

Placovinane: 1'' β -Ethoxy-6,4'-dimethoxy-3'',3''-dimethyl-1'',2''-dihydropyranoisoflavone, a New Isoflavone Derivative

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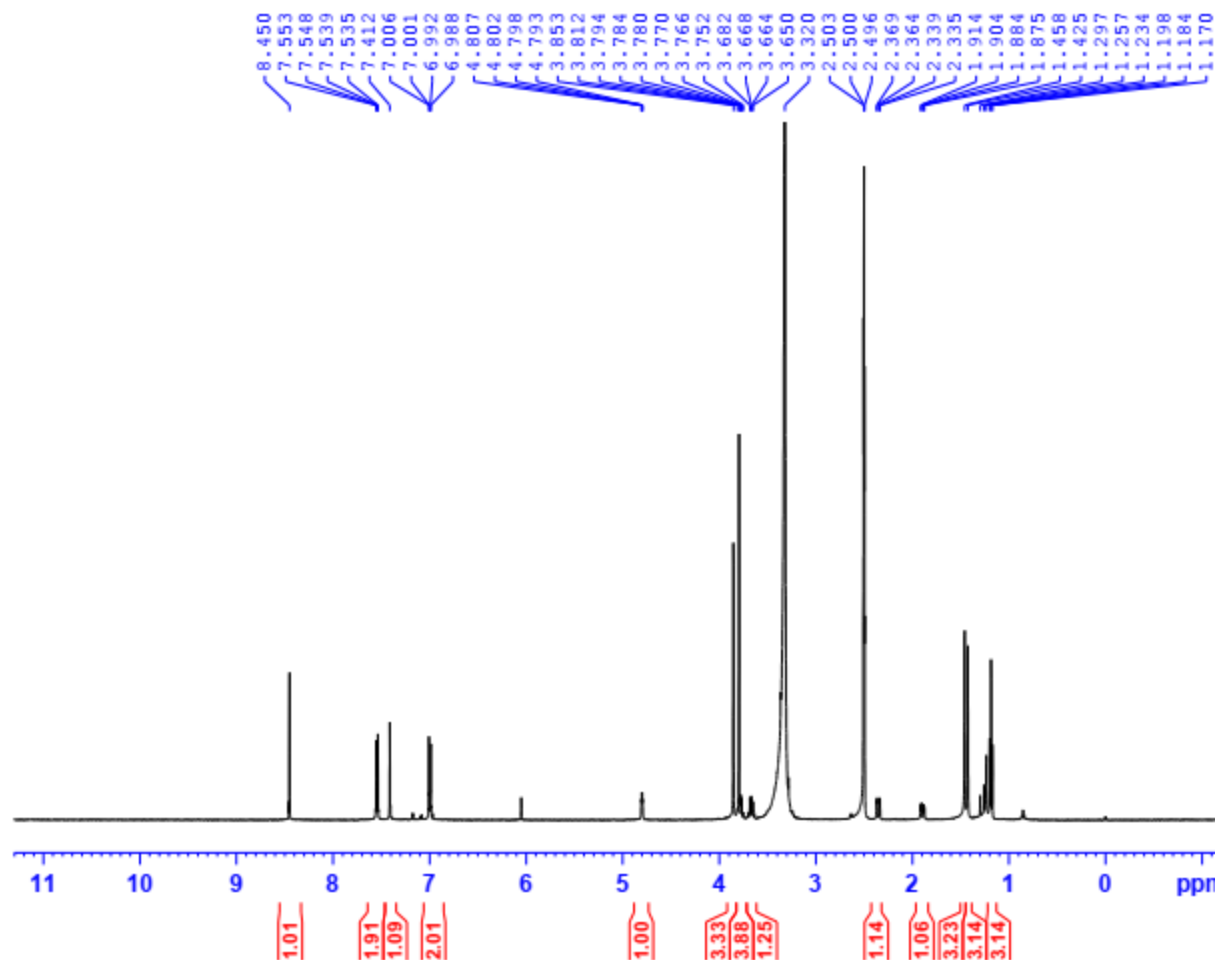
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Abstract: Isoflavonoids possess a 3-phenylchroman skeleton and are the biologically active secondary metabolites of various plants that are being used for various health promoting and restoring effects through various mechanisms. Chromatographic separation of the *n*-hexane extract from the stems of *Placolobium vietnamense* led to the isolation of a new isoflavone derivative, placovinane (**1**), together with four known compounds (**2-5**). The structures of isolated compounds were identified from their spectroscopic data and by comparison with the literature. All isolated compounds were evaluated for their α -glucosidase inhibition. They all exhibited potent α -glucosidase inhibition with IC₅₀ values ranging from 11.0 to 87.3 μ M, which was significantly less than the positive control acarbose (IC₅₀ 179 μ M). The cytotoxicity of **1** was evaluated against KB, Hep G2, and MCF7 cell lines, and displayed weak cytotoxicity toward KB and Hep G2 cell lines, with the IC₅₀ values of 89.6 and 93.8 μ M, respectively.

