

Electronic Supplementary Information

**Chromatographic fingerprinting of epiphytic fungal strains isolated from *Withania somnifera* and biological evaluation of Okaramine H**

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Table of content

S.No.	Content	Page No.
1	Fig. S1 HPTLC Fingerprinting of different extracts (S17-S21)	3
2	Fig. S2 Chromatographic fingerprinting of S17 at 254nm	3
3	Fig. S3 (a) Observed mass $m/z$ of S17-HF-01	4
4	Fig. S3 (b) Observed mass $m/z$ of S17-HF-02	4
5	Fig. S3 (c) Observed mass $m/z$ of S17-HF-03	5
6	Fig. S3 (d) Observed mass $m/z$ of S17-HF-04	5
7	Fig. S3 (e) Observed mass $m/z$ of S17-HF-05	6
8	Fig. S4 (a) UV spectra of S17 at $t_R=22.972$	6
9	Fig. S4 (b) UV spectra of S17 at $t_R=30.644$	6
10	Fig. S4 (c) UV spectra of S17 at $t_R=32.439$	7
11	Fig. S4 (d) UV spectra of S17 at $t_R=34.110$	7
12	Fig. S4 (e) UV spectra of S17 at $t_R=41.018$	7
13	Fig. S5 Chromatographic fingerprinting of S18 at 254nm	7
14	Fig. S6 (a) Observed mass $m/z$ of S18-HF-01	8
15	Fig. S6 (b) Observed mass $m/z$ of S18-HF-02	8
16	Fig. S6 (c) Observed mass $m/z$ of S18-HF-03	9
17	Fig. S7 (a) UV spectra of S18 at $t_R=6.054$	9
18	Fig. S7 (b) UV spectra of S18 at $t_R=6.398$	9
19	Fig. S7 (c) UV spectra of S18 at $t_R=6.825$	10
20	Fig. S7 (d) UV spectra of S18 at $t_R=9.195$	10
21	Fig. S7 (e) UV spectra of S18 at $t_R=37.500$	11
22	Fig. S8 Chromatographic fingerprinting of S19 at 254nm	11
23	Fig. S9 Chromatographic fingerprinting of S21 at 254nm	11
24	Fig. S10 (a) Observed mass $m/z$ of S21-HF-02	12
25	Fig. S10 (b) Observed mass $m/z$ of S21-HF-03	12
26	Fig. S10 (c) Observed mass $m/z$ of S21-HF-04	12
27	Fig. S11 Morphological and microscopic view of <i>Aspergillus aculeatus</i>	13
28	Fig. S12 (a) HPTLC fingerprinting of S20 at <i>Aspergillus aculeatus</i>	14
29	Fig. S12 (b) HPTLC densitogram of S20	14
30	Fig. S13 Chromatographic fingerprinting of S20 at solid state	15
31	Fig. S14 (a) $^1\text{H}$ NMR spectrum of S20 HF-04	15
32	Fig. S14 (b) Expanded $^1\text{H}$ NMR spectrum of S20 HF-04 (6.4-10.8) ppm	16
33	Fig. S14 (c) Expanded $^1\text{H}$ NMR spectrum of S20 HF-04 (4.3-6.1) ppm	16
34	Fig. S14 (d) Expanded $^1\text{H}$ NMR spectrum of S20 HF-04 (1.4-3.4) ppm	17
35	Fig. S15 Calibration curve of Isolated fraction okaramine H	18
36	Fig. S16 Calibration curve of Isolated fraction (2 <i>E</i> ,4 <i>Z</i> )- <i>N</i> -Isobutyl-2,4 dienamide)	18

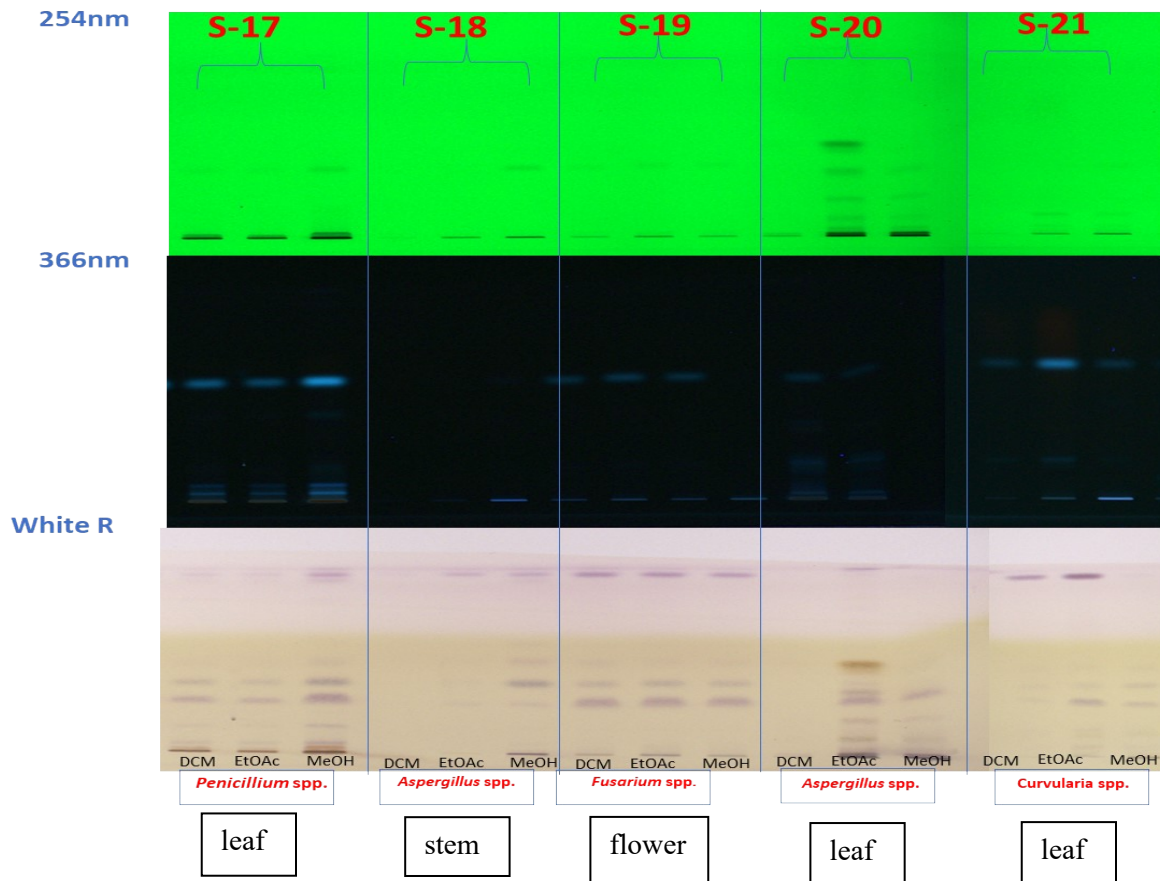


Fig. S1. HPTLC fingerprinting using HPTLC of all five epiphytic strains from S17-S21 in solvent system- ethyl acetate: hexane (4:6)

<Chromatogram>

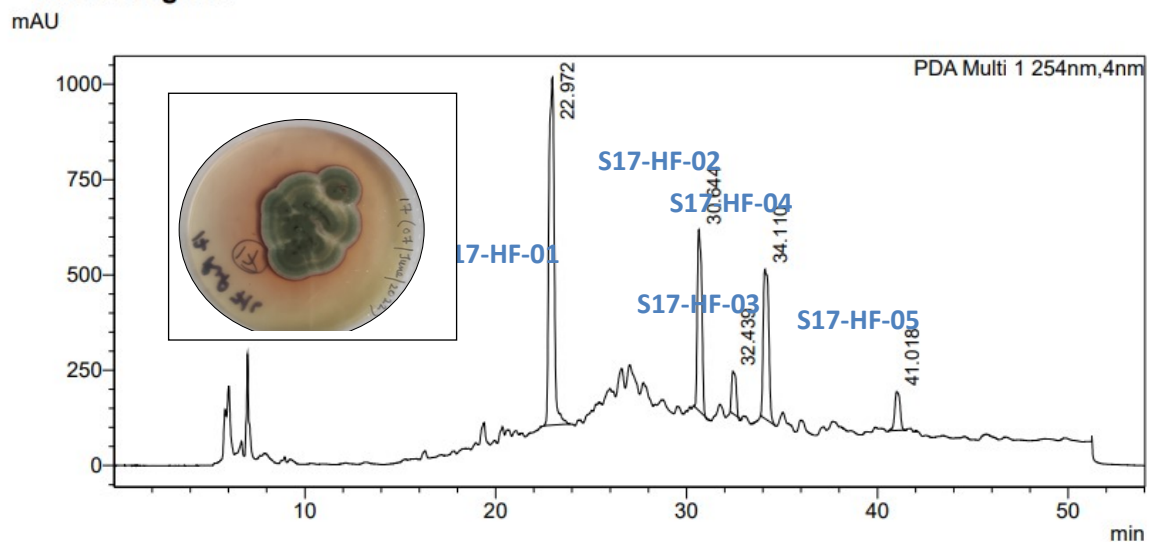


Fig. S2: Chromatographic fingerprinting of epiphytic strain *Penicillium* spp. S17 at 254nm

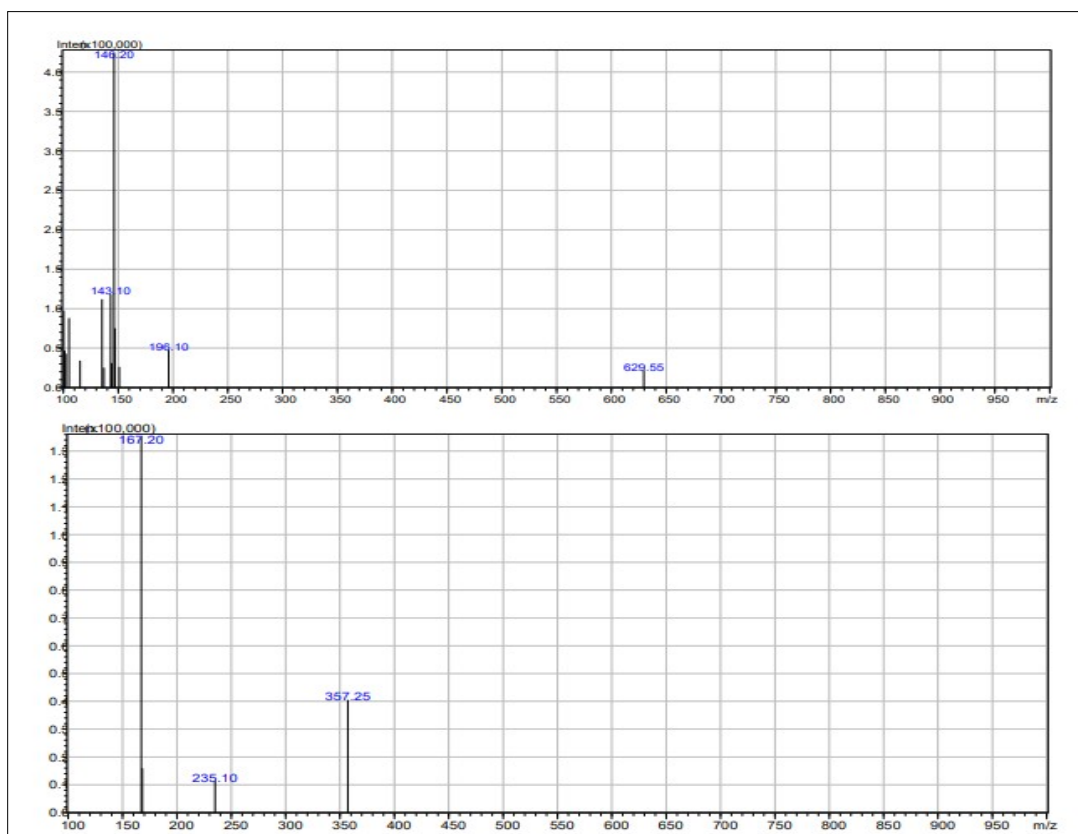


Fig. S3 (a). Observed mass  $m/z$  of S17-HF-01 fraction isolated at  $t_R$  of 2.972

