

## ***Supporting Information***

### **Synthesis and evaluation of antiplasmodial efficacy of $\beta$ -carboline derivatives against murine malaria**

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Figure S1: <sup>1</sup>H NMR (400 MHz): 8a CDCl<sub>3</sub>

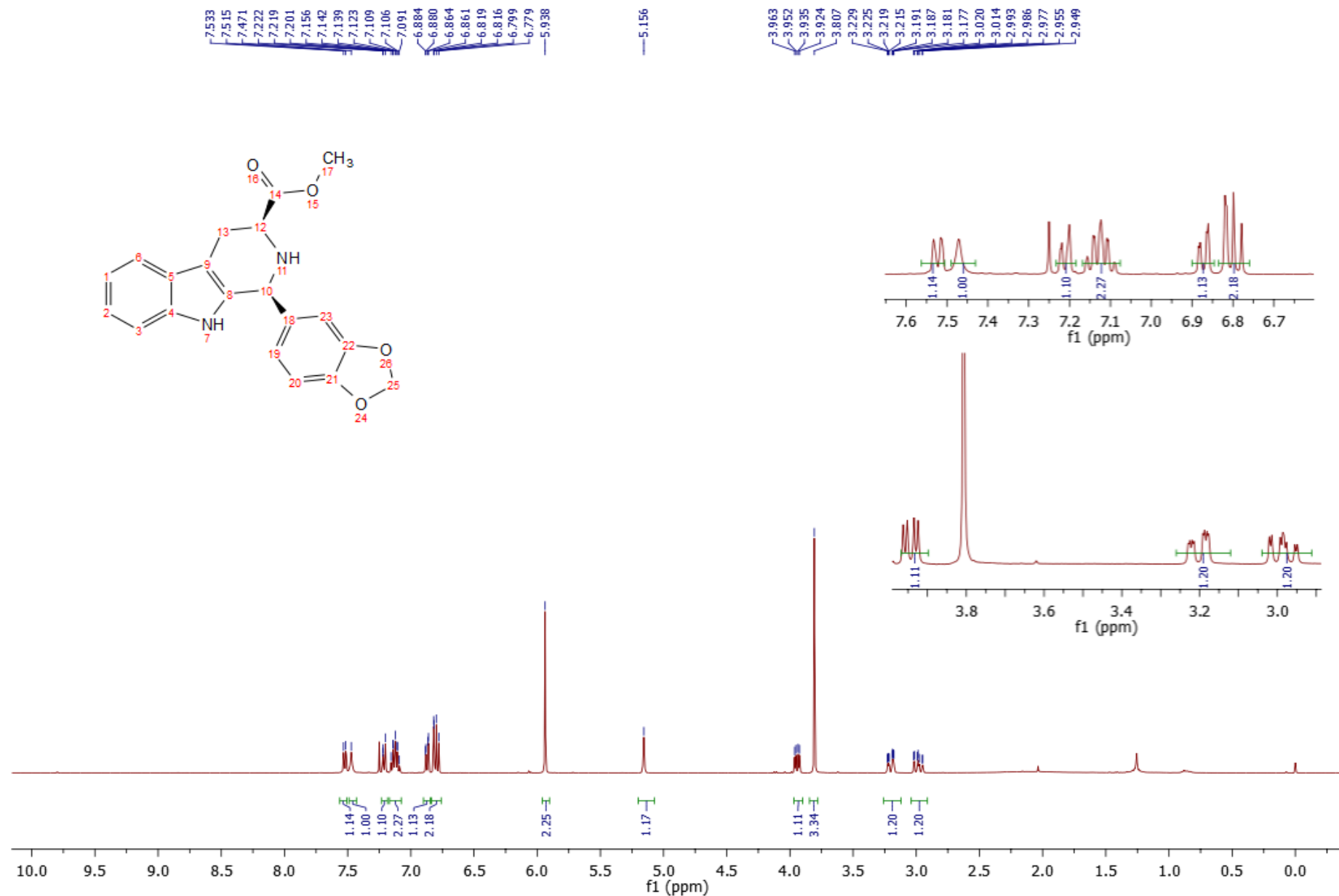


Figure S2: FT-IR (Neat): 8a

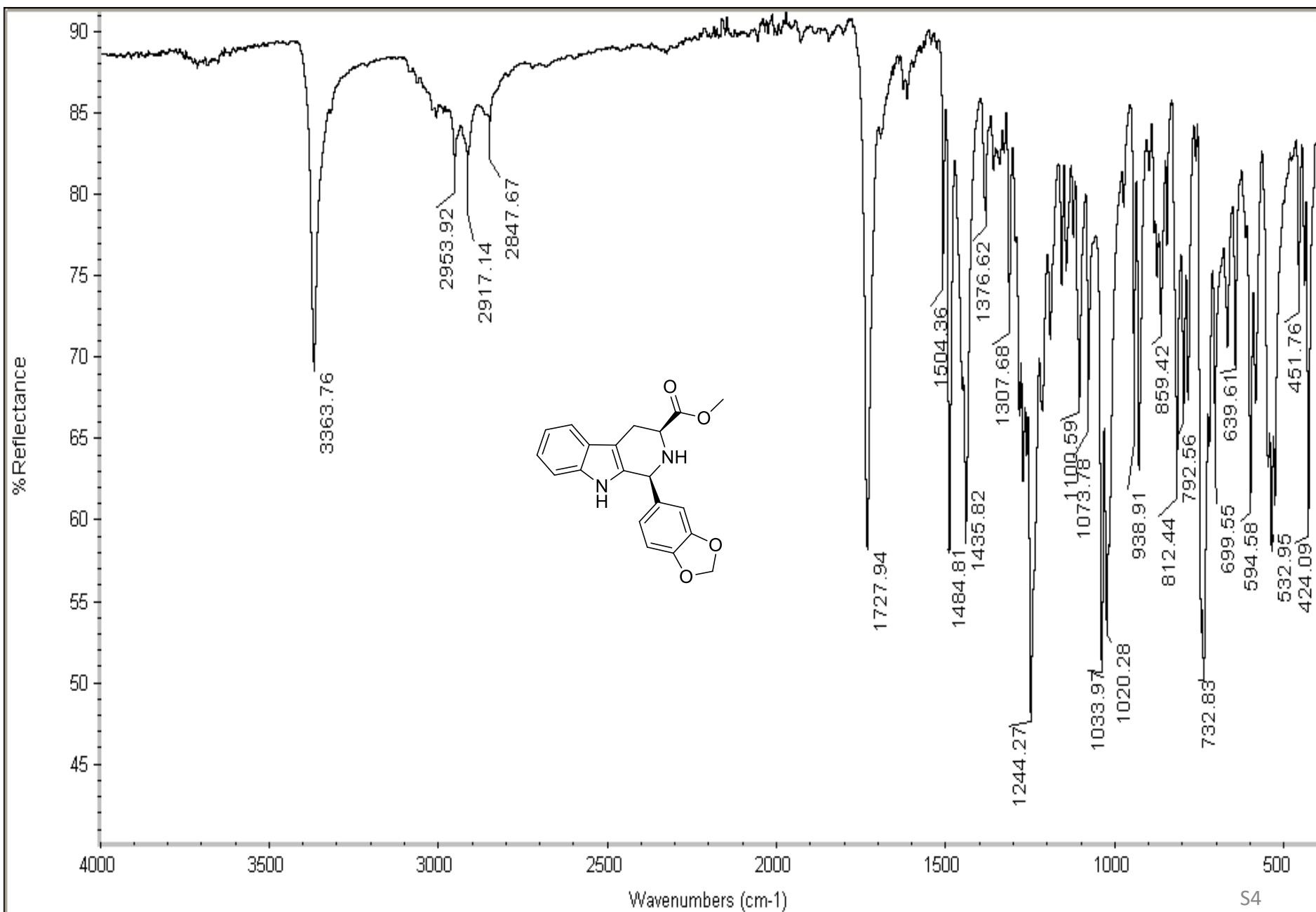
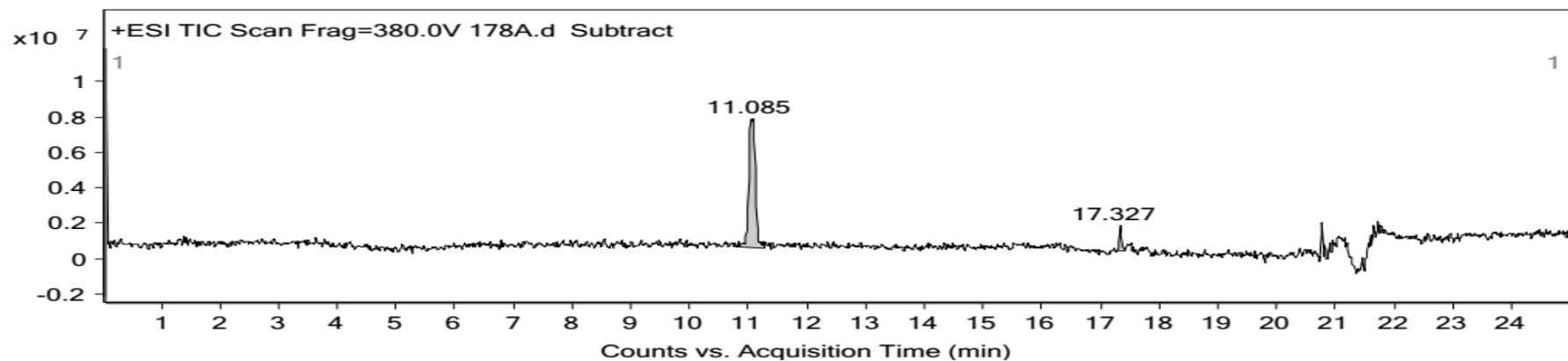


Figure S3: LC-MS: 8a



Signal DAD1 B, Sig=280,4 Ref=360,100 (PU\PU Sequence 2018-04-17 21-01-47\RS-178A.D) - DAD1

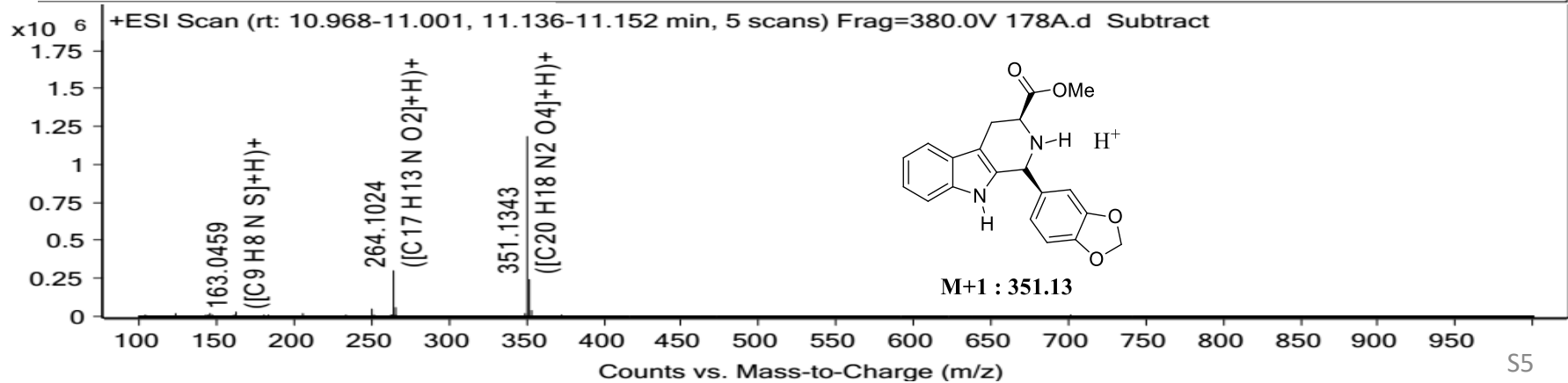
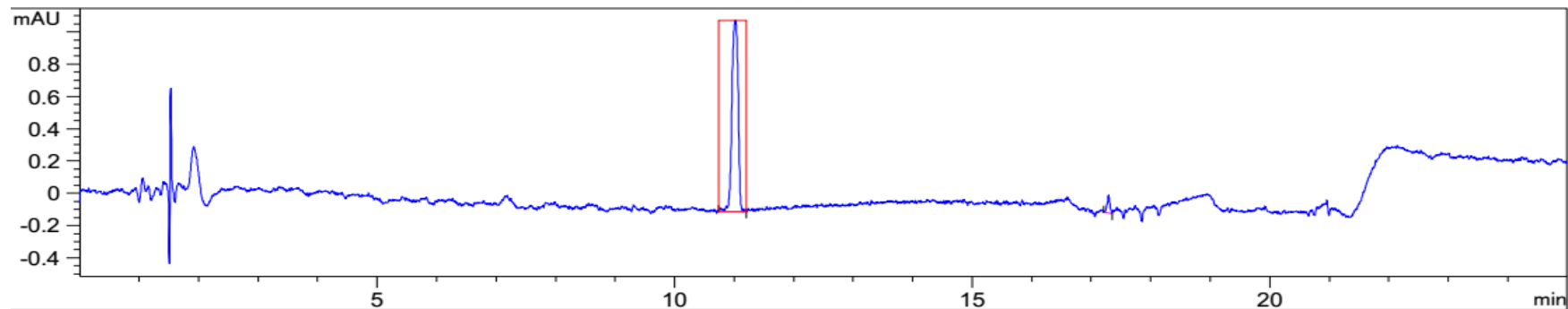


