

Supporting Information

Org. Commun. 17:4 (2024) 193-204

Microwave assisted acetylation of alcohols, phenols and amines using Phthalimide-N-sulphonic acid as organo-catalyst under solvent-free conditions

Ramesh S. Ghogare*

Department of Chemistry, B. N. N. College Bhiwandi, Dist-Thane-421305, India

Table of Contents	Page
Figure S1: IR Spectrum of Compound 3a	3
Figure S2: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3a	3
Figure S3: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3a	4
Figure S4: IR Spectrum of Compound 3b	4
Figure S5: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3b	5
Figure S6: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3b	5
Figure S7: IR Spectrum of Compound 3c	6
Figure S8: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3c	6
Figure S9: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3c	7
Figure S10: IR Spectrum of Compound 3d	7
Figure S11: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3d	8
Figure S12: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3d	8
Figure S13: IR Spectrum of Compound 3e	9
Figure S14: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3e	9
Figure S15: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3e	10
Figure S16: IR Spectrum of Compound 3f	10
Figure S17: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3f	11
Figure S18: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3f	11
Figure S19: IR Spectrum of Compound 3g	12
Figure S20: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3g	12
Figure S21: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3g	13
Figure S22: IR Spectrum of Compound 3h	13
Figure S23: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3h	14
Figure S24: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3h	14
Figure S25: IR Spectrum of Compound 3i	15
Figure S26: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3i	15
Figure S27: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3i	16
Figure S28: IR Spectrum of Compound 3j	16
Figure S29: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3j	17
Figure S30: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3j	17
Figure S31: IR Spectrum of Compound 3k	18
Figure S32: ¹ H-NMR (300 MHz, CDCl ₃), Spectrum of Compound 3k	18
Figure S33: ¹³ C-NMR (75 MHz, CDCl ₃) Spectrum of 3k	19
Figure S34: IR Spectrum of Compound 3l	19

Figure S35: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3l	20
Figure S36: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3l	20
Figure S37: IR Spectrum of Compound 3m	21
Figure S38: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3m	21
Figure S39: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3m	22
Figure S40: IR Spectrum of Compound 3n	22
Figure S41: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3n	23
Figure S42: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3n	23
Figure S43: IR Spectrum of Compound 3o	24
Figure S44: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3o	24
Figure S45: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3o	25
Figure S46: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3p	25
Figure S47: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3p	26
Figure S48: IR Spectrum of Compound 3q	26
Figure S49: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3q	27
Figure S50: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3q	27
Figure S51: IR Spectrum of Compound 3r	28
Figure S52: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3r	28
Figure S53: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3r	29
Figure S54: IR Spectrum of Compound 3s	29
Figure S55: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3s	30
Figure S56: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3s	30
Figure S57: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3t	31
Figure S58: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3t	31
Figure S59: IR Spectrum of Compound 3u	32
Figure S60: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3u	32
Figure S61: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3u	33
Figure S62: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound 3v	33
Figure S63: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of 3v	33

