

1 **Supporting information**

2 **Anti-ESBL derivatives of marine endophytic *Streptomyces xiamenensis***

3 **GRG 5 (KY457709) against ESBLs producing bacteria**

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7 Natesan<sup>b\*</sup>, Wen-Jun Li<sup>b,f\*</sup>.

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26 **Supplementary Figures (SF)**

27 SF. 1. Confirmation of ESBL production in *P.aeruginosa* (a, c) and *K. pneumoniae* (b, d)  
28 using third generation chapalosporin antibiotics.

29 SF. 2. Phylogenetic confirmation of endophytic actinomycetes *Streptomyces xiamenensis*  
30 GRG 5 (KY457709) using MEGA 7.0.

31 SF. 3. UV-spectroscopy analysis of partially purified TLC extract of *Streptomyces*  
32 *xiamenensis* GRG 5 (KY457709).

33 SF. 4. Analytical HPLC of partially purified crude TLC extract of *Streptomyces*  
34 *xiamenensis* GRG 5 (KY457709).

35 SF. 5. Anti-bacterial validation of HPLC all the fractions against both the uropathogens  
36 of *P. aeruginosa* (a) and *K. pneumoniae* (b).

37 SF. 6. Possible compounds of mass chromatogram present in the HPLC fractions 3 of  
38 *Streptomyces xiamenensis* GRG 5 (KY457709) by GCMS.

39 SF. 7. Preparative HPLC analysis of active compound 1 from active HPLC fraction 3.

40 SF. 8. FT-IR spectrum of purified compound 1 of *Streptomyces xiamenensis* GRG 5  
41 (KY457709).

42 SF. 9. LC-MS spectrum of purified compound 1 of *Streptomyces xiamenensis* GRG 5  
43 (KY457709).

44 SF. 10 (a). <sup>1</sup>H NMR (a), <sup>13</sup>C NMR (b) analysis of purified compound 1 from active  
45 HPLC fraction 3 of *Streptomyces xiamenensis* GRG 5 (KY457709) and HMBC and  
46 HMQC analysis of purified compound 1 from active HPLC fraction 3 of *Streptomyces*  
47 *xiamenensis* GRG 5 (KY457709). The chemicals groups interaction was available in  
48 insert file (c).

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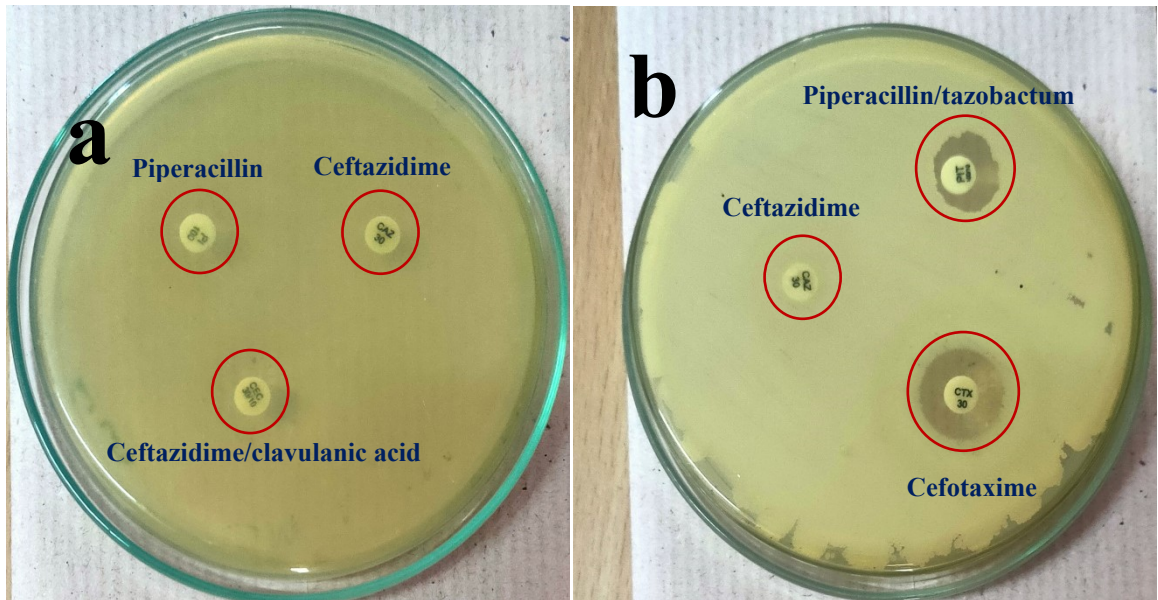
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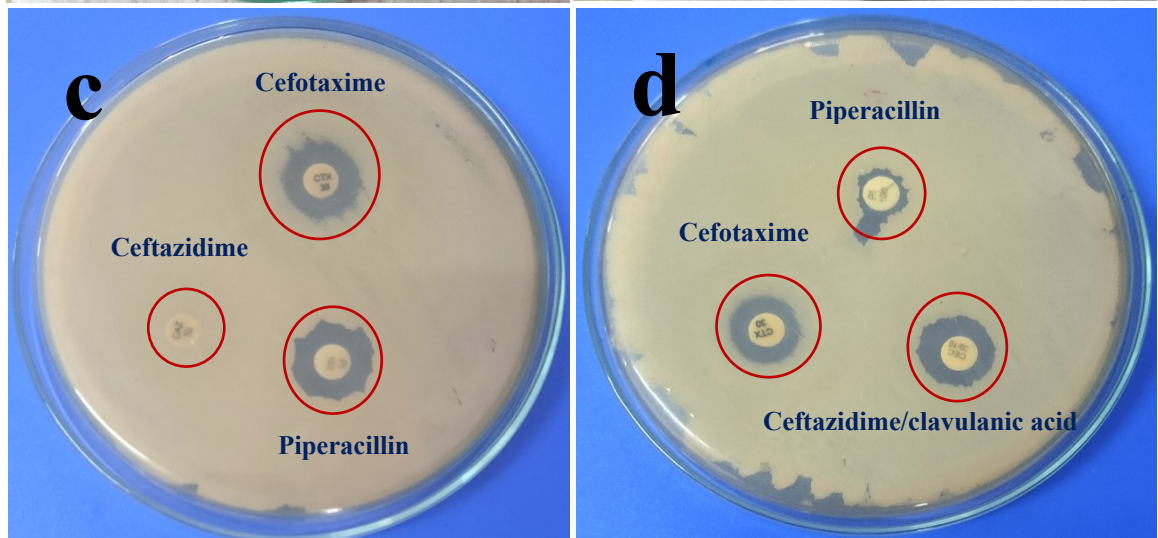
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67 SF.

