

Data availability statements

The data supporting this article have been included as part of the Supplementary Information.

Supporting Information

Quassinoids from Malaysian *Eurycoma longifolia* significantly increased the expression of the melatonin biosynthesis-related enzyme gene (AANAT)

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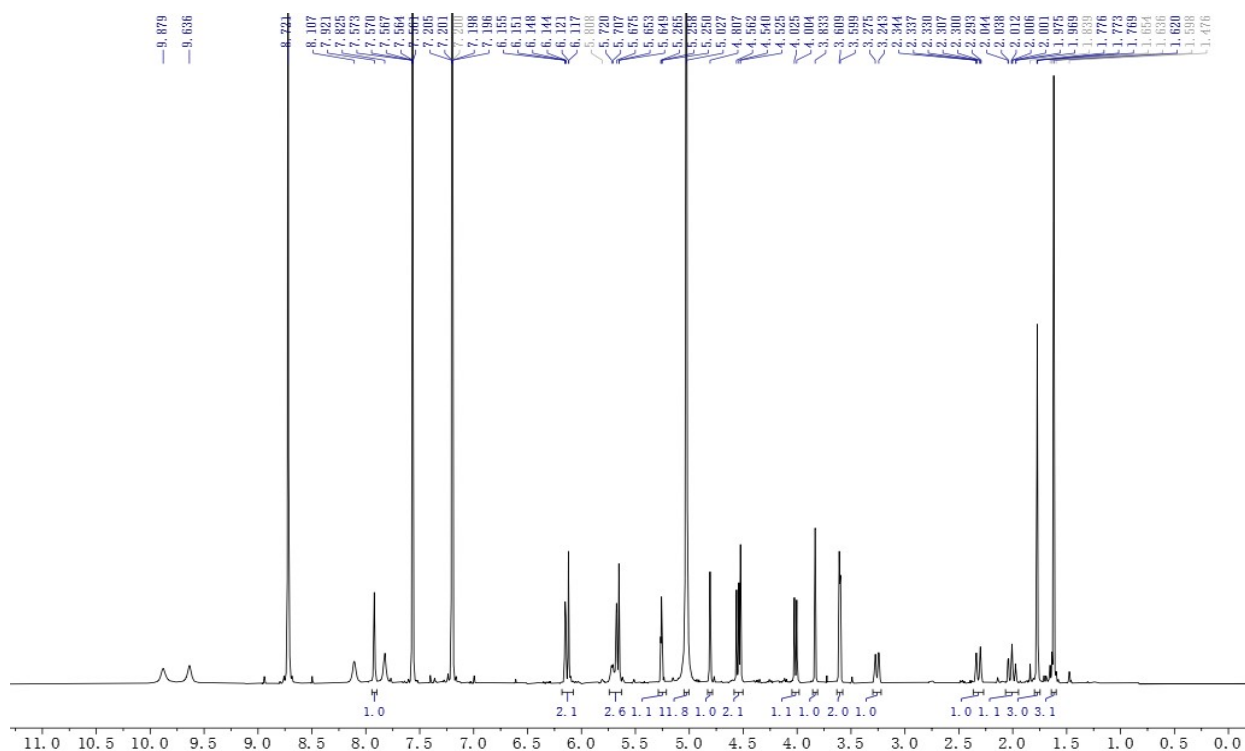


Figure S1: ^1H -NMR (400 MHz, pyridine- d_5) spectrum of **1** (eurycomanone)