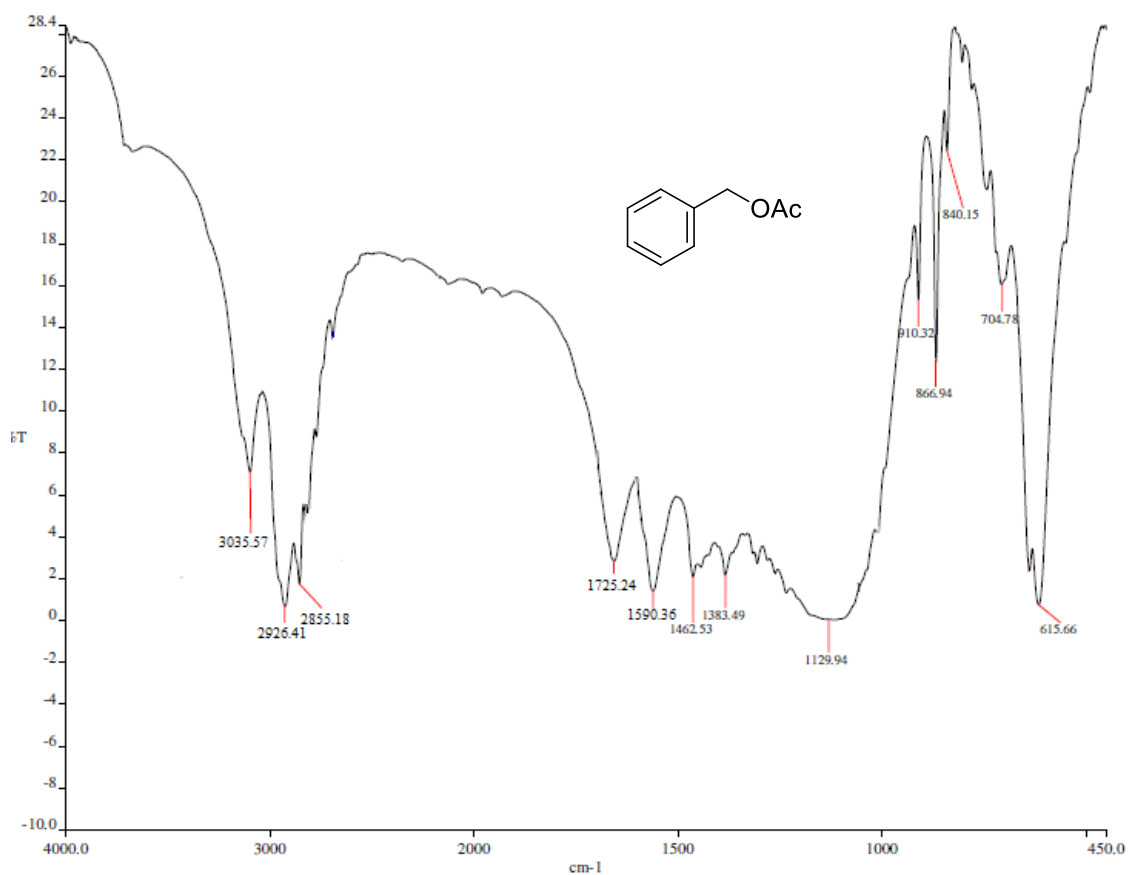


Figure S1: IR Spectrum of Compound 3a

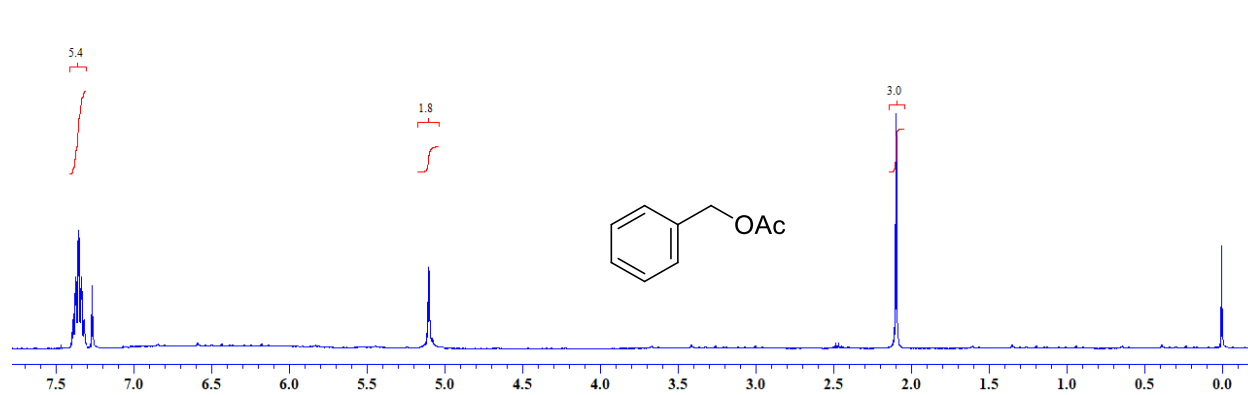


Figure S2: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound 3a

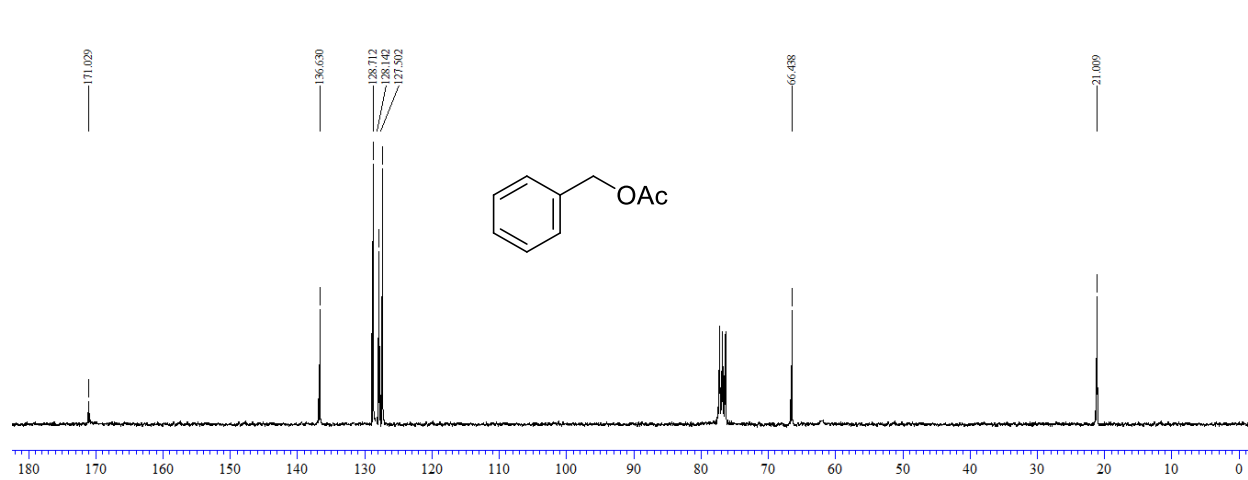


Figure S3: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3a**

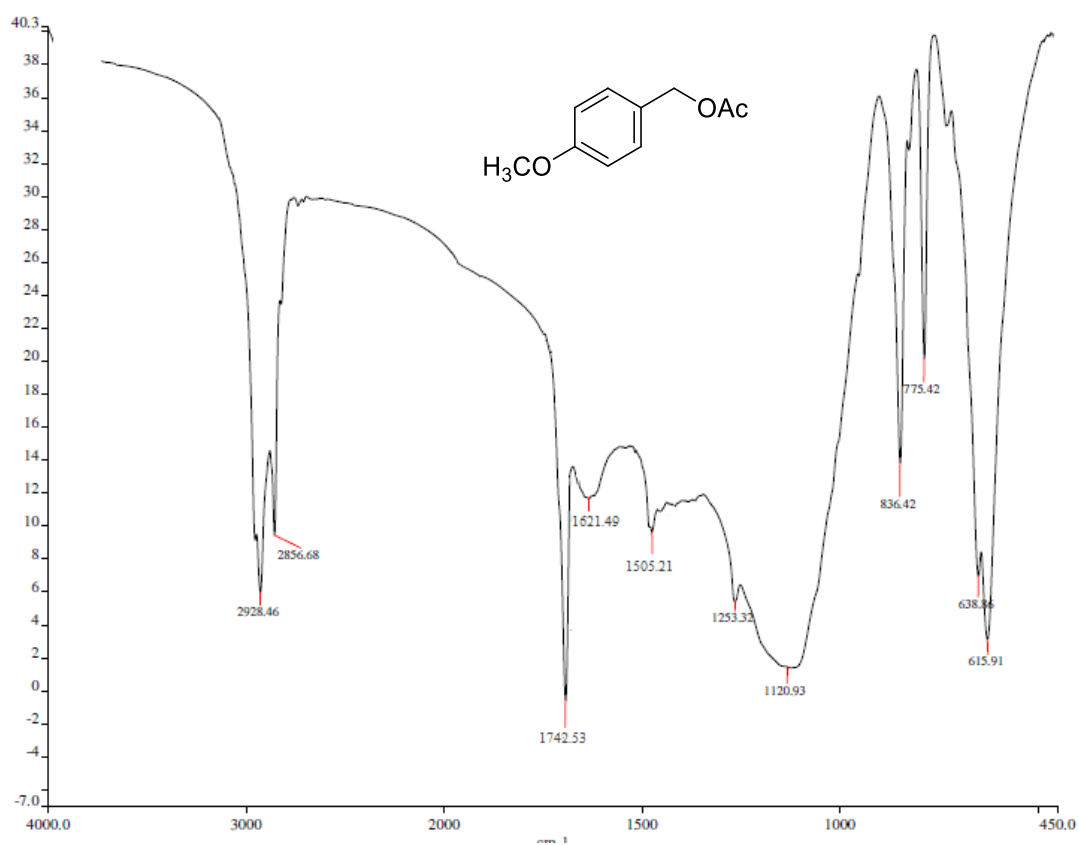


Figure S4: IR Spectrum of Compound **3b**

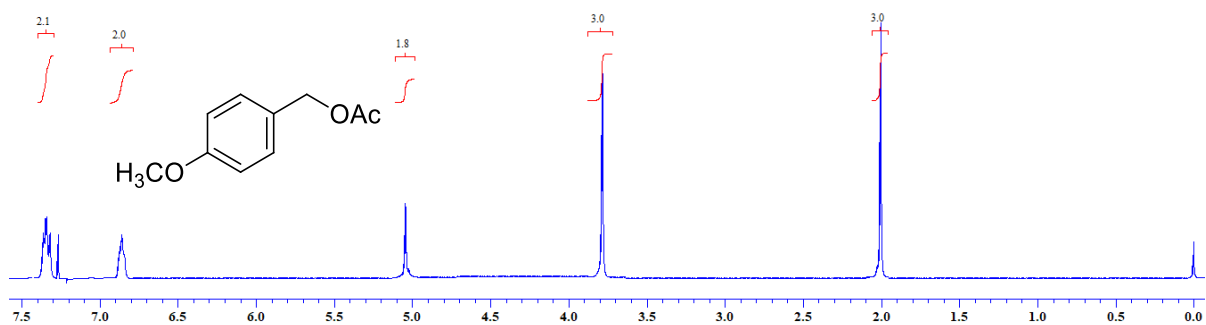


Figure S5: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound **3b**

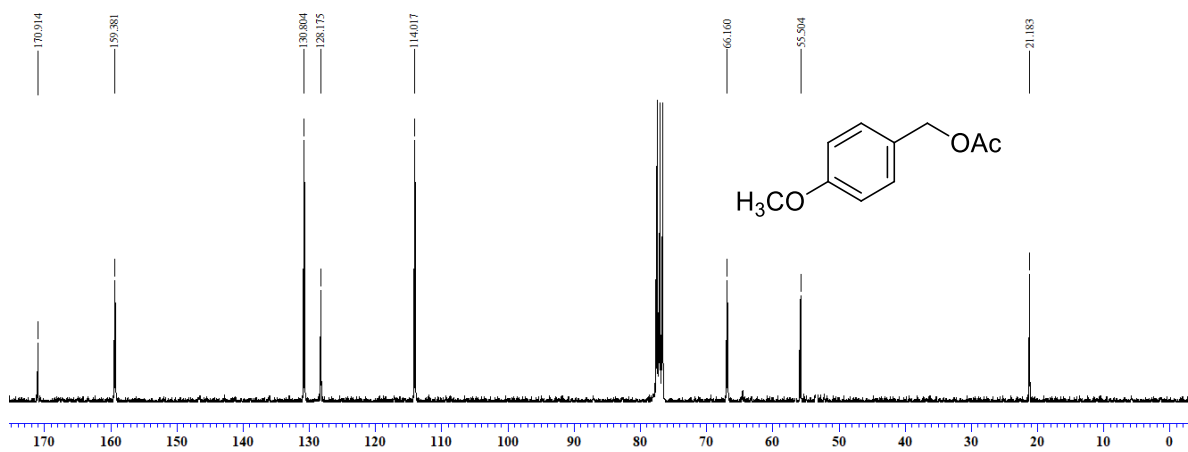


Figure S6: ¹³C-NMR (75 MHz, CDCl₃) Spectrum of **3b**

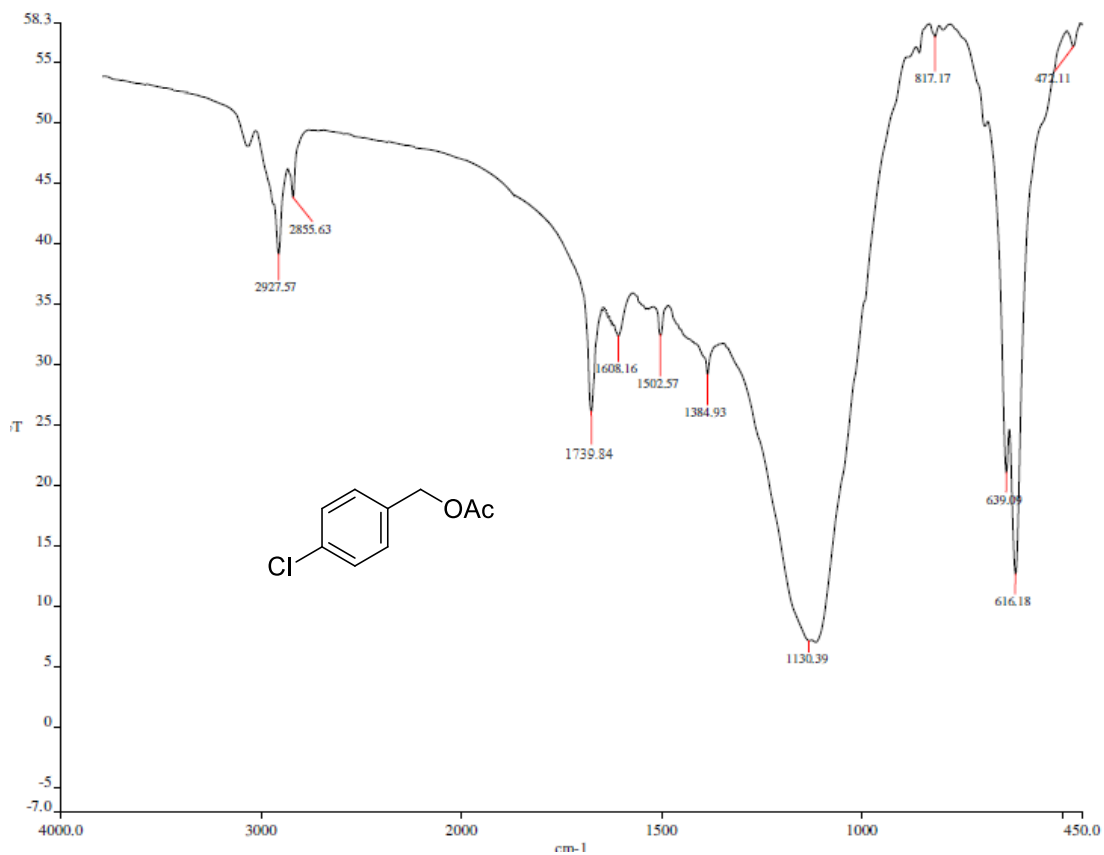


Figure S7: IR Spectrum of Compound **3c**

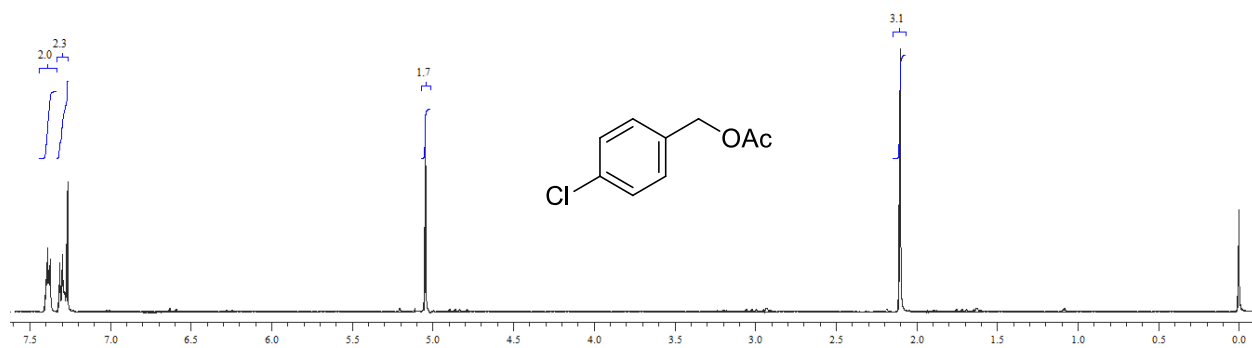


Figure S8: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound **3c**