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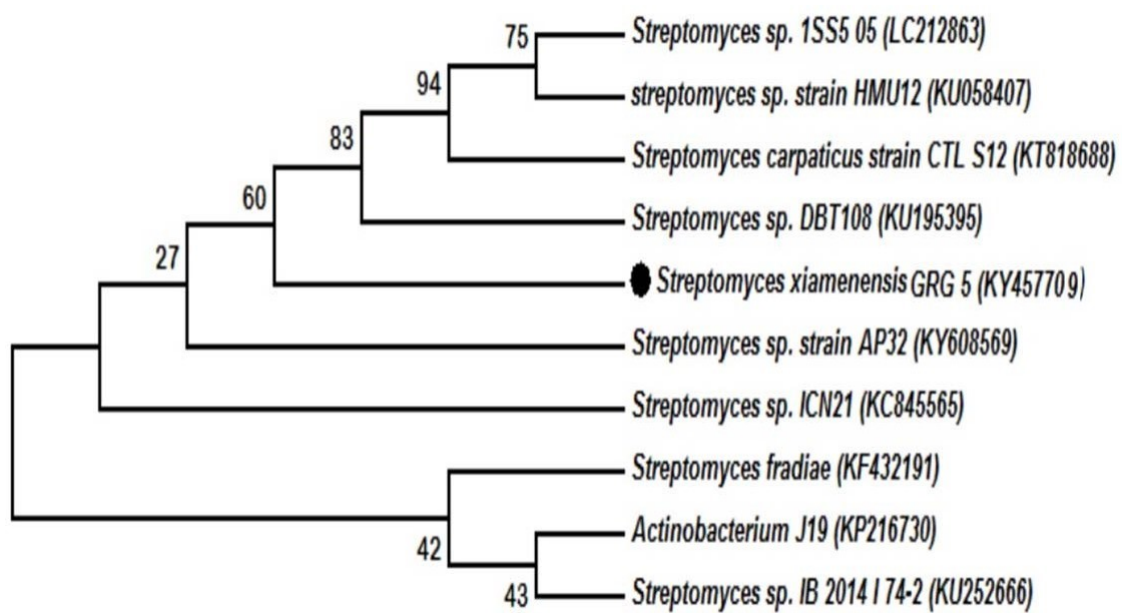
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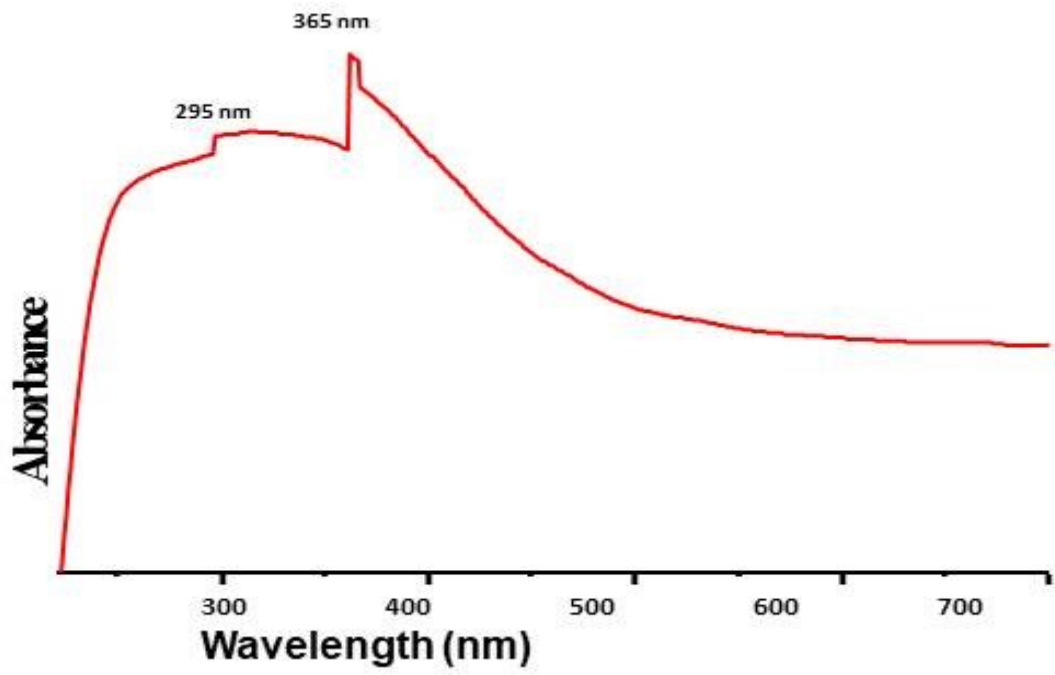
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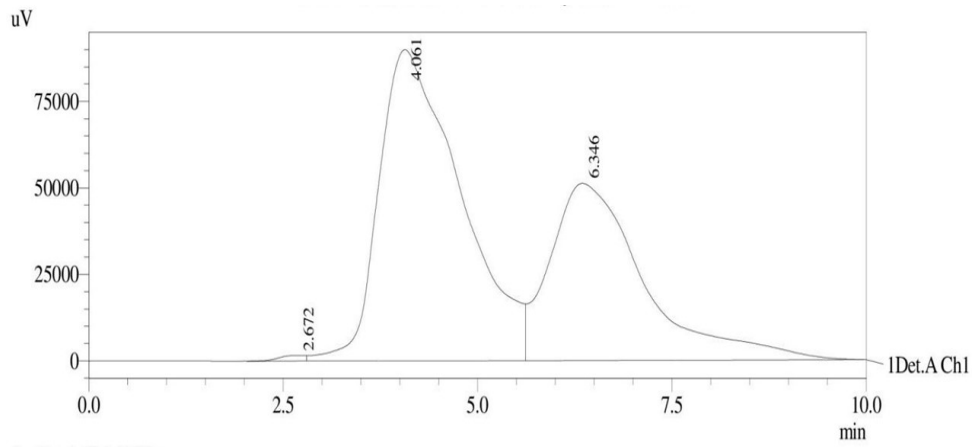
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1 Det.A Ch1 / 254nm

