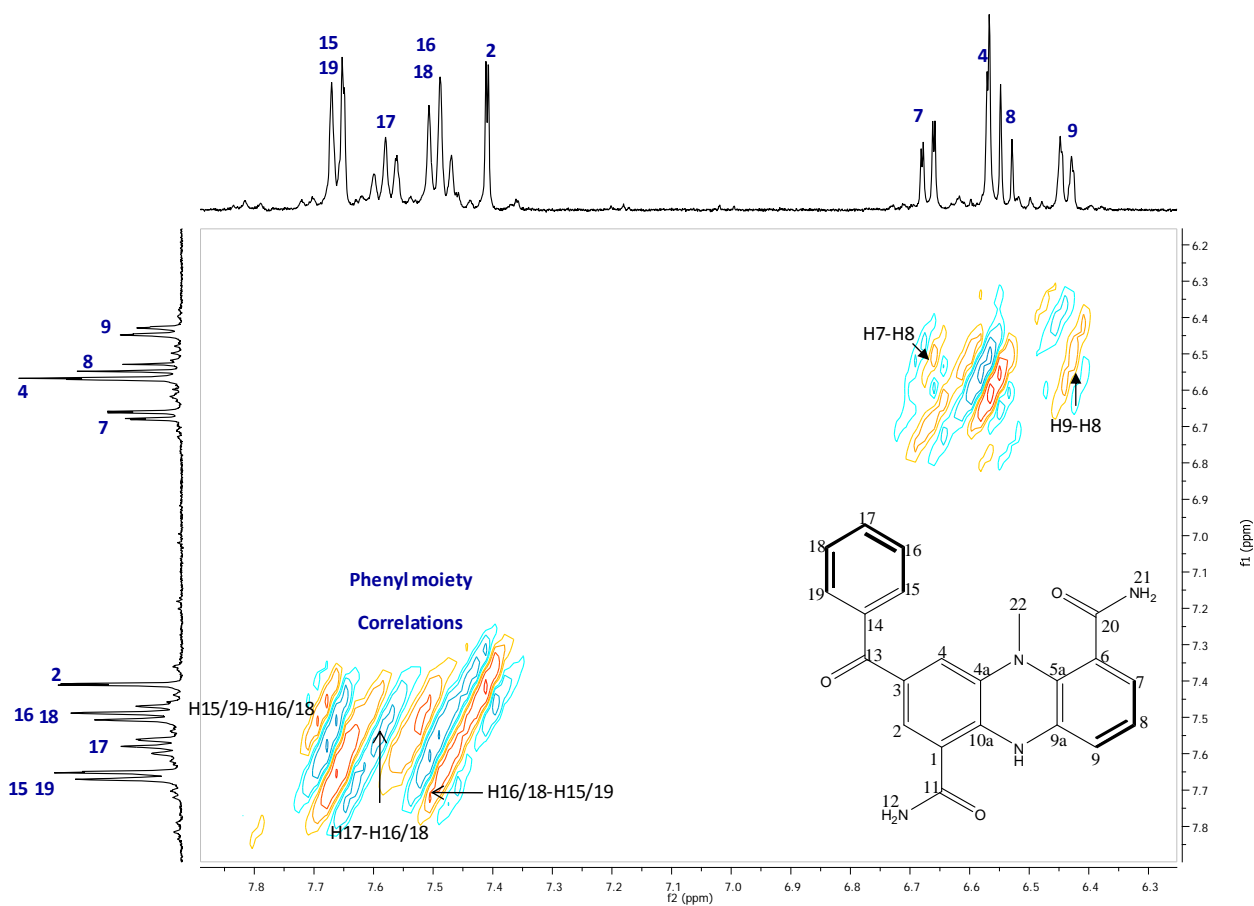
S13. ^1H - ^1H COSY spectrum of dermacozine B (**2**) (400 MHz, $\text{DMSO-}d_6$)



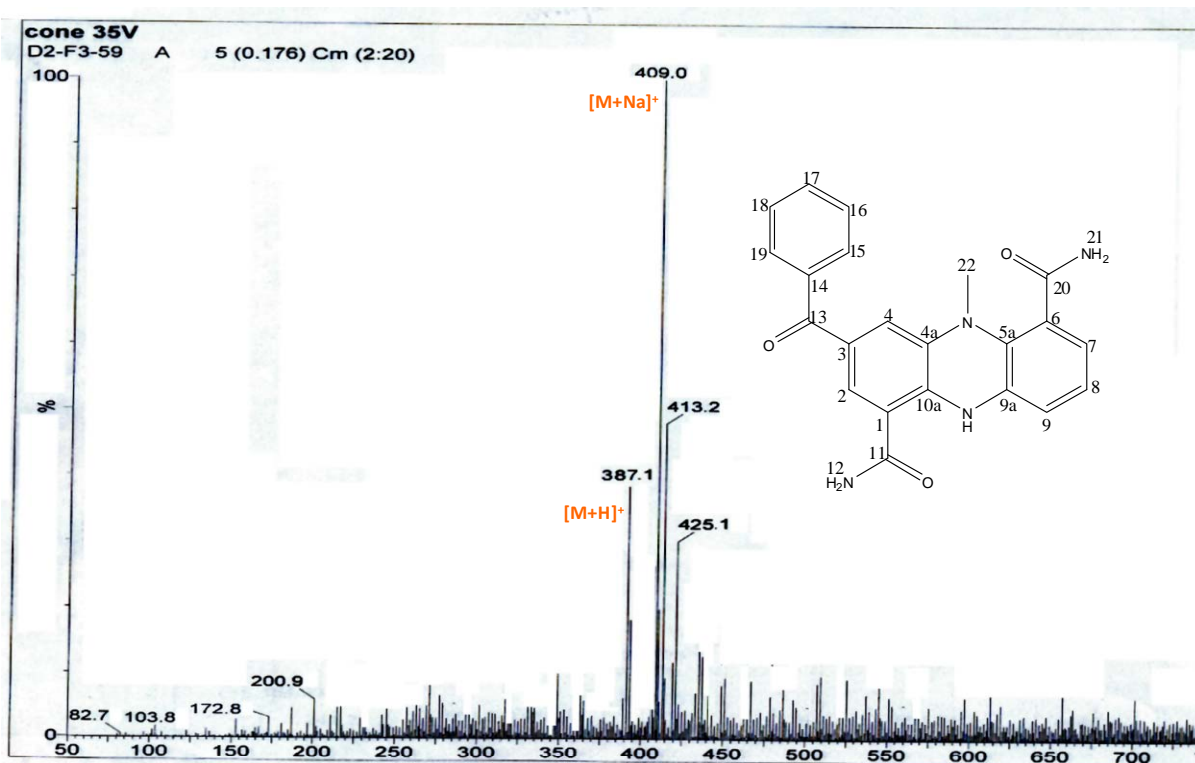
S14. HMBC spectrum of dermacozine B (**2**) (400 MHz, $\text{DMSO-}d_6$)



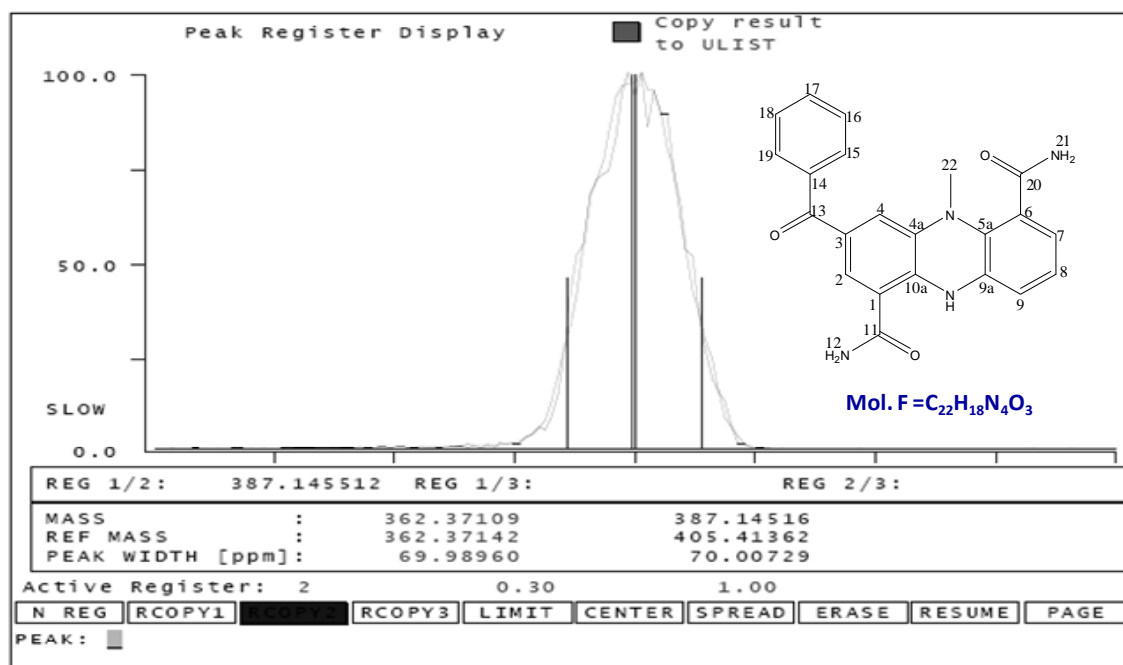
S15. ^1H NMR spectrum of dermacozine B (2) (400 MHz, $\text{DMSO-}d_6/\text{CD}_3\text{OD}$)



S16. ^1H - ^1H COSY spectrum of dermacozine B (2) (400 MHz, $\text{DMSO-}d_6/\text{CD}_3\text{OD}$)



S17. LRESIMS spectrum of dermacozine B (2) (in Methanol)

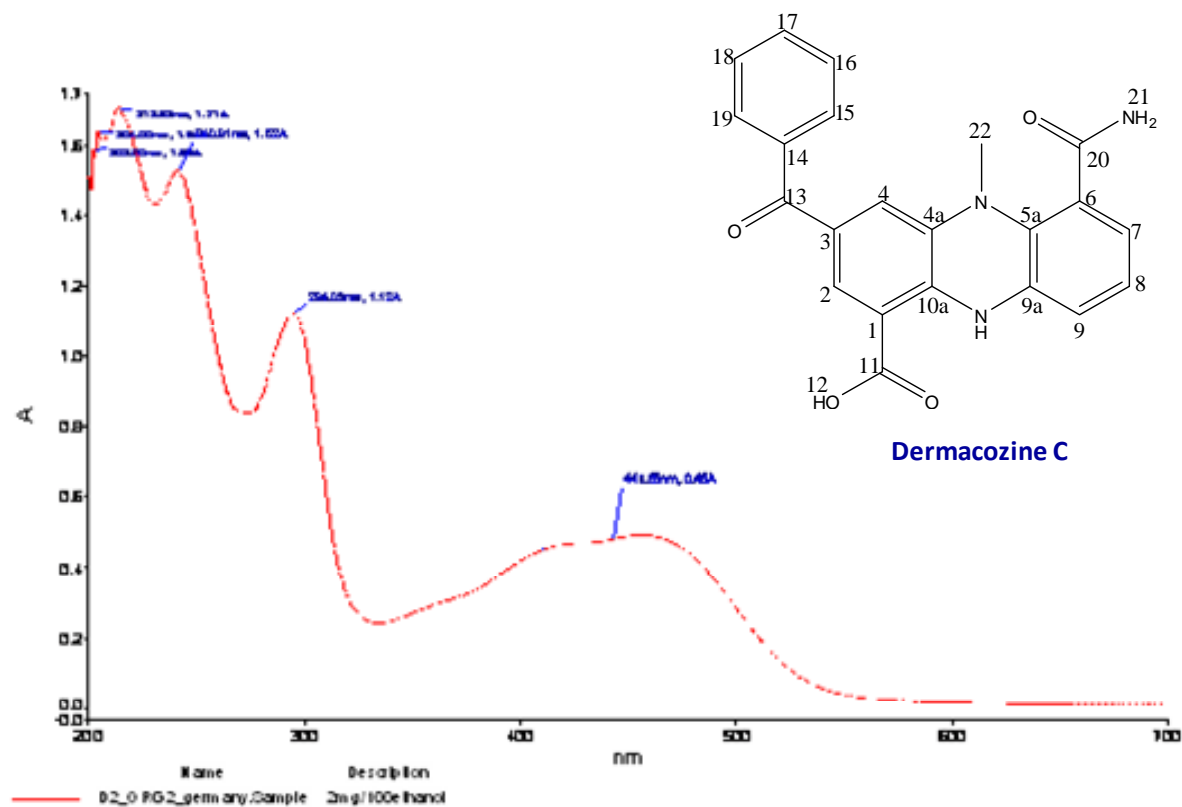


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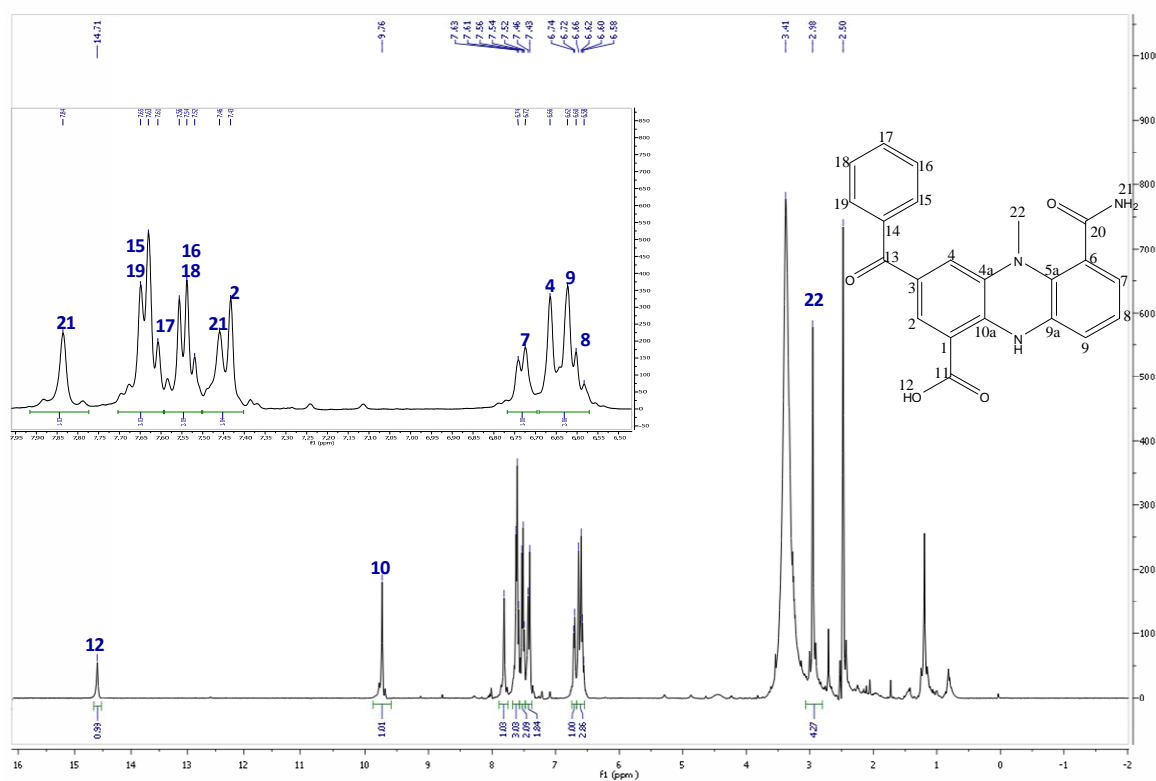
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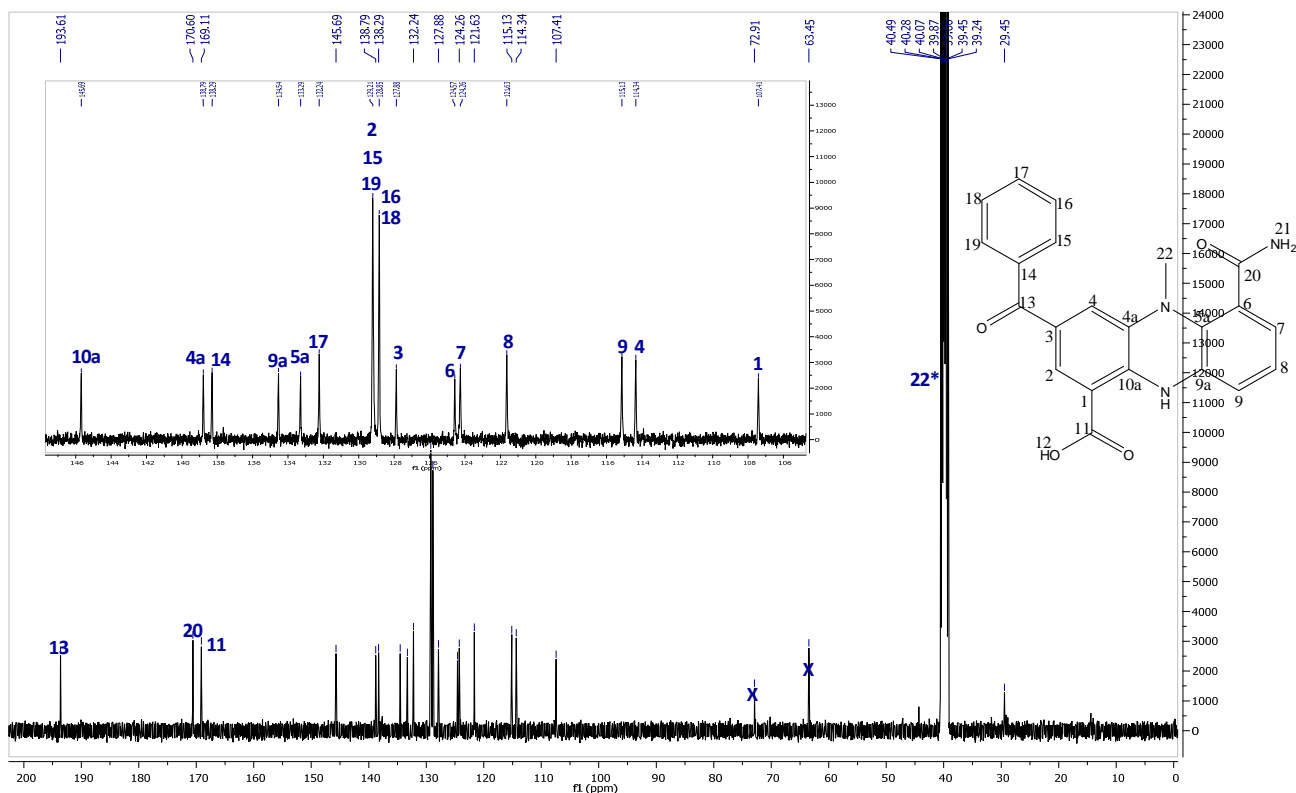
S18. HRESIMS spectrum of dermacozine B (2) (in Methanol)