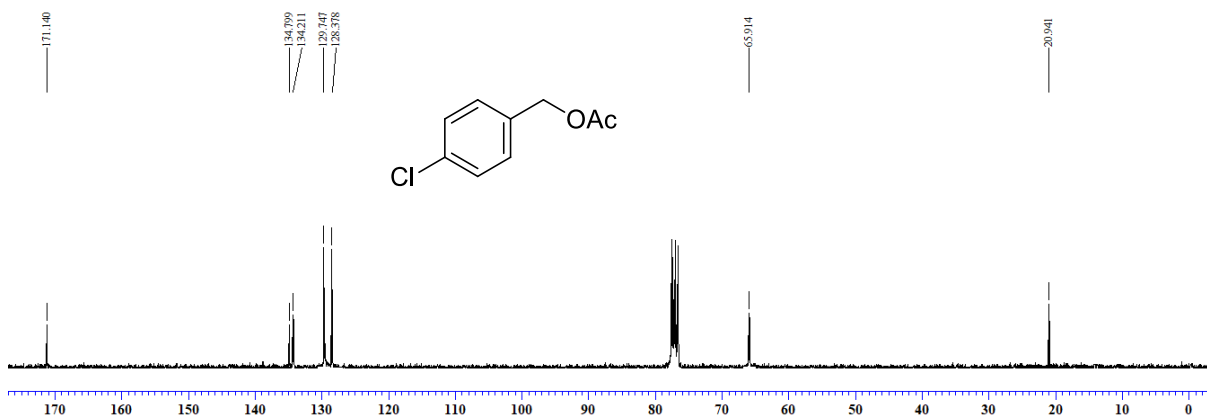


Figure S9: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3c**

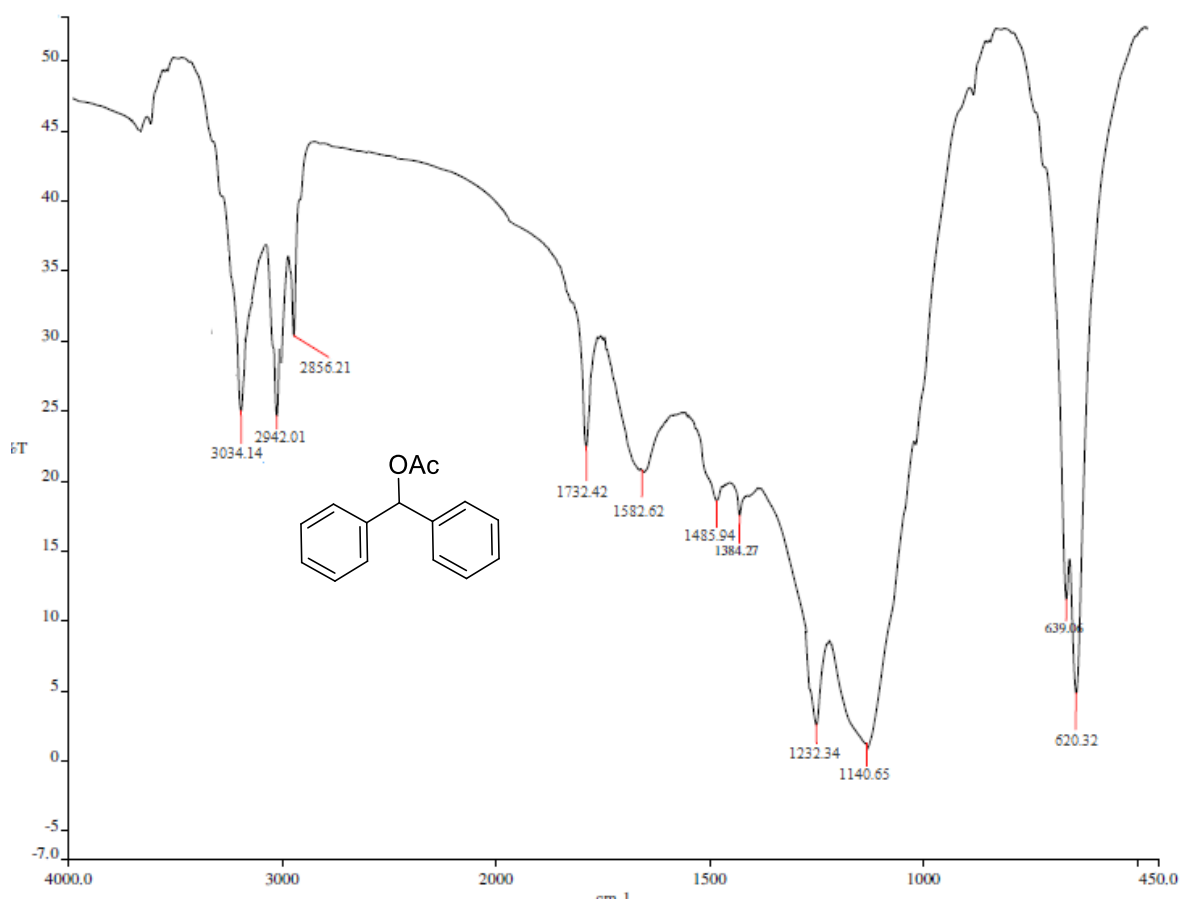


Figure S10: IR Spectrum of Compound **3d**

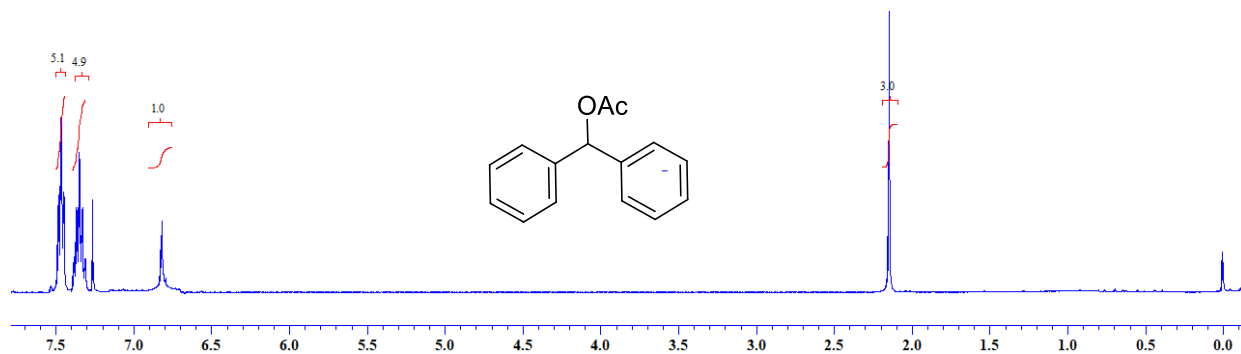


Figure S11: $^1\text{H-NMR}$ (300 MHz, CDCl_3), Spectrum of Compound **3d**

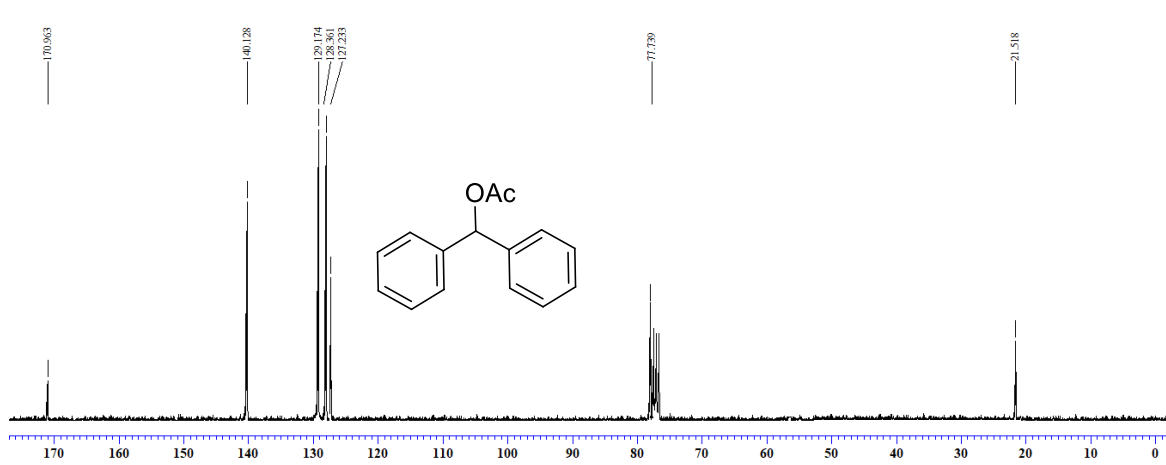


Figure S12: $^{13}\text{C-NMR}$ (75 MHz, CDCl_3) Spectrum of **3d**

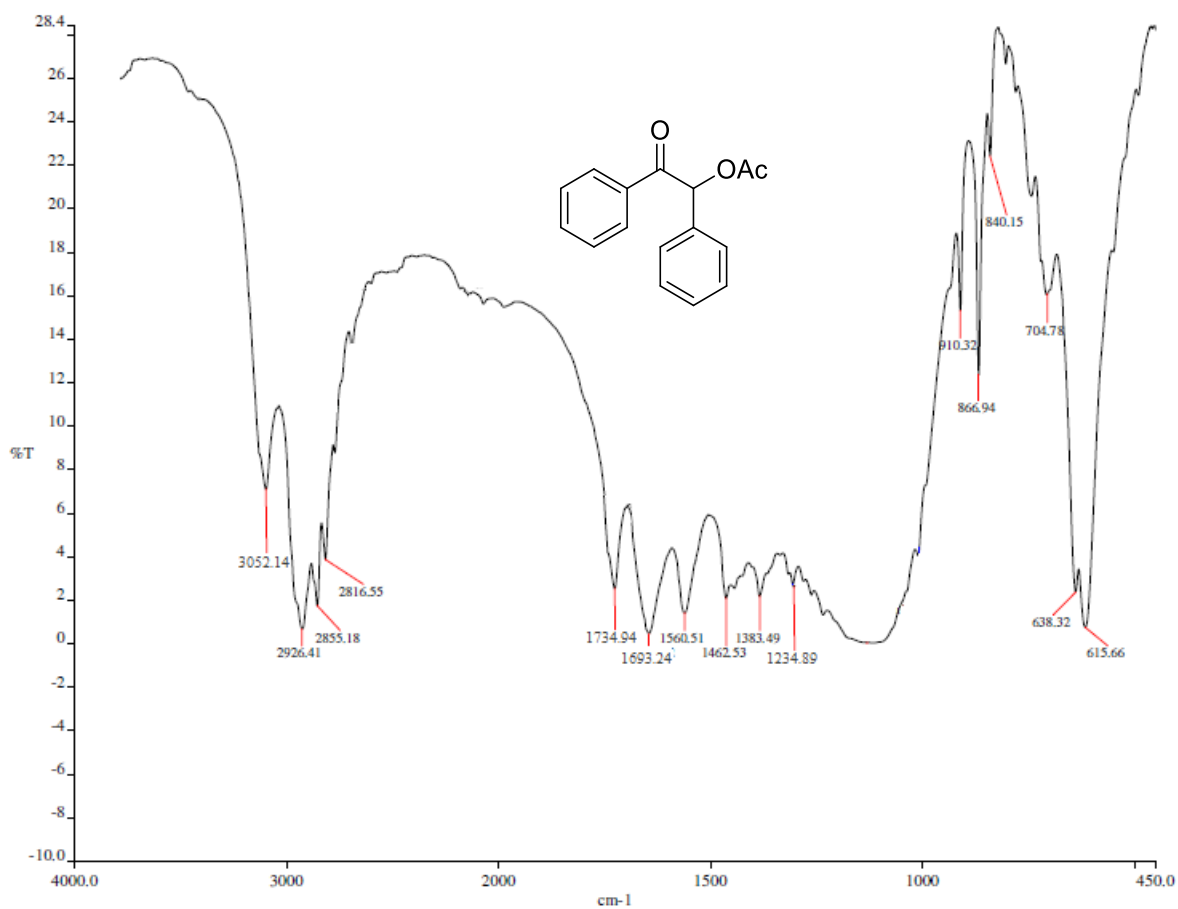


Figure S13: IR Spectrum of Compound **3e**

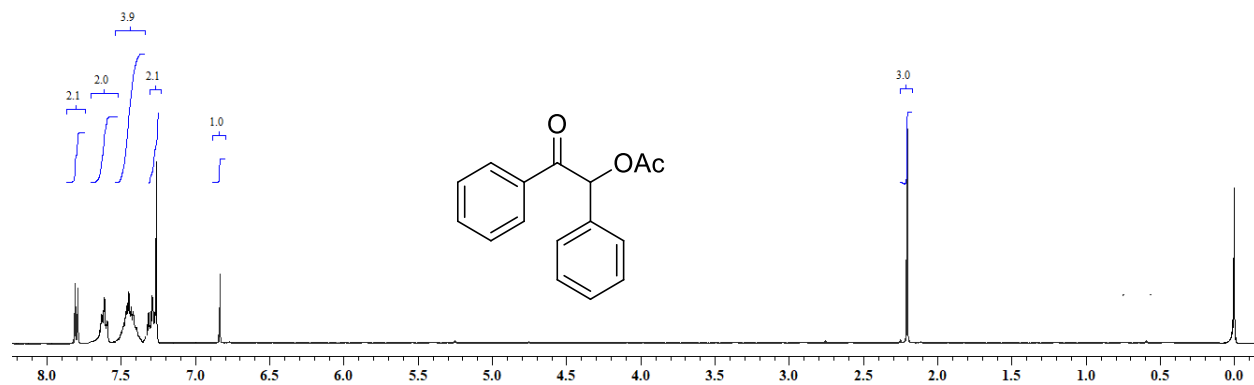


Figure S14: $^1\text{H-NMR}$ (300 MHz, CDCl_3), Spectrum of Compound **3e**

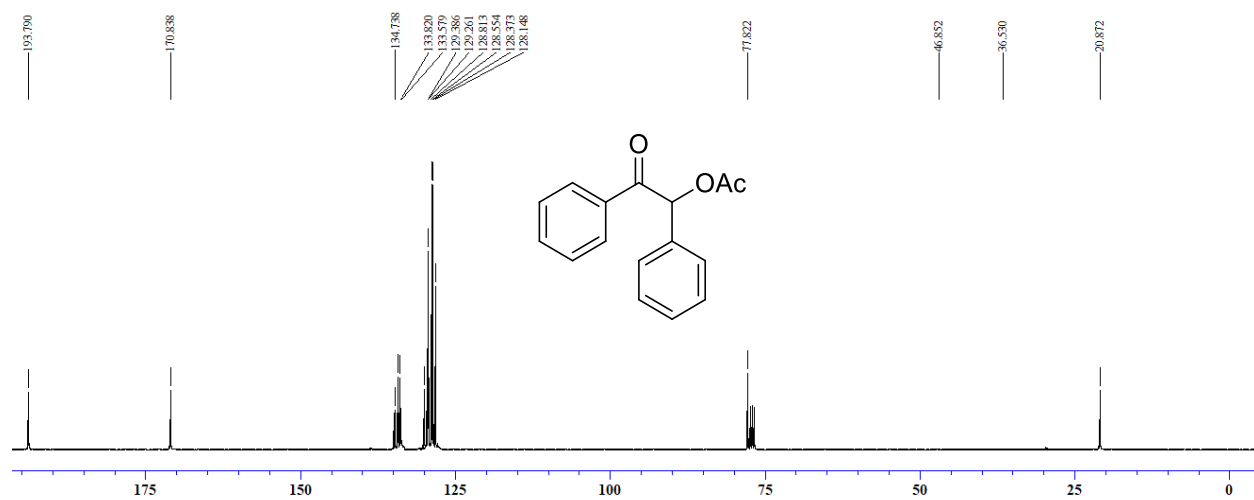


Figure S15: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3e**

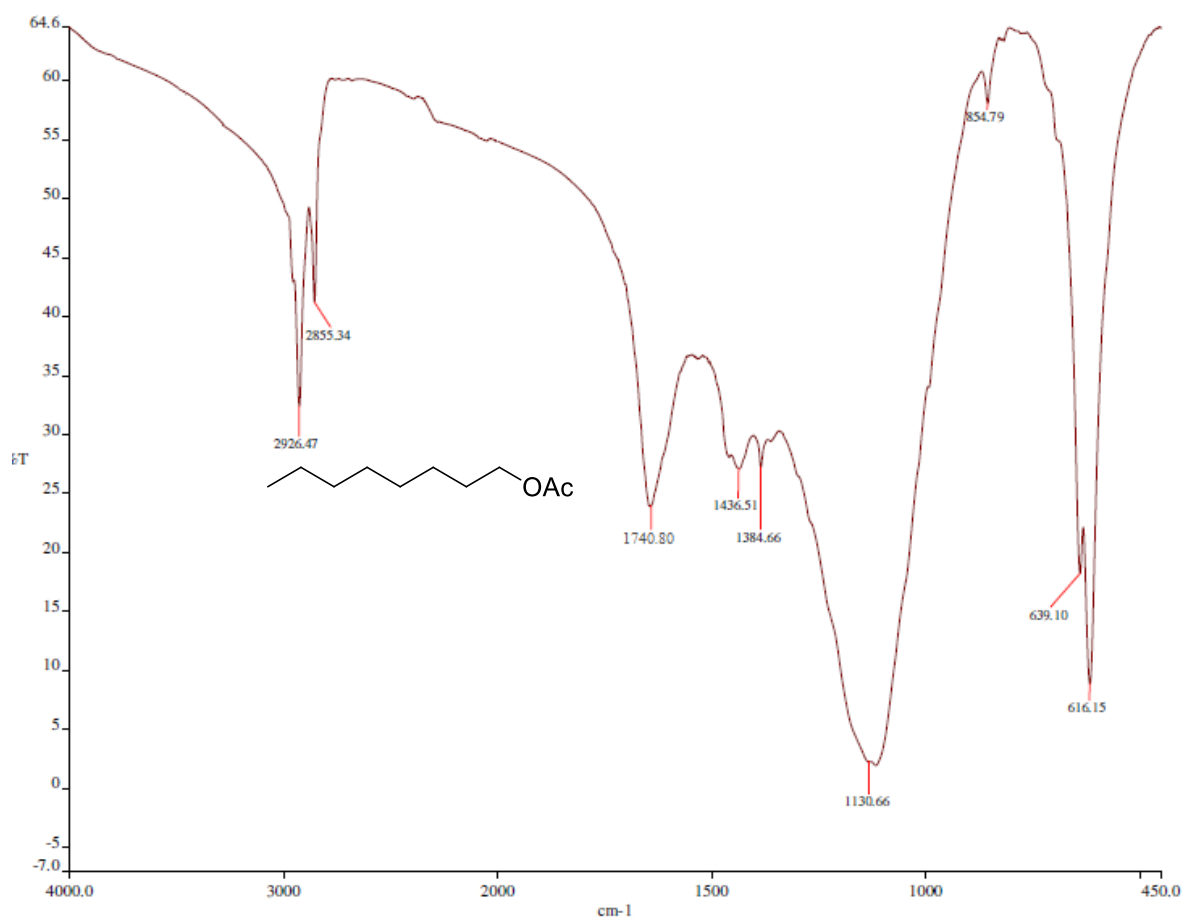