PeakTable

Detector A Ch1 254nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.672	38526	1646	0.353	1.153
2	4.061	6567750	89960	60.143	62.995
3	6.346	4313954	51199	39.504	35.852
Total		10920230	142805	100.000	100.000

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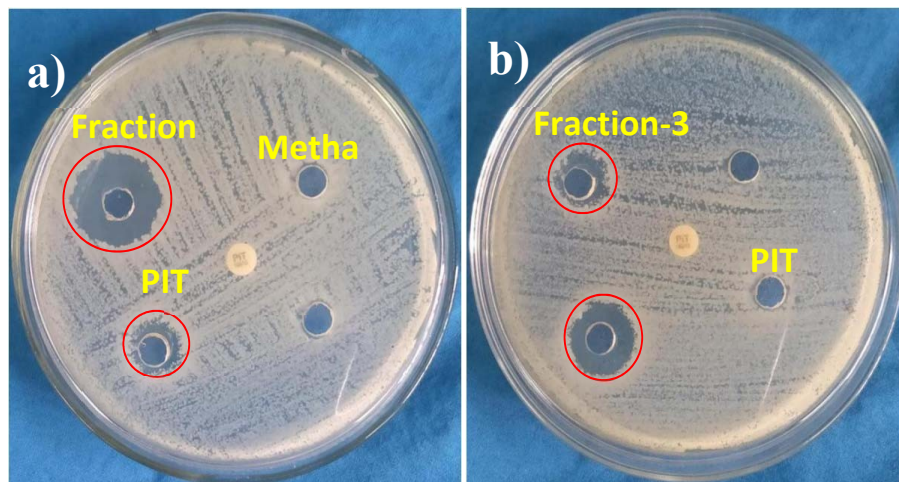
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137 SF. 4.