Figure S4:  $^1\text{H}$  NMR (400 MHz): 9a  $\text{CDCl}_3$

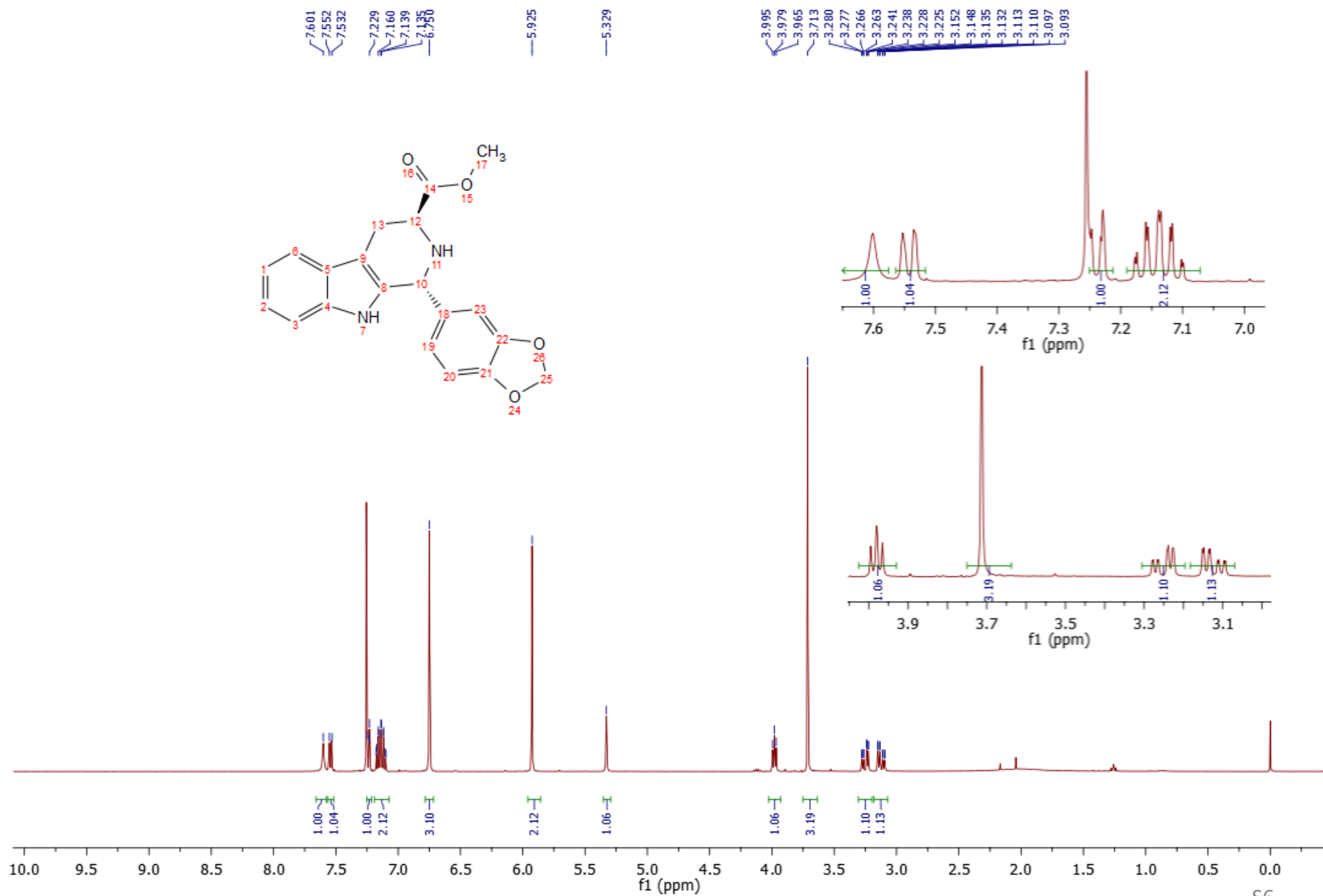


Figure S5: FT-IR (Neat): 9a

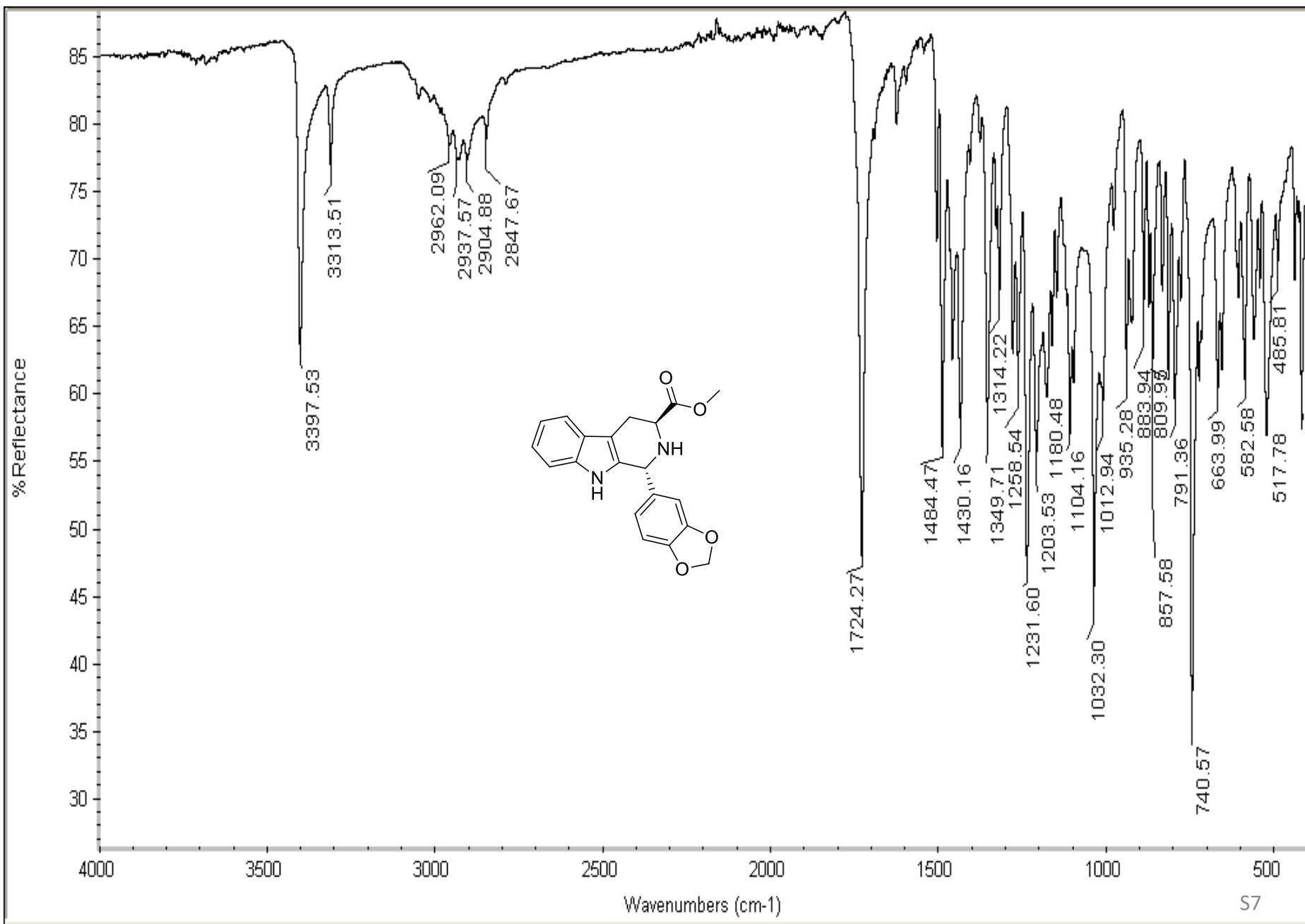
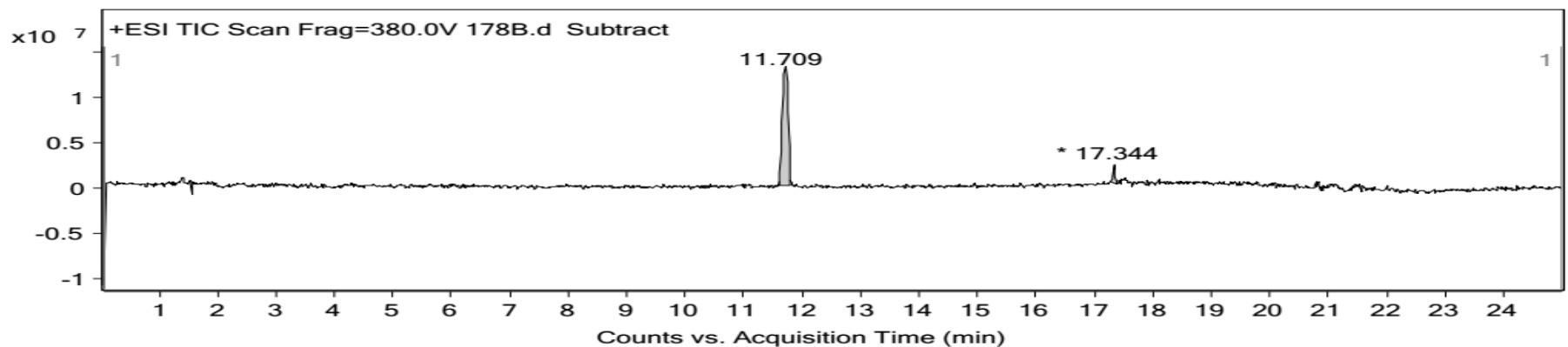


Figure S6: LC-MS: 9a



Signal DAD1 B, Sig=280,4 Ref=360,100 (PU\PU Sequence 2018-04-17 21-01-47\RS-178B.D) - DAD1

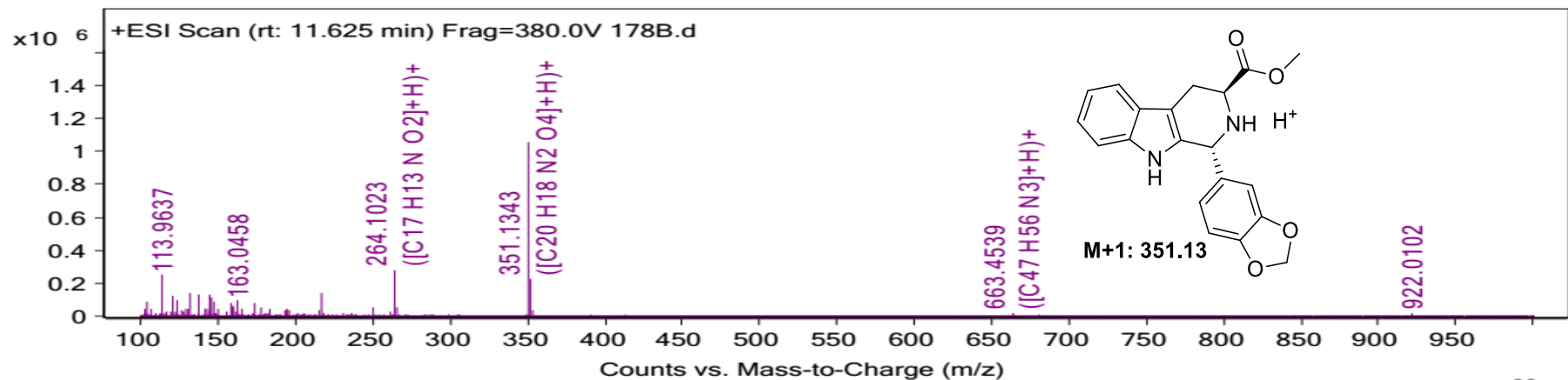
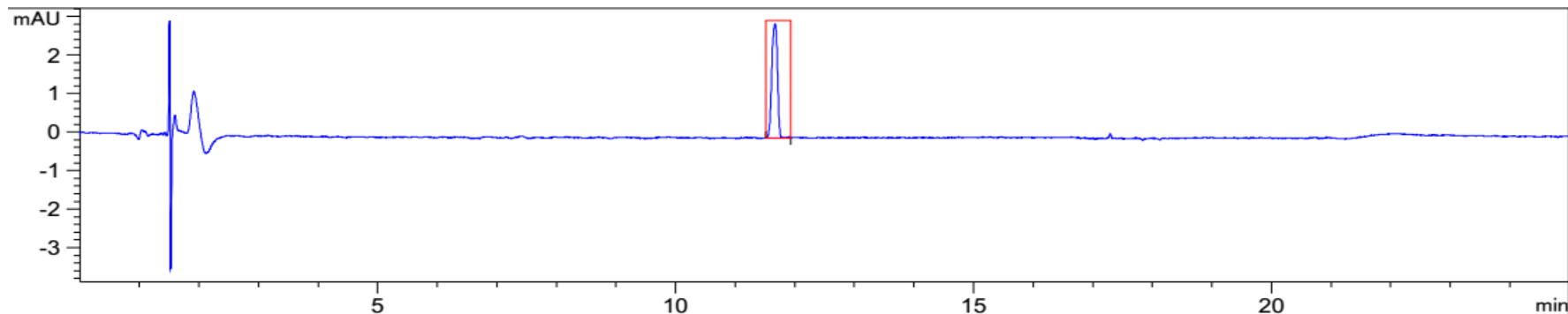