Figure S16: IR Spectrum of Compound **3f**

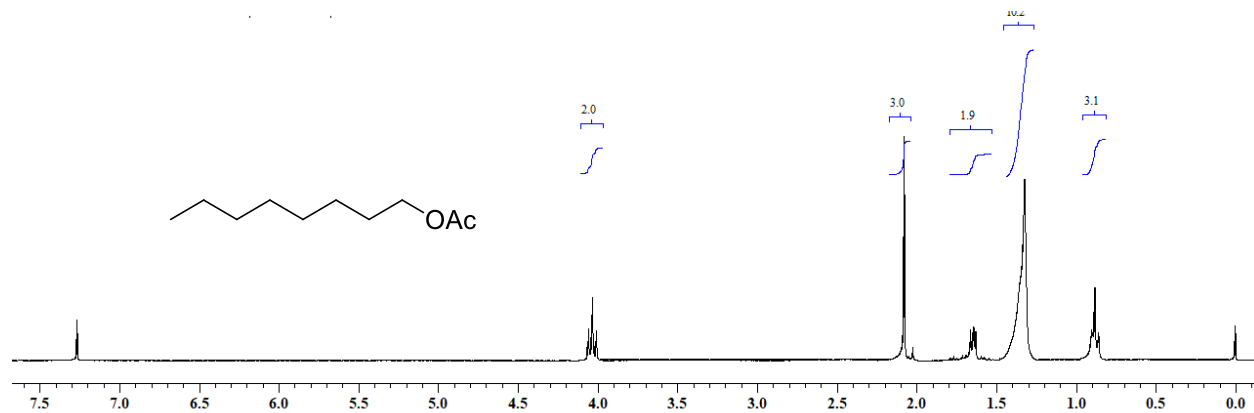


Figure S17: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound **3f**

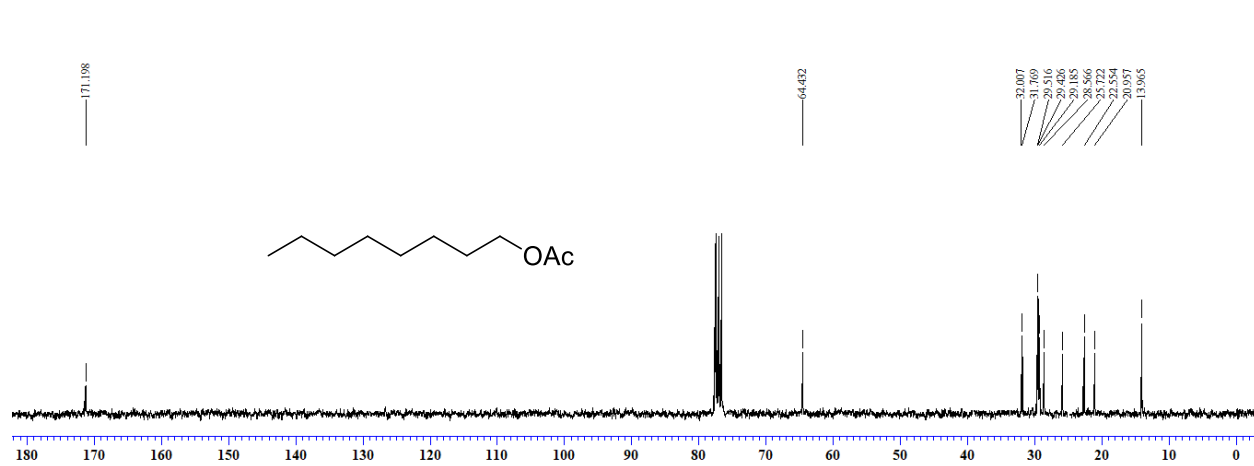


Figure S18: ¹³C-NMR (75 MHz, CDCl₃) Spectrum of **3f**

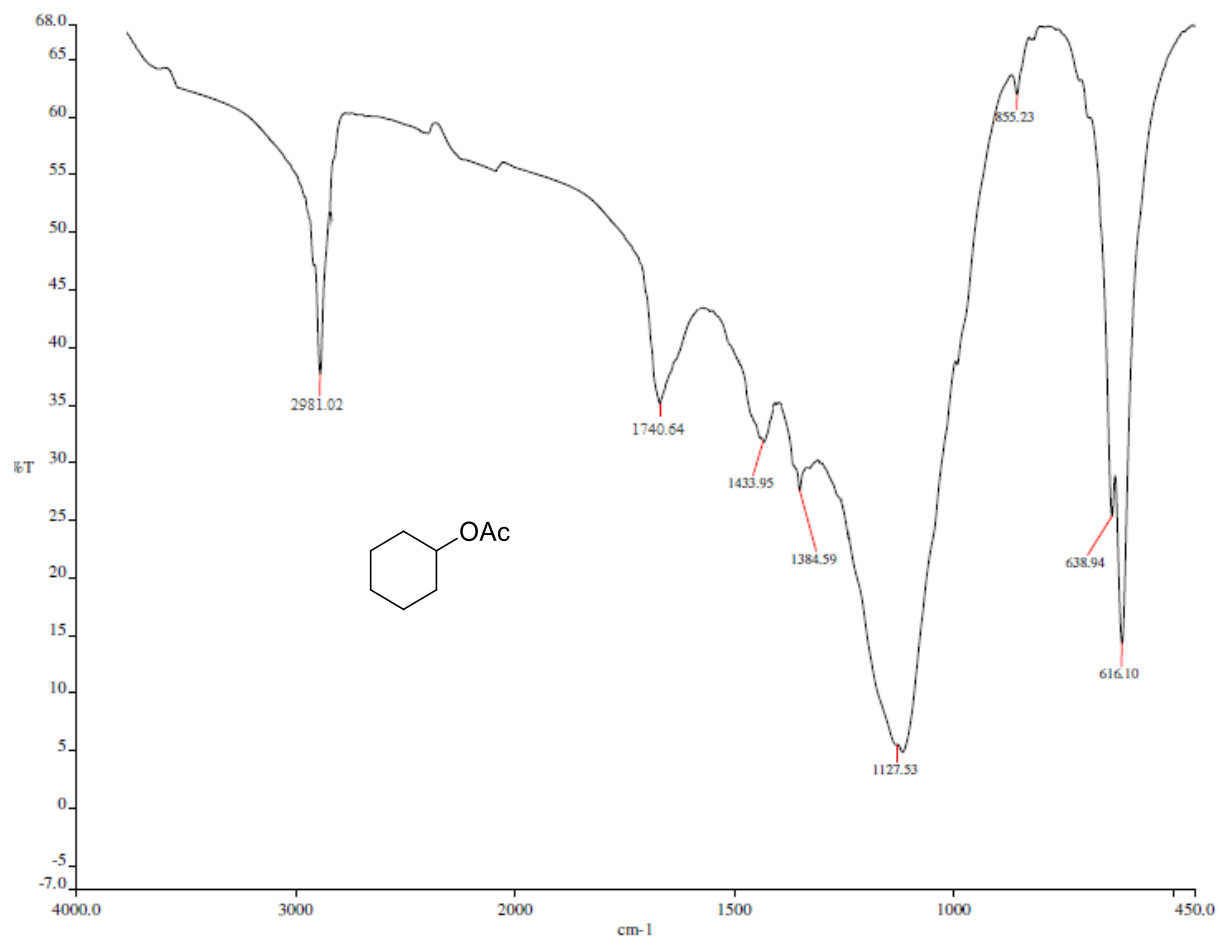


Figure S19: IR Spectrum of Compound **3g**

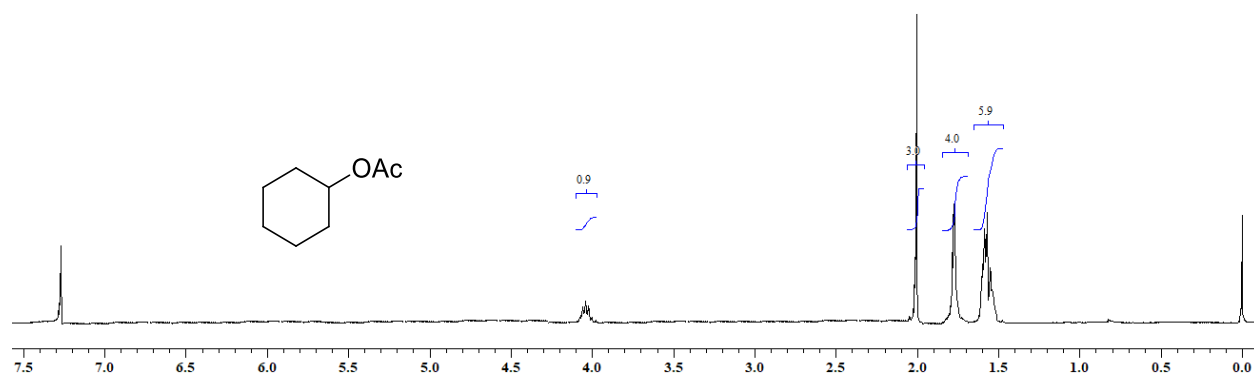


Figure S20: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound **3g**

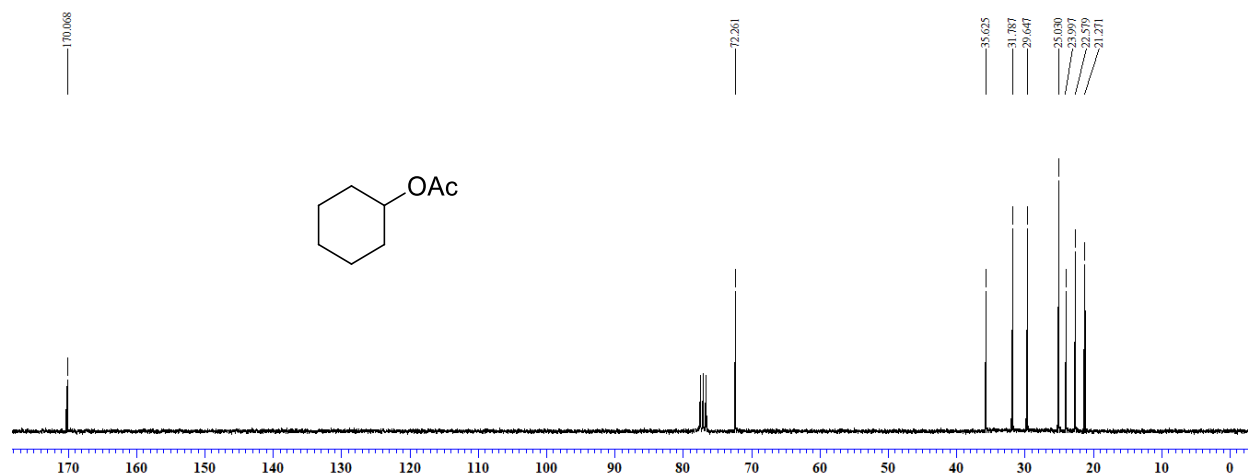


Figure S21: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3g**

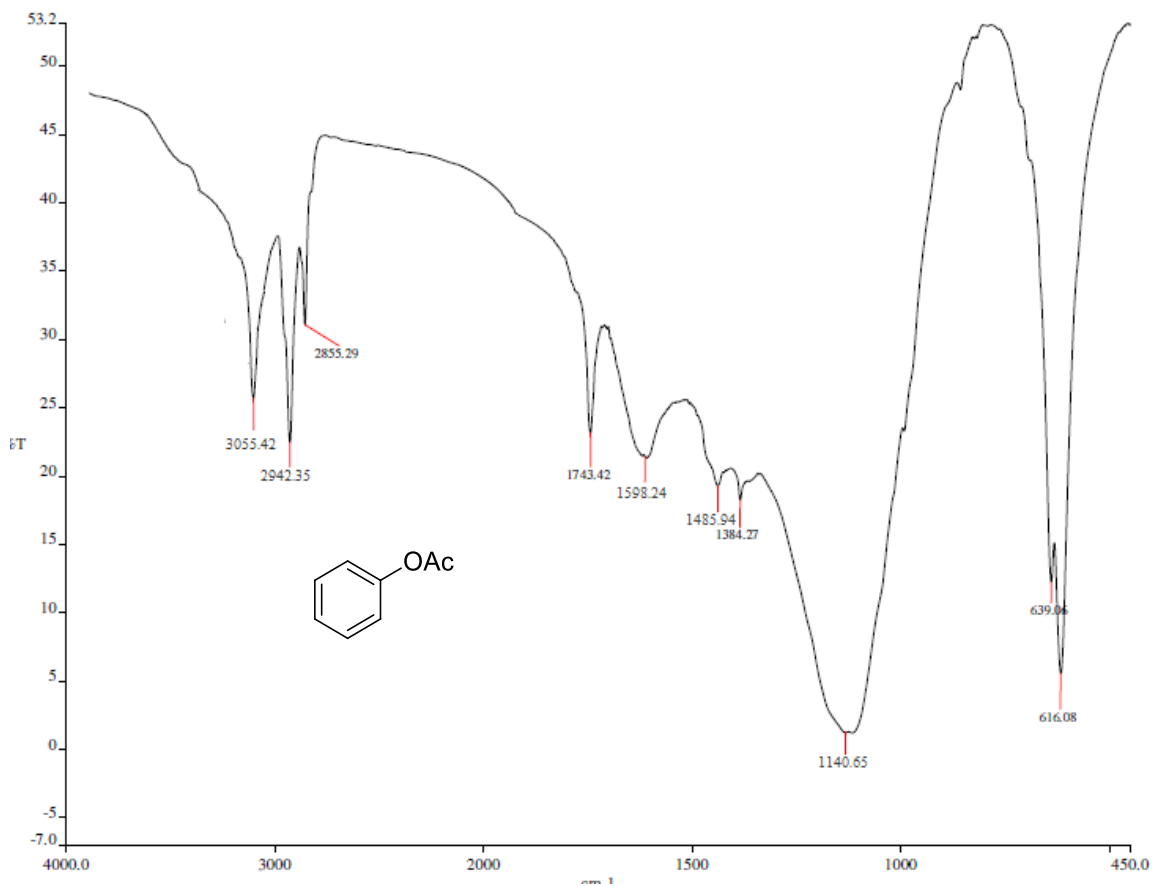


Figure S22: IR Spectrum of Compound **3h**

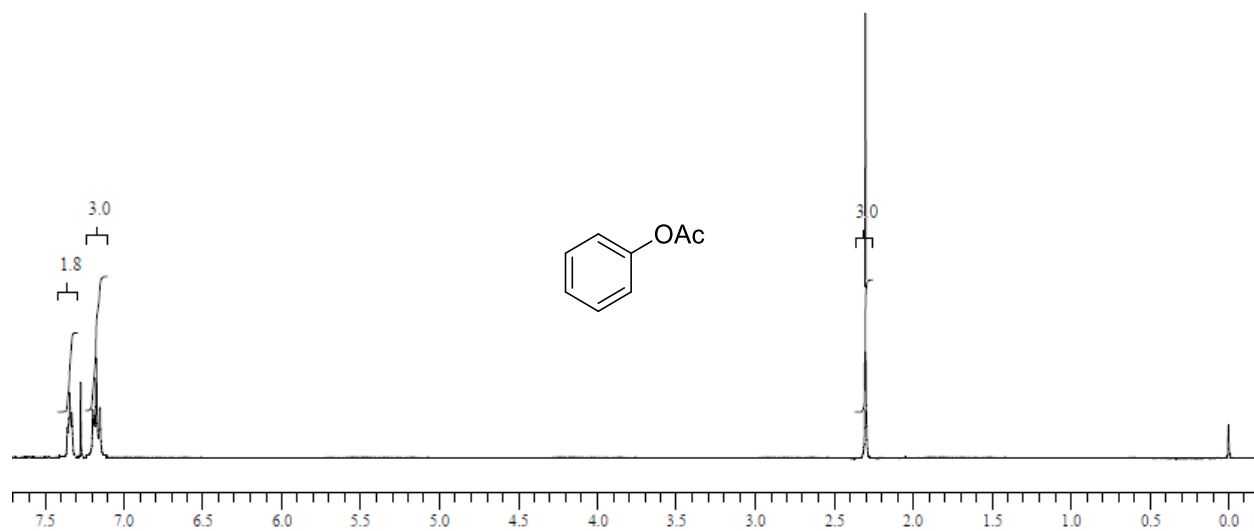


Figure S23: $^1\text{H-NMR}$ (300 MHz, CDCl_3), Spectrum of Compound **3h**

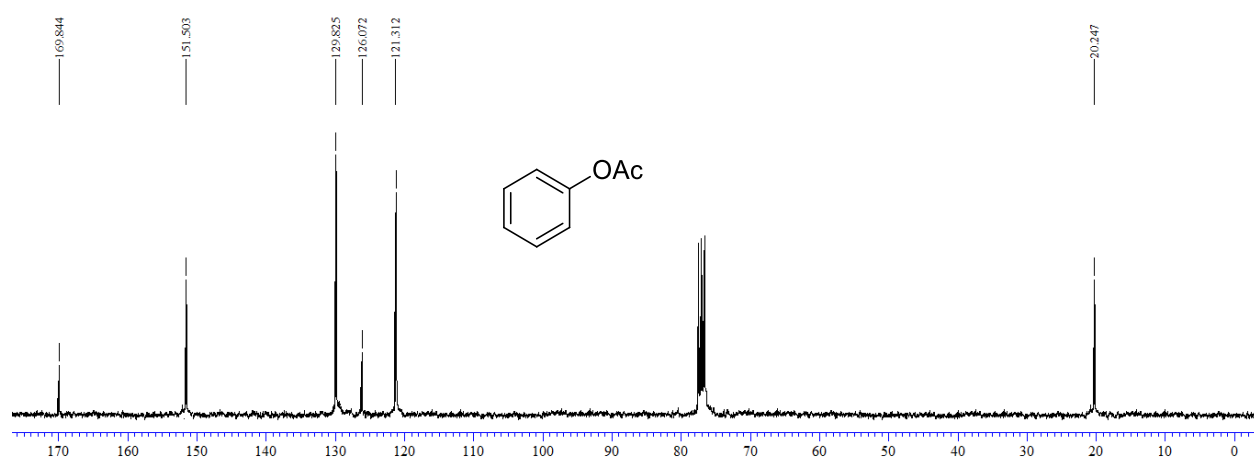