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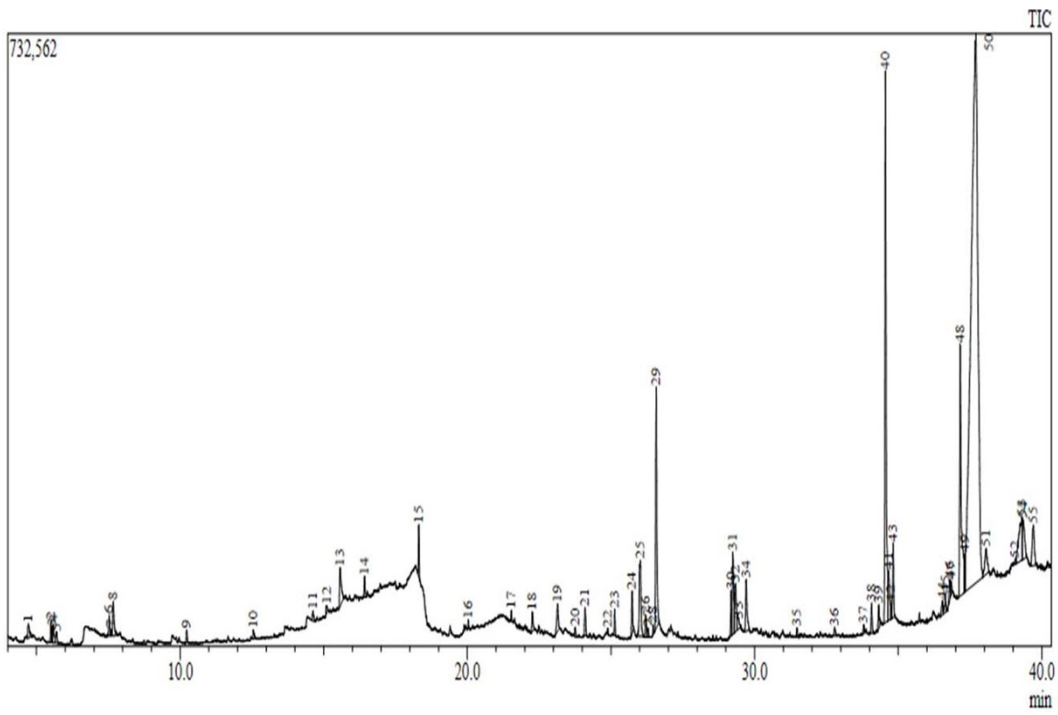
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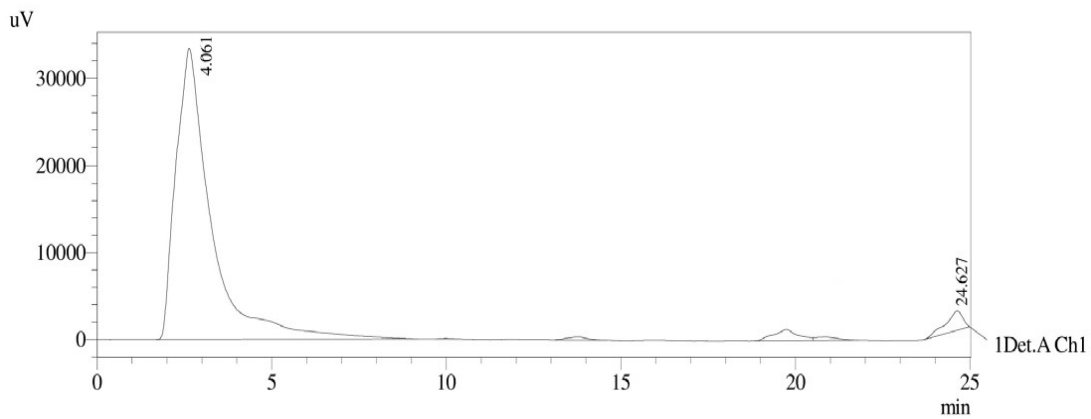
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**SF. 6.**



