

Supplementary Material

Facile iron(III) chloride hexahydrate catalyzed synthesis of coumarins

Saisuree Prateetongkum,^{a*} Nongnaphat Duangdee,^b and Panumart Thongyoo^a

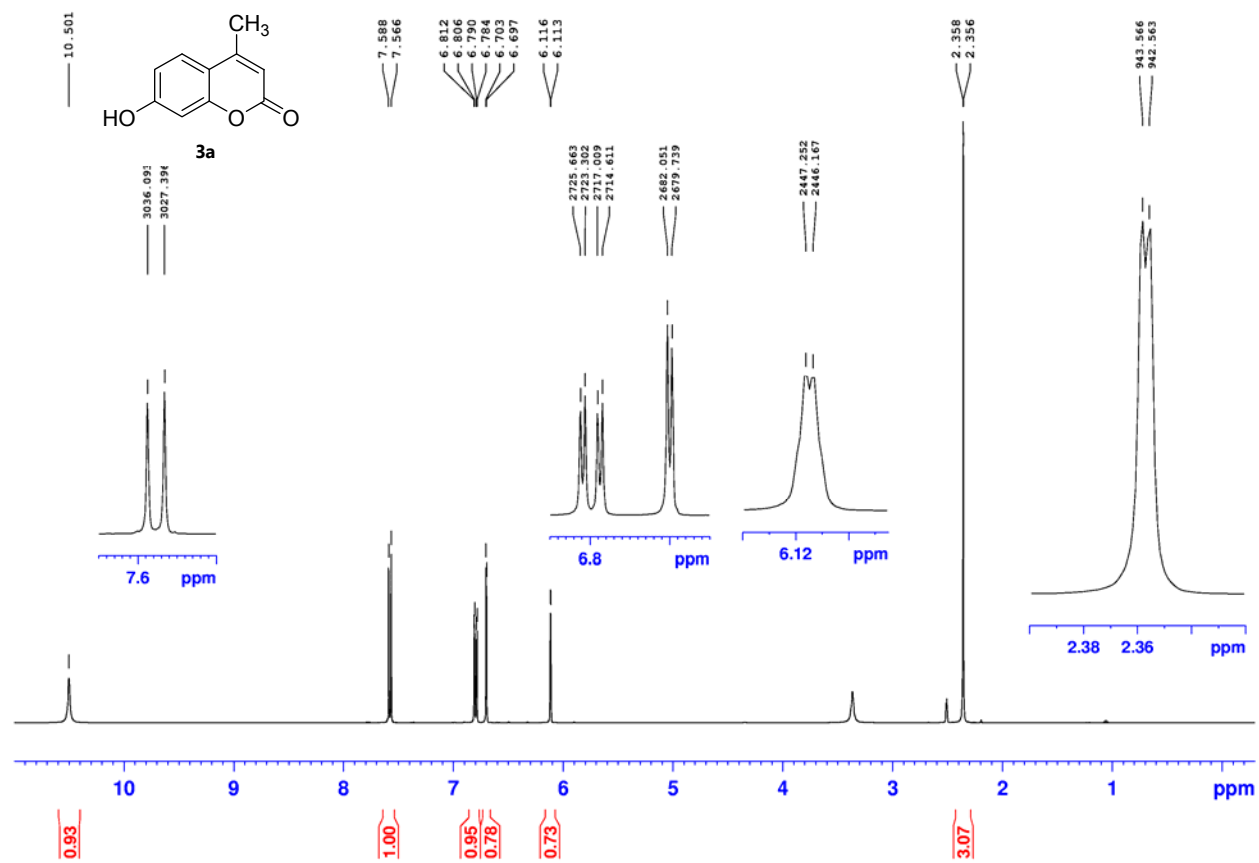
^a*Department of Chemistry, Faculty of Science & Technology, Thammasat University, 99 Moo 18 Paholyothin Road, Klong Luang, Rangsit, Prathumthani 12121, Thailand*

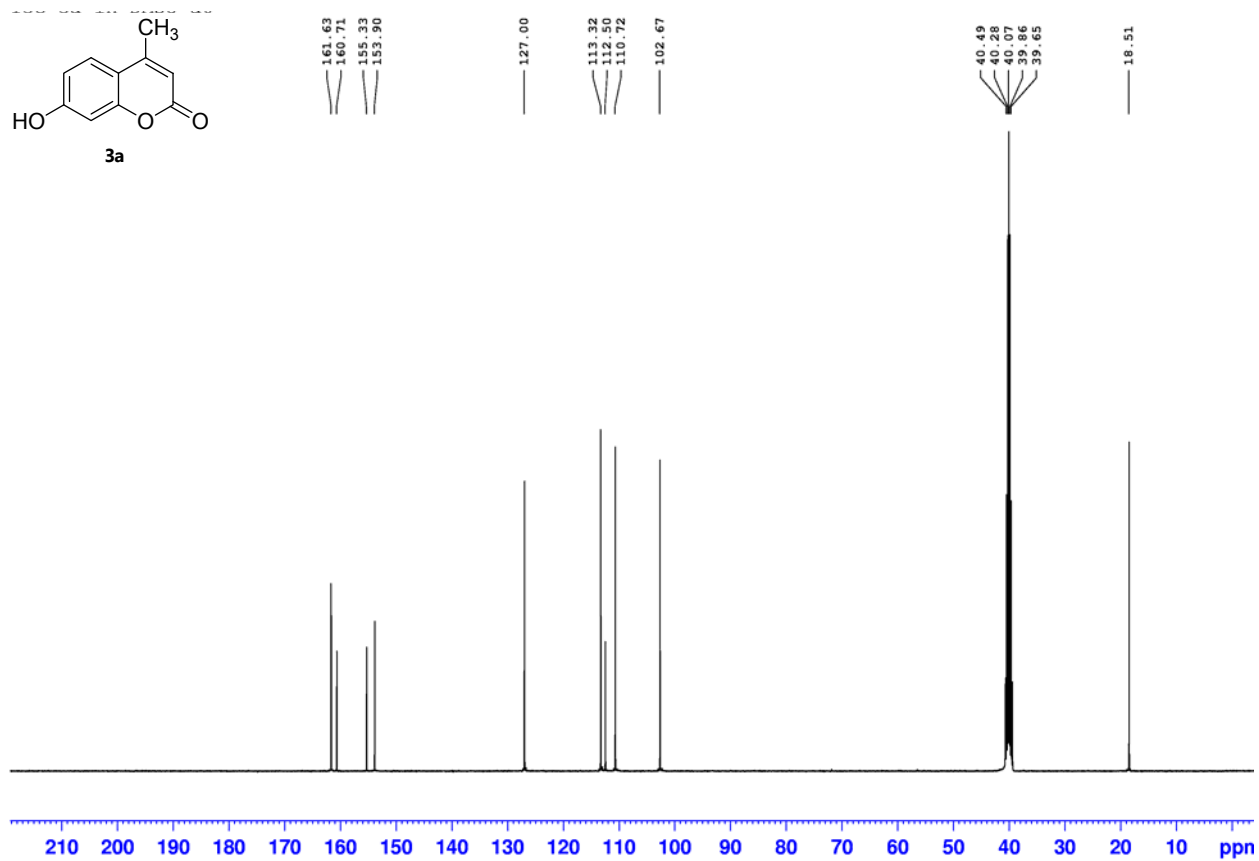
^b*Drug Discovery and Development Center, Thammasat University, 99 Moo 18 Paholyothin Road, Klong Luang, Rangsit, Prathumthani 12121, Thailand*

