

Supporting information

1-(*N*-Acylamino)alkyl sulfones from *N*-acyl- α -amino acids or *N*-alkylamides

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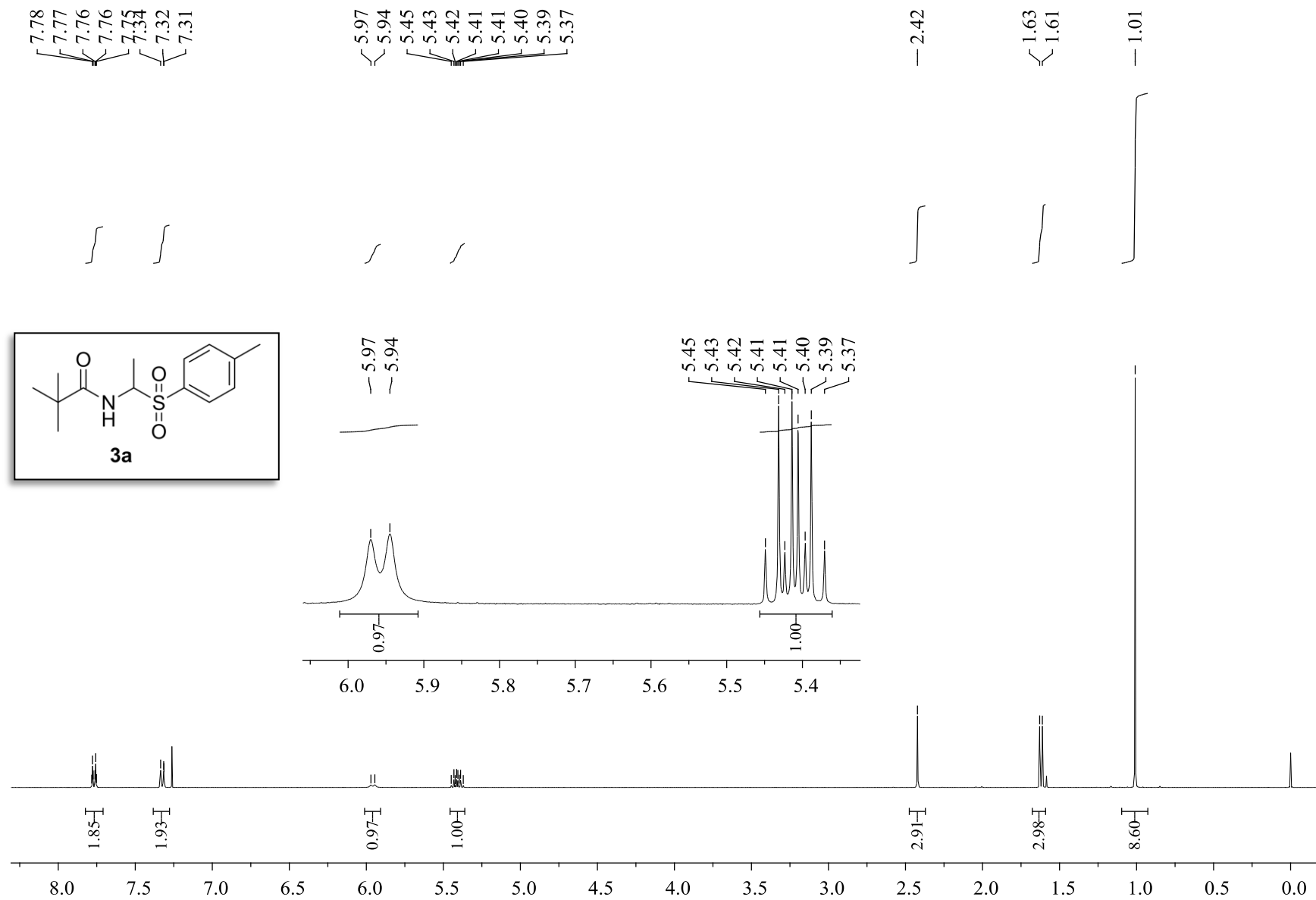
Silesian University of Technology

B. Krzywoustego 4, 44-100 Gliwice, Poland

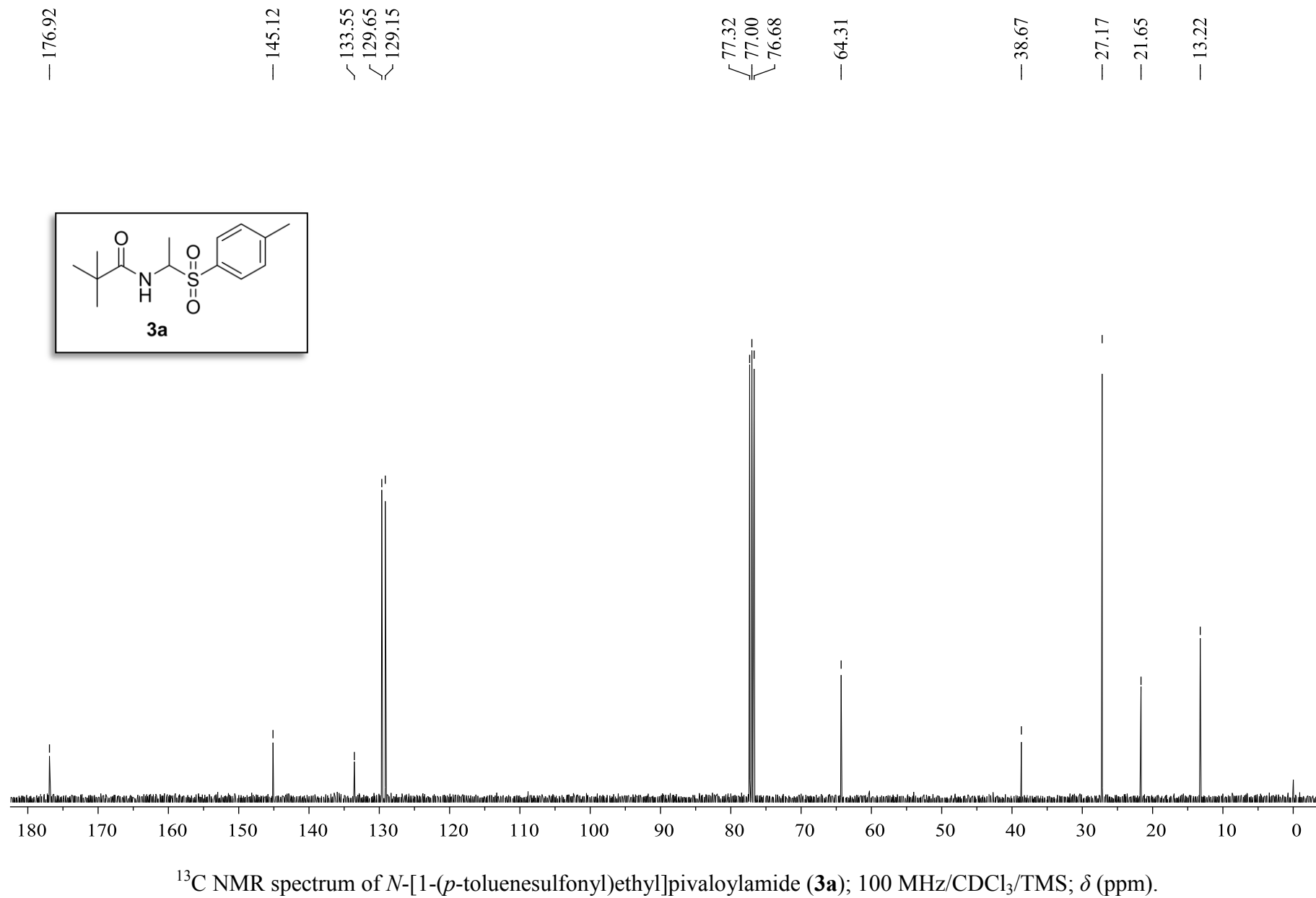
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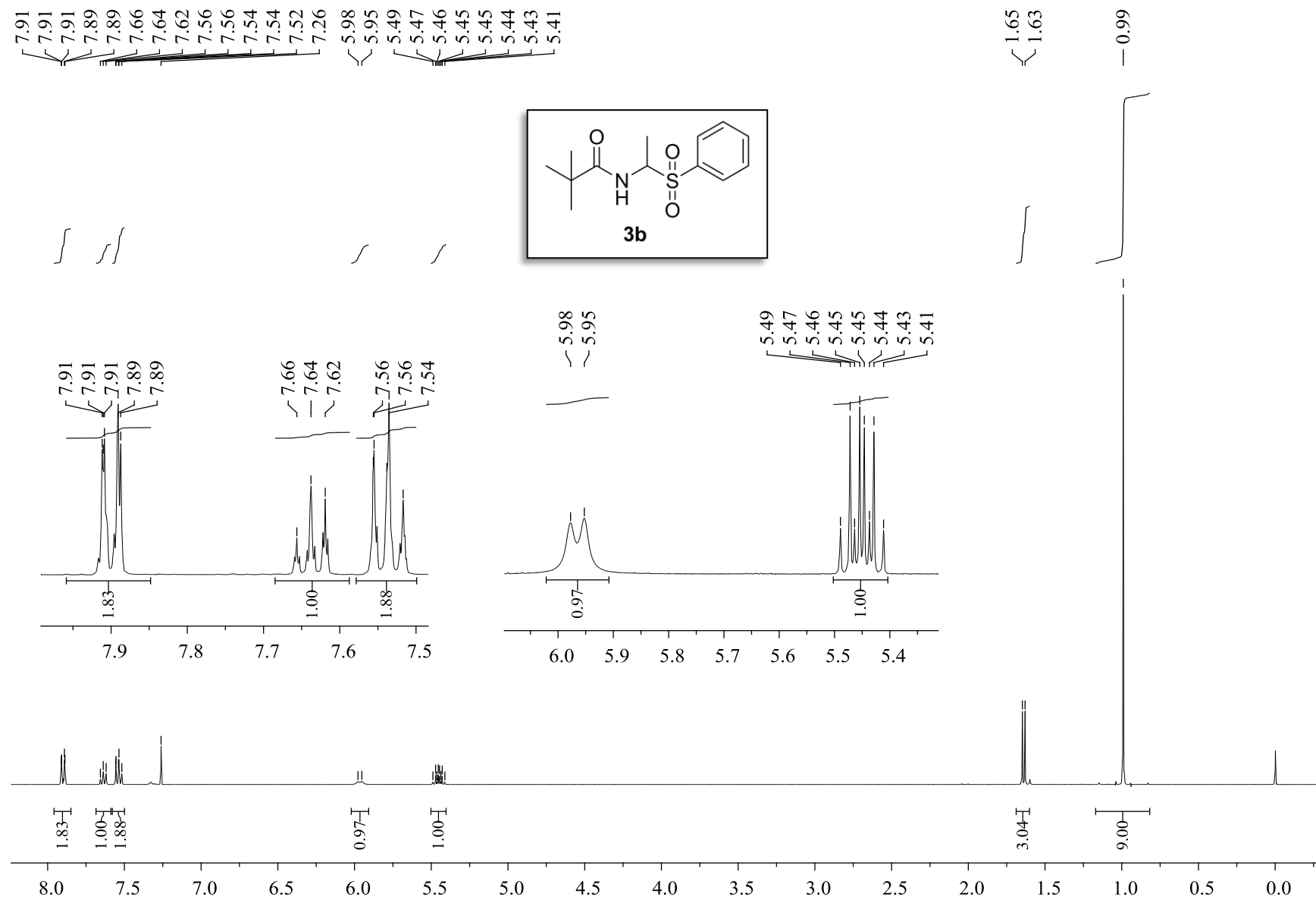
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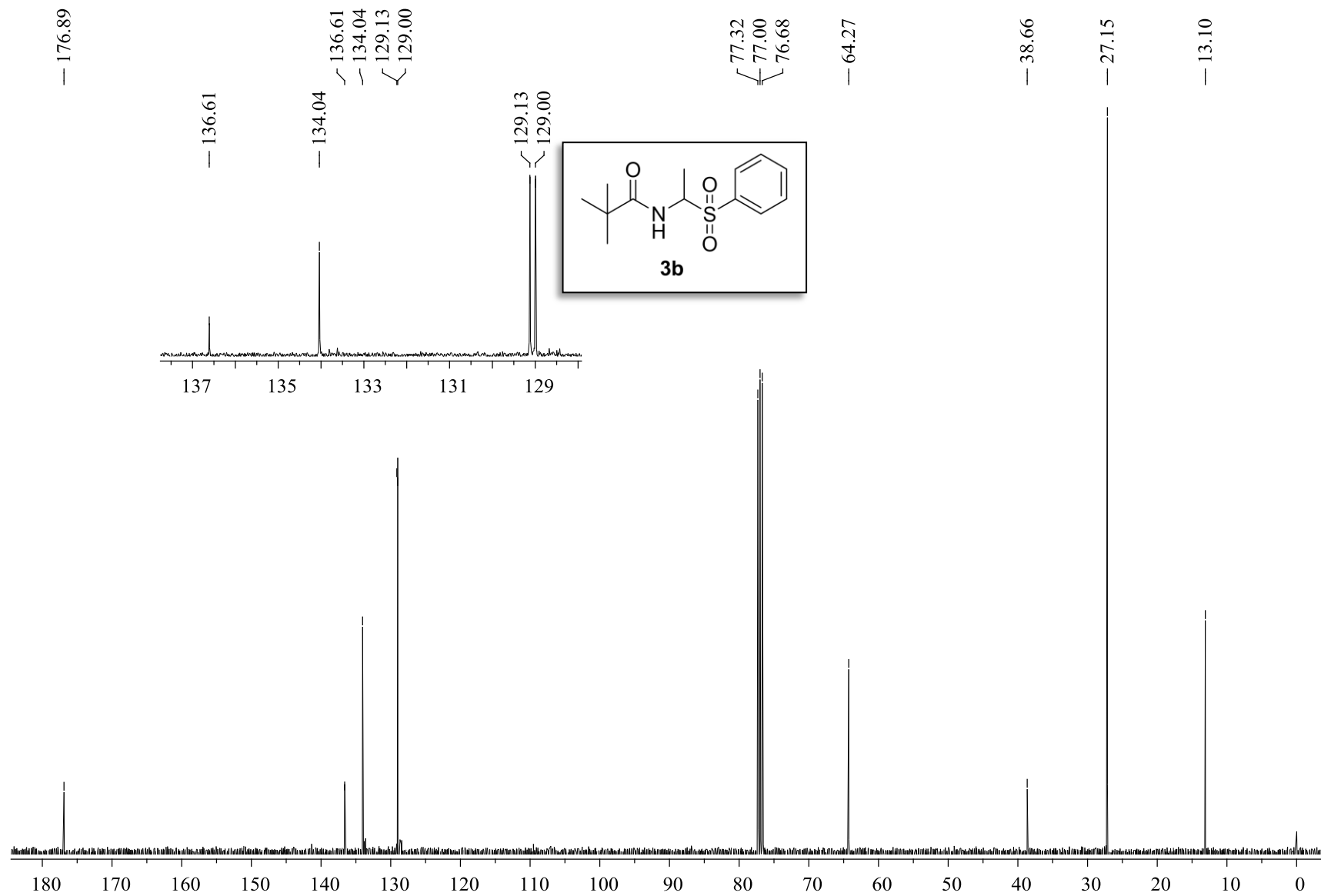


¹H NMR spectrum of *N*-[1-(*p*-toluenesulfonyl)ethyl]pivaloylamide (**3a**); 400 MHz/CDCl₃/TMS; δ (ppm).