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1 Det.A Ch1 / 254nm

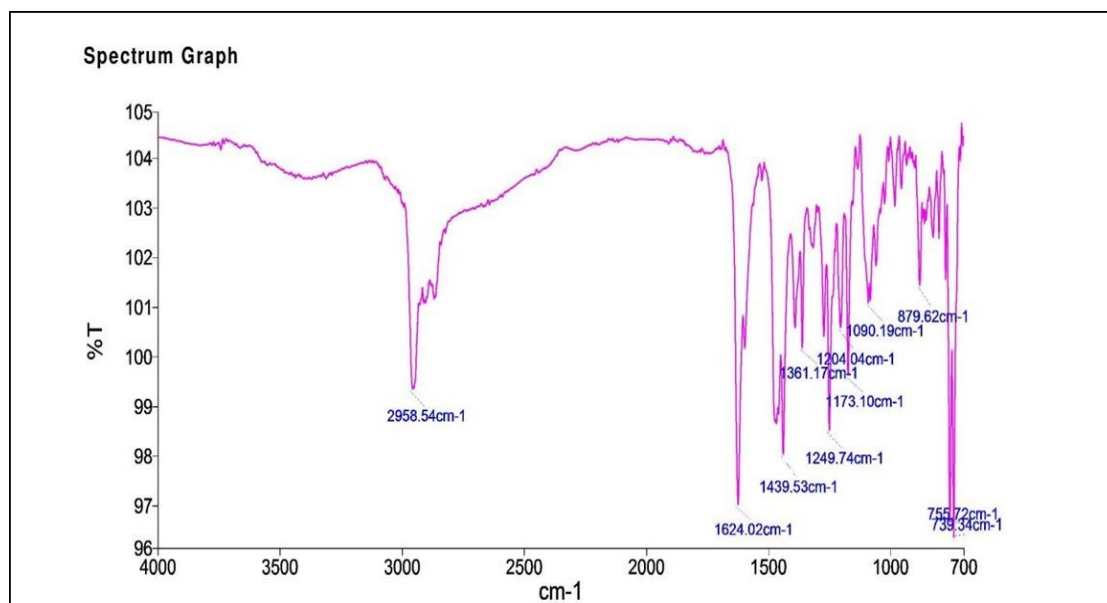
PeakTable

Detector A Ch1 254nm

Peak#	Ret. Time	Area	Height	Area %	Height %
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Total	4.061	6567750	89960	60.143	62.995

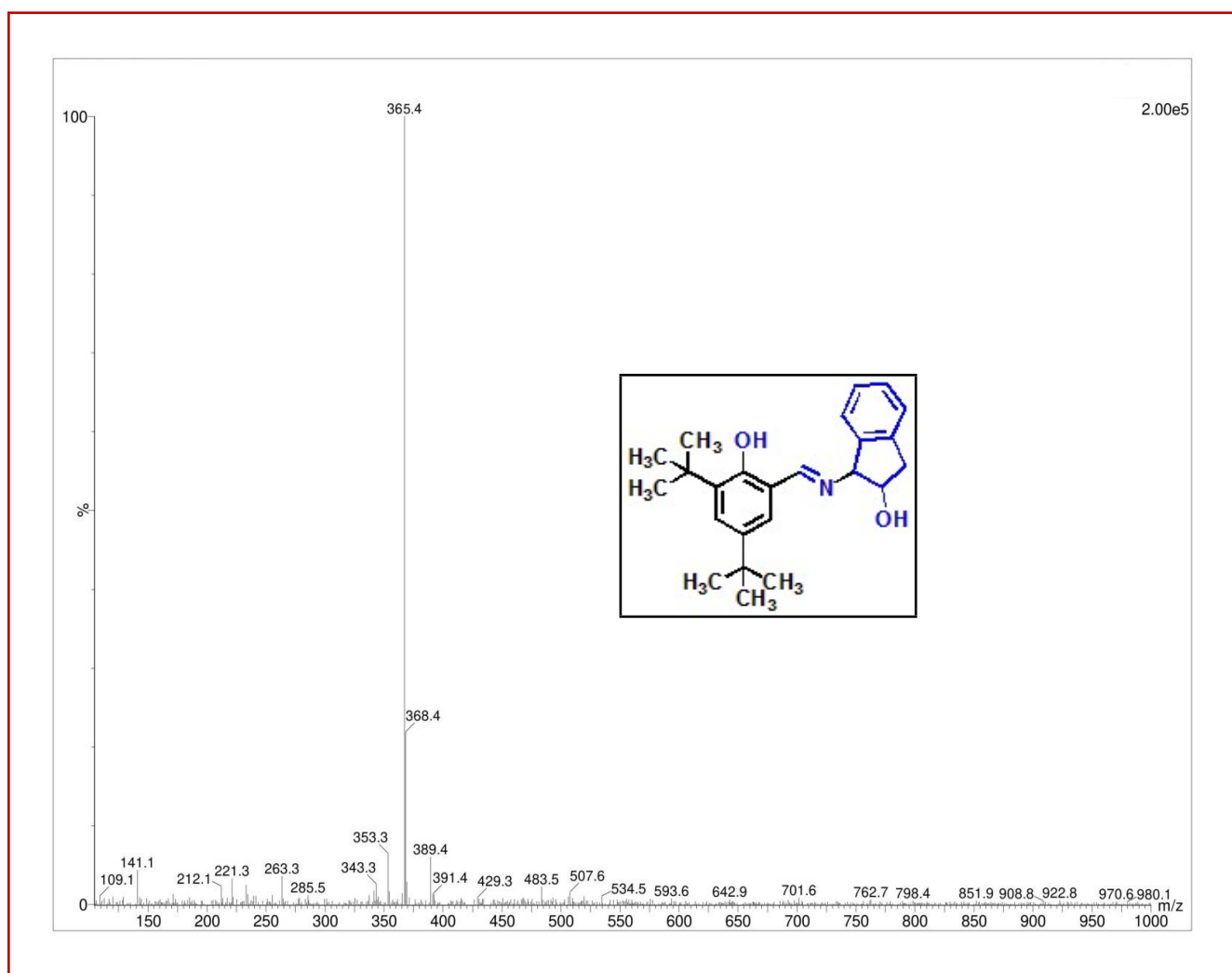
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258 **SF. 9.**