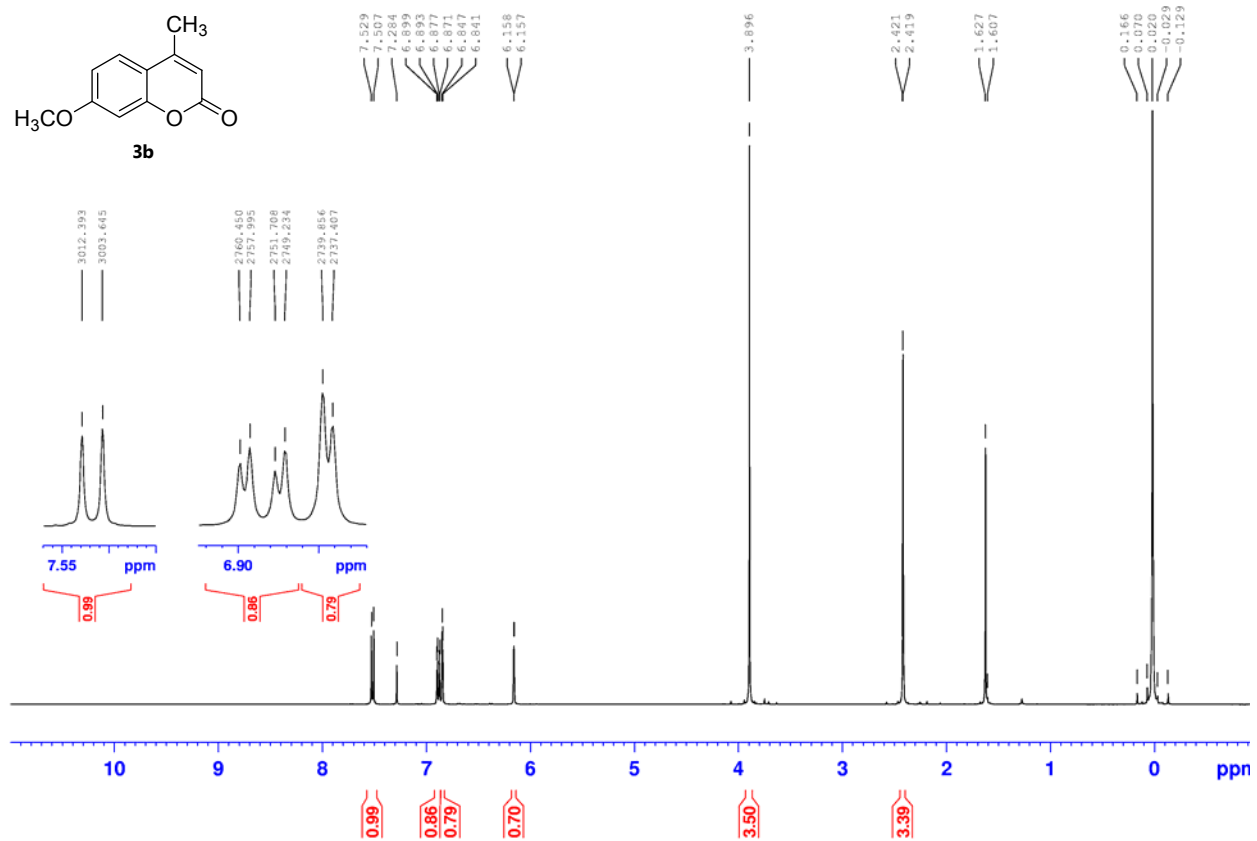
E-mail: saisuree@tu.ac.th

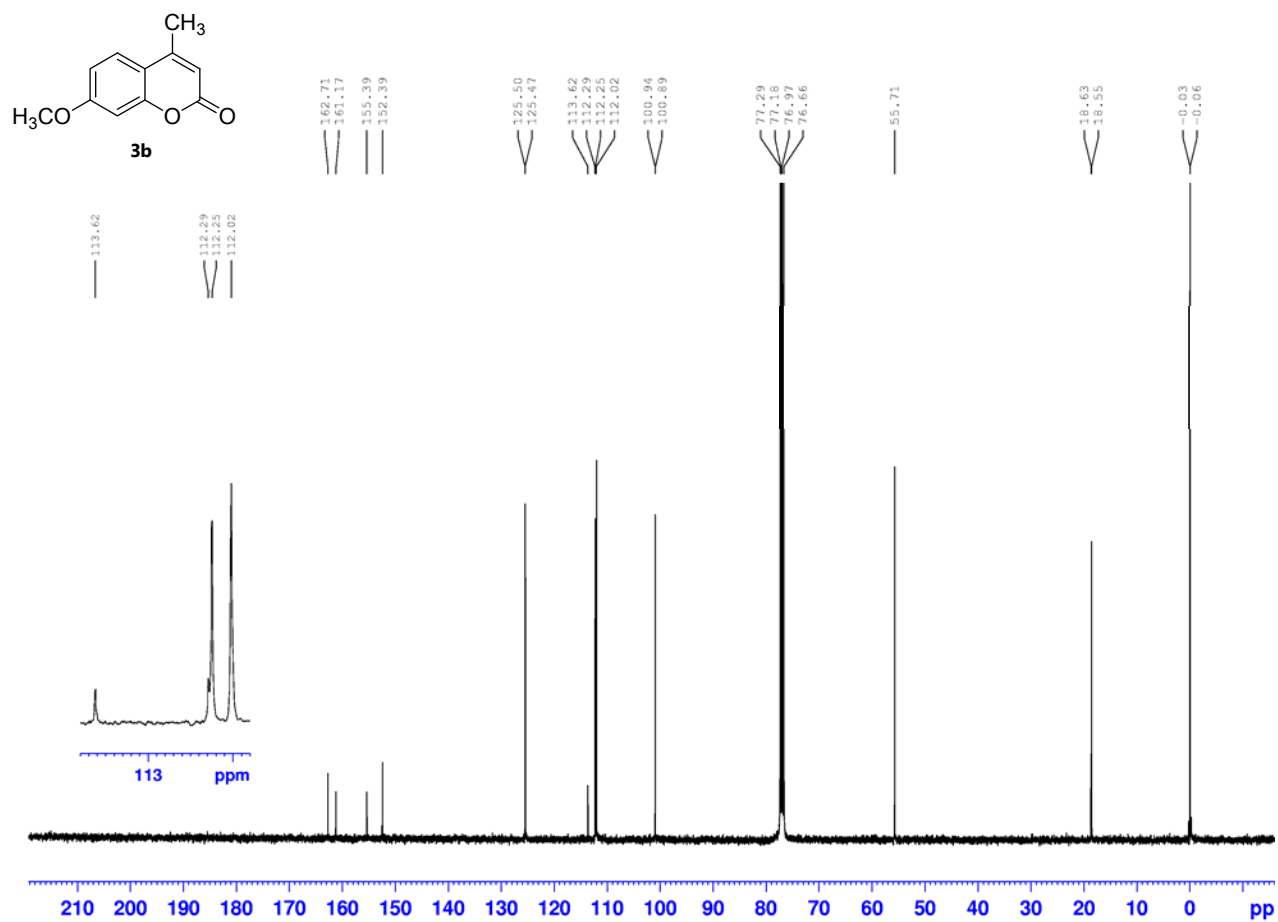
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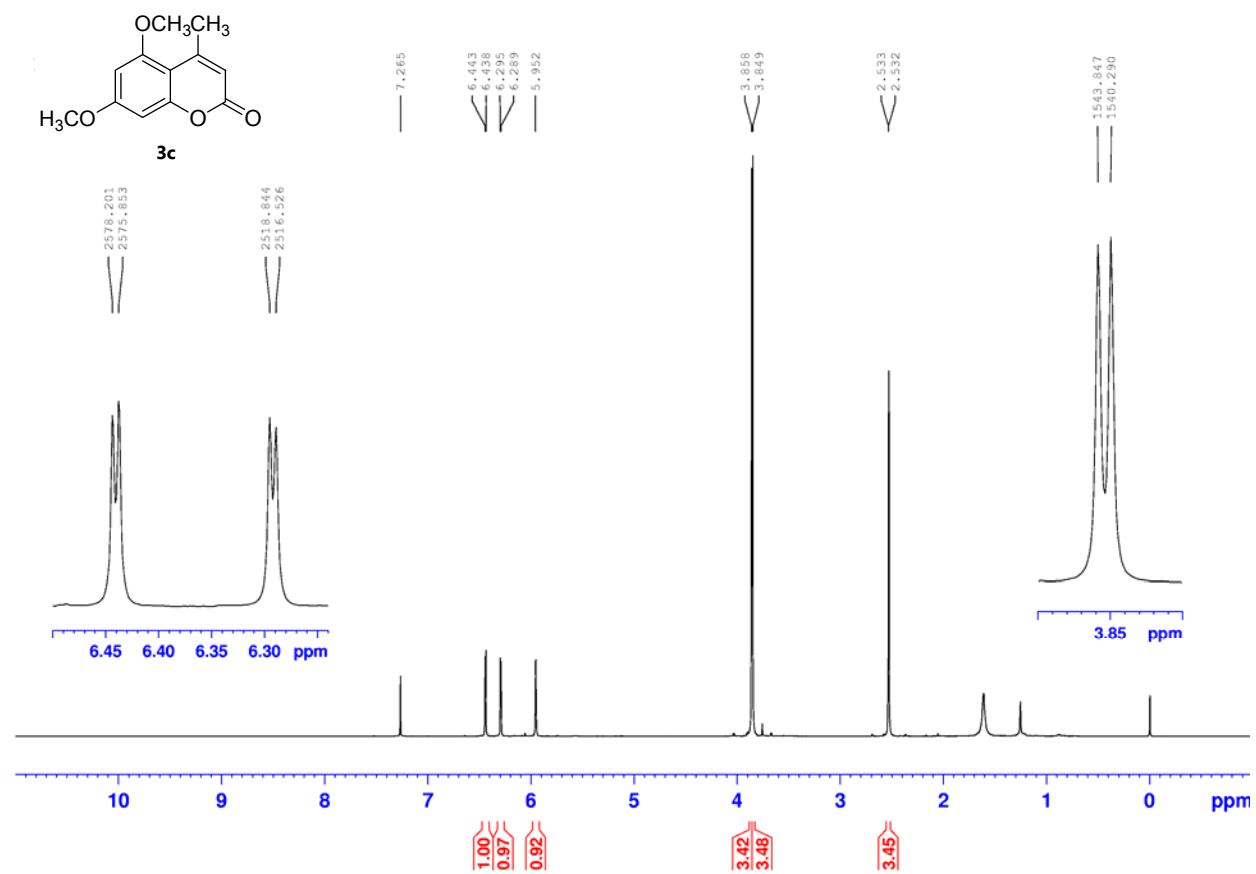
- | | |
|---|----|
| 1. The ¹ H and ¹³ C spectra of compounds 3a-3n | S2 |
|---|----|

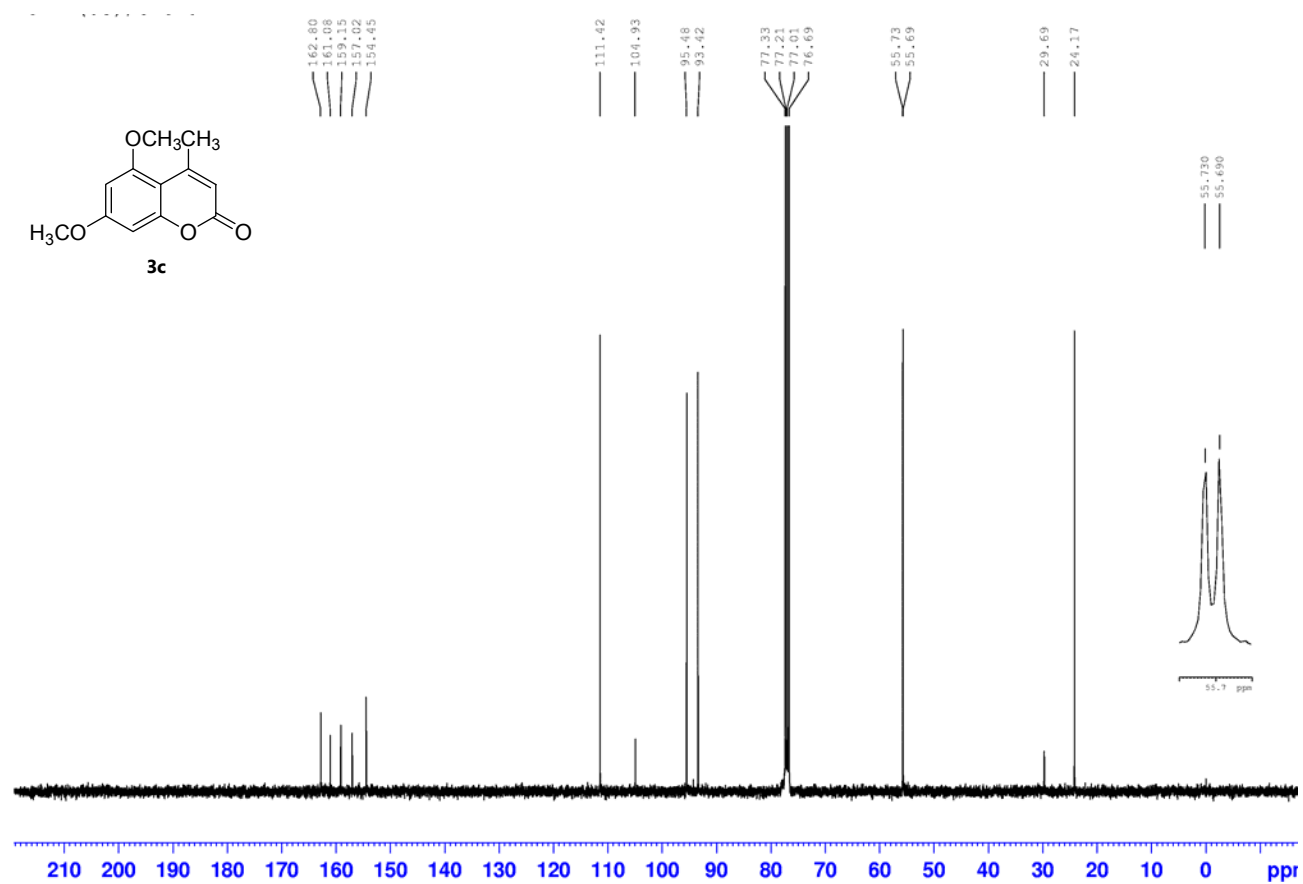
^1H NMR of **3a** (400 MHz, $\text{DMSO-}d_6$)

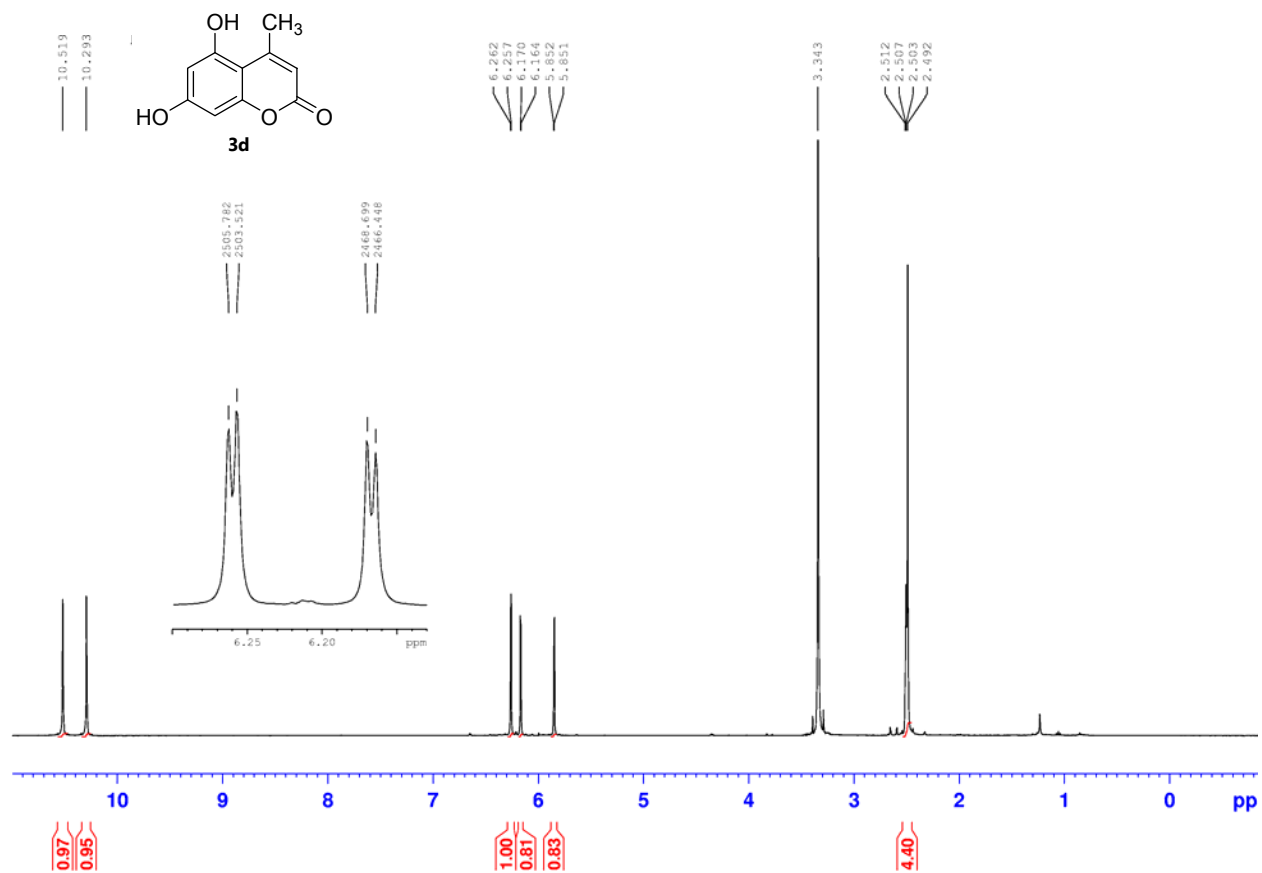
^{13}C NMR of **3a** (100 MHz, DMSO- d_6)

