

Pyrrole Alkaloids from the Edible Mushroom *Phlebopus portentosus* with Their Bioactive Activities

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Abstract: Seven pyrrole alkaloids, three of which are novel (phlebopines A–C (1–3)), were isolated from the fruiting bodies of the edible mushroom *Phlebopus portentosus*. Their structures were determined on the basis of spectroscopic data. All the isolated compounds were tested for their neuroprotective properties and acetylcholine esterase (AChE) inhibition activities. Compound 7 displayed remarkable neuroprotective effects against hydrogen peroxide (H₂O₂)-induced neuronal-cell damage in human neuroblastoma SH-SY5Y cells.

Keywords: *Phlebopus portentosus*; edible mushroom; pyrrole alkaloids; neuroprotection

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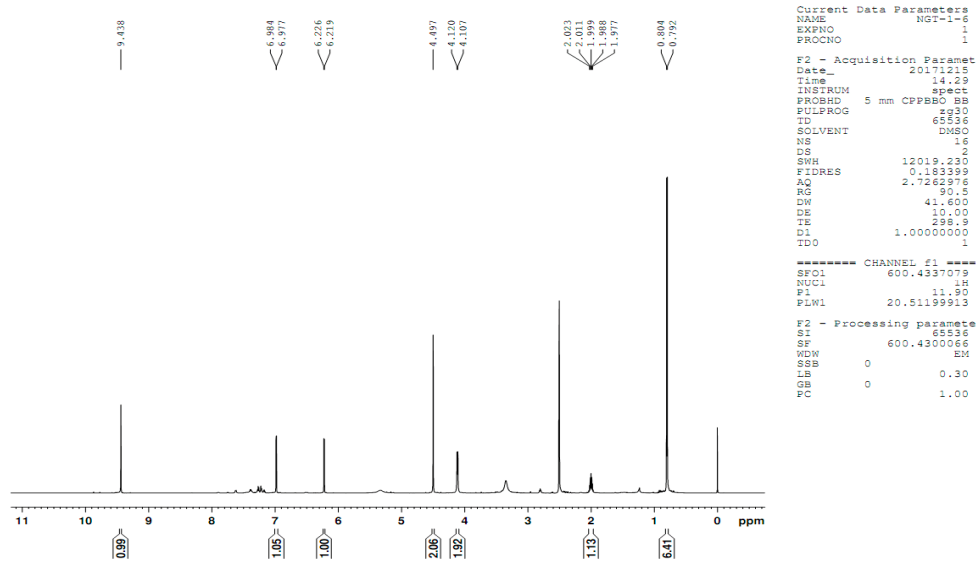


Figure S1. ¹H-NMR (600 MHz, DMSO-*d*₆) spectrum of the new compound 1.