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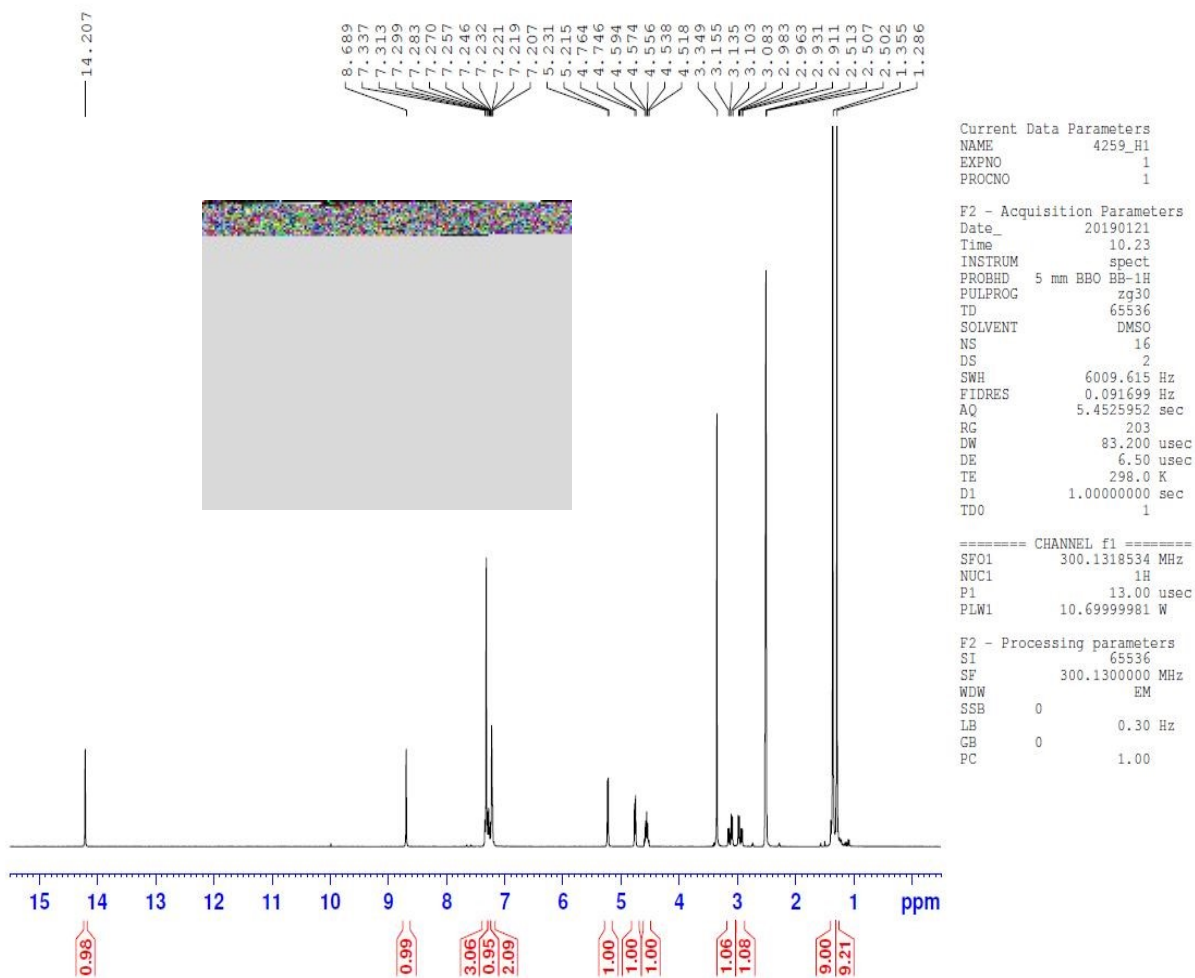
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270 **SF. 10a**