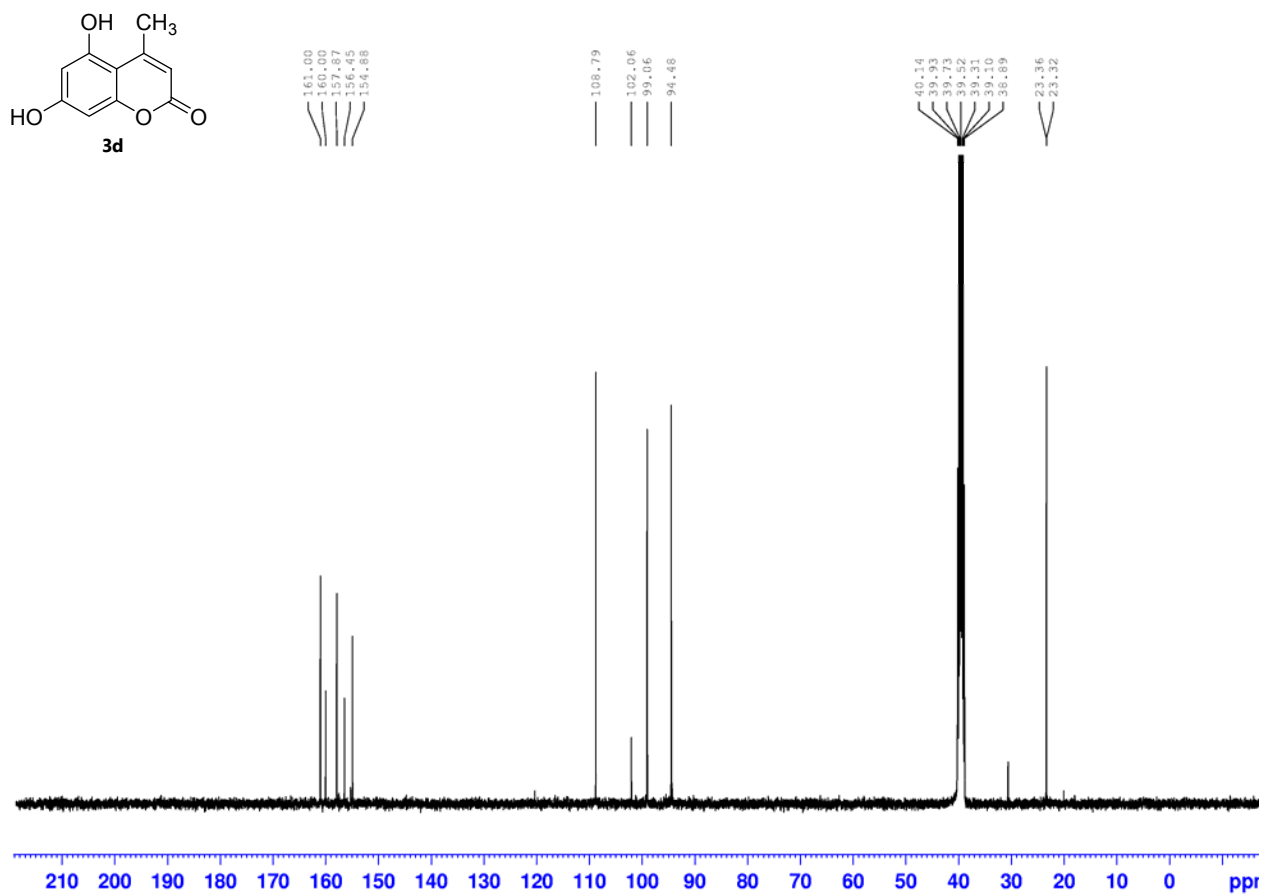
^1H NMR of **3b** (400 MHz, CDCl_3)

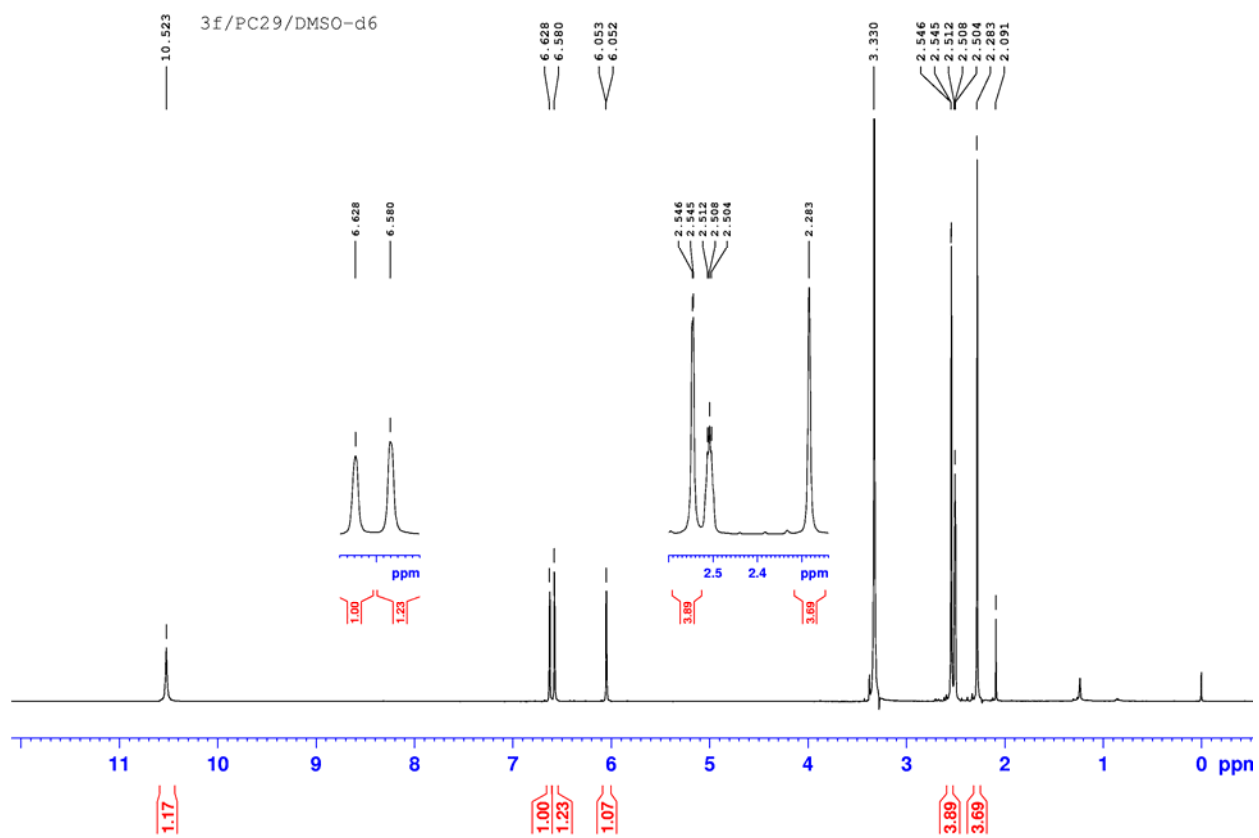
^{13}C NMR of **3b** (100 MHz, CDCl_3)

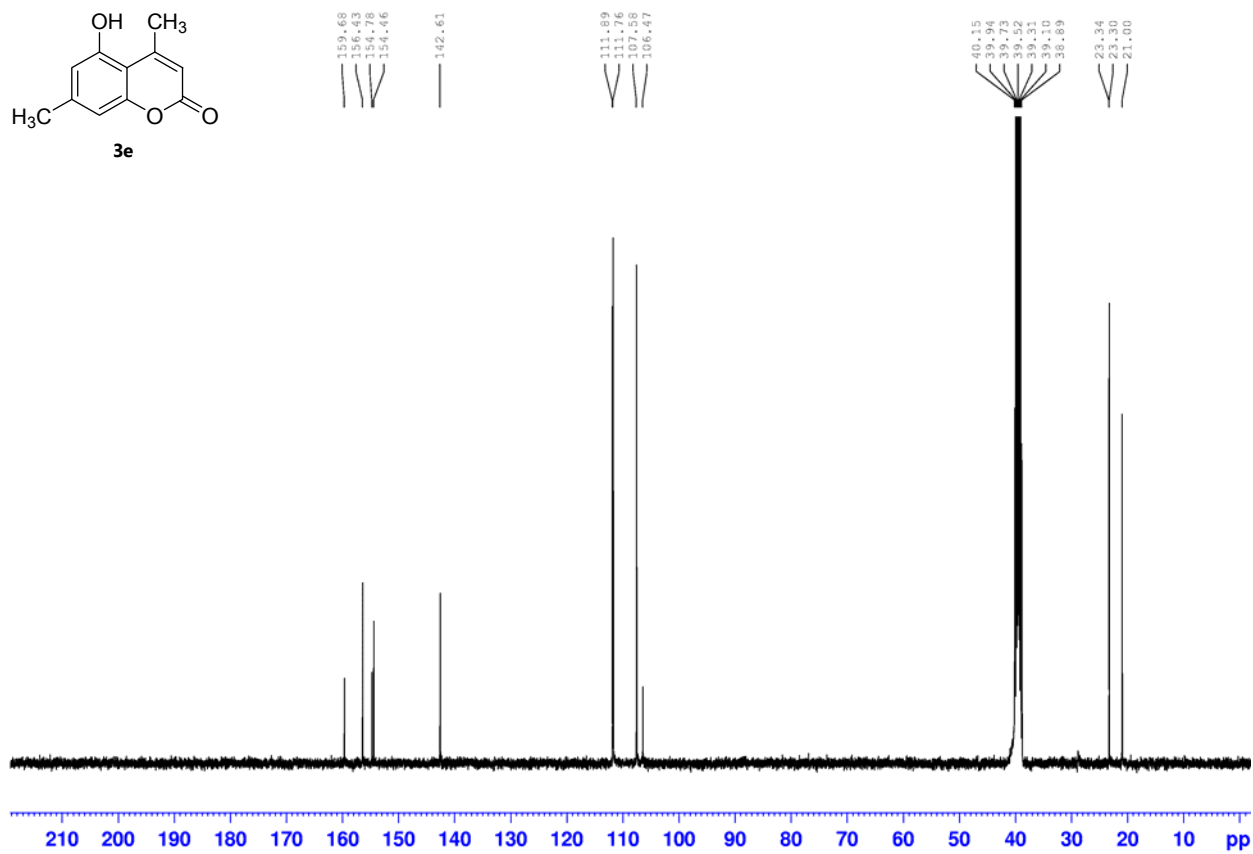
^1H NMR of **3c** (400 MHz, CDCl_3)

^{13}C NMR of **3c** (100 MHz, CDCl_3)