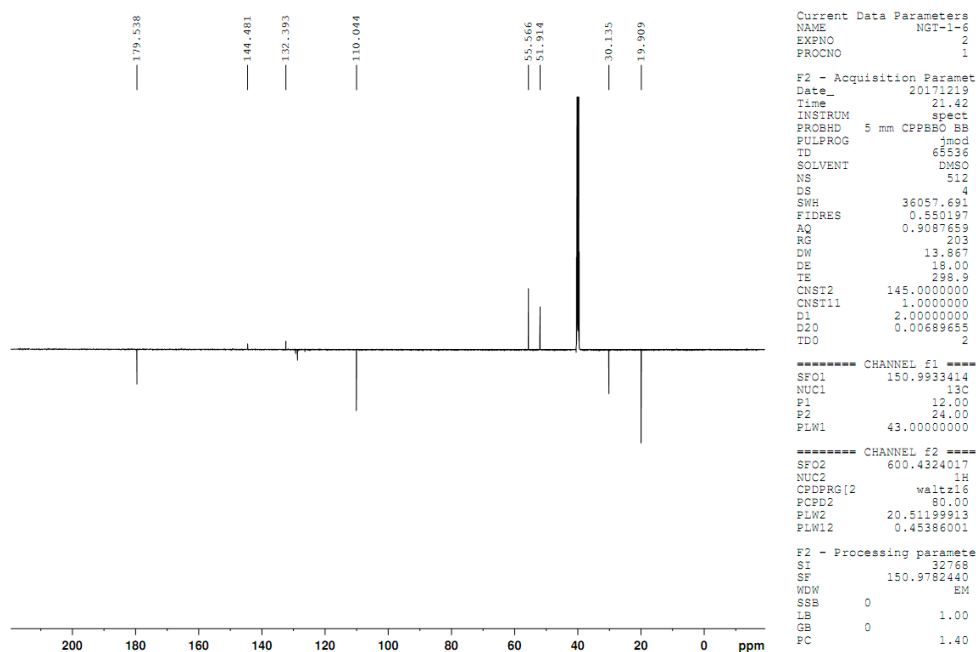


Figure S2. ¹³C-APT (150 MHz, DMSO-*d*₆) spectrum of the new compound 1.

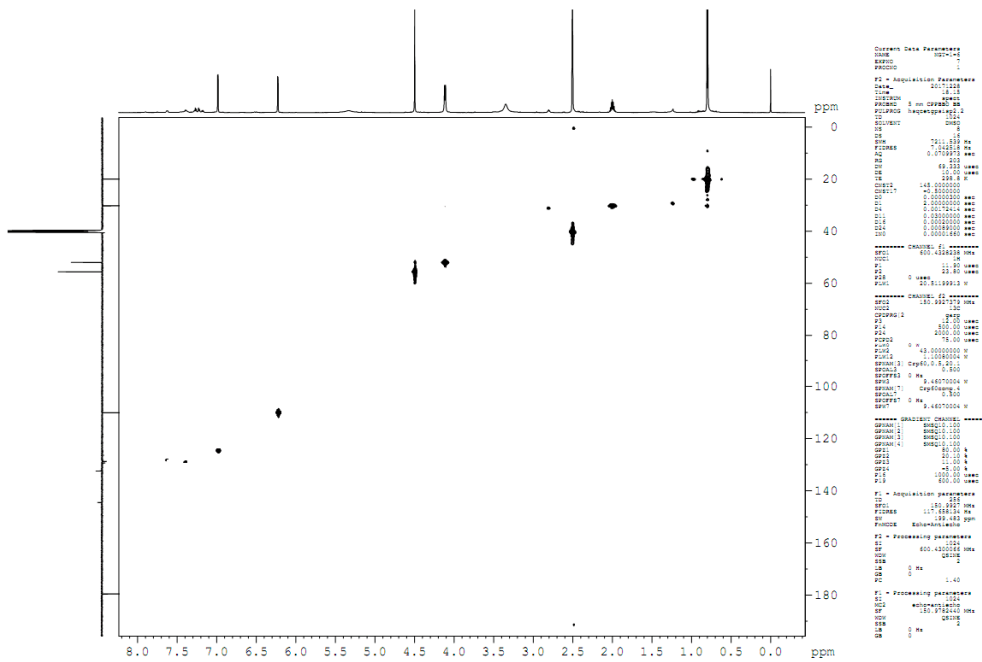


Figure S3. HSQC spectrum of the new compound 1.