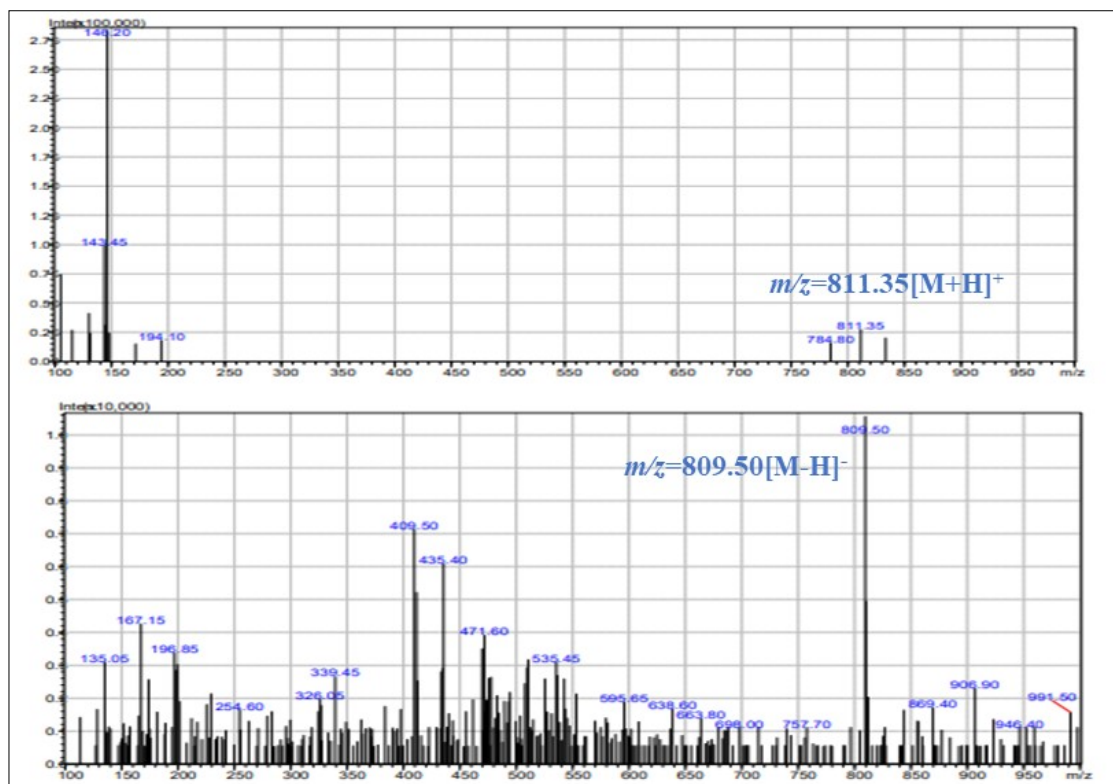


Fig. S3 (b). Observed mass  $m/z$  of S17-HF-02 fraction isolated at  $t_R$  of 30.644

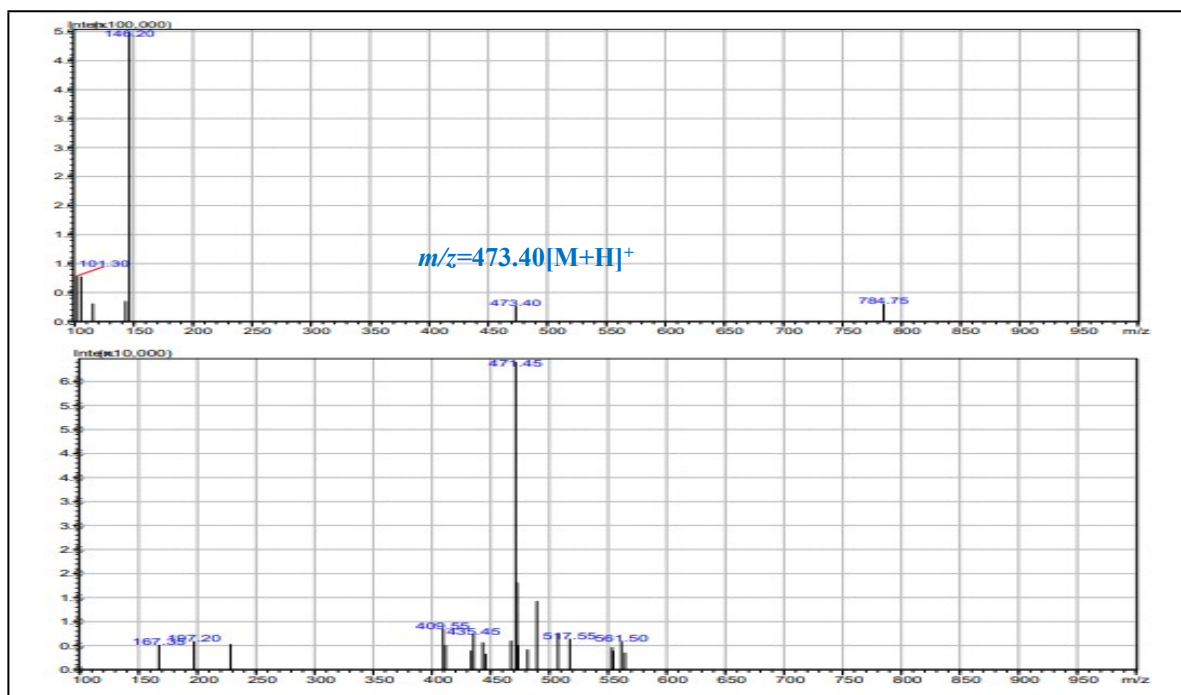


Fig. S3 (c). Observed mass  $m/z$  of S17-HF-03 fraction isolated at  $t_R$  of 32.439

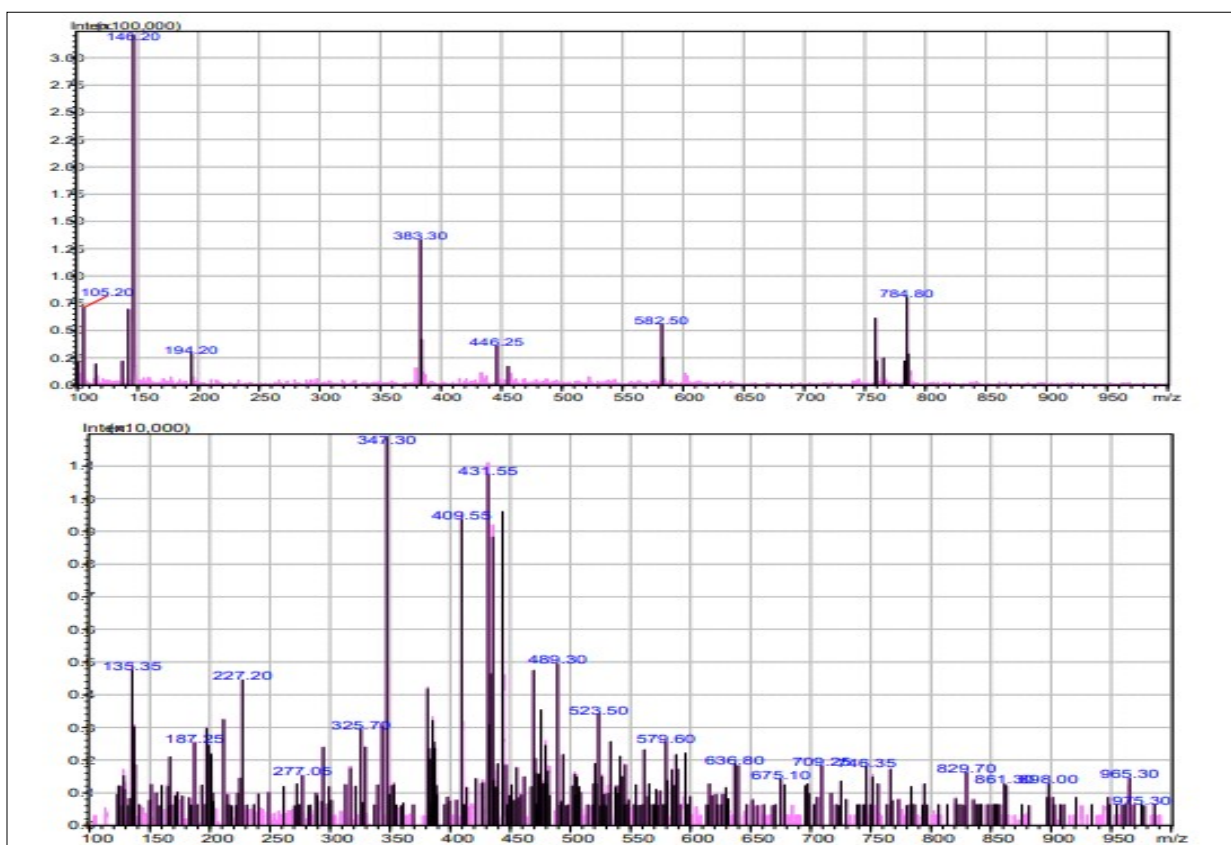


Fig. S3 (d). Observed mass  $m/z$  of S17-HF-04 fraction isolated at  $t_R$  of 34.110

