

Dual Quinoline-Hybrid Compounds with Antimalarial Activity Against *Plasmodium falciparum* Parasites

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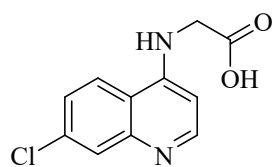
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Supplementary Material

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GIQ



Chemical Formula: C₁₁H₉ClN₂O₂

Exact Mass: 236,04

Figure 1S. ¹H NMR (δ, CD₃OD-*d*₄, 400 MHz) of **GIQ**.

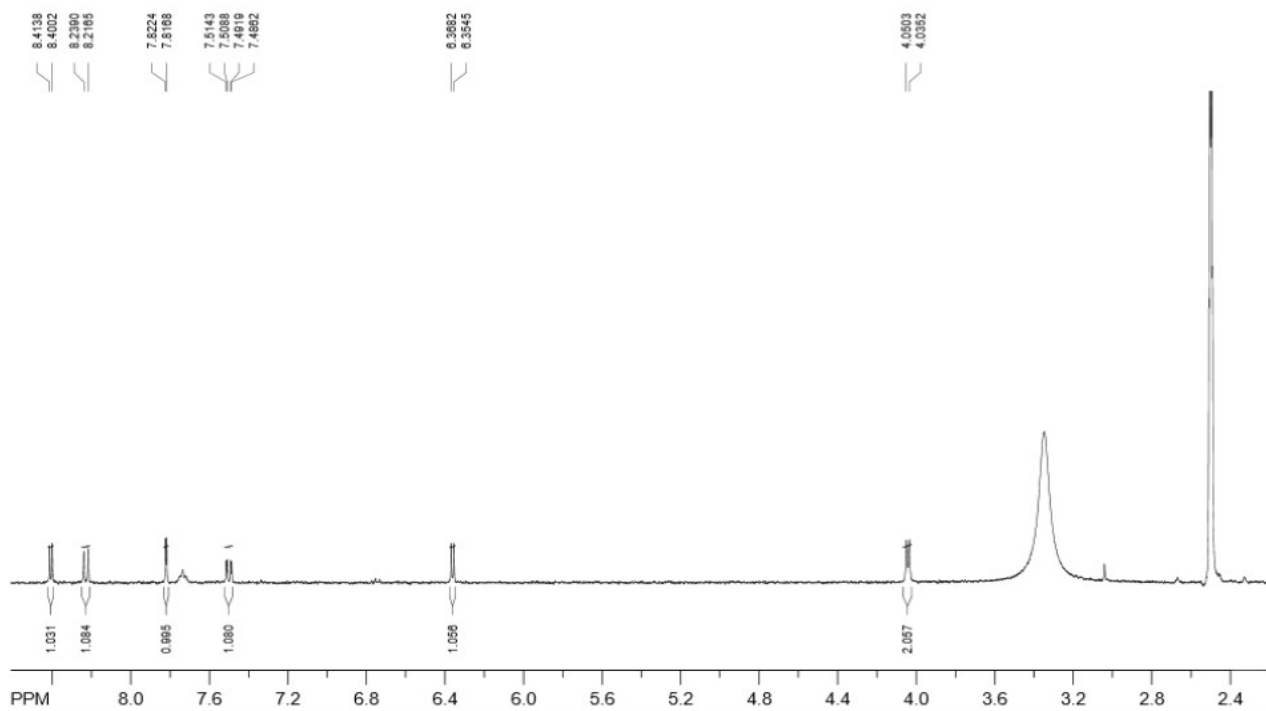


Figure 2S. ^{13}C NMR (δ , $\text{CH}_3\text{OD}-d_4$, 100 MHz) of **GIQ**.

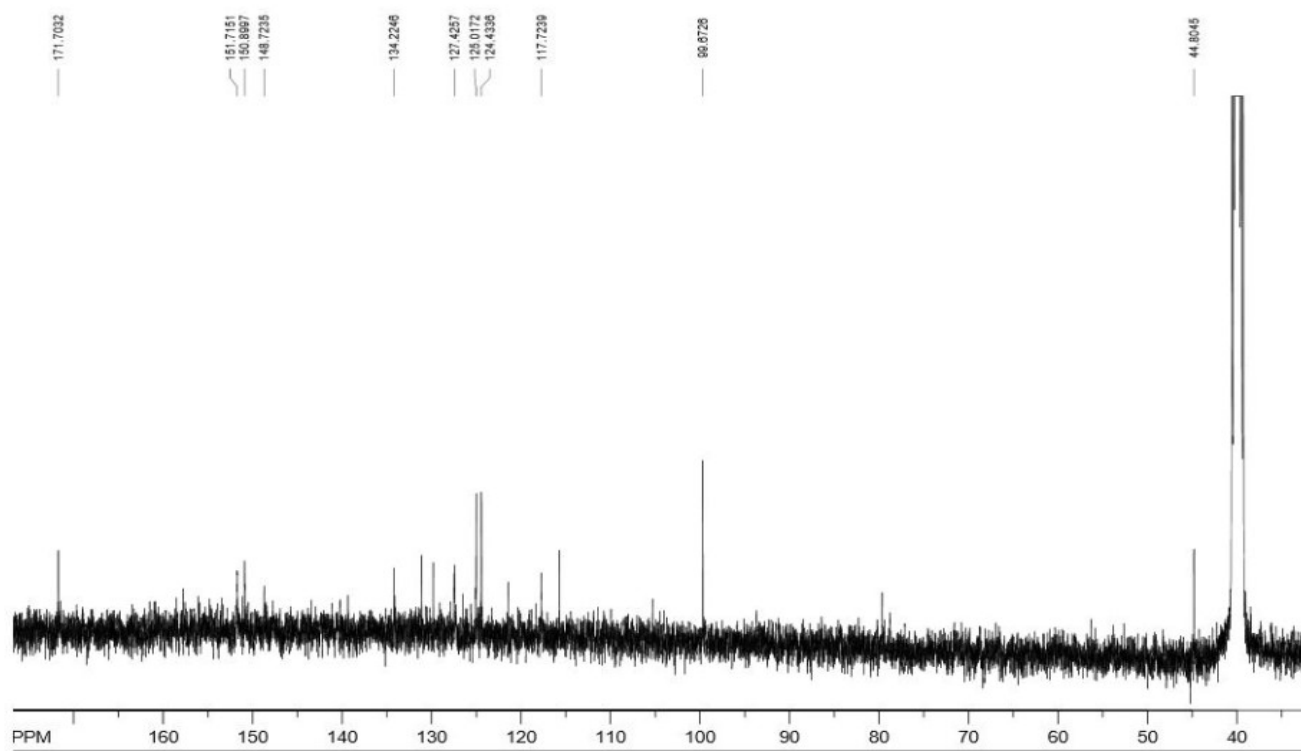
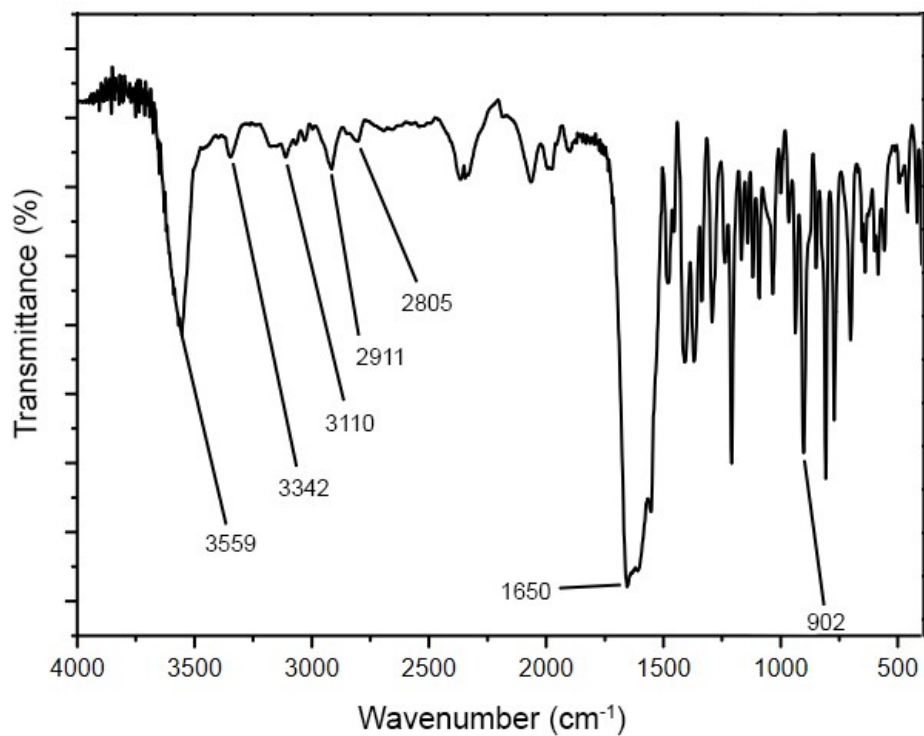
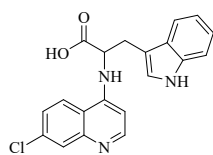