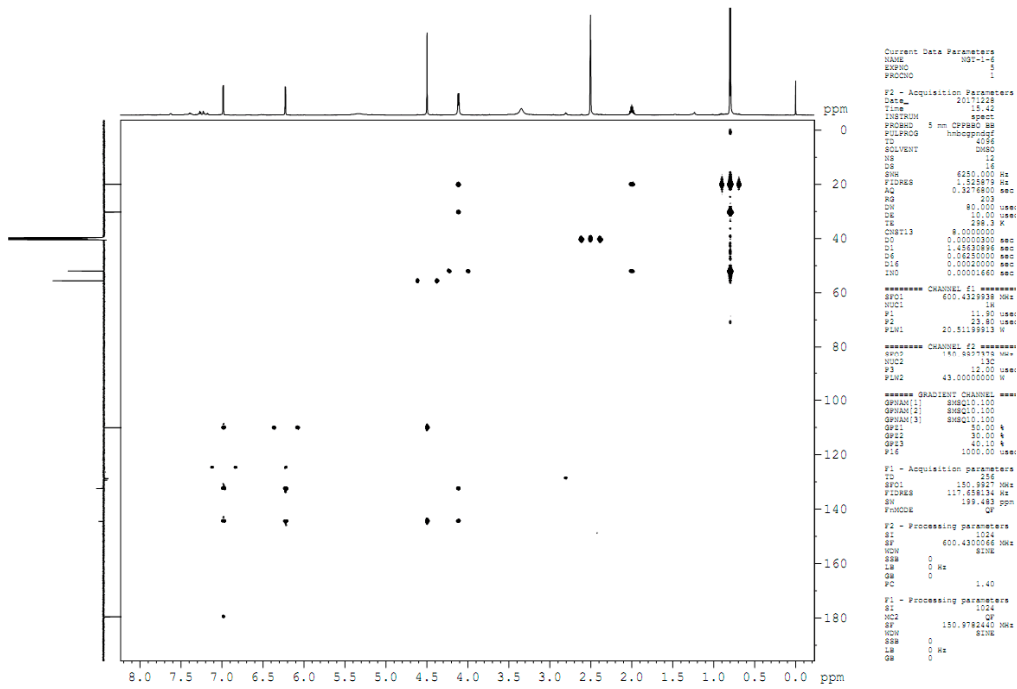


Figure S4. HMBC spectrum of the new compound 1.

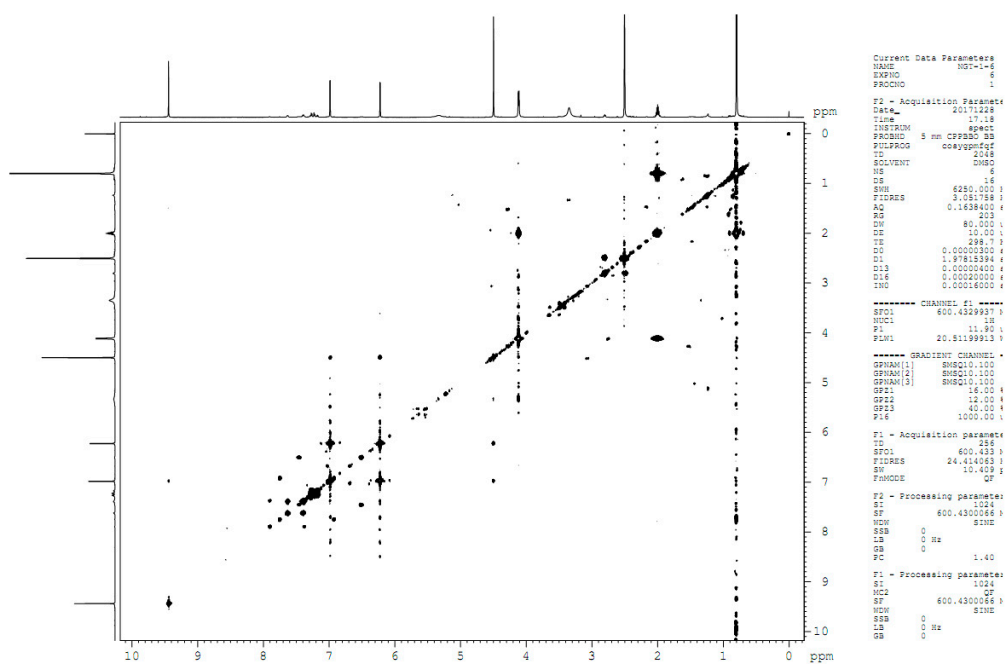


Figure S5. ^1H - ^1H COSY spectrum of the new compound 1.