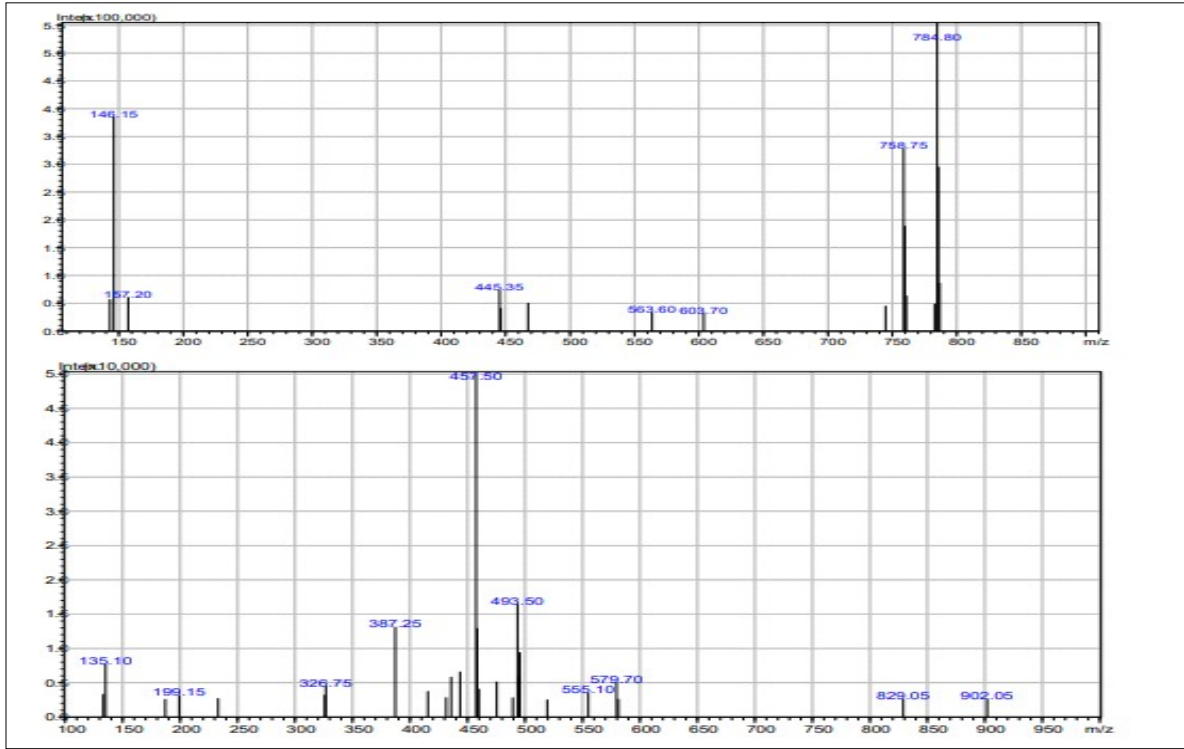


Fig. S3 (e). Observed mass  $m/z$  of S17-HF-05 fraction isolated at  $t_R$  of 41.018

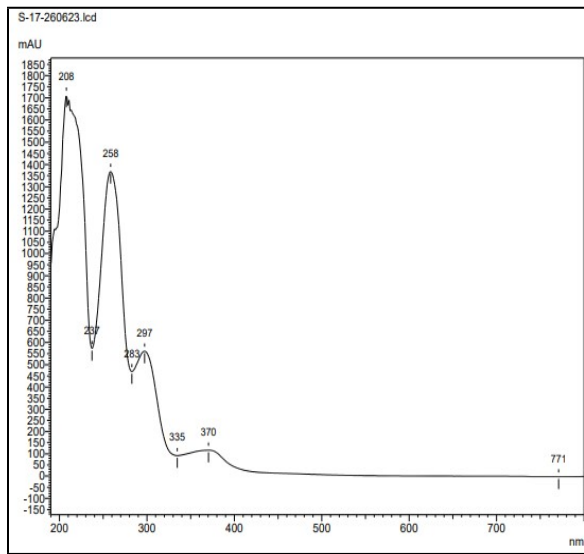


Fig. S4 (a) UV spectra of S17 at  $t_R = 22.972$

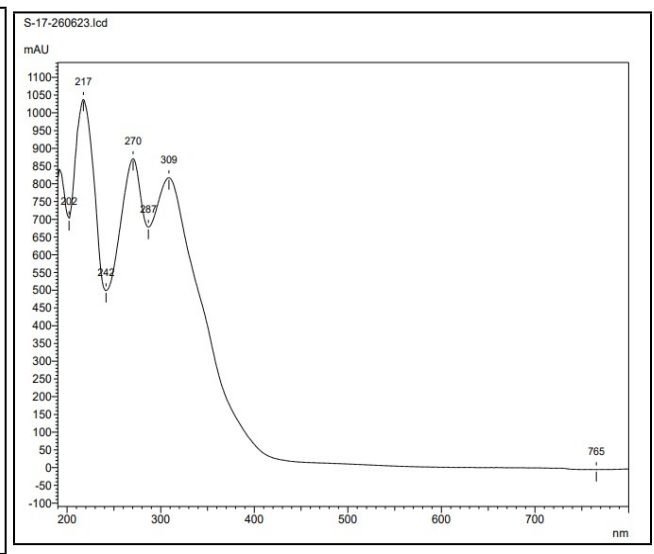


Fig. S4 (b) UV spectra of S17 at  $t_R = 30.644$

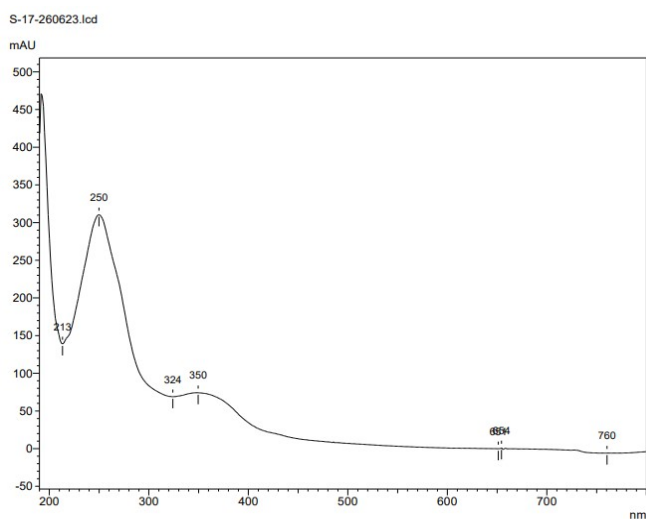


Fig. S4 (c) UV spectra of S17 at  $t_R=32.439$

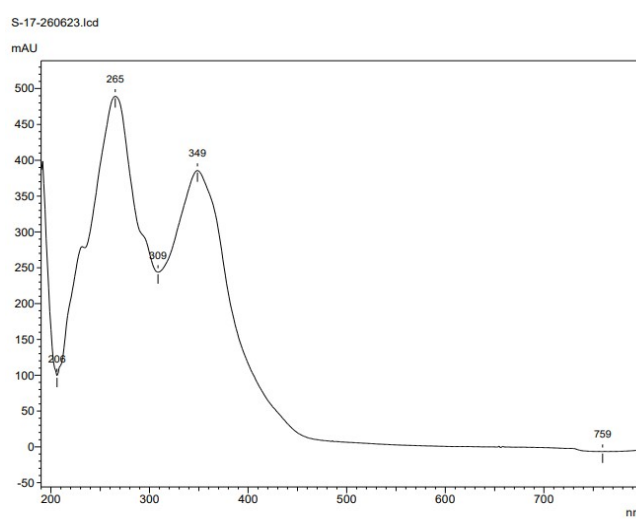


Fig. S4 (d) UV spectra of S17 at  $t_R=34.110$

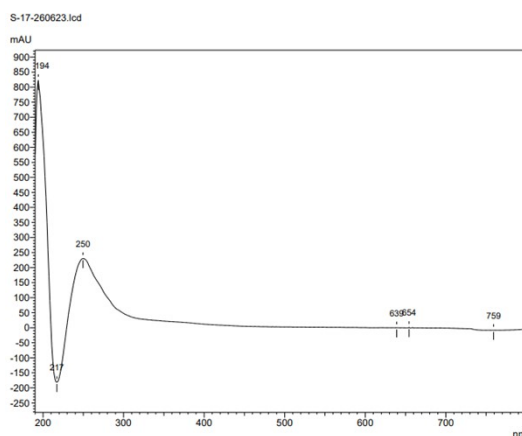
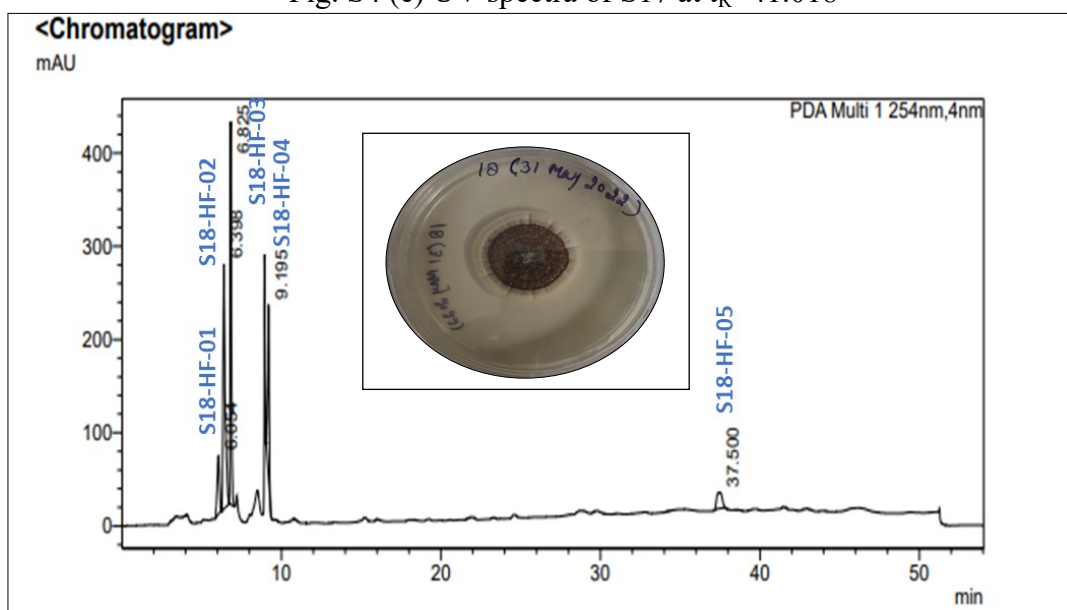


Fig. S4 (e) UV spectra of S17 at  $t_R=41.018$



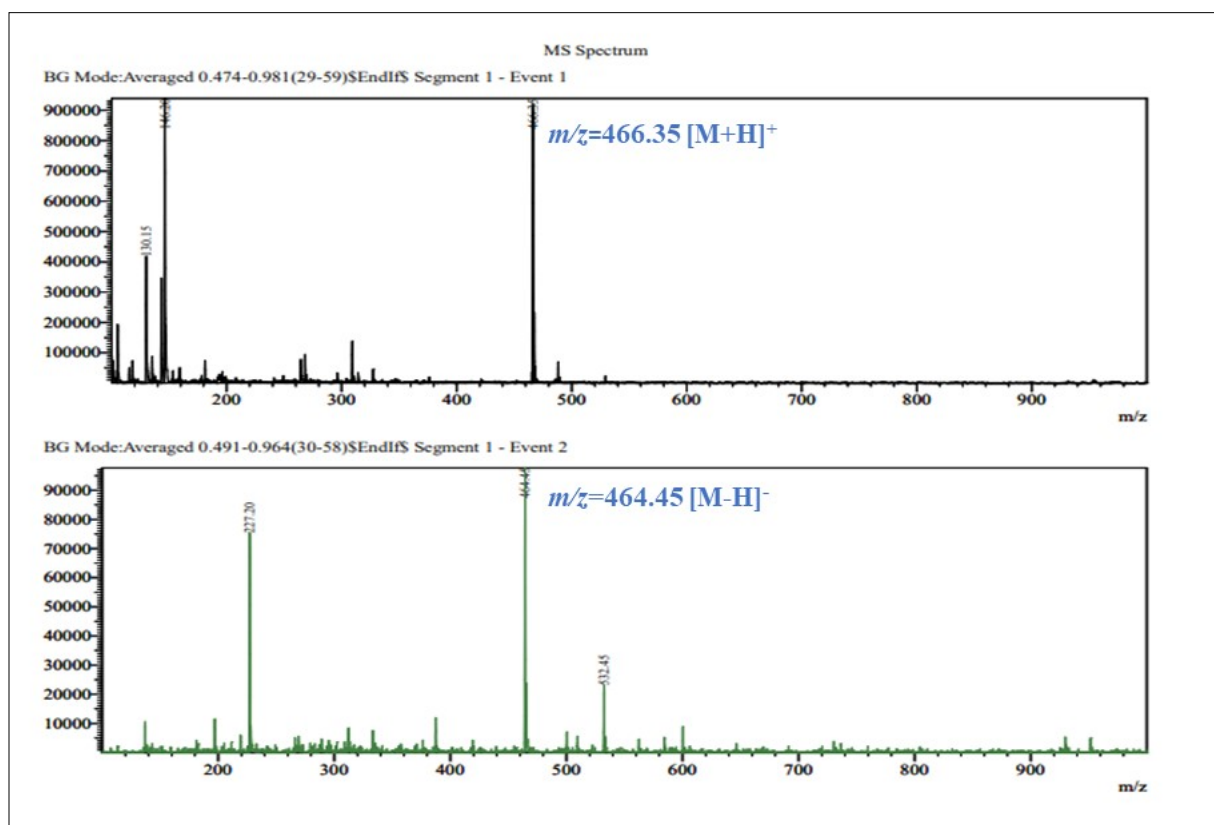


Fig. S5 Chromatographic fingerprinting of epiphytic strain *Aspergillus* spp. S18 at 254nm  
Fig. S6 (a): Observed mass  $m/z$  of S18-HF-01 fraction collected at  $t_R$  6.054