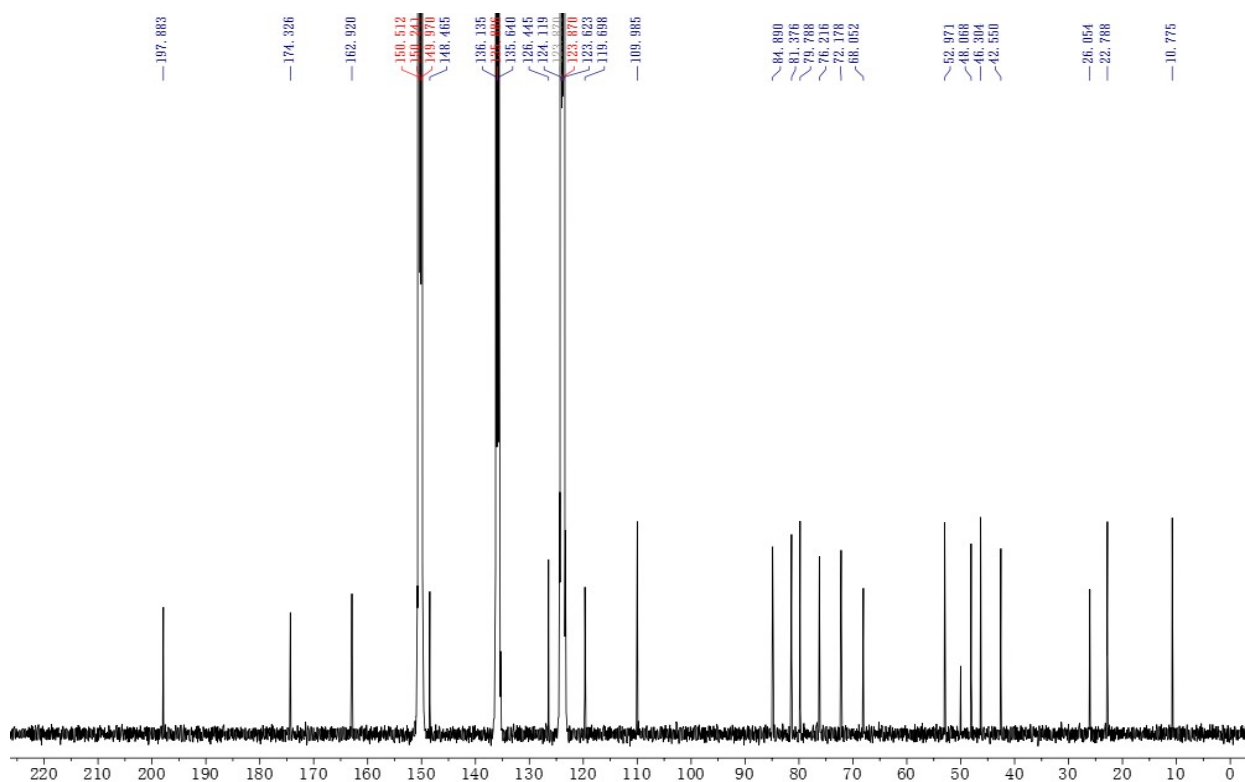


Figure S2: ^{13}C -NMR (100 MHz, pyridine- d_5) spectrum of **1** (eurycomanone)

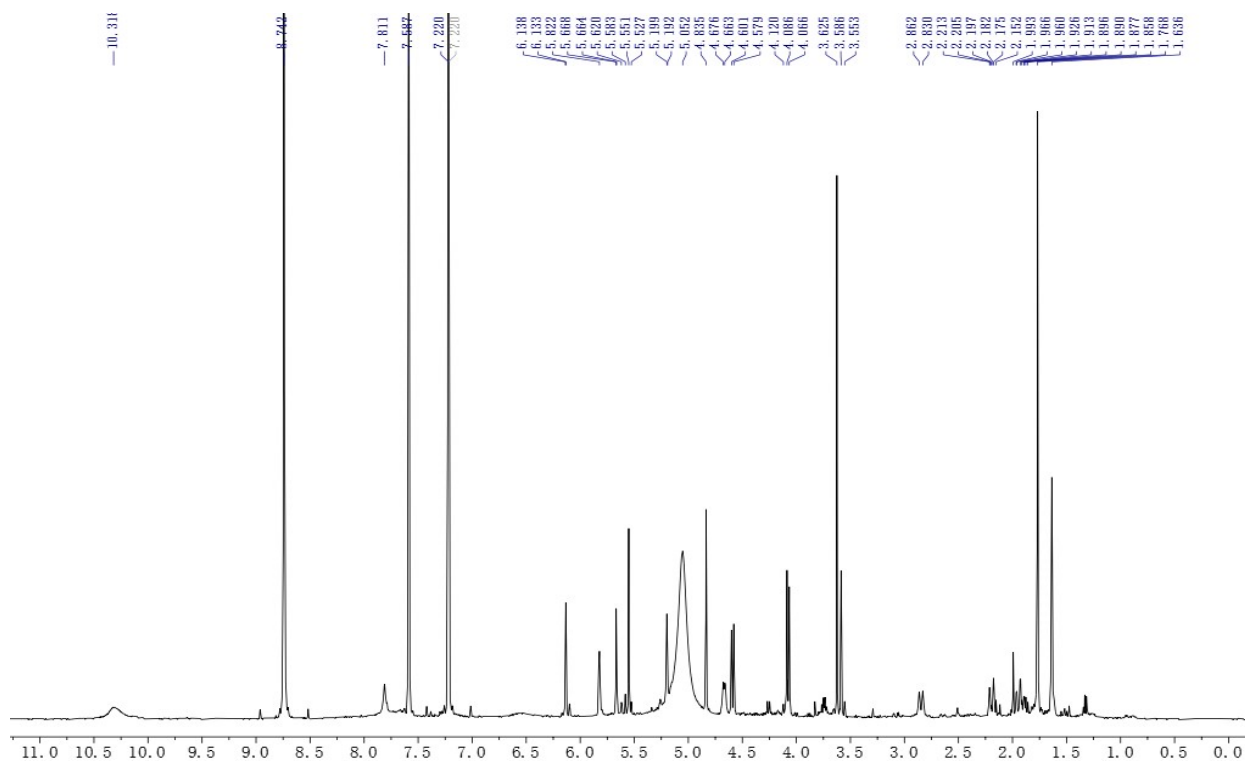


Figure S3: ^1H -NMR (400 MHz, pyridine- d_5) spectrum of **2** (eurycomanol)