Figure 3S. FTIR of compound **GIQ**.



TOQ



Chemical Formula: $C_{20}H_{16}ClN_3O_2$
Exact Mass: 365,09

Figure 4S. 1H NMR (δ , DMSO- d_6 , 600 MHz) and expansion of TOQ.

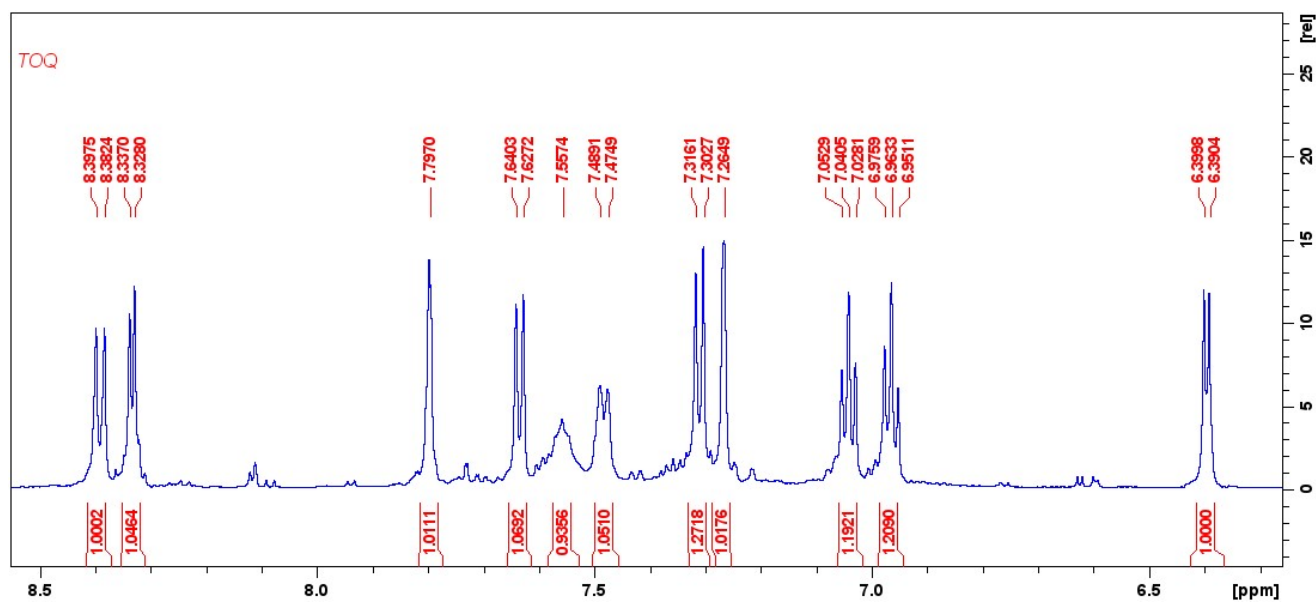
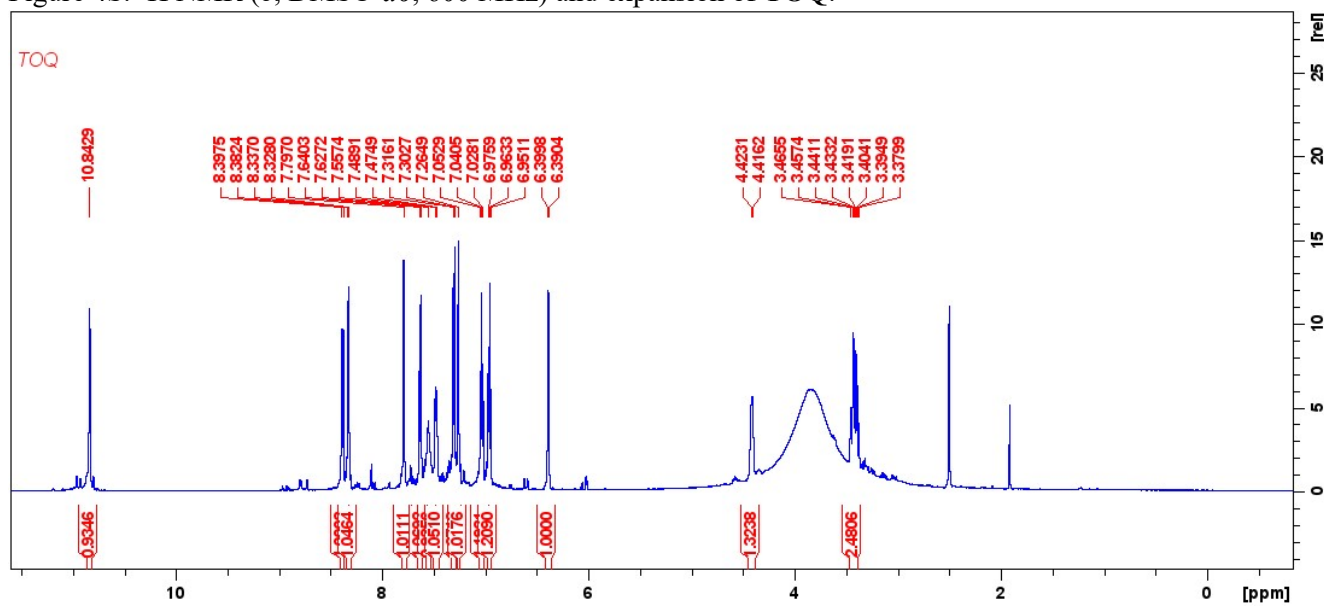


Figure 5S. ^{13}C NMR (δ , DMSO- d_6 , 100 MHz) of TOQ.