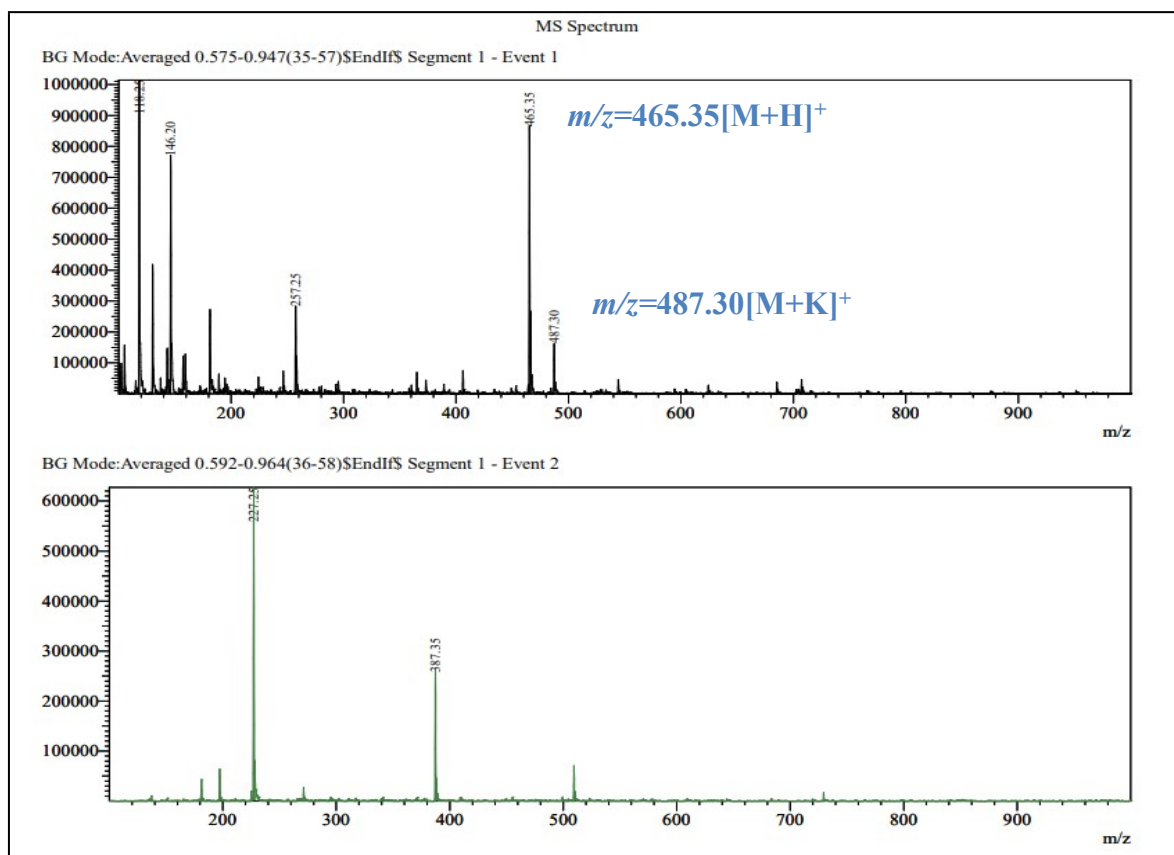


Fig. S6 (b): Observed mass  $m/z$  of S18-HF-02 fraction collected at  $t_R$  6.398



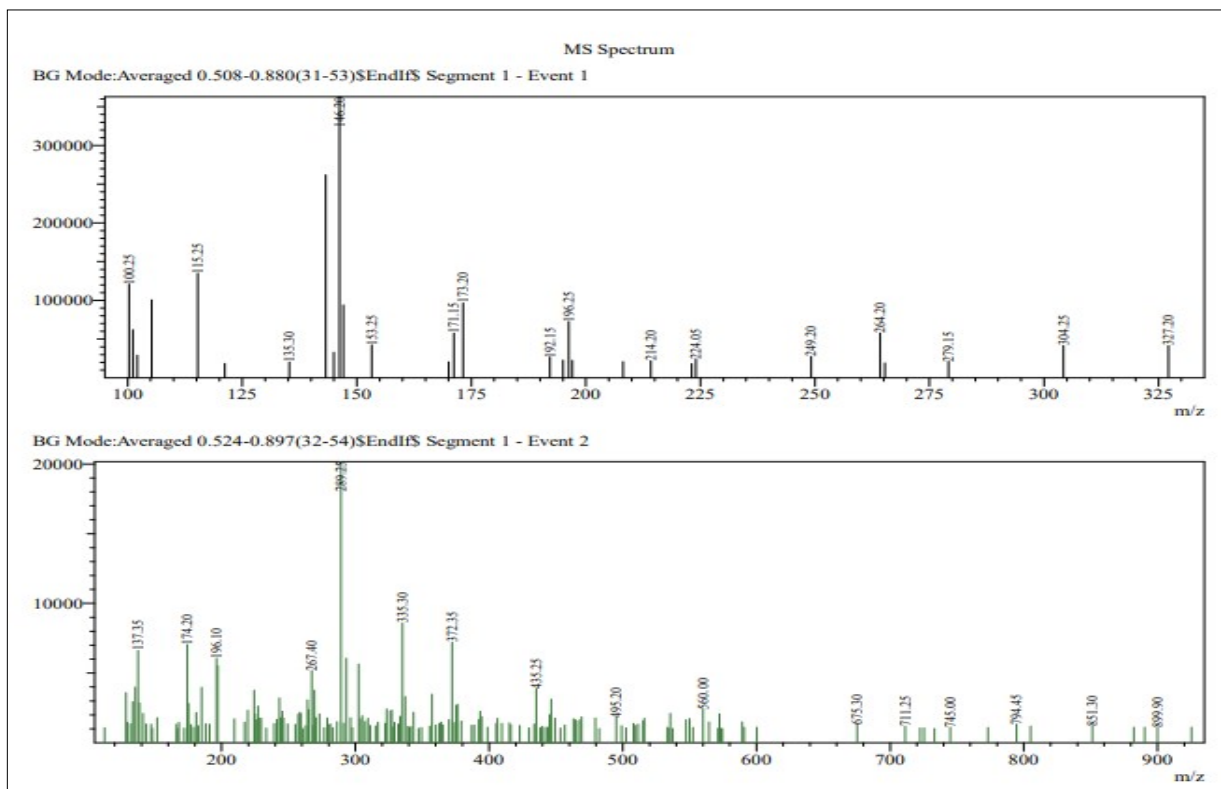


Fig. S6 (c): Observed mass  $m/z$  of S18-HF-03 fraction collected at  $t_R$  6.825