Figure S7:  $^1\text{H}$  NMR (400 MHz): 8b  $\text{CDCl}_3$

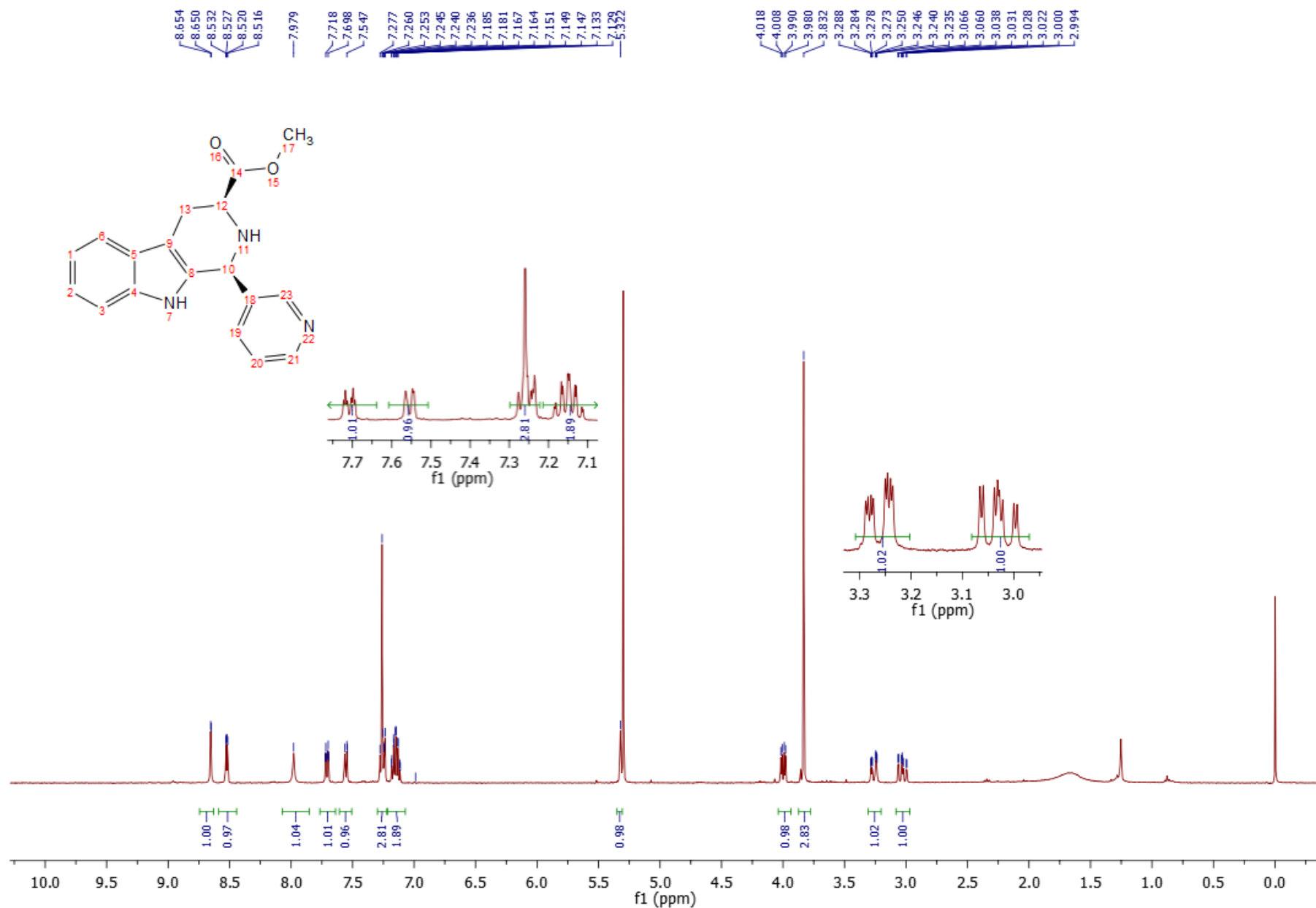


Figure S8: FT-IR (Neat): 8b

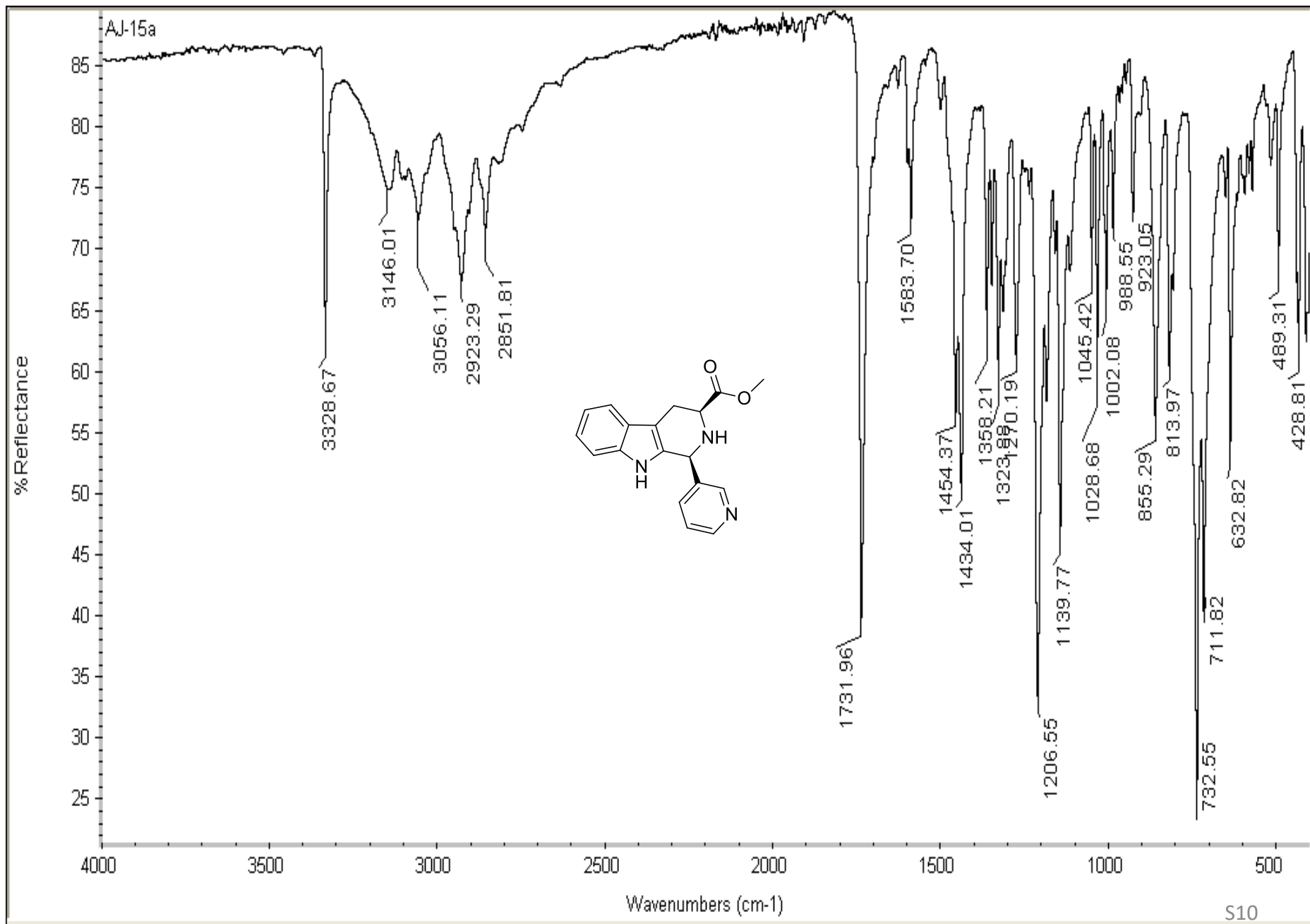
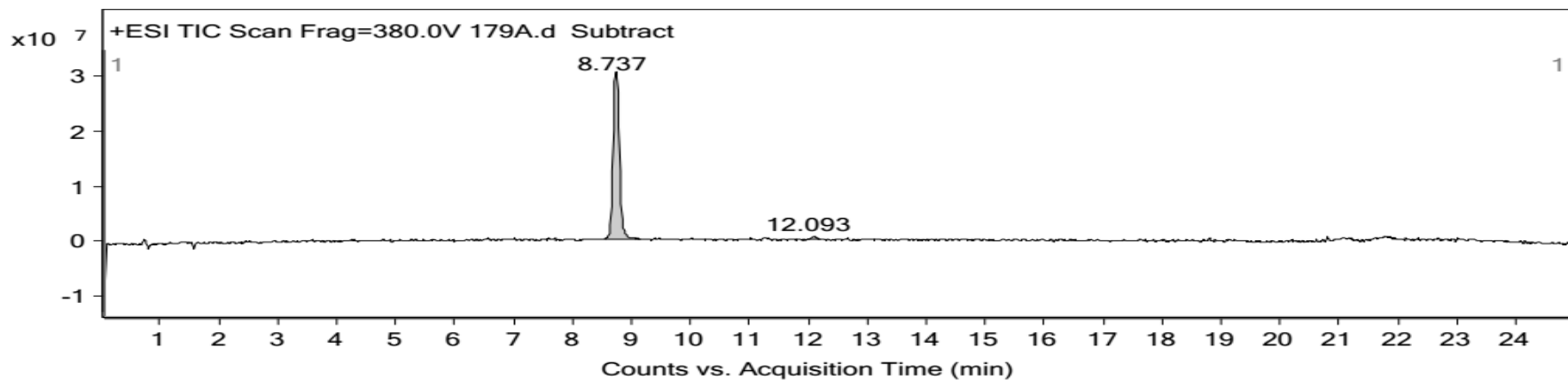


Figure S9: LC-MS: 8b



Signal DAD1 B, Sig=280,4 Ref=360,100 (PU\PU Sequence 2018-04-17 21-01-47\RS-179A.D) - DAD1

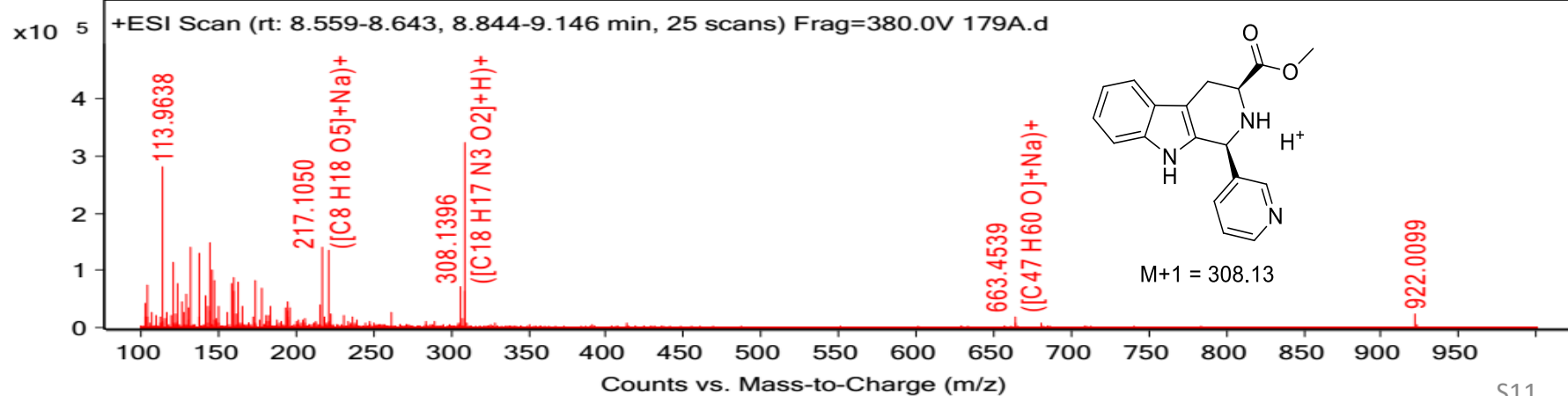
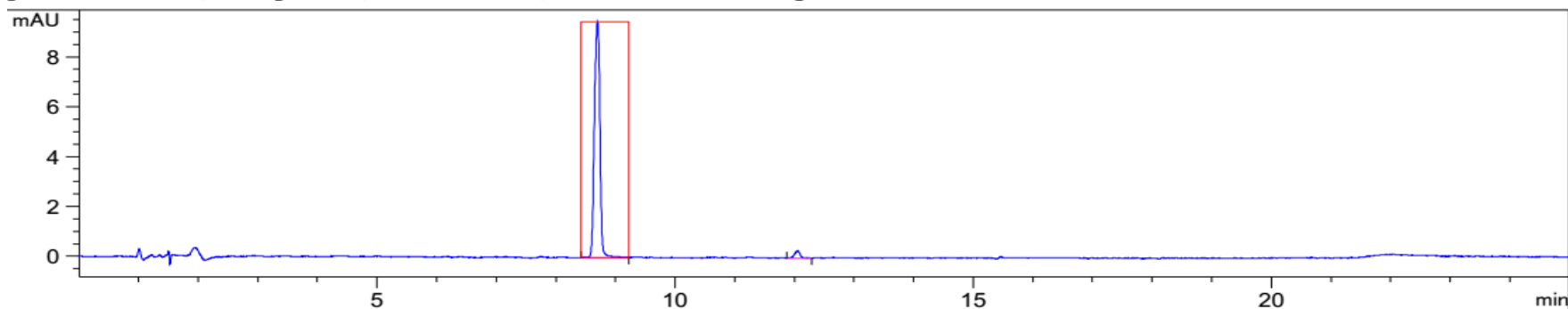


Figure S10:  $^1\text{H}$  NMR (400 MHz): 9b  $\text{CDCl}_3$

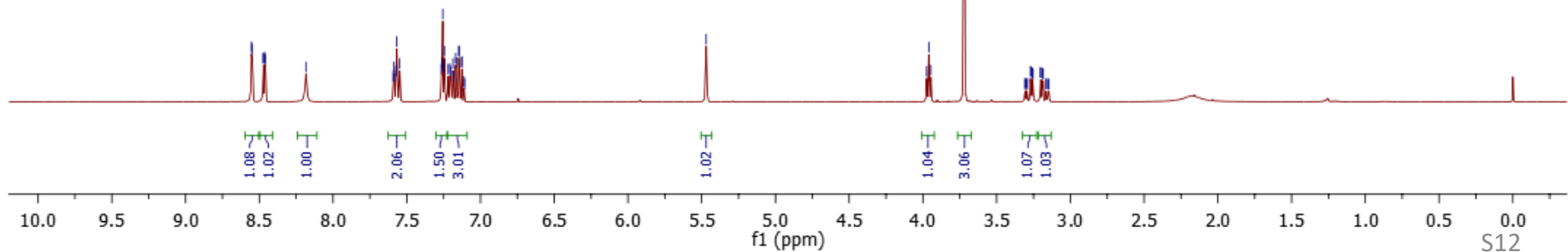
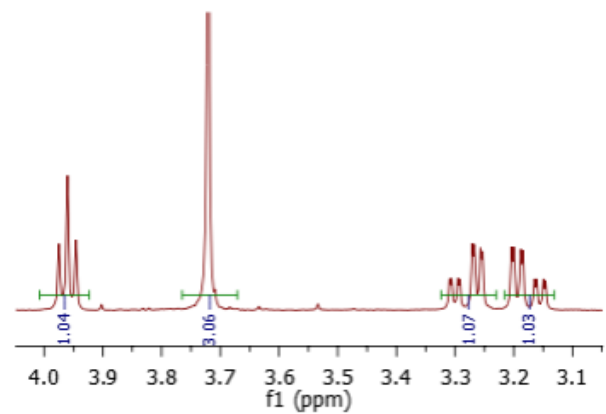
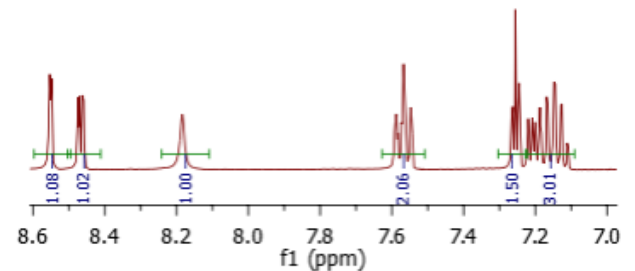
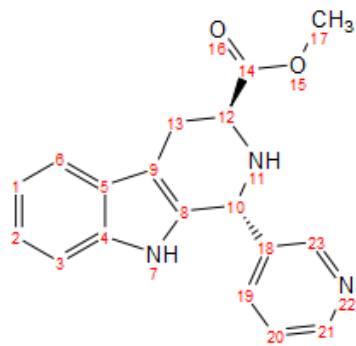