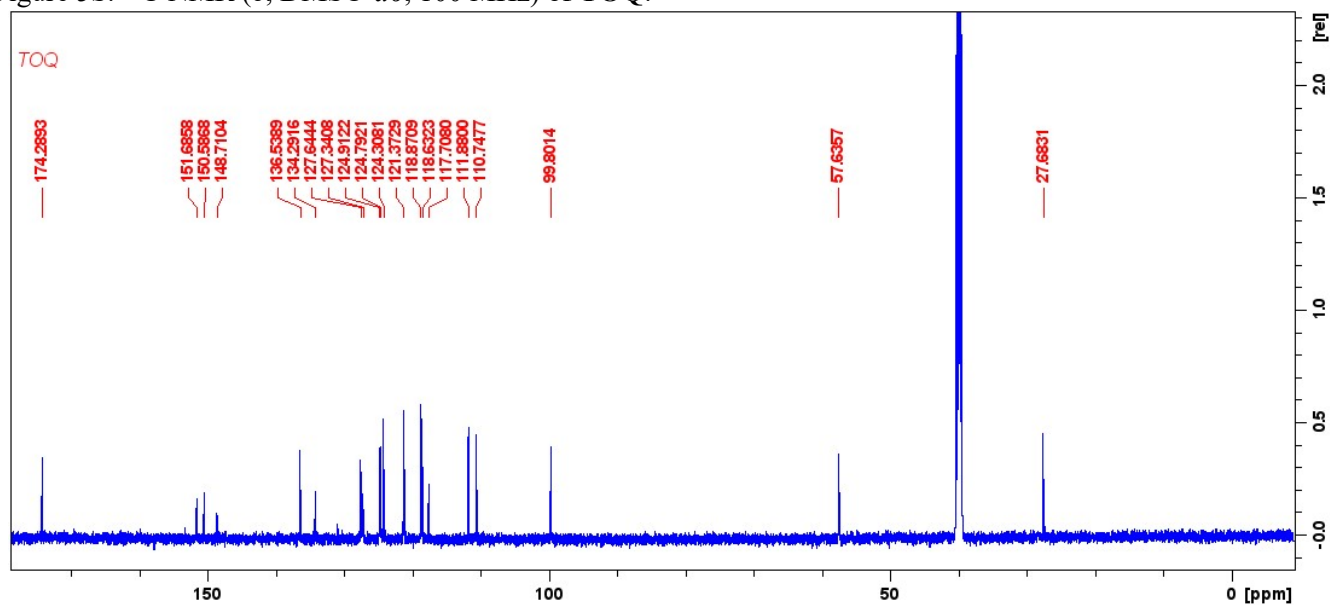
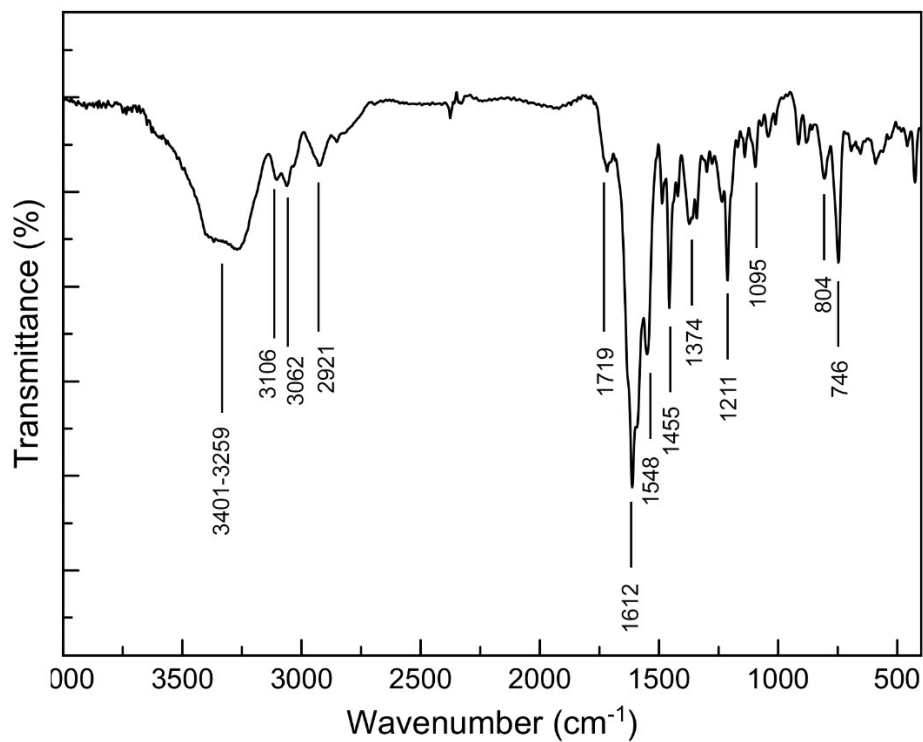
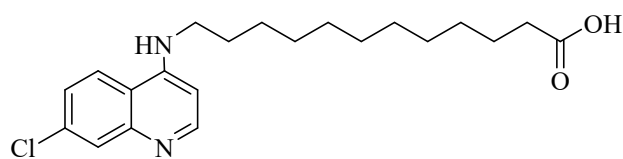


Figure 6S. FTIR of TOQ.