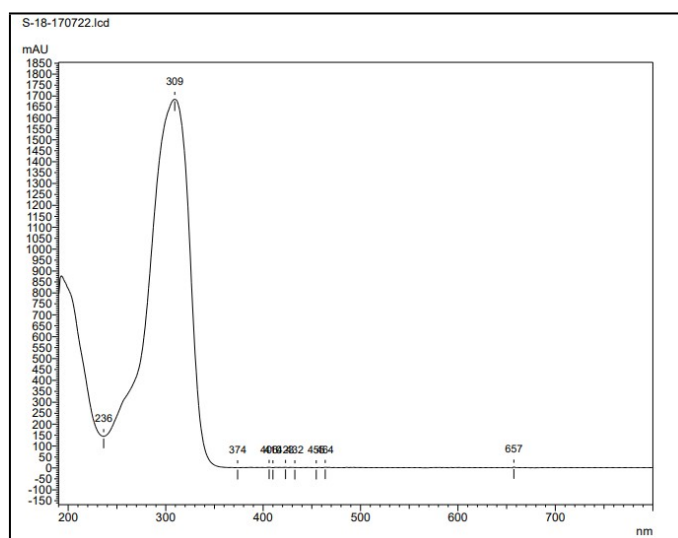


Fig. S7 (a) UV spectra of S18 at  $t_R$ =6.054

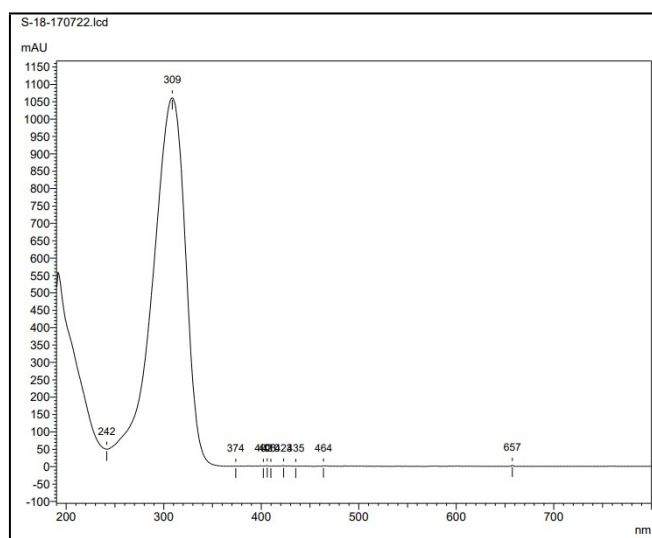


Fig. S7 (b) UV spectra of S18 at  $t_R$ =6.398

S-18-170722.lcd

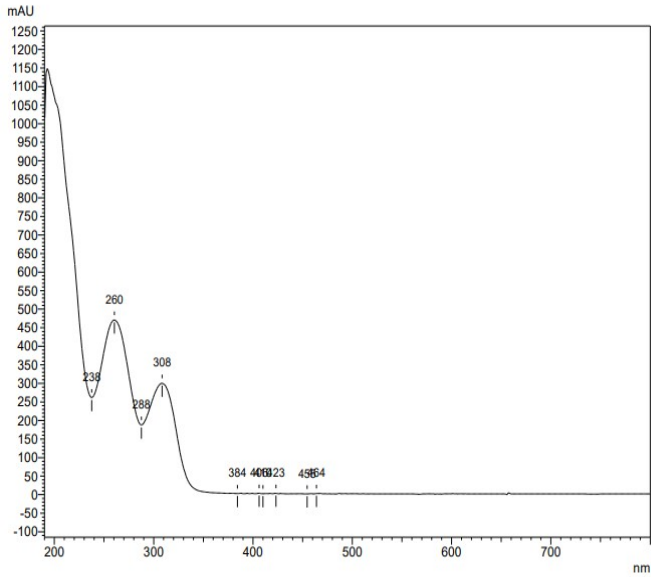


Fig. S7 (c) UV spectra of S18 at  $t_R=6.825$

S-18-170722.lcd

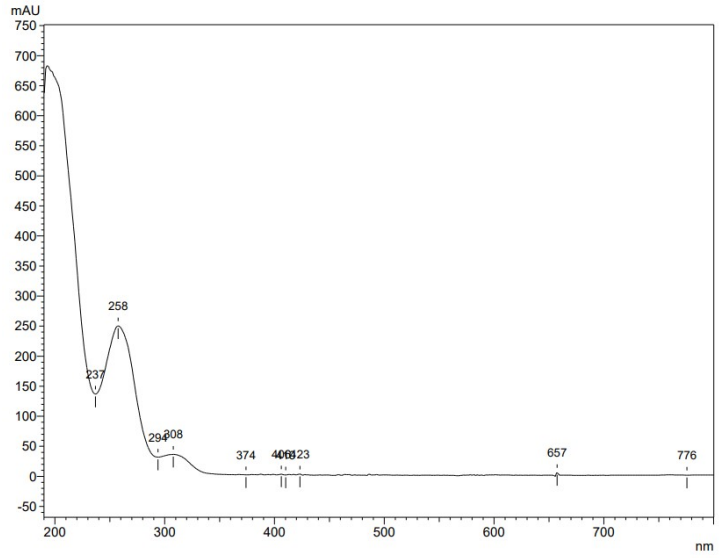


Fig. S7 (d) UV spectra of S18 at  $t_R=9.195$

S-18-170722.lcd

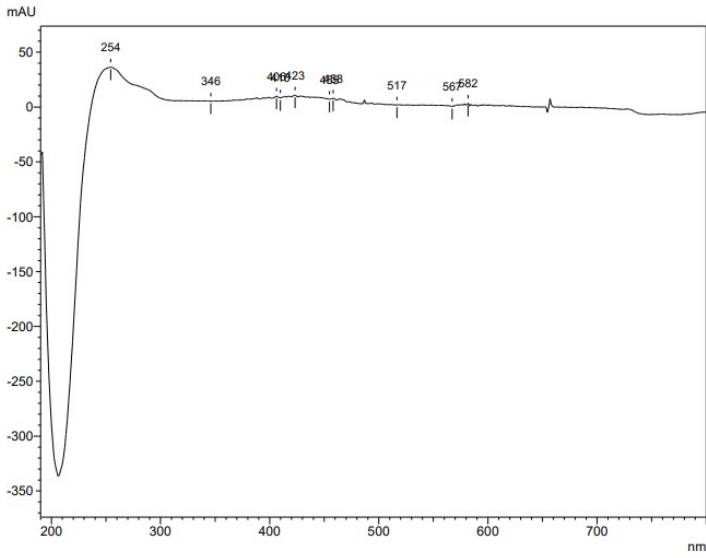


Fig. S7 (e) UV spectra of S18 at  $t_R=37.500$

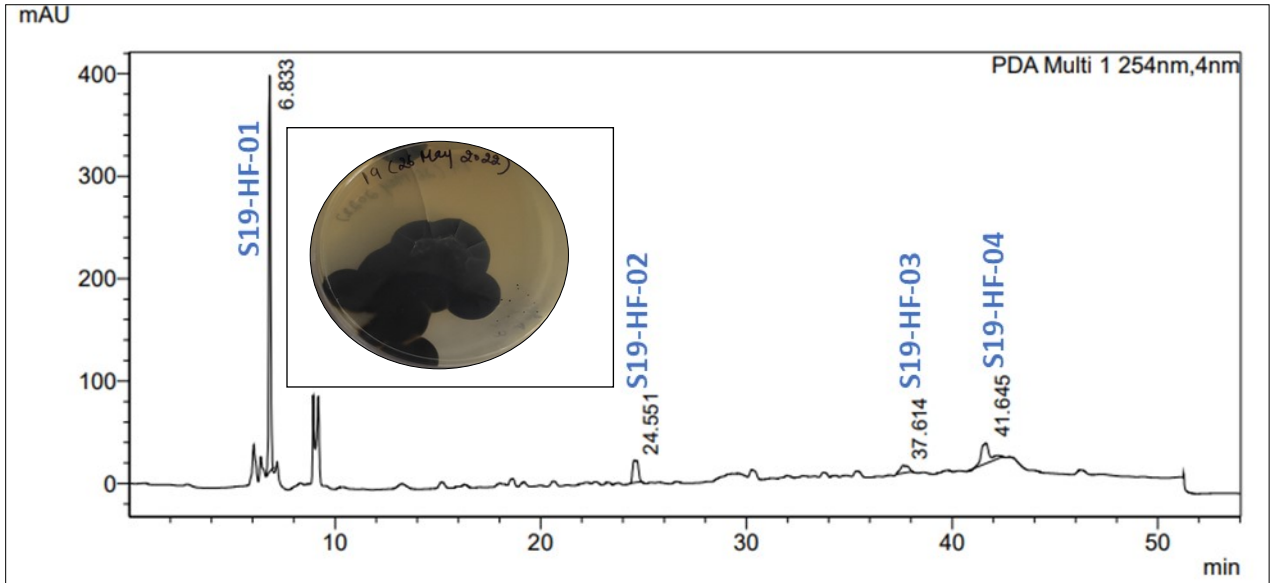


Fig. S8: Chromatographic fingerprinting of epiphytic strain *Fusarium* spp. S19 at 254nm

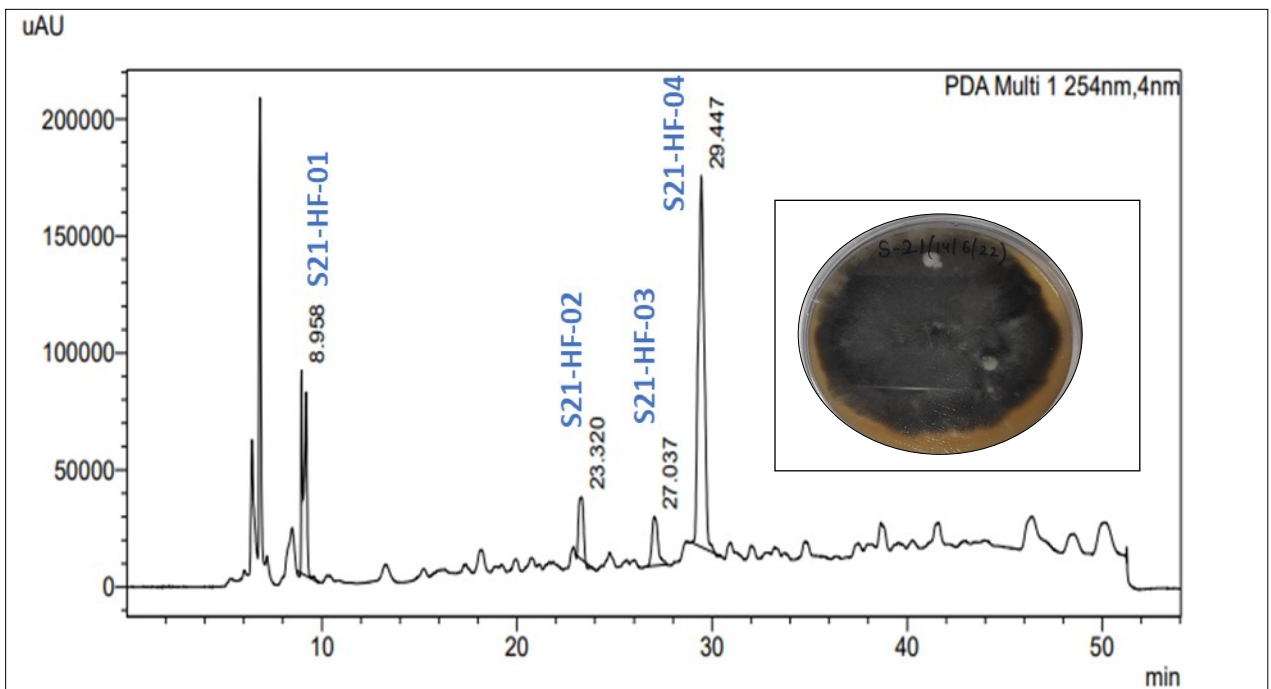


Fig. S9: Chromatographic fingerprinting of epiphytic strain *Aspergillus* spp. S21 at 254nm

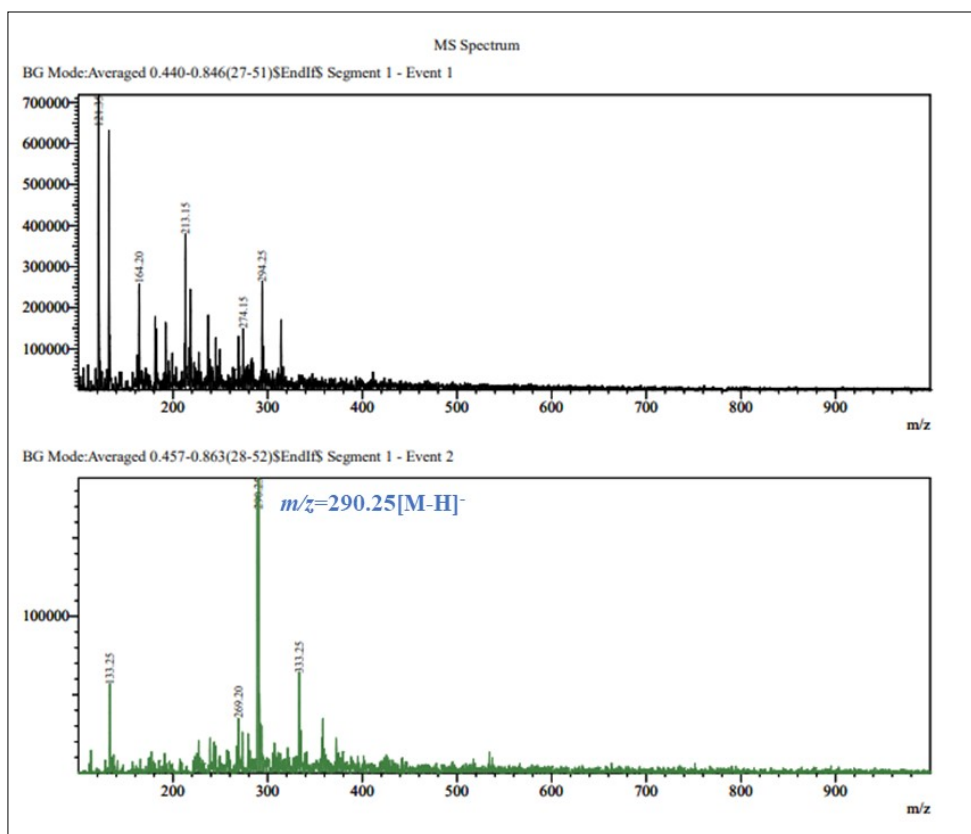


Fig. S10 (a): Observed mass  $m/z$  of S21-HF-02 fraction collected at  $t_R$ 23.320