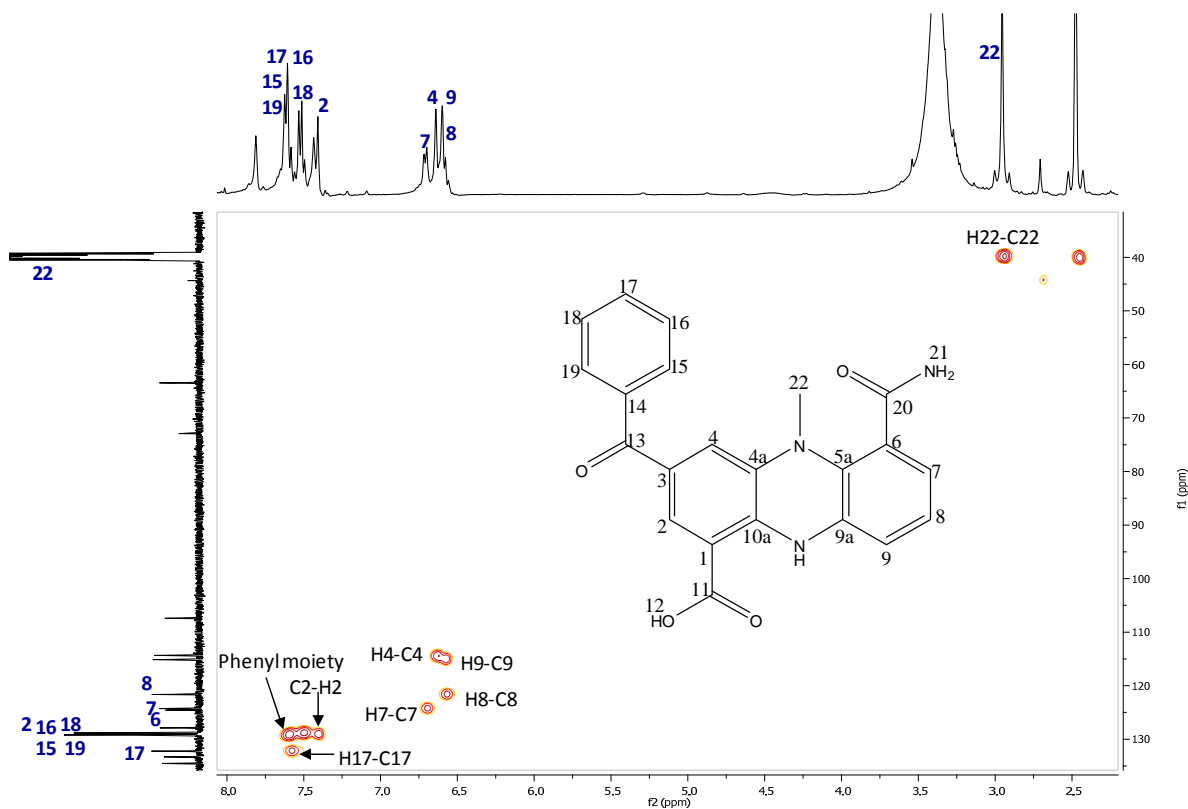
S19. UV spectrum of dermacozone C (3) (in Ethanol)



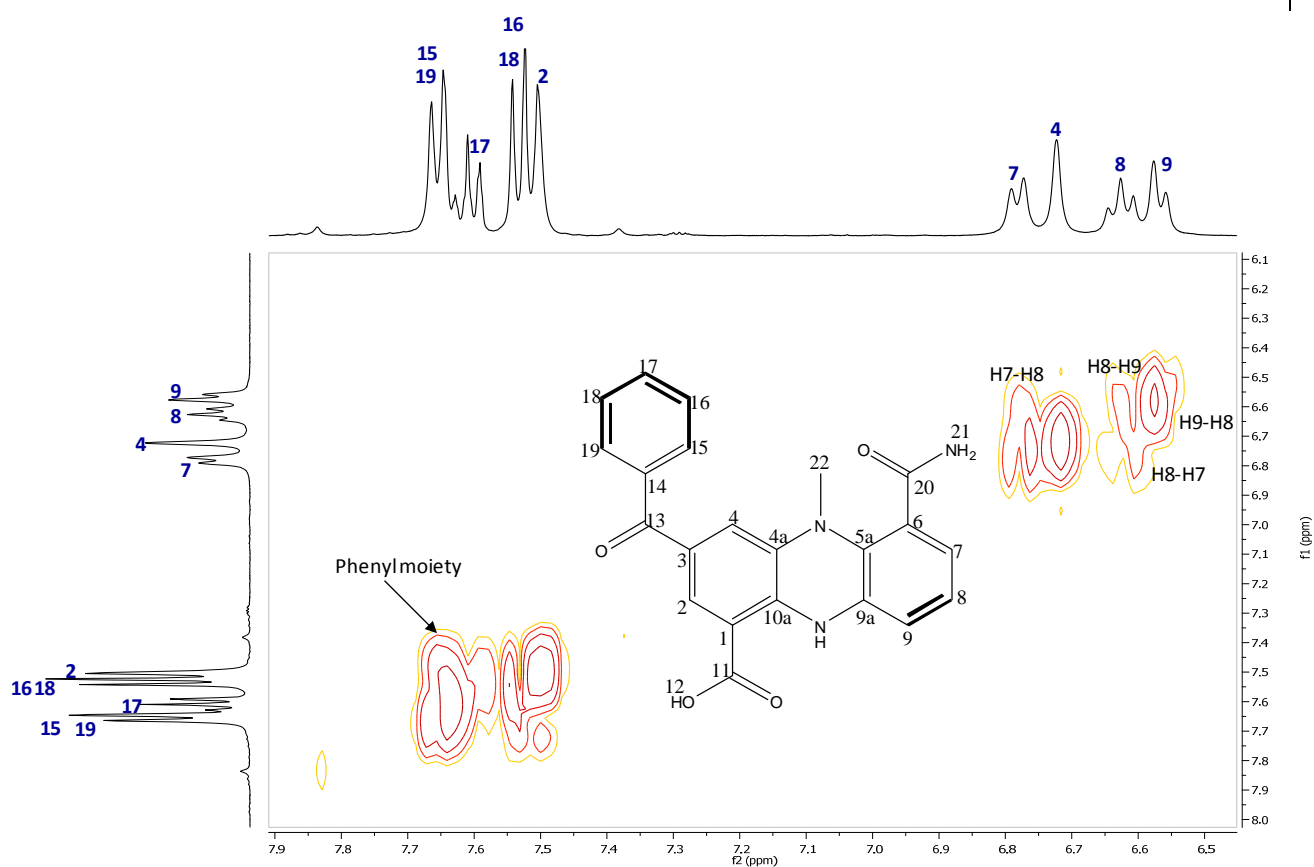
S20. ¹H NMR spectrum of dermacozone C (3) (400 MHz, DMSO-*d*₆)



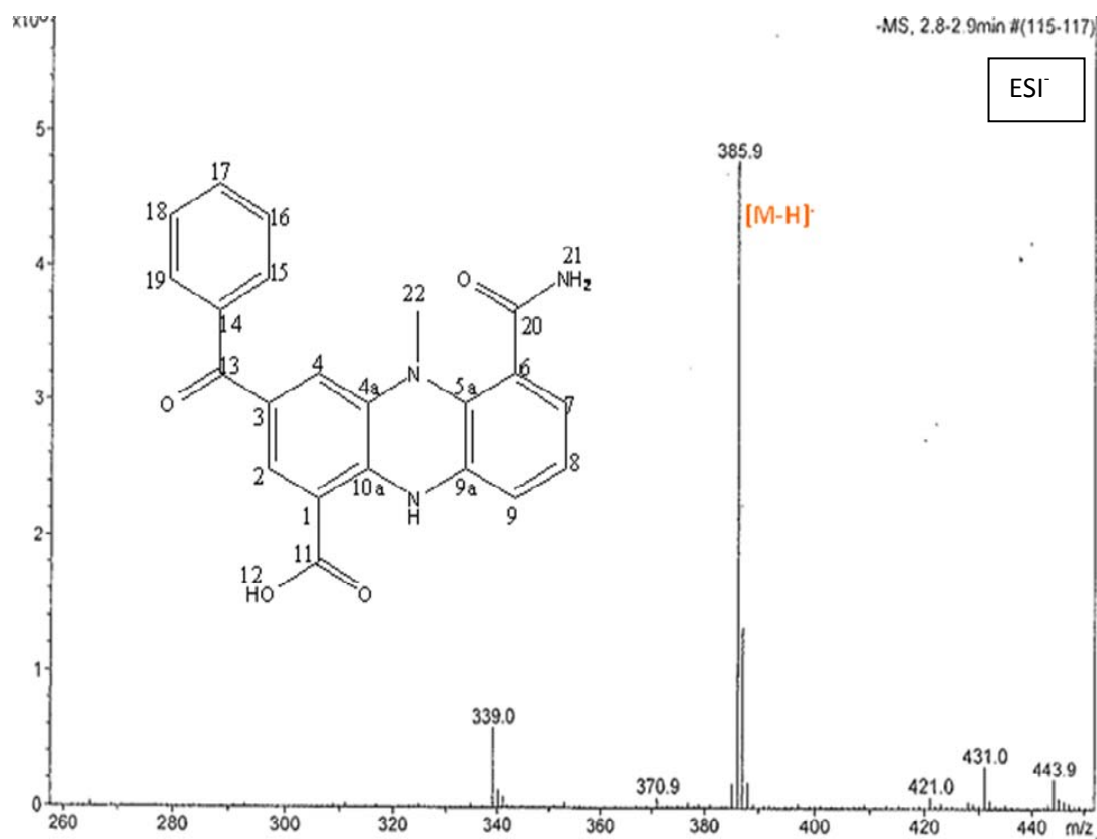
S21. ^{13}C NMR spectrum of dermacozine C (**3**) (100 MHz, $\text{DMSO-}d_6$)



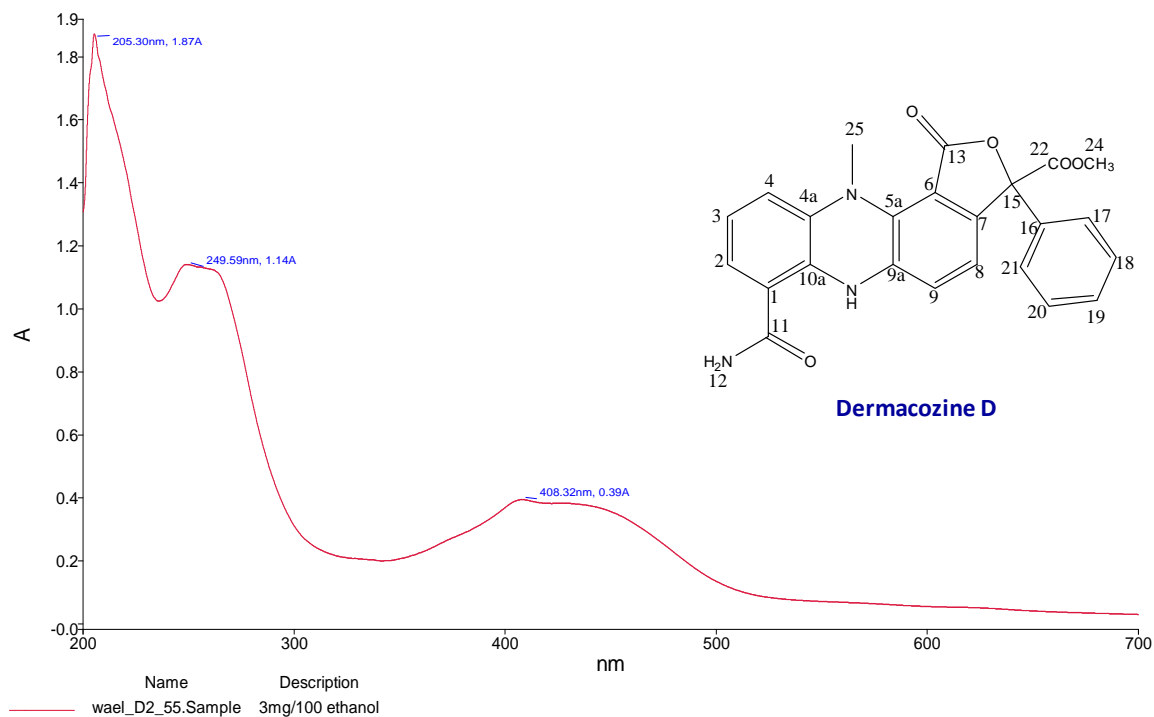
S22. HSQC spectrum of dermacozine C (**3**) (400 MHz, $\text{DMSO-}d_6$)



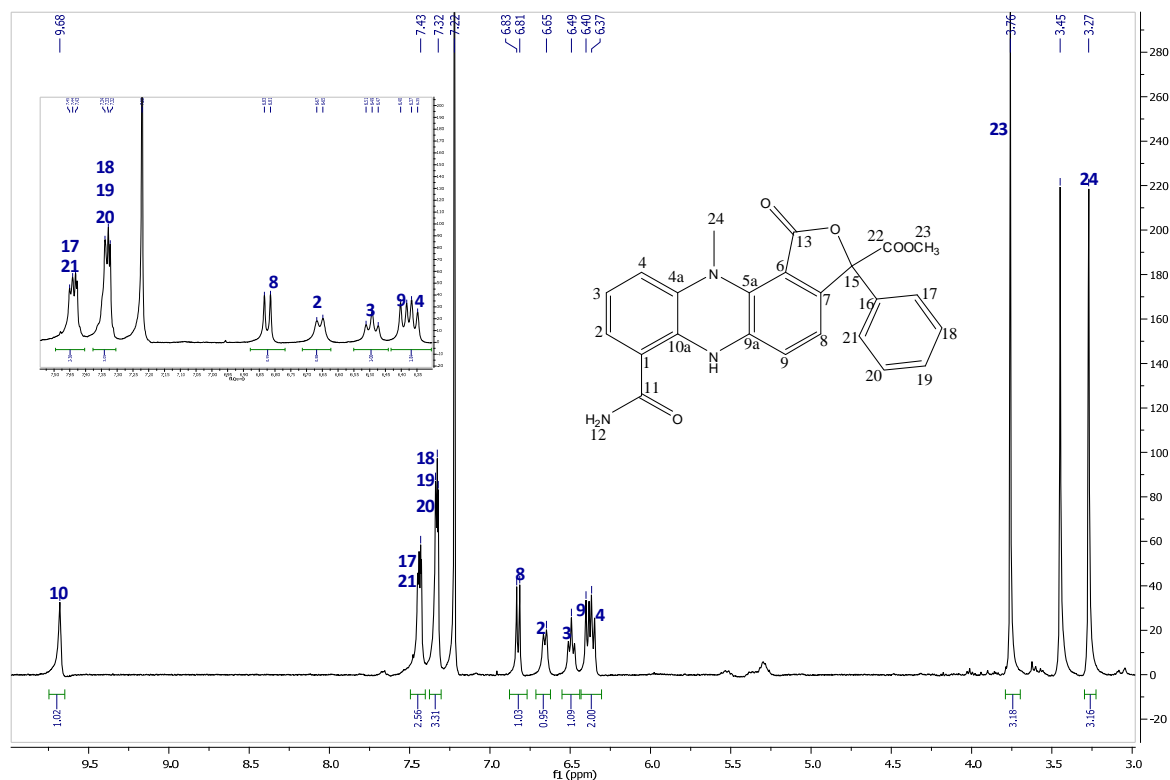
S25. ^1H - ^1H COSY spectrum of dermacozine C (**3**) (400 MHz, $\text{DMSO-}d_6/\text{CD}_3\text{OD}$)



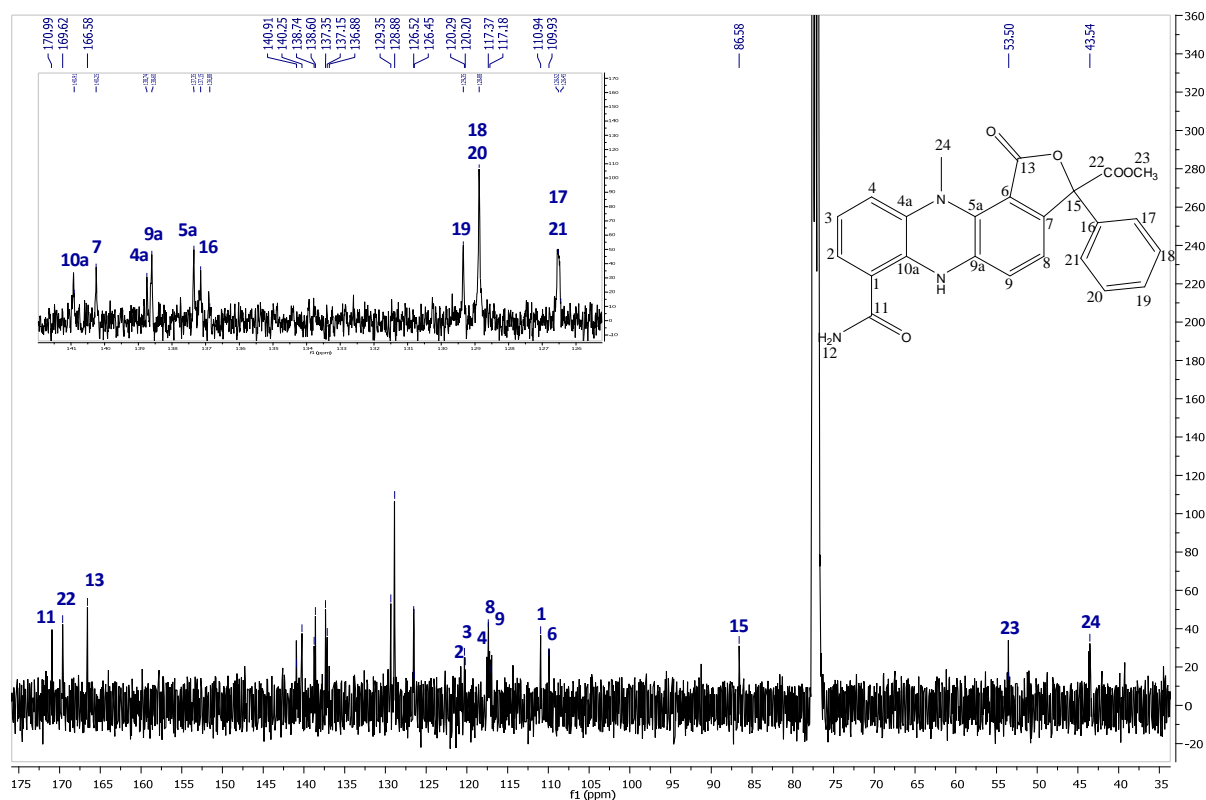
S26. LRESIMS spectrum of dermacozine C (**3**) (in Methanol)