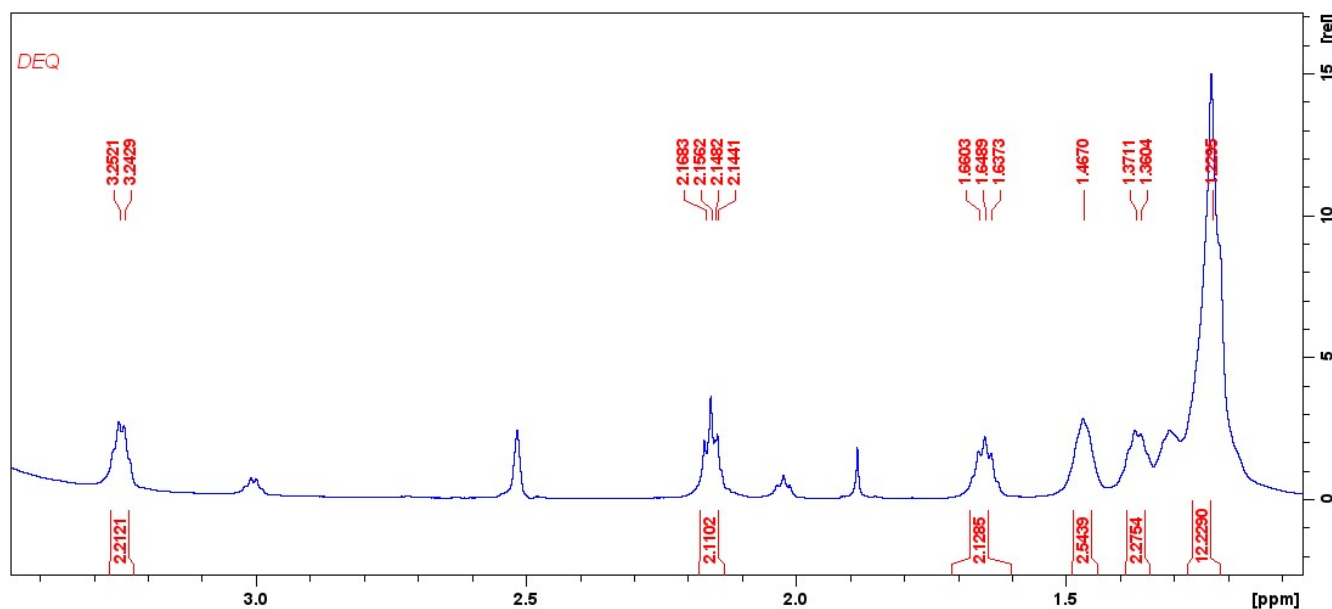
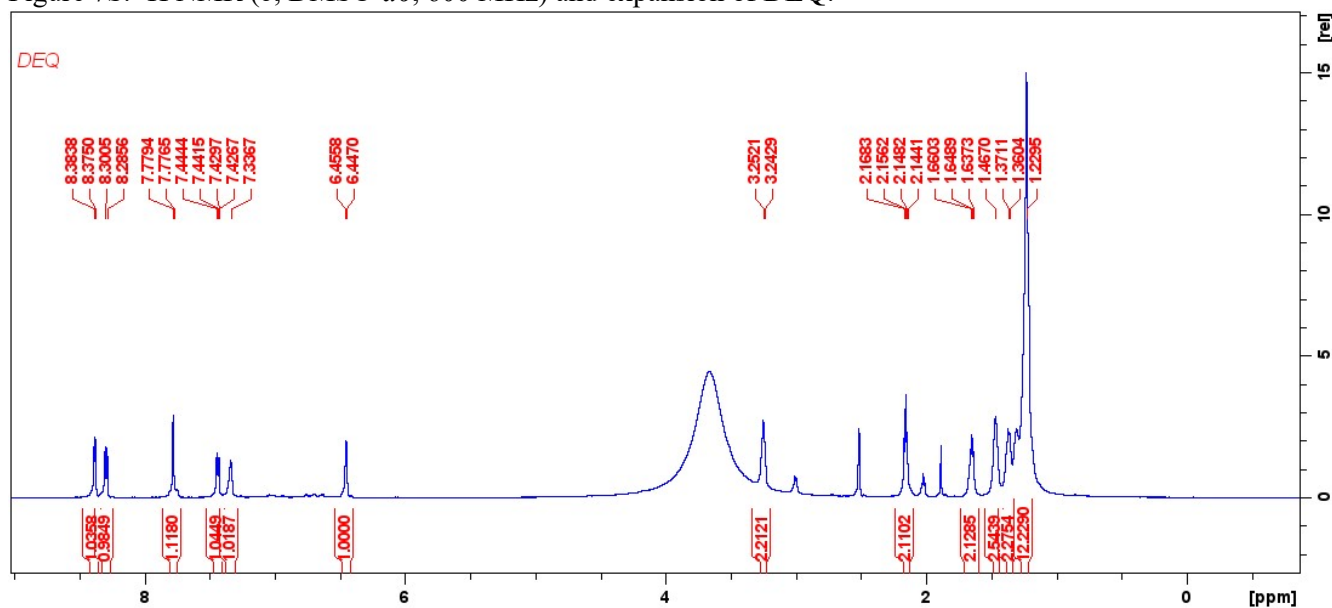
DEQ



Chemical Formula: C₂₁H₂₉ClN₂O₂

Exact Mass: 376,19

Figure 7S. ¹H NMR (δ, DMSO-*d*₆, 600 MHz) and expansion of **DEQ**.



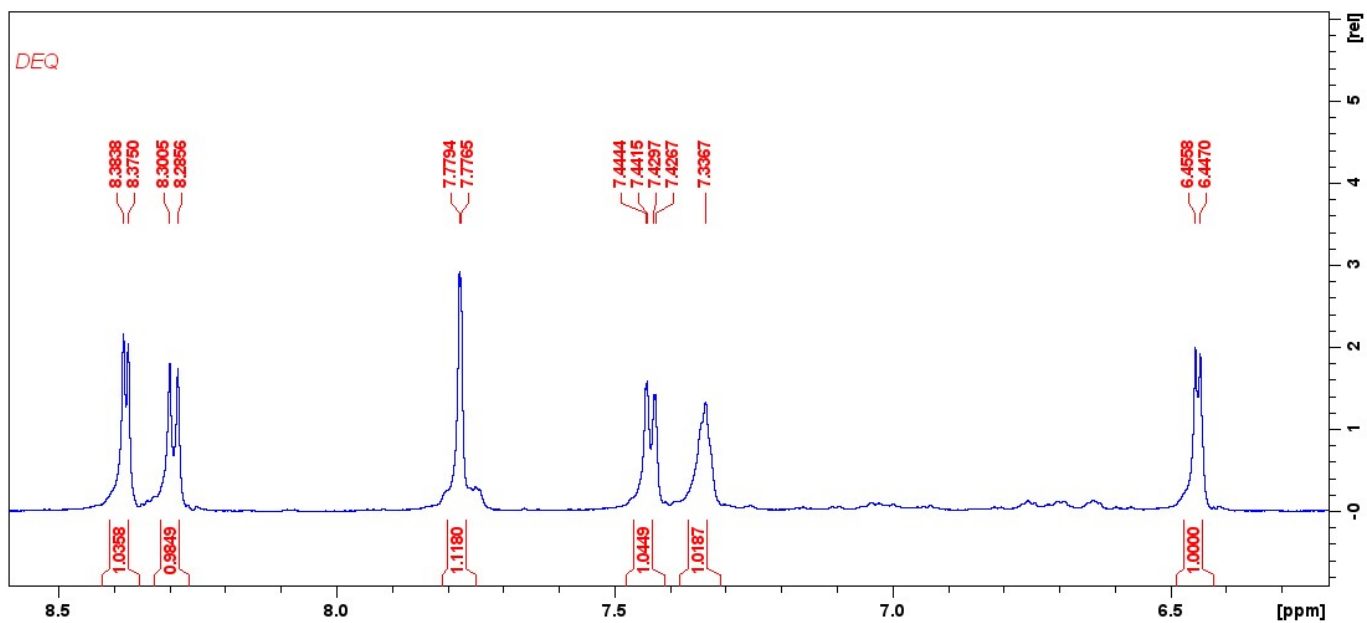
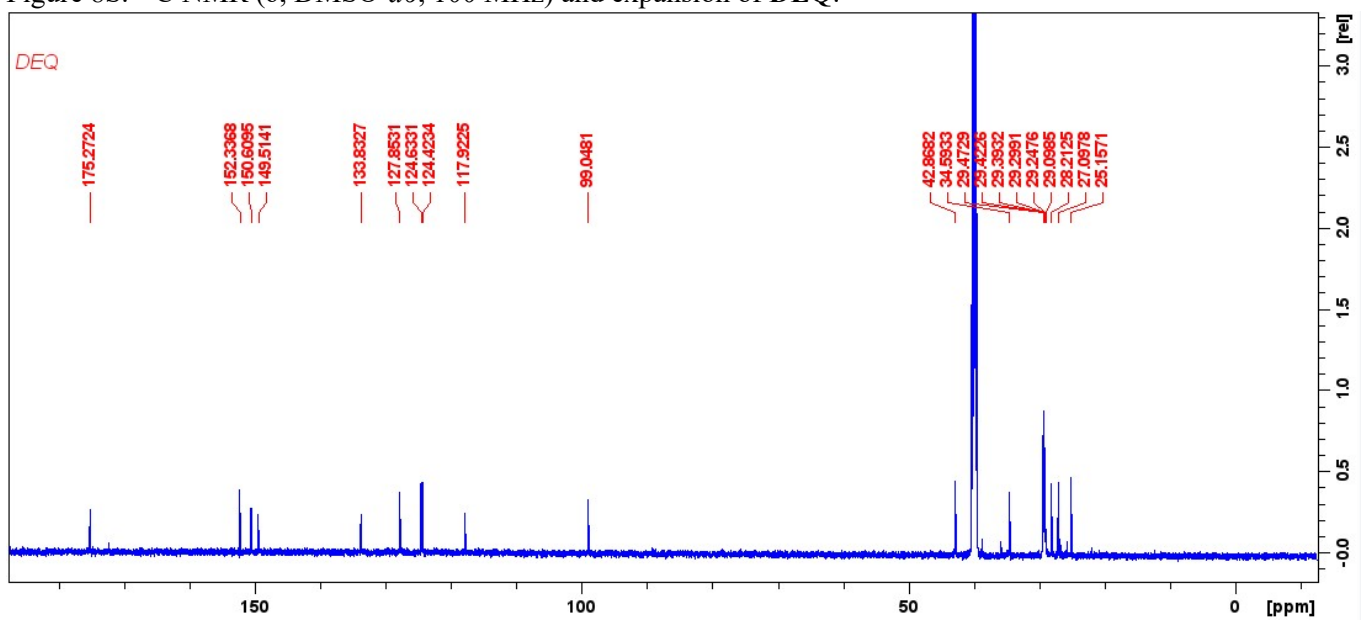