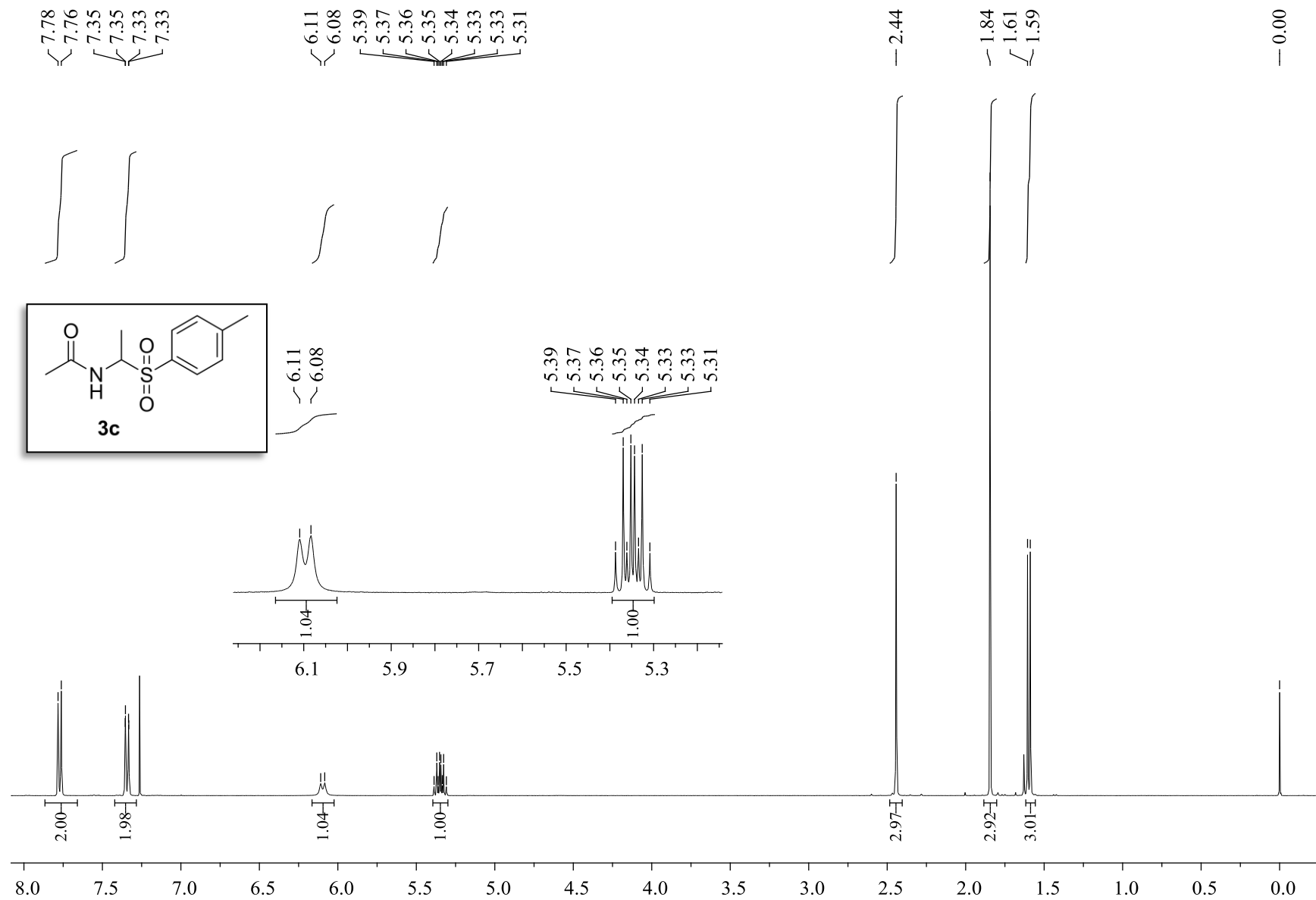




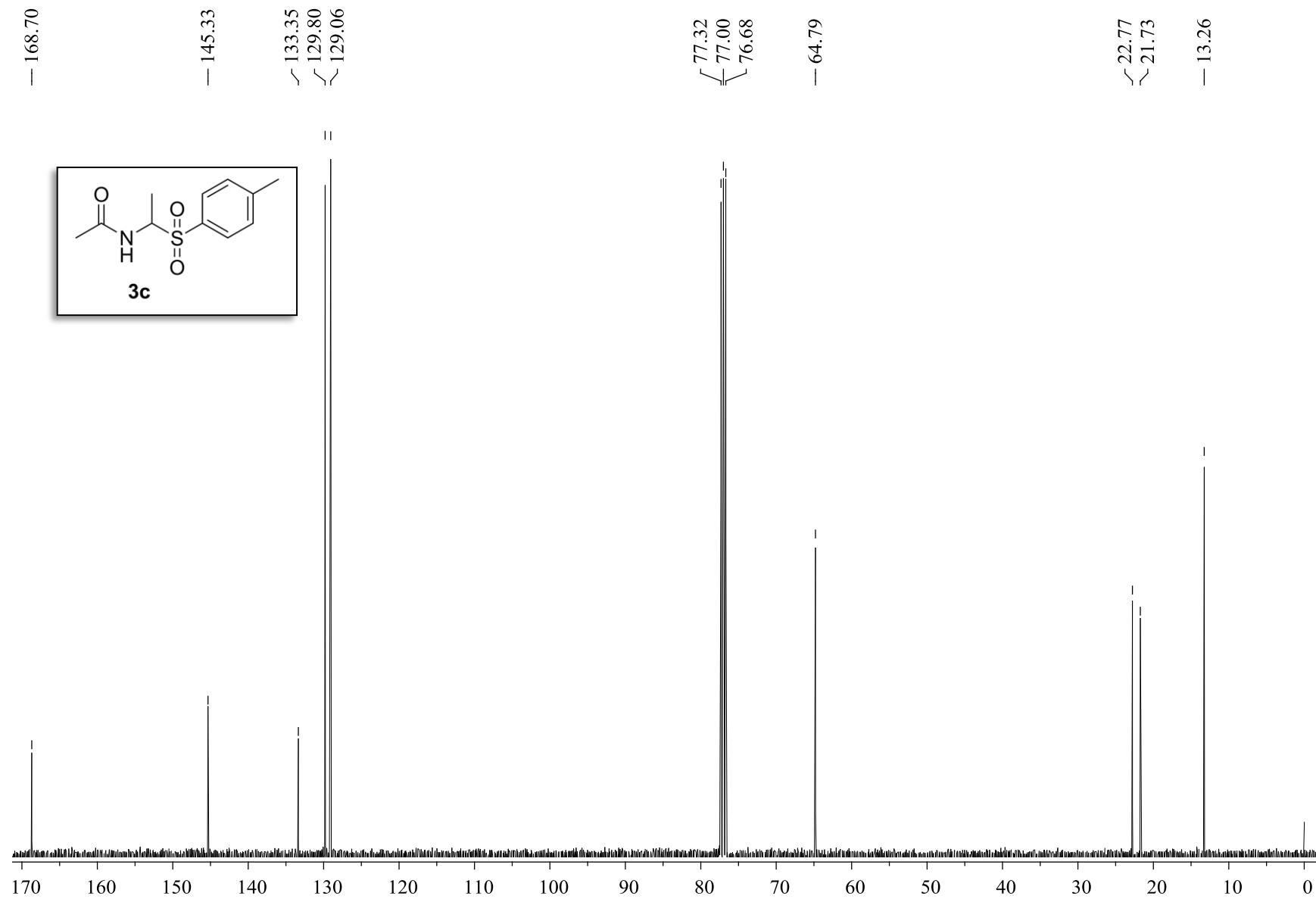
¹H NMR spectrum of *N*-[1-(phenylsulfonyl)ethyl]pivaloylamide (**3b**); 400 MHz/CDCl₃/TMS; δ (ppm).

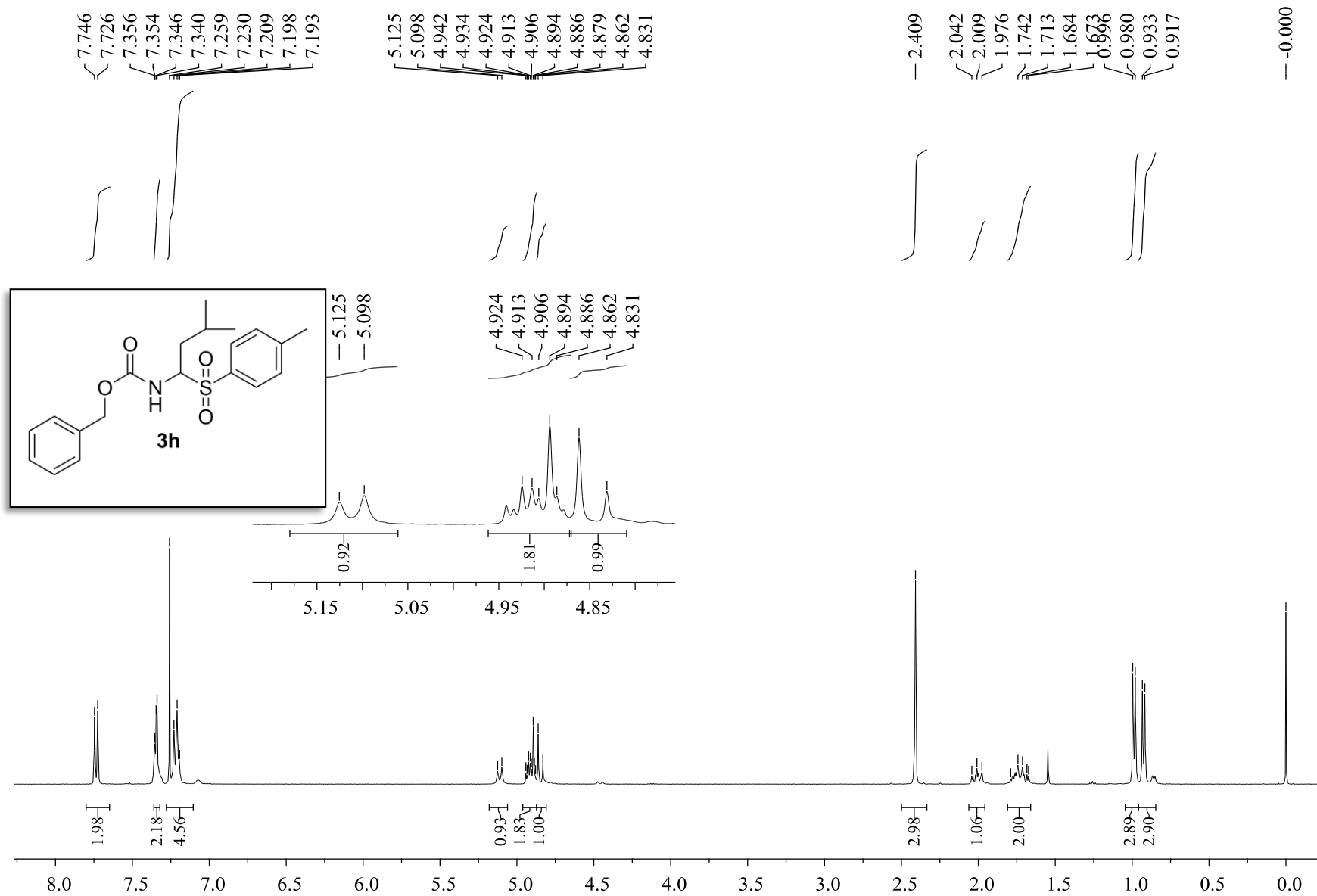


^{13}C NMR spectrum of *N*-[1-(phenylsulfonyl)ethyl]pivaloylamine (**3b**); 100 MHz/CDCl₃/TMS; δ (ppm).

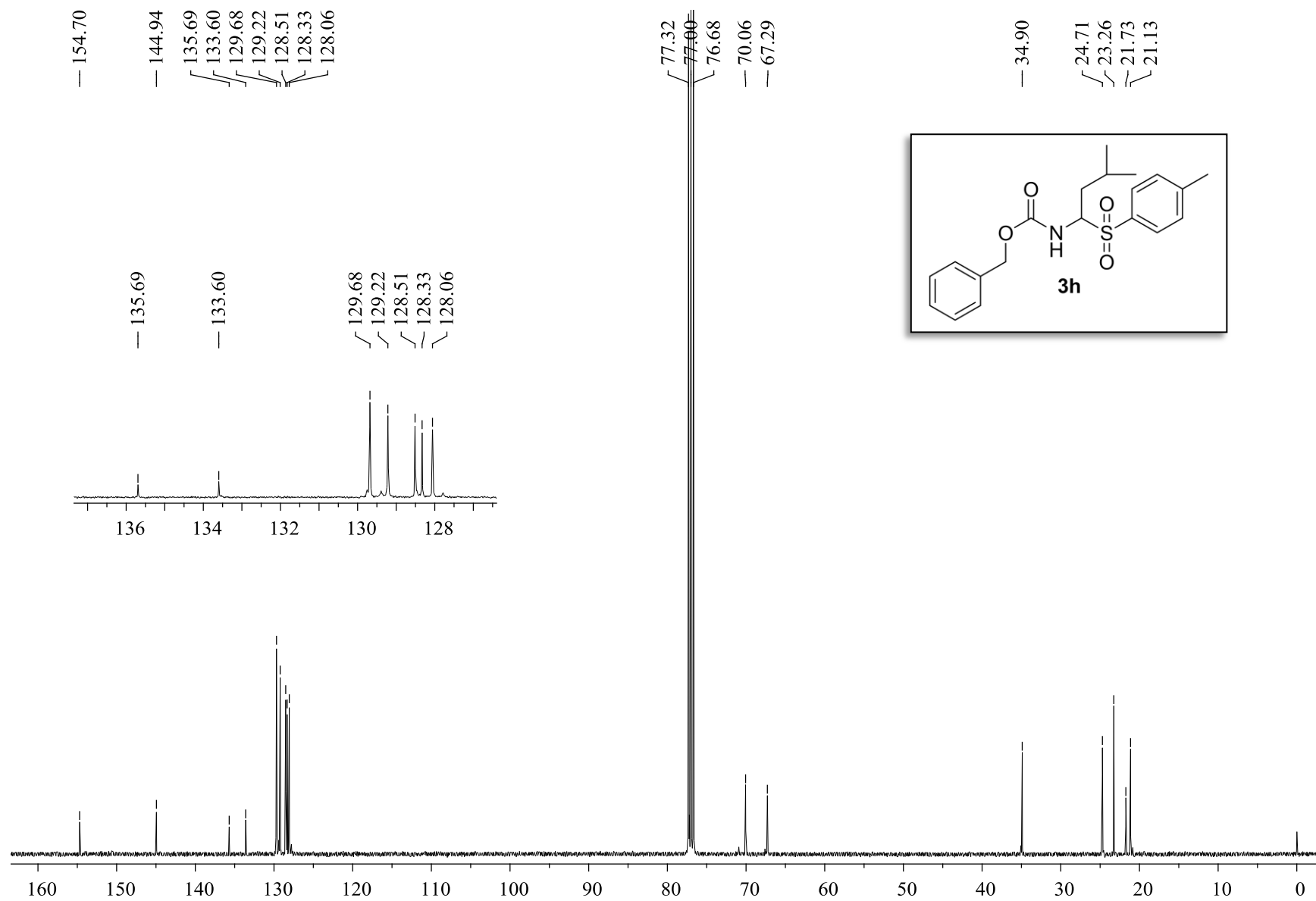


^1H NMR spectrum of *N*-[1-(*p*-toluenesulfonyl)ethyl]acetamide (**3c**); 400 MHz/ CDCl_3 /TMS; δ (ppm).