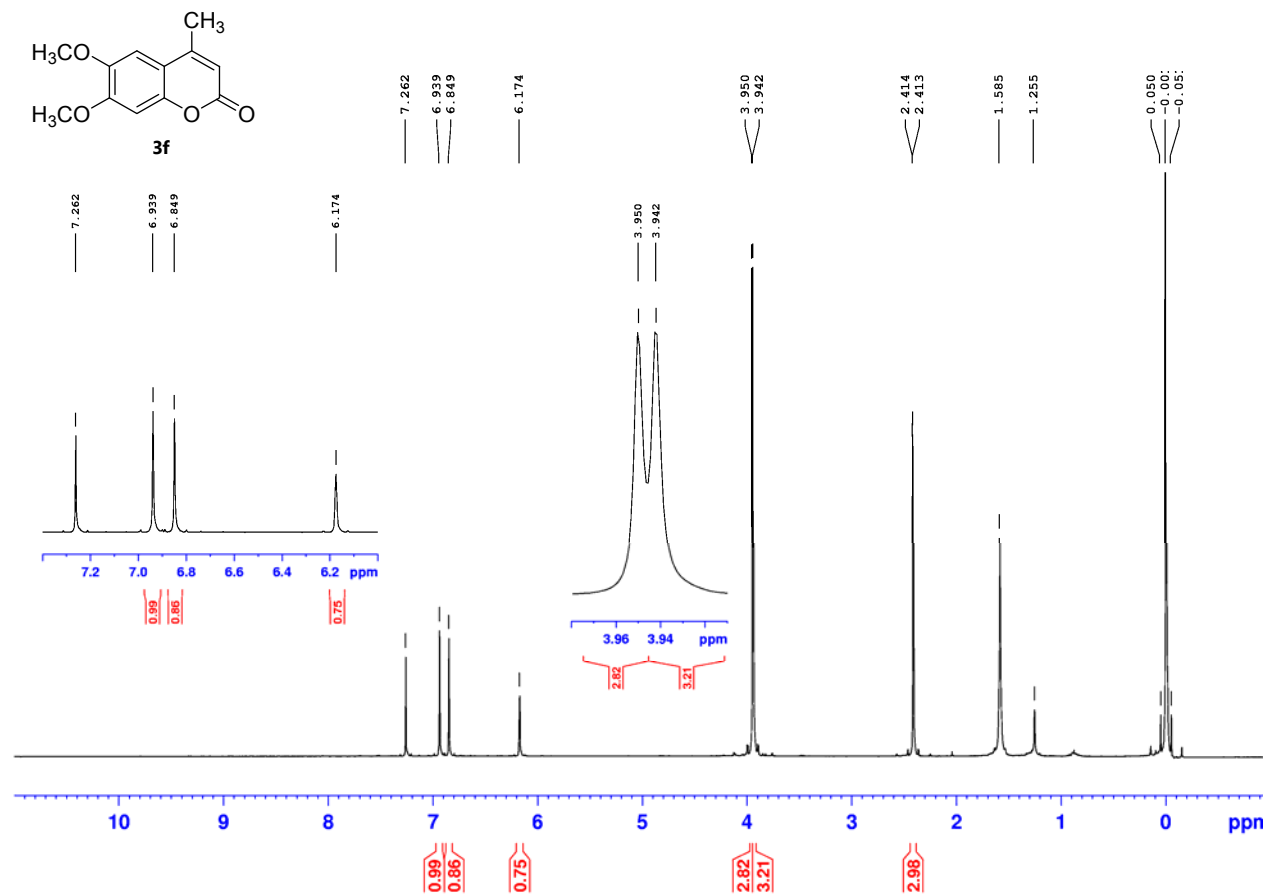
^1H NMR of **3d** (400 MHz, $\text{DMSO-}d_6$)

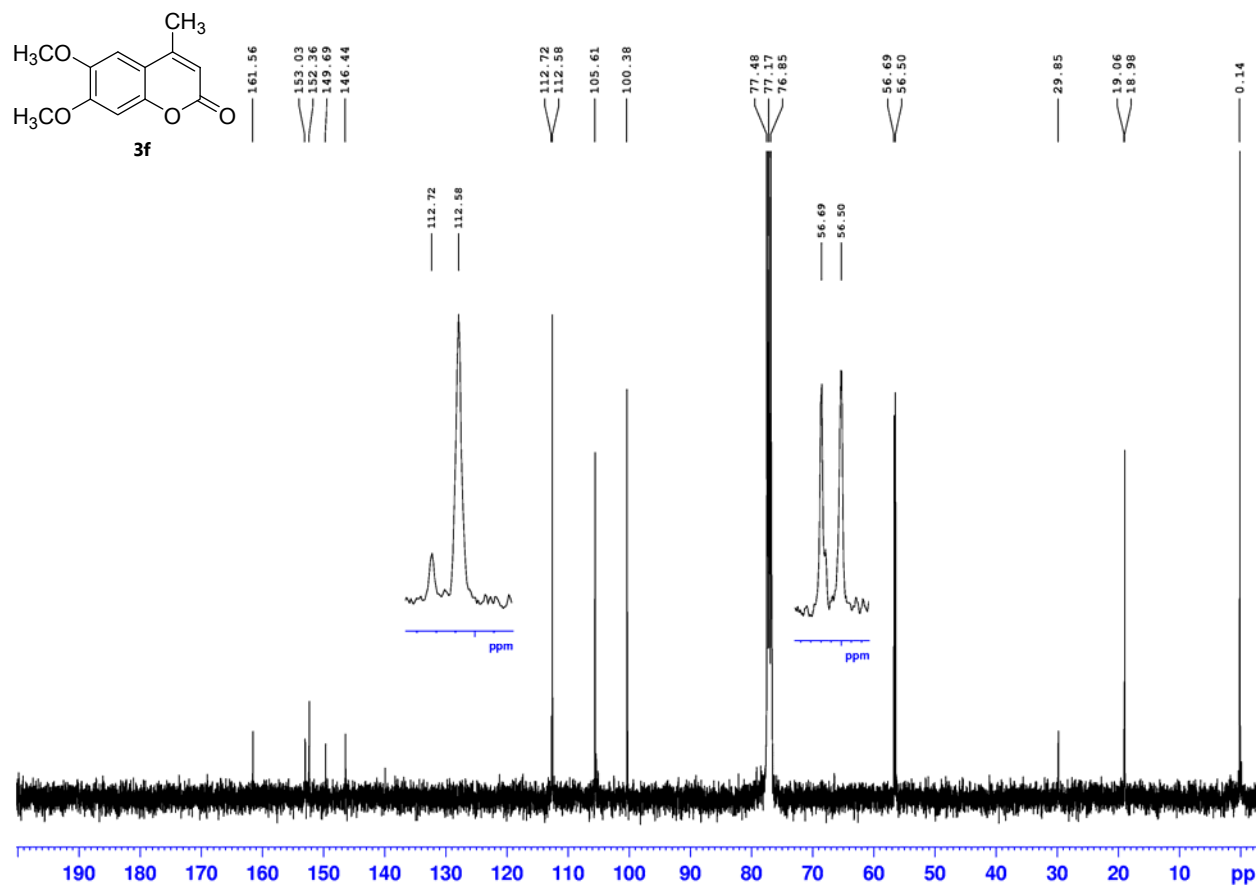
^{13}C NMR of **3d** (100 MHz, $\text{DMSO-}d_6$)

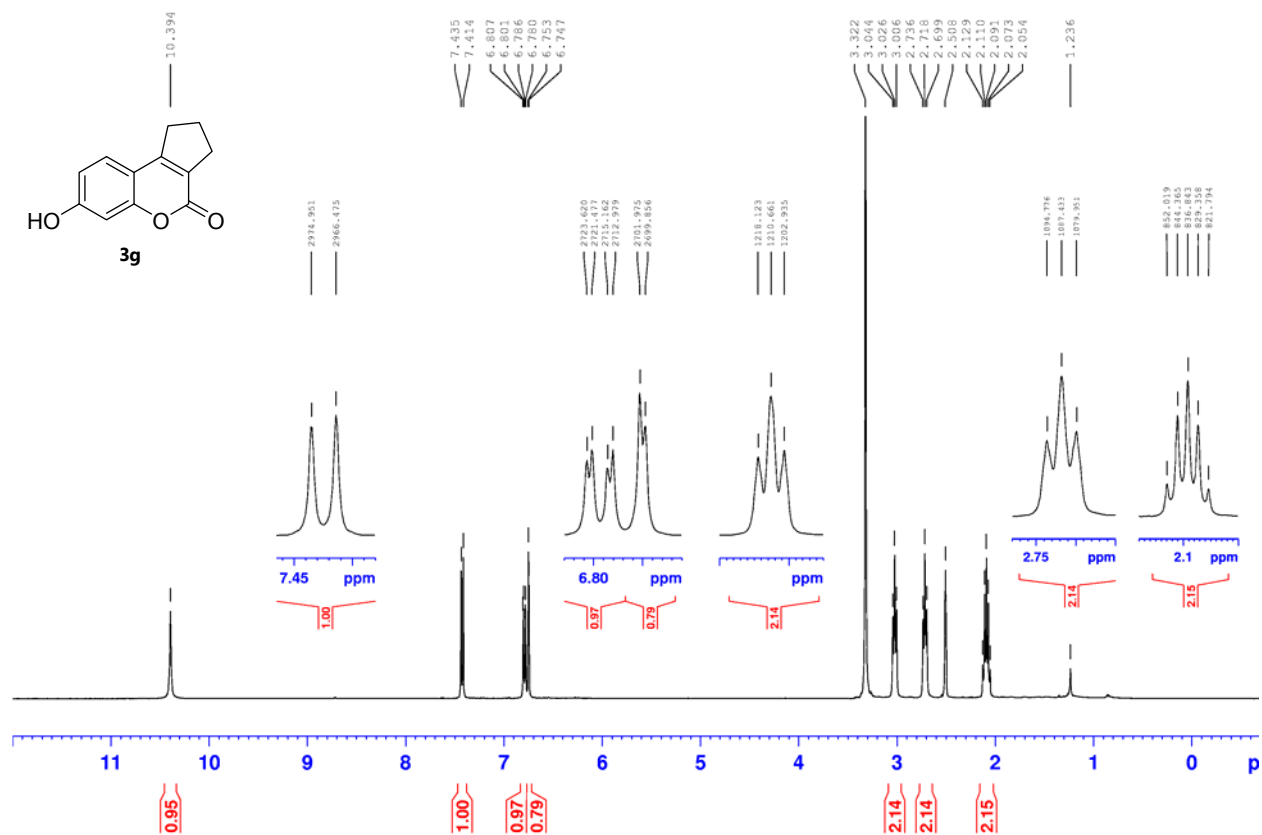
^1H NMR of **3e** (400 MHz, $\text{DMSO-}d_6$)

^{13}C NMR of **3e** (100 MHz, DMSO- d_6)

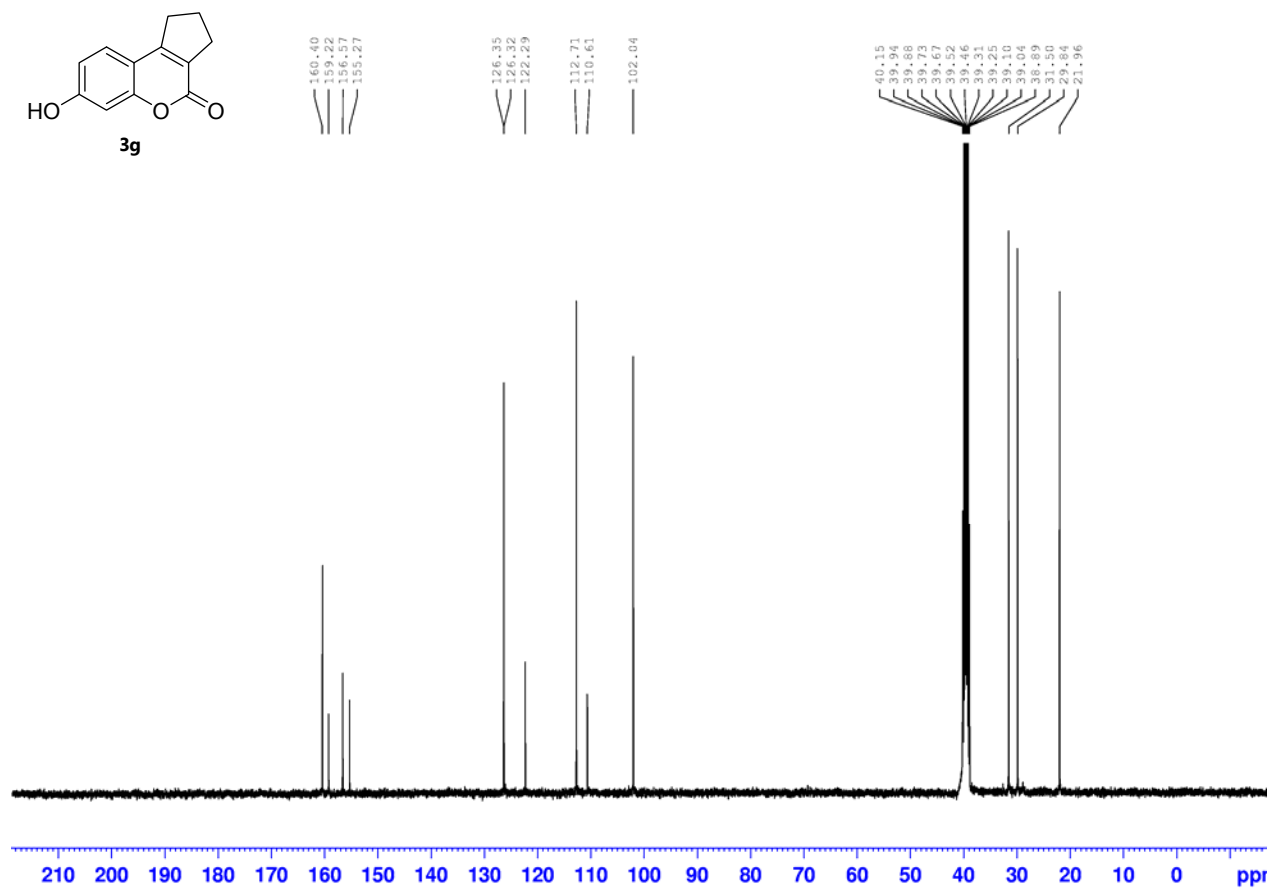
^1H NMR of **3f** (400 MHz, CDCl_3)