Figure S24: $^{13}\text{C-NMR}$ (75 MHz, CDCl_3) Spectrum of **3h**

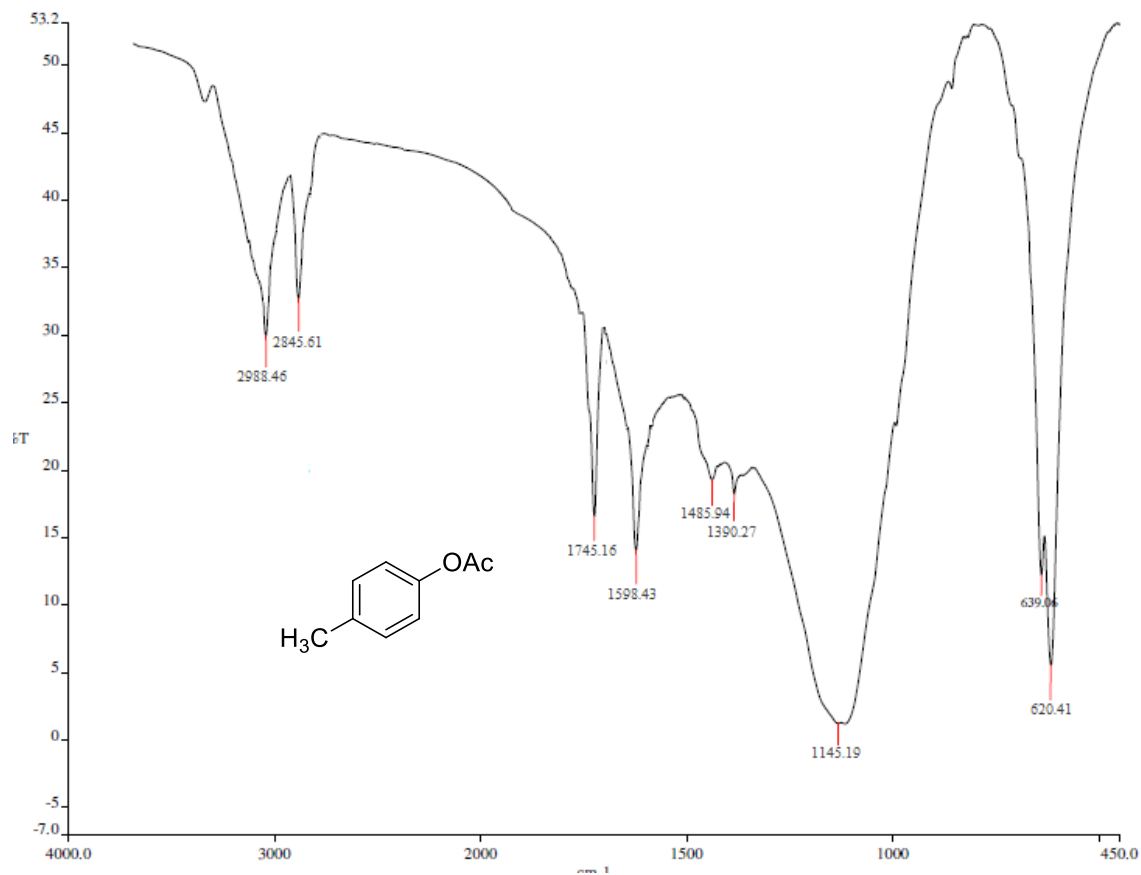


Figure S25: IR Spectrum of Compound **3i**

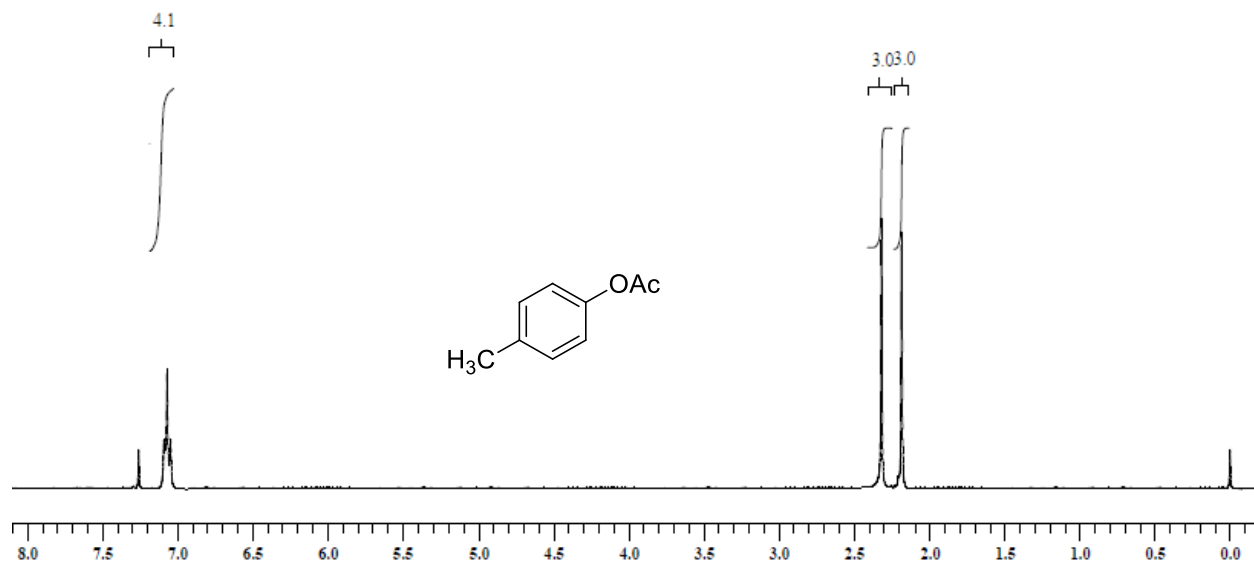


Figure S26: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound **3i**

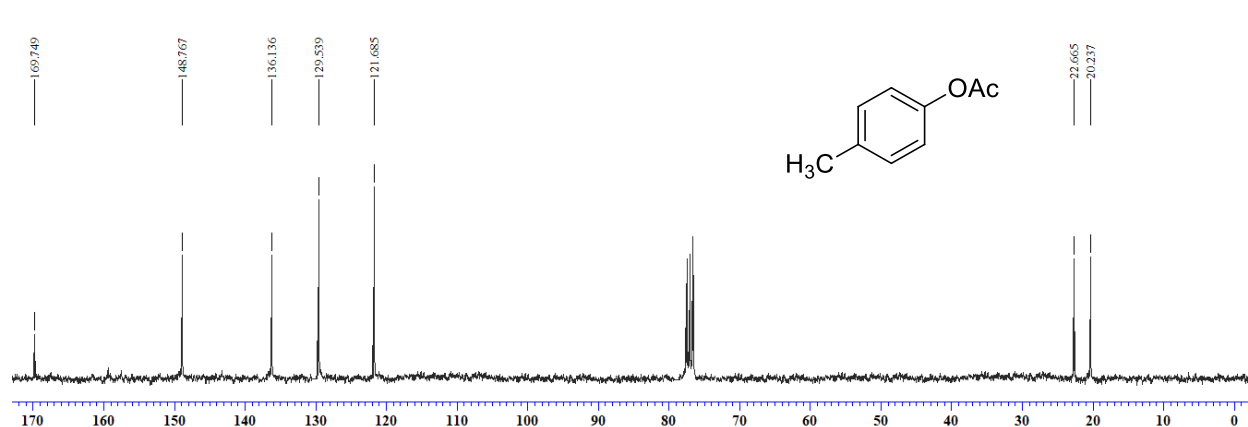


Figure S27: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3i**

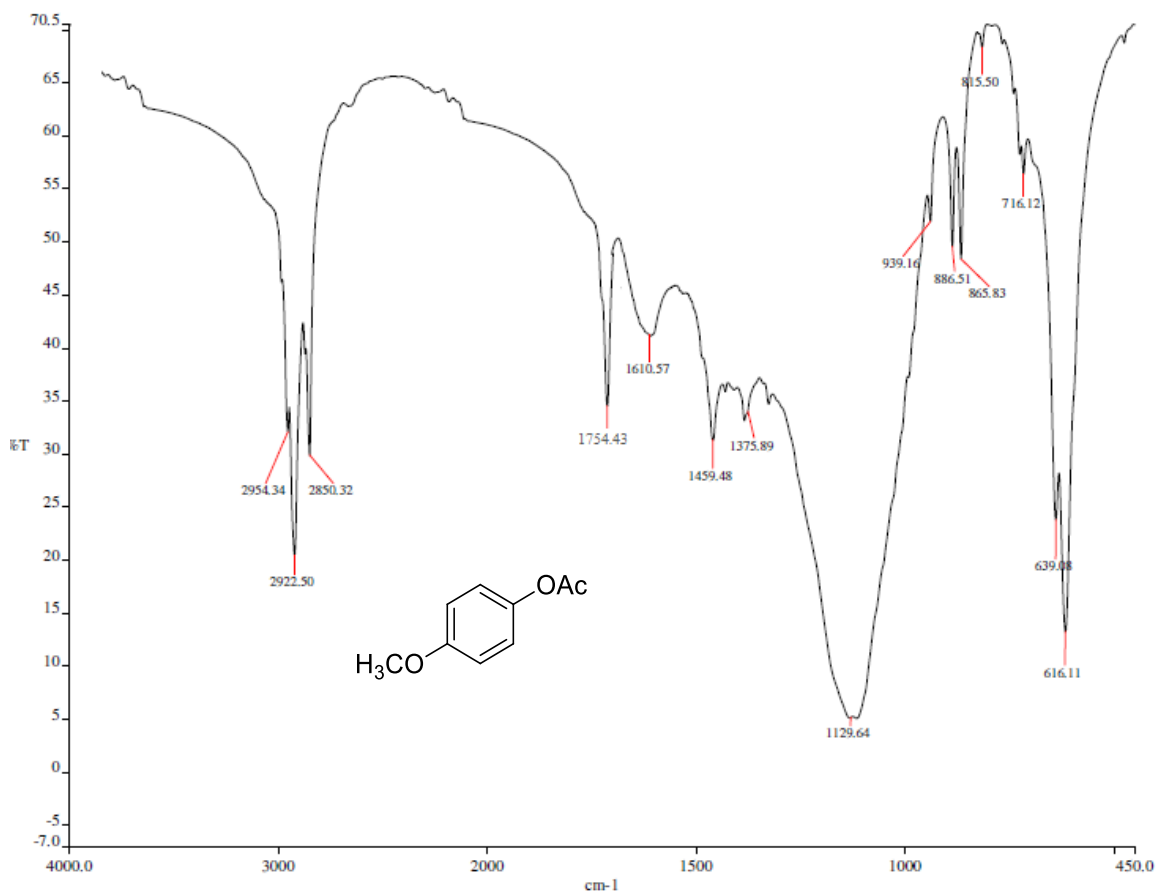


Figure S28: IR Spectrum of Compound **3j**

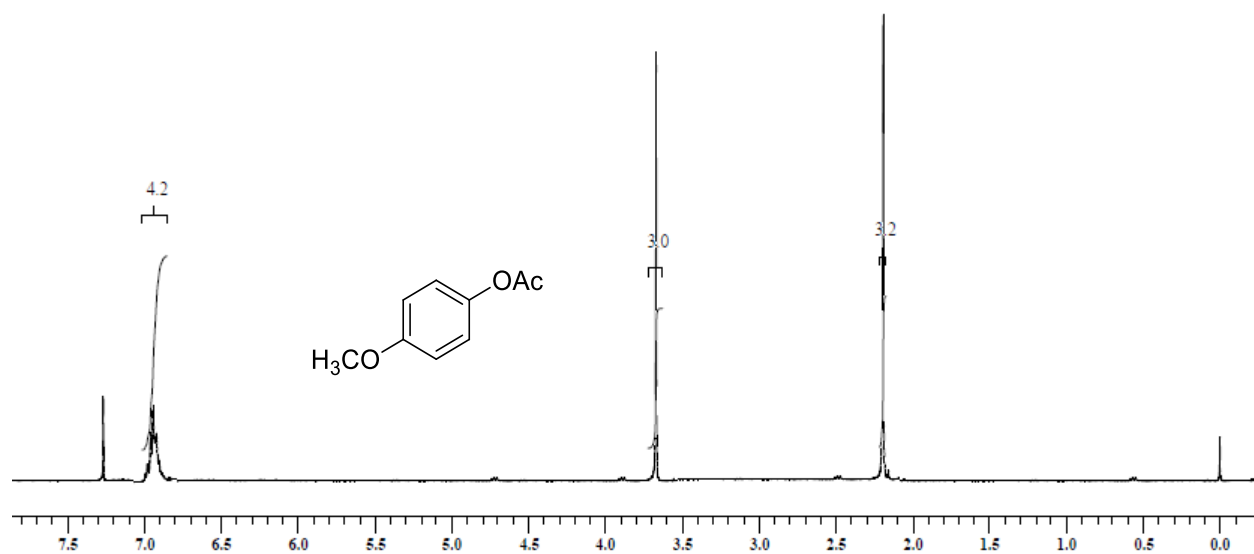


Figure S29: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound 3j

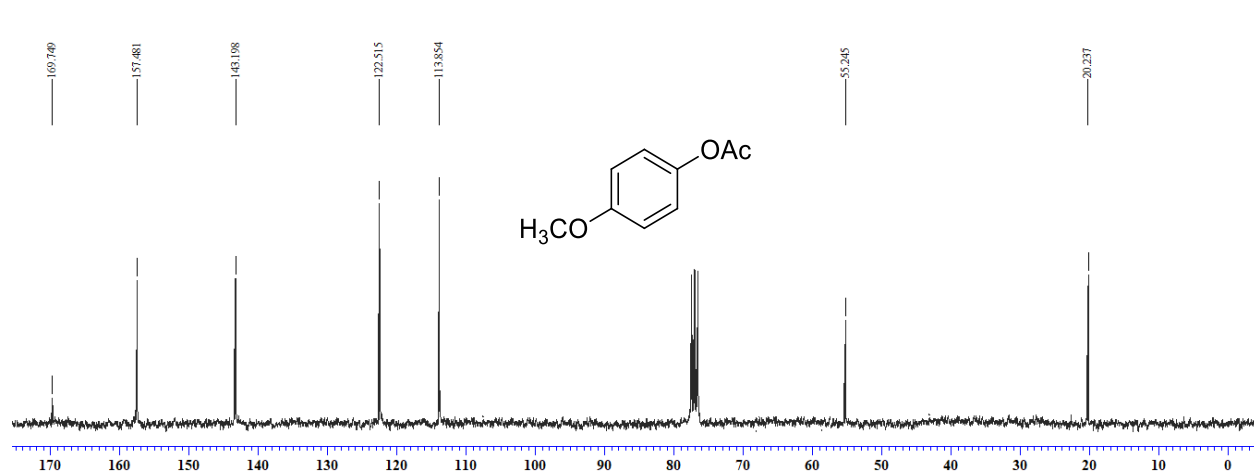


Figure S30: ¹³C-NMR (75 MHz, CDCl₃) Spectrum of 3j

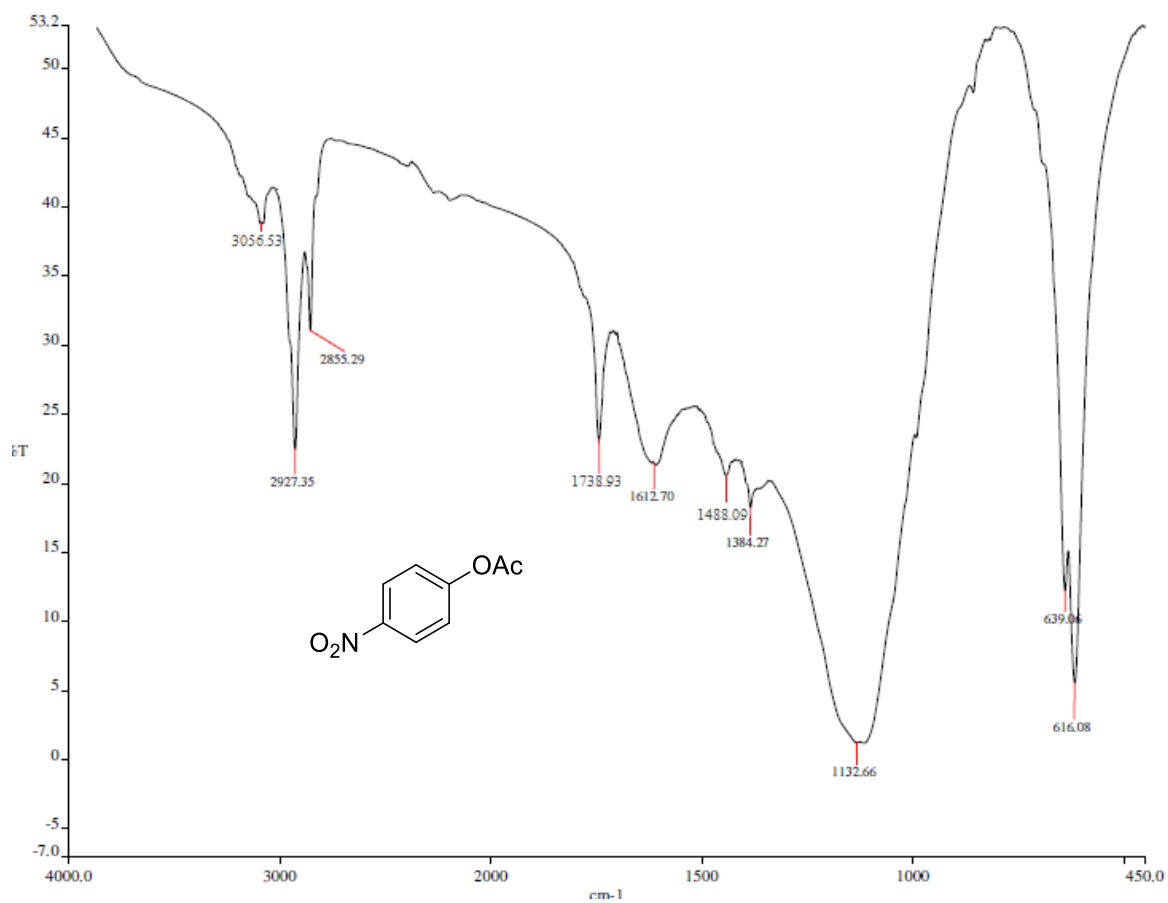


Figure S31: IR Spectrum of Compound **3k**

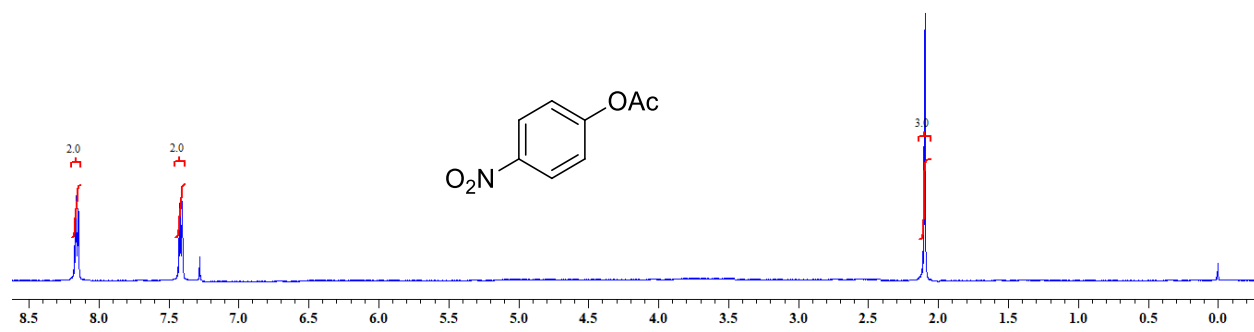