Figure S11: FT-IR (Neat): 9b

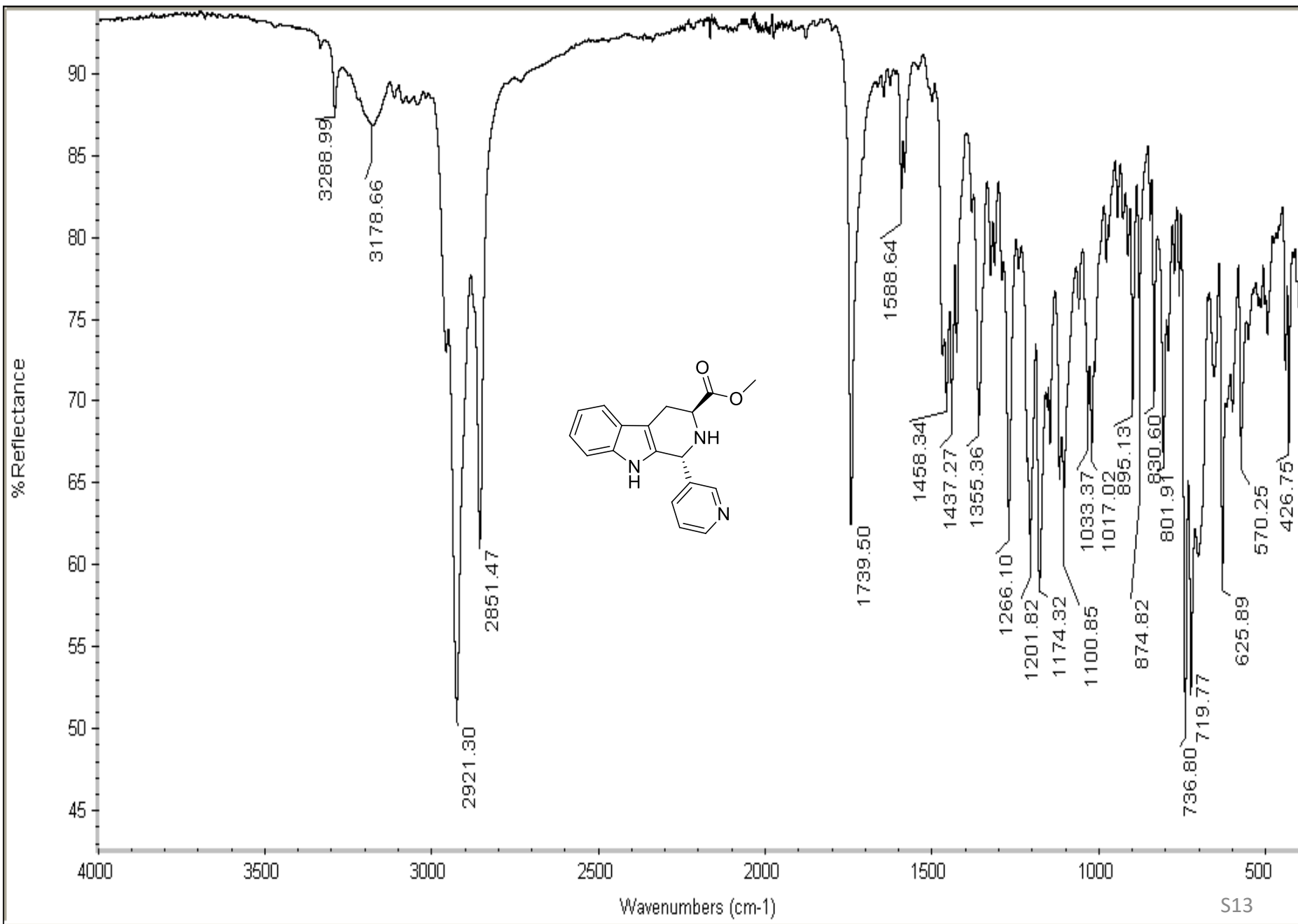
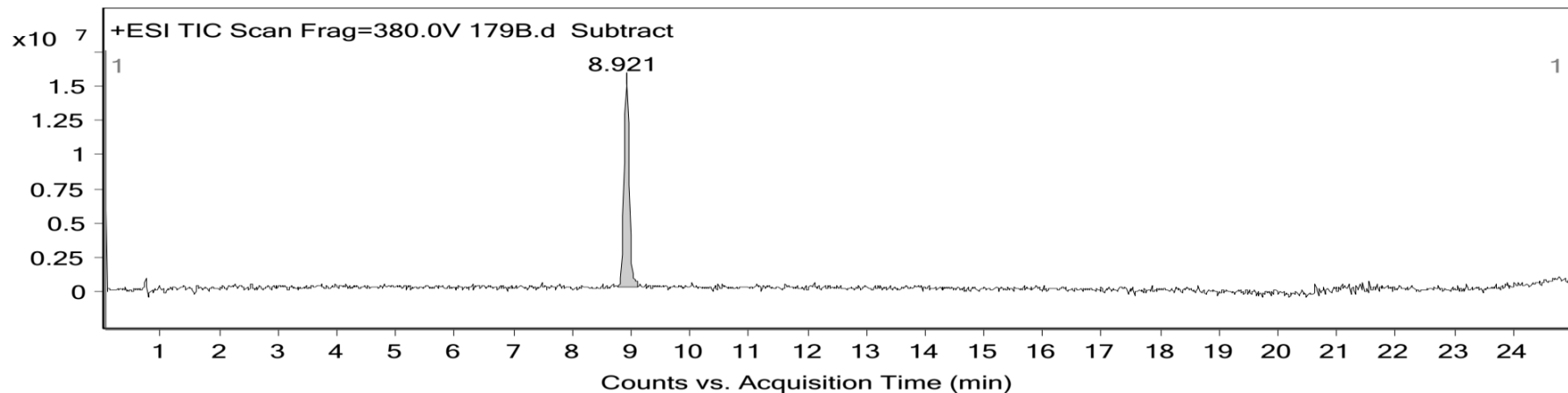


Figure S12: LC-MS: 9b



Signal DAD1 B, Sig=280,4 Ref=360,100 (PU\PU Sequence 2018-04-17 21-01-47\RS-179B.D) - DAD1

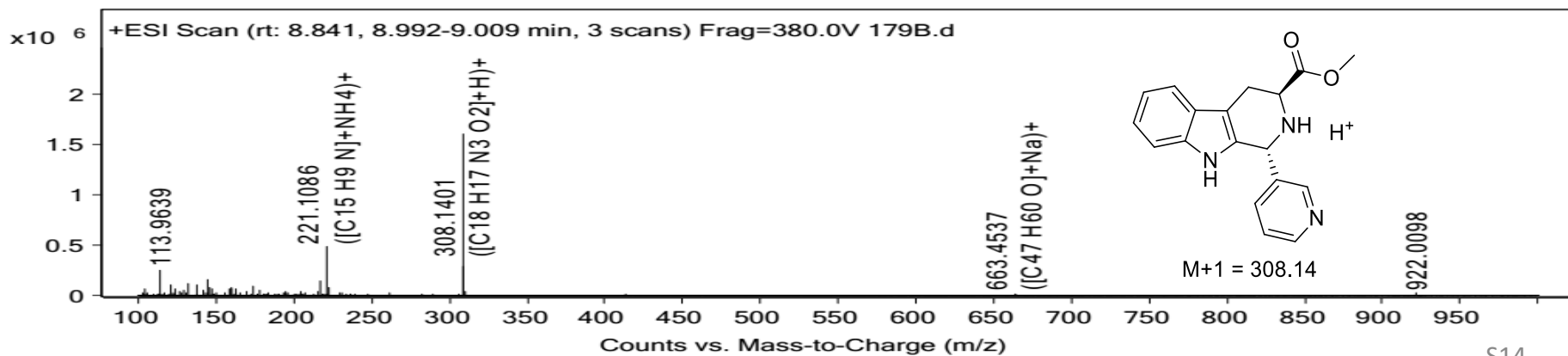
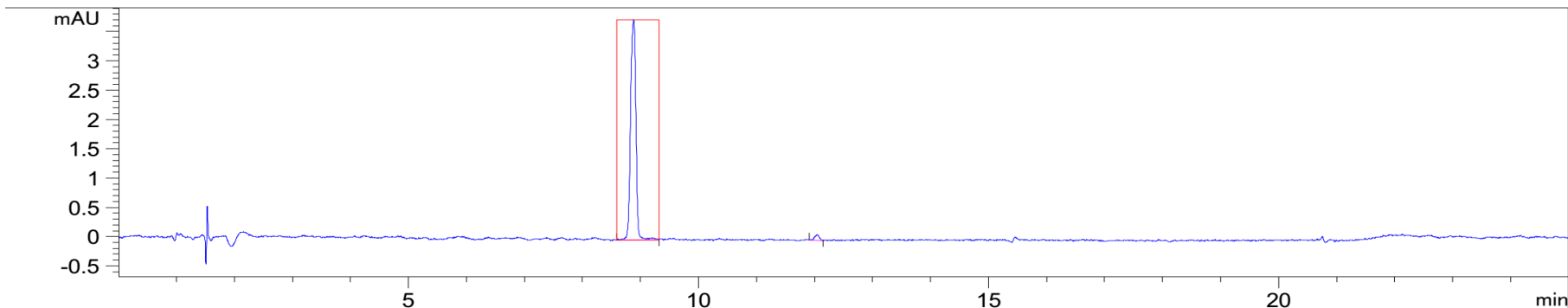