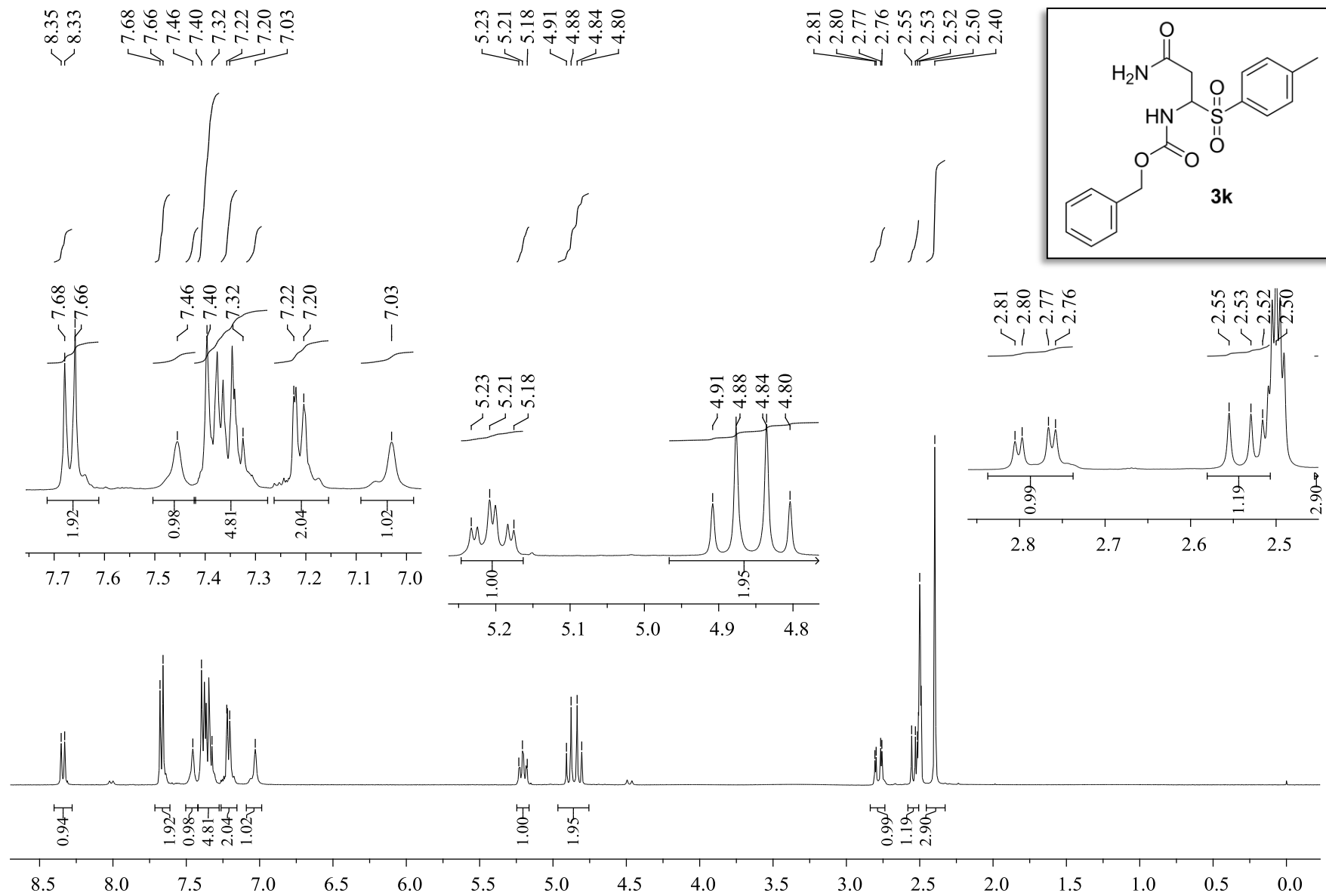




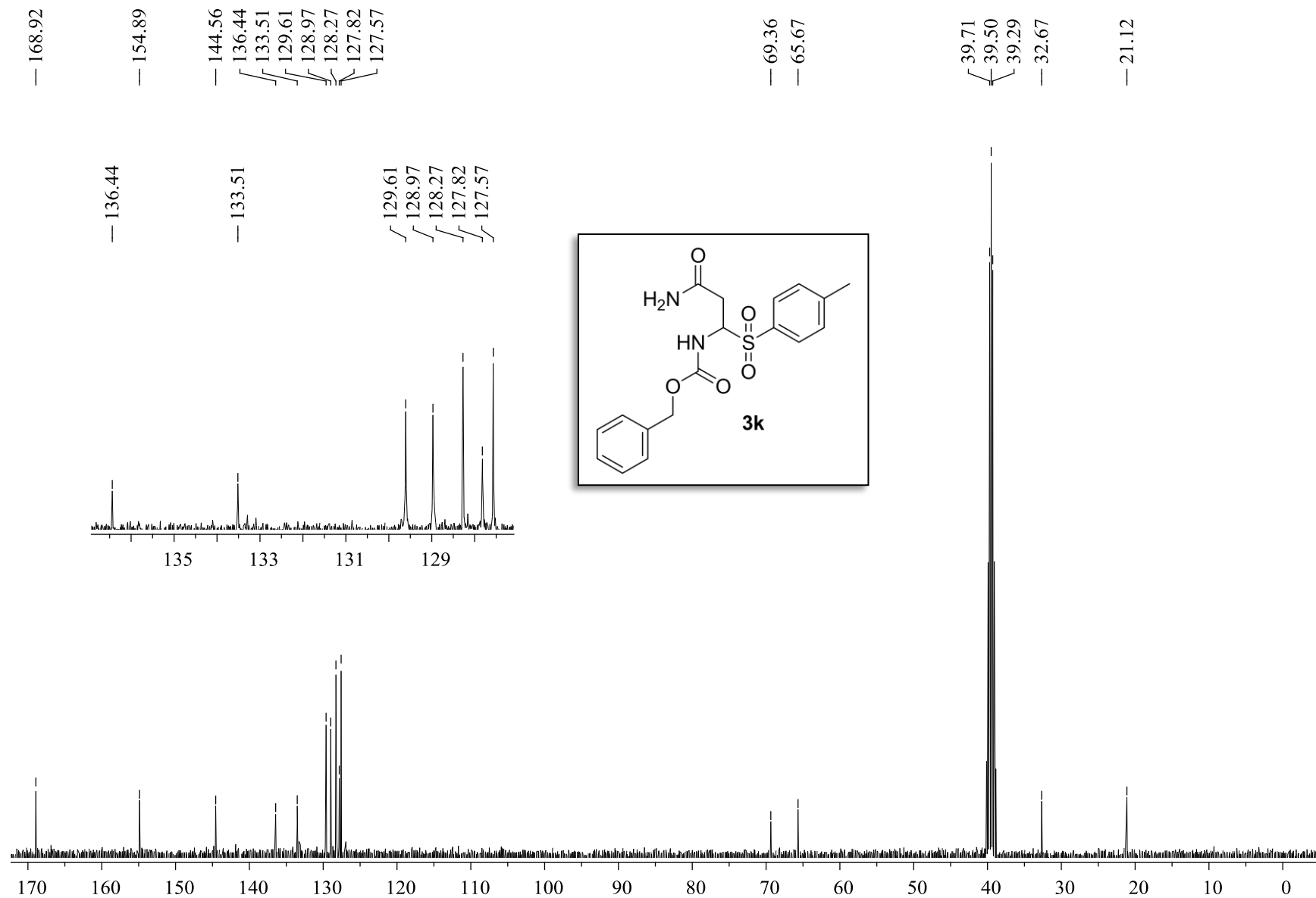
¹H NMR spectrum of benzyl *N*-[3-methyl-1-(*p*-toluenesulfonyl)butyl]carbamate (**3h**); 400 MHz/CDCl₃/TMS; δ (ppm).



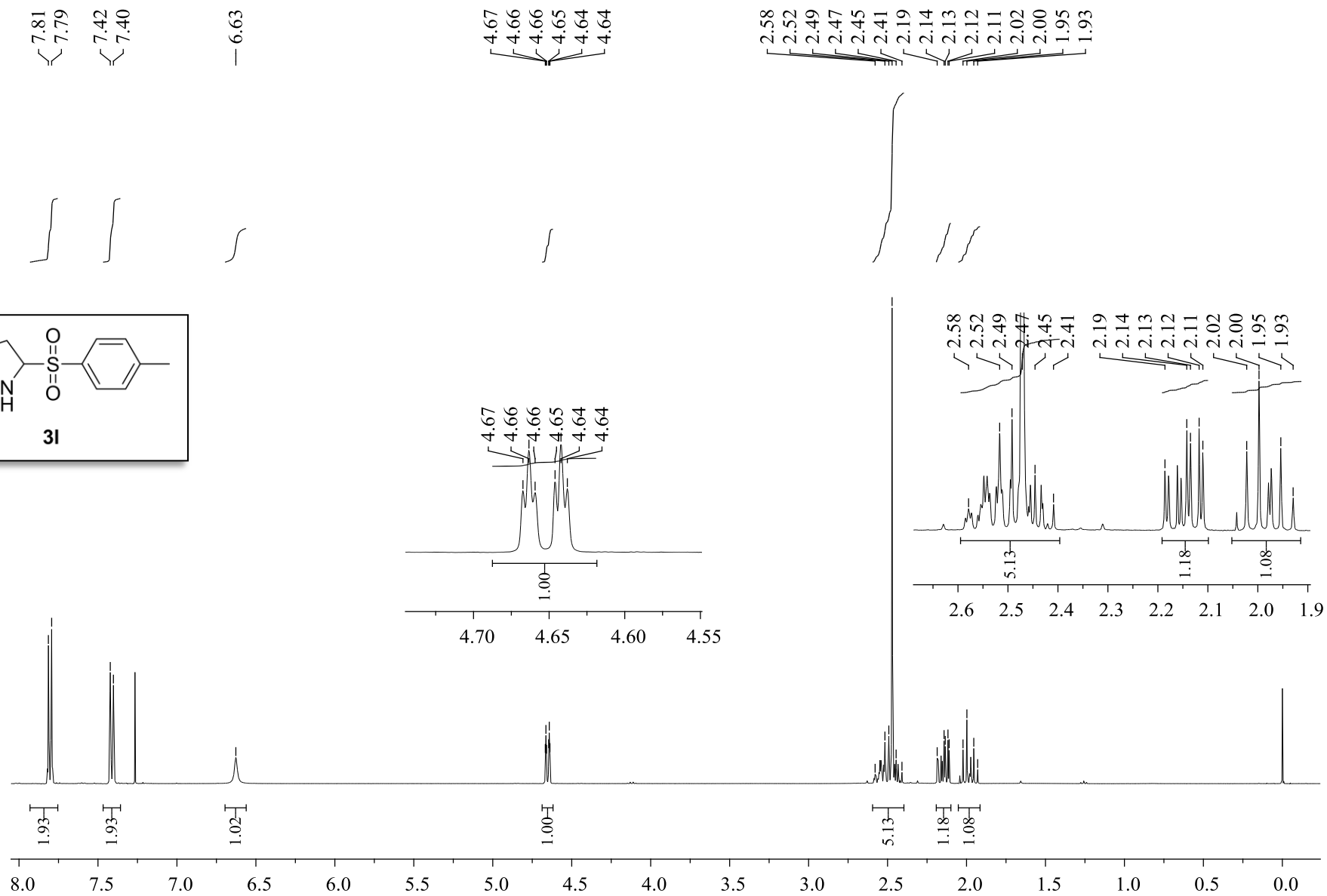
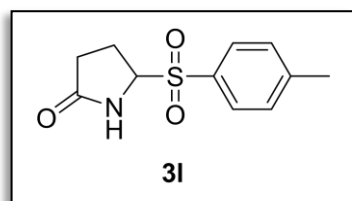
^{13}C NMR spectrum of benzyl *N*-[3-methyl-1-(*p*-toluenesulfonyl)butyl]carbamate (**3h**); 100 MHz/ CDCl_3/TMS ; δ (ppm).