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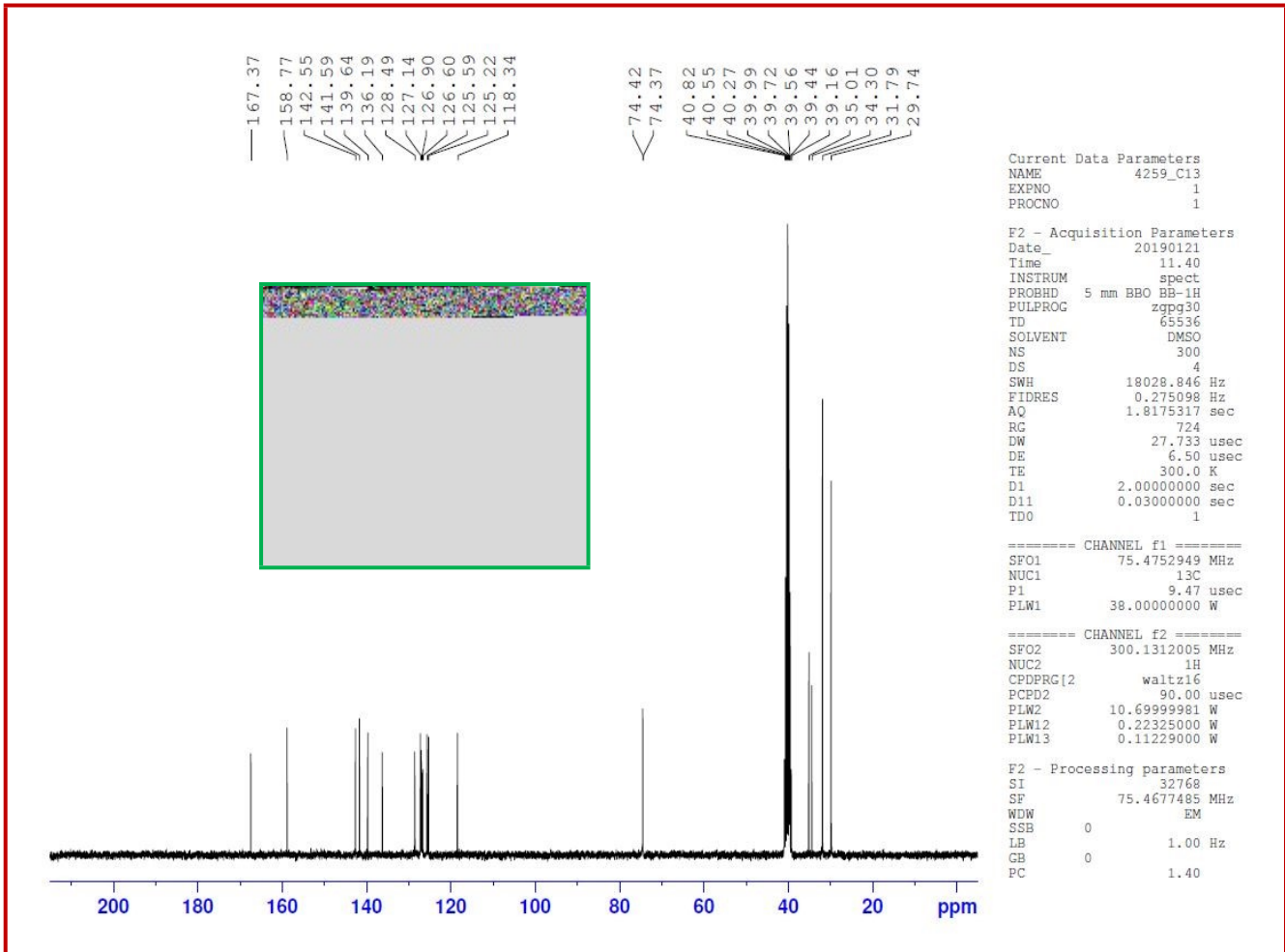
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286 **SF. 10b.**