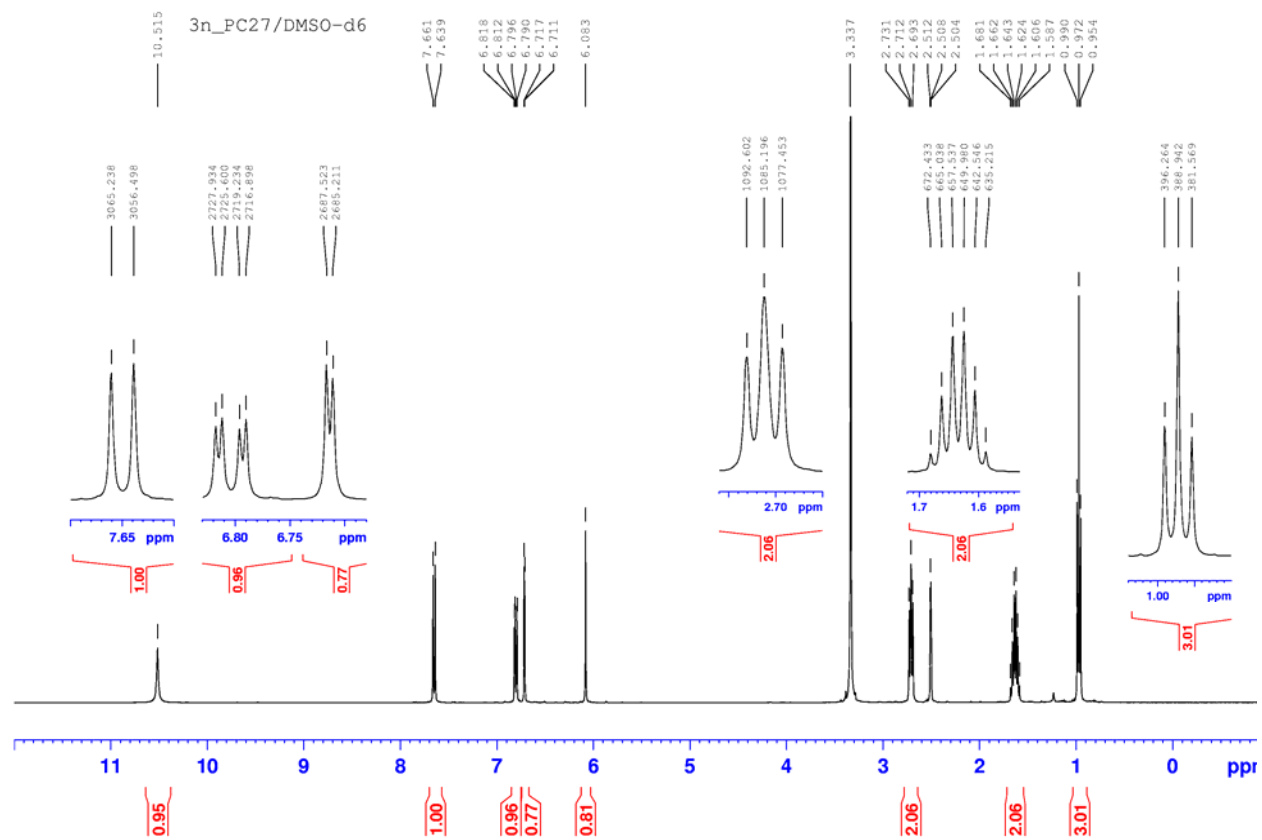


^{13}C NMR of **3f** (100 MHz, CDCl_3)

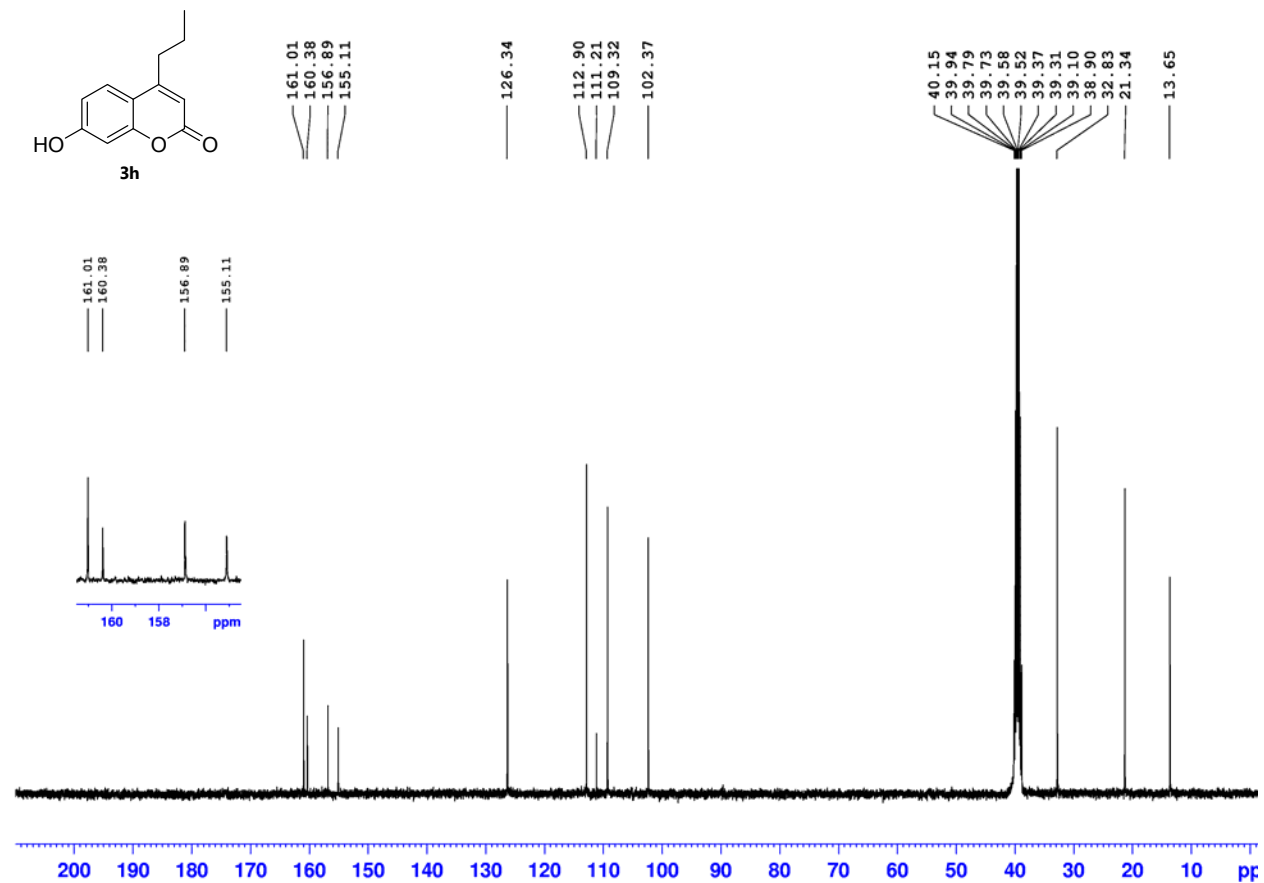
^1H NMR of **3g** (400 MHz, $\text{DMSO-}d_6$)

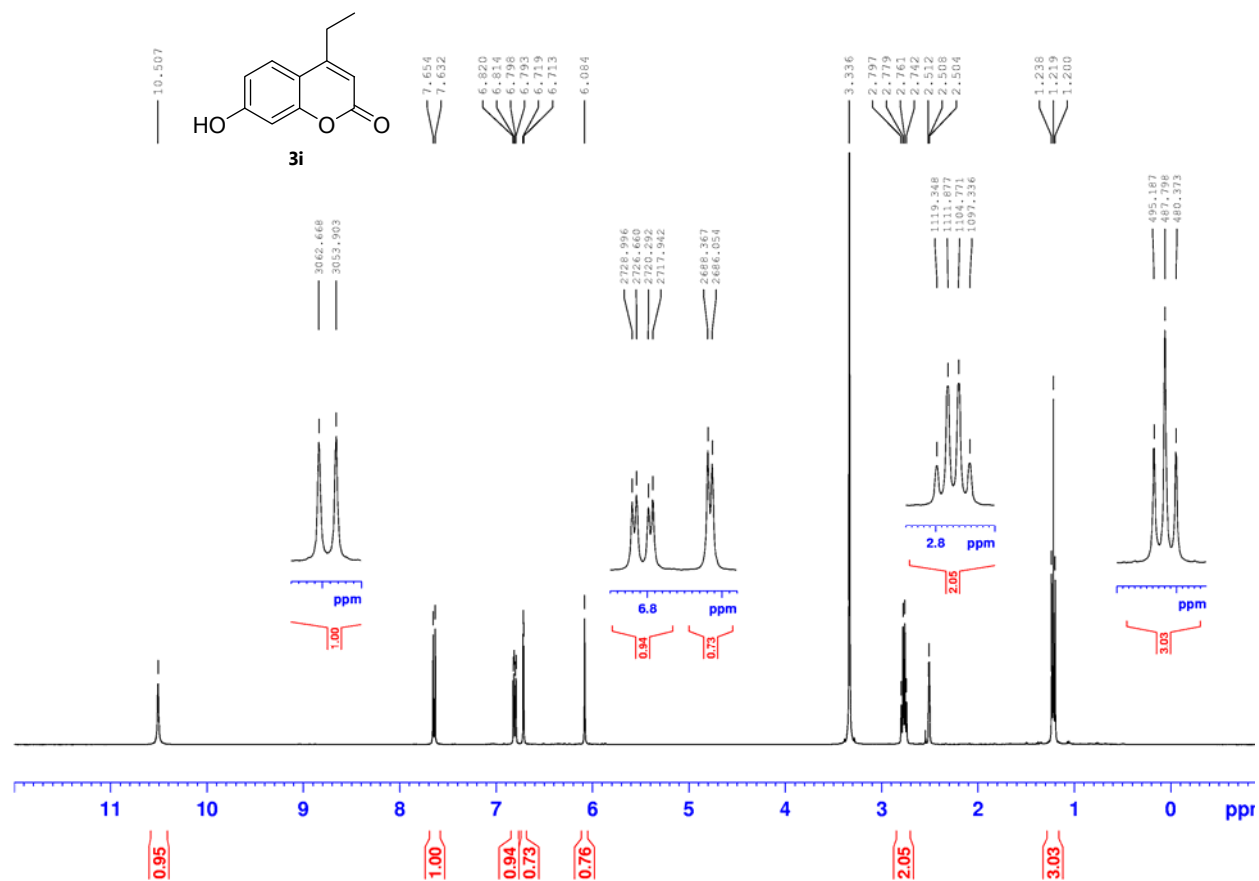
^{13}C NMR of **3g** (100 MHz, $\text{DMSO-}d_6$)