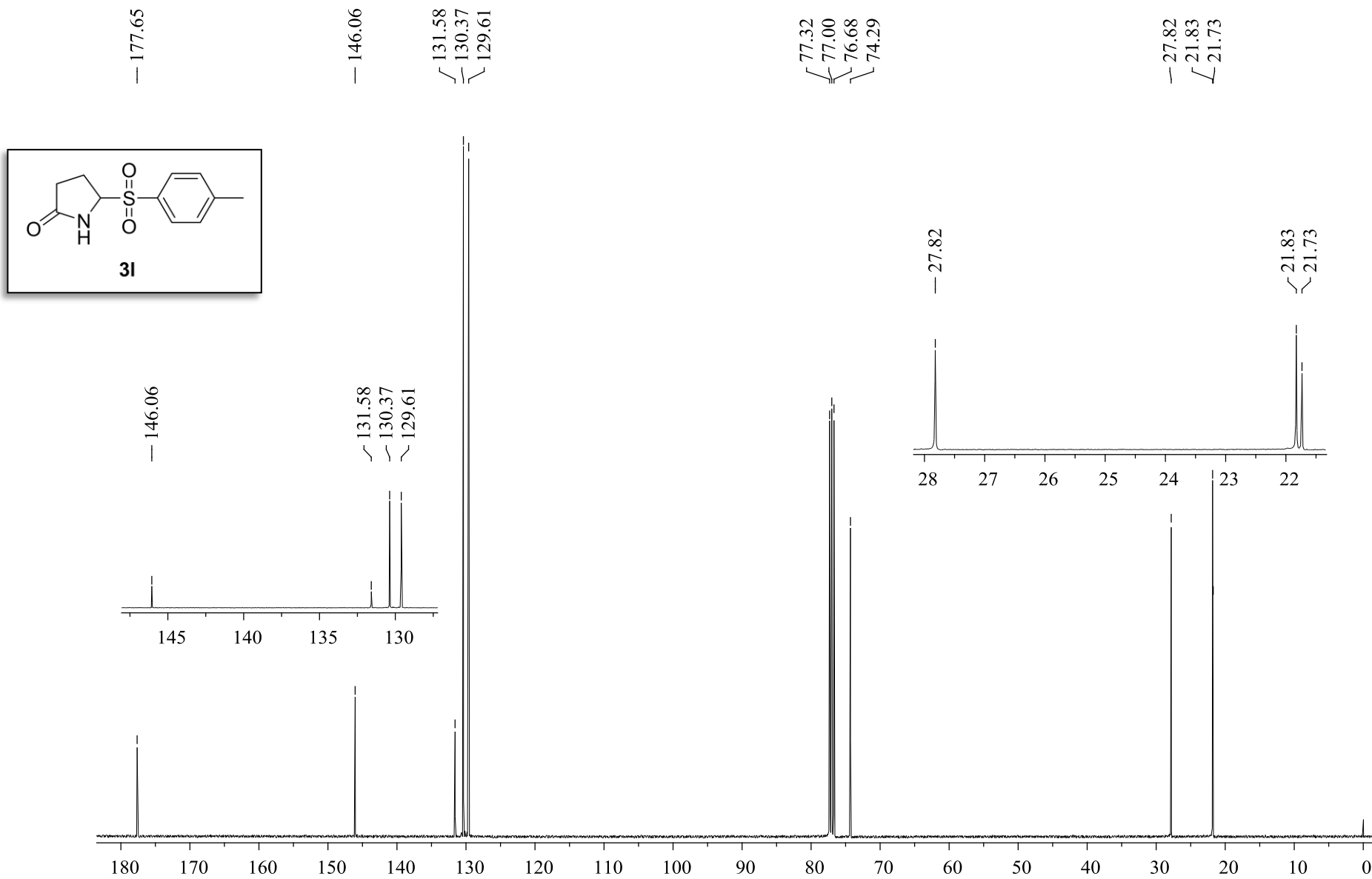
¹H NMR spectrum of benzyl *N*-[2-carbamoyl-1-(*p*-toluenesulfonyl)ethyl]carbamate (**3k**); 400 MHz/DMSO-d₆/TMS; δ (ppm).



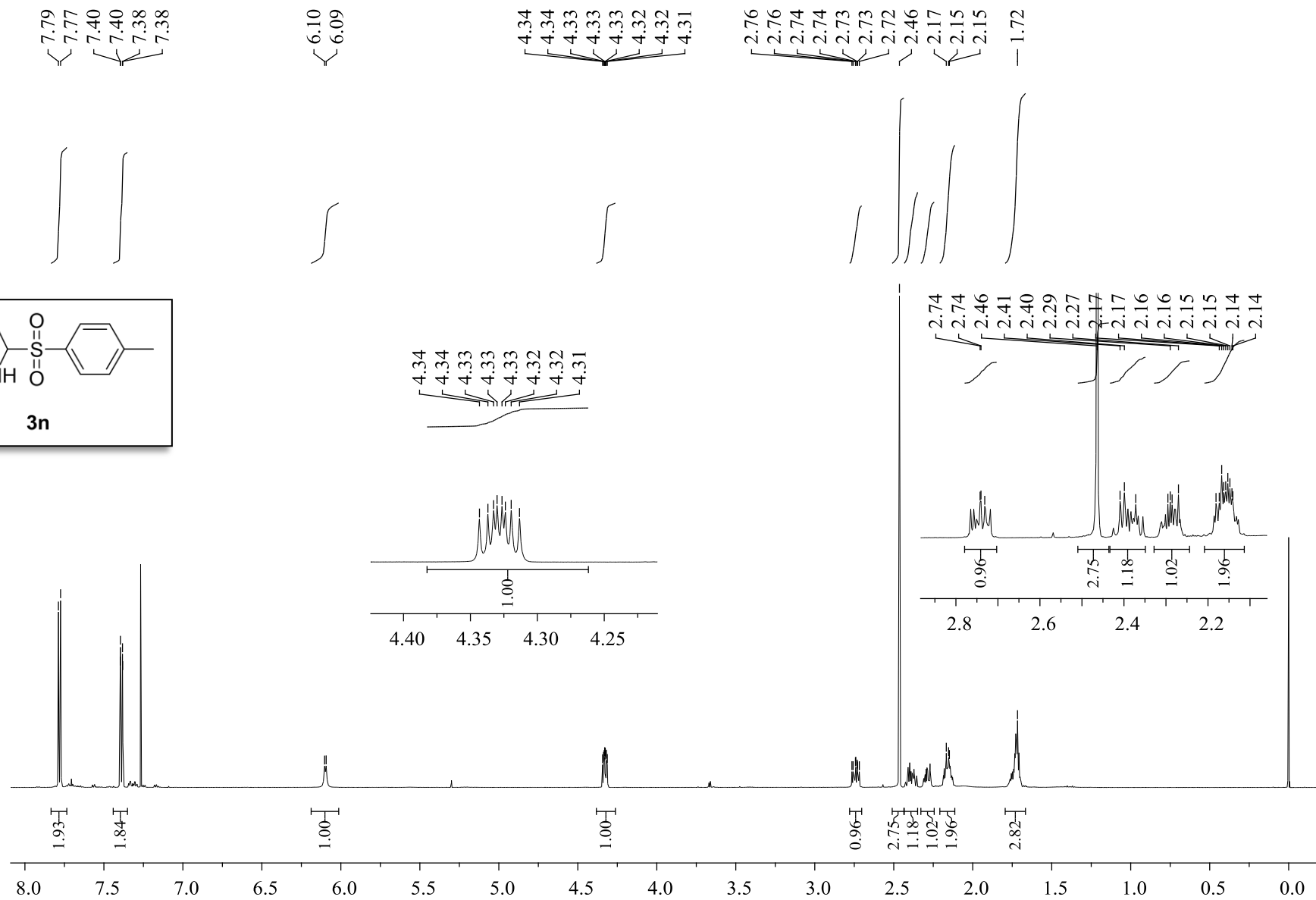
¹³C NMR spectrum of benzyl *N*-[2-carbamoyl-1-(*p*-toluenesulfonyl)ethyl]carbamate (**3k**); 100 MHz/DMSO-d₆/TMS; δ (ppm).



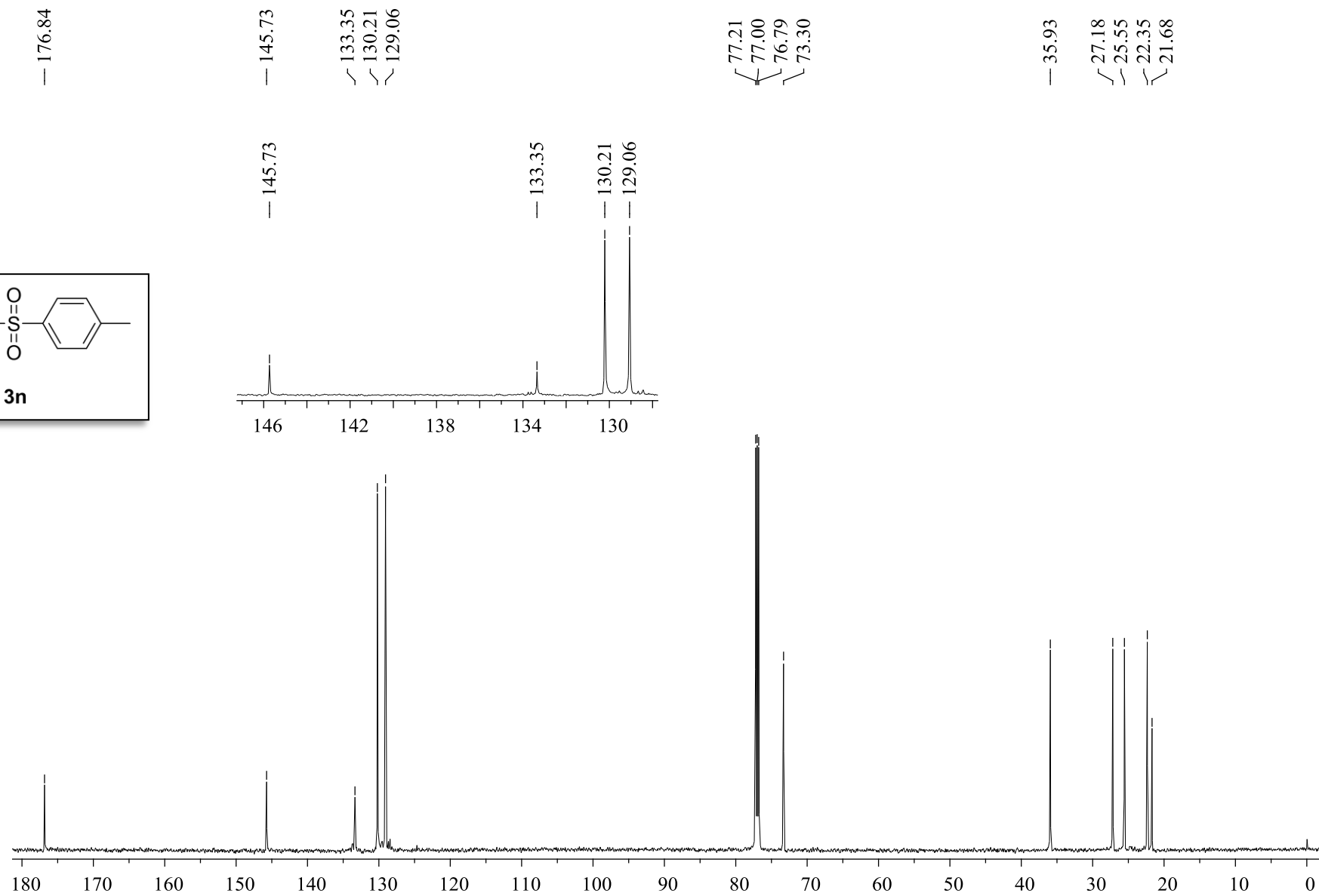
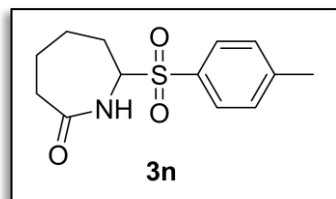
^1H NMR spectrum of 5-(*p*-toluenesulfonyl)pyrrolidine-2-one (**31**); 400 MHz/ CDCl_3 /TMS; δ (ppm).



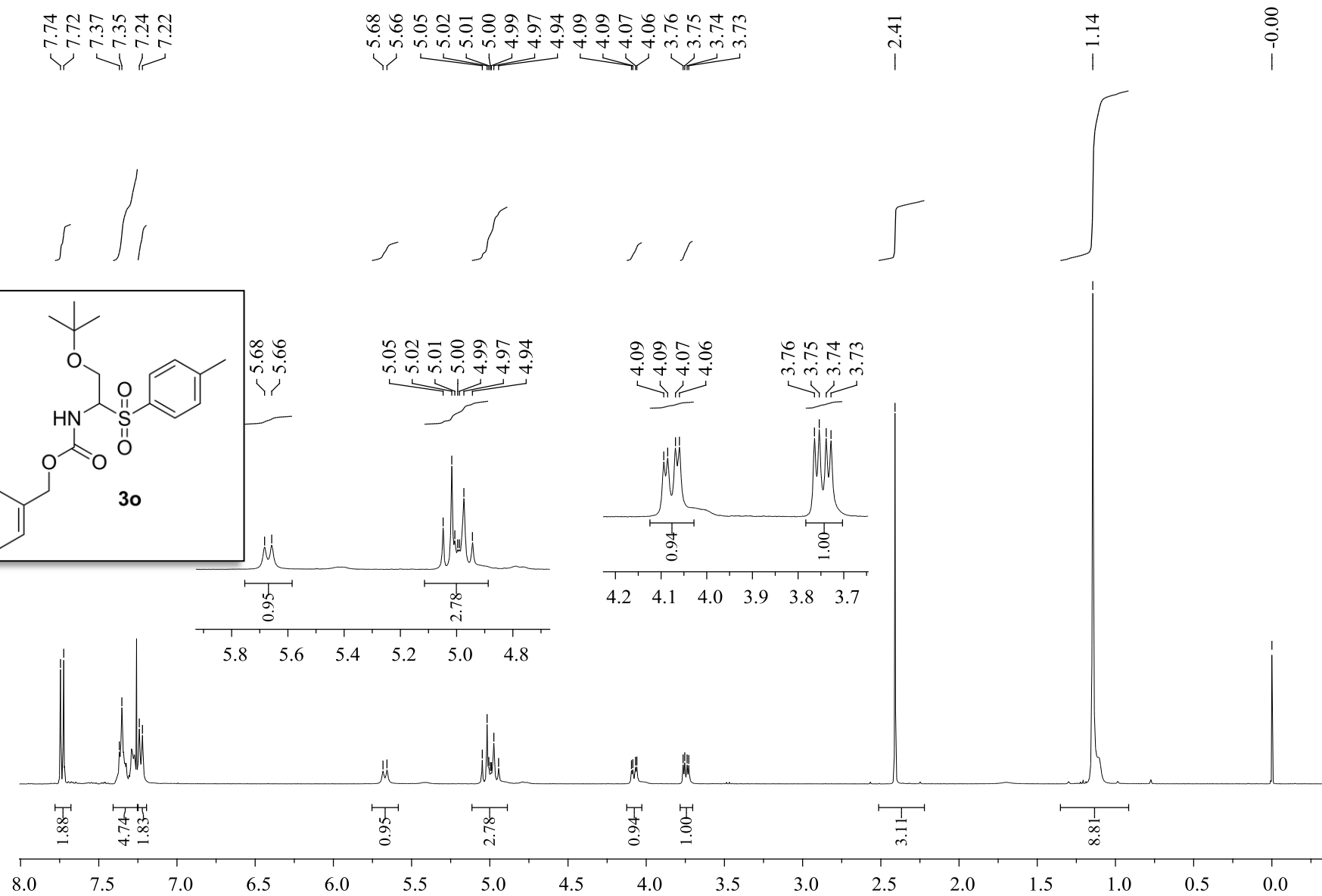
¹³C NMR spectrum of 5-(*p*-toluenesulfonyl)pyrrolidine-2-one (**31**); 100 MHz/CDCl₃/TMS; δ (ppm).