Figure S32: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound **3k**

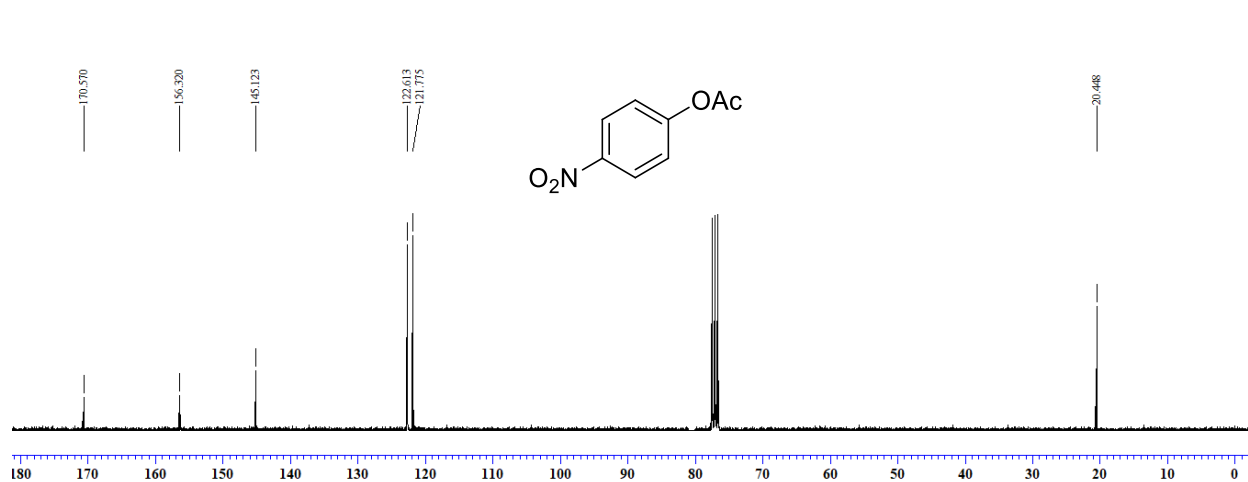


Figure S33: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3k**

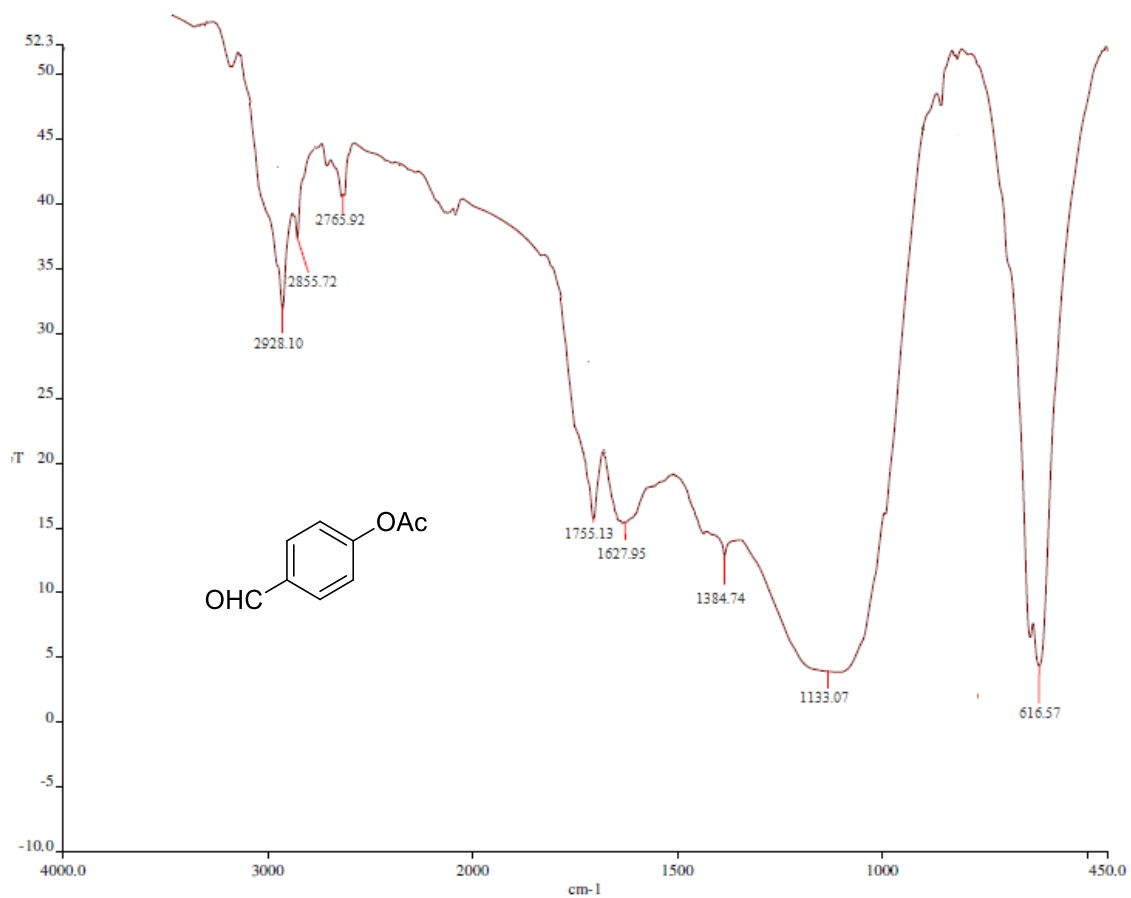


Figure S34: IR Spectrum of Compound **3l**

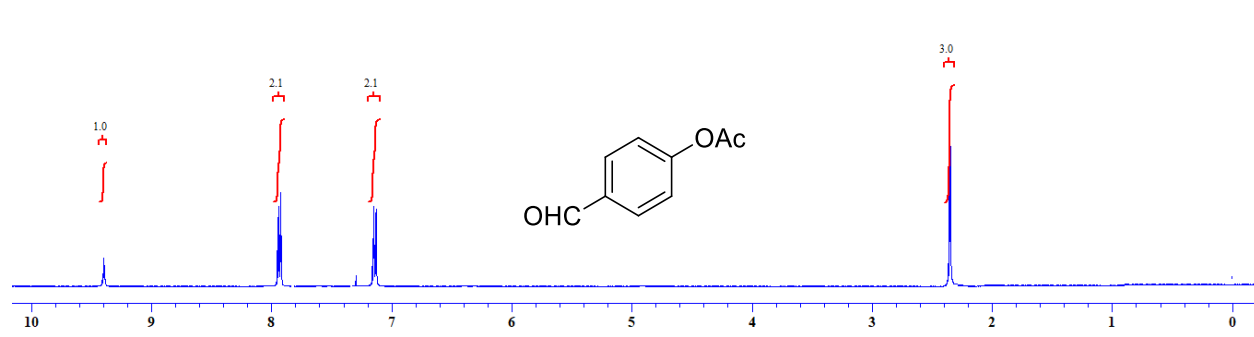


Figure S35: $^1\text{H-NMR}$ (300 MHz, CDCl_3), Spectrum of Compound **3I**

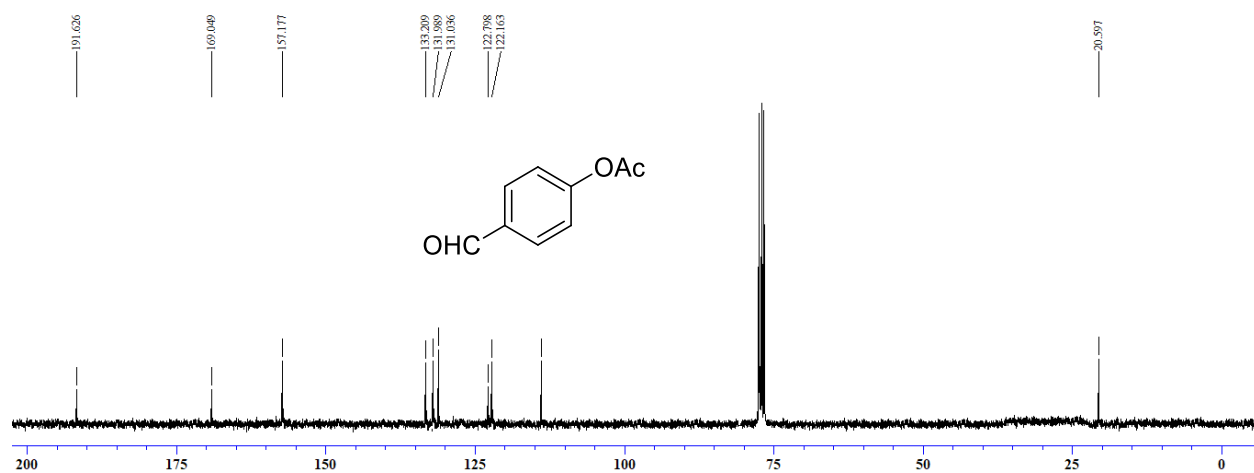


Figure S36: $^{13}\text{C-NMR}$ (75 MHz, CDCl_3) Spectrum of **3I**

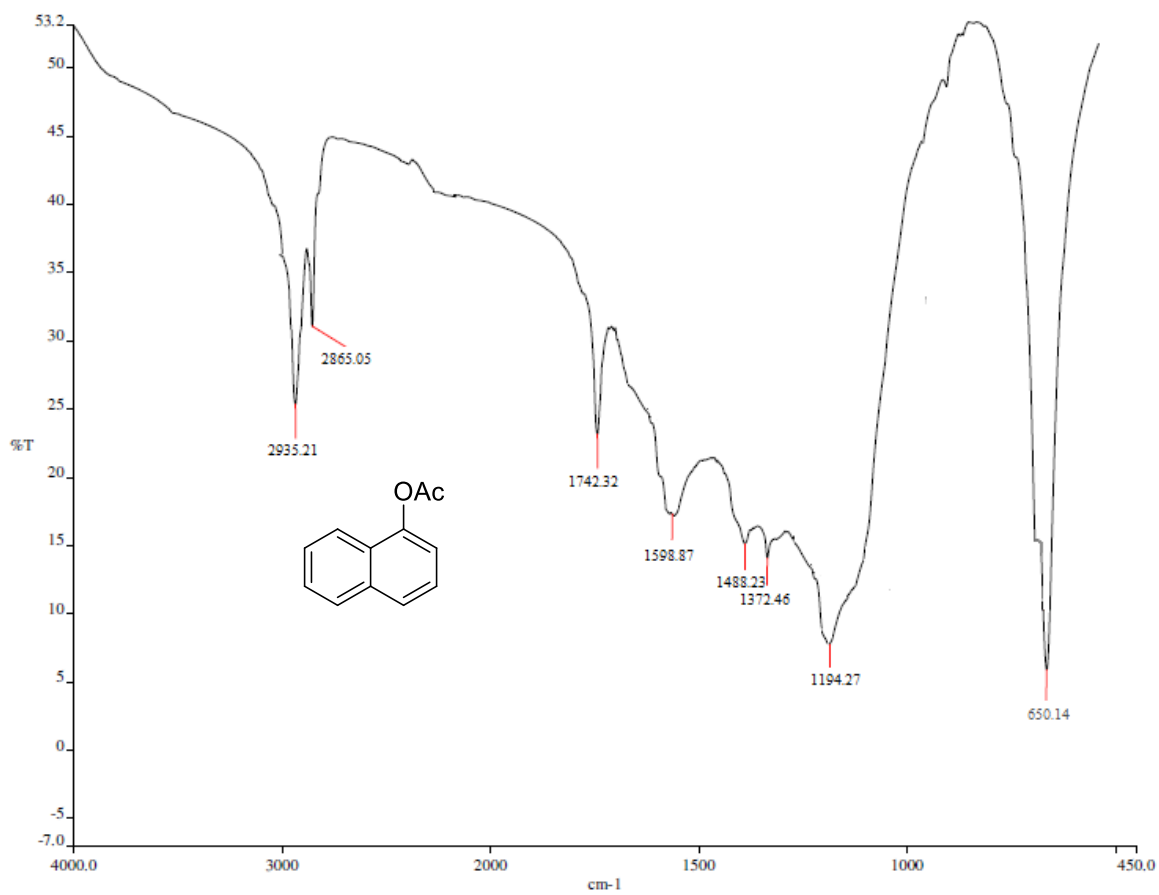


Figure S37: IR Spectrum of Compound **3m**

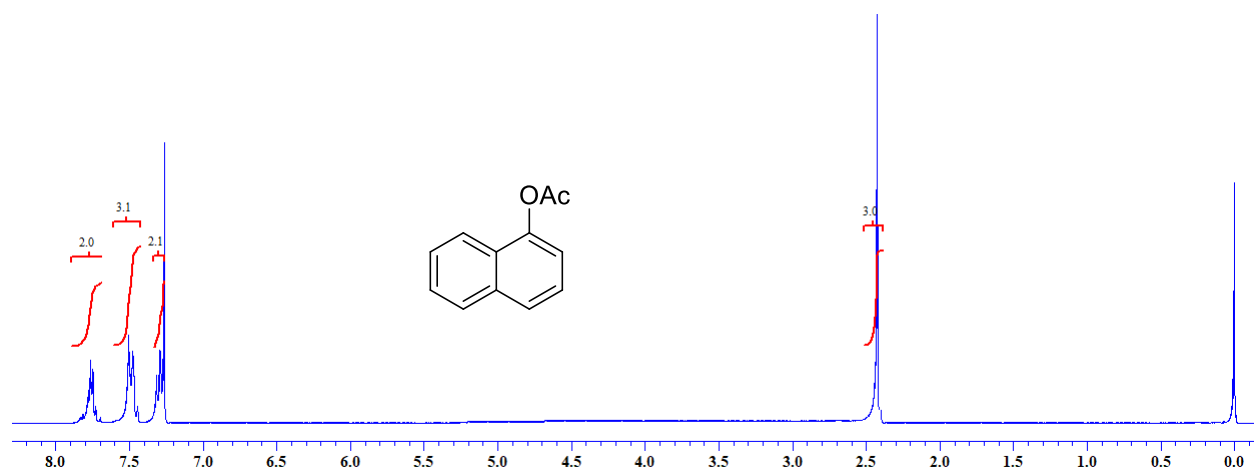


Figure S38: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound **3m**

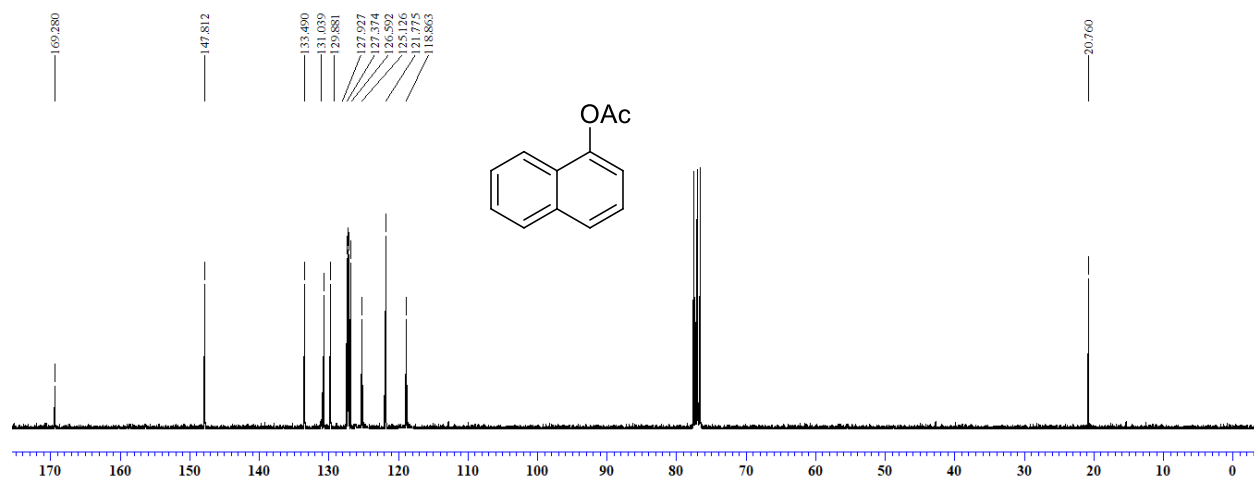


Figure S39: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3m**