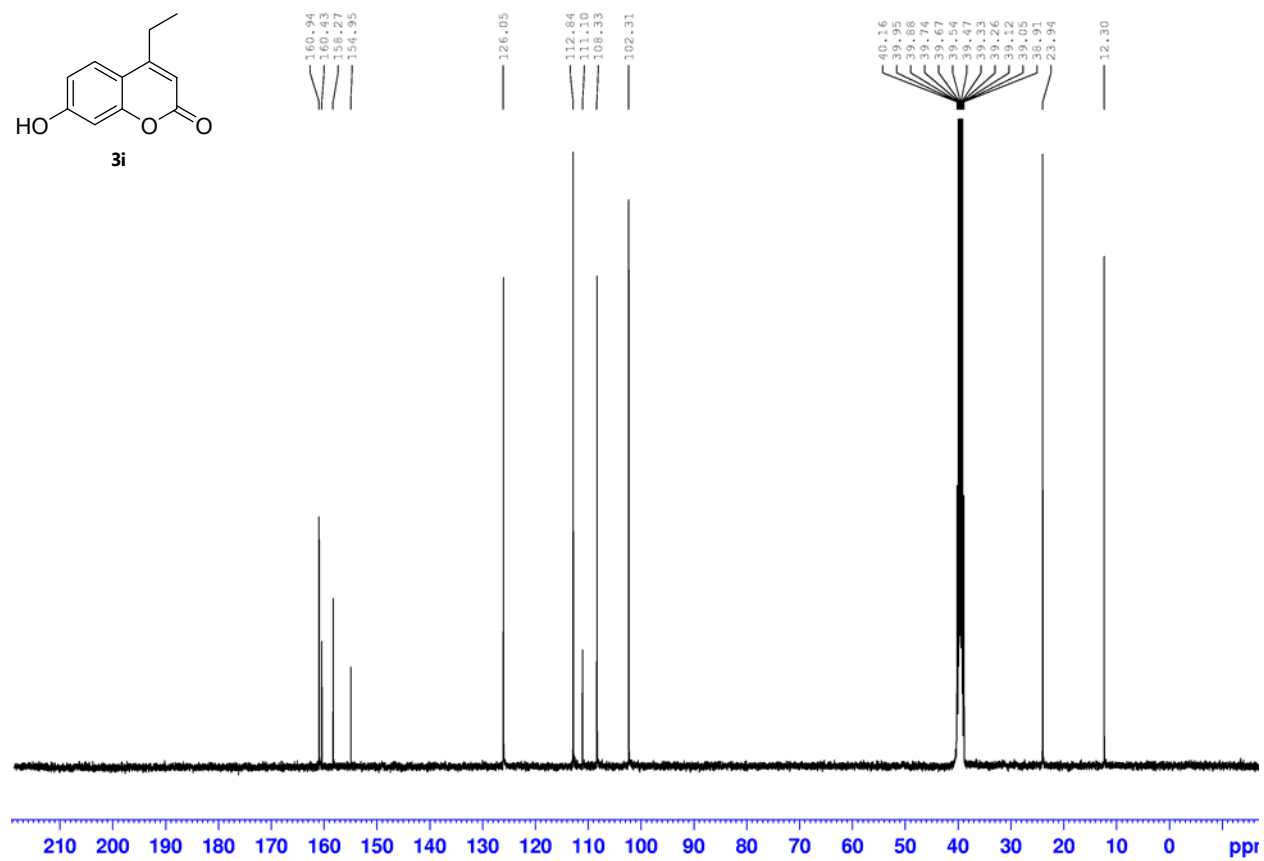
^1H NMR of **3h** (400 MHz, $\text{DMSO-}d_6$)

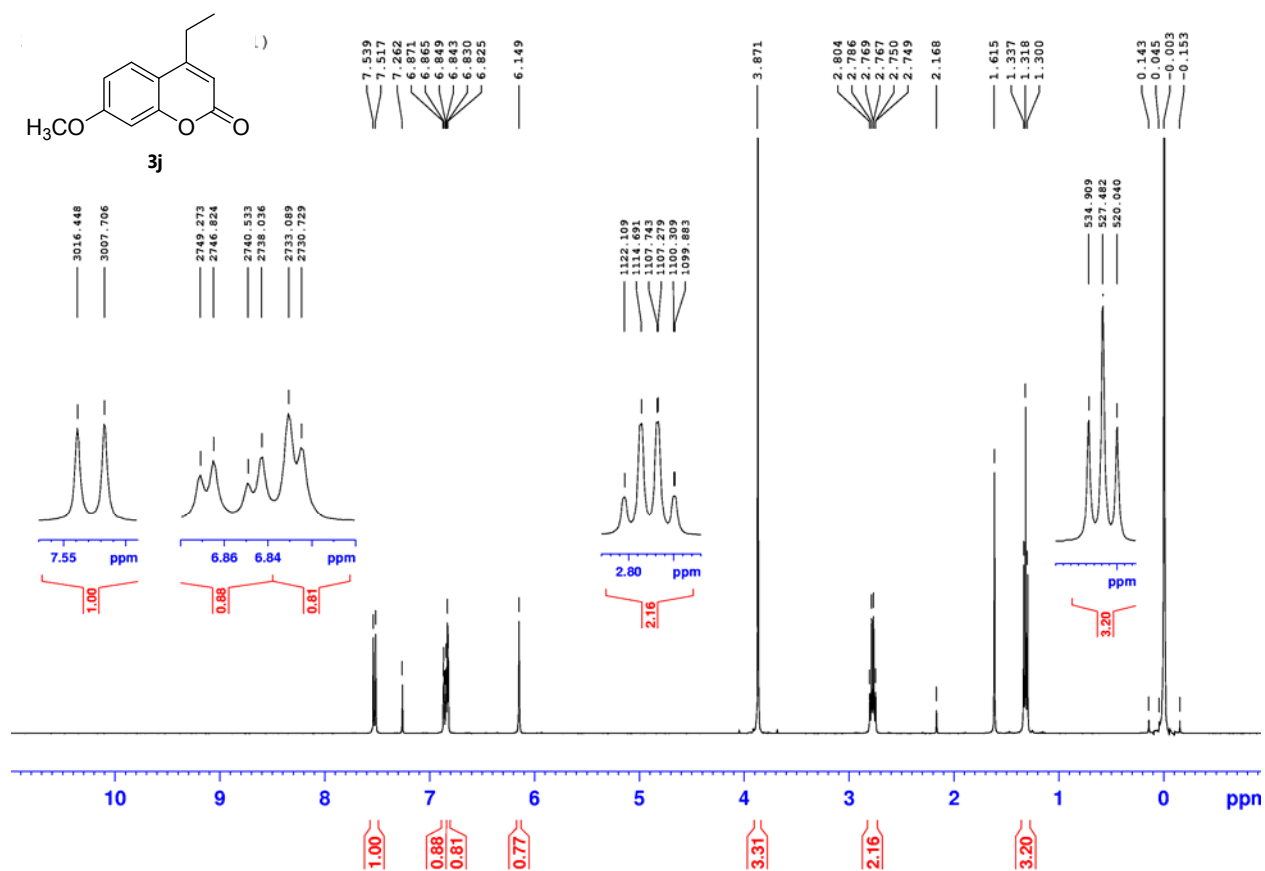
^{13}C NMR of **3h** (100 MHz, $\text{DMSO-}d_6$)



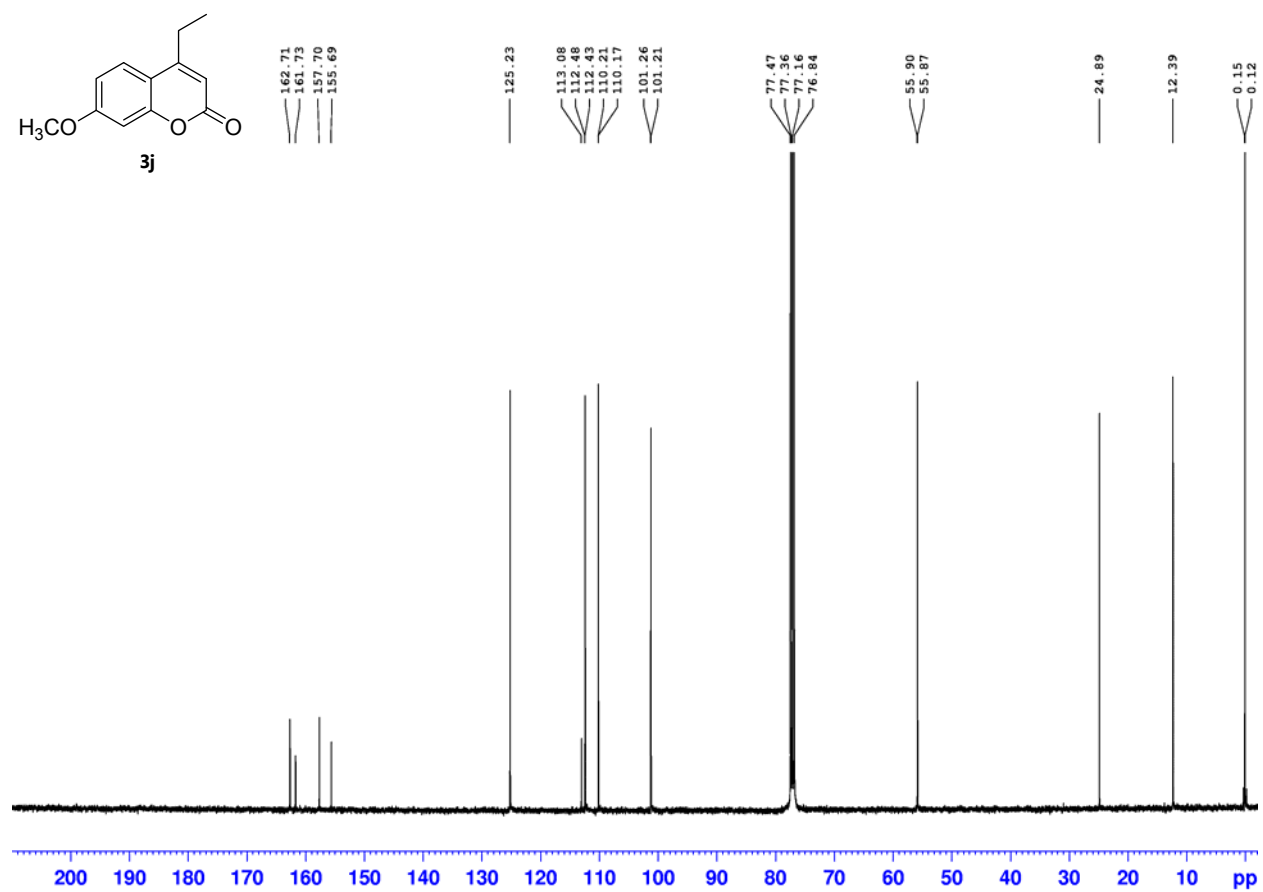
^1H NMR of **3i** (400 MHz, DMSO- d_6)