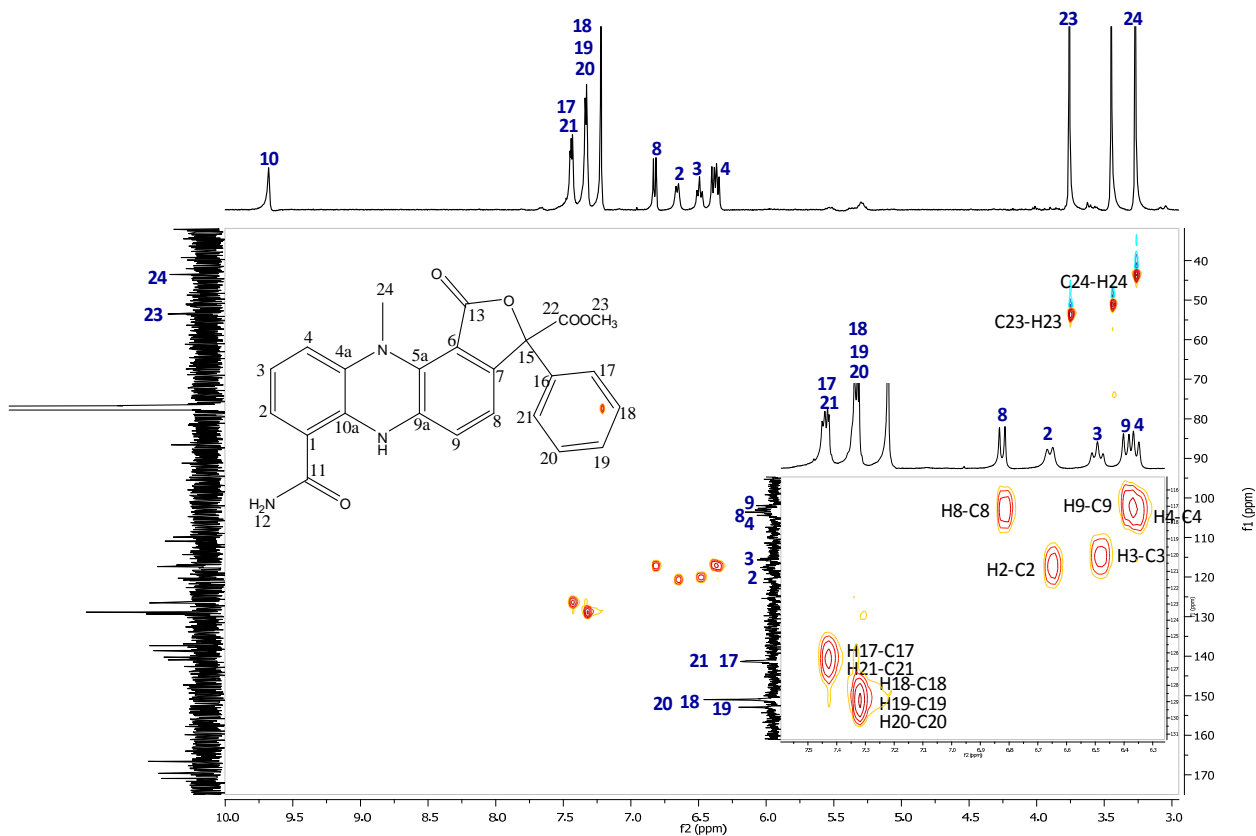
S27. UV spectrum of dermacozine D (4) (in Ethanol)



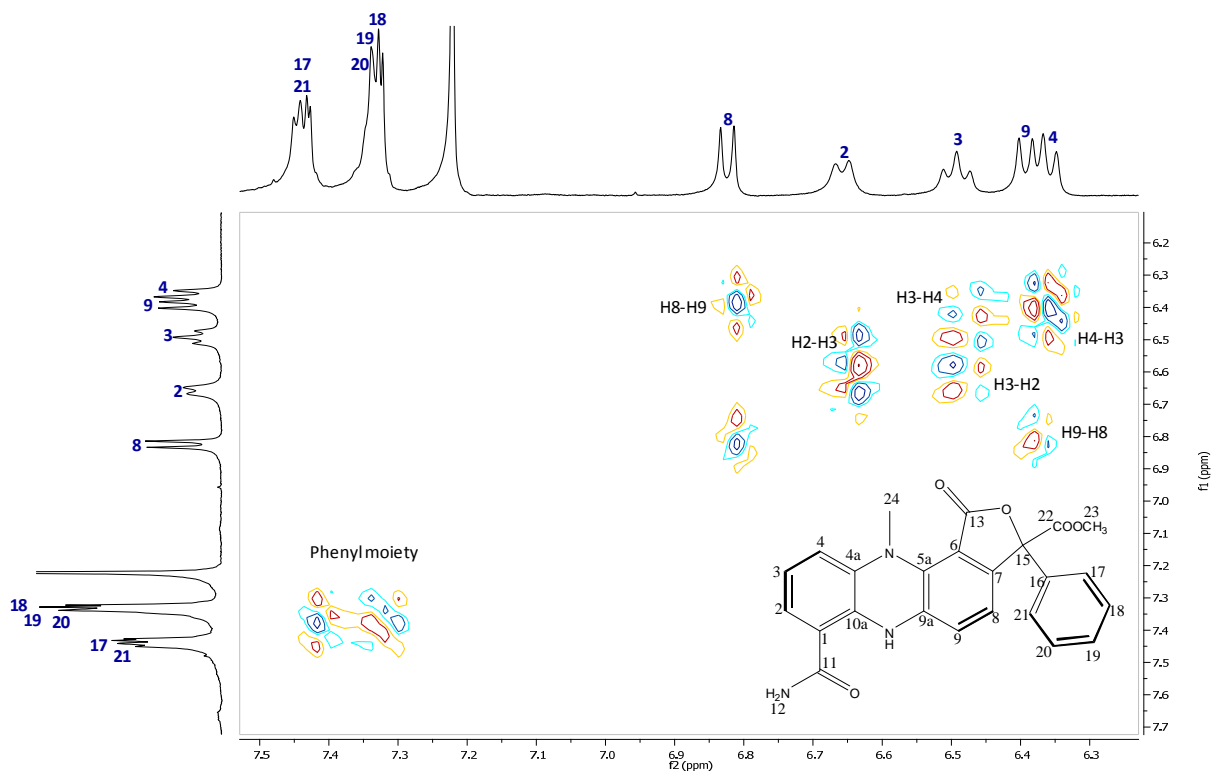
S28. ¹H NMR spectrum of dermacozine D (5.04) (400 MHz, CDCl₃)



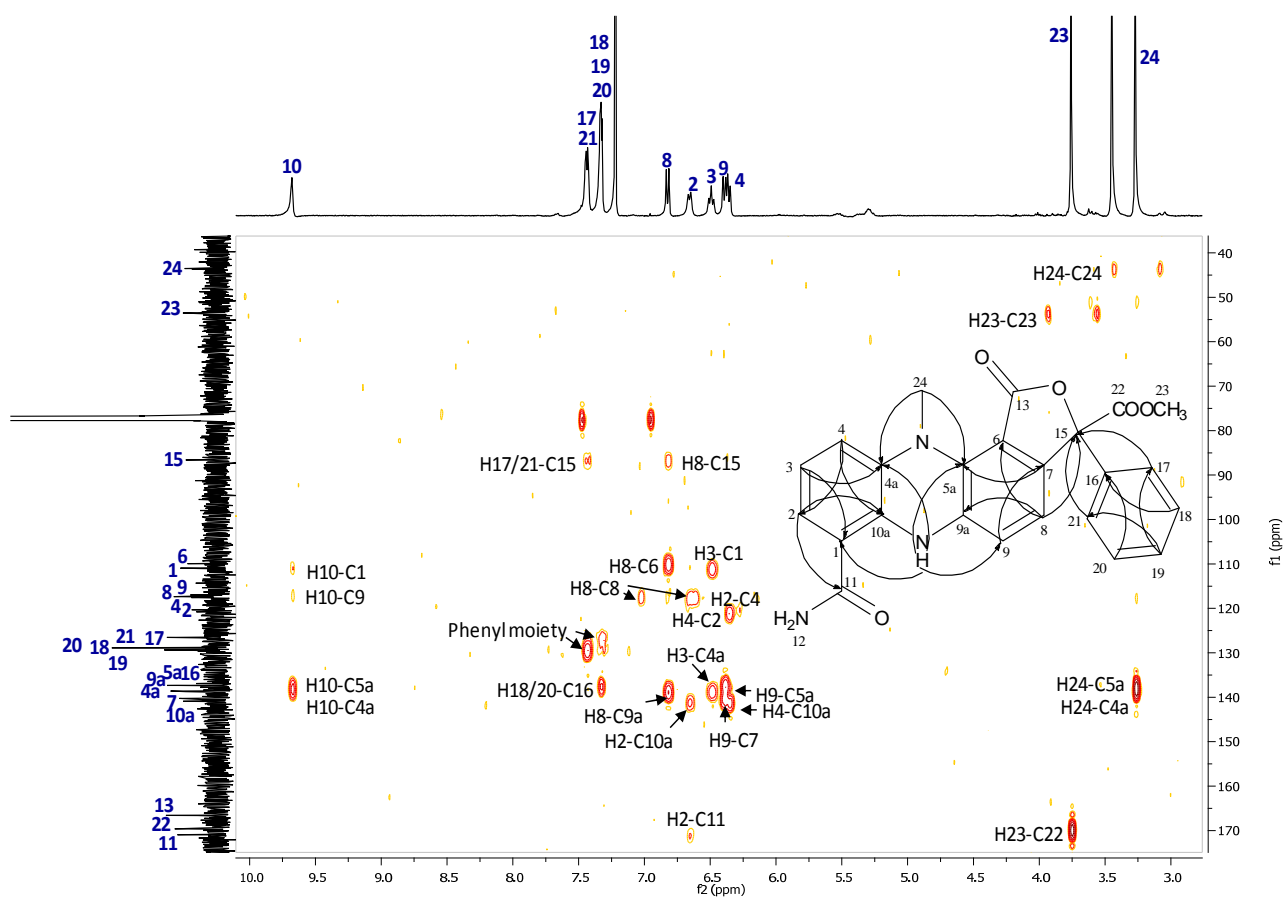
S29. ¹³C NMR spectrum of dermacozine D (4) (100 MHz, CDCl₃)



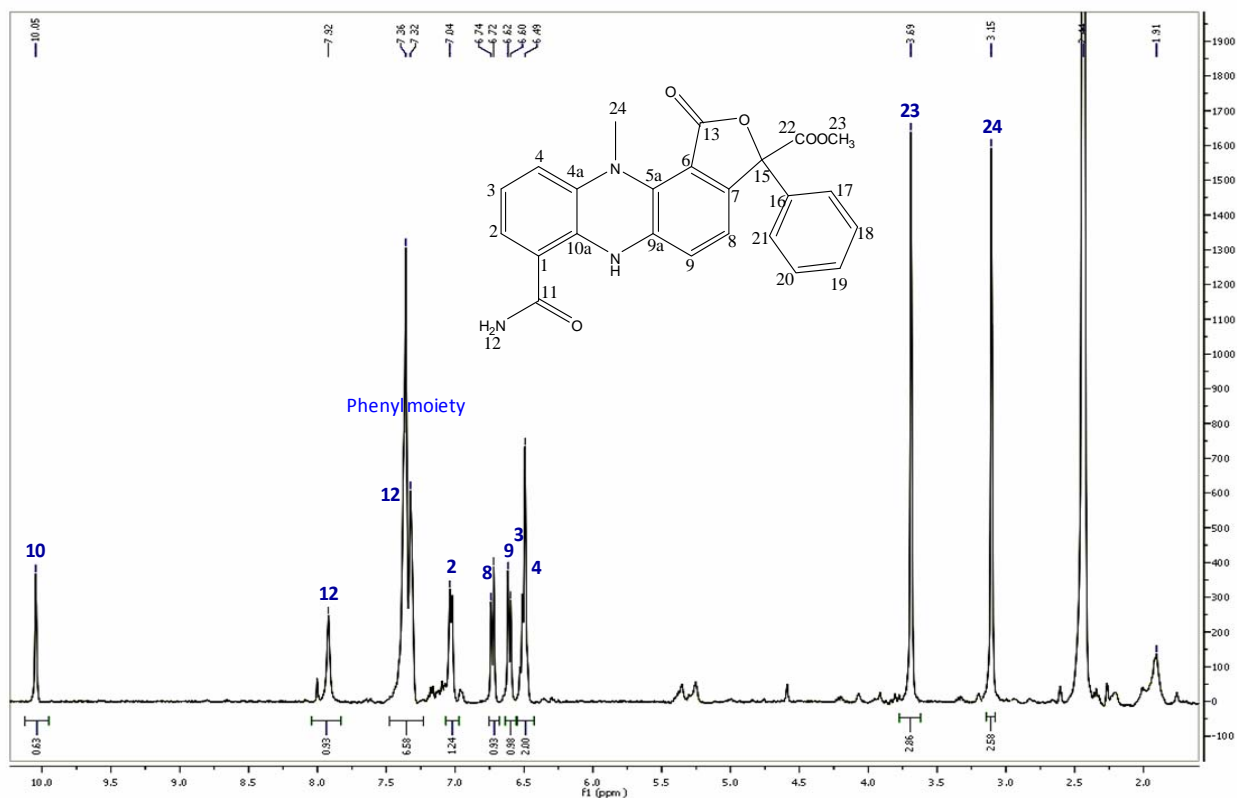
S30. HSQC spectrum of dermacozine D (4) (400 MHz, CDCl₃)



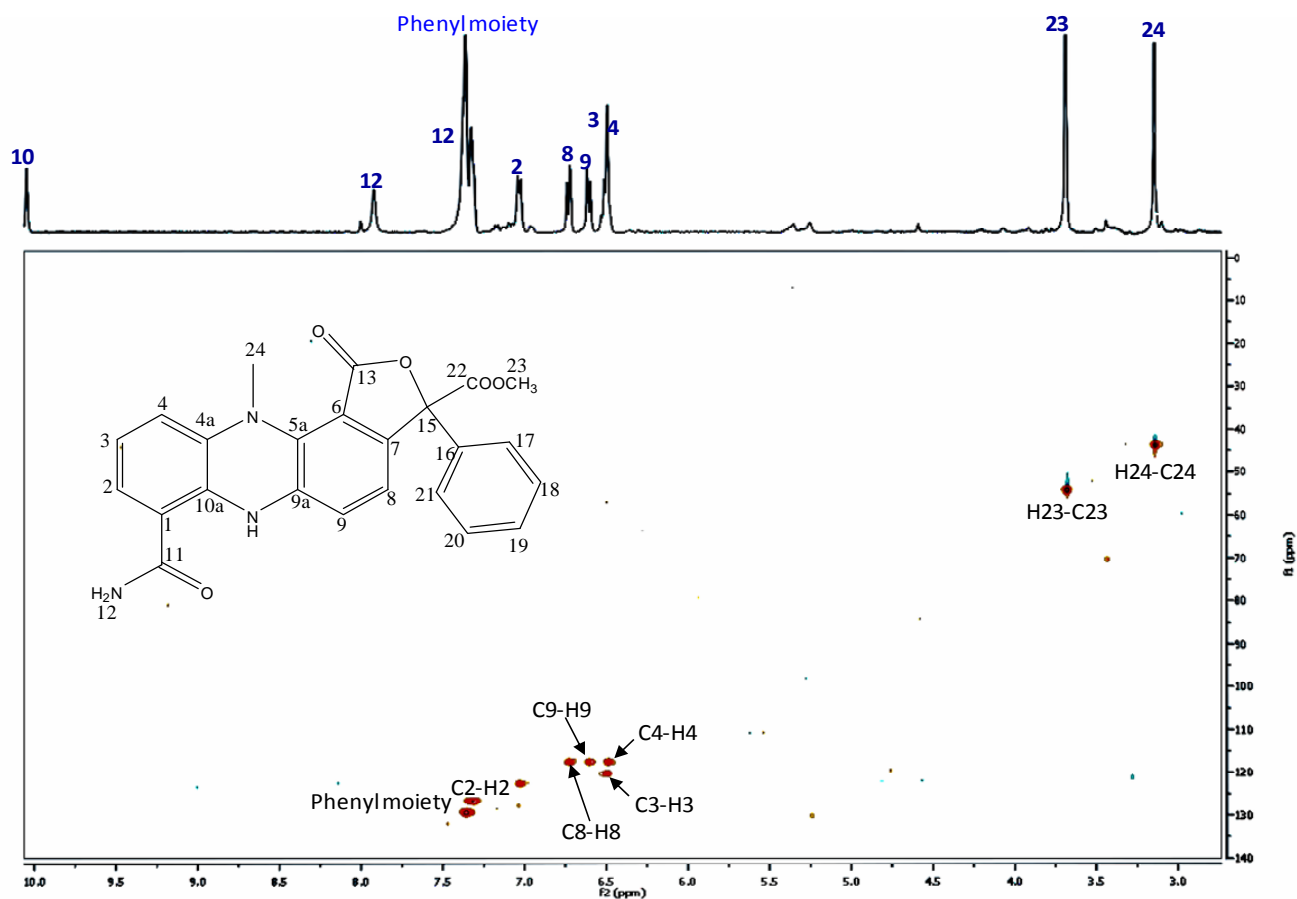
S31. ^1H - ^1H COSY spectrum of dermacozine D (**4**) (400 MHz, CDCl_3)



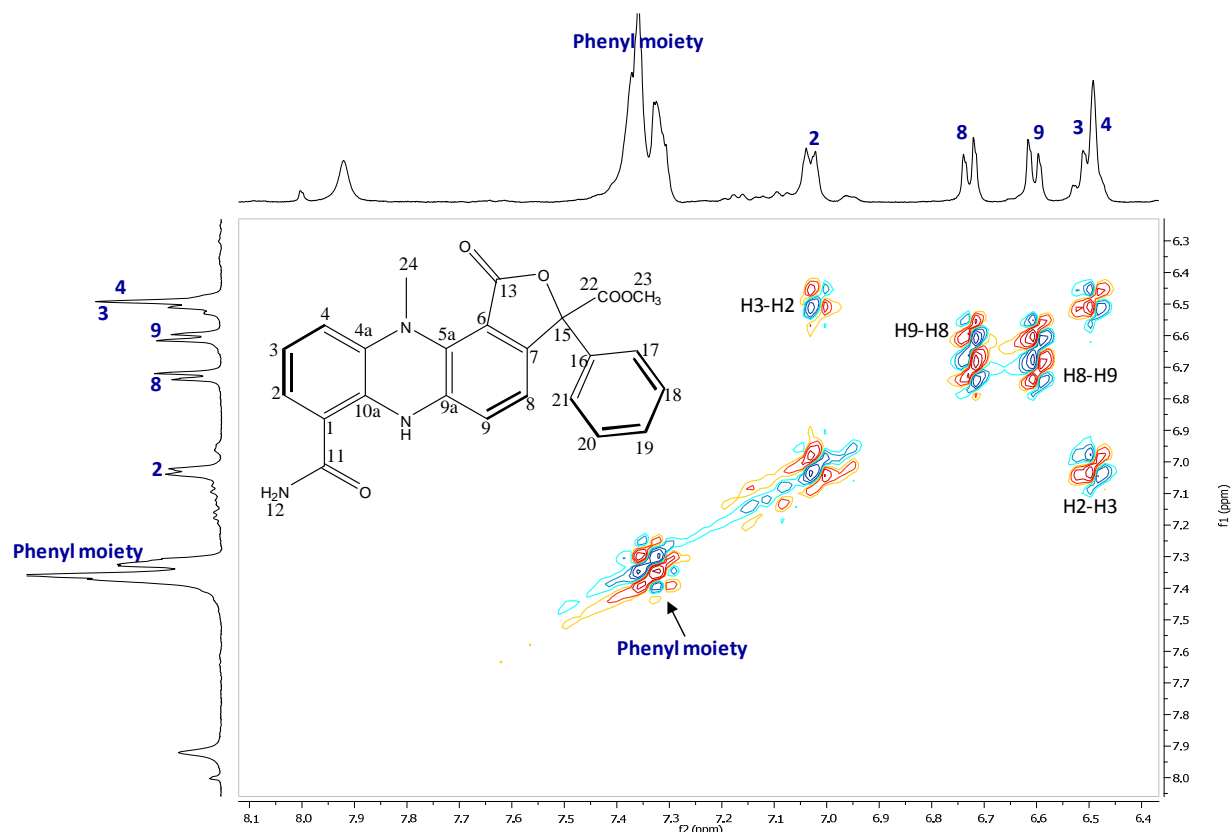
S32. HMBC spectrum of dermacozine D (**4**) (400 MHz, CDCl_3)