Figure 8S. ^{13}C NMR (δ , $\text{DMSO-}d_6$, 100 MHz) and expansion of DEQ.



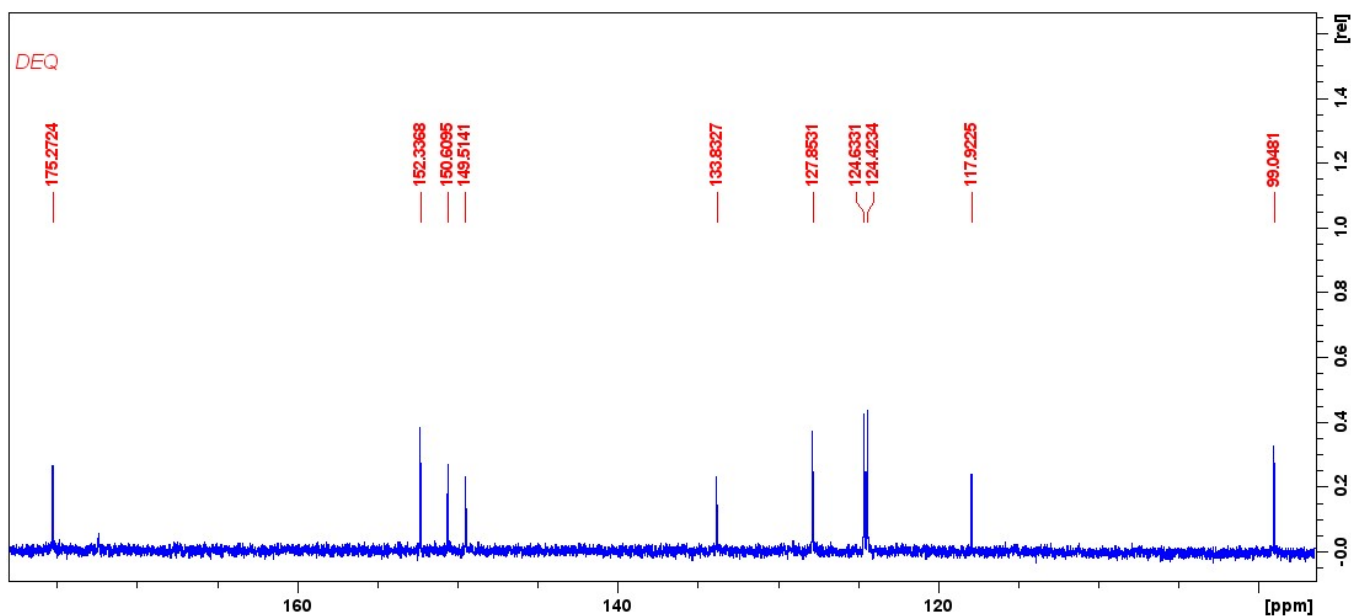
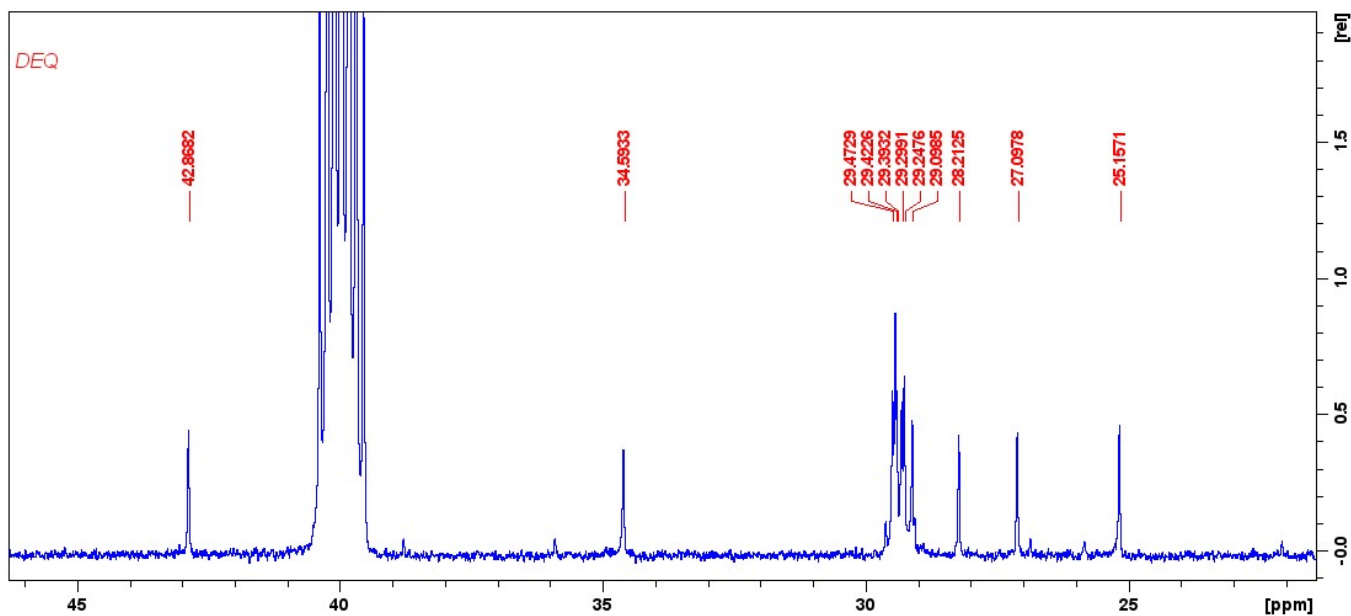
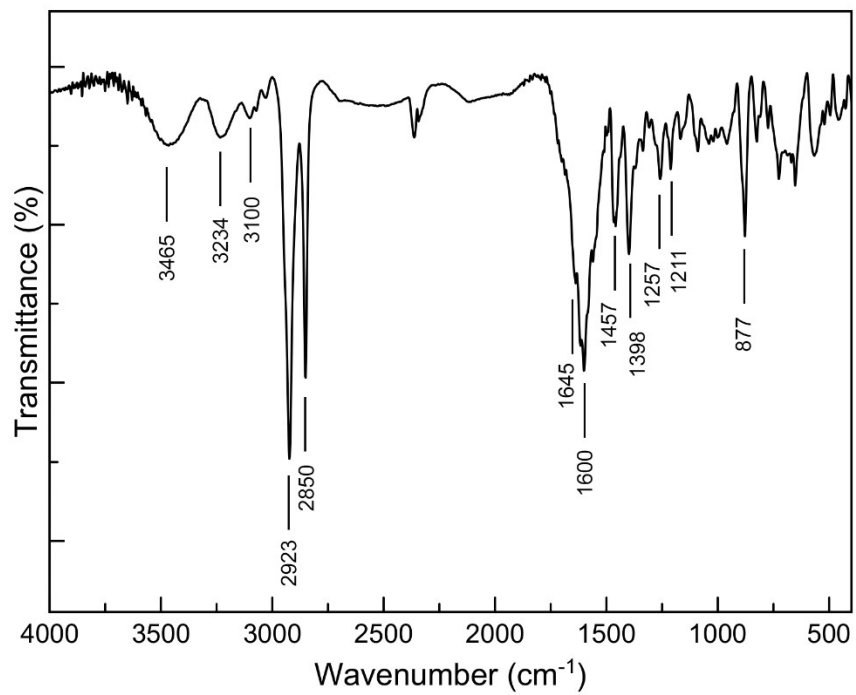
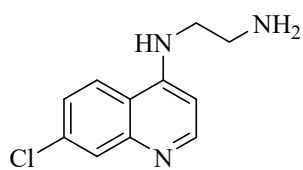