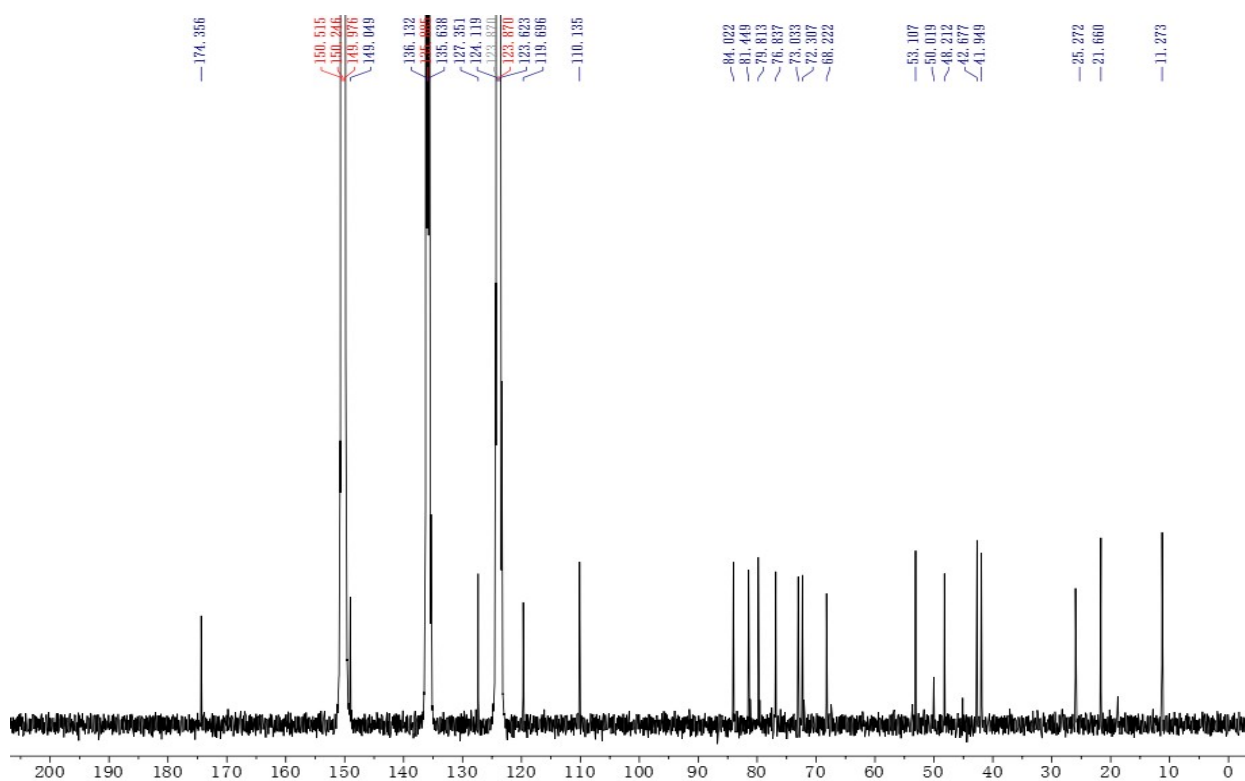


Figure S4: ^{13}C -NMR (100 MHz, pyridine- d_5) spectrum of **2** (eurycomanol)