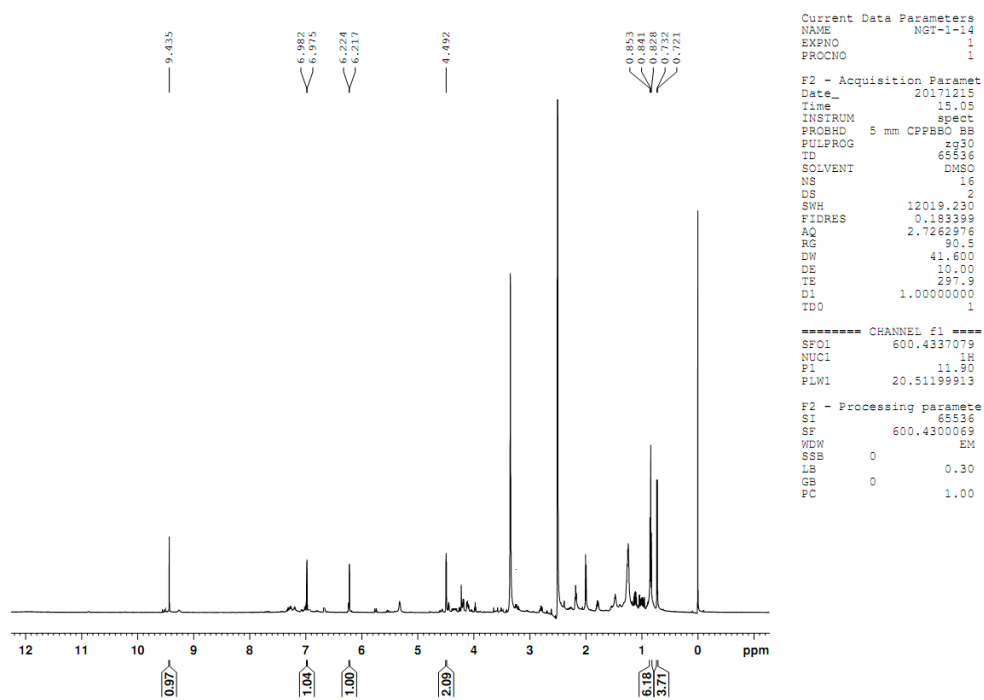


Figure S6. ^1H -NMR (600 MHz, $\text{DMSO-}d_6$) spectrum of the new compound 2.

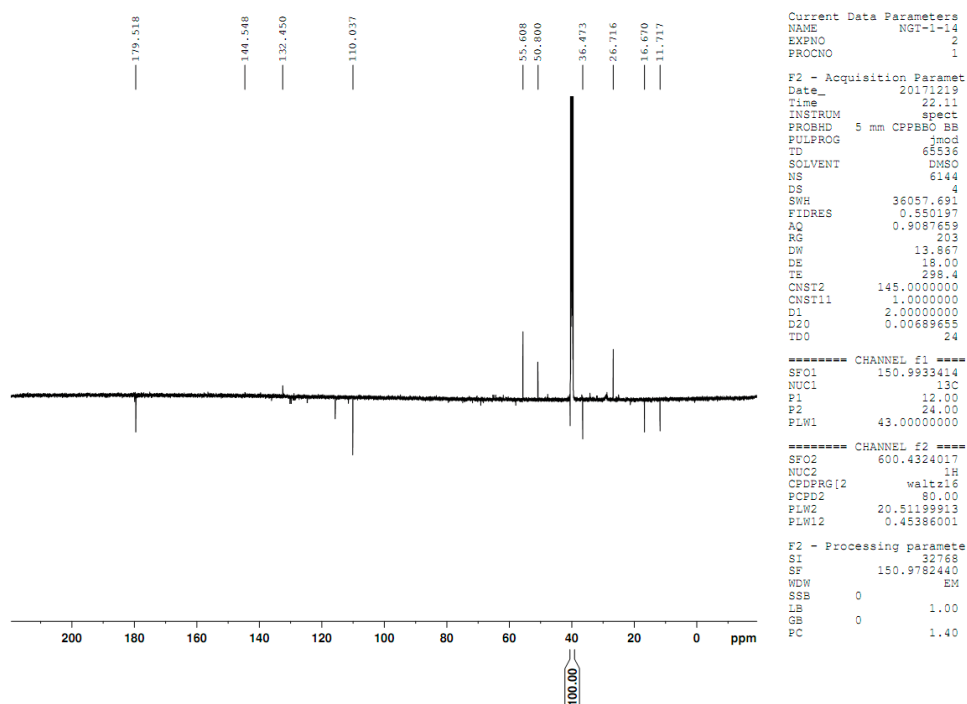


Figure S7. ^{13}C -APT (150 MHz, $\text{DMSO-}d_6$) spectrum of the new compound **2**.