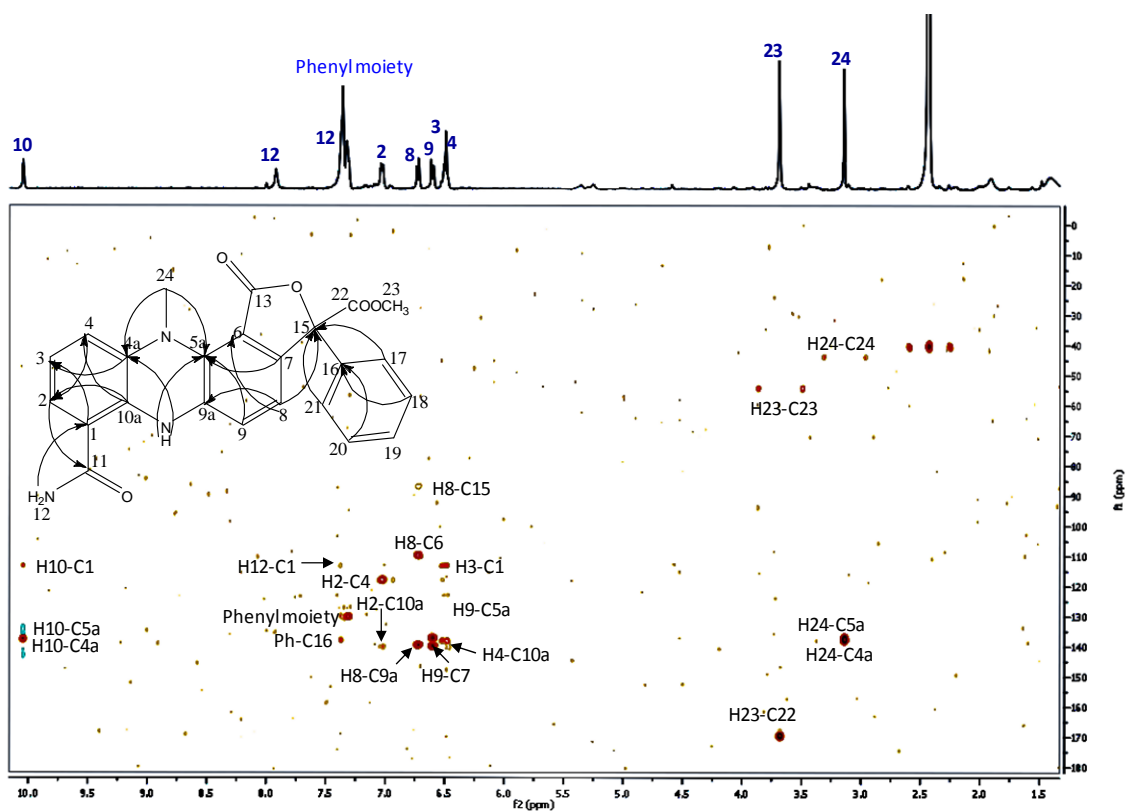
S33. ^1H NMR spectrum of dermacozine D (**4**) (400 MHz, $\text{DMSO-}d_6$)



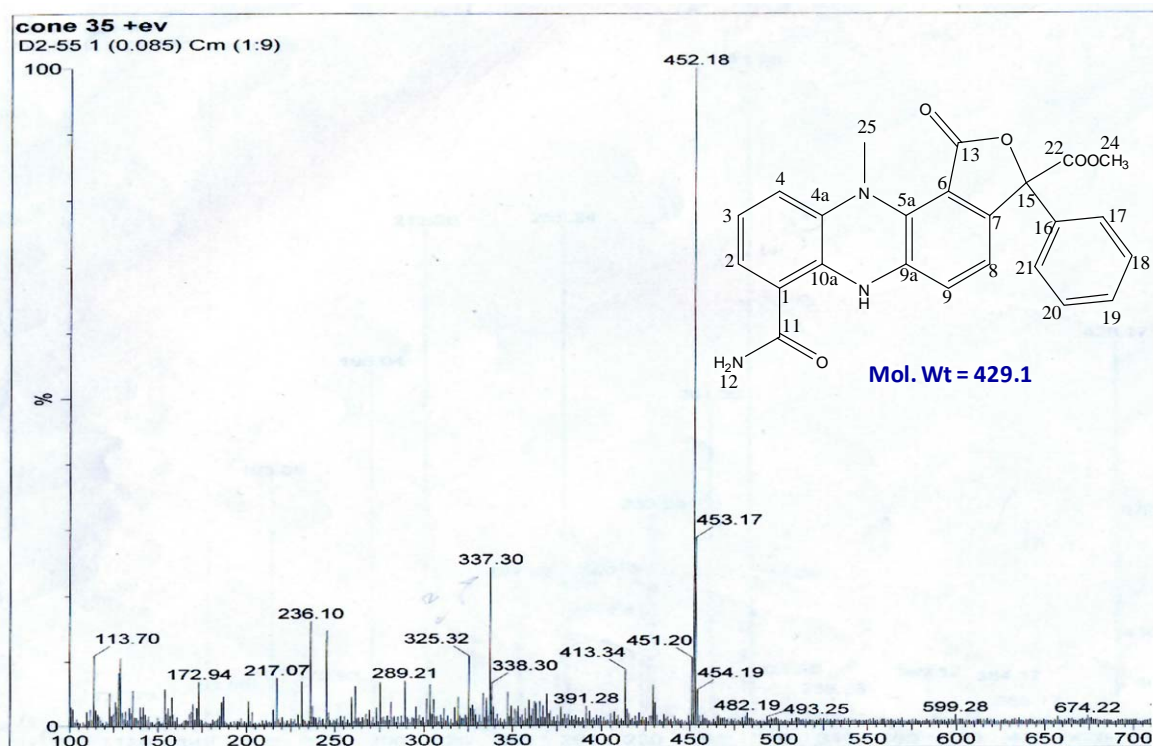
S34. HSQC spectrum of dermacozine D (**4**) (400 MHz, $\text{DMSO-}d_6$)



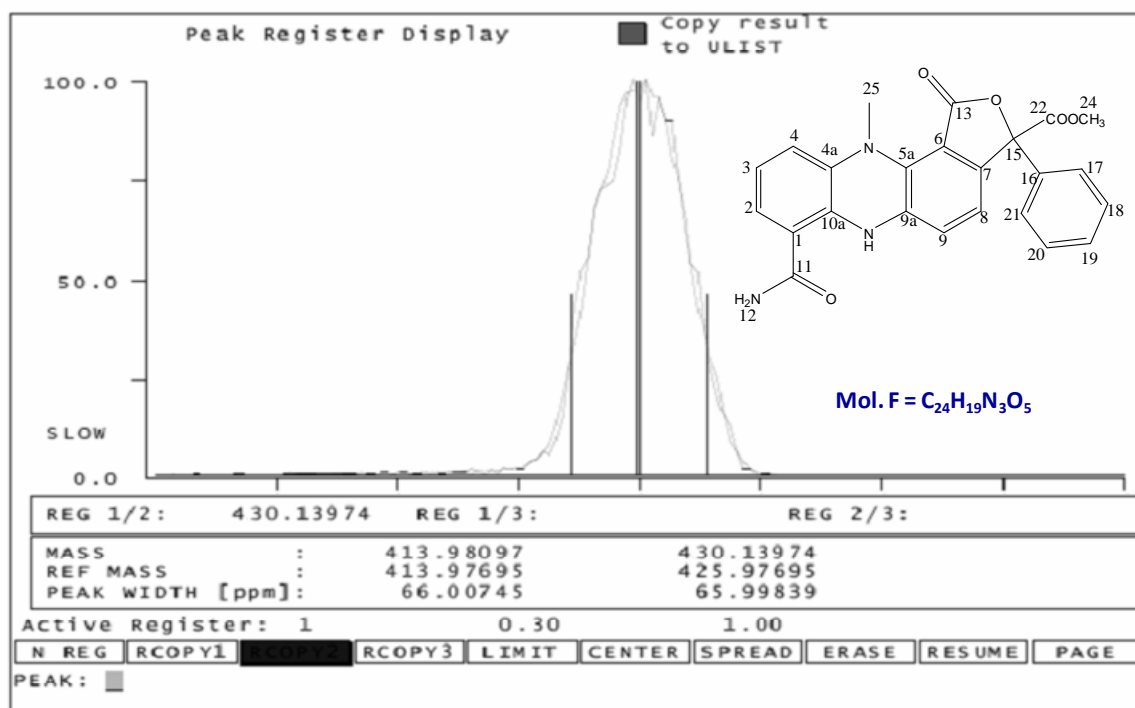
S35. ^1H - ^1H COSY spectrum of dermacozine D (**4**) (400 MHz, $\text{DMSO-}d_6$)



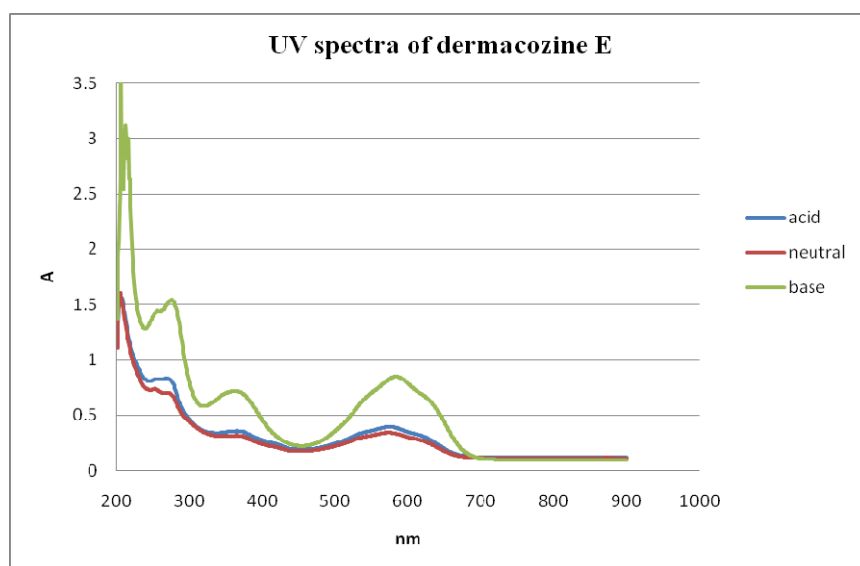
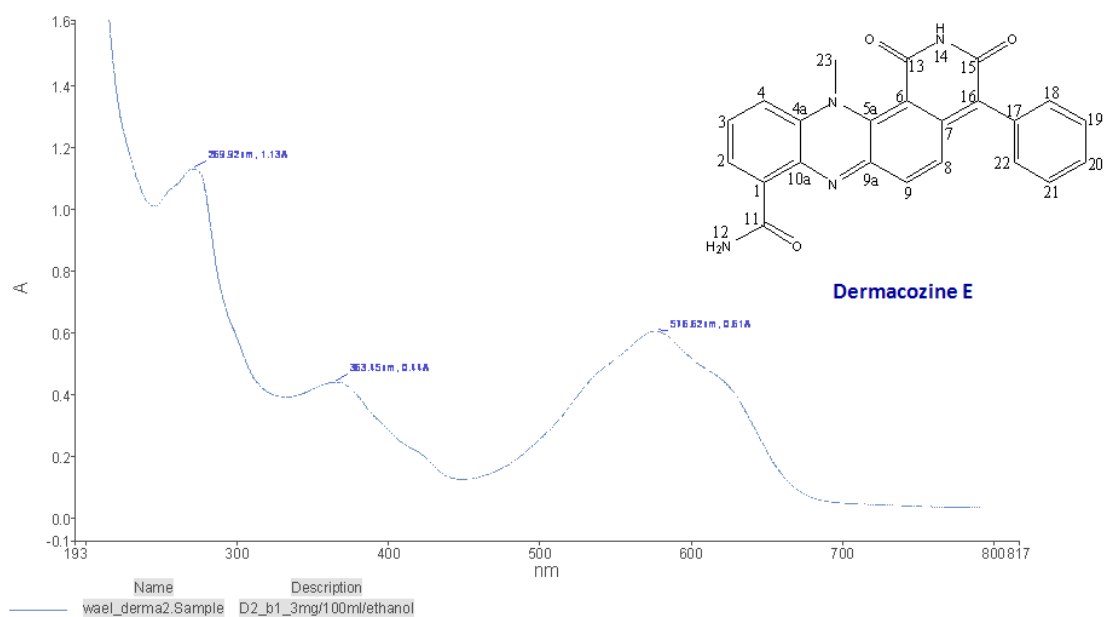
S36. ^1H - ^{13}C HMBC spectrum of dermacozine D (**4**) (400 MHz, $\text{DMSO-}d_6$)



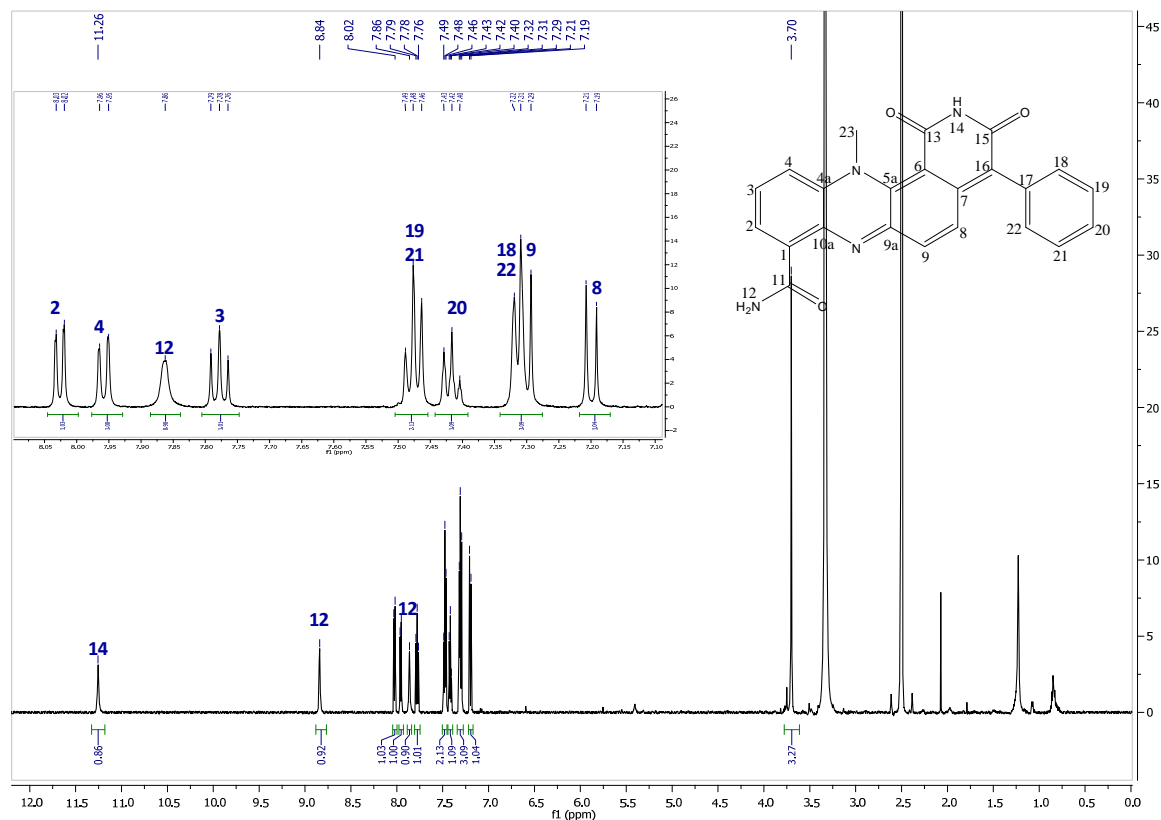
S37. LRESIMS spectrum of dermacozine D (4) (in Methanol)



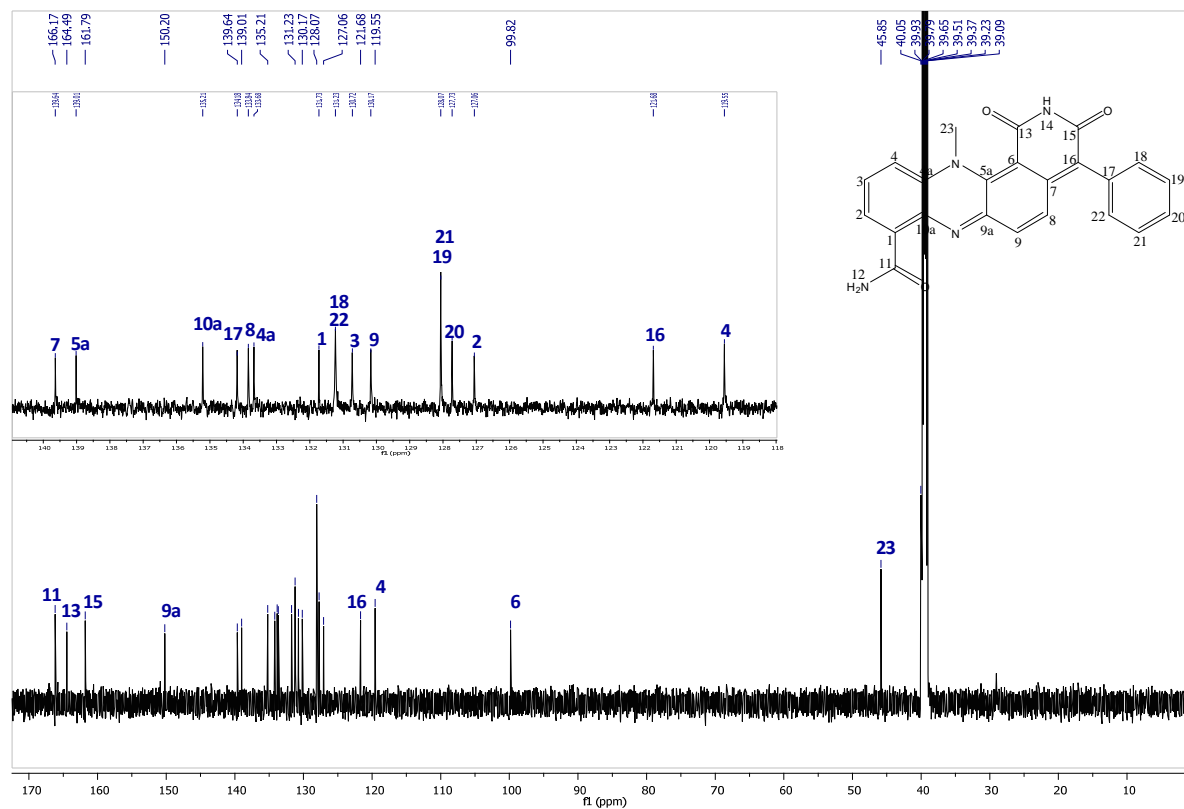
S38. HRESIMS spectrum of dermacozine D (4) (in Methanol)