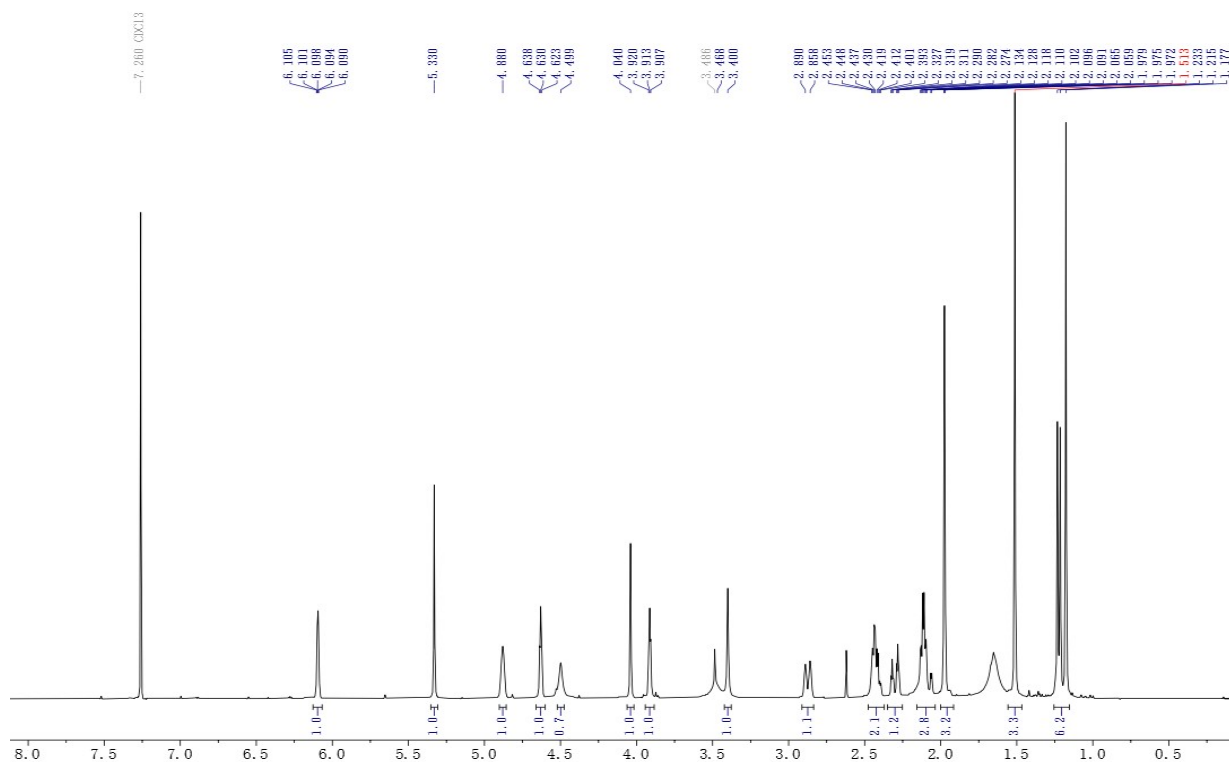


Figure S5: ¹H-NMR (400 MHz, CDCl₃) spectrum of **3** (14,15β-dihydroxyklaineanone)

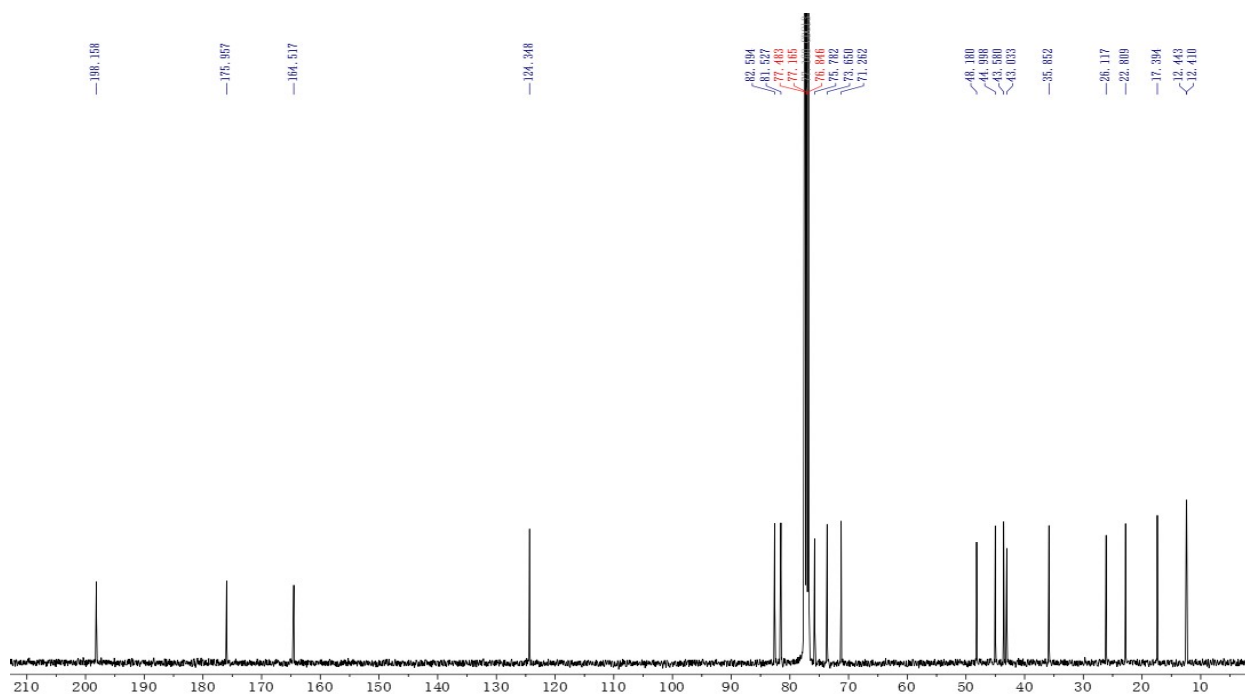


Figure S6: ¹³C-NMR (100 MHz, CDCl₃) spectrum of **3** (14,15β-dihydroxyklaineanone)