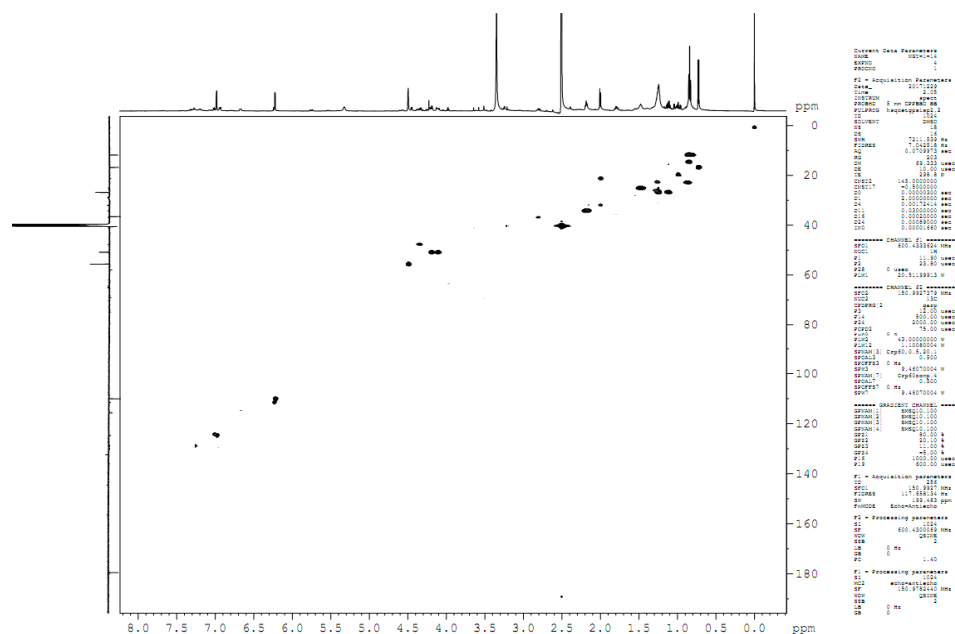


Figure S8. HSQC spectrum of the new compound **2**.

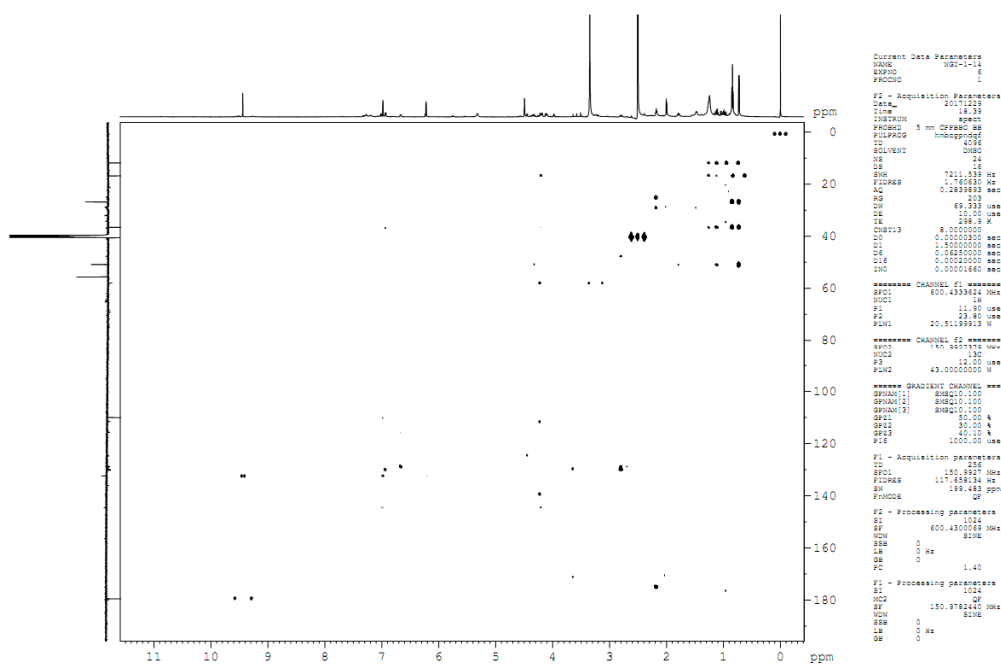


Figure S9. HMBC spectrum of the new compound 2.