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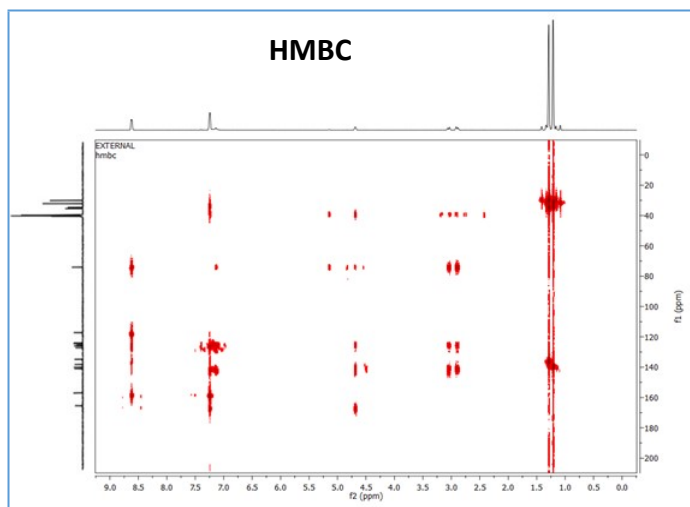
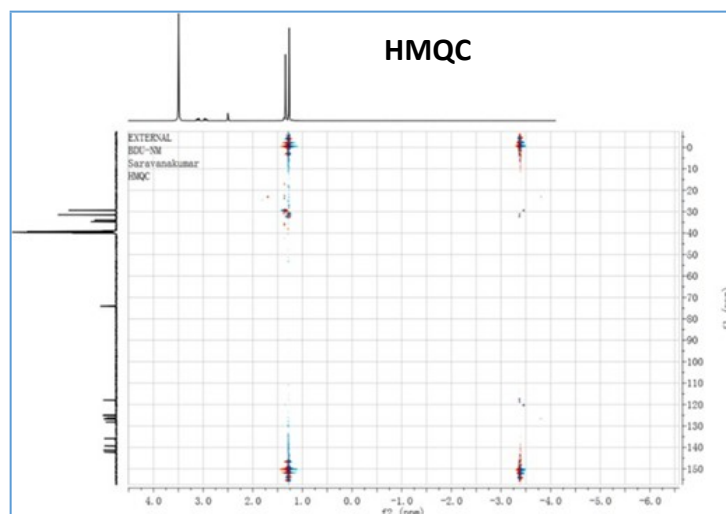
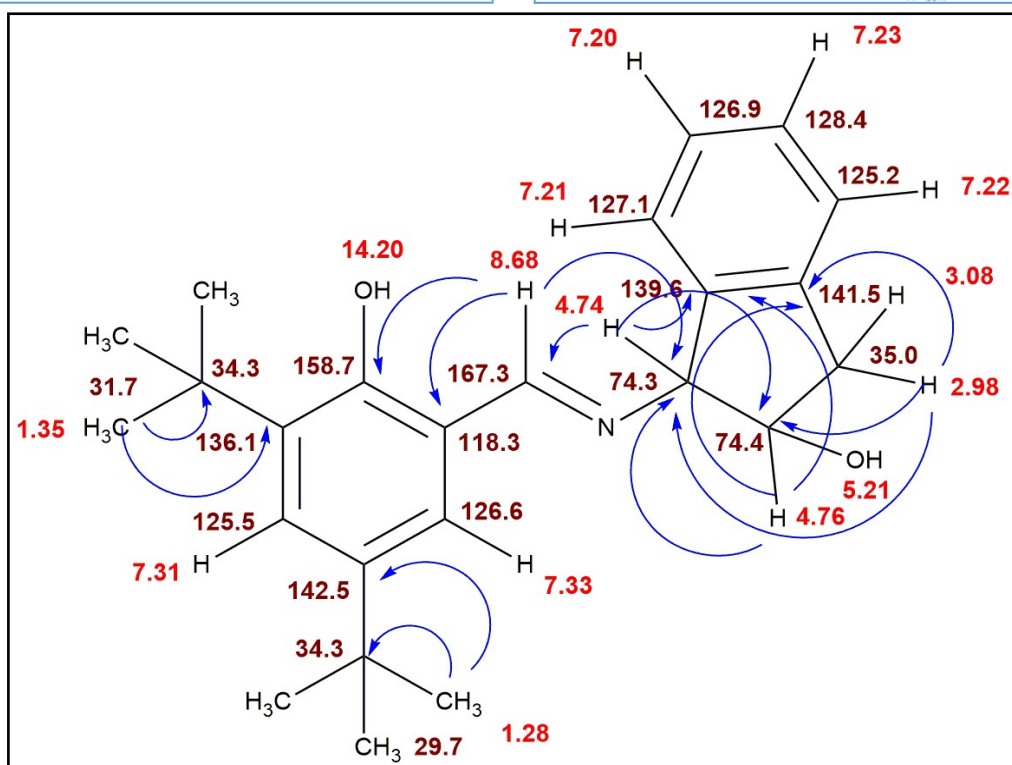
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**a****b****c**

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309 **SF. 10c.**

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