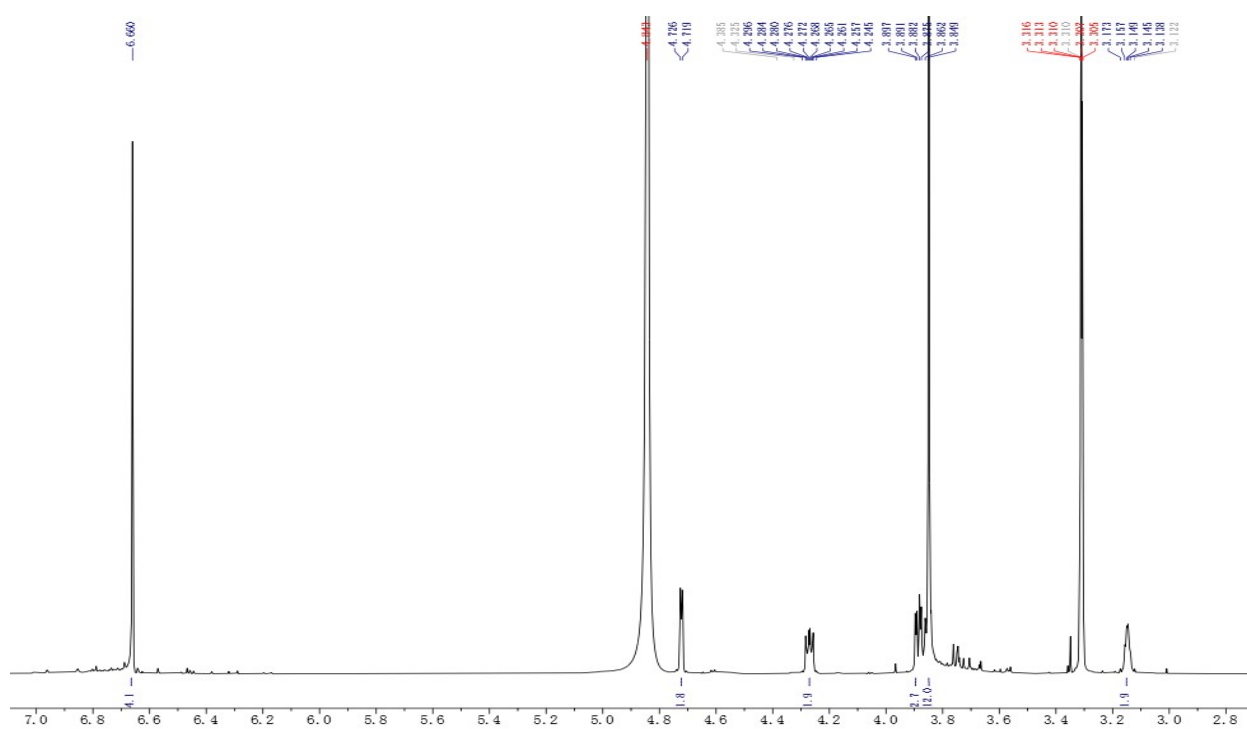


Figure S7: ^1H NMR (600 MHz, CD_3OD) spectrum of **4** (syringaresinol)