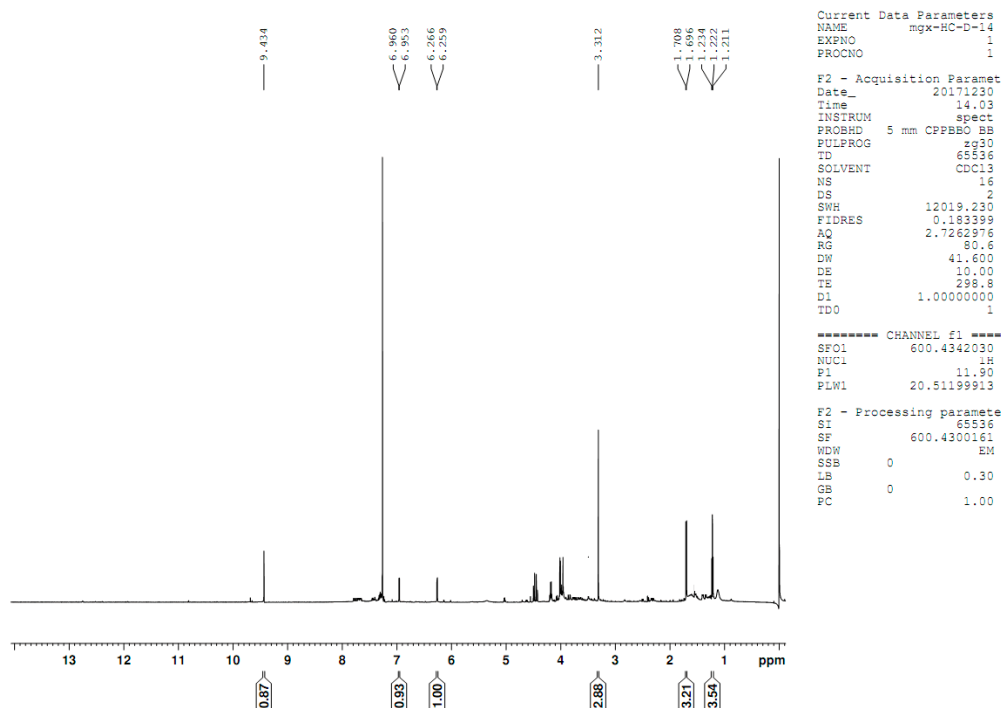


Figure S10. ¹H-NMR (600 MHz, CDCl₃) spectrum of the new compound 3.

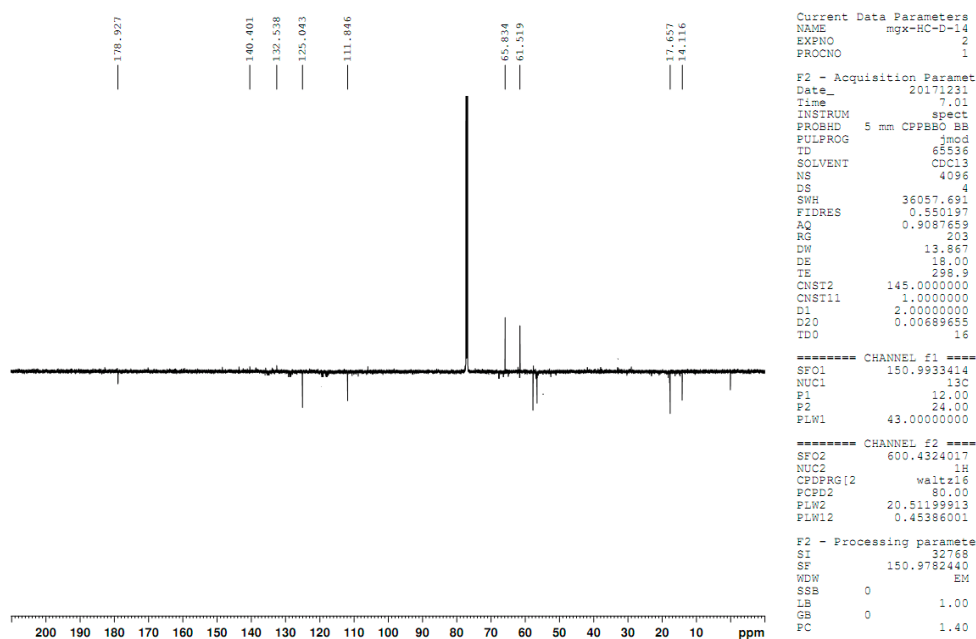


Figure S11. ^{13}C -APT (150 MHz, CDCl_3) spectrum of the new compound **3**.