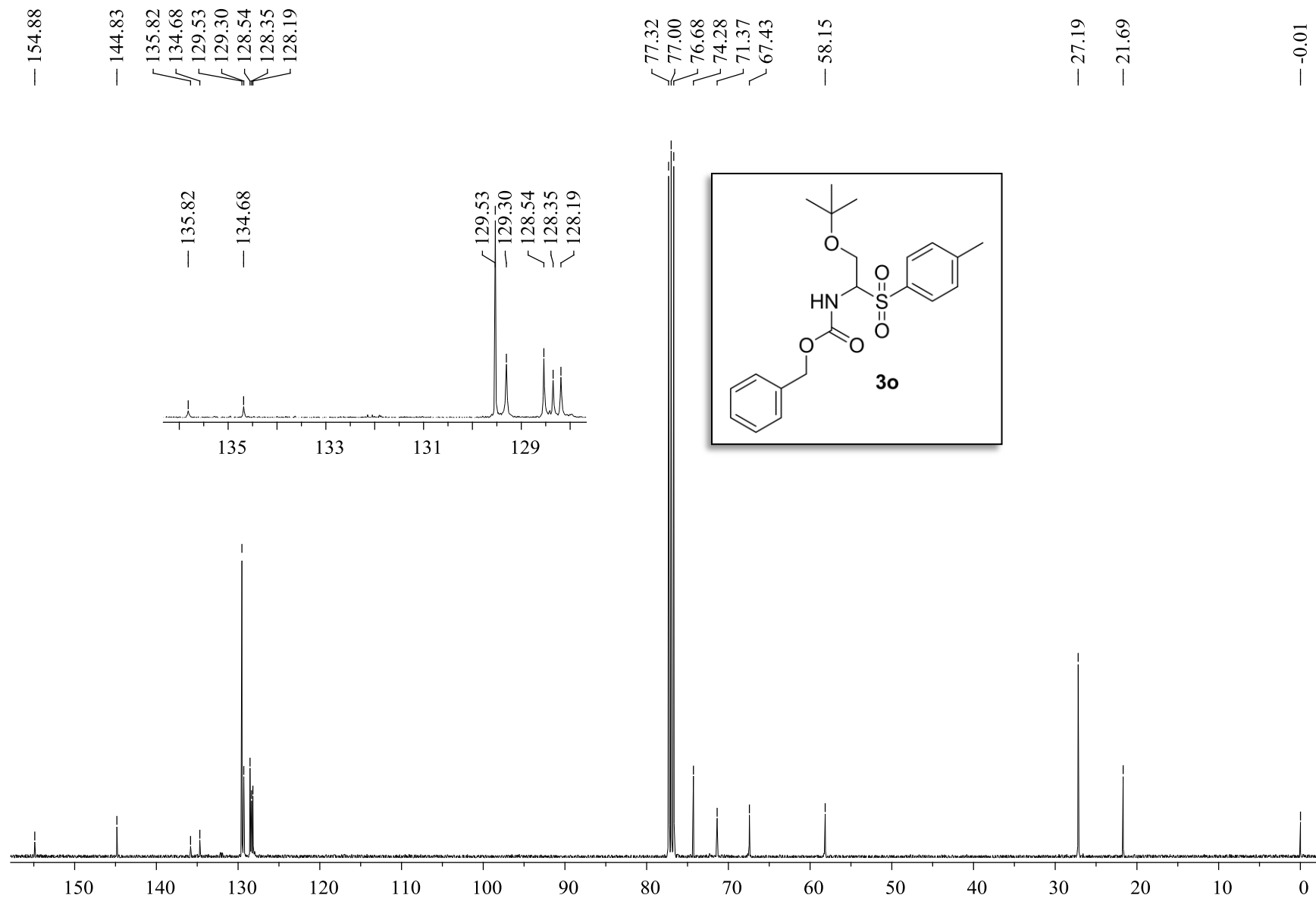
¹H NMR spectrum of 2-(*p*-toluenesulfonyl)-ε-caprolactam (**3n**); 400 MHz/CDCl₃/TMS; δ (ppm).



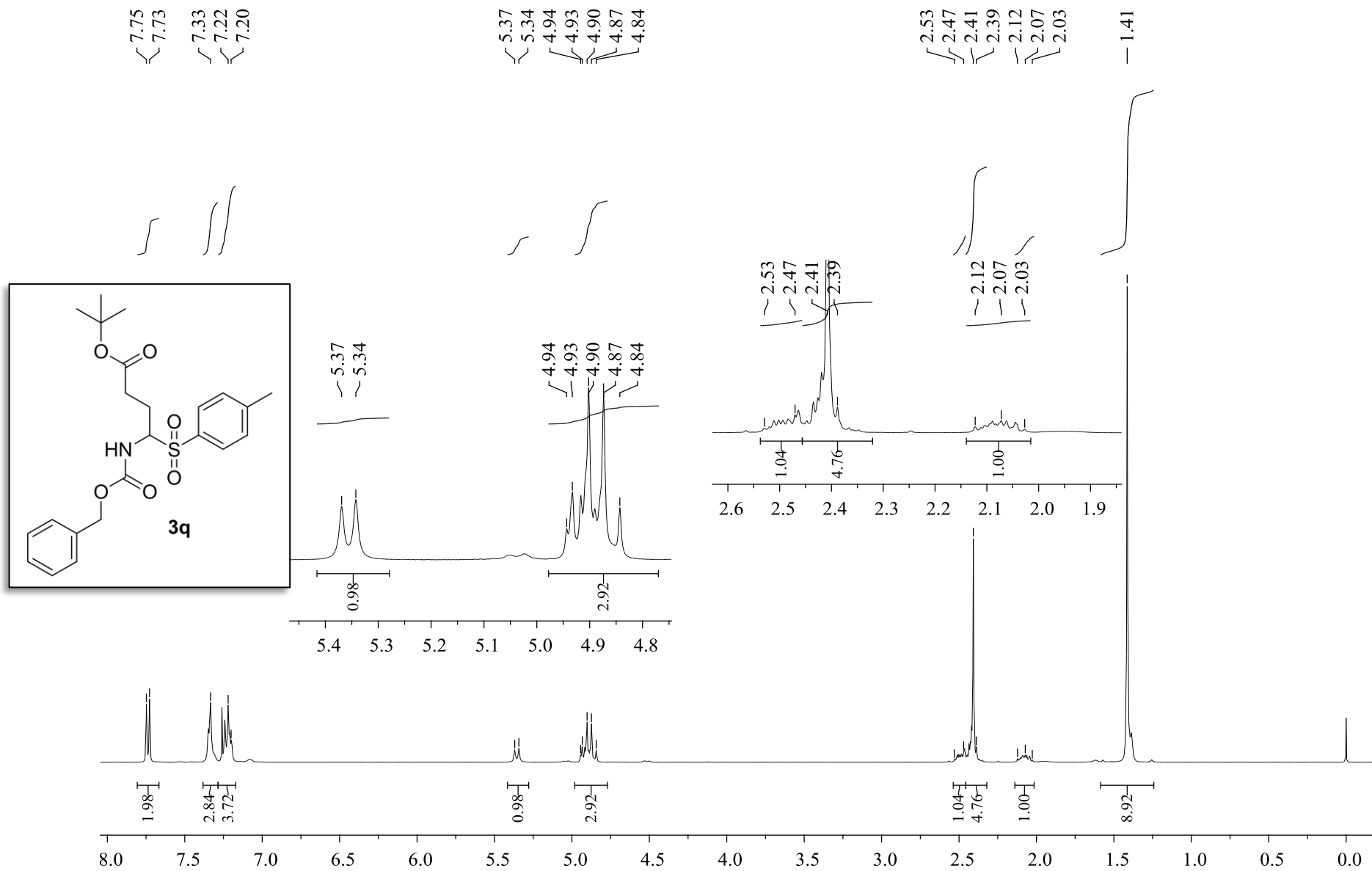
^{13}C NMR spectrum of 2-(*p*-toluenesulfonyl)- ϵ -caprolactam (**3n**); 100 MHz/ CDCl_3 /TMS; δ (ppm).



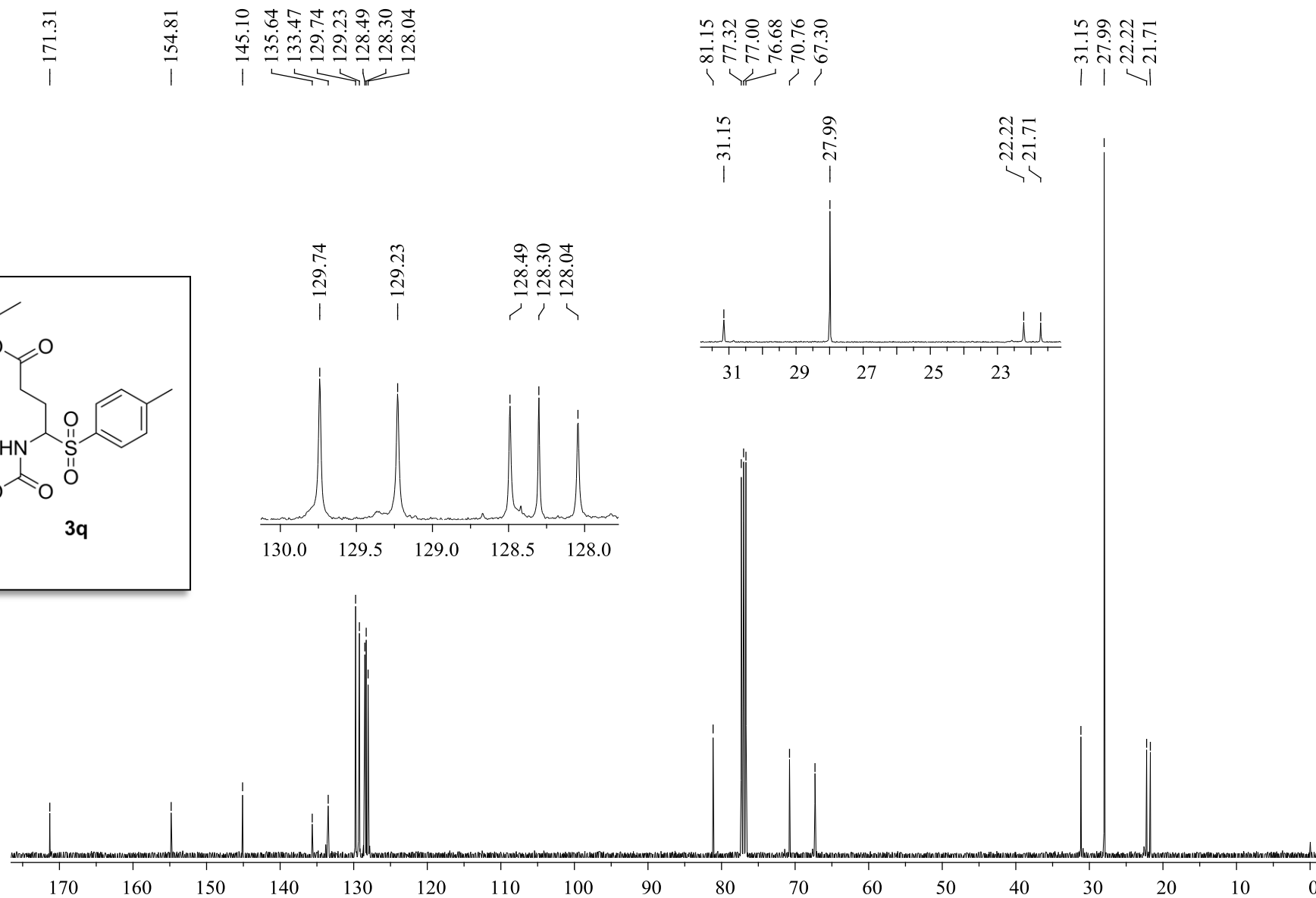
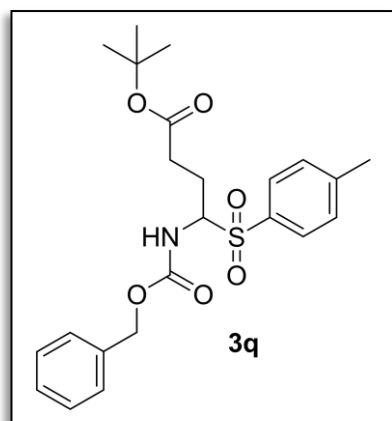
^1H NMR spectrum of benzyl *N*-[2-*tert*-butoxy-1-(*p*-toluenesulfonyl)ethyl]carbamate (**3o**); 400 MHz/ CDCl_3 /TMS; δ (ppm).

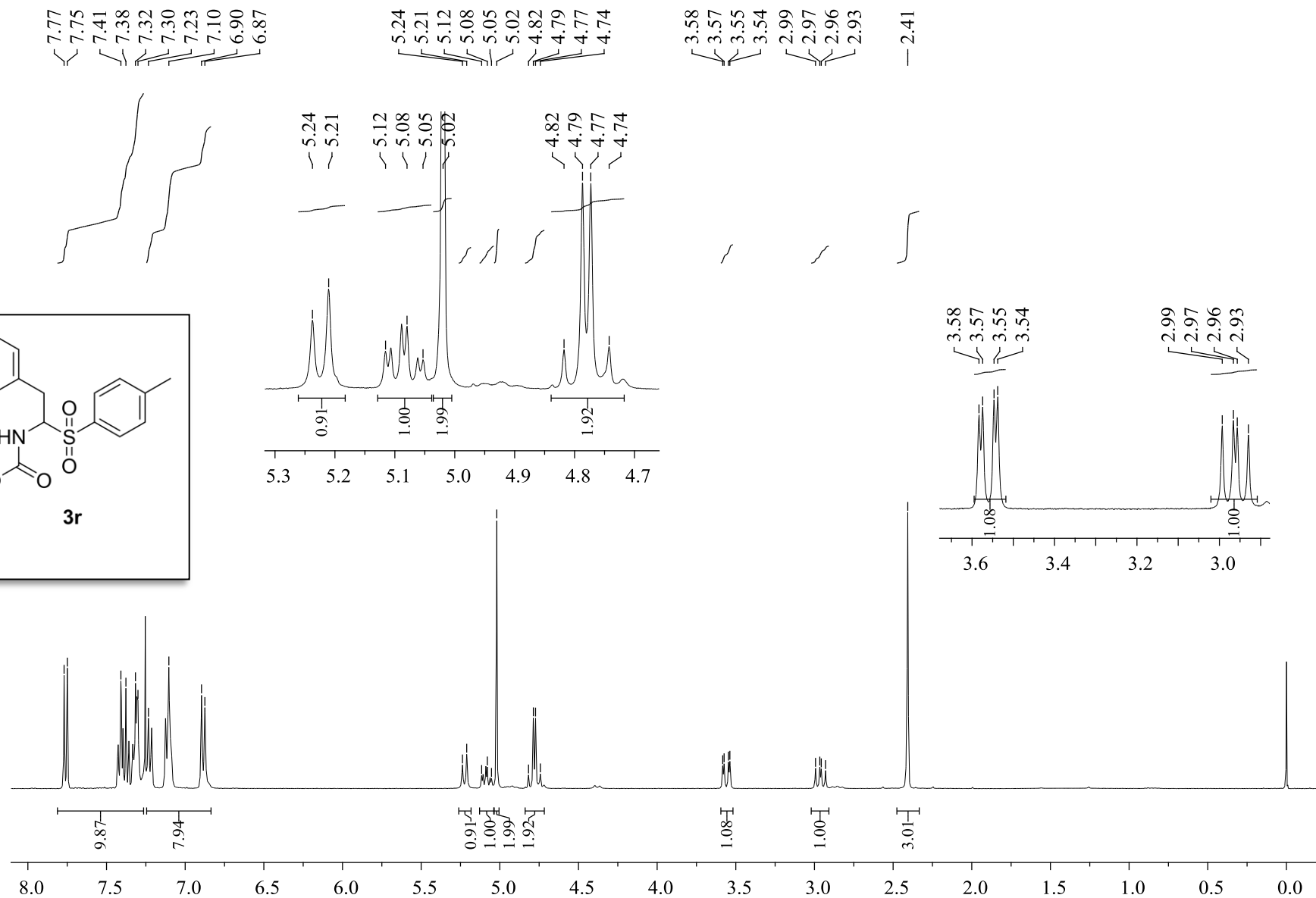
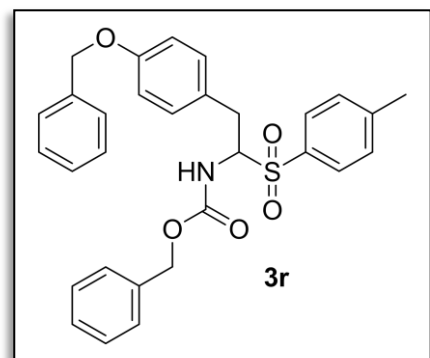