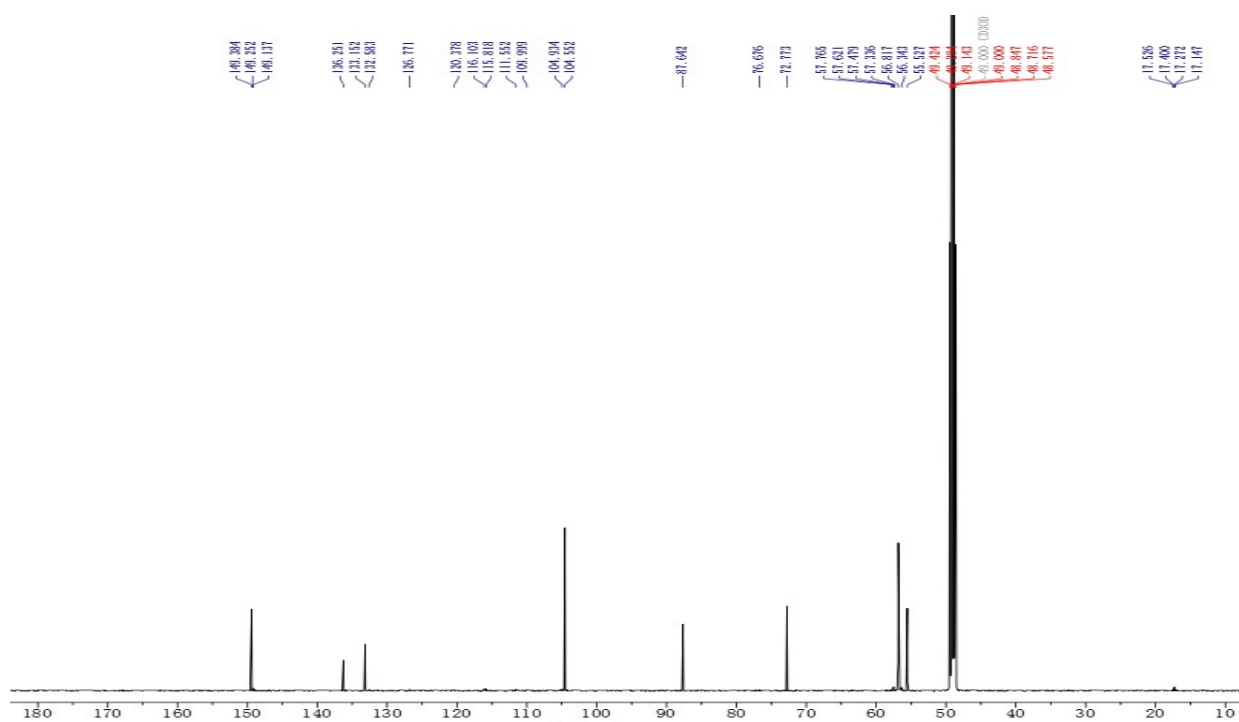


Figure S8: ^{13}C -NMR (150 MHz, CD_3OD) spectrum of **4** (syringaresinol)

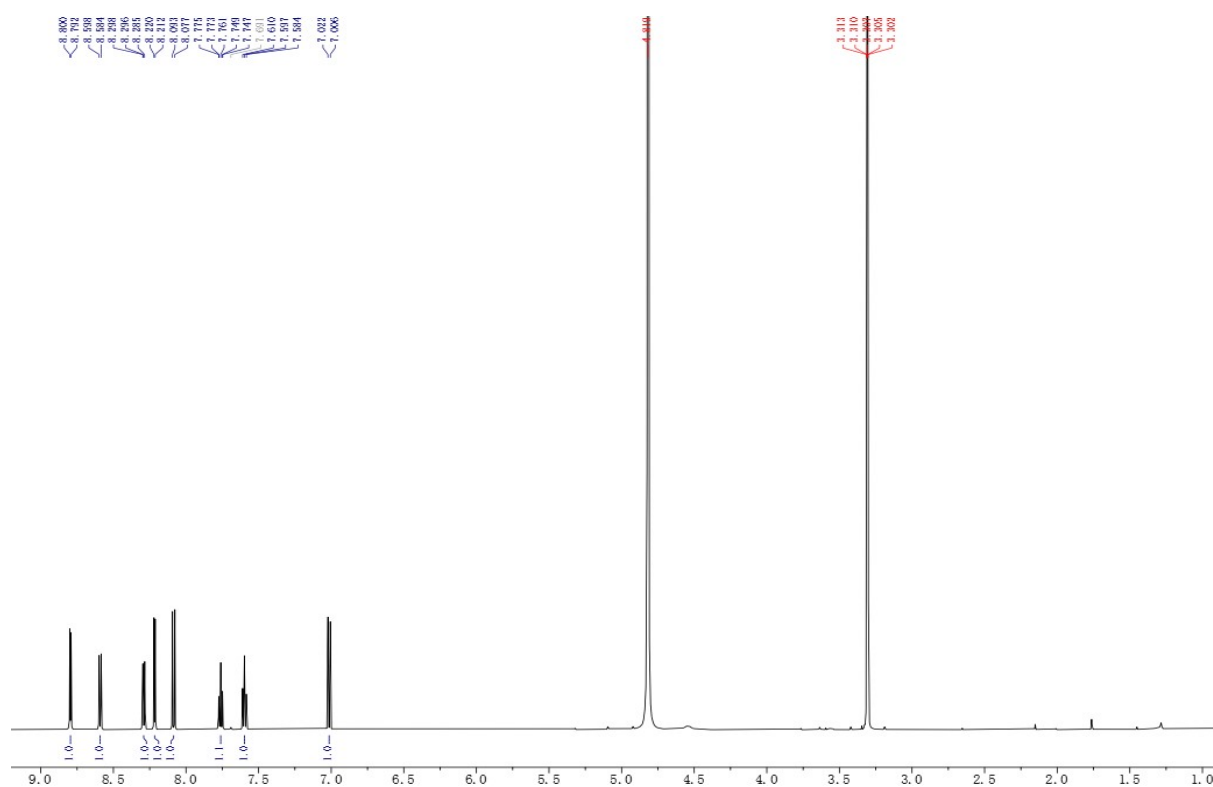


Figure S13: ¹H-NMR (600 MHz, CD₃OD) spectrum of **7** (canthin-6-one)