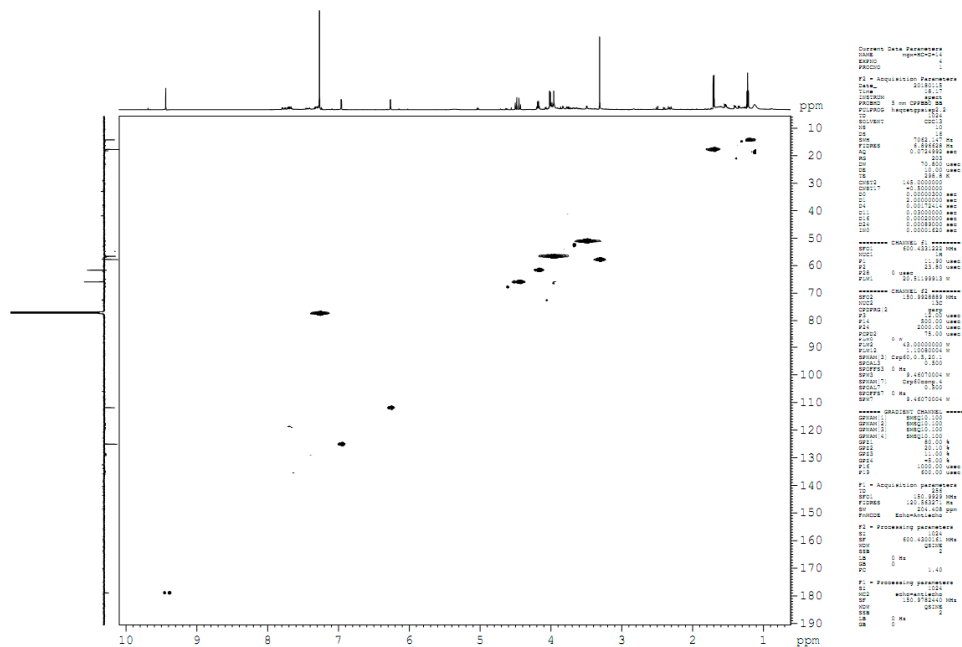


Figure S12. HSQC spectrum of the new compound **3**.

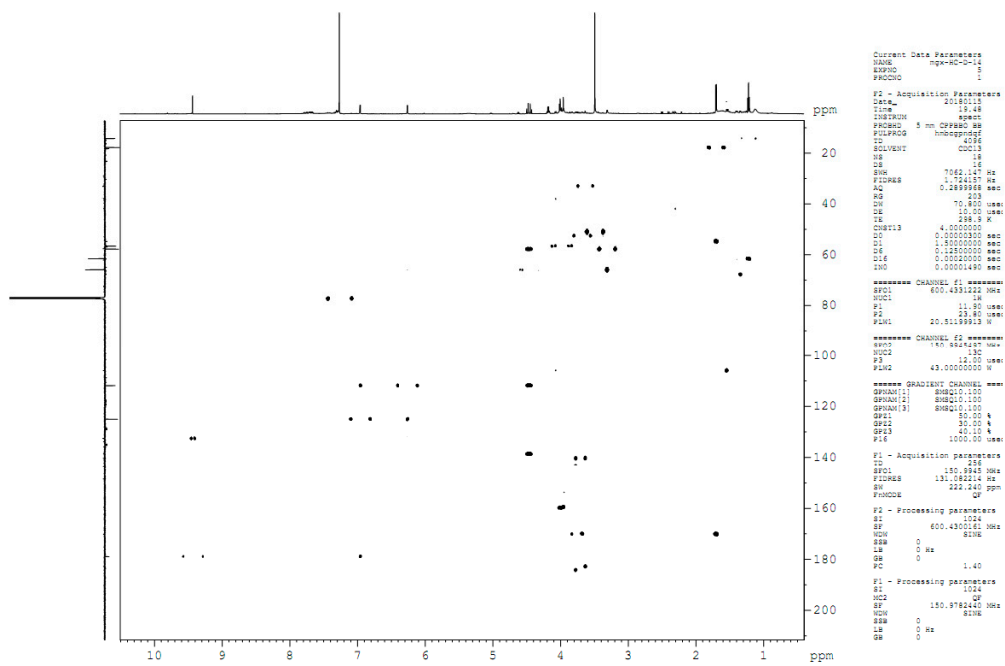


Figure S13. HMBC spectrum of the new compound **3**.