Keywords: *Placolobium vietnamense*, placovinane, isoflavone derivative, α -glucosidase inhibition, cytotoxicity



206-DMSO-1H

BRUKER

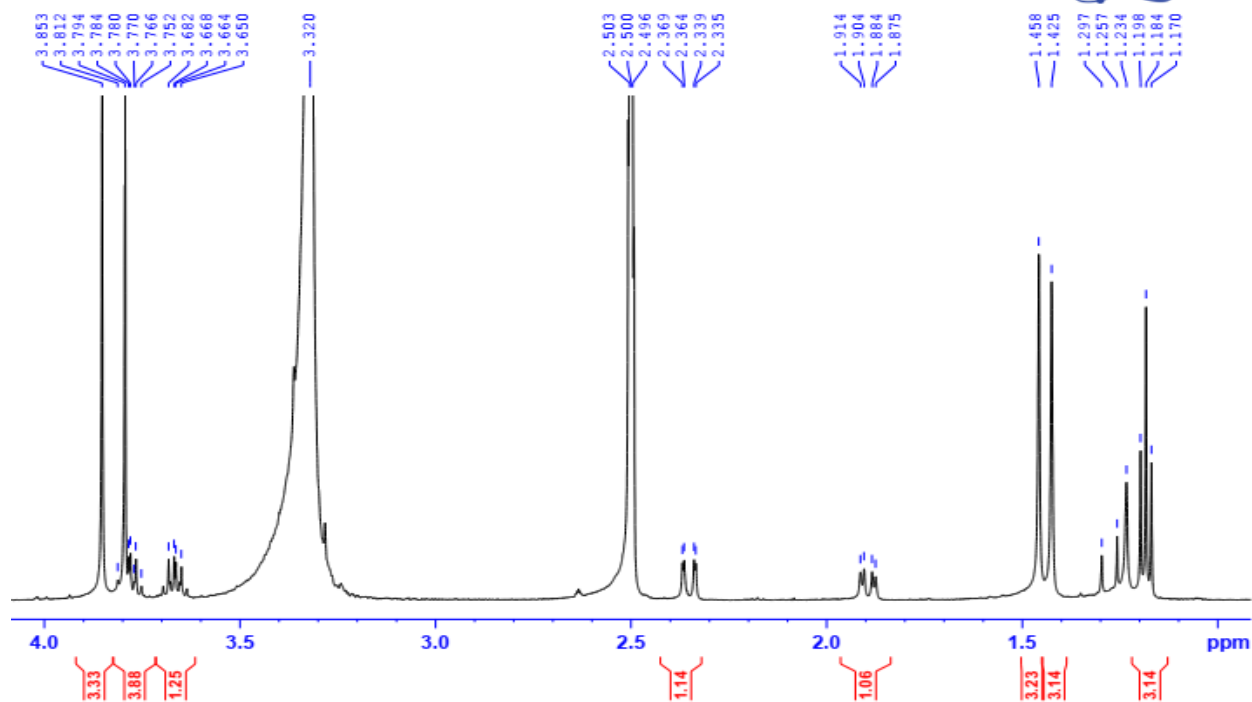


Figure S1. The ^1H NMR spectrum of **1** in $\text{DMSO-}d_6$

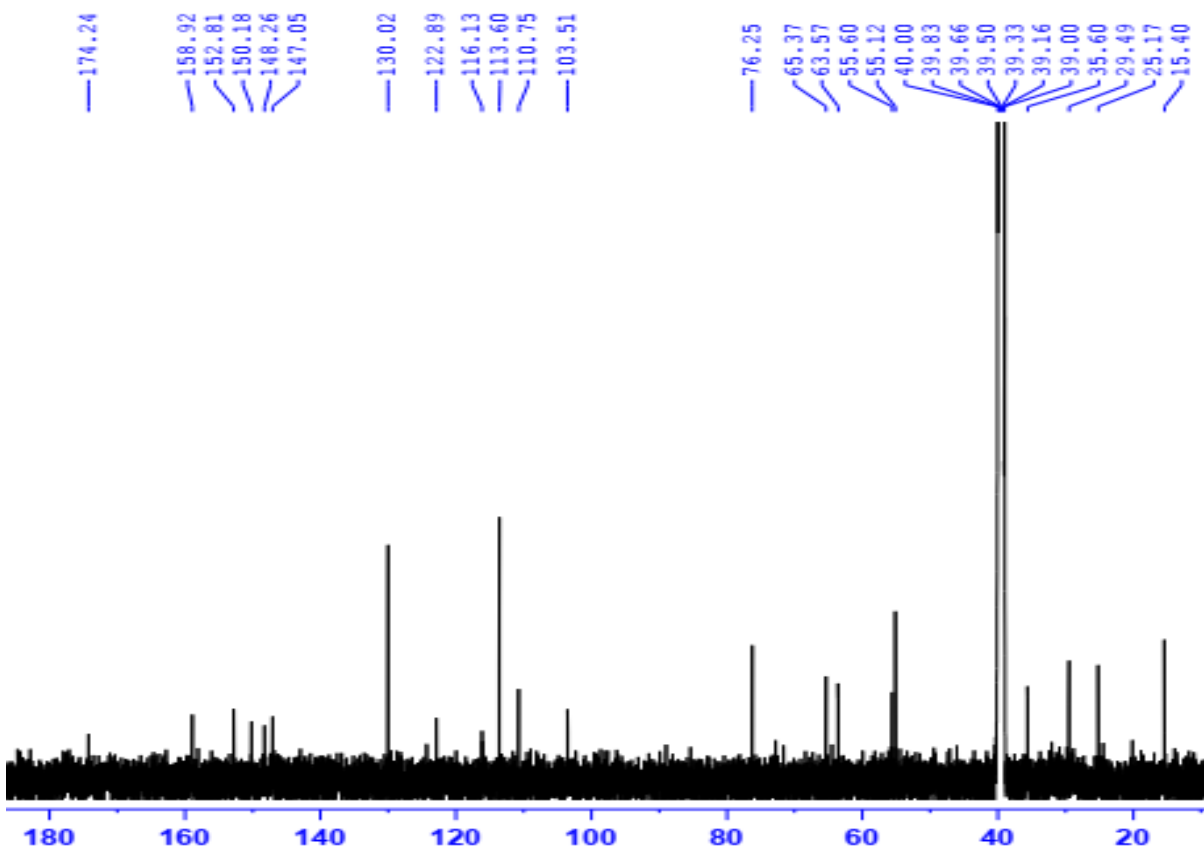