Figure 9S. FTIR of **DEQ**.



CEQ



Chemical Formula: C₁₁H₁₂ClN₃

Exact Mass: 221,07

Figure 10S. ¹H NMR (δ, CD₃OD-*d*4, 400 MHz) of CEQ.

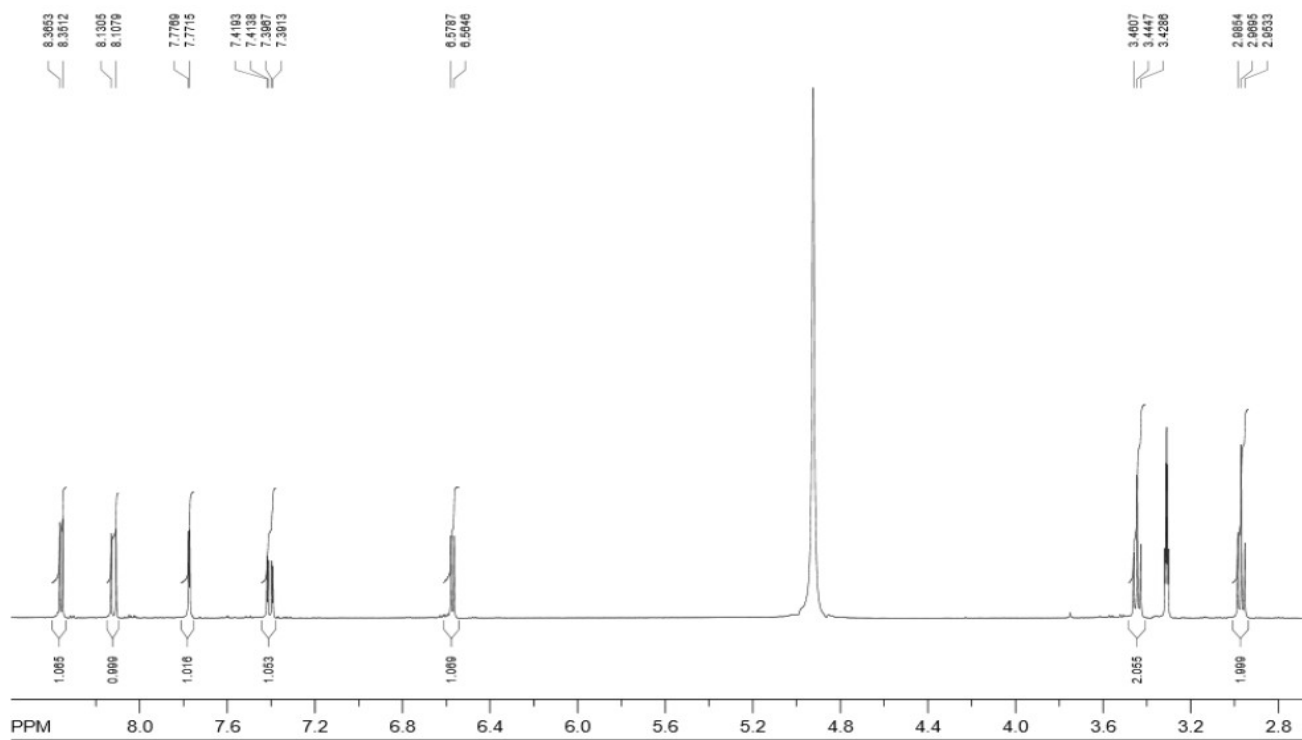


Figure 11S. ^{13}C NMR (δ , $\text{CD}_3\text{OD}-d_4$, 100 MHz) of CEQ.