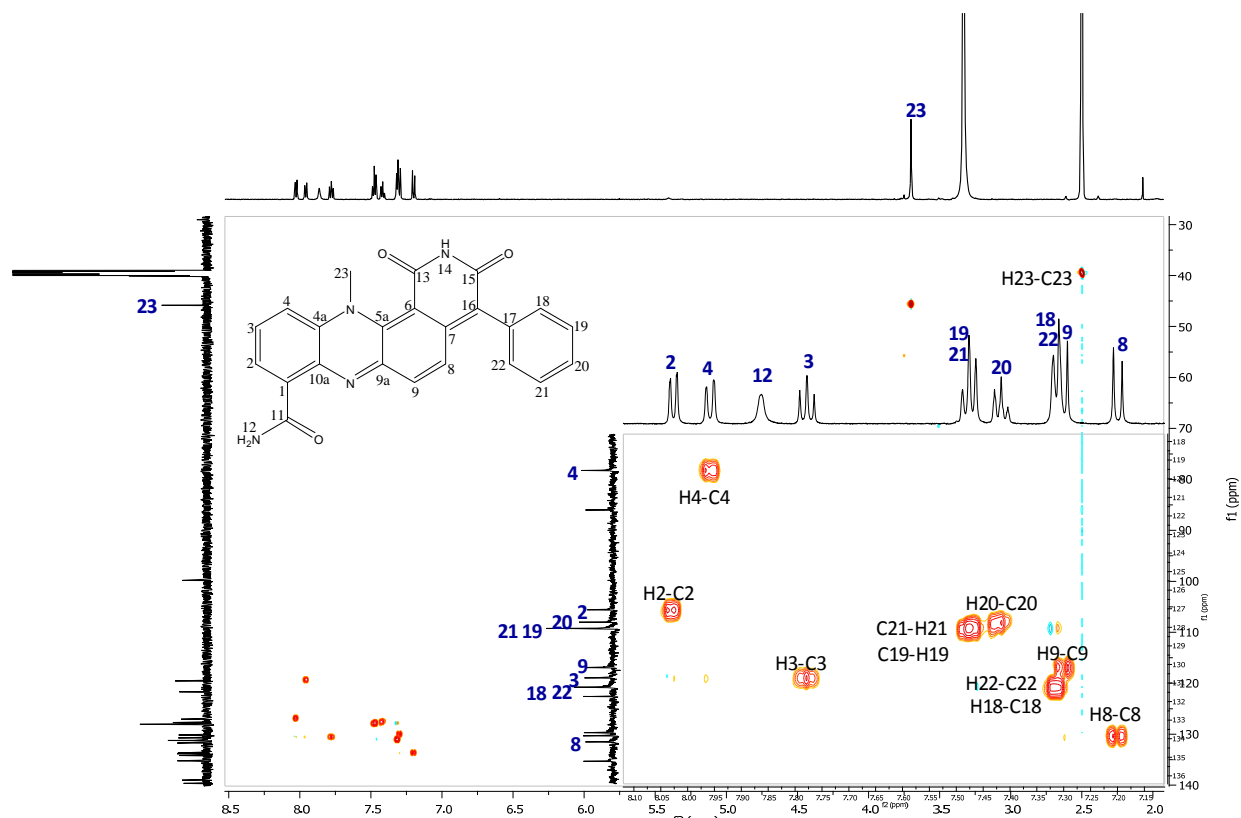
S39. A) UV spectrum of dermacozine E (**5**) in (Ethanol).
B) Acidic and basic vs. neutral UV spectra of dermacozine E.



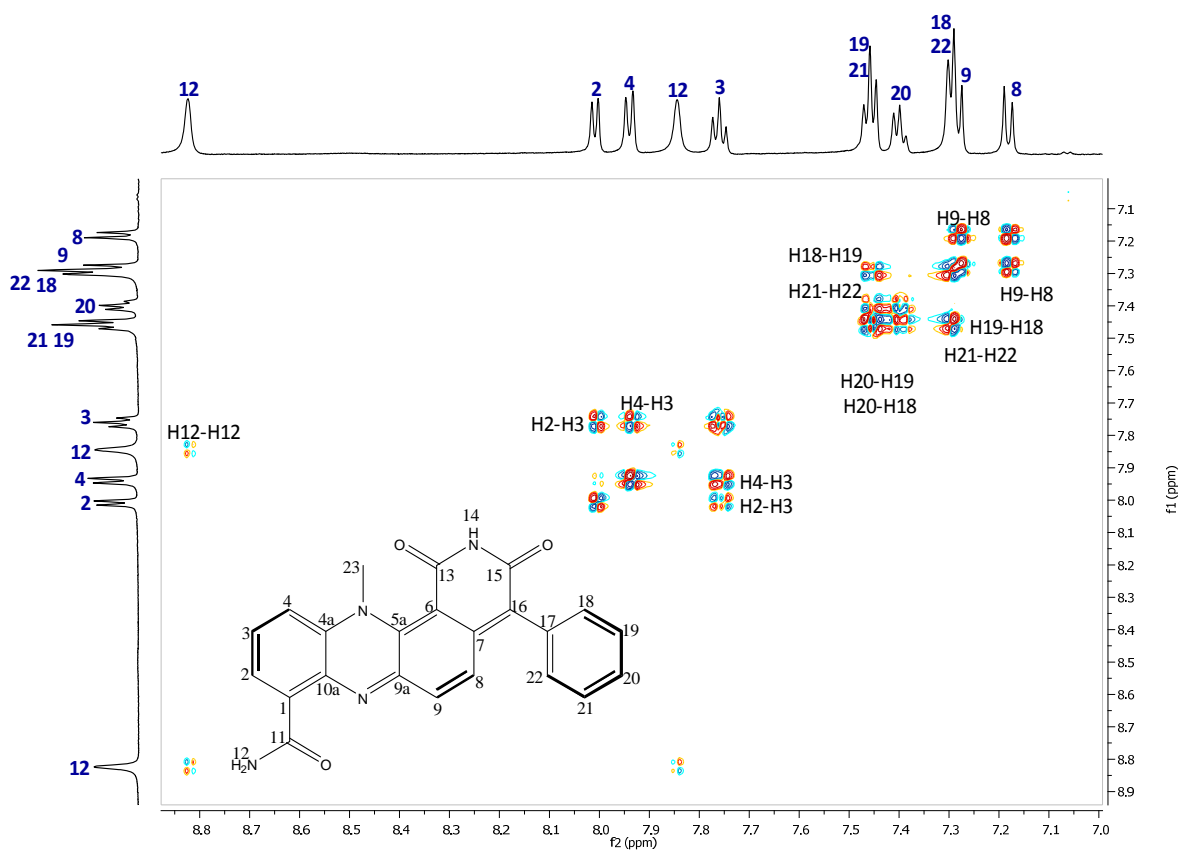
S40. ¹H NMR spectrum of dermacozine E (5) (600 MHz, DMSO-*d*₆)



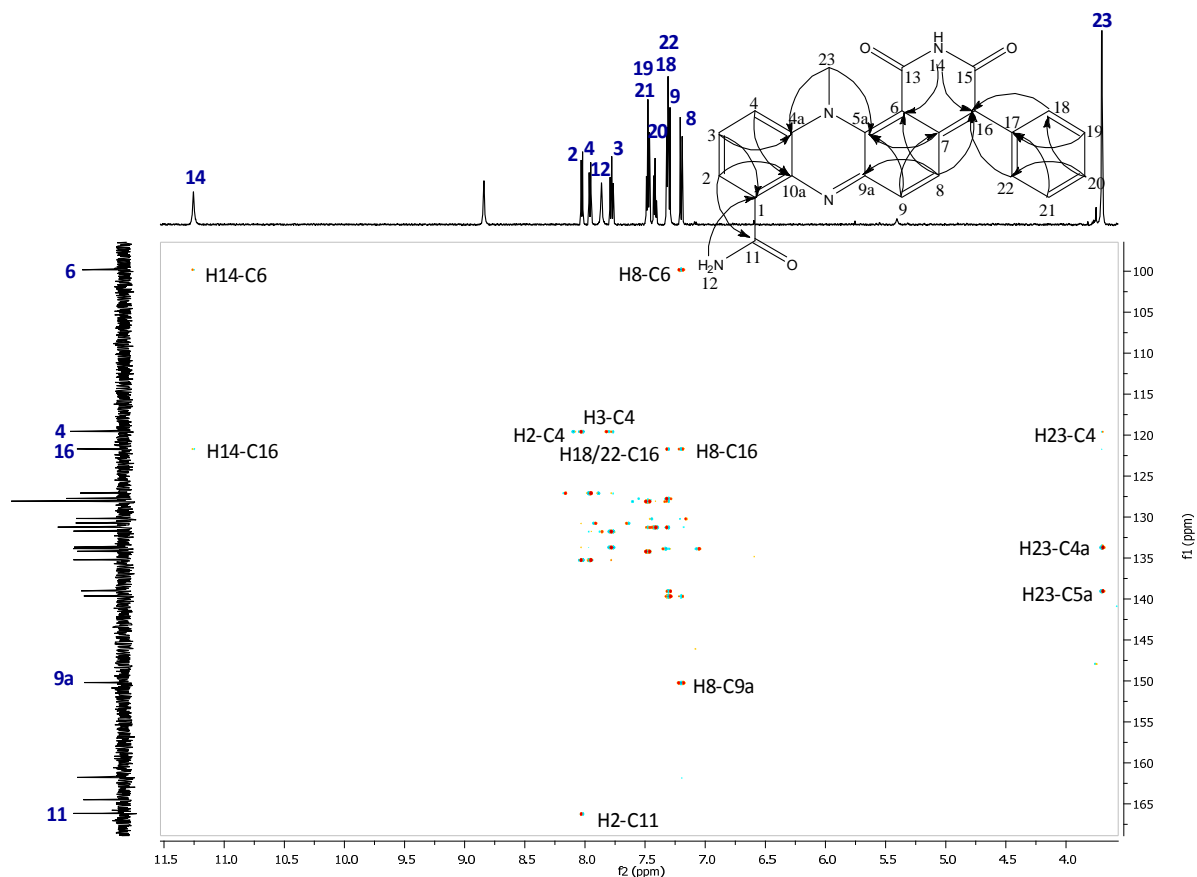
S41. ¹³C NMR spectrum of dermacozine E (5) (150 MHz, DMSO-*d*₆)



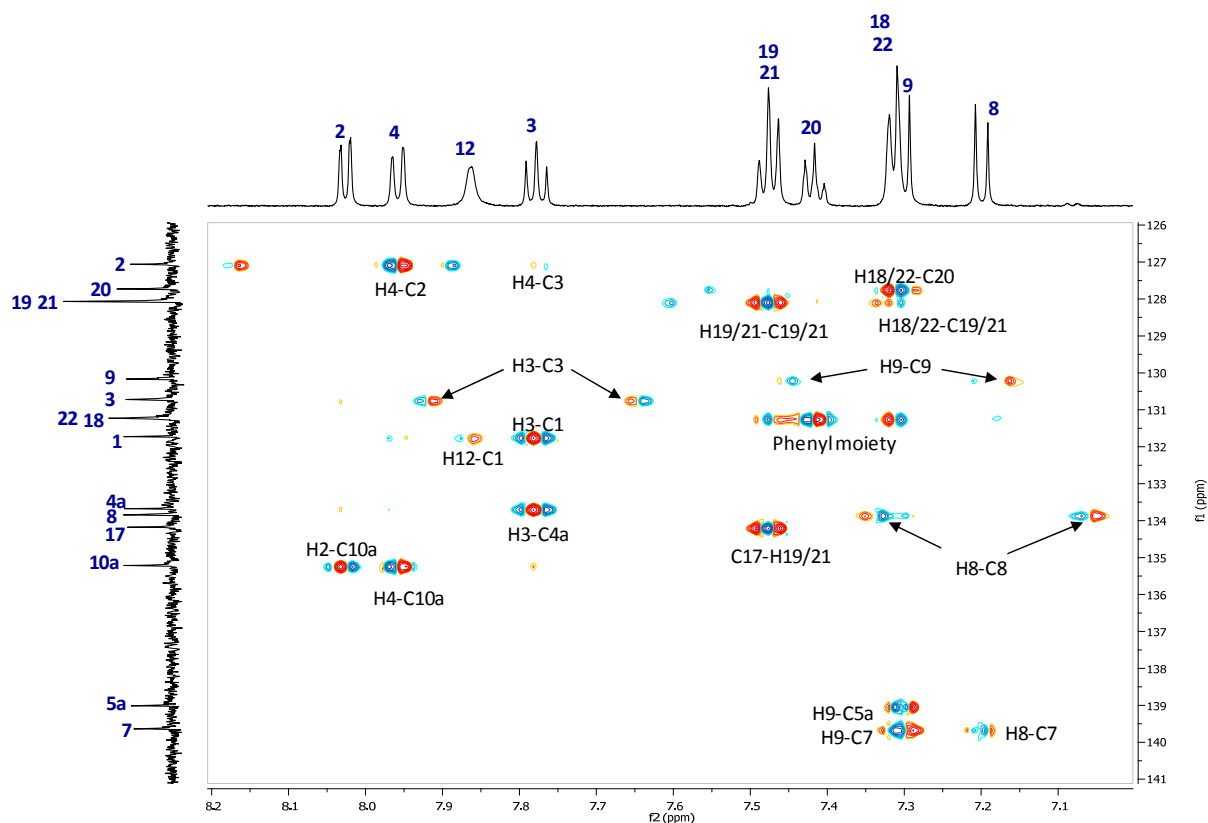
S42. ^1H - ^{13}C HSQC spectrum of dermacozine E (**5**) (600 MHz, $\text{DMSO-}d_6$)



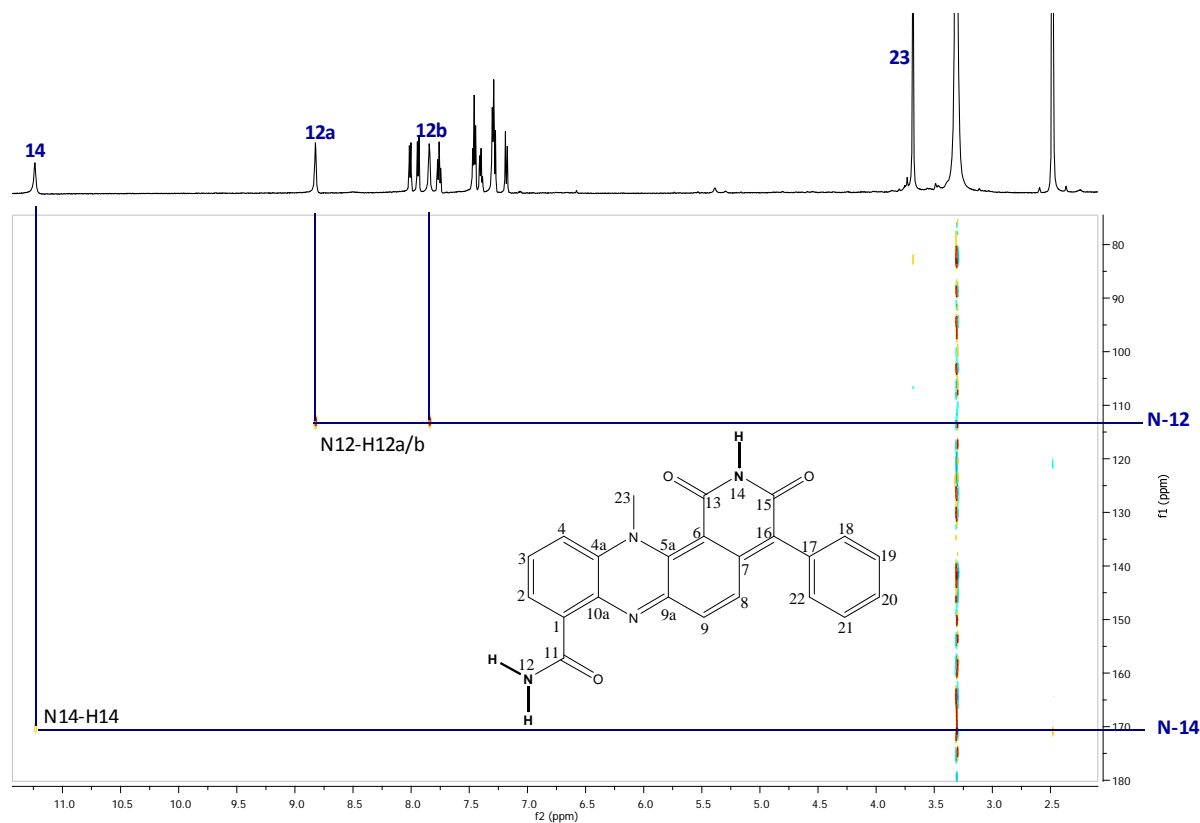
S43. ^1H - ^1H COSY spectrum of dermacozine E (**5**) (600 MHz, $\text{DMSO-}d_6$)