Figure S2. The ^{13}C NMR spectrum of **1** in $\text{DMSO}-d_6$

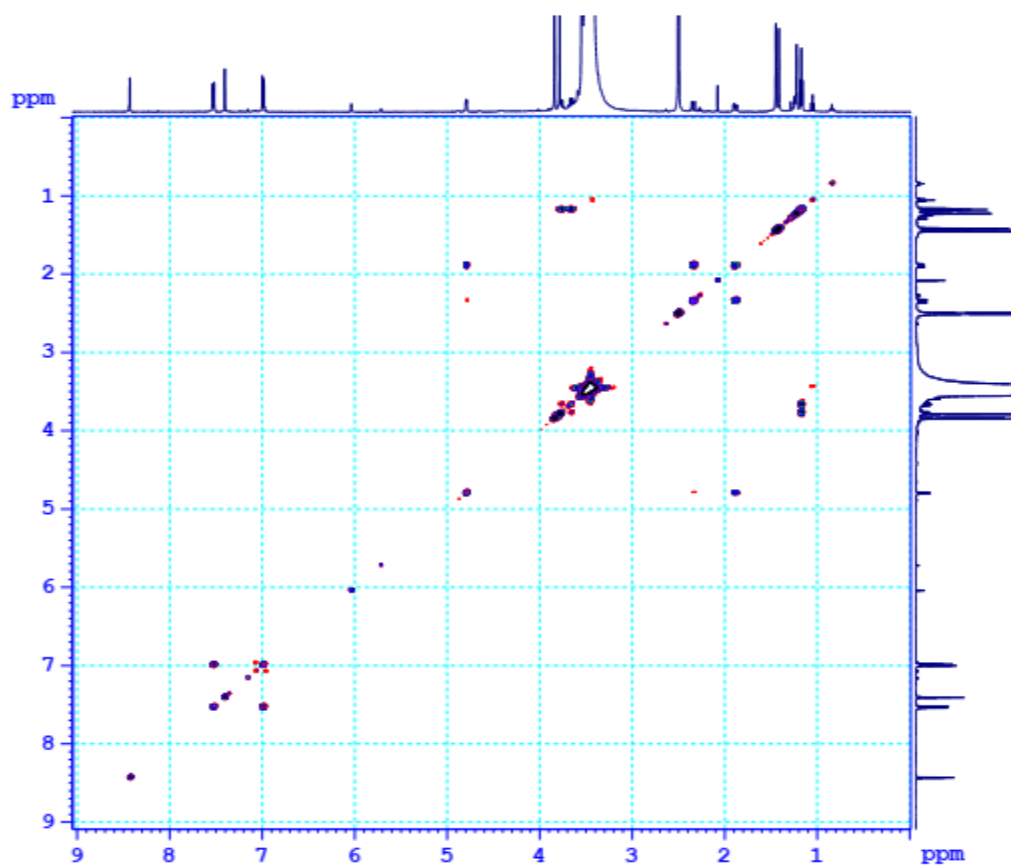


Figure S3. The COSY spectrum of **1**

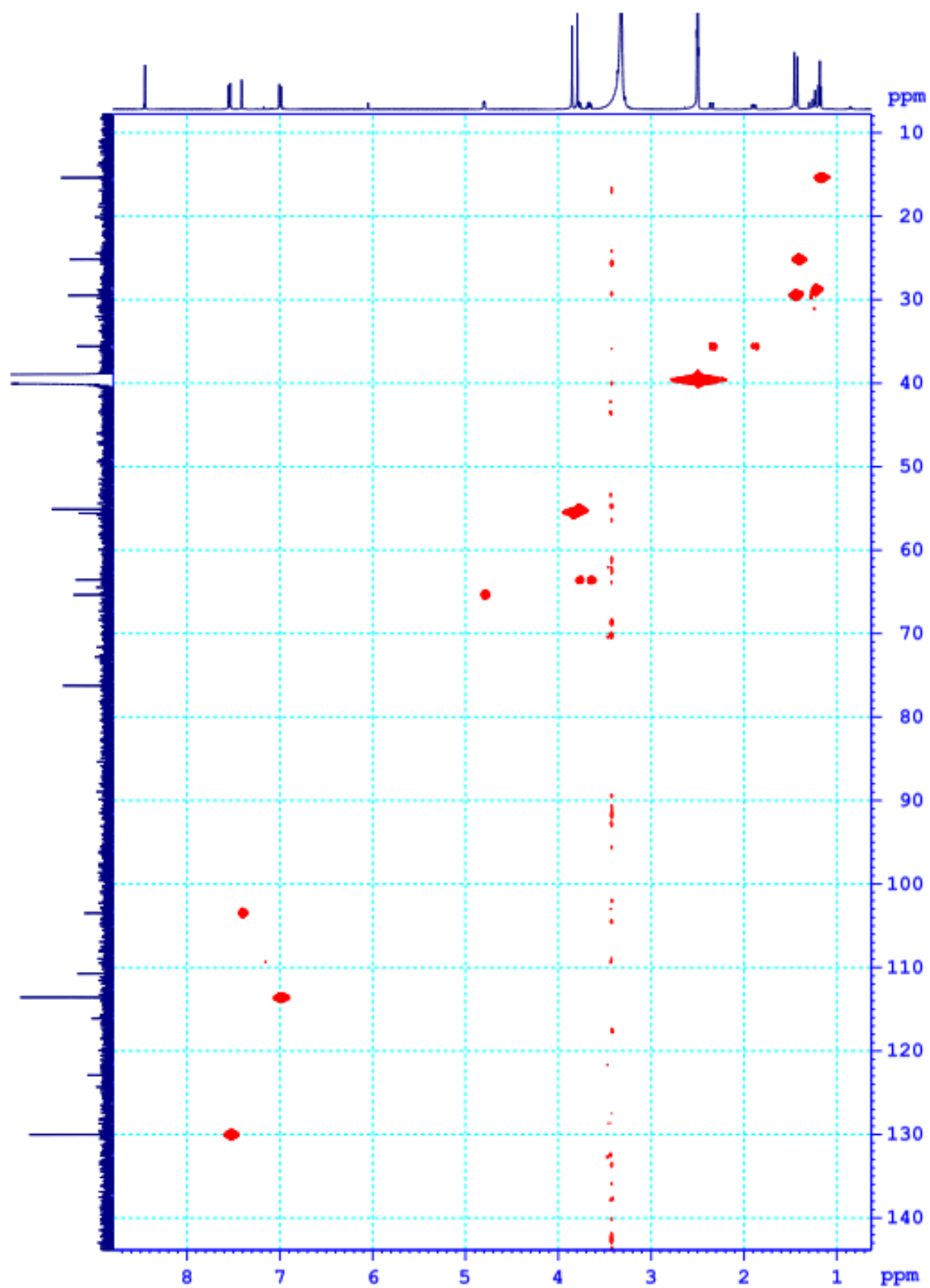


Figure S4. The HSQC spectrum of **1**

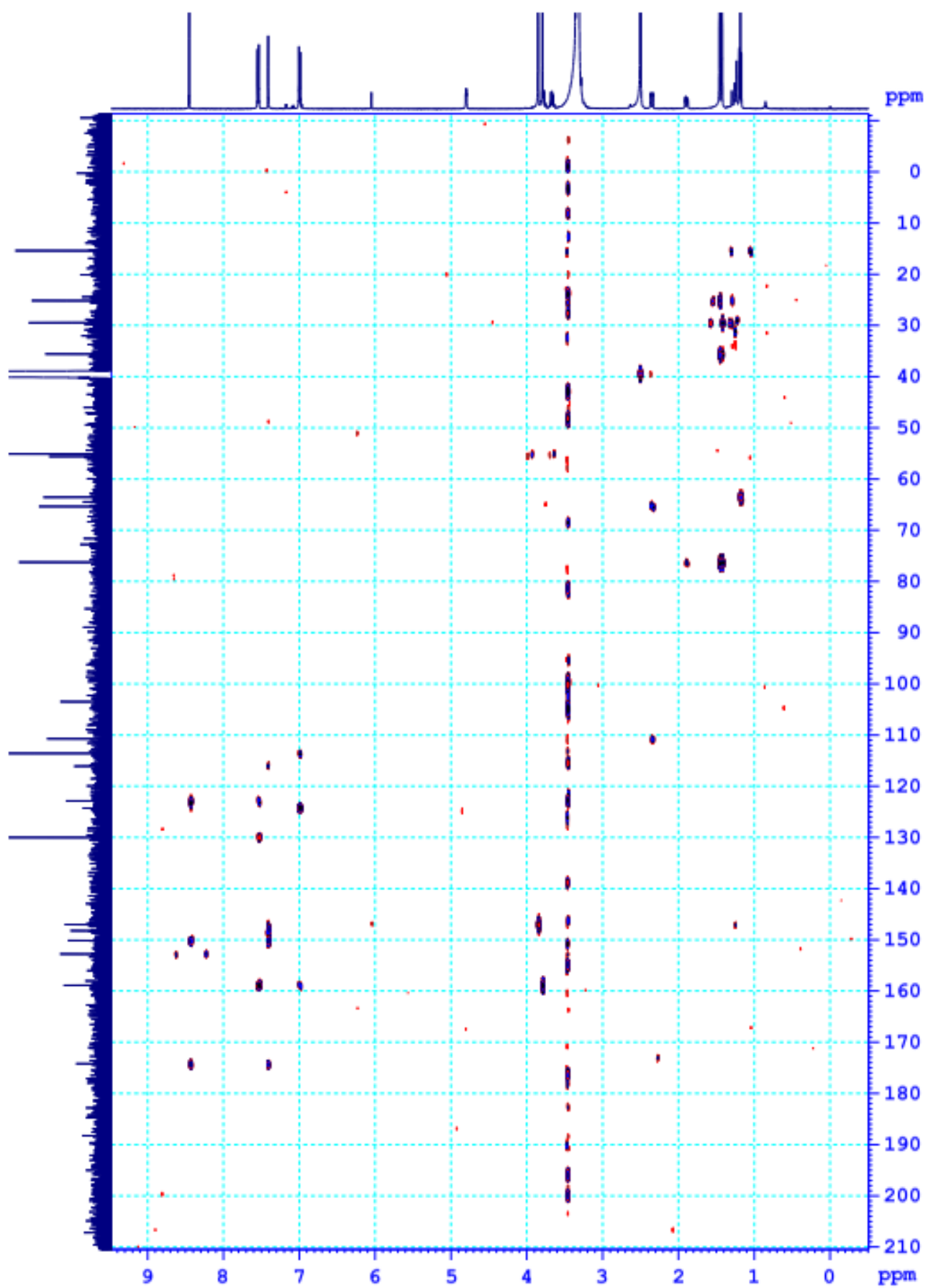