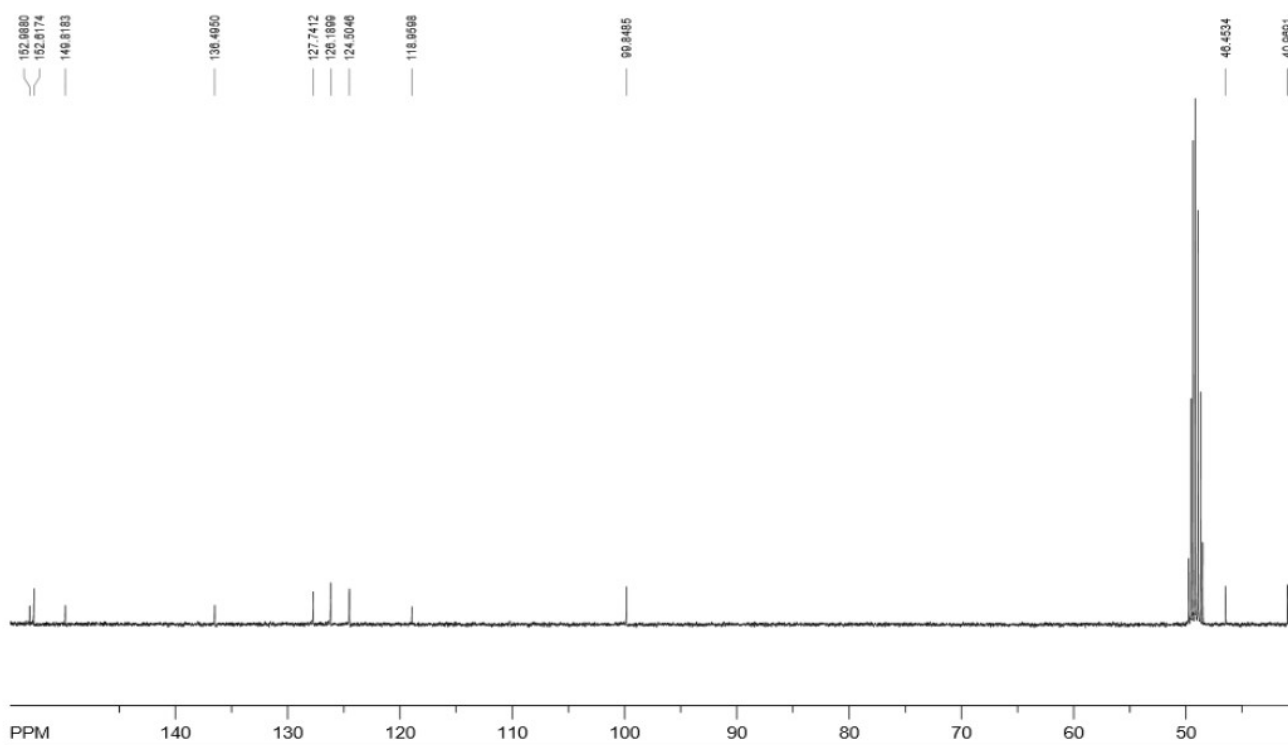
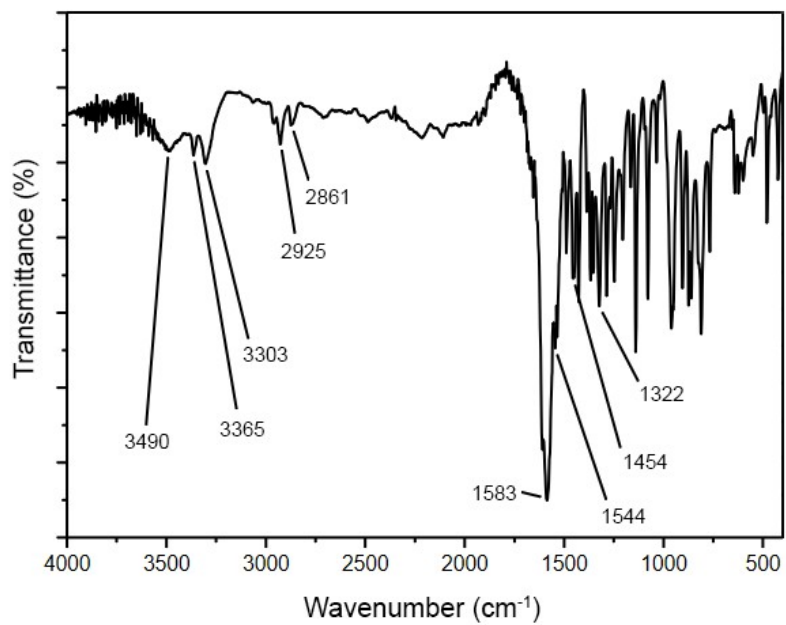
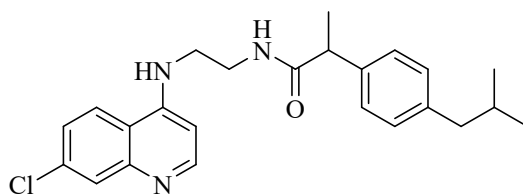


Figure 12S. FTIR of CEQ.