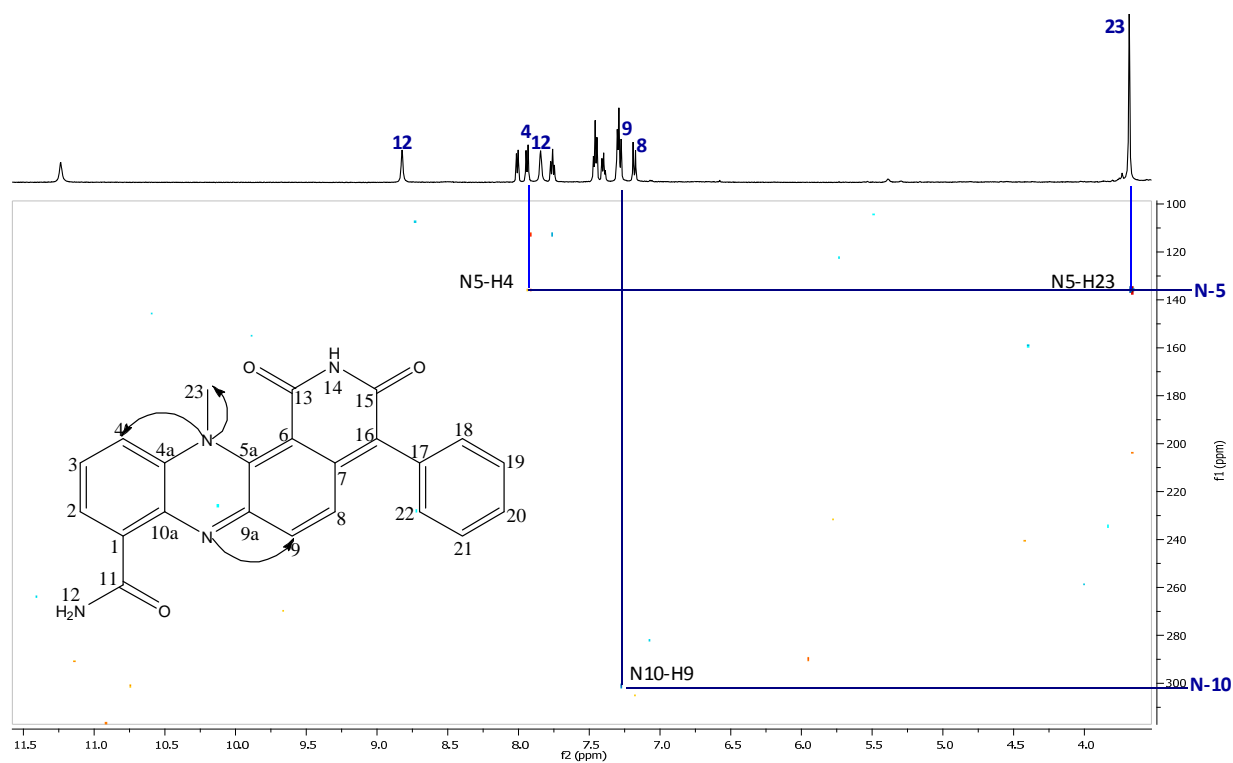
S44. ^1H - ^{13}C HMBC spectrum of dermacozine E (5) (600 MHz, $\text{DMSO-}d_6$)



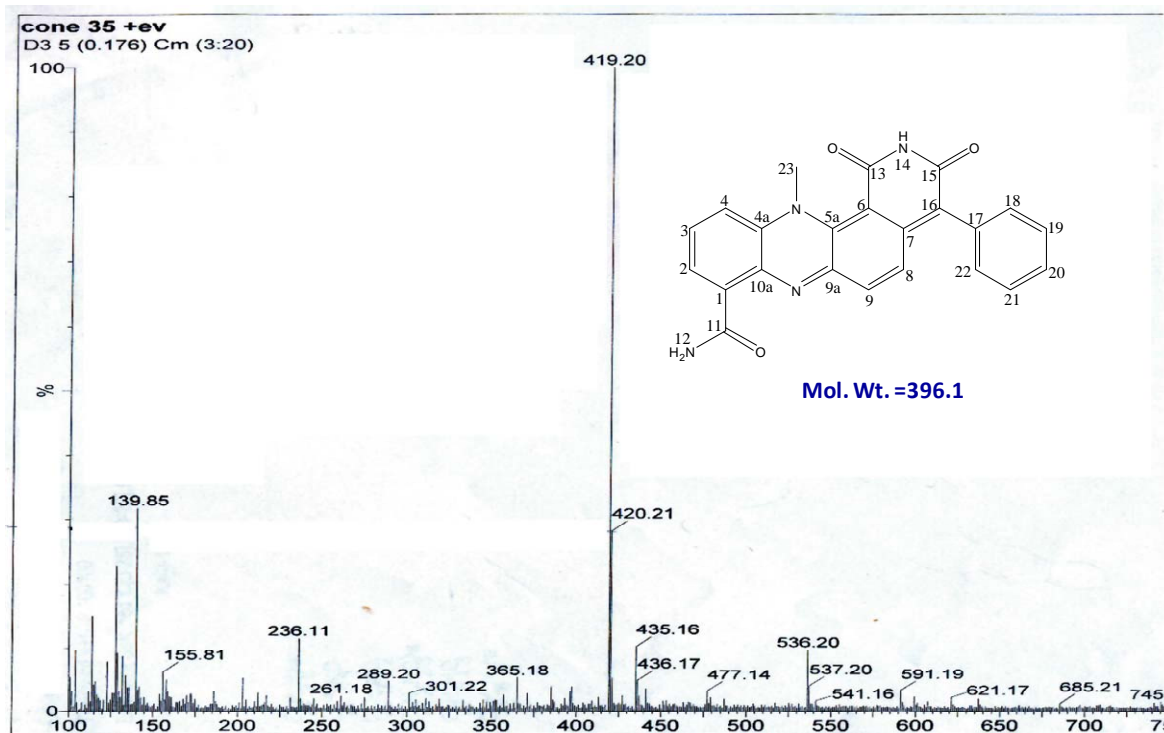
S45. Expanded HMBC spectrum of dermacozine E (5) (600 MHz, $\text{DMSO-}d_6$)



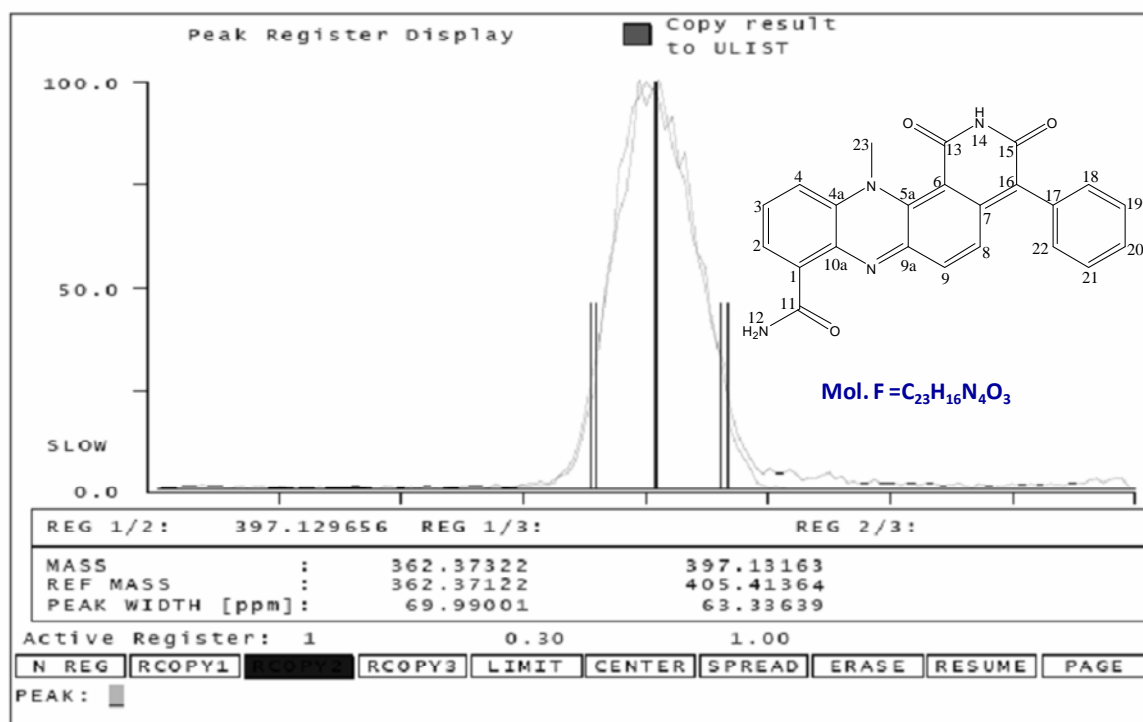
S46. ^1H - ^{15}N HSQC spectrum of dermacozine E (**5**) (600 MHz, $\text{DMSO-}d_6$)



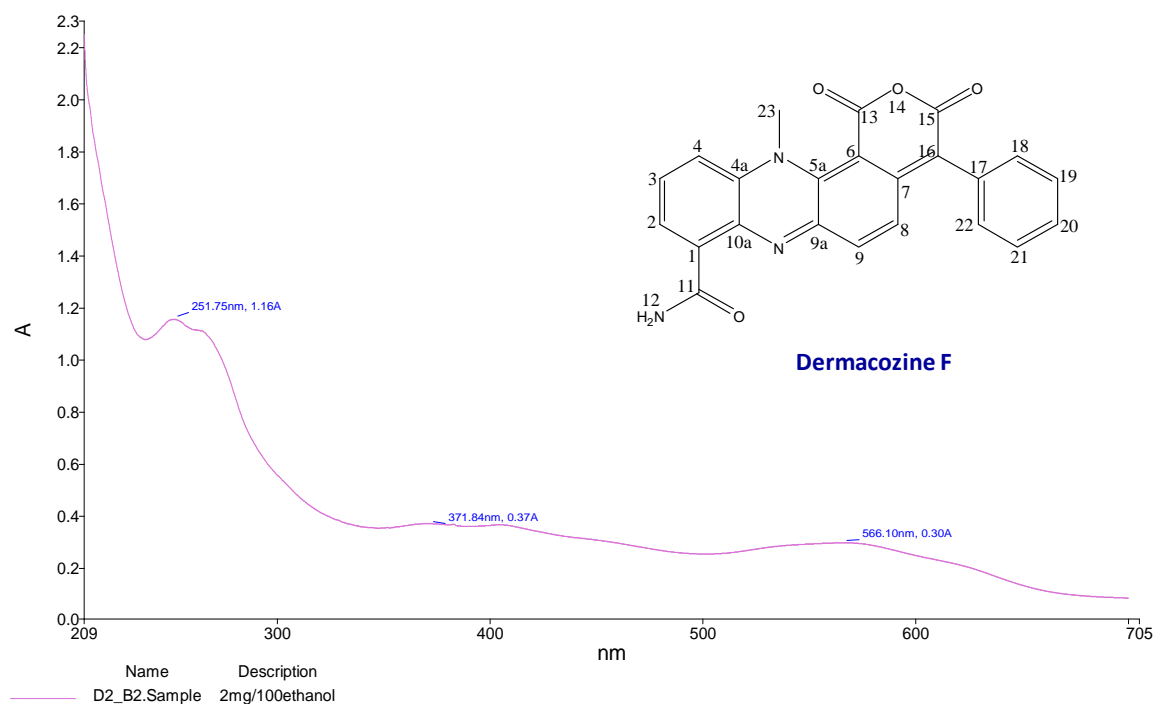
S47. ^1H - ^{15}N HMBC spectrum of dermacozine E (**5**) (600 MHz, $\text{DMSO-}d_6$)



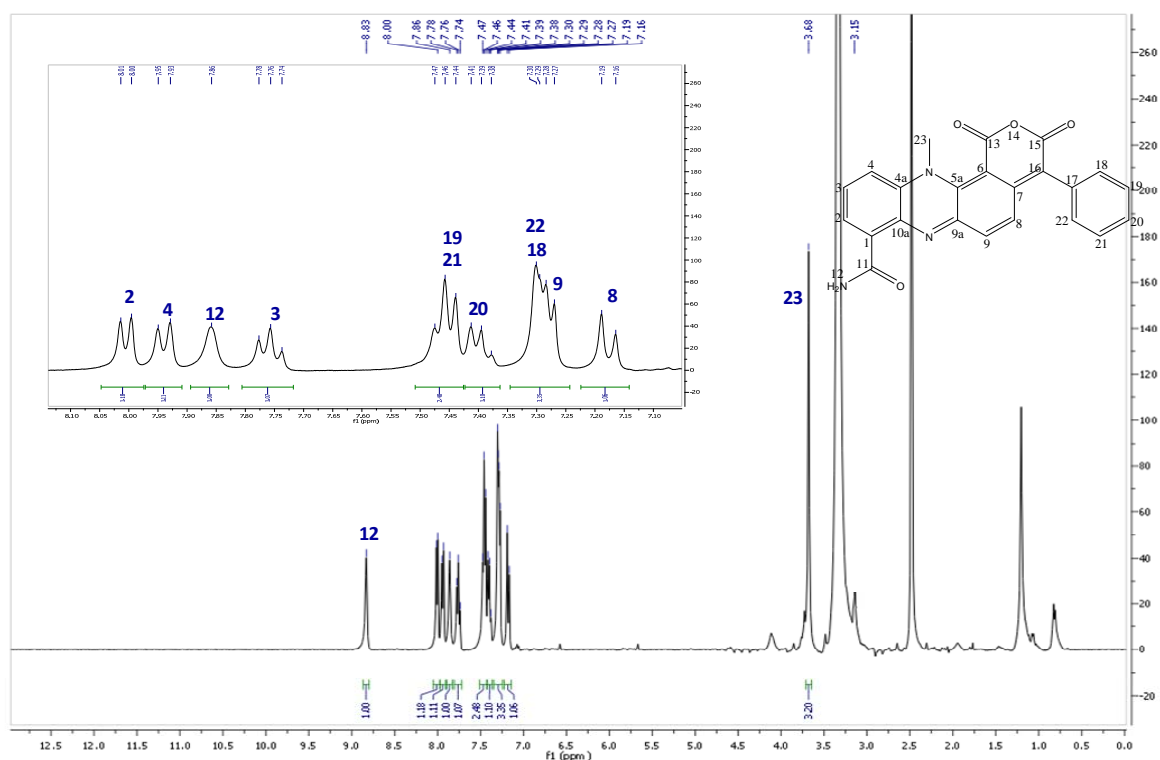
S48. LRESIMS spectrum of dermacozine E (**5**) (in Methanol)



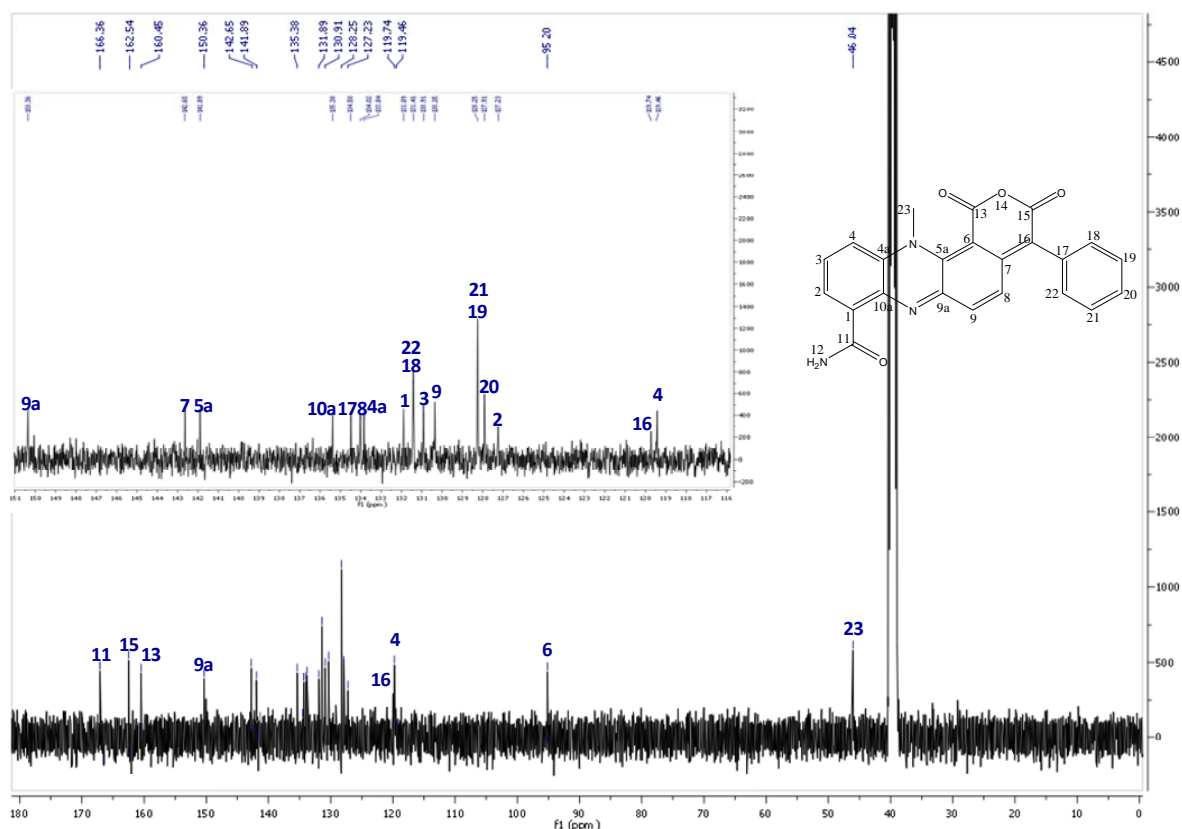
S49. HRESIMS spectrum of dermacozine E (**5**) (in Methanol)



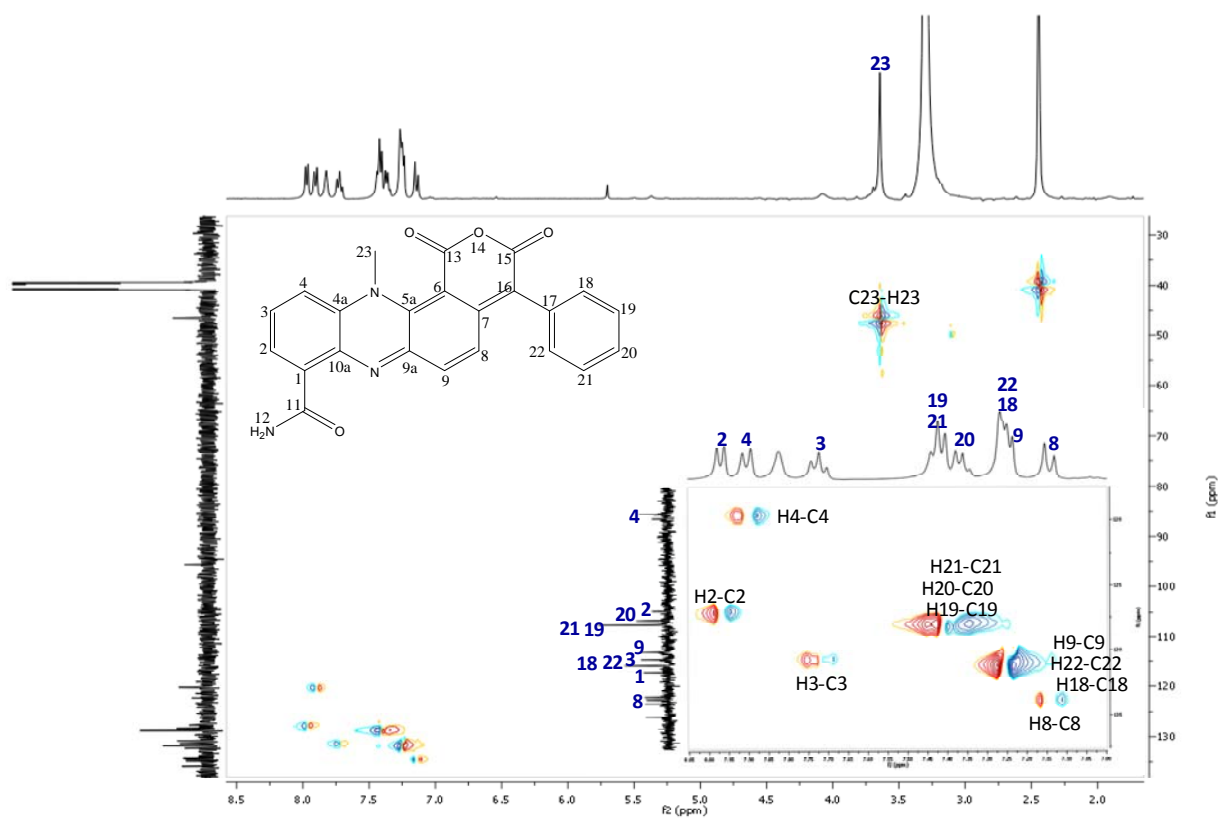
S50. UV spectrum of dermacozine F (6) (in Ethanol)