Figure S13:  $^1\text{H}$  NMR (400 MHz): 8c  $\text{CDCl}_3$

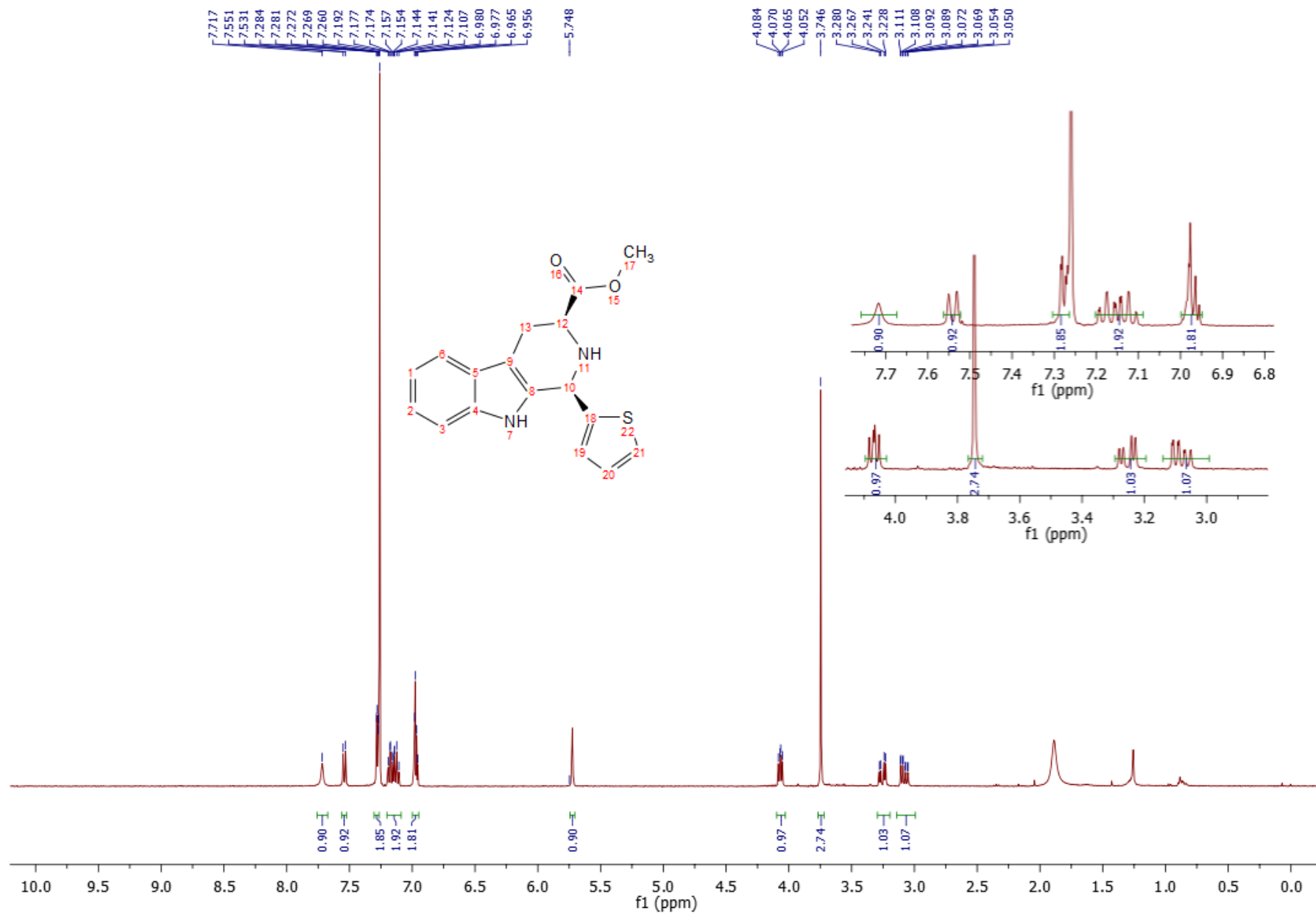


Figure S14: FT-IR (Neat): 8c

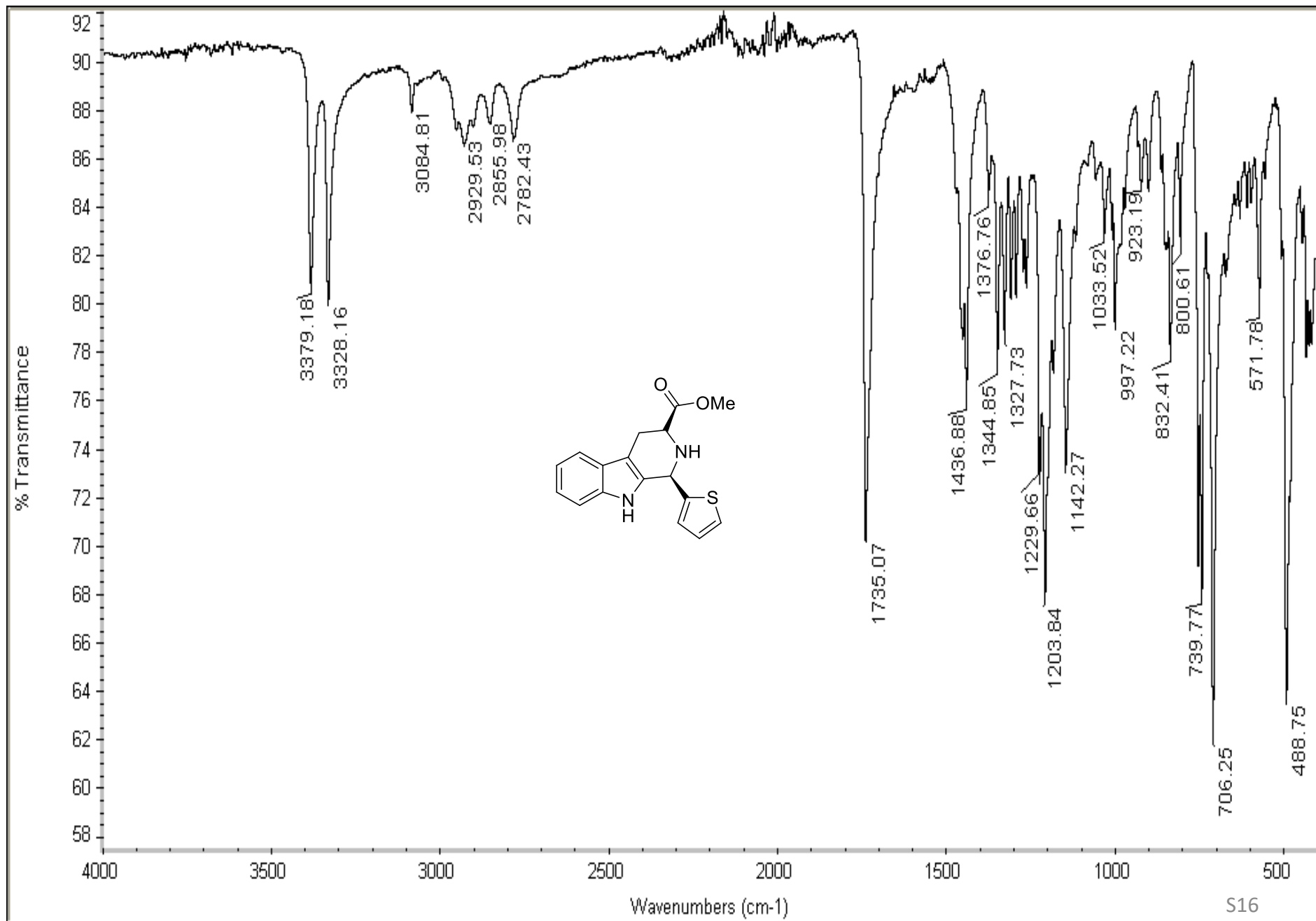
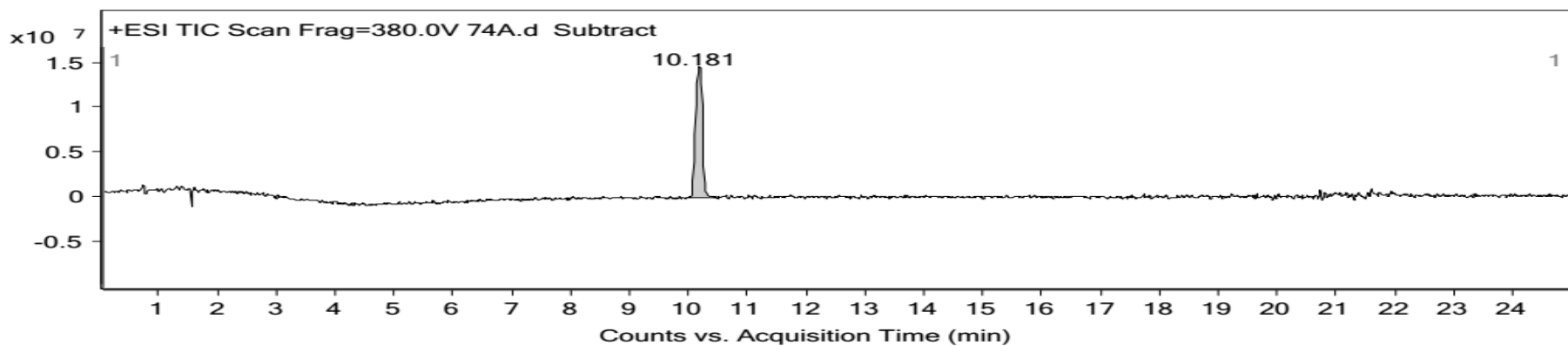




Figure S15: LC-MS: 8c



Signal DAD1 B, Sig=280,4 Ref=360,100 (PU\PU Sequence 2018-04-17 21-01-47\RS-74A.D) - DAD1 I

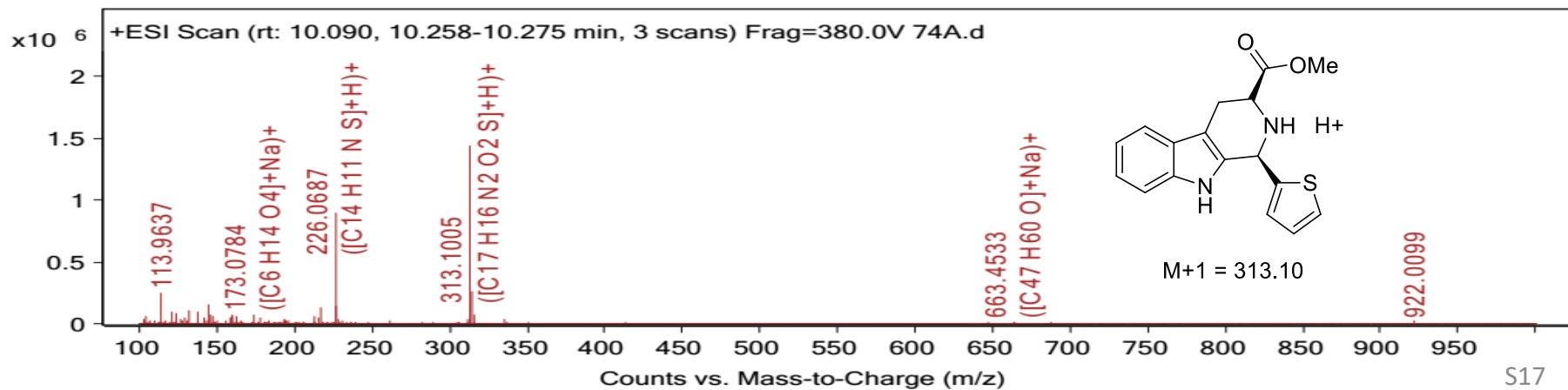
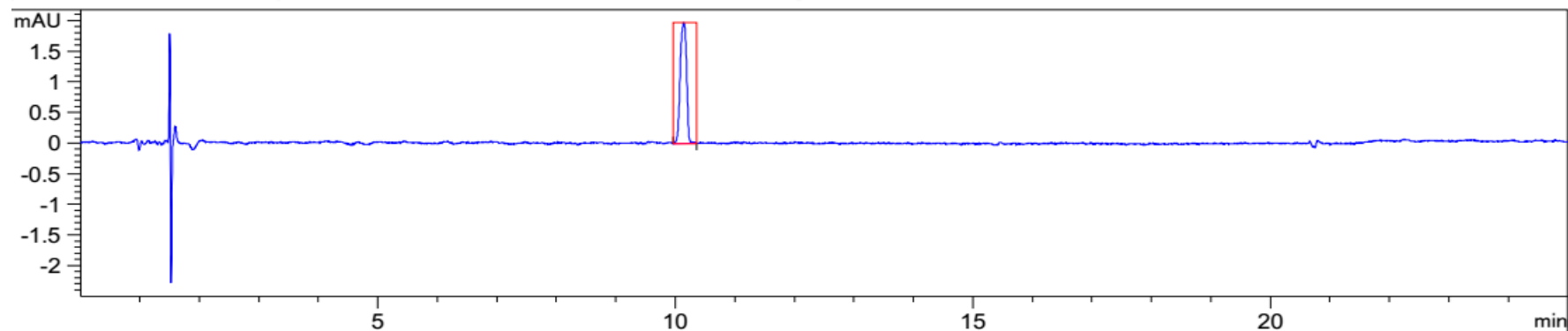