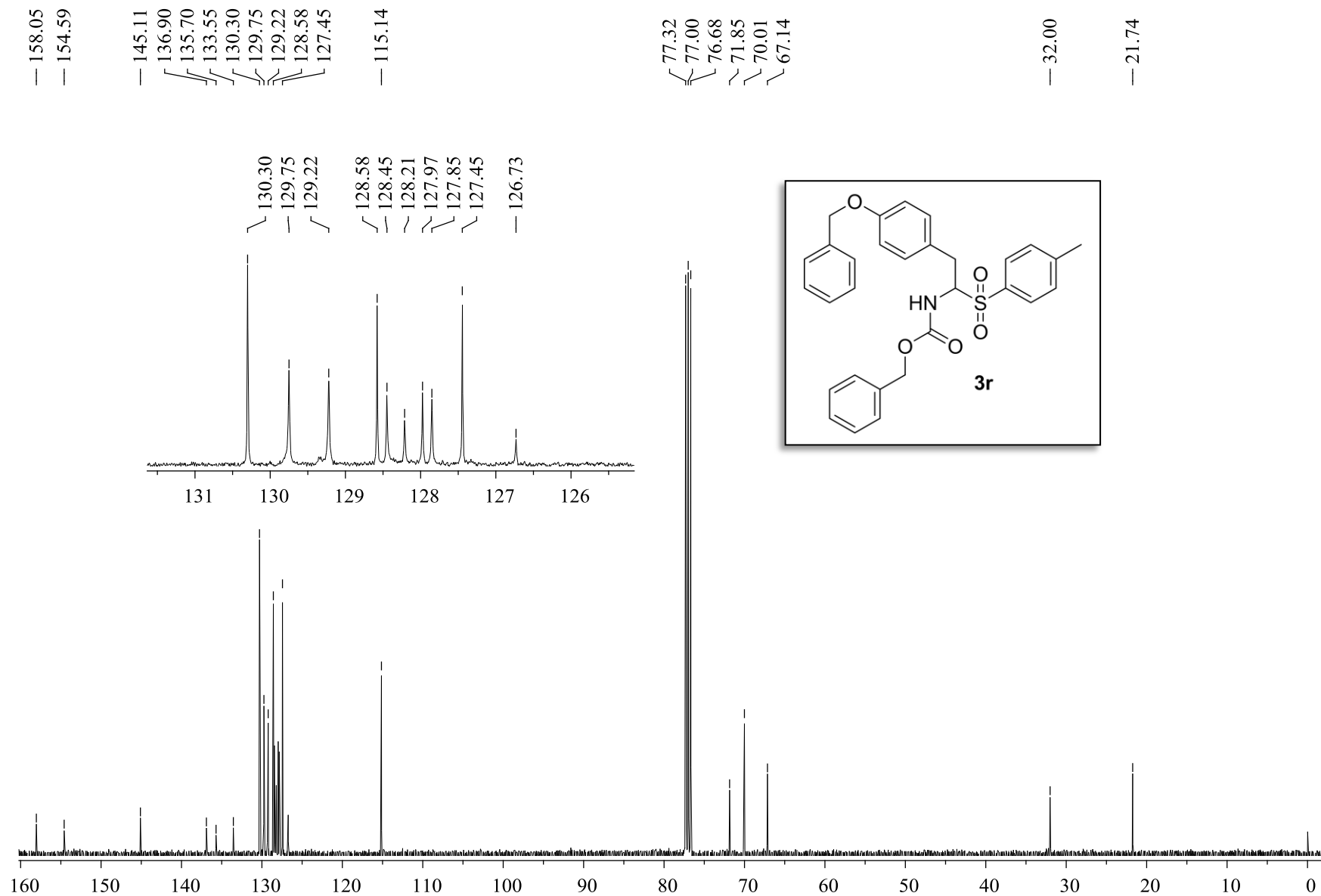
¹³C NMR spectrum of benzyl *N*-[2-*tert*-butoxy-1-(*p*-toluenesulfonyl)ethyl]carbamate (**3o**); 100 MHz/CDCl₃/TMS; δ (ppm).

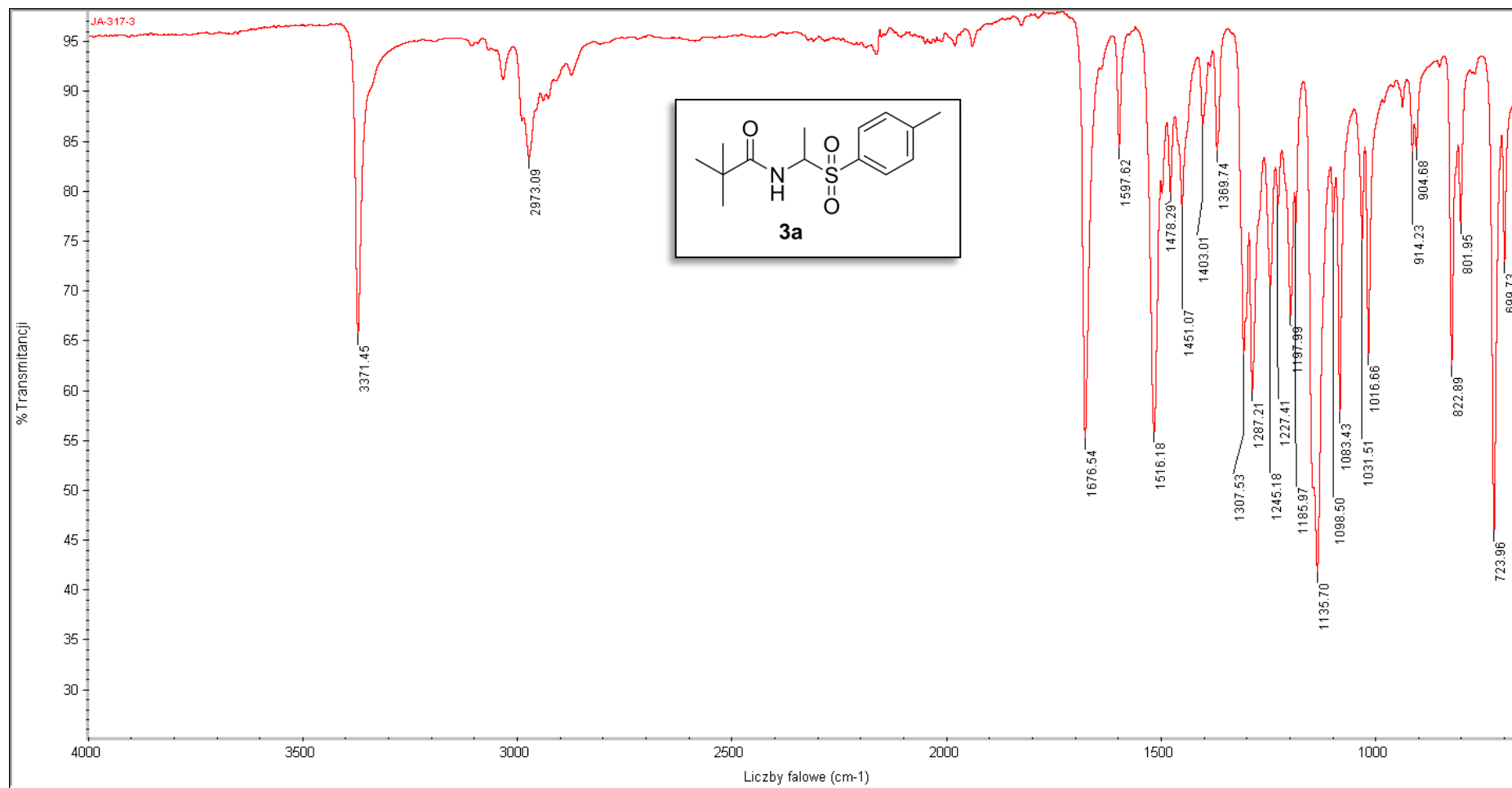


¹H NMR spectrum of benzyl *N*-[3-*tert*-butoxycarbonylo-1-(*p*-toluenesulfonyl)propyl]carbamate (**3q**); 400 MHz/CDCl₃/TMS; δ (ppm).