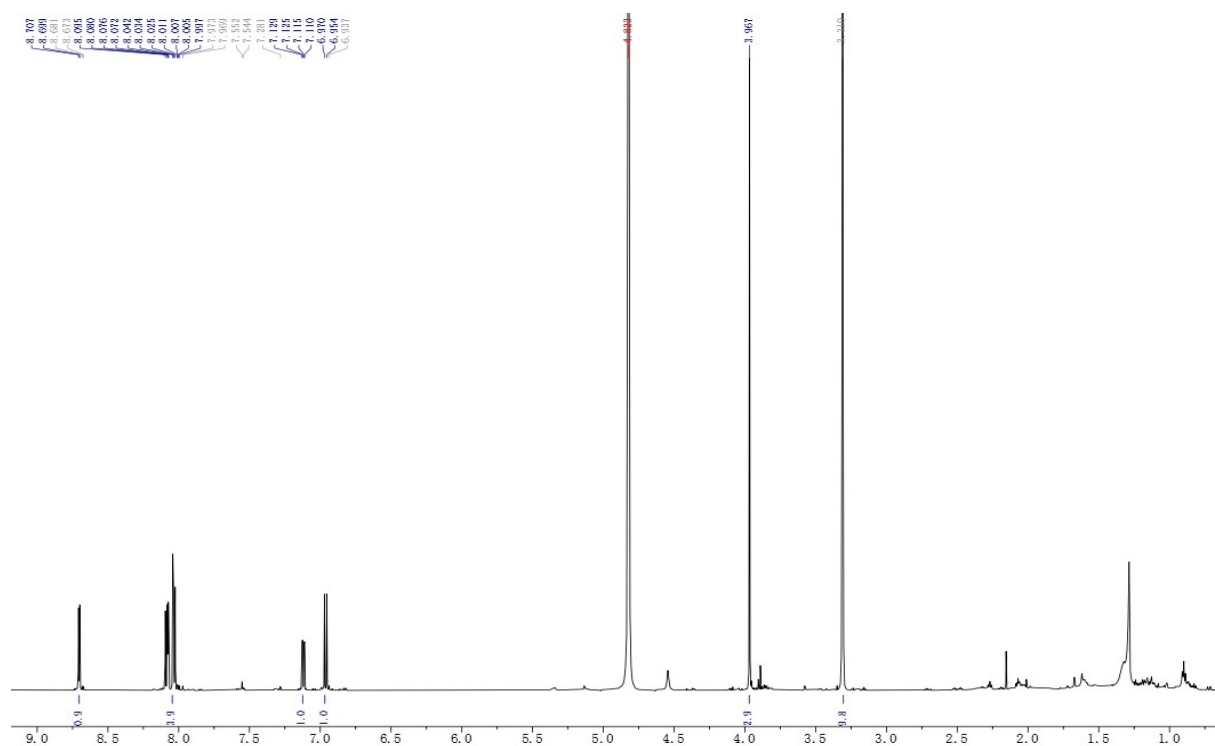


Figure S14: ^1H -NMR (600 MHz, CD_3OD) spectrum of **8** (9-methoxycanthin-6-one)

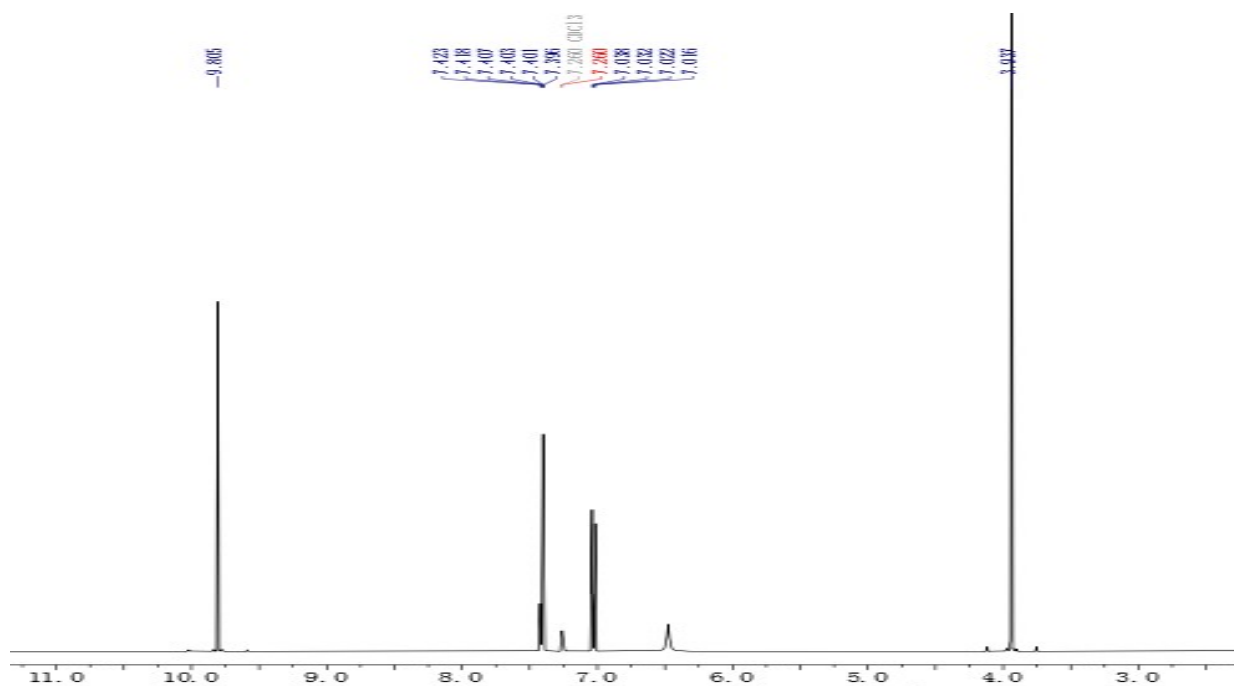
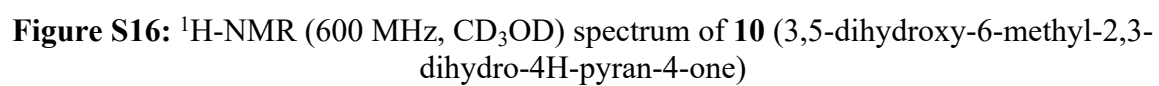