Figure S16:  $^1\text{H}$  NMR (400 MHz): 9c  $\text{CDCl}_3$

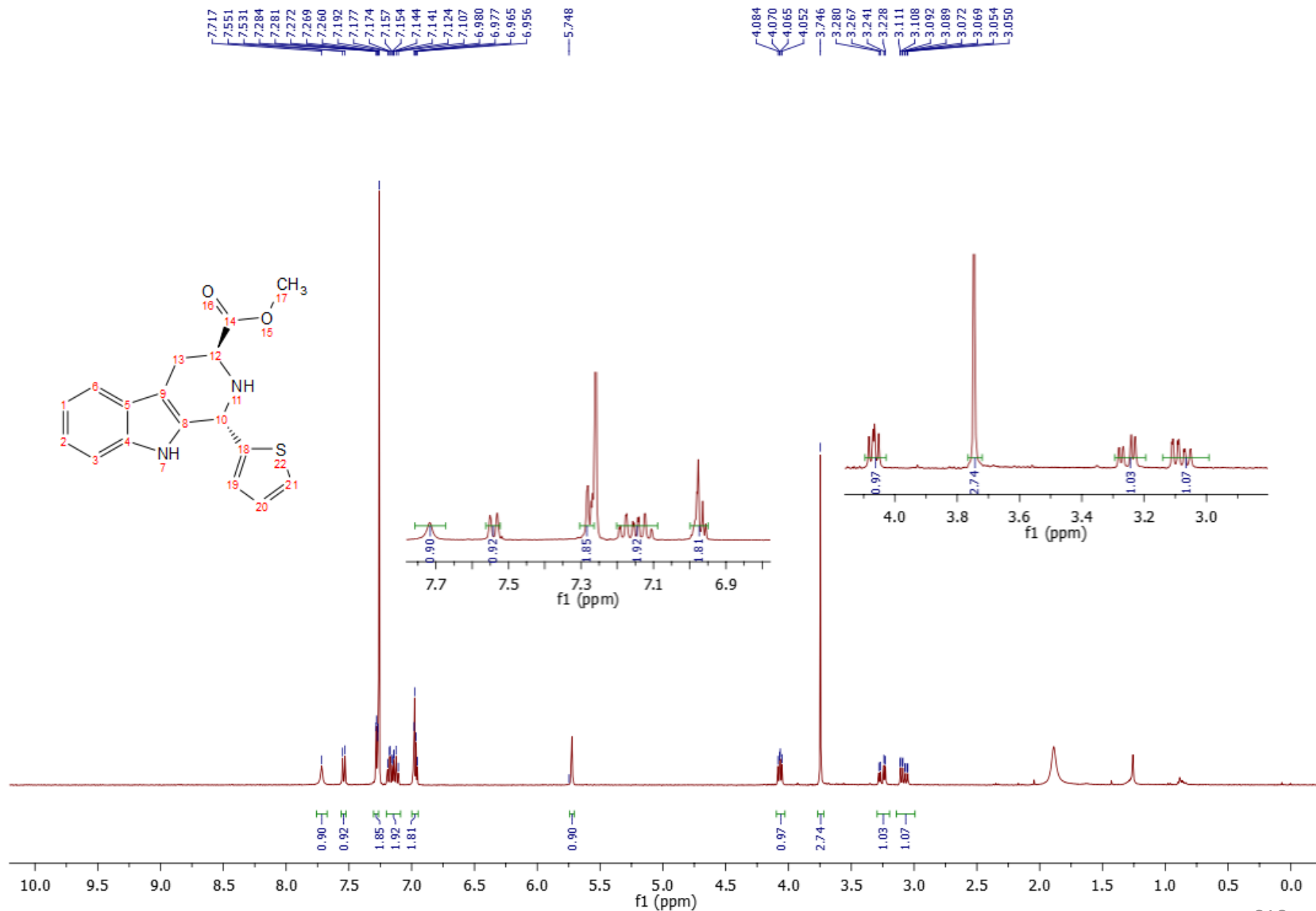


Figure S17: FT-IR (Neat): 9c

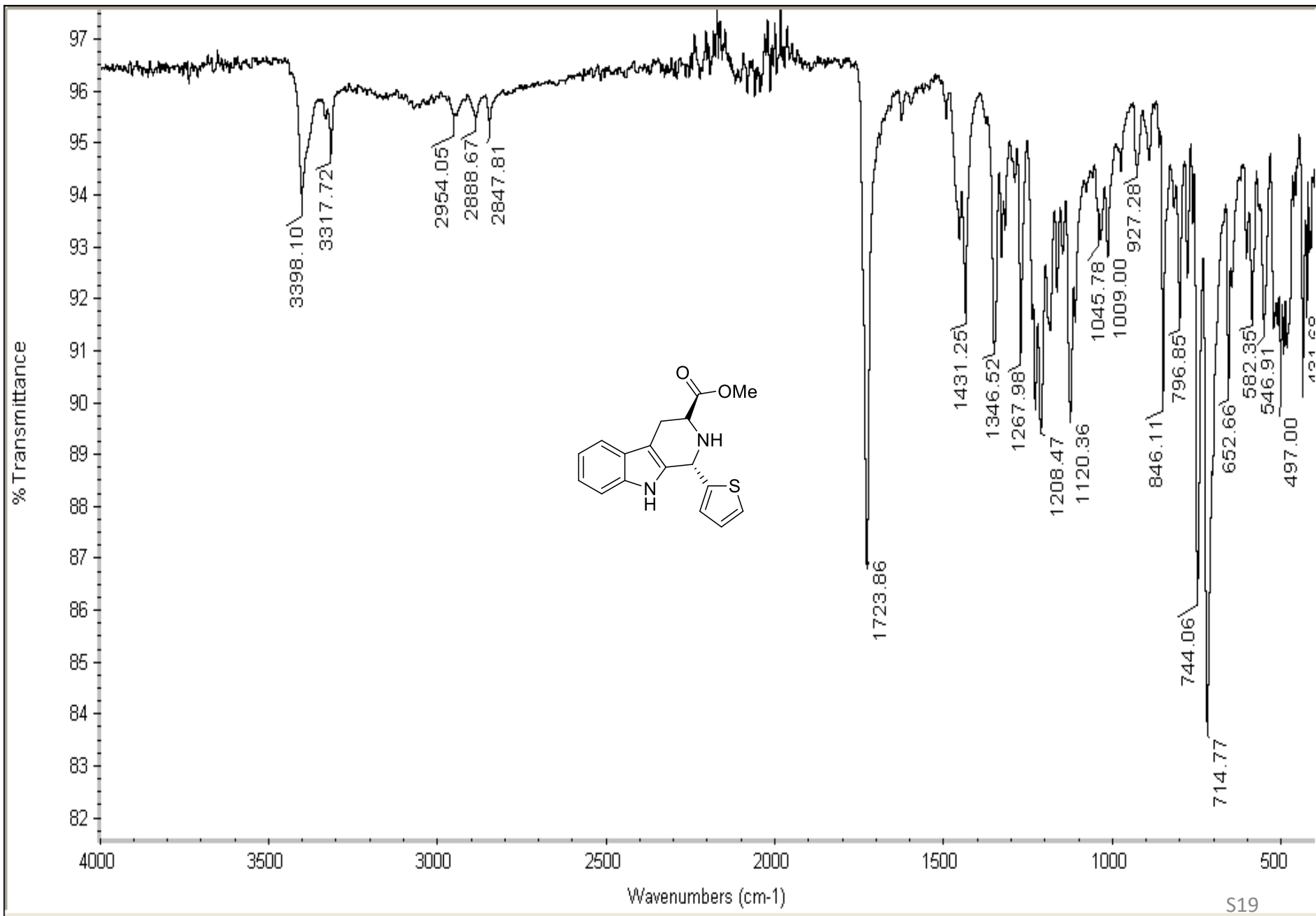


Figure S18: LC-MS: 9c

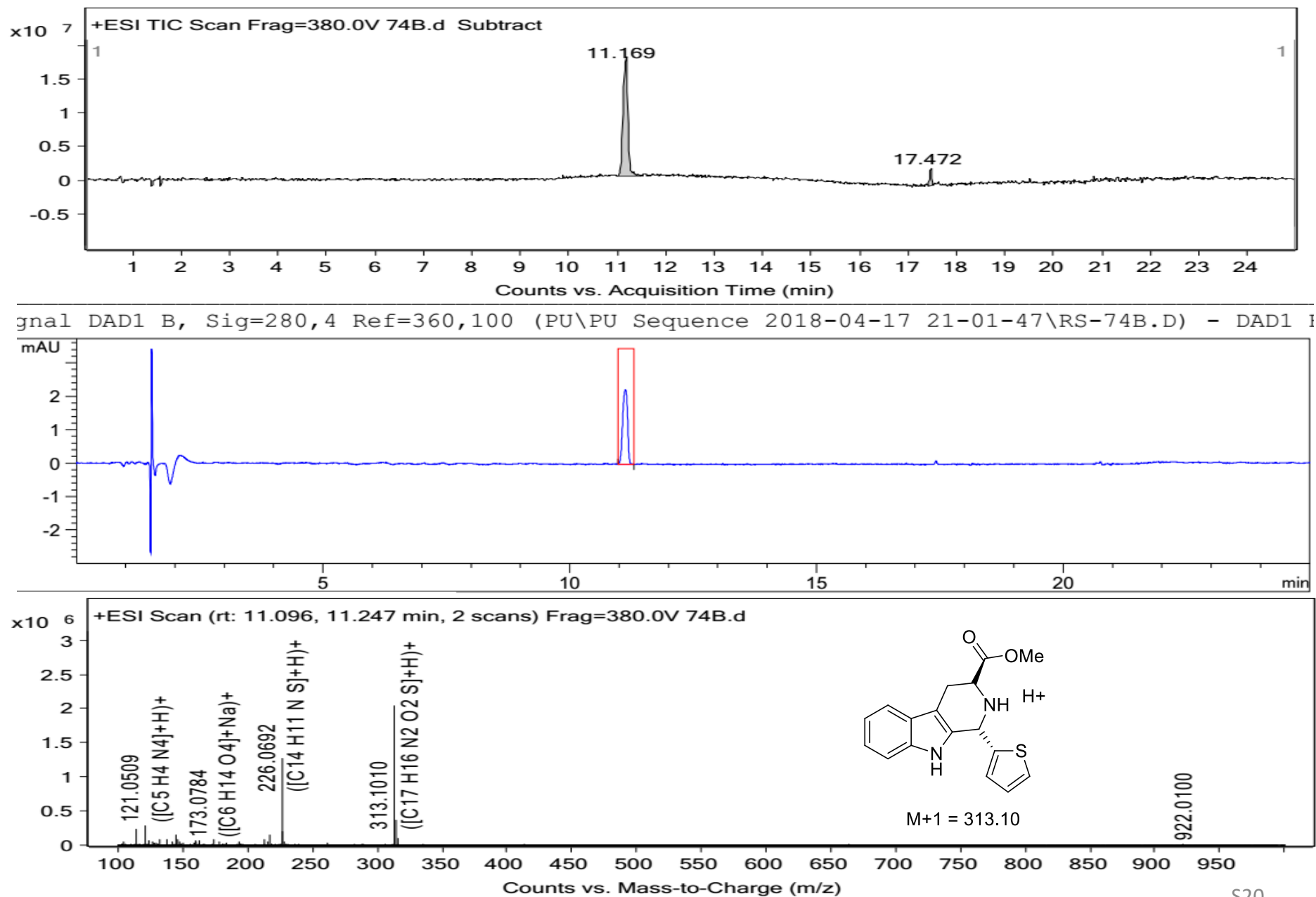


Figure S19:  $^1\text{H}$  NMR (400 MHz): 8d DMSO- $d_6$ + $\text{CDCl}_3$

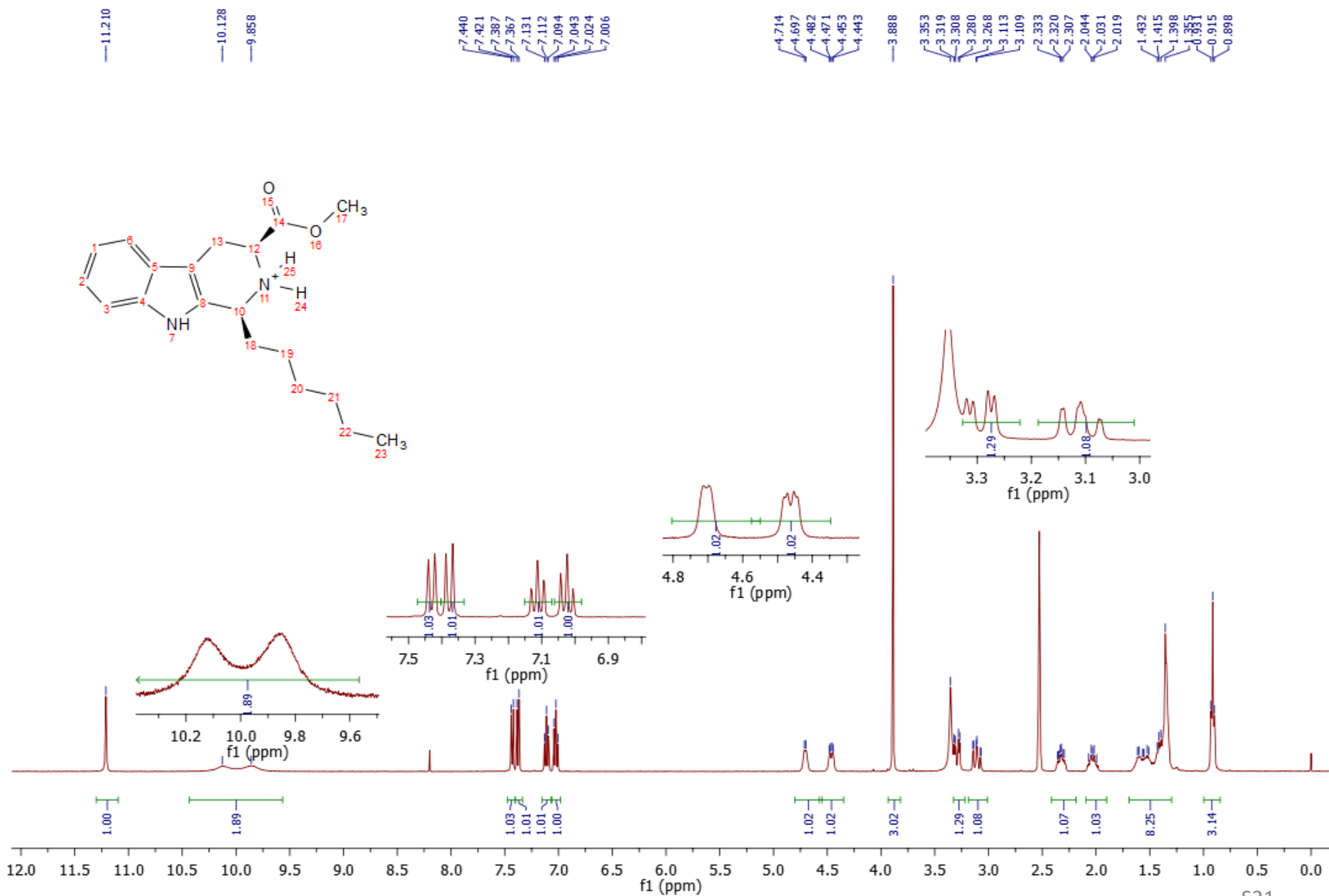


Figure S20:  $^{13}\text{C}$  (100 MHz): 8d DMSO- $d_6$ + $\text{CDCl}_3$

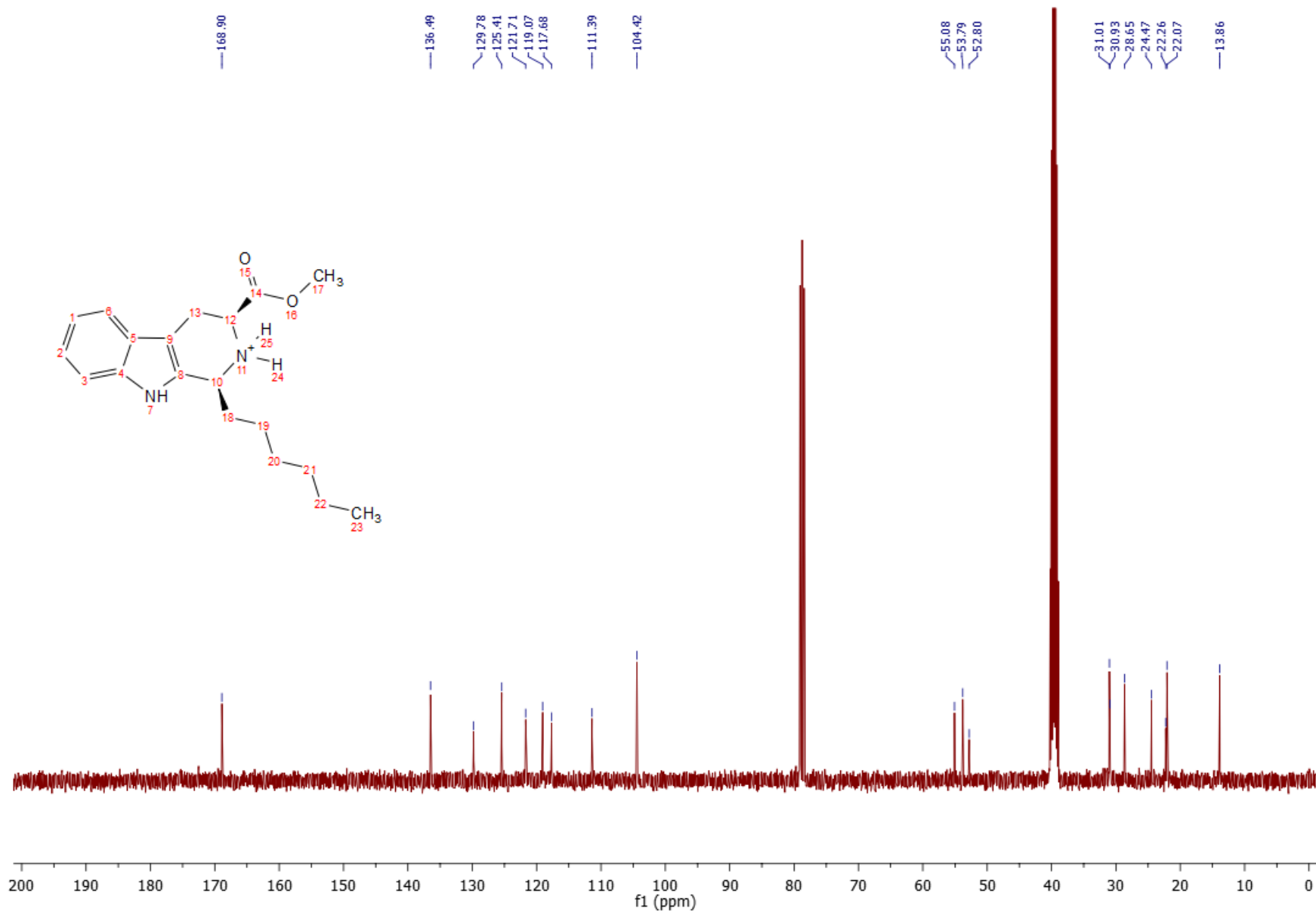


Figure S21: FT-IR (Neat): 8d

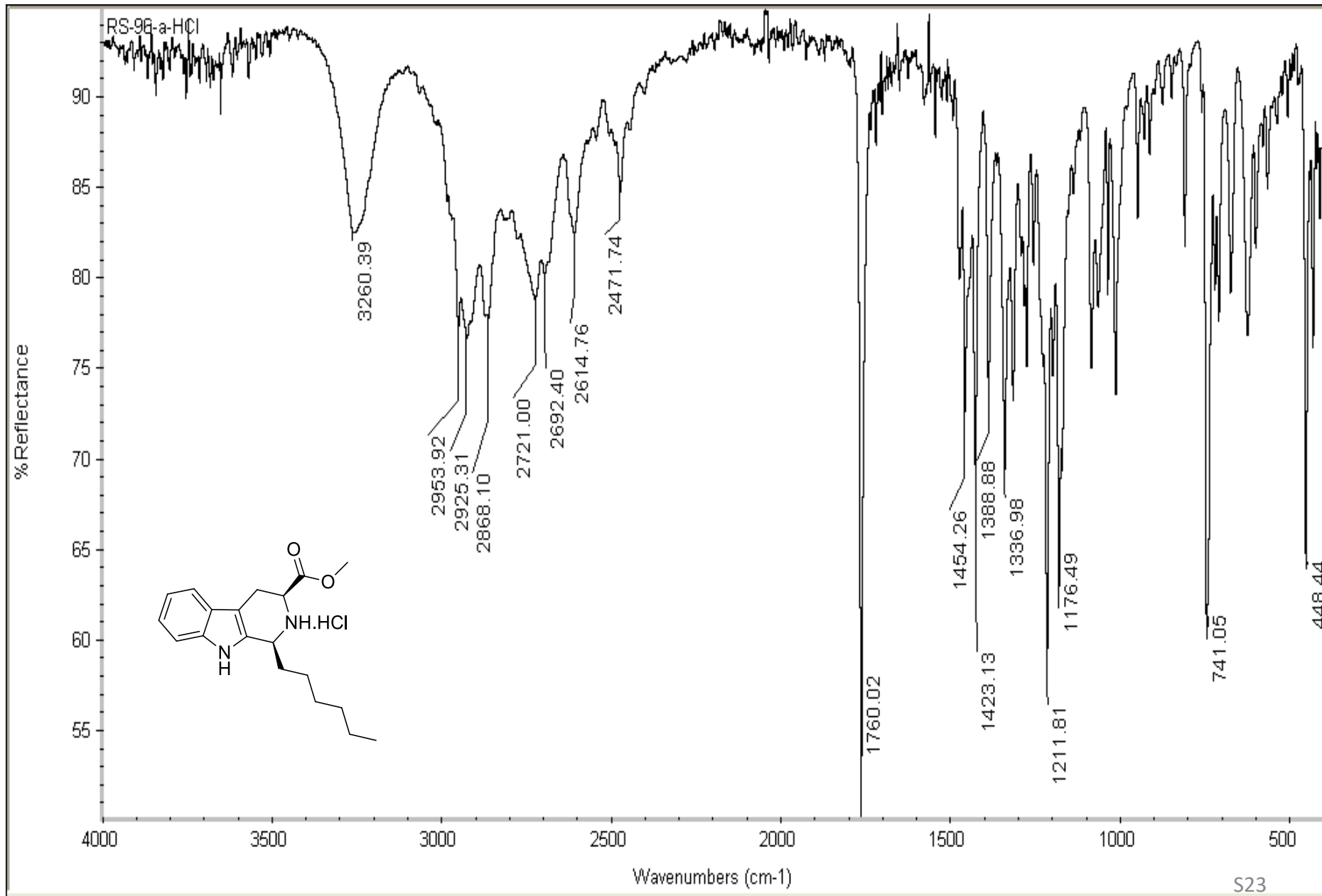


Figure S22: LC-MS: 8d

Peak Results