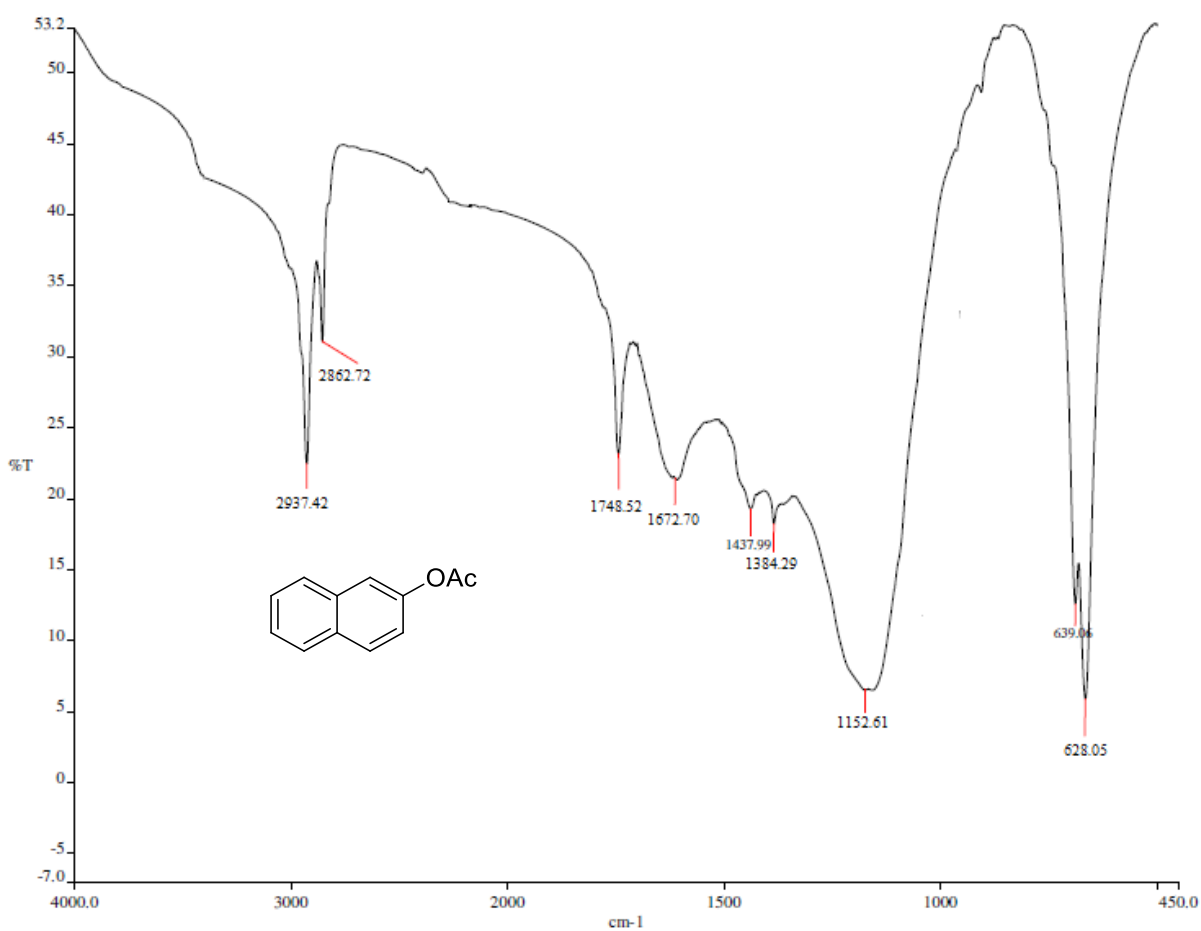


Figure S40: IR Spectrum of Compound **3m**

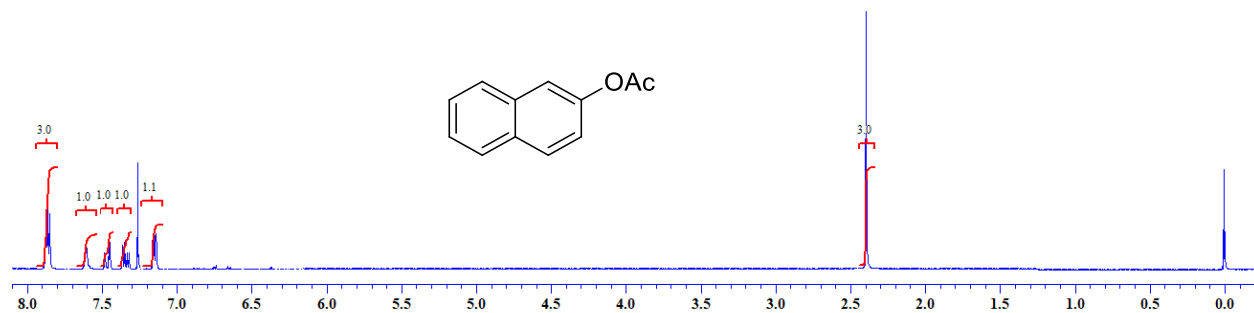


Figure S41: $^1\text{H-NMR}$ (300 MHz, CDCl_3), Spectrum of Compound **3n**

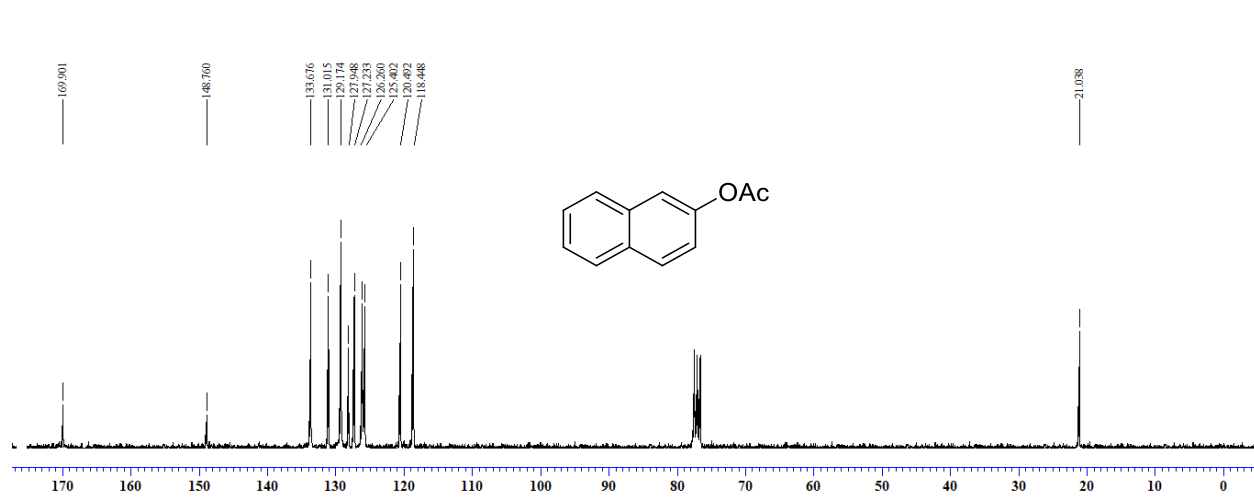


Figure S42: $^{13}\text{C-NMR}$ (75 MHz, CDCl_3) Spectrum of **3n**

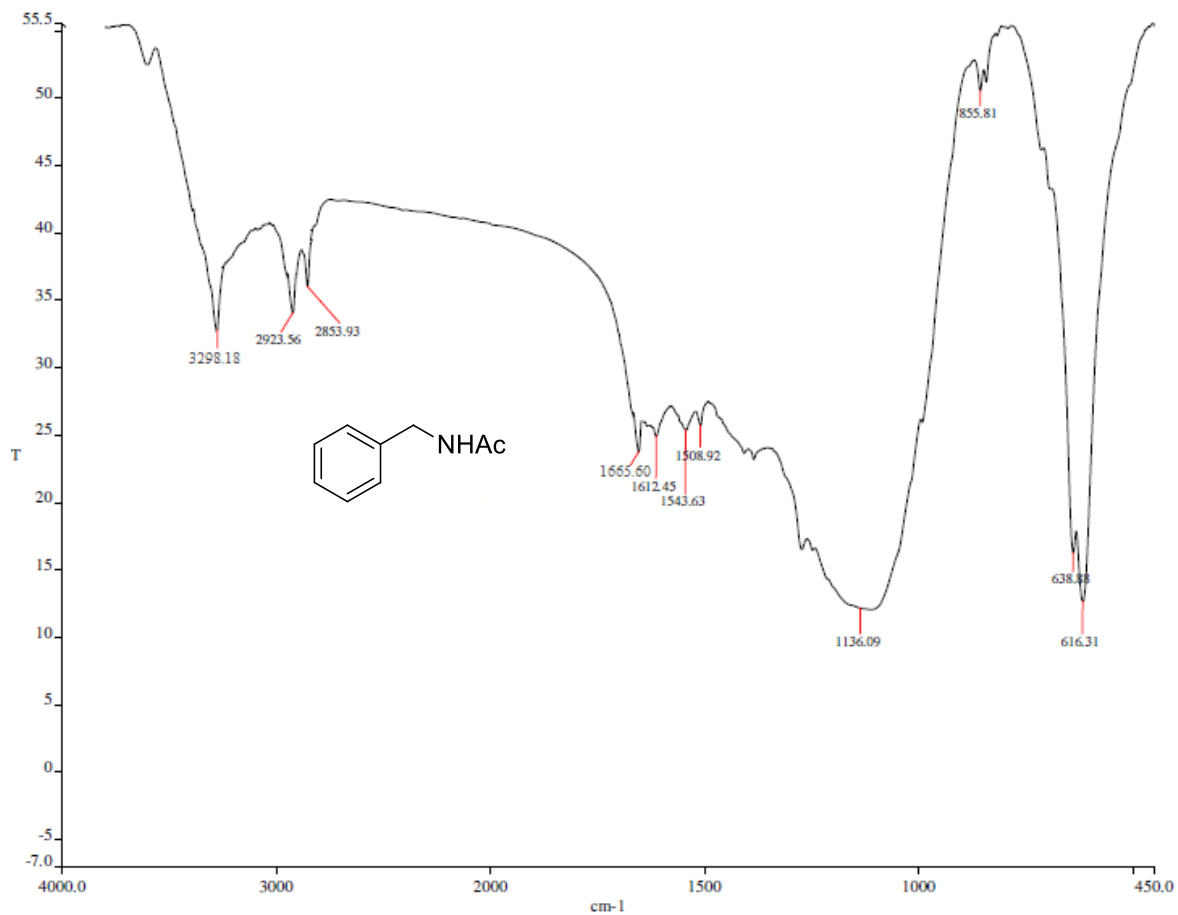


Figure S43: IR Spectrum of Compound **3o**

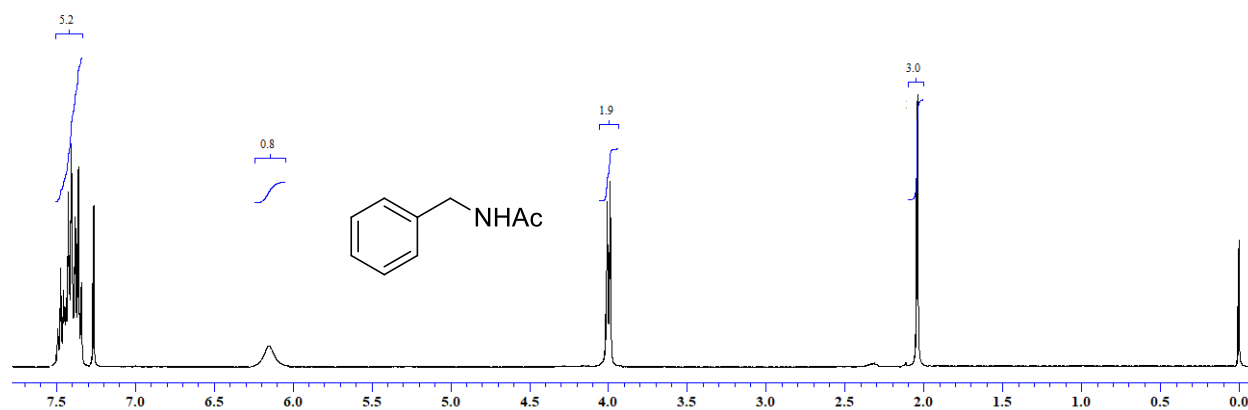


Figure S44: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound **3o**

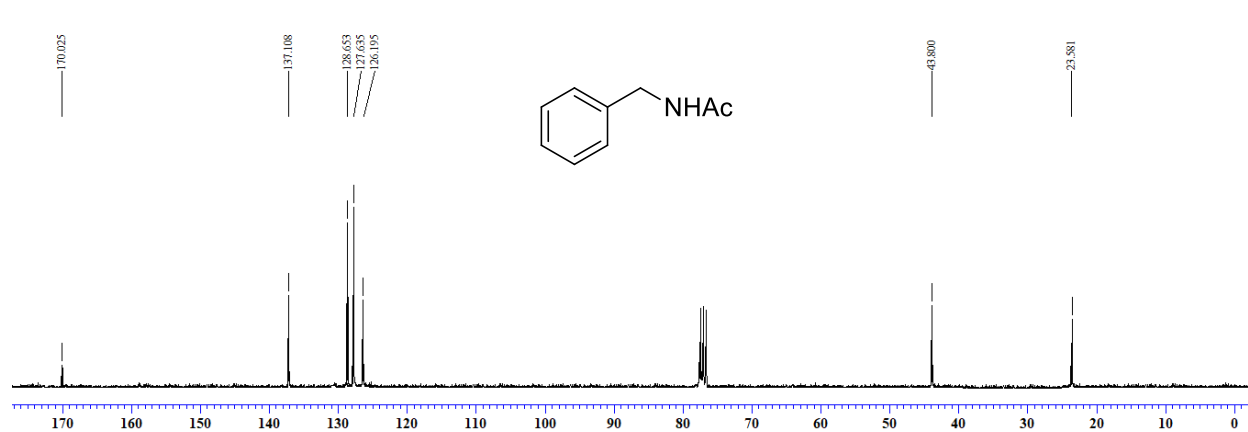


Figure S45: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3o**

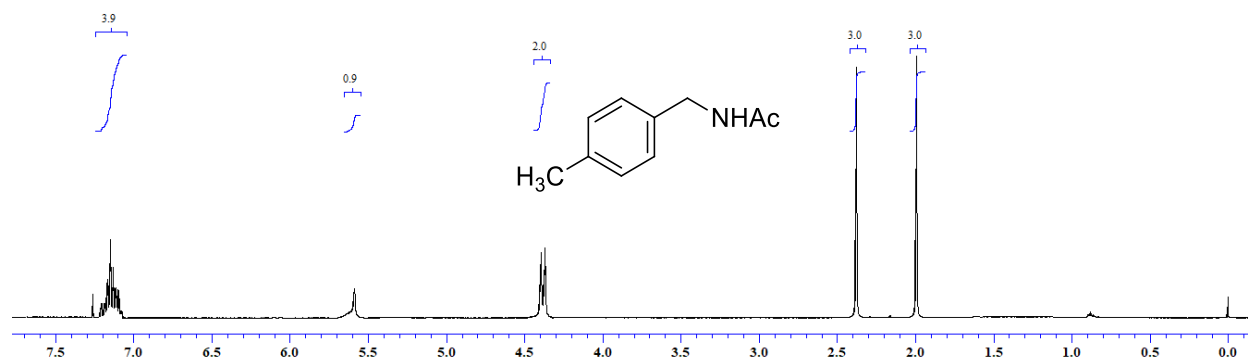


Figure S46: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound **3p**