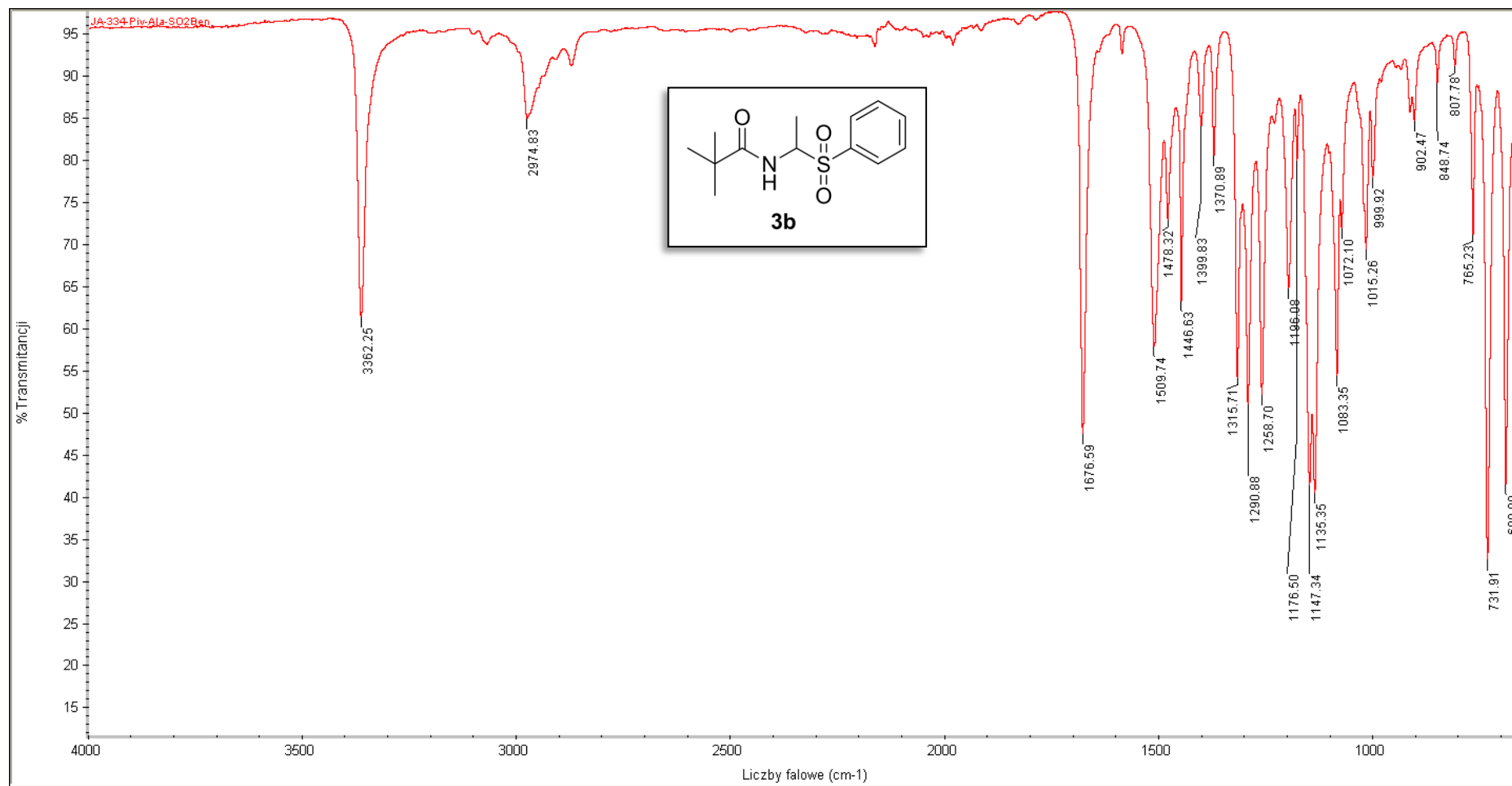




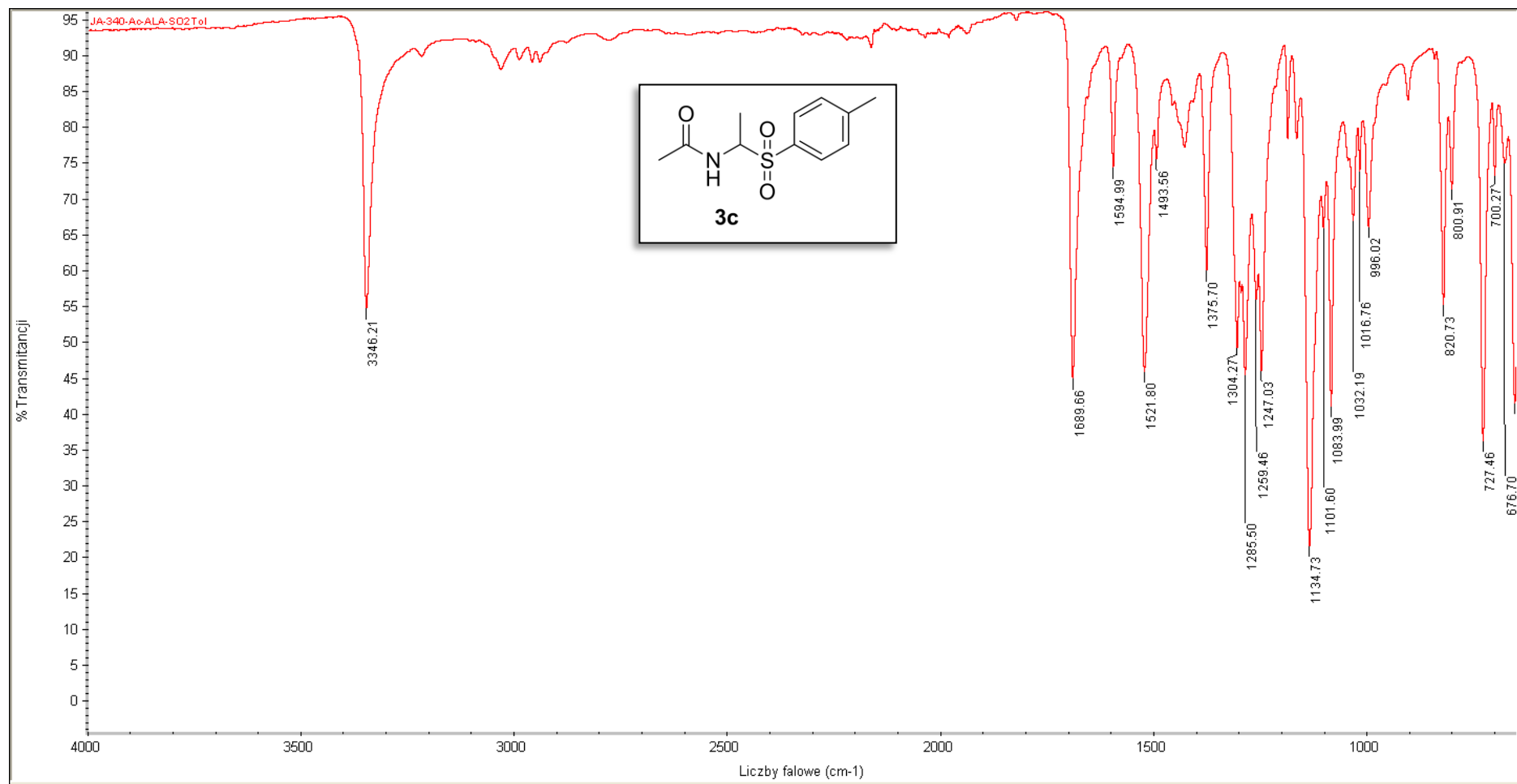




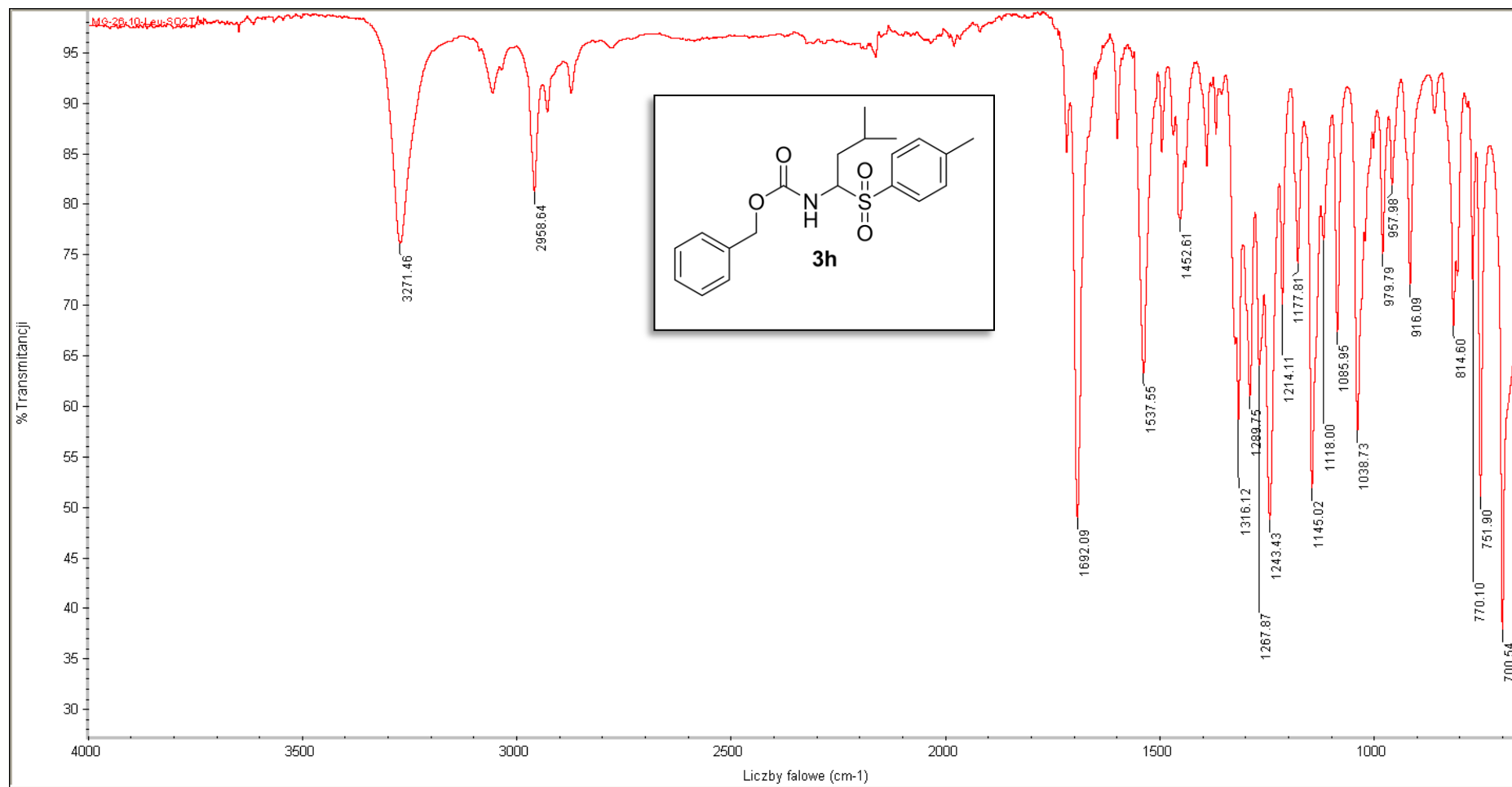
IR spectrum of *N*-[1-(*p*-toluenesulfonyl)ethyl]pivaloylamide (**3a**); ATR; cm⁻¹.



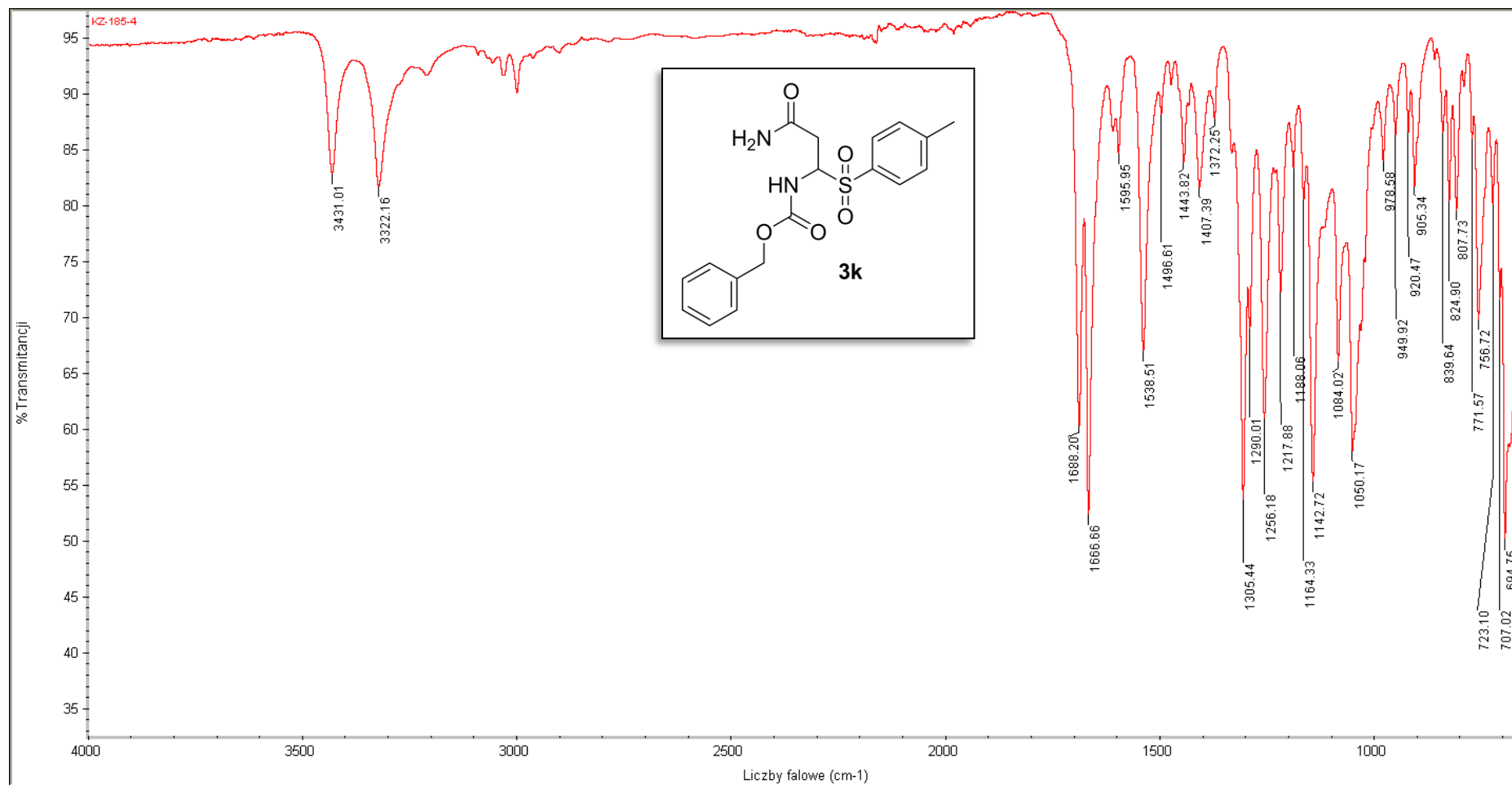
IR spectrum of *N*-[1-(phenylsulfonyl)ethyl]pivaloylamide (**3b**); ATR; cm⁻¹.



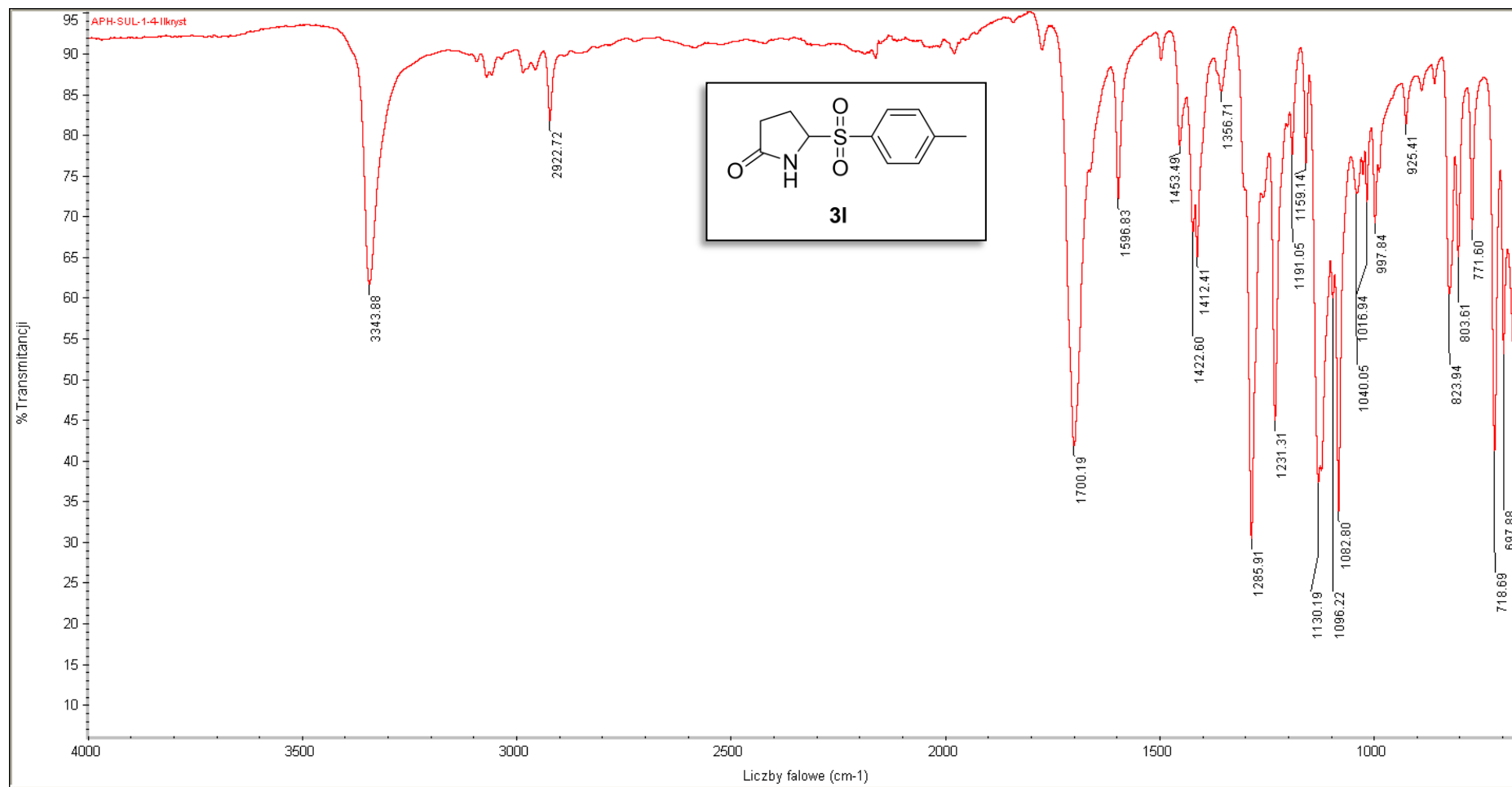
IR spectrum of *N*-[1-(*p*-toluenesulfonyl)ethyl]acetamide (**3c**); ATR; cm⁻¹.