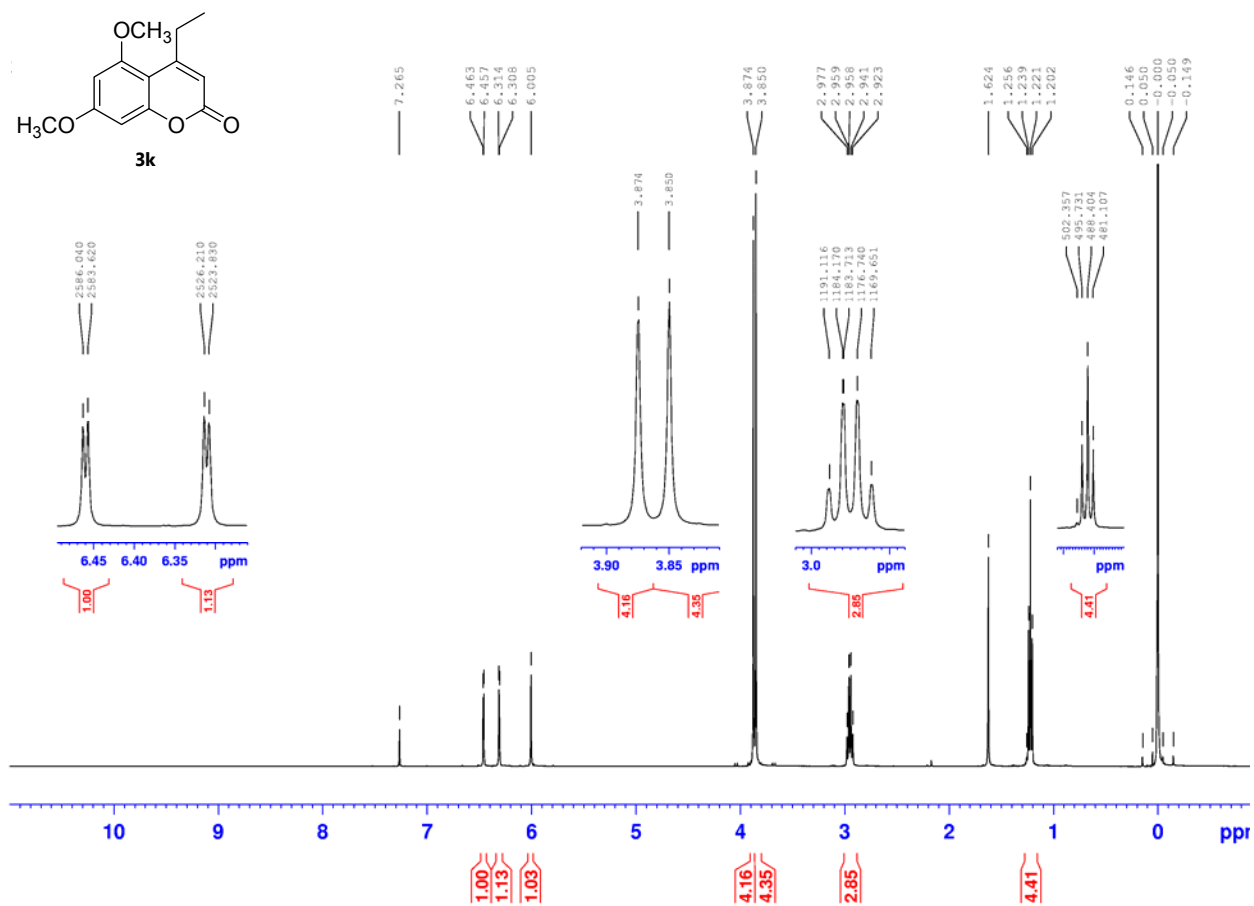
^{13}C NMR of **3i** (100 MHz, $\text{DMSO-}d_6$)

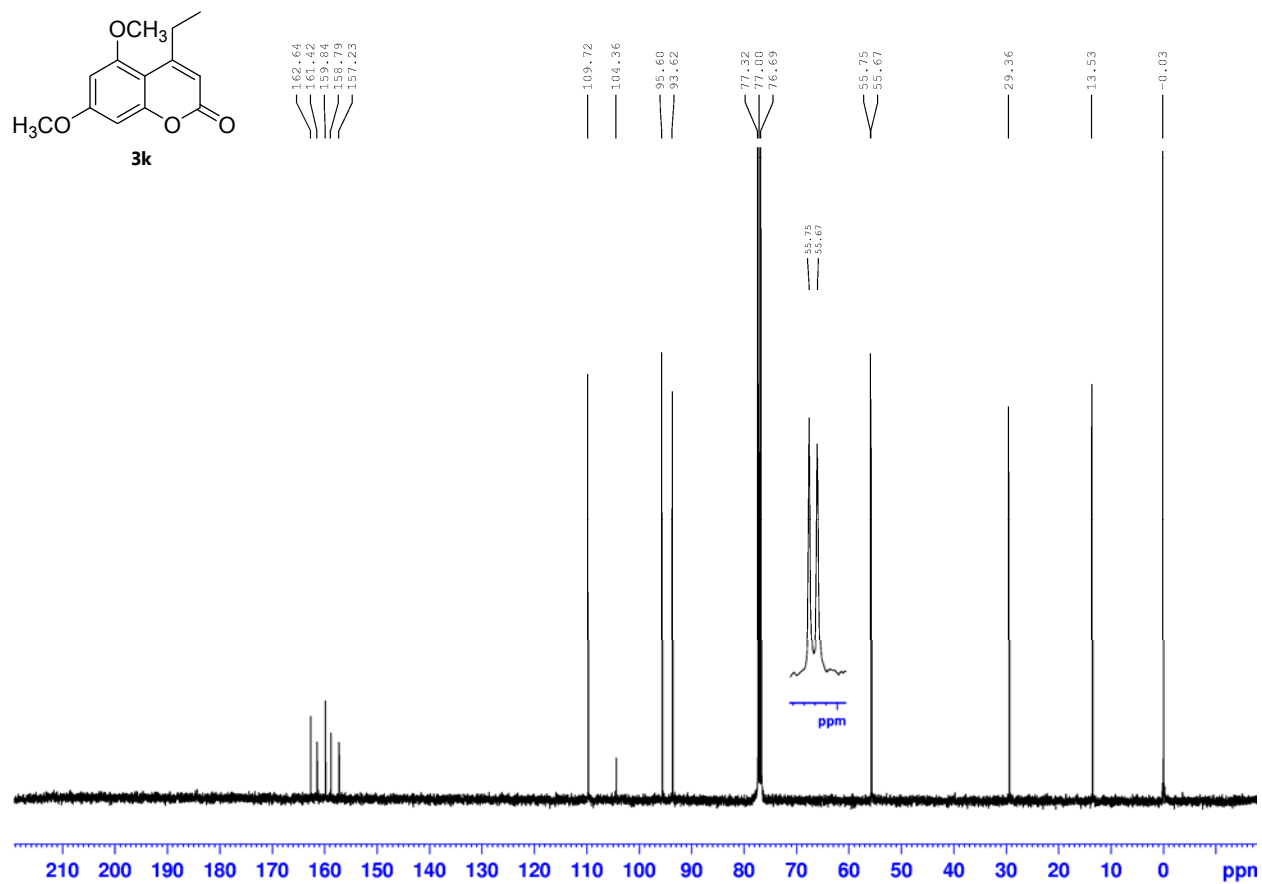


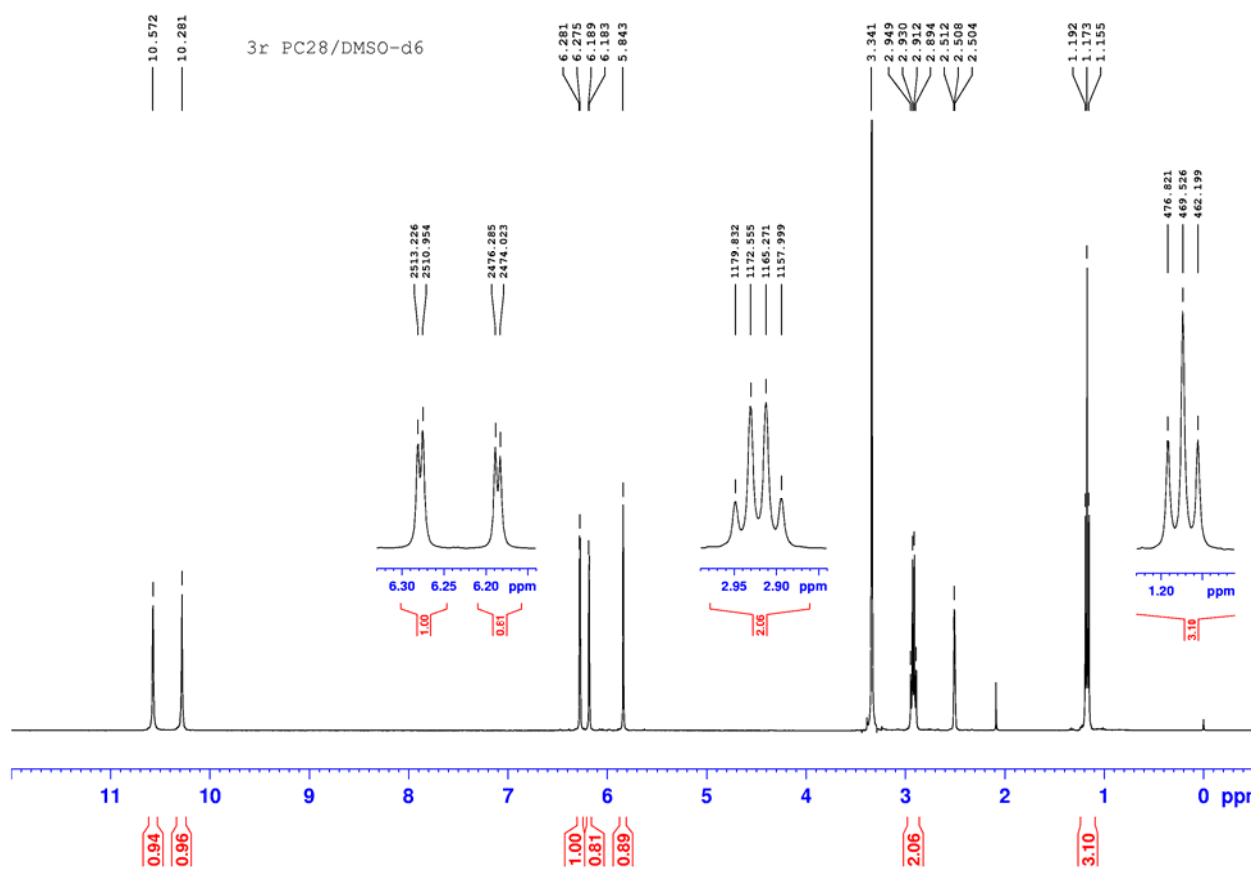
^1H NMR of **3j** (400 MHz, CDCl_3)

^{13}C NMR of **3j** (100 MHz, CDCl_3)