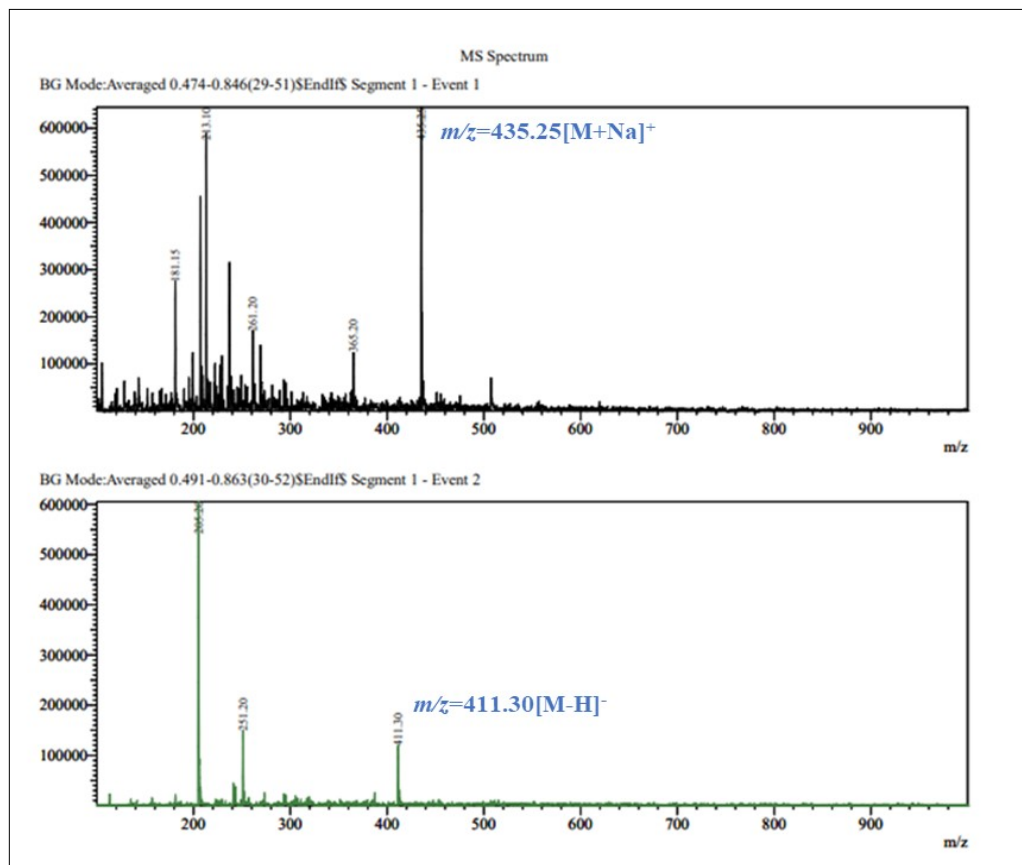


Fig. S10 (b): Observed mass  $m/z$  of S21-HF-03 fraction collected at  $t_R$ 27.037

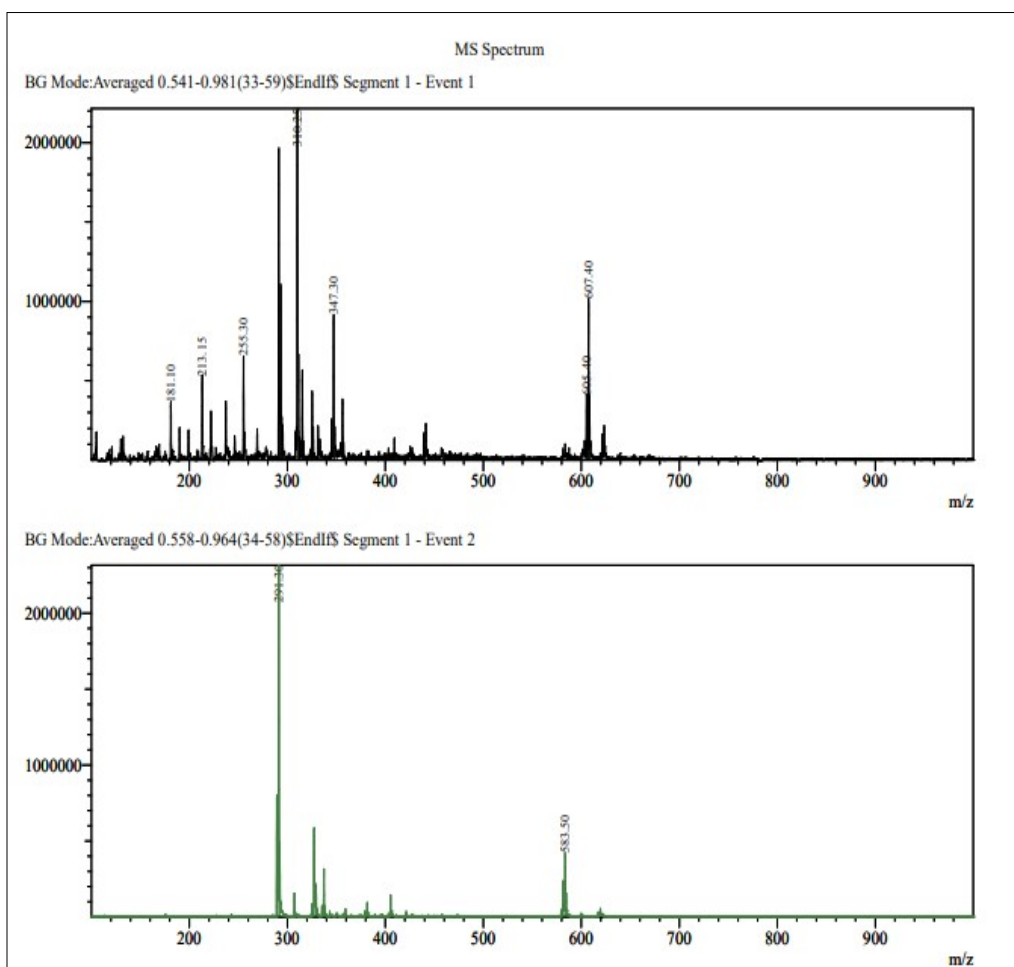


Fig. S10 (c): Observed mass  $m/z$  of S21-HF-04 at fraction collected  $t_R$  29.447

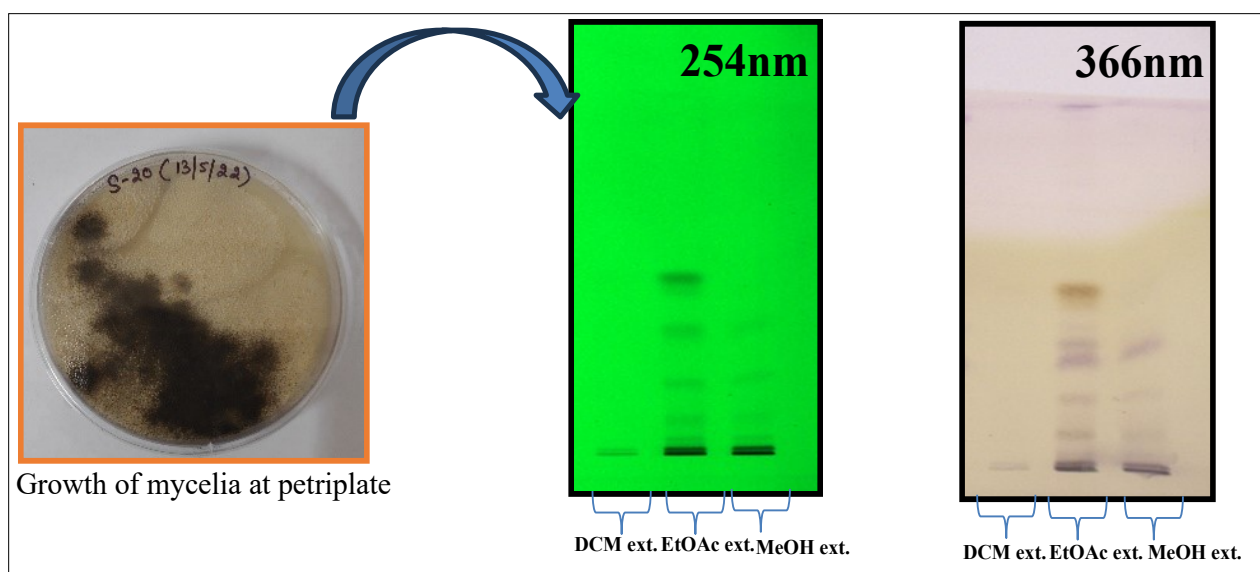


Fig. S11 (a): HPTLC fingerprinting of S20

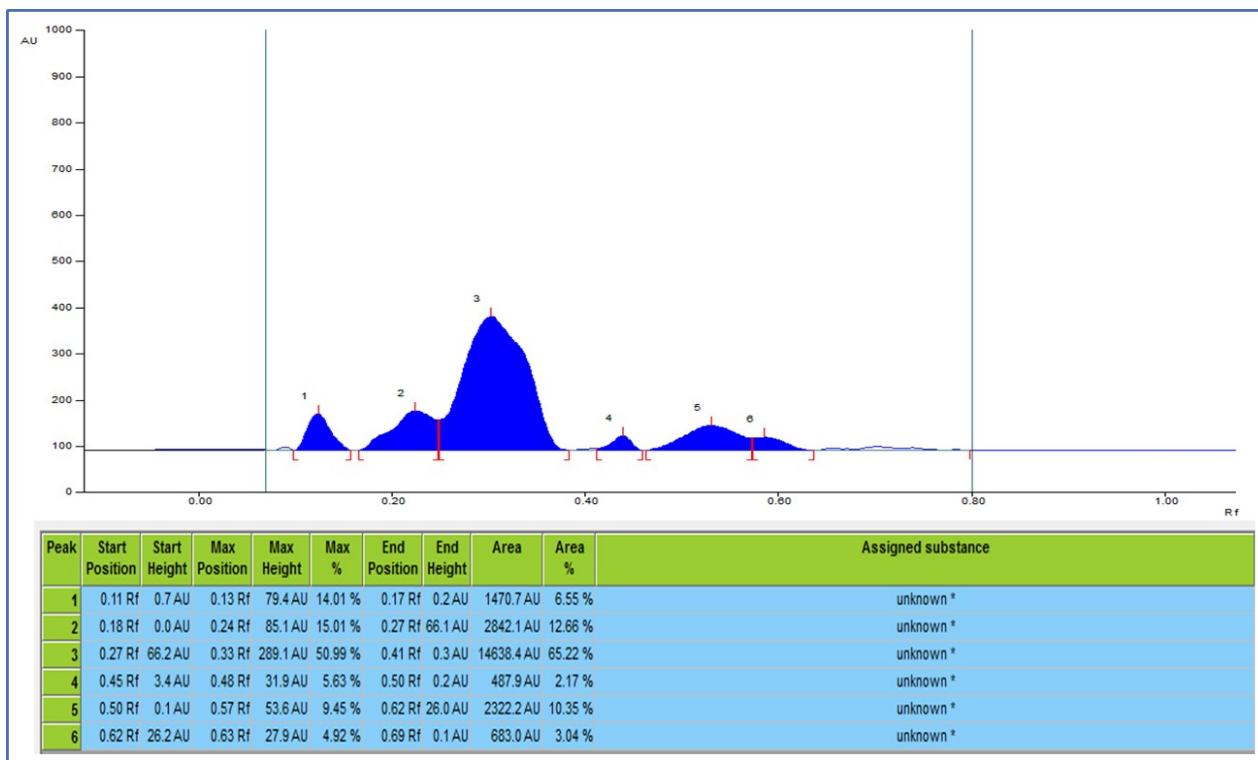


Fig. S11 (b): HPTLC densitogram for ethyl acetate extract of S-20

### Identification of potential metabolite producing strain S-20

Out of 5 epiphytic strains isolated from *Withania somnifera*, strain S-20 were selected and identified by slide culture technique as shown in Fig..1.