Name	RT	Area	Height	Base Peak (m/z)
1	2.539	1671685	360848	315.47
2	3.996	9849	4603	233.00
3	4.197	9468	1015	310.86
4	5.698	3357	1042	292.93

Auto-Scaled Chromatogram

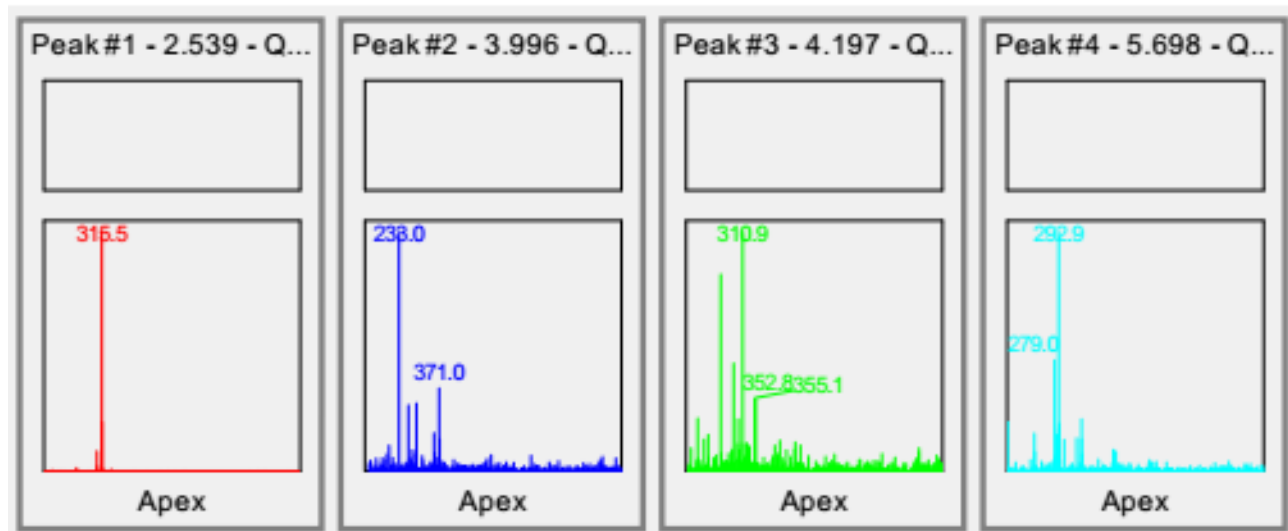
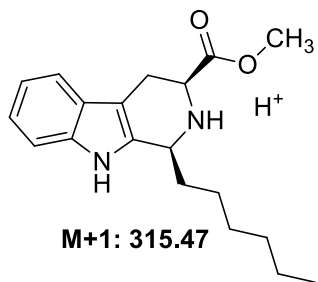
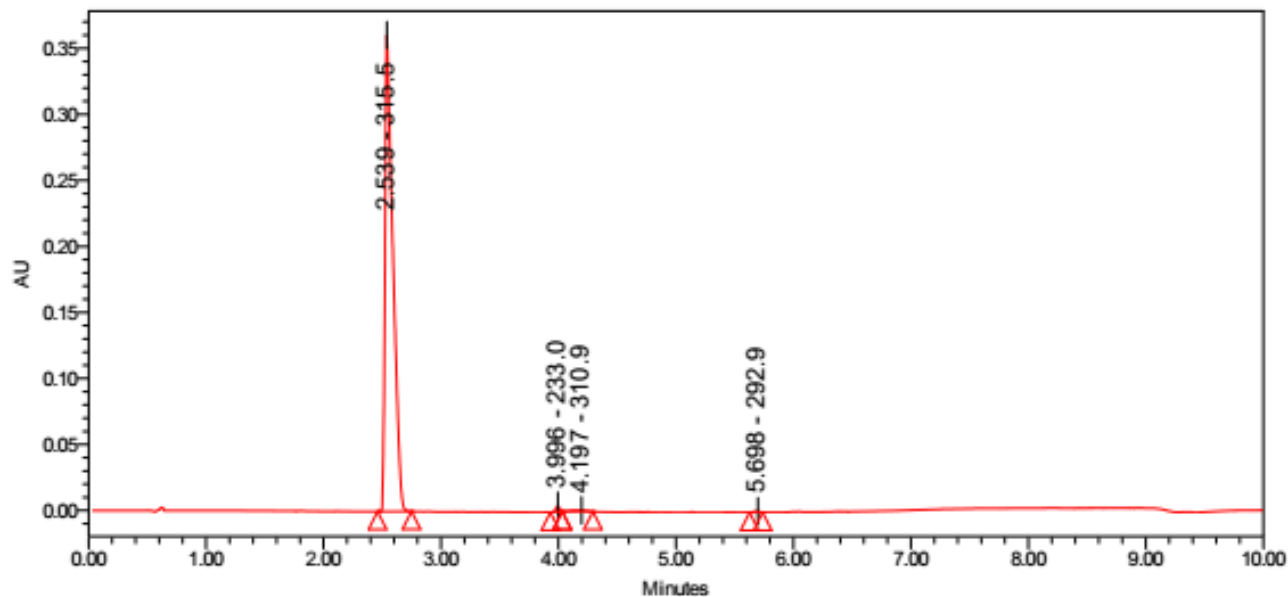




Figure S23:  $^1\text{H}$  NMR (400 MHz): 9d DMSO- $d_6$ + $\text{CDCl}_3$

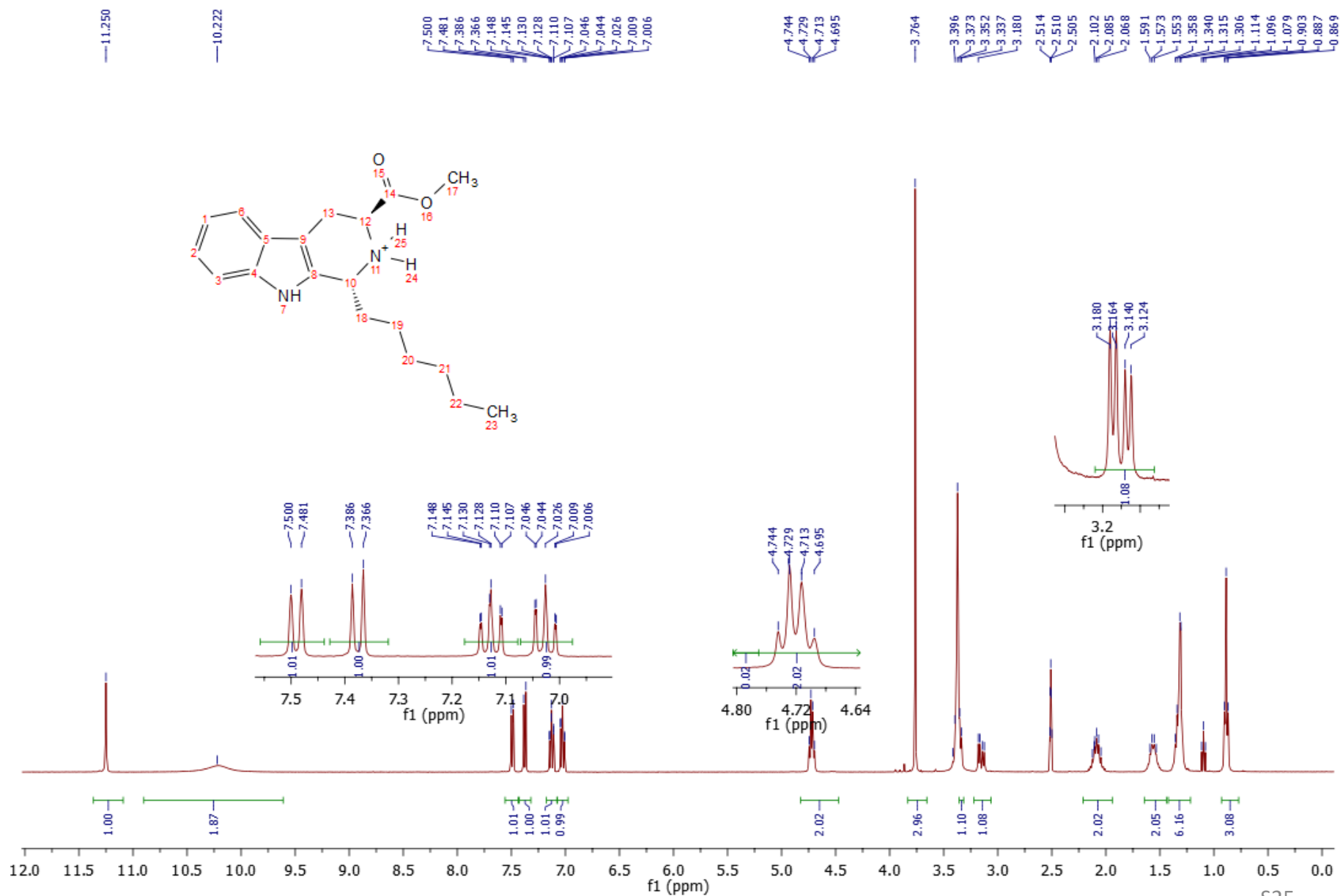


Figure S24:  $^{13}\text{C}$  (100 MHz): 9d DMSO- $d_6$ + $\text{CDCl}_3$

RS-96-b-HCL

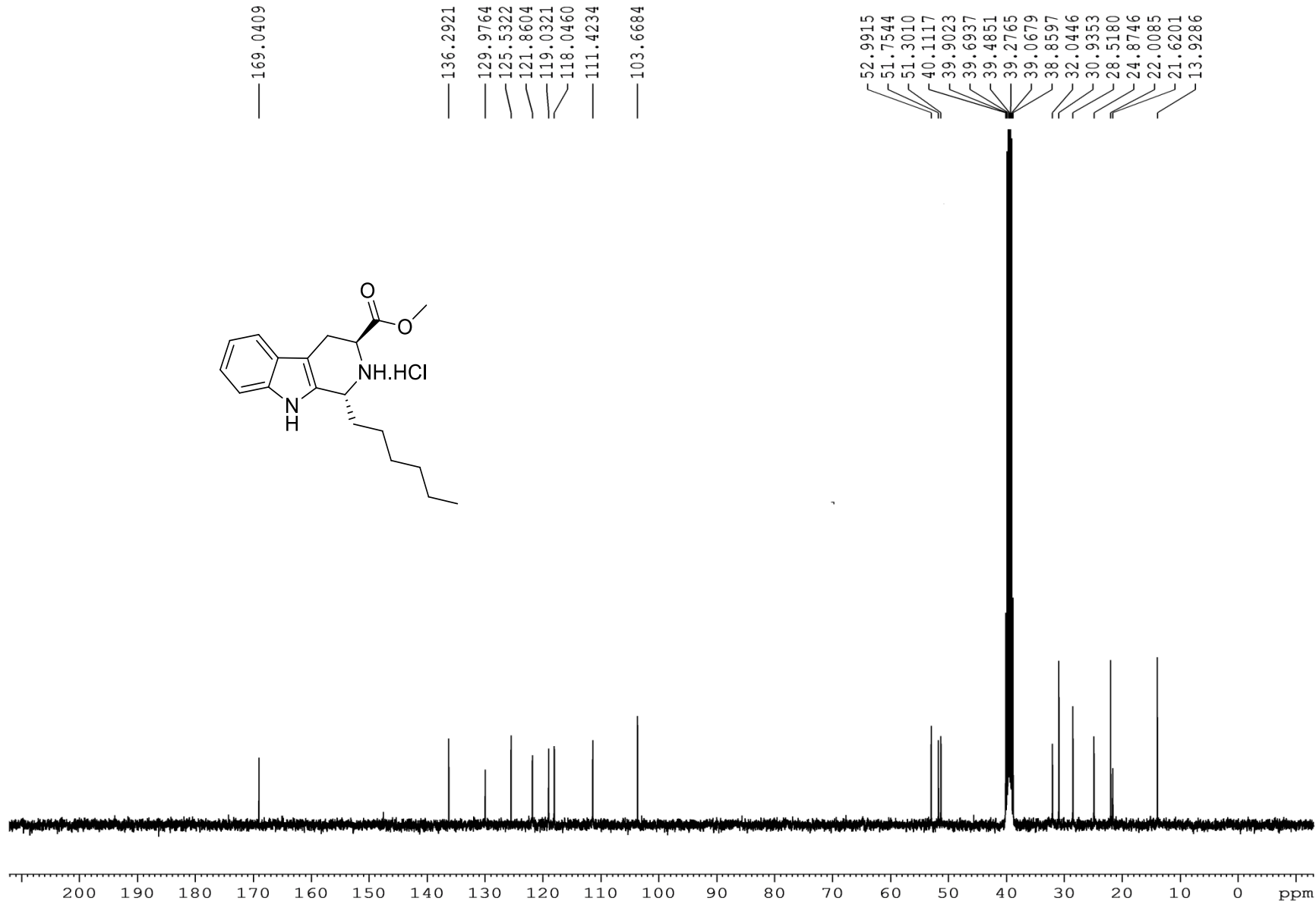
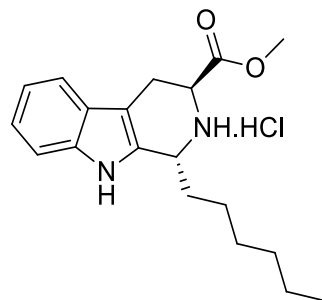