Figure S5. The HMBC spectrum of **1**

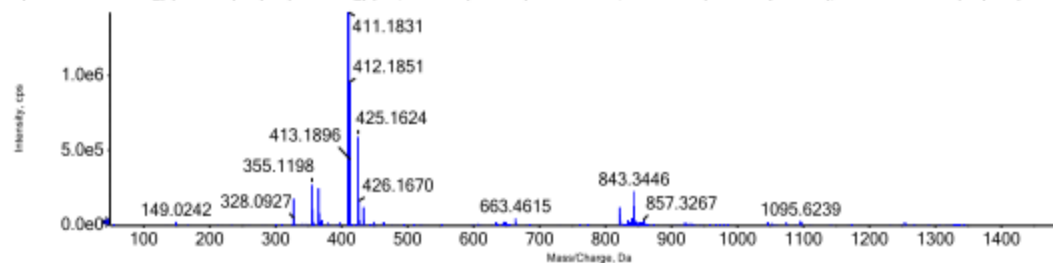
ANALYSIS REPORT

Injection details

Sample name	LIEN206	Vial position	18
Sample file name	SER_wiff2 - LIEN	Inject volume	5.00
Acquisition date	01/09/2020 10:33:36 AM	Acquisition method	ESI_POS_SCAN
Operator	CB21261708	Instrument name	X500R_QTOF

Full mass spectrum

Spectrum from LIEN206_(+)ESI.wiff2 (sample 1) - LIEN206_(+)ESI, +TOF MS (50 - 1500) from 0.162 min, noise filtered (noise multiplier = 1.5), Gaussian smoothed (0.5 points)



Expanded spectrum

Spectrum from LIEN206_(+)ESI.wiff2 (sample 1) - LIEN206_(+)ESI, +TOF MS (50 - 1500) from 0.162 min, noise filtered (noise multiplier = 1.5), Gaussian smoothed (0.5 points)

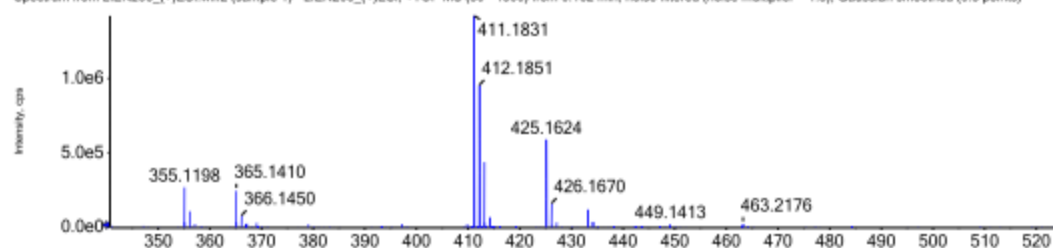


Figure S6. The HRESIMS spectrum of **1**