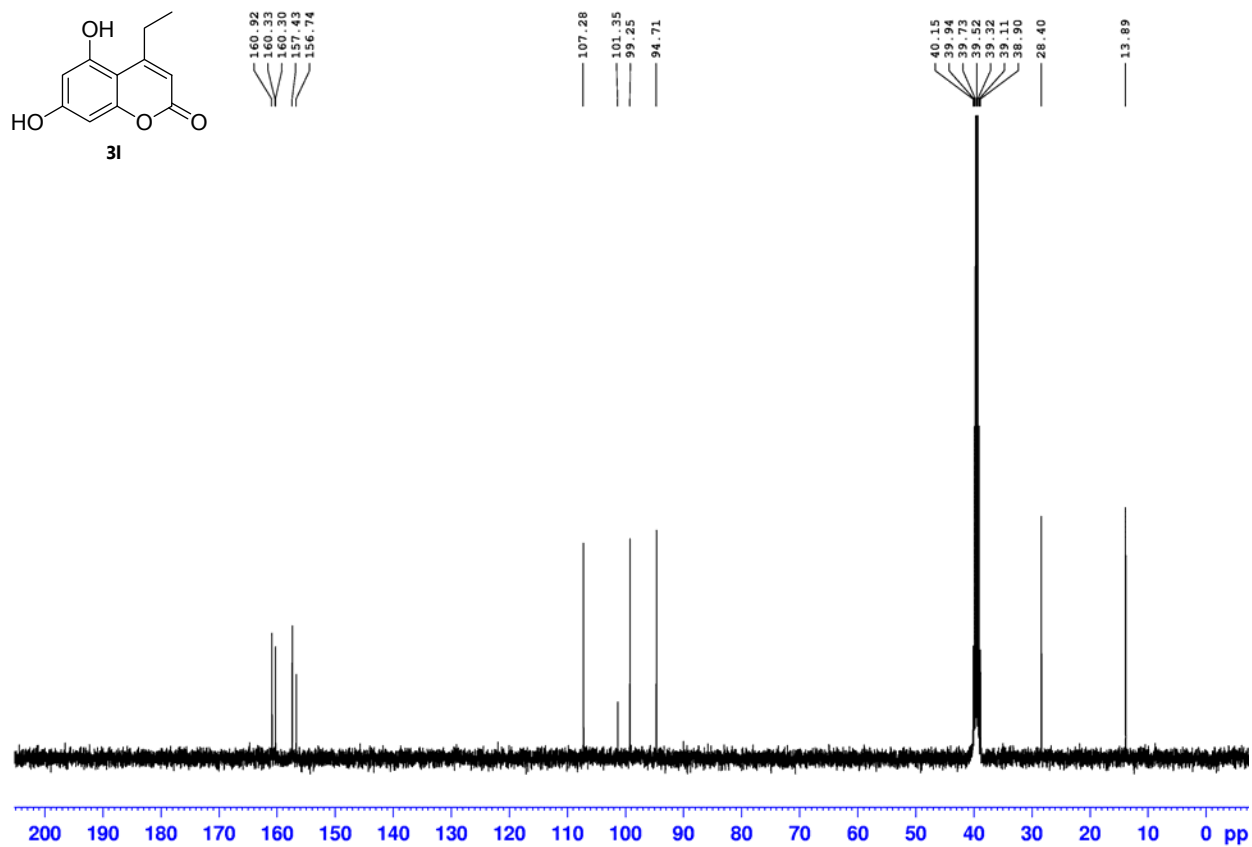


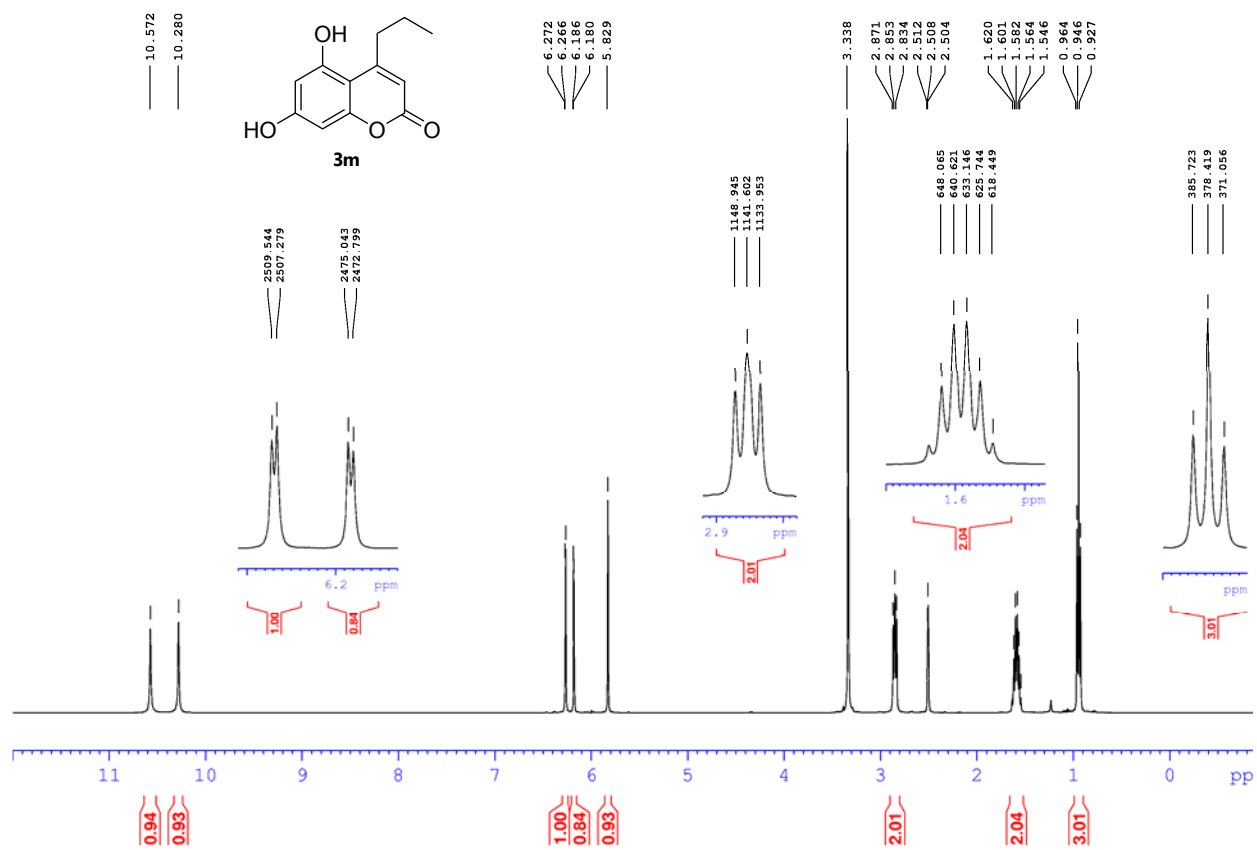
^1H NMR of **3k** (400 MHz, CDCl_3)

^{13}C NMR of **3k** (100 MHz, CDCl_3)

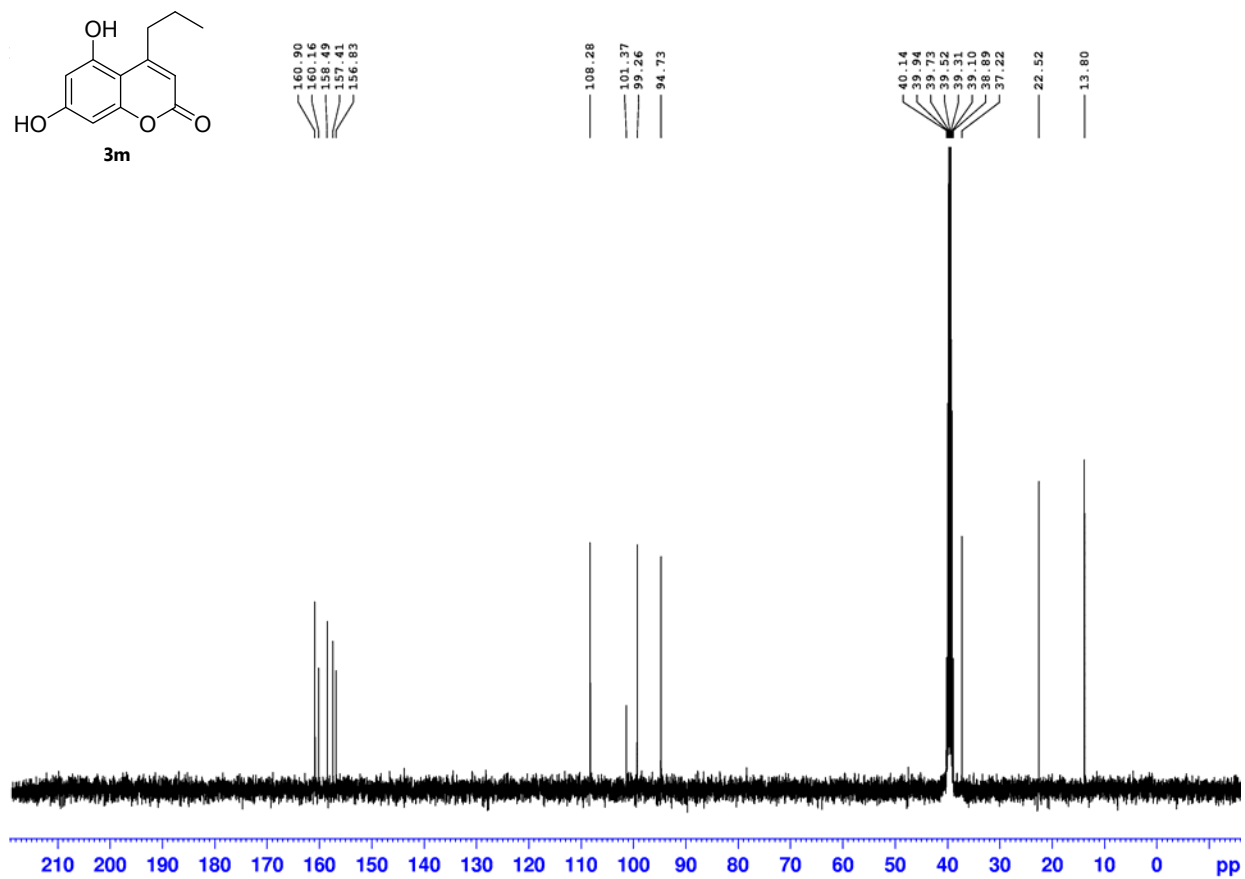
^1H NMR of **31** (400 MHz, $\text{DMSO-}d_6$)

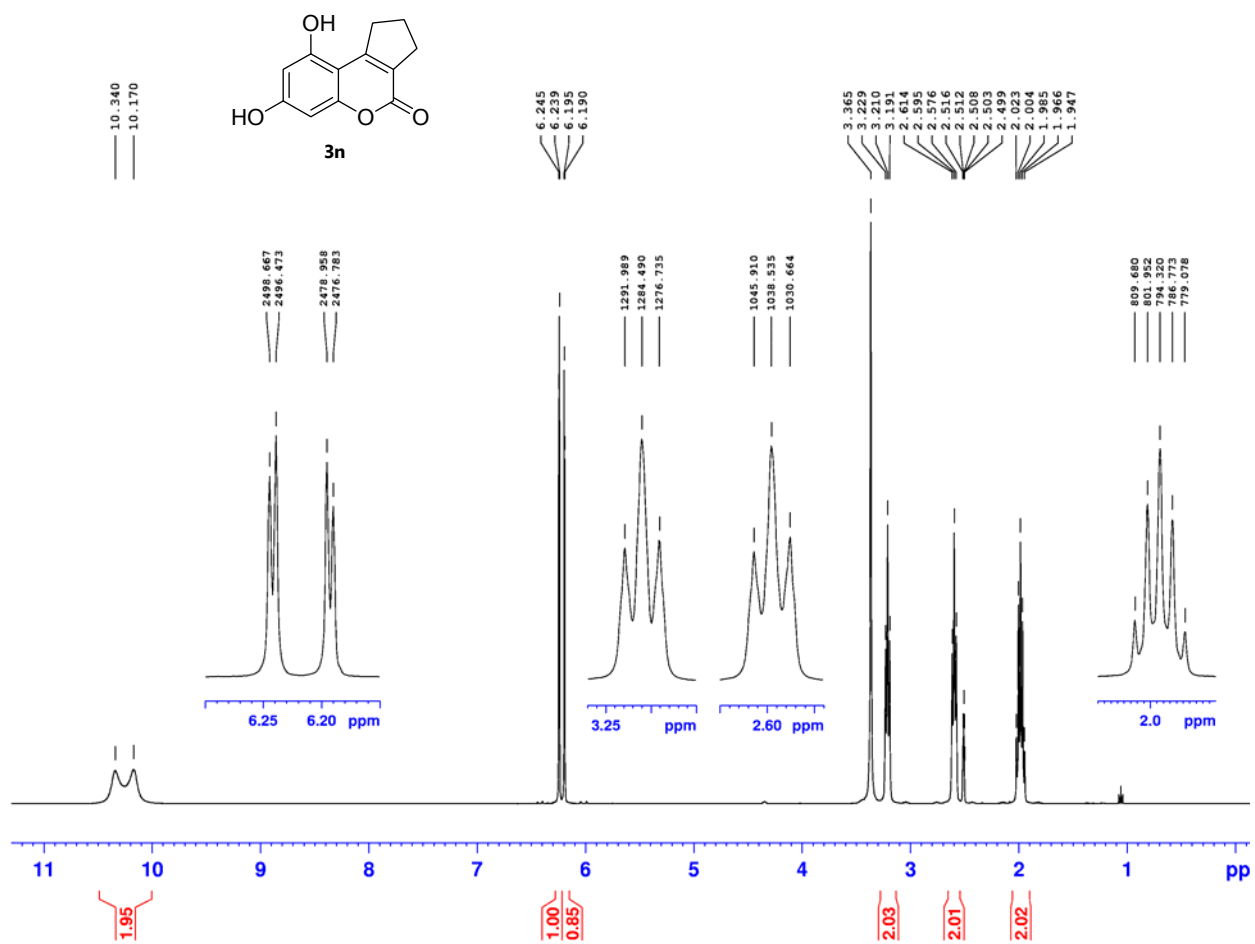
^{13}C NMR of **3I** (100 MHz, $\text{DMSO-}d_6$)



^1H NMR of **3m** (400 MHz, $\text{DMSO-}d_6$)

^{13}C NMR of **3m** (100 MHz, $\text{DMSO-}d_6$)



^1H NMR of **3n** (400 MHz, $\text{DMSO-}d_6$)

^{13}C NMR of **3n** (100 MHz, DMSO- d_6)