Figure S15: ^1H NMR (400 MHz, CDCl_3) spectrum of compound **9** (vanillin)



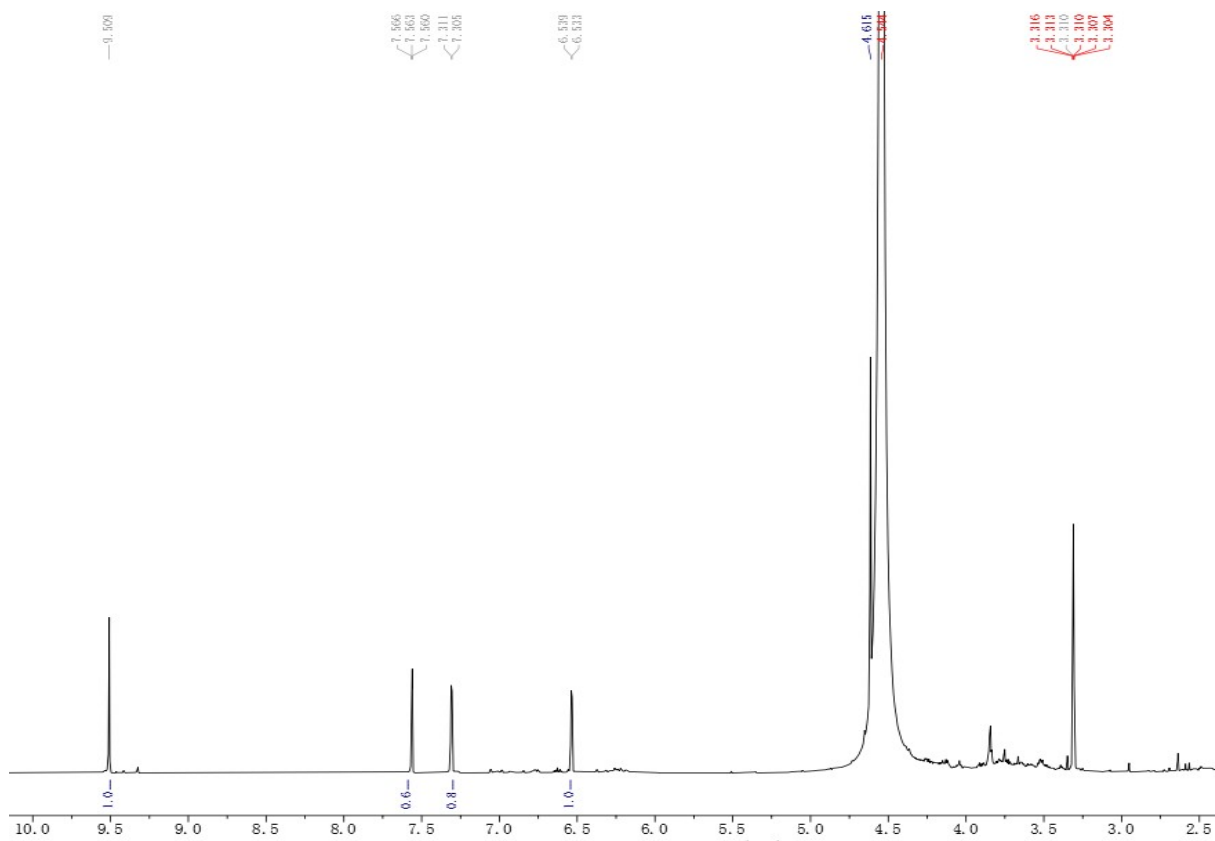


Figure S17: ^1H -NMR (600 MHz, CD_3OD) spectrum of **11** (5-hydroxymethylfurfural)