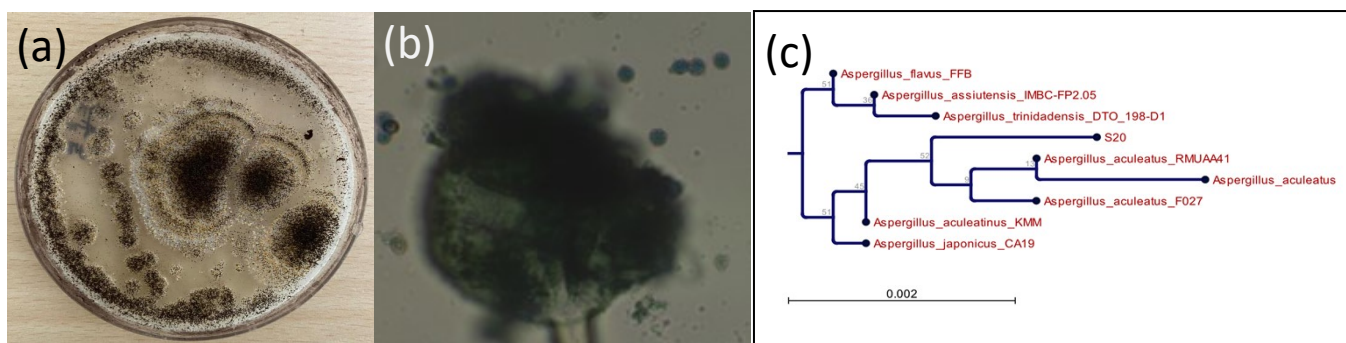


Fig. S11: Morphological and microscopic view of *Aspergillus aculeatus* S20: (a) Growth of S20 on PDA for five days (b) Microscopic view of S20 strain as observed by staining with lacto phenol cotton blue gram staining. The morphology of this fungus was closely related to *Aspergillus aculeatus*. The pure culture was grown in PDA (Potato Dextrose Agar) media. (c) the culture showing similarity with *Aspergillus aculeatus*, strain RMUAA41.

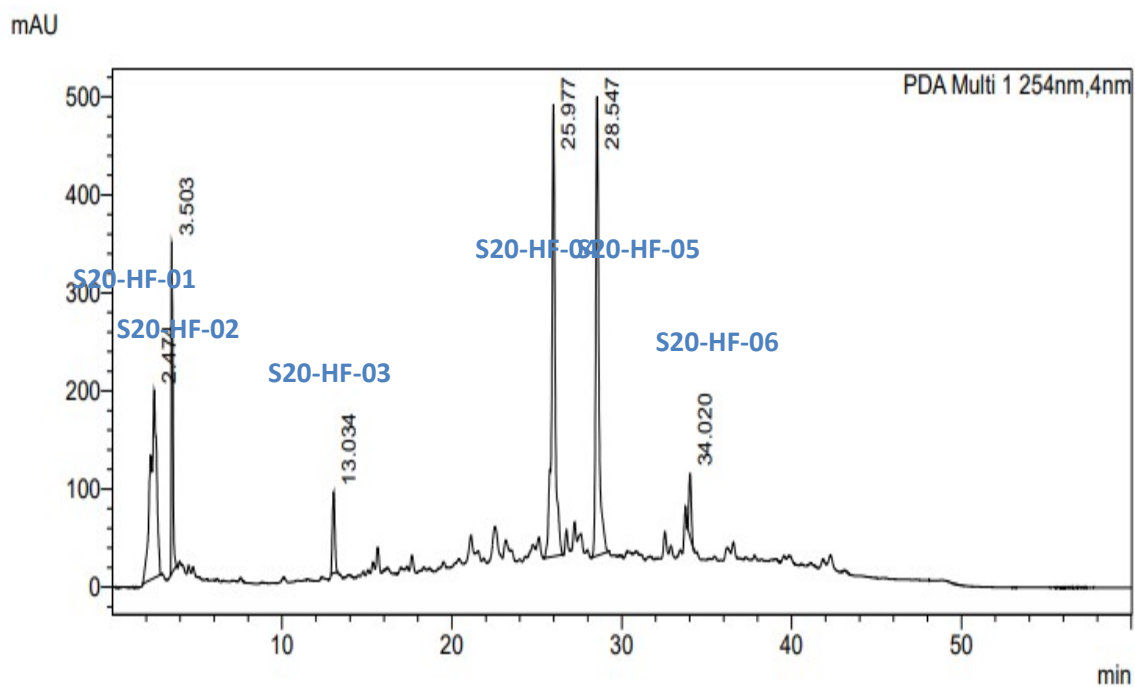


Fig. S13: Chromatographic fingerprinting of S20 at 254nm

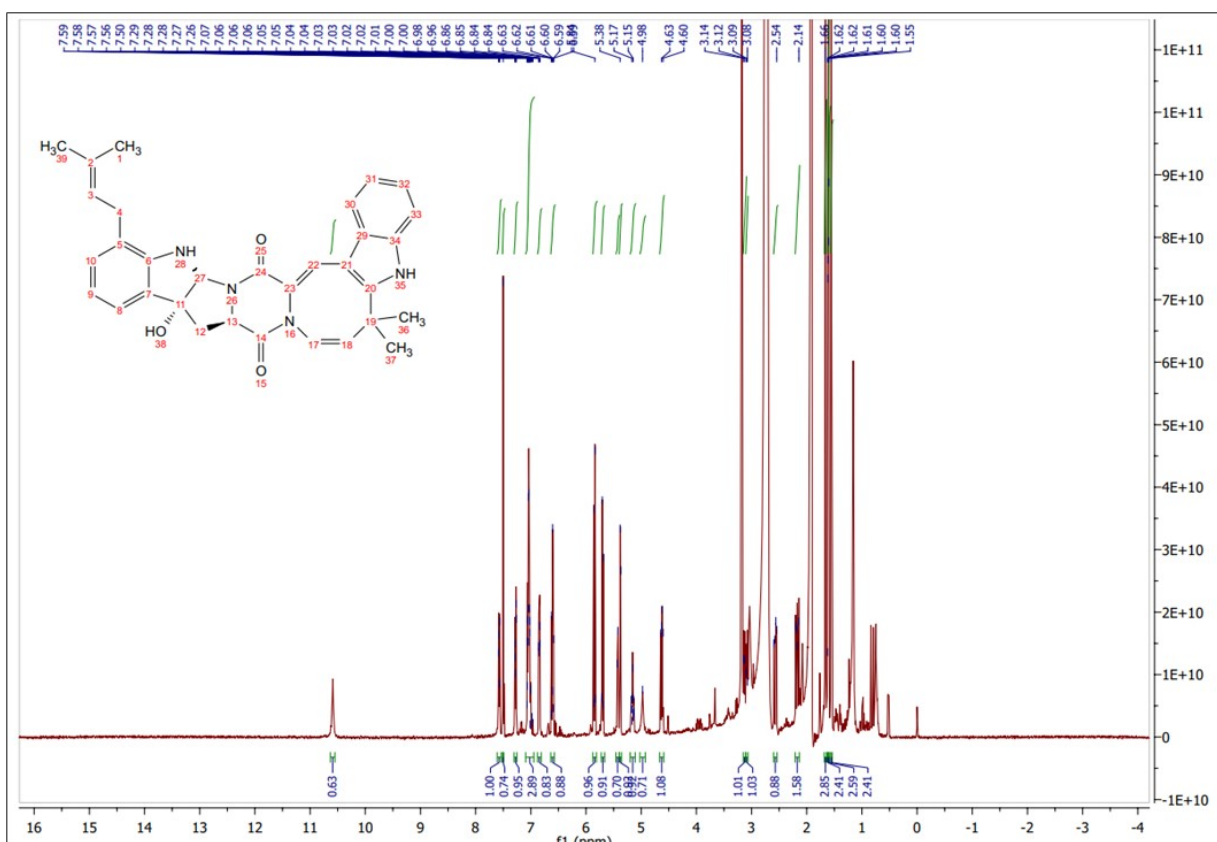


Fig. S14 (a):  $^1\text{H}$  spectrum of S20-HF-04 in  $(\text{CD}_3)_2\text{CO}$  at (400 MHz)

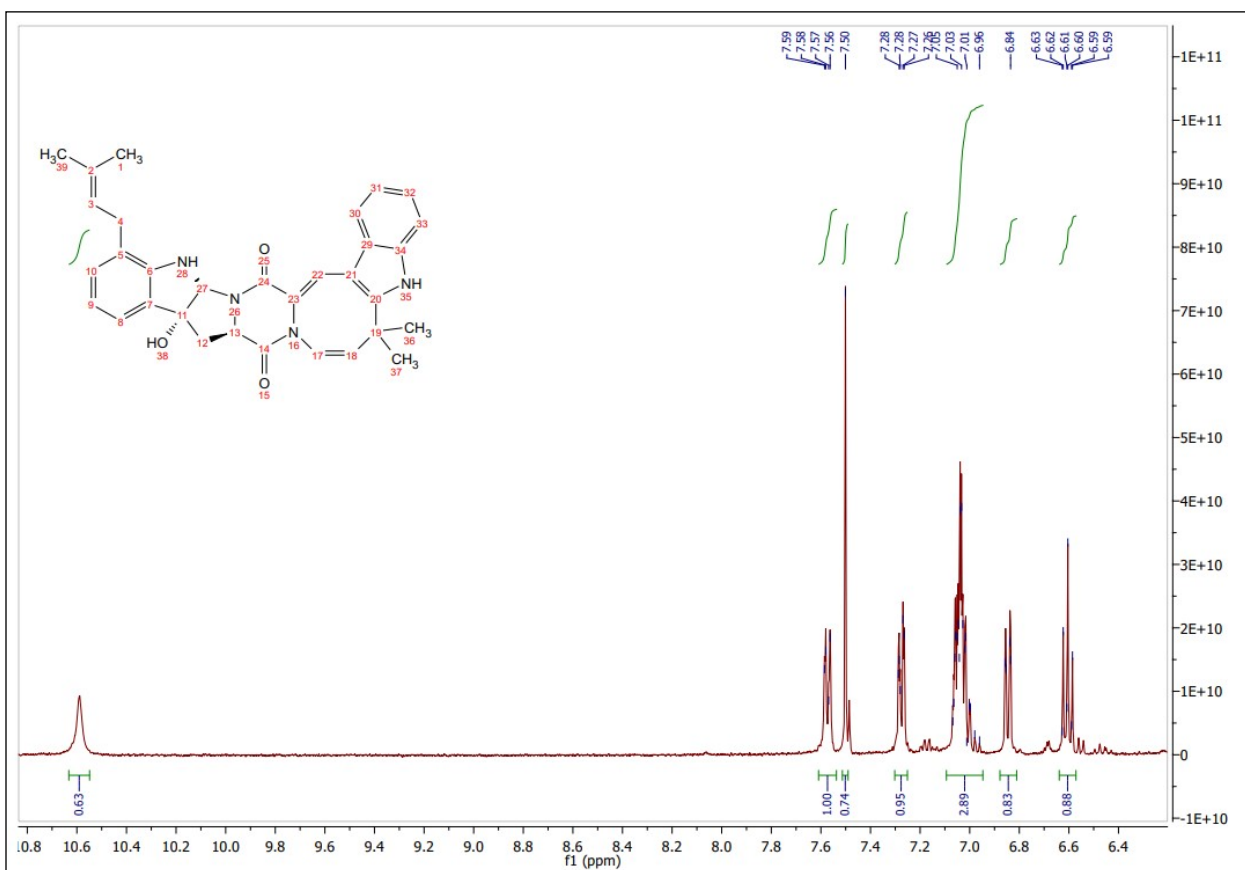


Fig. S14 (b) Expanded  $^1\text{H}$  spectrum of S20-HF-04 in  $(\text{CD}_3)_2\text{CO}$  6.4-10.8ppm