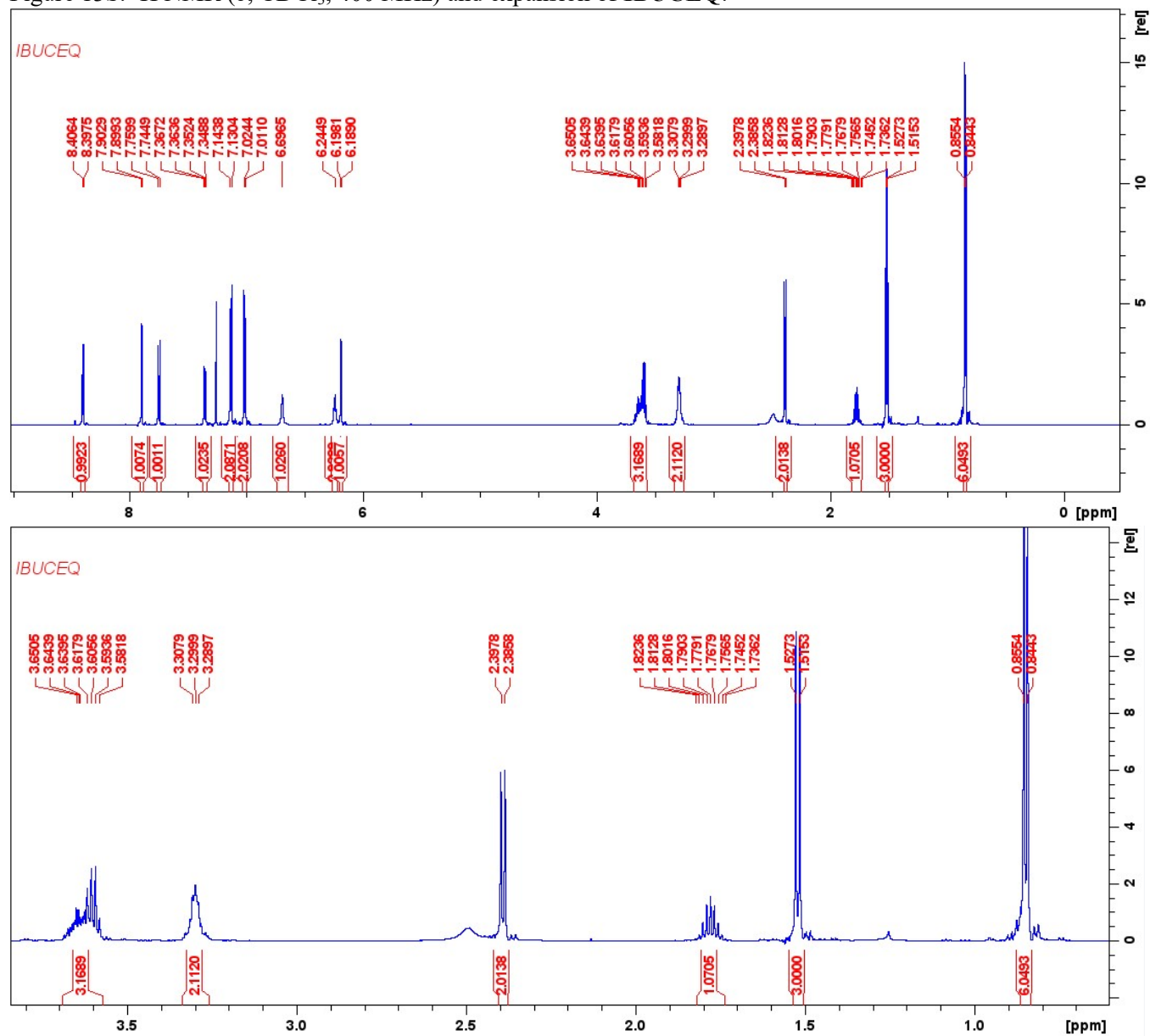
IBUCEQ



Chemical Formula: C₂₄H₂₈ClN₃O

Exact Mass: 409,19

Figure 13S. ¹H NMR (δ, CDCl₃, 400 MHz) and expansion of IBUCEQ.



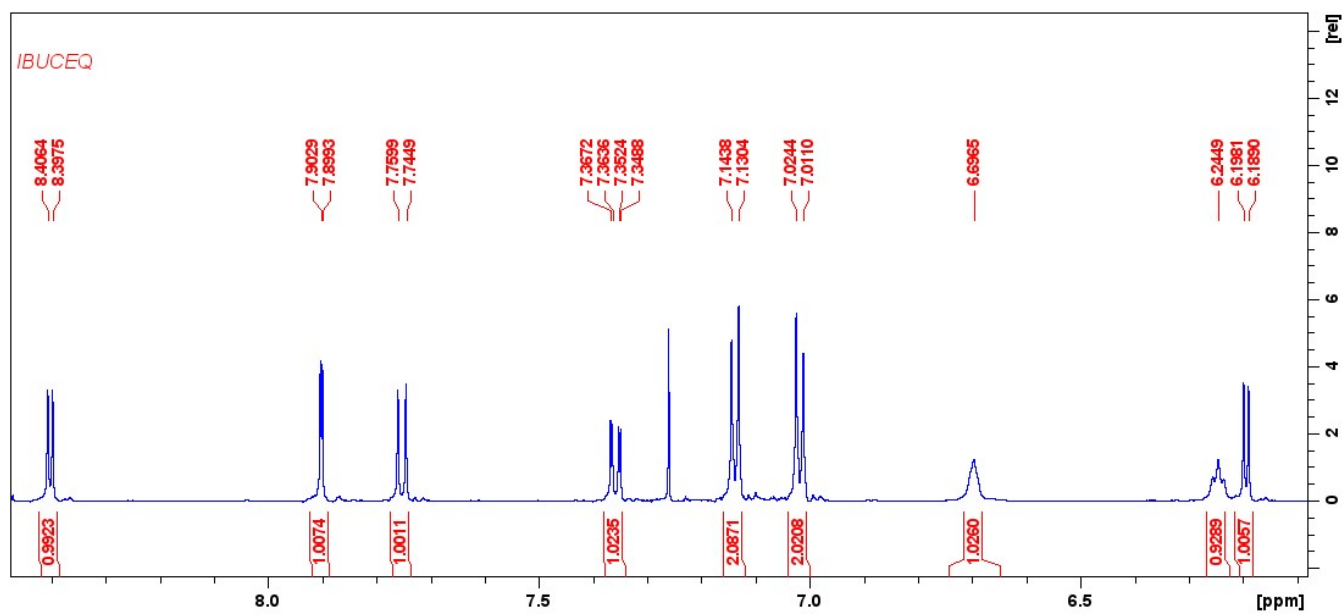


Figure 14S. ^{13}C NMR (δ , CDCl_3 , 100 MHz) of **IBUCEQ**.

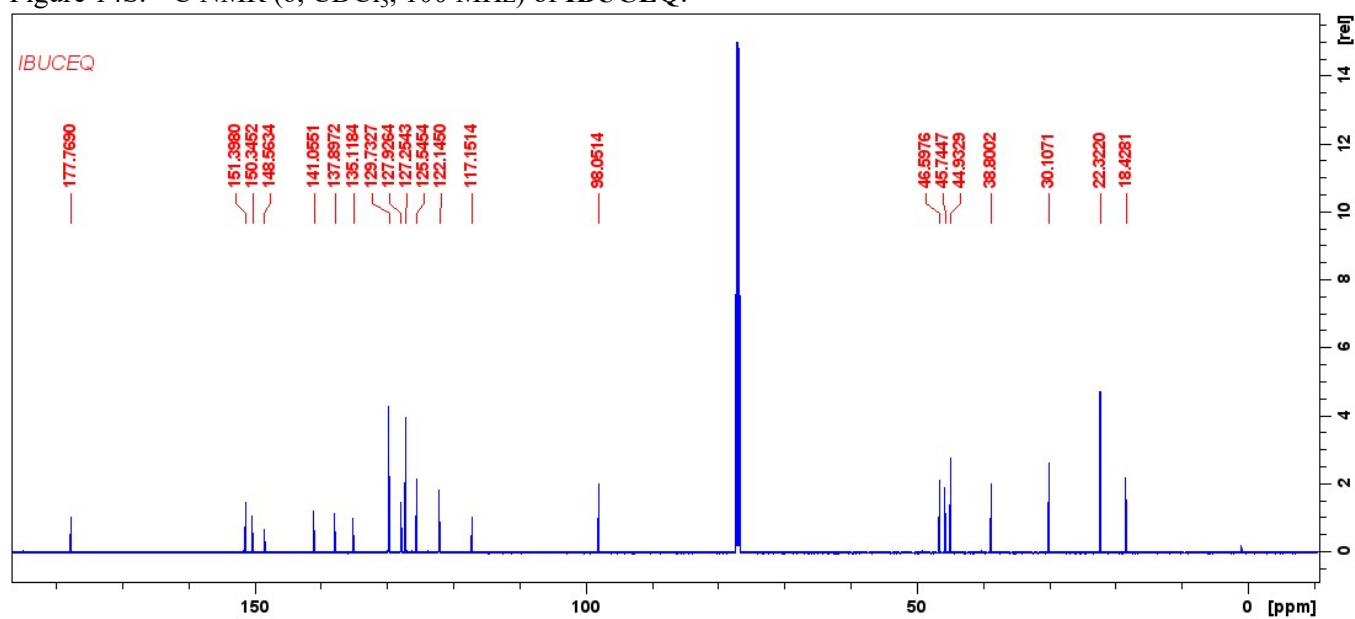


Figure 15S. FTIR of **IBUCEQ**.