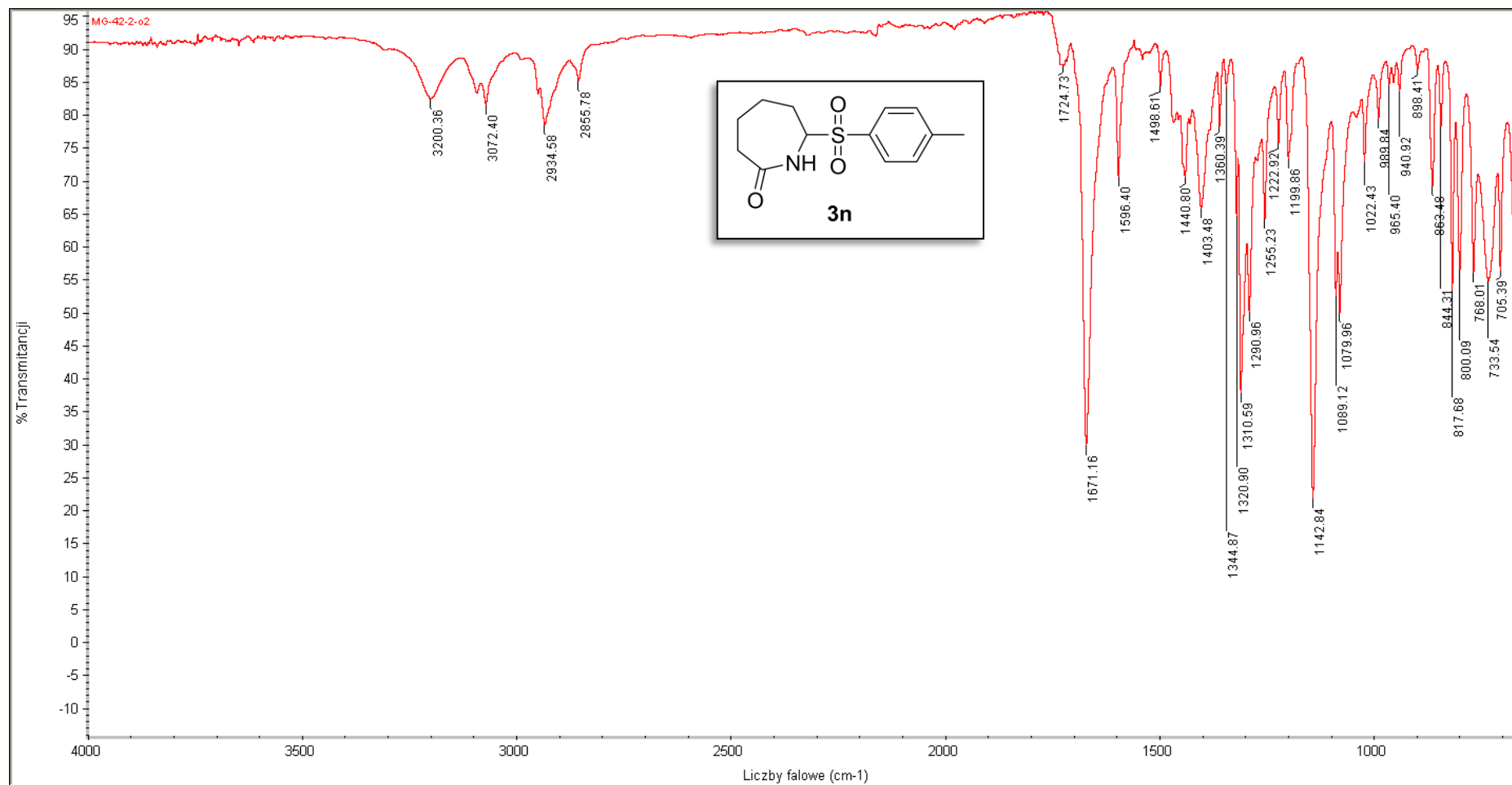
IR spectrum of benzyl N-[3-methyl-1-(p-toluenesulfonyl)butyl]carbamate (**3h**); ATR; cm⁻¹.



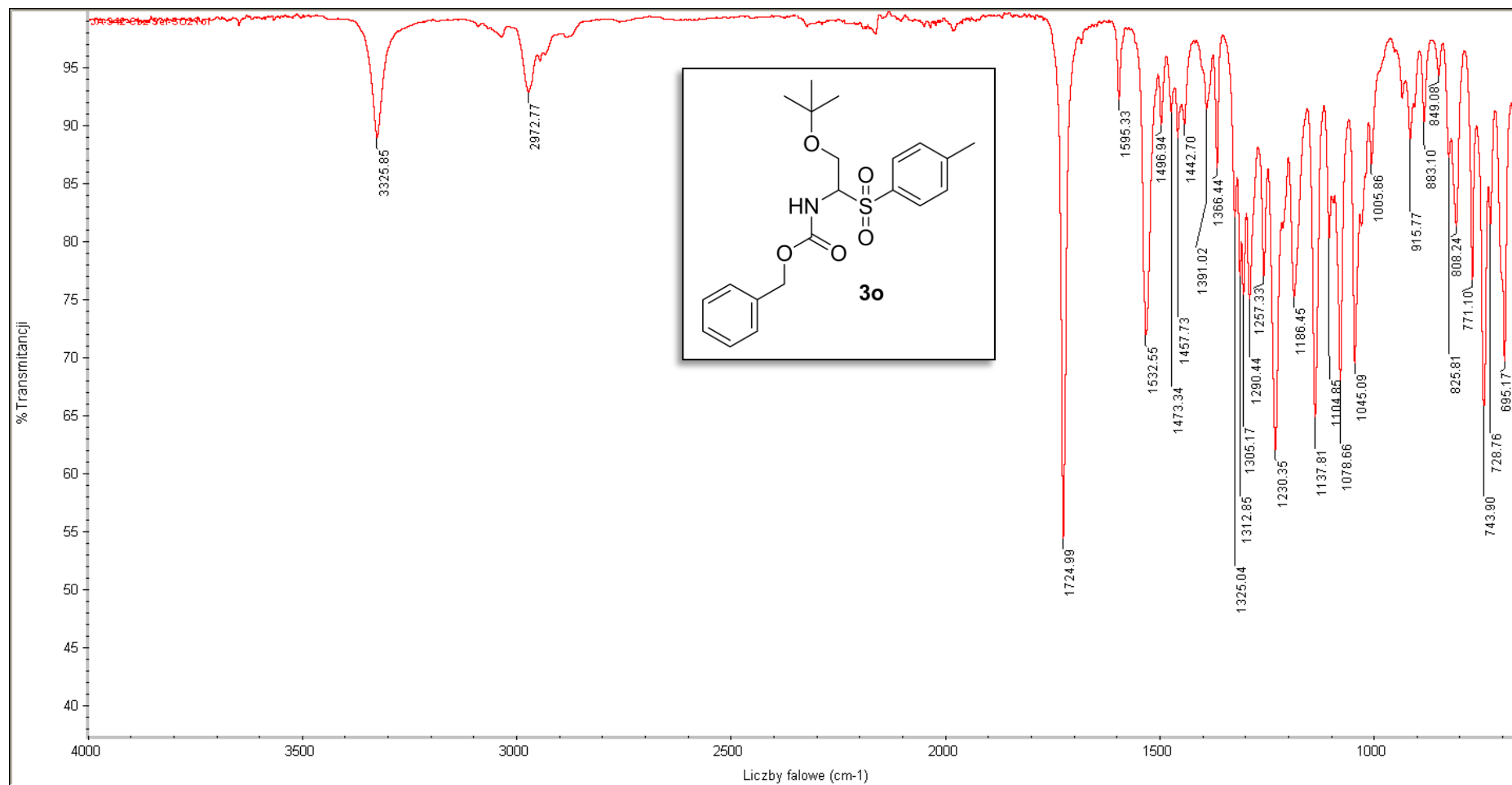
IR spectrum of benzyl *N*-[2-carbamoyl-1-(*p*-toluenesulfonyl)ethyl]carbamate (**3k**); ATR; cm⁻¹.



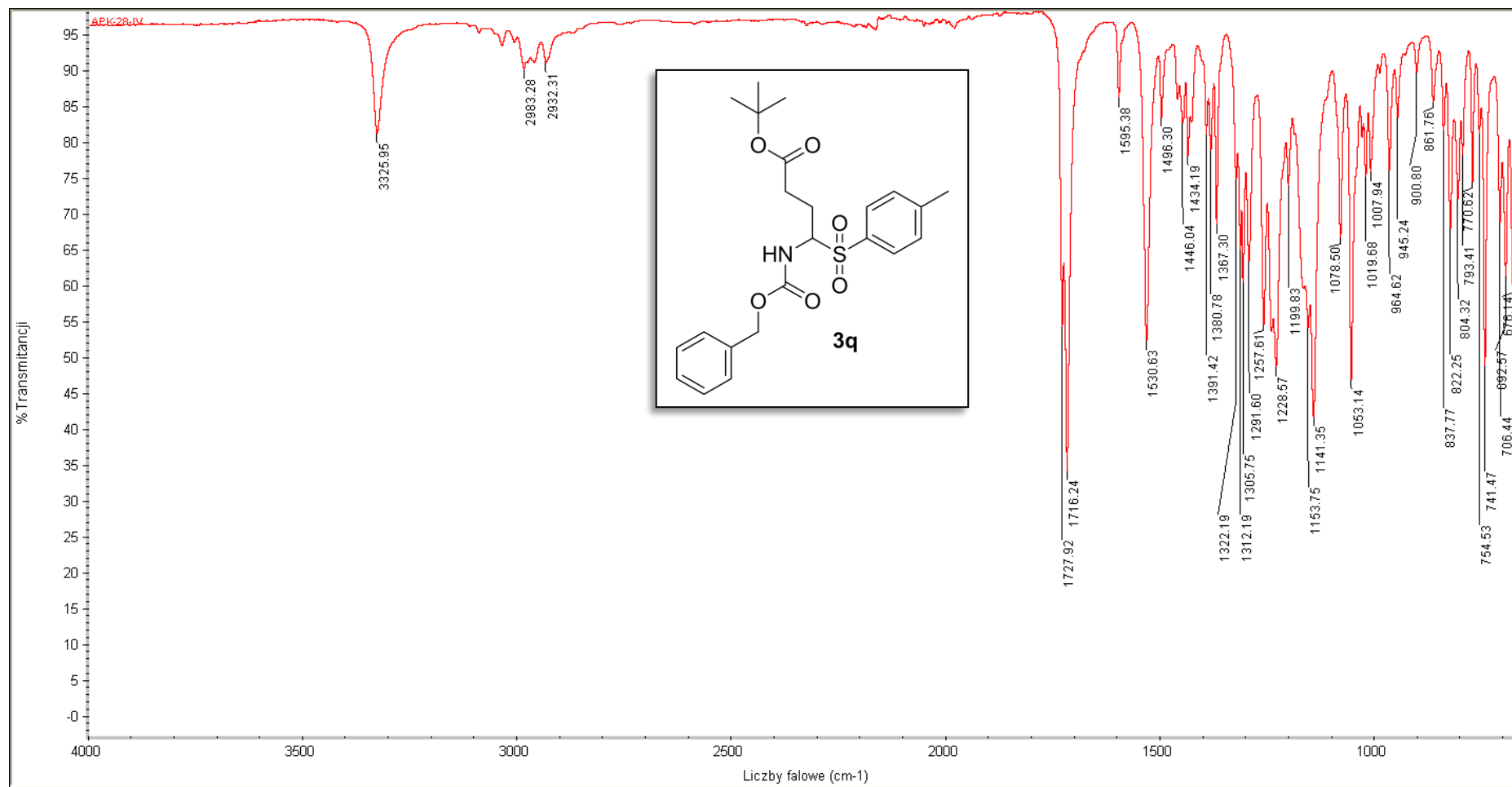
IR spectrum of 5-(*p*-toluenesulfonyl)pyrrolidine-2-one (**3I**); ATR; cm⁻¹.



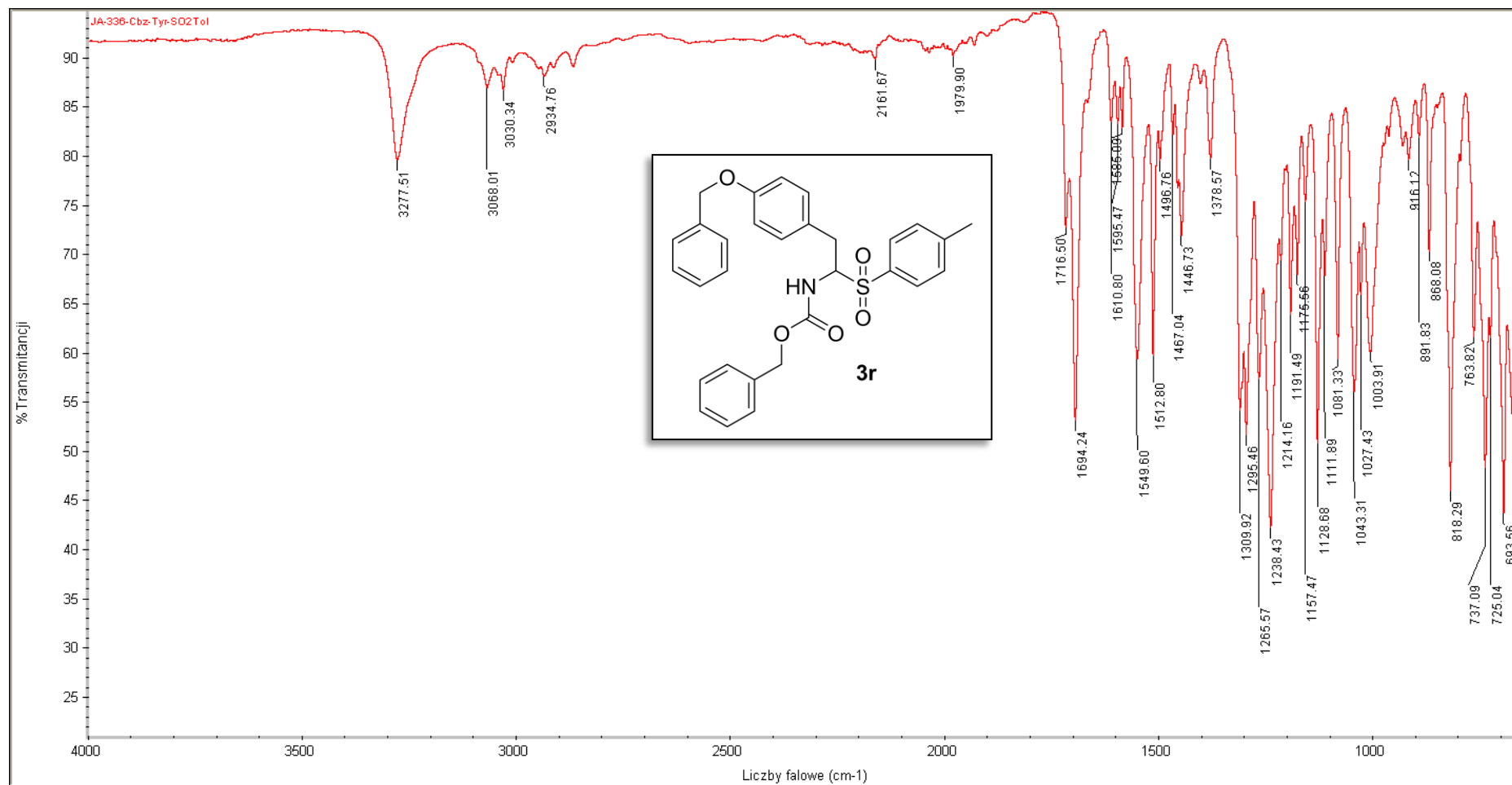
IR spectrum of 2-(*p*-toluenesulfonyl)- ϵ -caprolactam (**3n**); ATR; cm^{-1} .



IR spectrum of benzyl *N*-[2-*tert*-butoxy-1-(*p*-toluenesulfonyl)ethyl]carbamate (**3o**); ATR; cm⁻¹.



IR spectrum of benzyl *N*-[3-*tert*-butoxycarbonylo-1-(*p*-toluenesulfonyl)propyl]carbamate (**3q**); ATR; cm⁻¹.



IR spectrum of benzyl *N*-[2-(4-benzyloxyphenyl)-1-(*p*-toluenesulfonyl)ethyl]carbamate (**3r**); ATR; cm⁻¹.