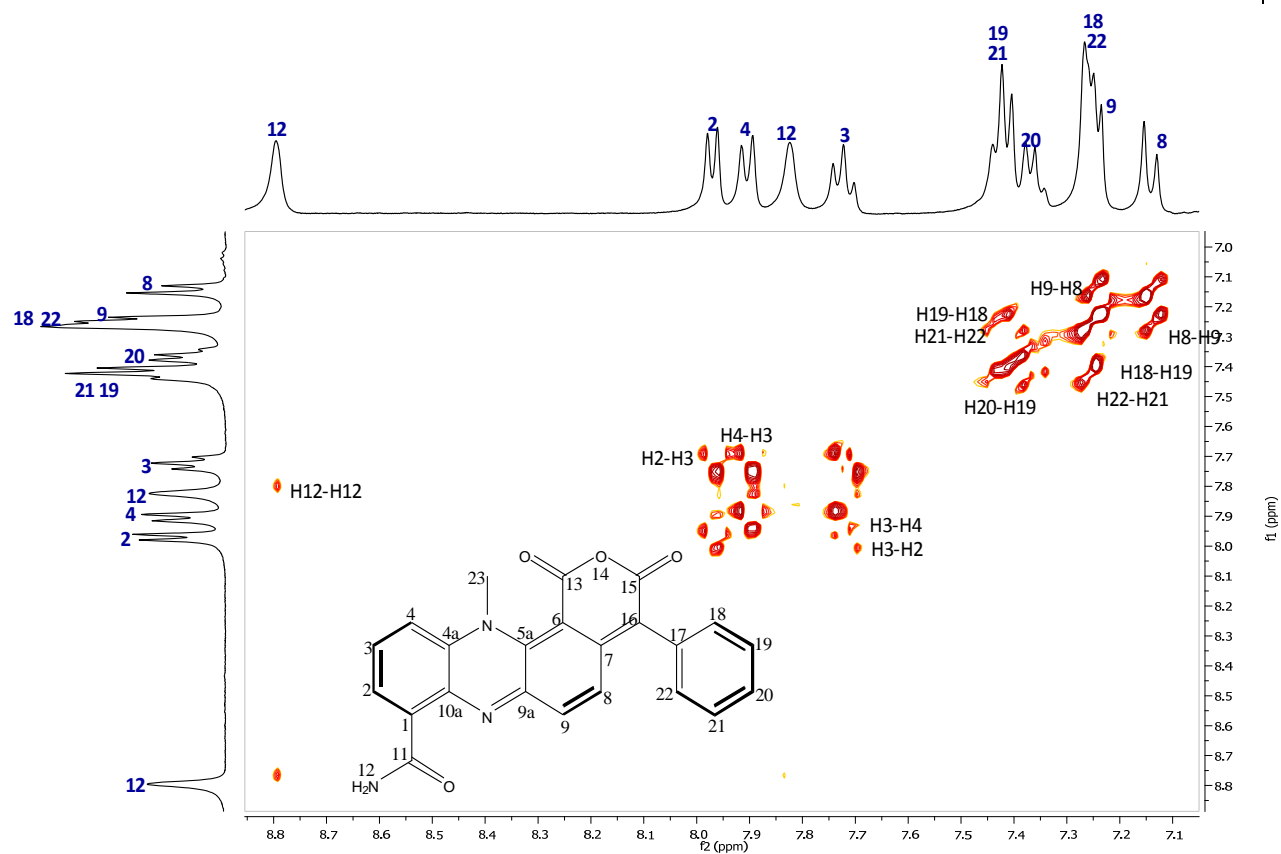
S51. ¹H NMR spectrum of dermacozine F (6) (400 MHz, DMSO-d₆)



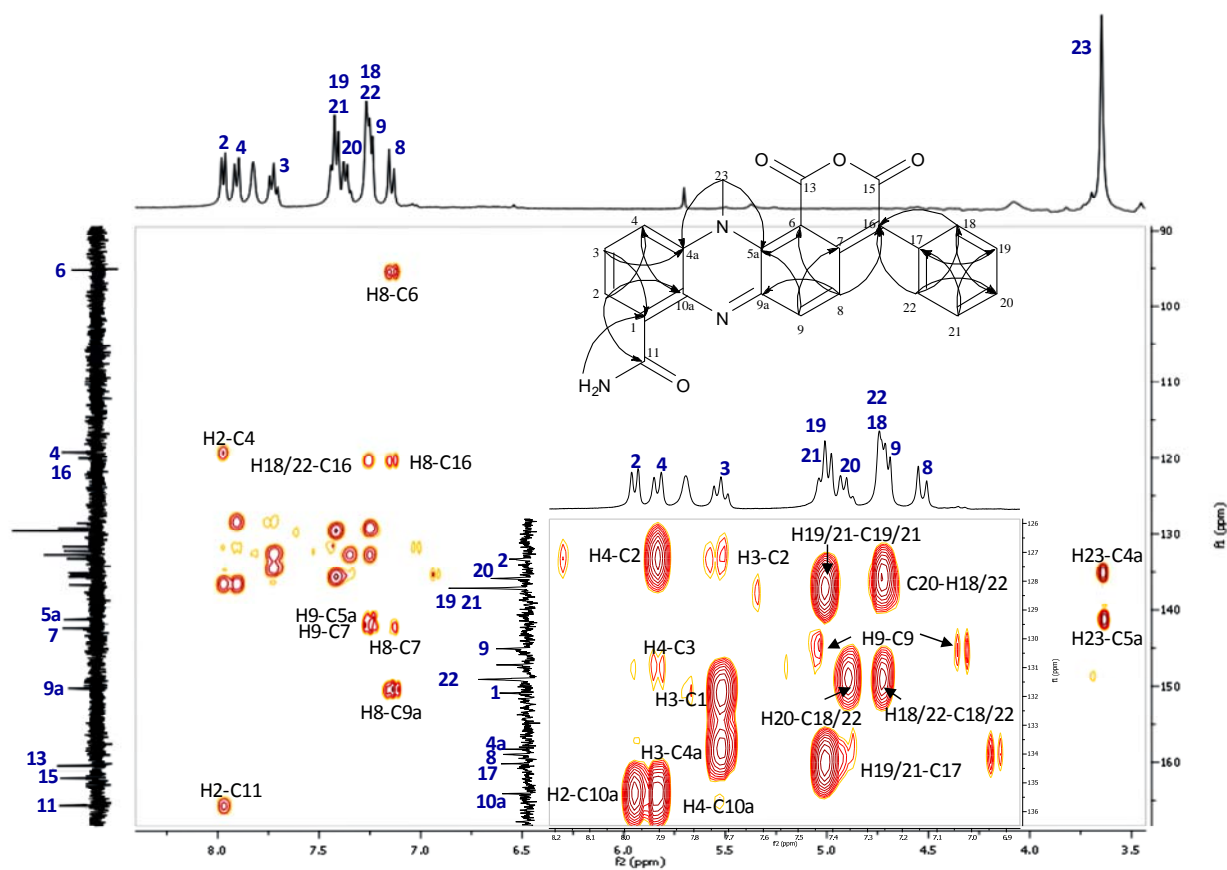
S52. ^{13}C NMR spectrum of dermacozine F (**6**) (100 MHz, $\text{DMSO-}d_6$)



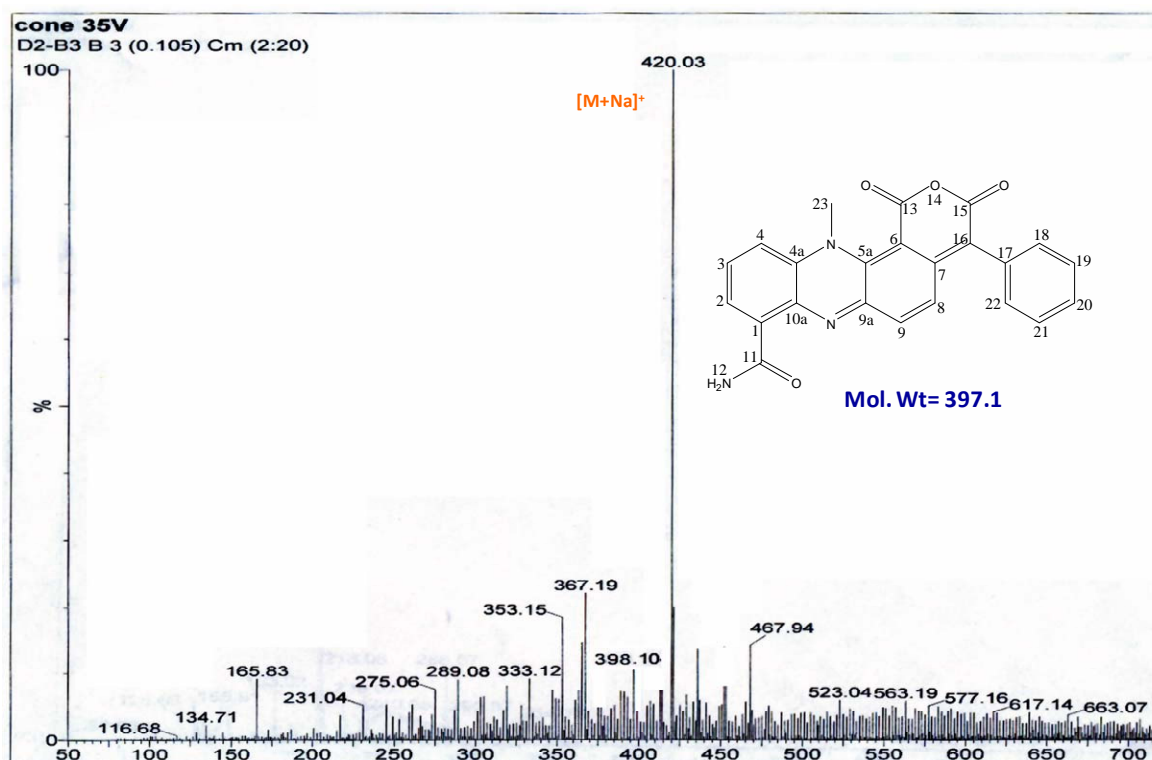
S53. $^1\text{H-}^{13}\text{C}$ HSQC spectrum of dermacozine F (**6**) (400 MHz, $\text{DMSO-}d_6$)



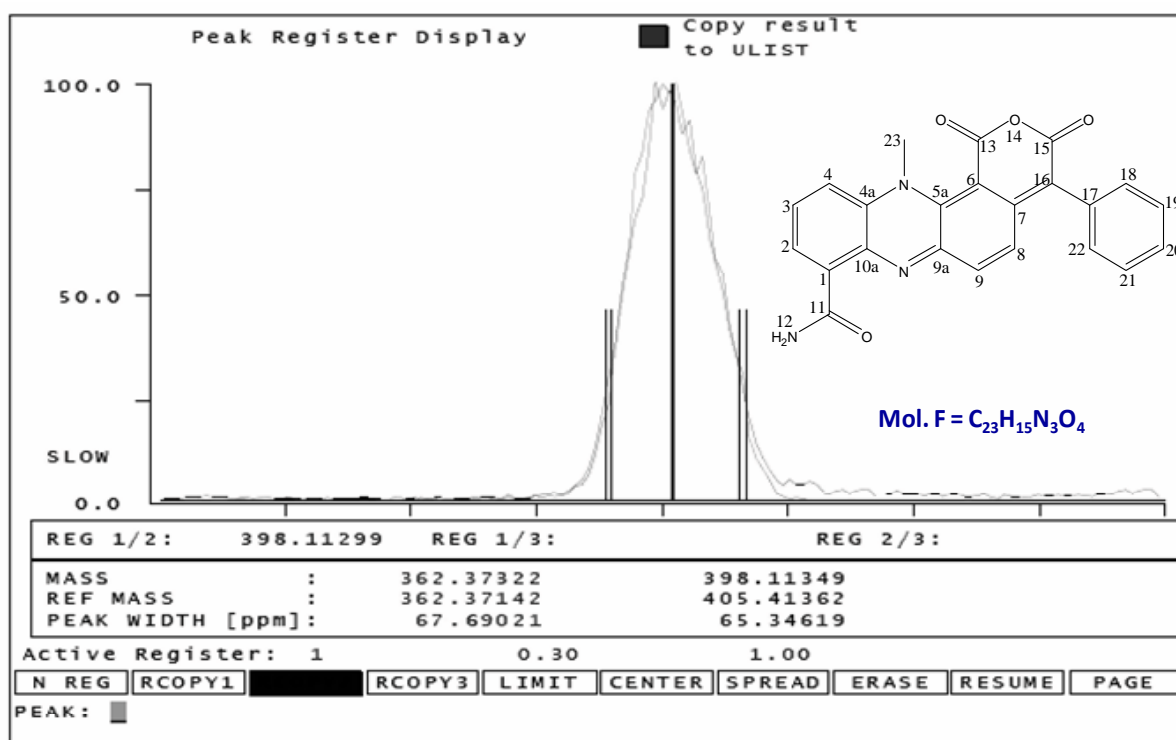
S54. ^1H - ^1H COSY spectrum of dermacozine F (**6**) (400 MHz, $\text{DMSO-}d_6$)



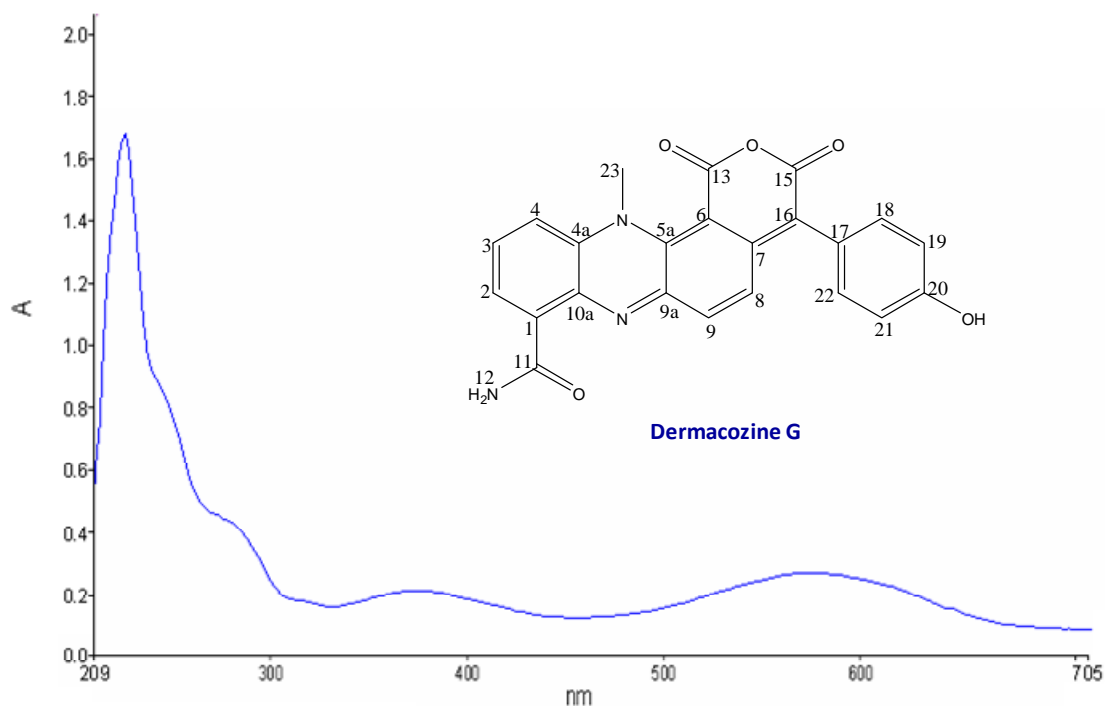
S55. HMBC spectrum of dermacozine F (**6**) (400 MHz, $\text{DMSO-}d_6$)



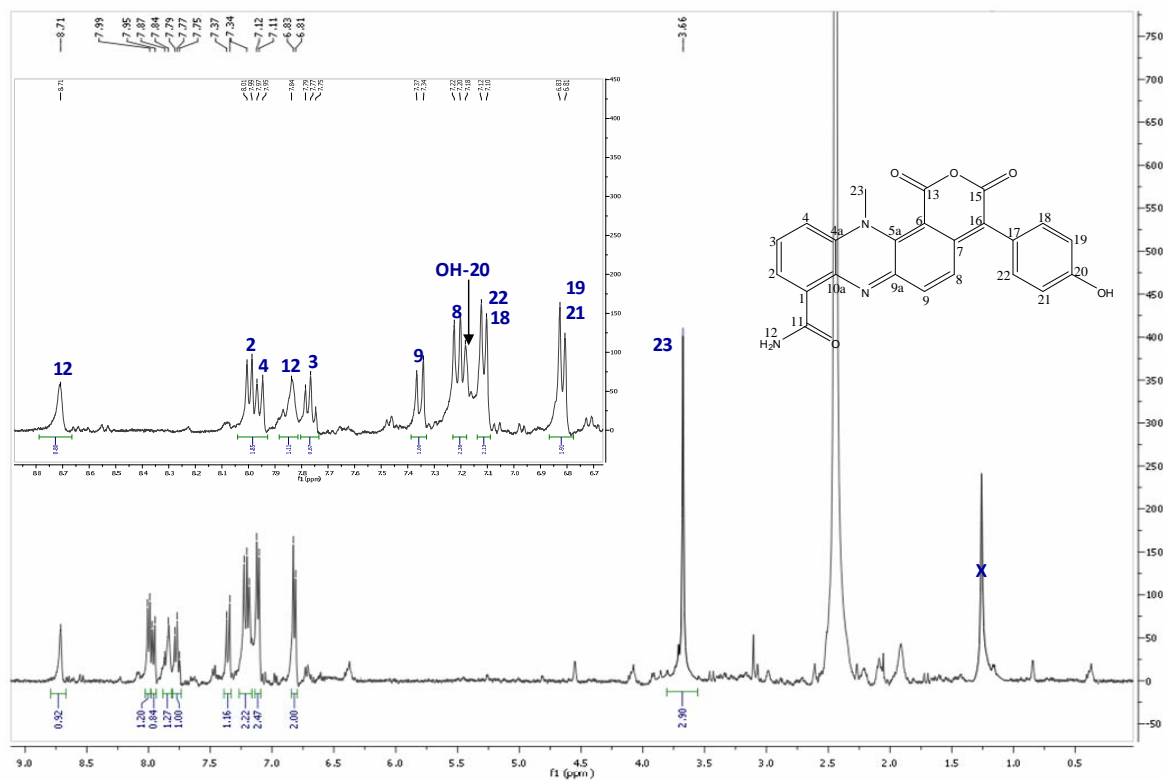
S56. LRESIMS spectrum of dermacozine F (6) (in Methanol)