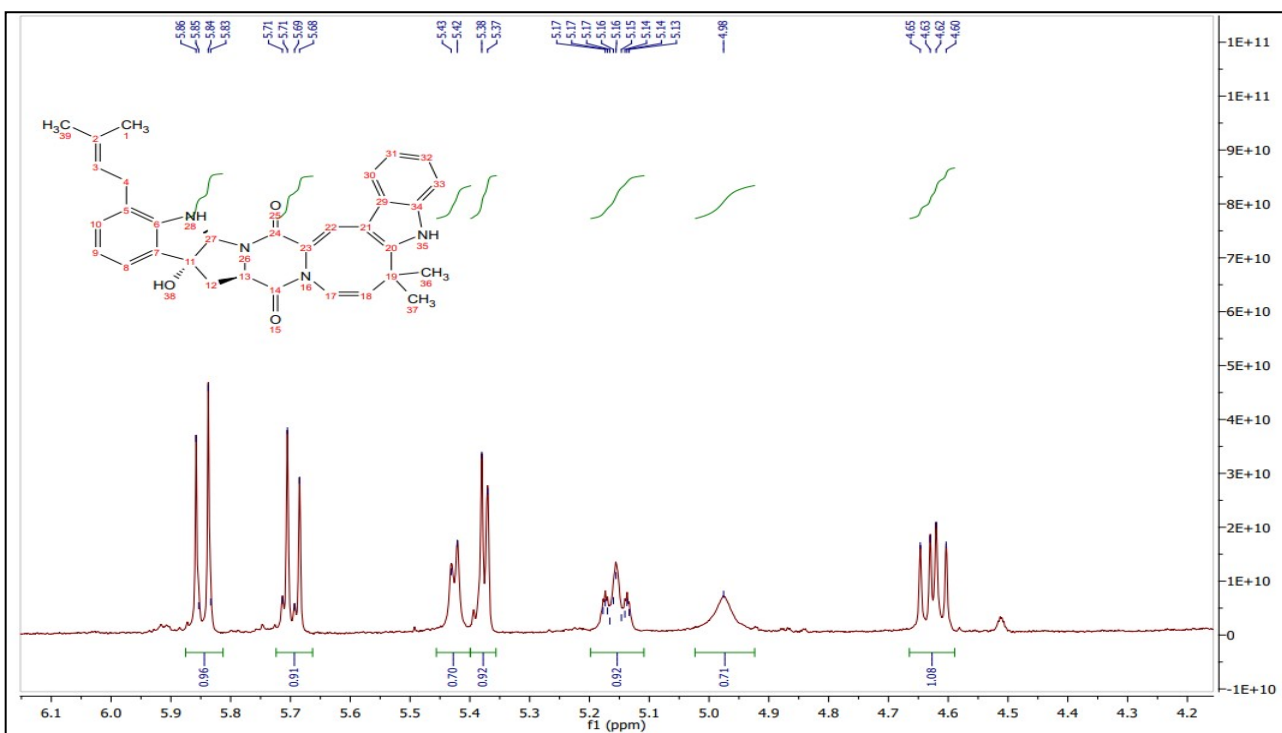


Fig. S14 (c). Expanded  $^1\text{H}$  spectrum of S20-HF-04 in  $(\text{CD}_3)_2\text{CO}$  4.3-6.1 ppm



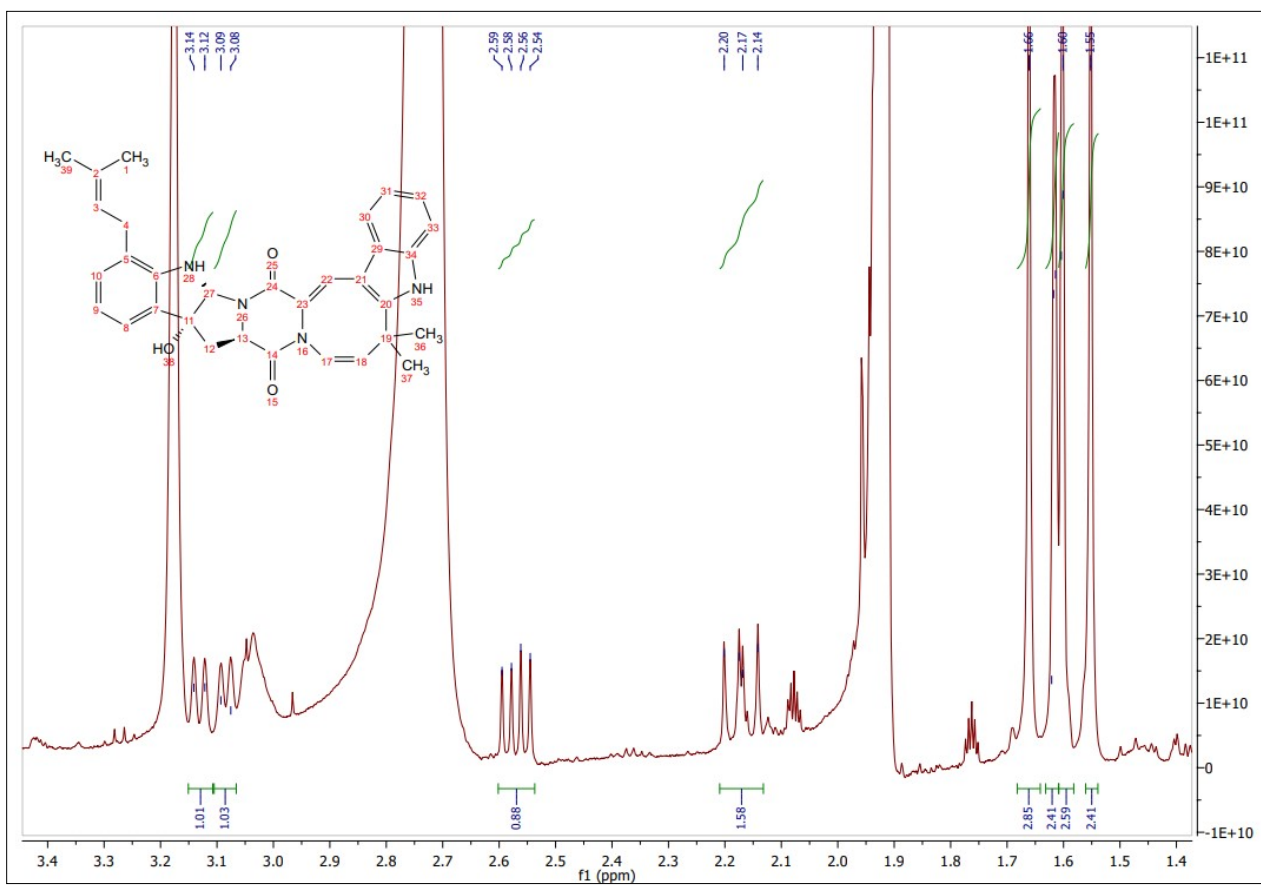
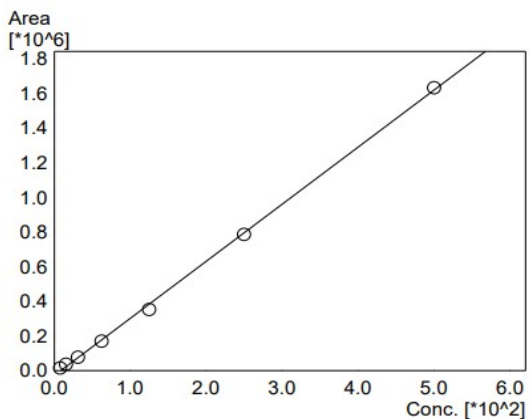


Fig. S14 (d). Expanded <sup>1</sup>H spectrum of S20-HF-04 in (CD<sub>3</sub>)<sub>2</sub>CO 1.4-3.4 ppm

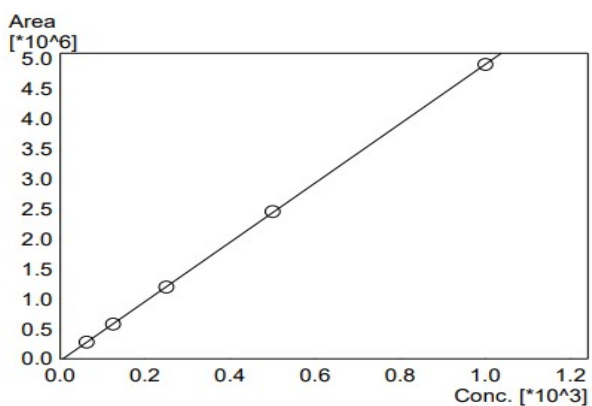
ID# : 1  
 Name : Okaramine H  
 Quantitative Method : External Standard  
 Function :  $f(x)=3294.11 \cdot x-28526.5$   
 Rr1=0.9995570 Rr2=0.9991143 RSS=1.853543e+009  
 MeanRF: 2.686334e+003 RFSD: 4.395864e+002 RFRSD: 16.363805  
 FitType : Linear  
 ZeroThrough : Not Through  
 Weighted Regression : None  
 Detector Name : PDA



#	Conc.(Ratio)	MeanArea	Area
1	7.81	15634	15634
2	15.62	37339	37339
3	31.25	77153	77153
4	62.5	170363	170363
5	125	351878	351878
6	250	784928	784928
7	500	1631367	1631367

Fig. S15. Calibration curve of isolated fraction (Okaramine H)

ID# : 1  
 Name : 2E,4Z-N-Isobutyl, 2,4 dienamide  
 Quantitative Method : External Standard  
 Function :  $f(x)=4950.59 \cdot x-33367.5$   
 Rr1=0.9999889 Rr2=0.9999779 RSS=3.151426e+008  
 MeanRF: 4.744028e+003 RFSD: 1.922660e+002 RFRSD: 4.052800  
 FitType : Linear  
 ZeroThrough : Not Through  
 Weighted Regression : None  
 Detector Name : PDA



#	Conc.(Ratio)	MeanArea	Area
1	62.5	278746	278746
2	125	581298	581298
3	250	1196250	1196250
4	500	2456186	2456186
5	1000	4912453	4912453

Fig. S16. Calibration curve of isolated fraction (2E,4Z)-N-Isobutyl-2,4-dienamide