Figure S25: FT-IR (Neat): 9d

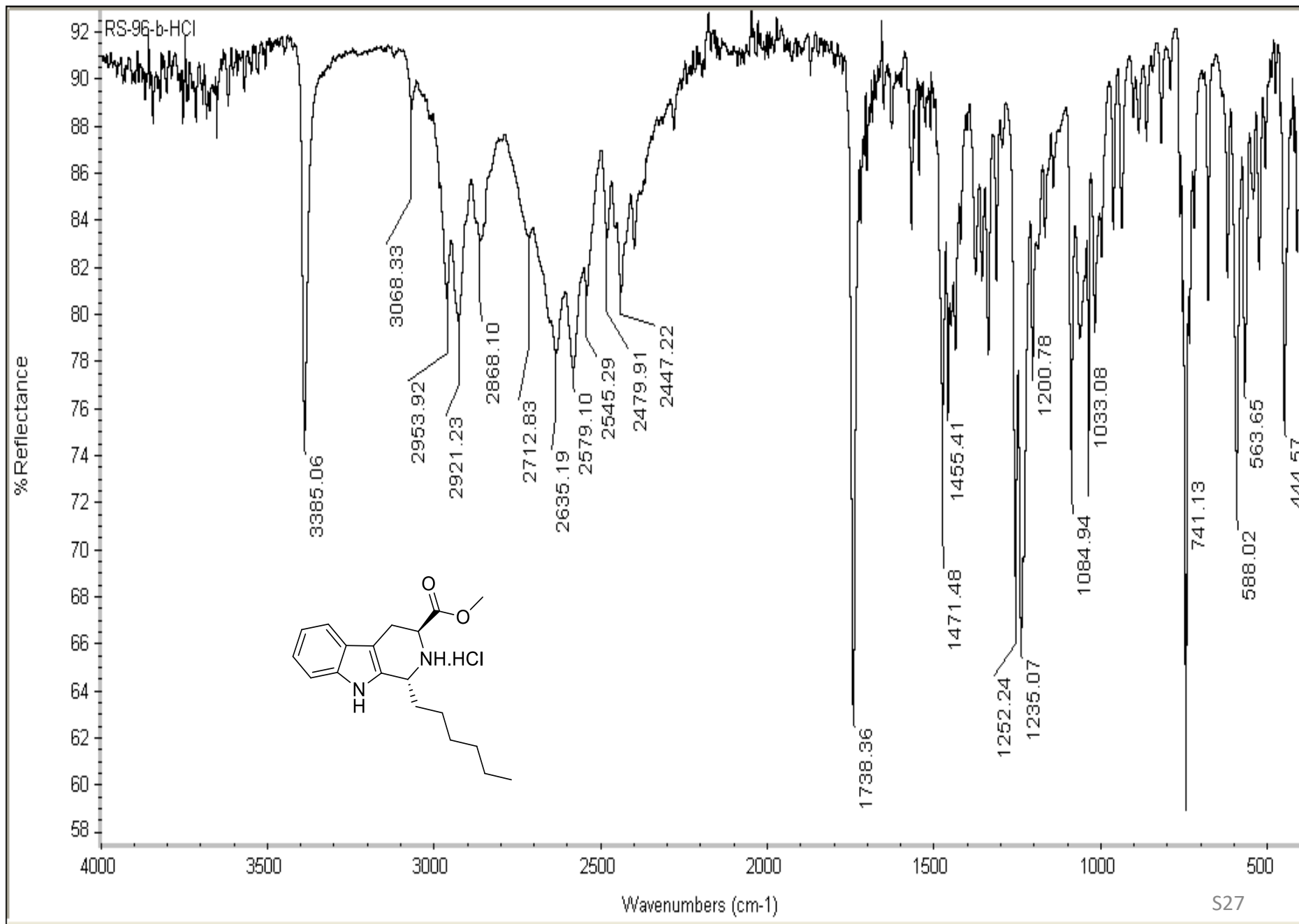
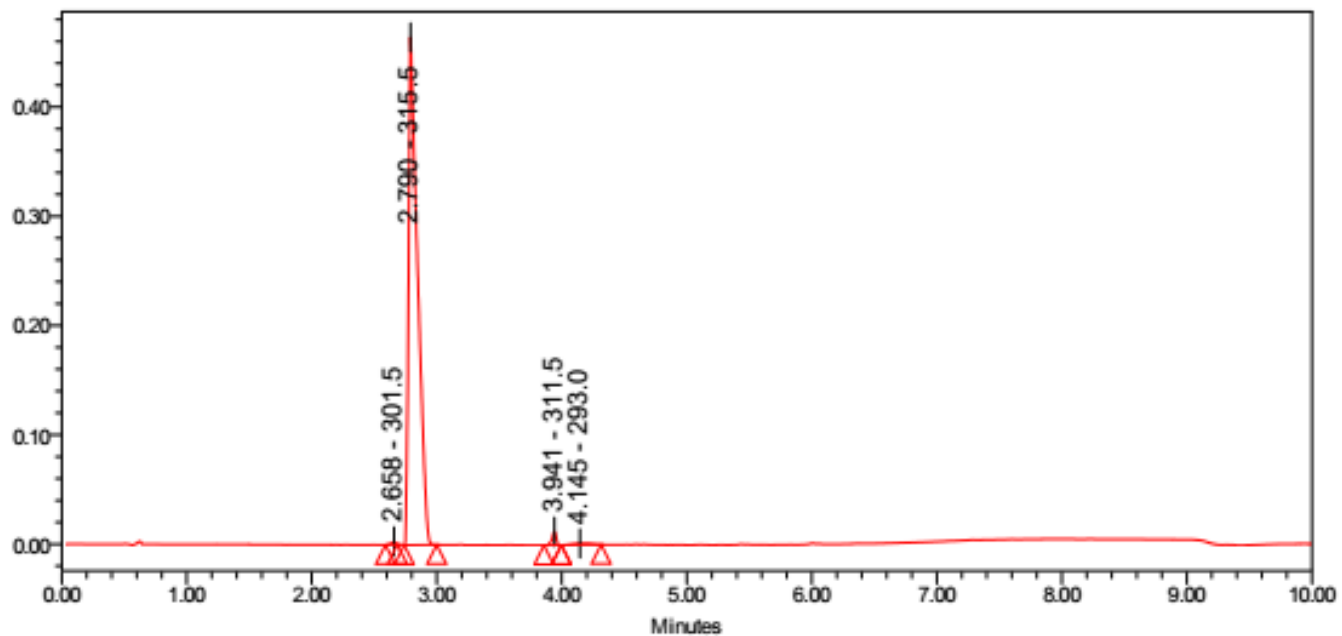


Figure S26: LC-MS: 9d

Auto-Scaled Chromatogram



Peak Results

Name	RT	Area	Height	Base Peak (m/z)
1	2.658	6336	2854	301.54
2	2.790	2317197	464670	315.45
3	3.941	28645	12340	311.45
4	4.145	13957	1339	292.96

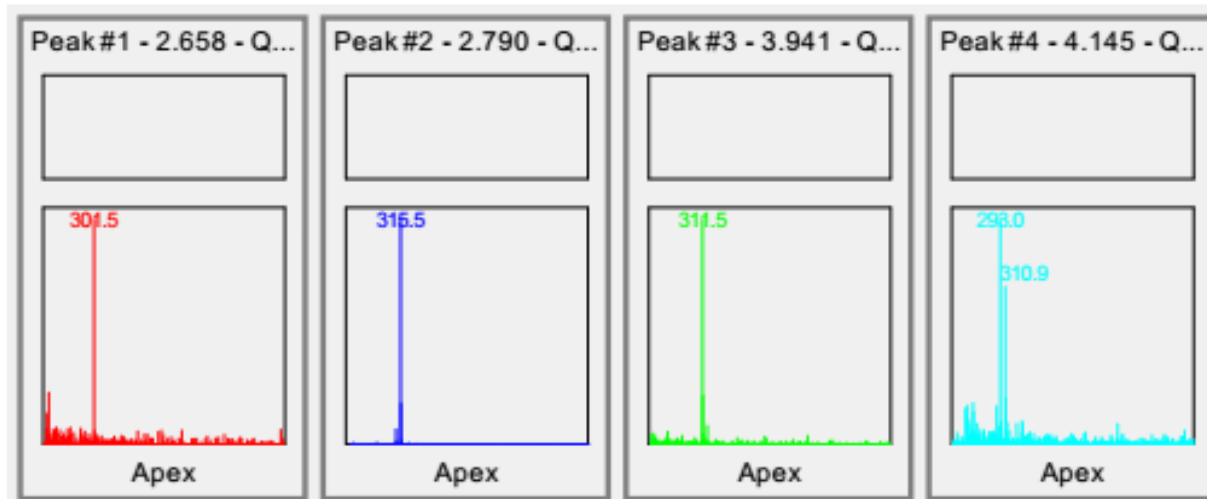
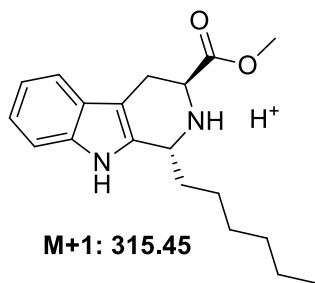


Figure S27:  $^1\text{H}$  NMR (400 MHz): 10 DMSO- $\text{d}_6$

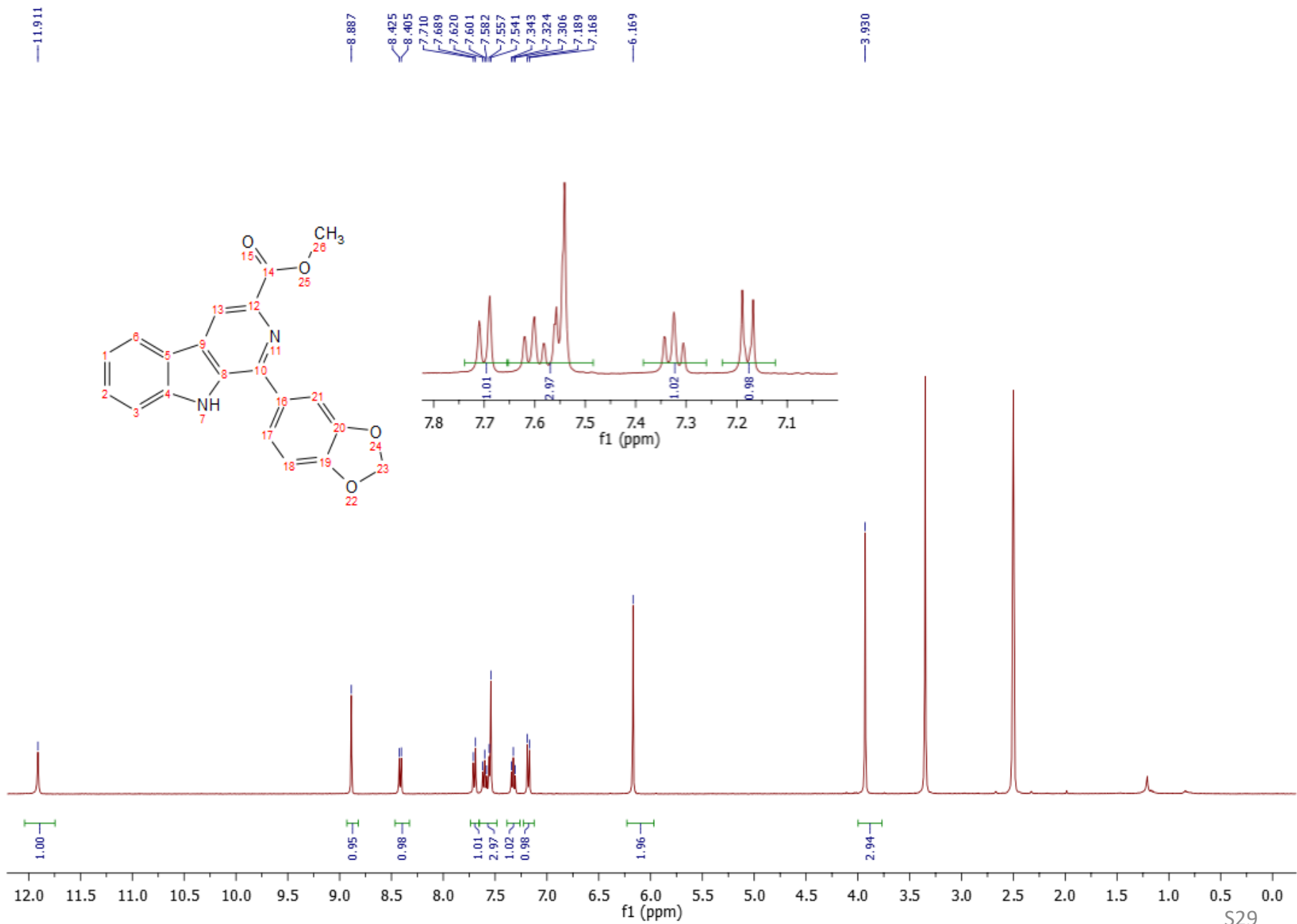


Figure S28: FT-IR (Neat): 10