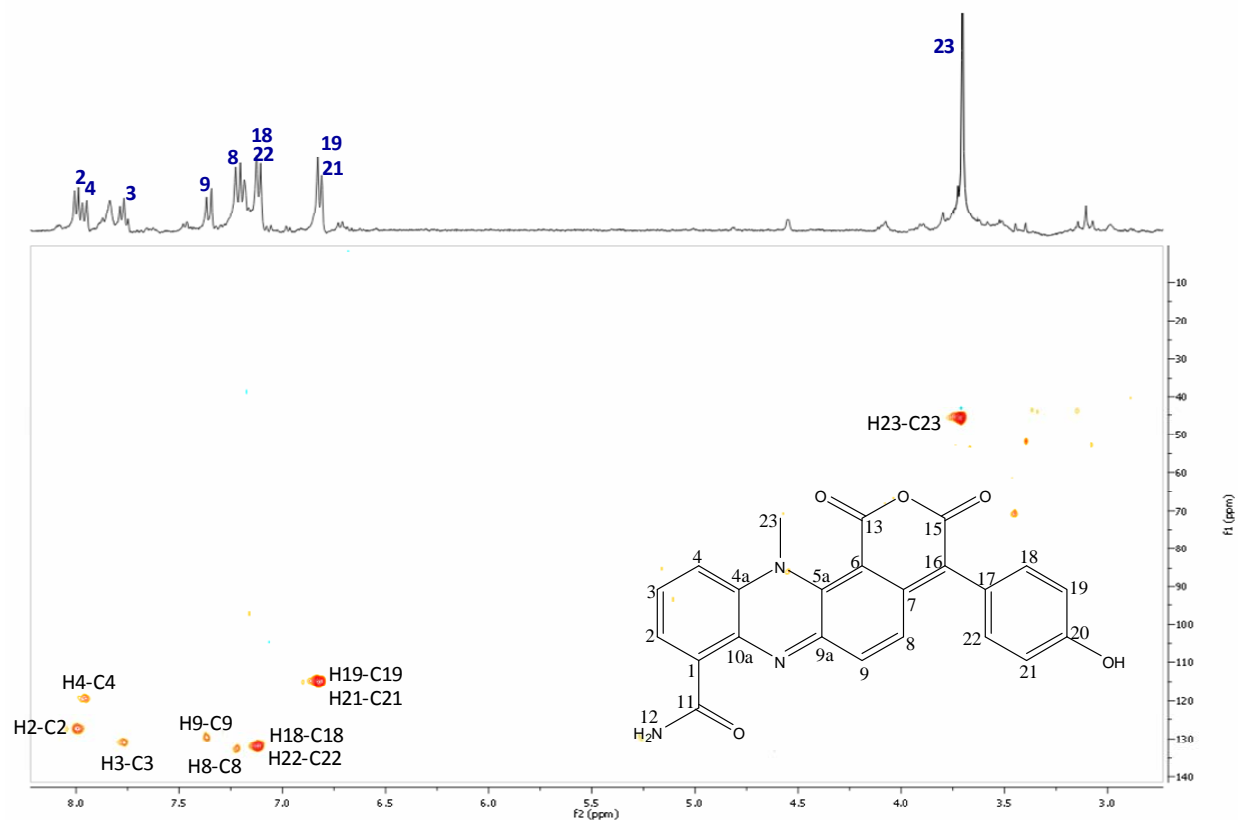
S57. HRESIMS spectrum of dermacozine F (6) (in Methanol)



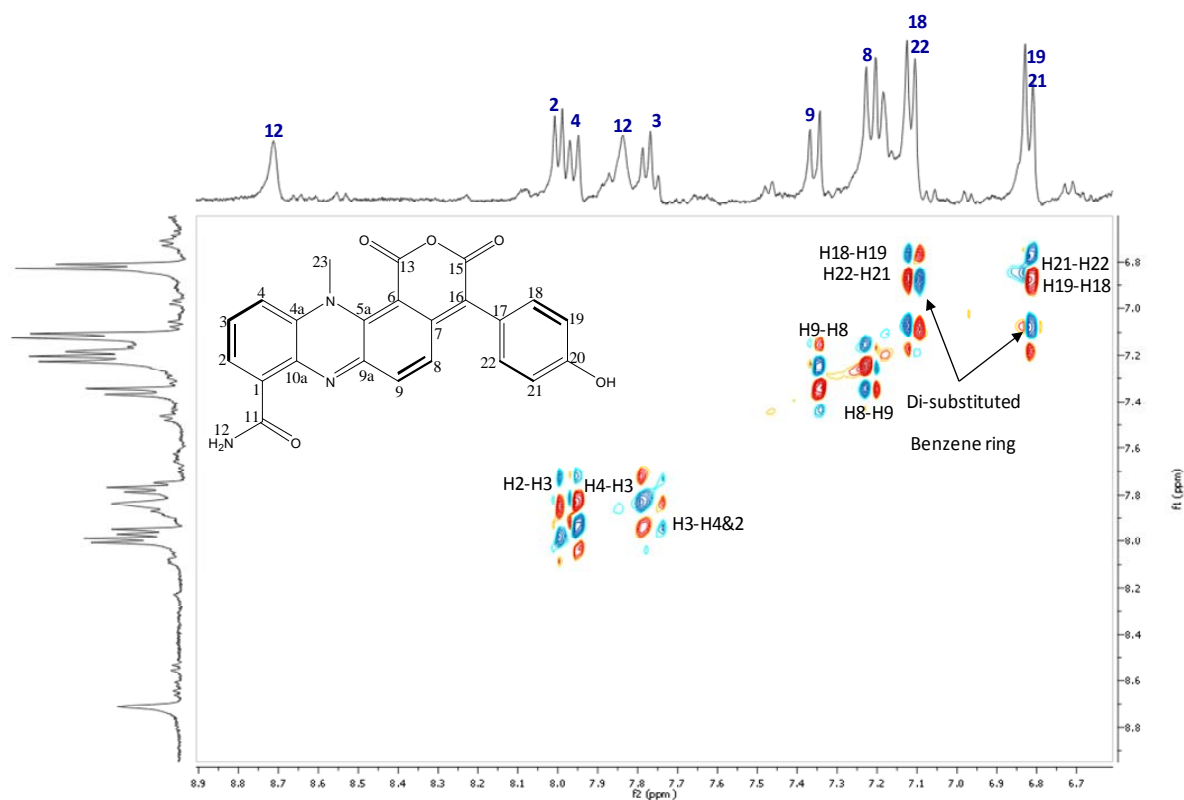
S58. UV spectrum of dermacozine G (7) (in Methanol)



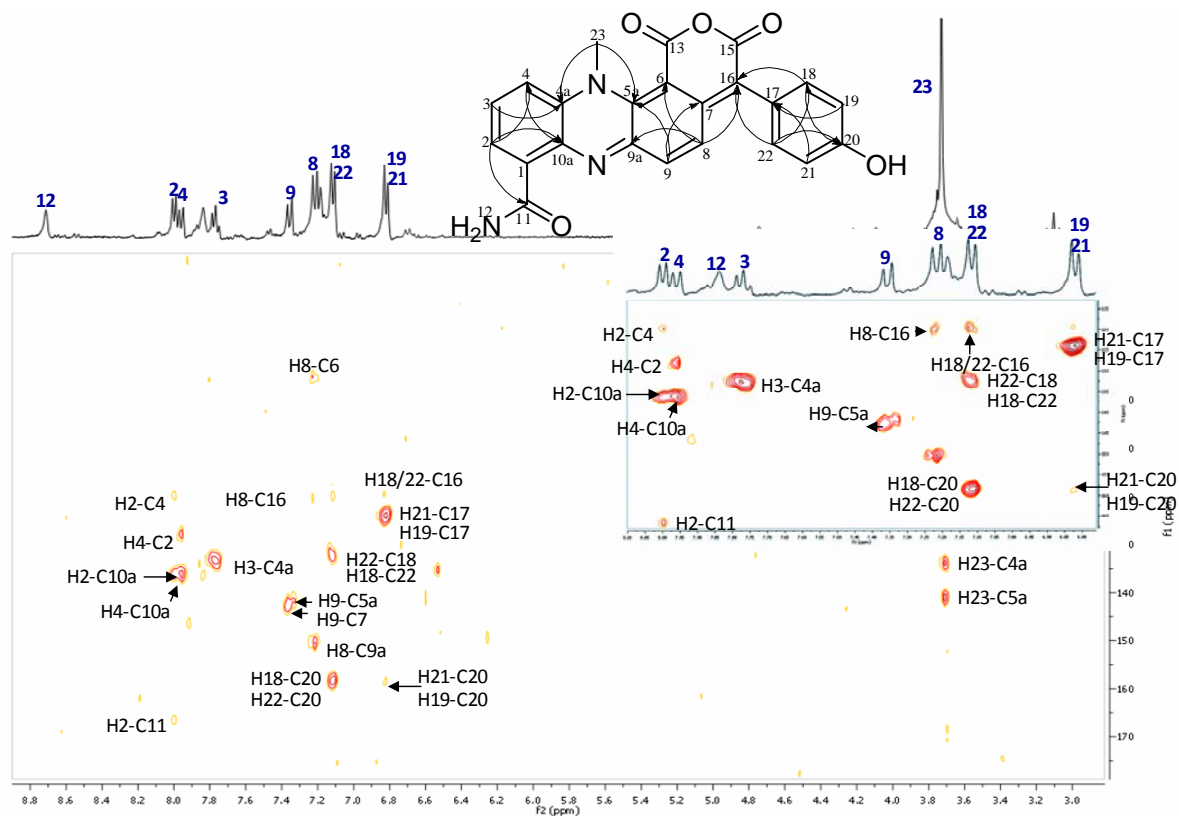
S59. ¹H NMR spectrum of dermacozine G (7) (400 MHz, DMSO-d₆)



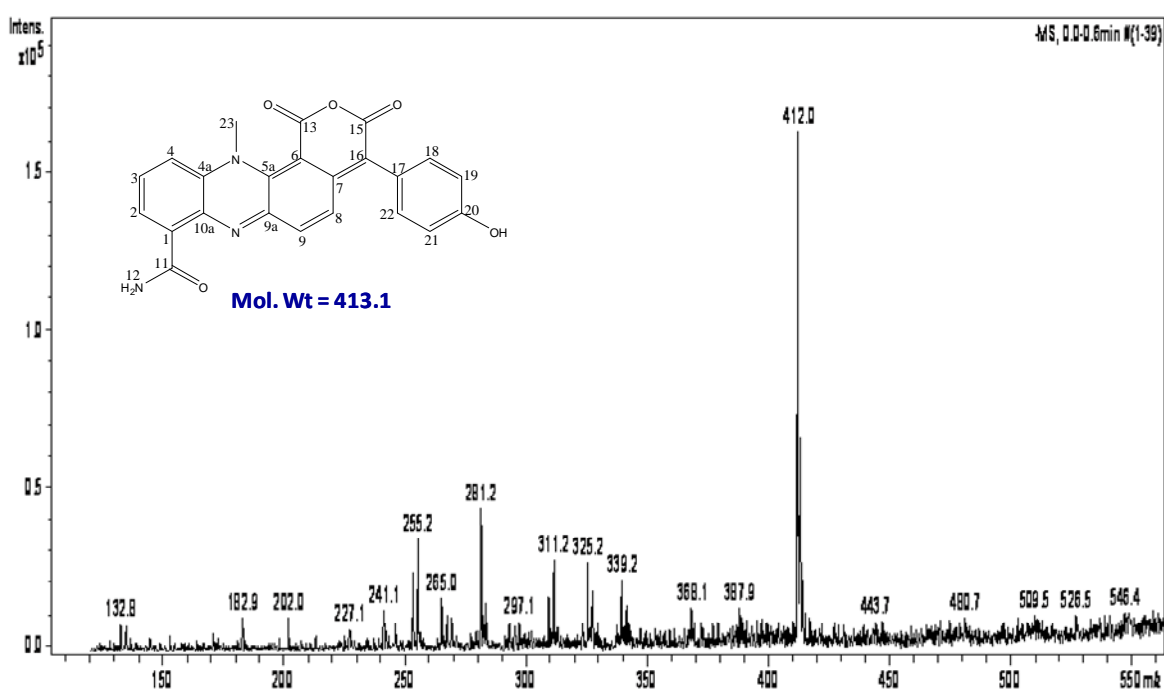
S60. HSQC spectrum of dermacozine G (7) (400 MHz, DMSO-*d*₆)



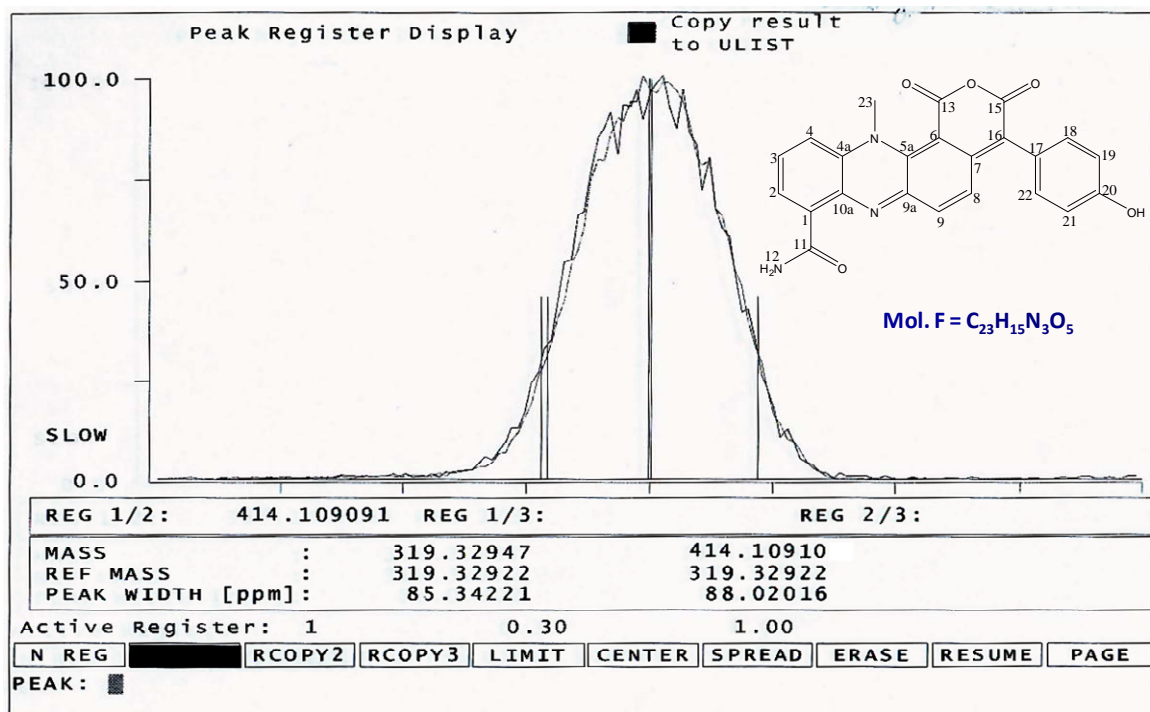
S61. ¹H-¹H COSY spectrum of dermacozine G (7) (400 MHz, DMSO-*d*₆)



S62. HMBC spectrum of dermacozine G (7) (400 MHz, DMSO-*d*₆)



S63. LRESIMS spectrum of dermacozine G (7) (in Methanol)



S64. HRESIMS spectrum of dermacozine G (7) (in Methanol)

No.	1	2	3	4	5*	6	7
1							
2	C-4, 10a, 11	C-4, 10a, 11, 13	C-4, 10a, 11, 13	C-4, 10a, 11	C-4, 10a, 11	C-4, 10a, 11	C-4, 10a, 11
3	C-1, 4a			C-1, 4a	C-1, 4, 4a	C-1, 4a	C-1, 4a
4	C-2, 10a	C-2, 4a, 10a, 13	C-2, 3, 4a, 10a, 13	C-2, 10a	C-2, 10a	C-2, 10a	C-2, 10a
5							
6							
7	C-5a, 9, 13	C-5a, 9, 20	C-5a, 9, 20				
8	C-6, 9a	C-6, 9a	C-6, 9a	C-6, 9a, 15	C-6, 7, 9a, 16	C-6, 7, 9a, 16	C-6, 9a, 16
9	C-5a, 7	C-5a, 7	C-5a, 7	C-5a, 7	C-5a, 7	C-5a, 7	C-5a, 7
10	C-4a, 5a	C-4a, 5a	C-1, 4a, 5a, 9, 9a	C-1, 4a, 5a, 9			
11							
12					C-1		
13							
14	C-6				C-6, 16		
15	C-4a, 5a	C-13, 17, 19	C-13, 17, 19				
16		C-14, 18	C-14, 18				
17		C-15, 19	C-15, 19	C-15, 19			
18		C-14, 16	C-14, 16	C-16	C-16, 20	C-16, 20, 22	C-16, 20, 22
19		C-13, 15, 17	C-13, 15, 17	C-17, 21	C-17	C-17, 21	C-17
20				C-16, 17, 21	C-18, 22	C-18, 22	
21		C-20	C-20	C-15, 19	C-17	C-17, 19	C-17
22		C-4a, 5a	C-4a, 5a		C-16, 20	C-16, 18, 20	C-16, 18, 20
23				C-22	C-4a, 5a	C-4a, 5a	C-4a, 5a
24				C-4a, 5a			

^a All spectra were recorded at 400 MHz in DMSO-*d*₆ solution, except where noted.

* Recorded at 600 MHz in DMSO-*d*₆ solution.

TABLE S1. Observed HMBC correlations (H \rightarrow C) of dermacozines A-G (1-7)