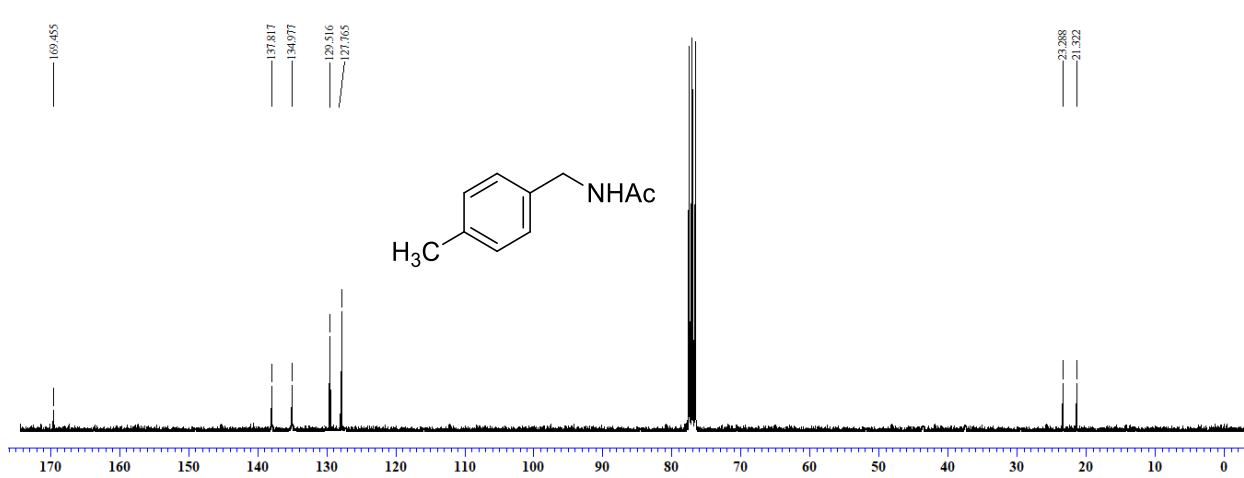


Figure S47: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3p**

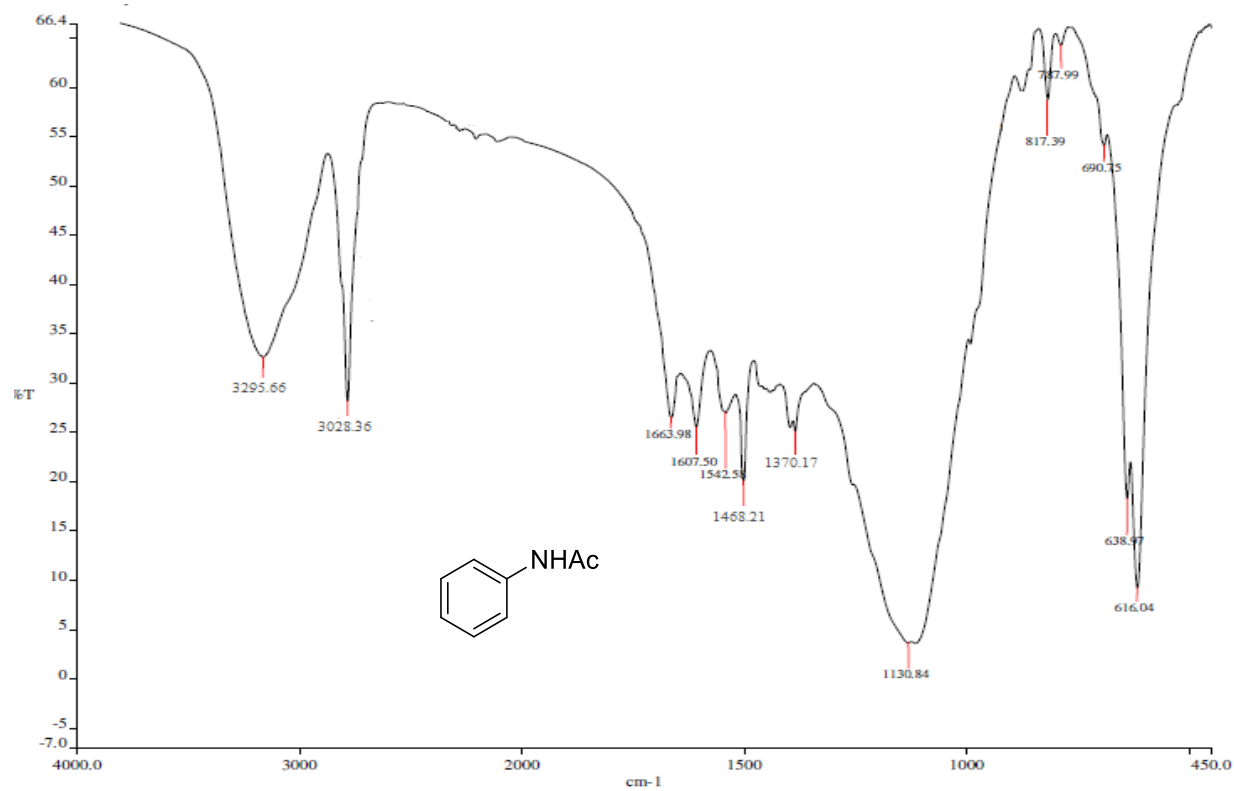


Figure S48: IR Spectrum of Compound **3q**

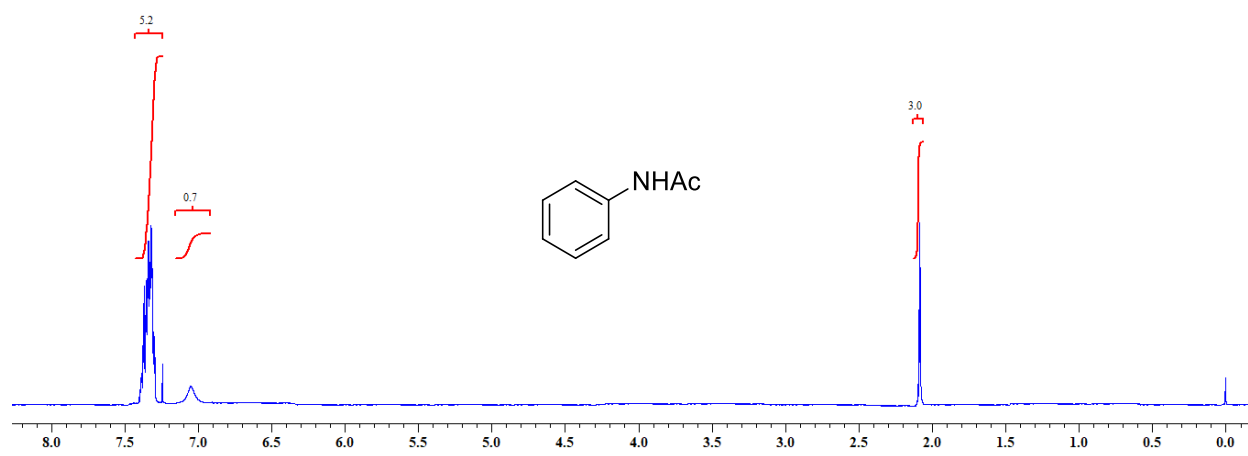


Figure S49: $^1\text{H-NMR}$ (300 MHz, CDCl_3), Spectrum of Compound **3q**

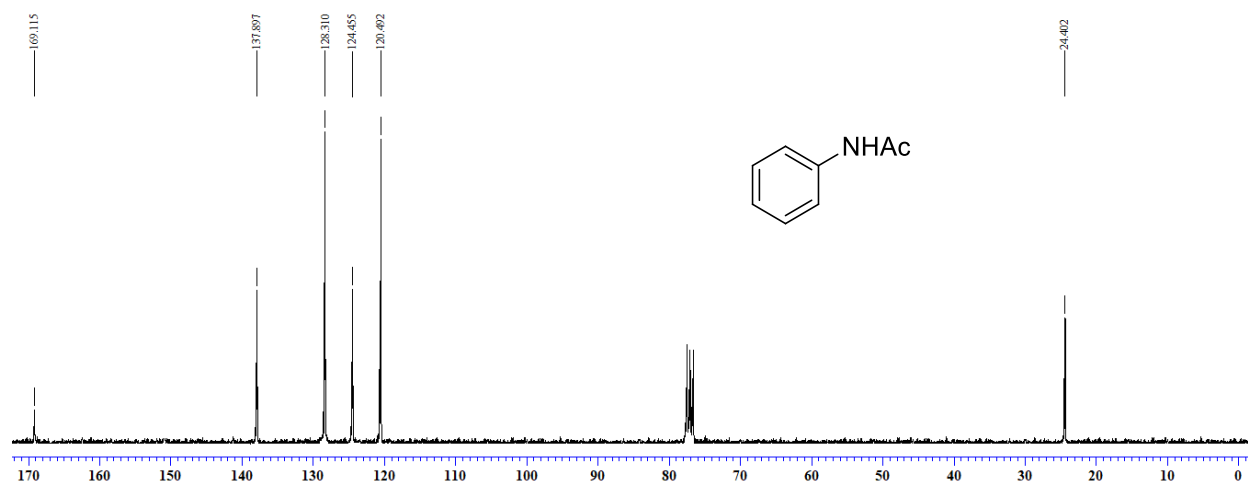


Figure S50: $^{13}\text{C-NMR}$ (75 MHz, CDCl_3) Spectrum of **3q**

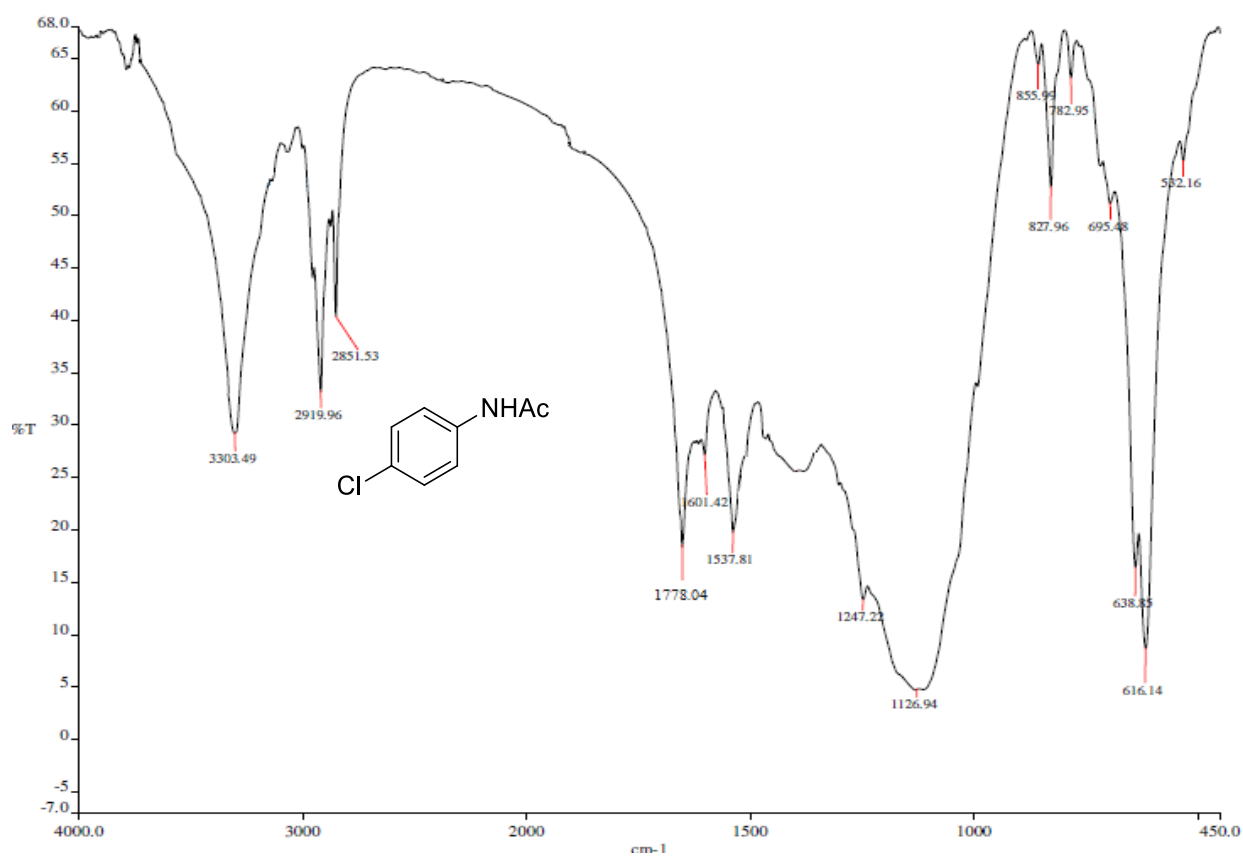


Figure S54: IR Spectrum of Compound 3r

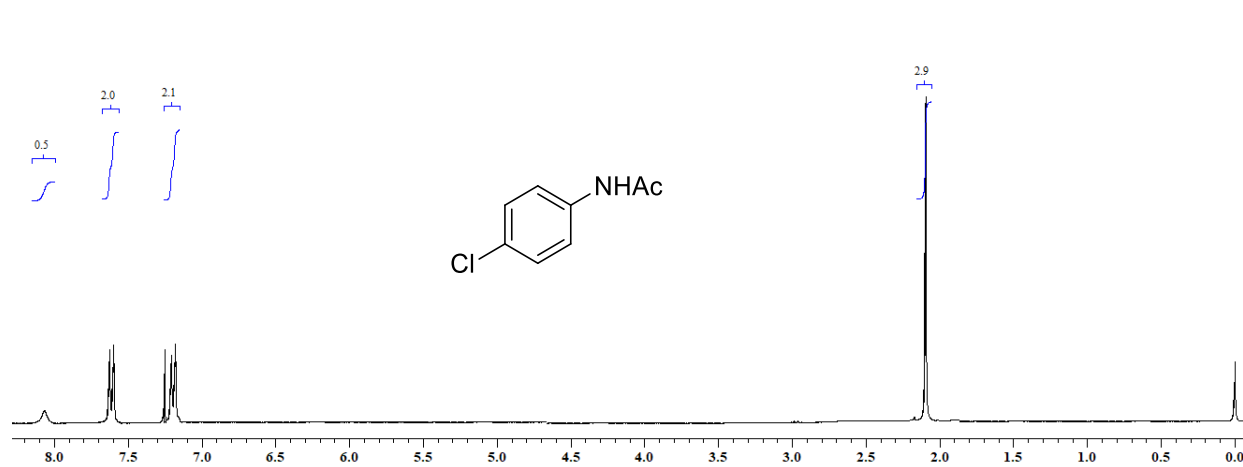


Figure S55: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound 3r

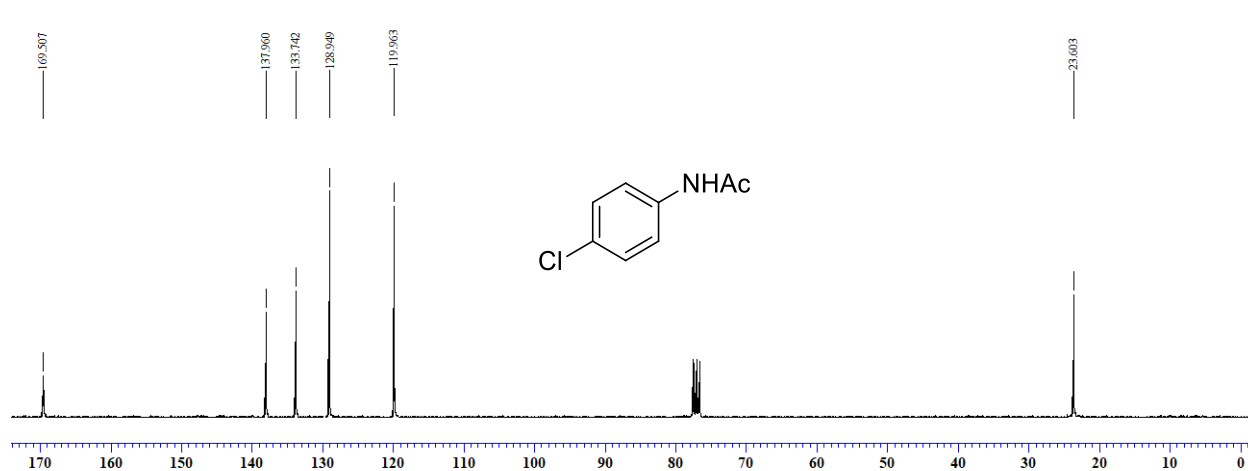


Figure S56: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3r**

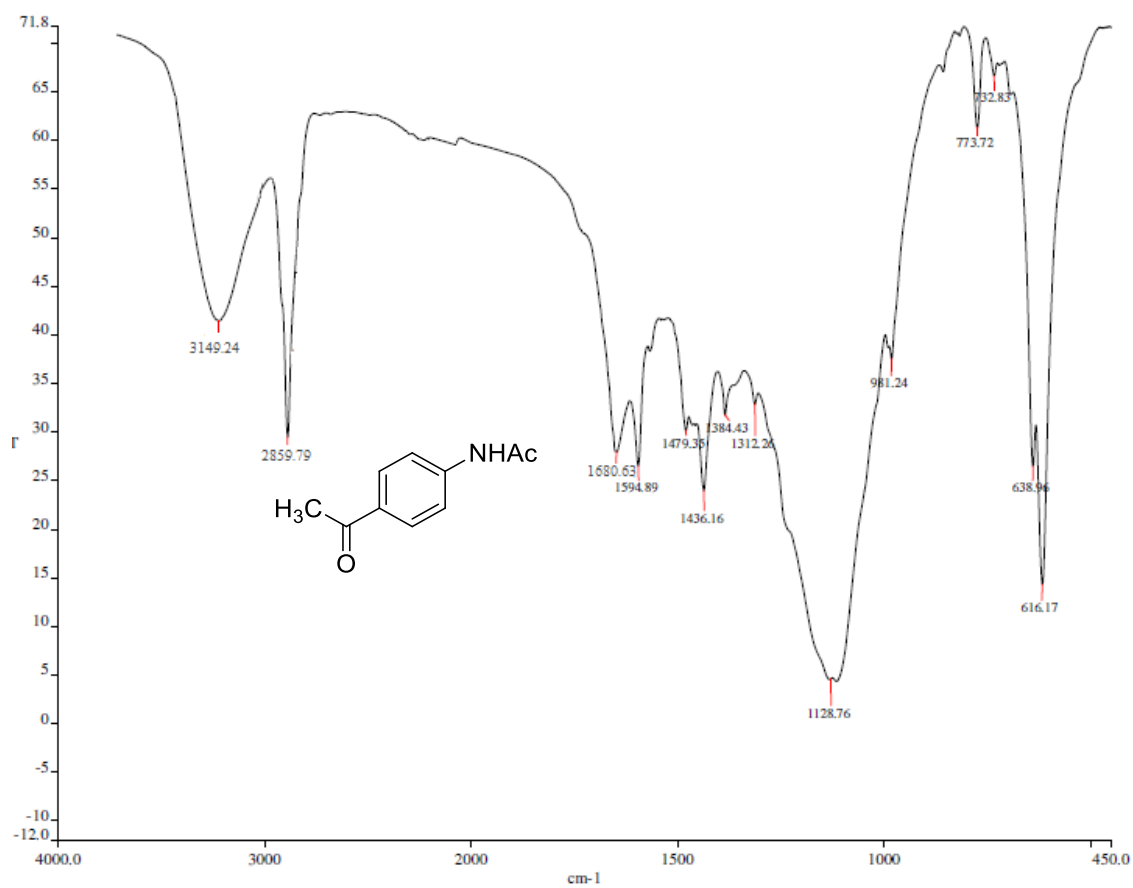


Figure S51: IR Spectrum of Compound **3s**

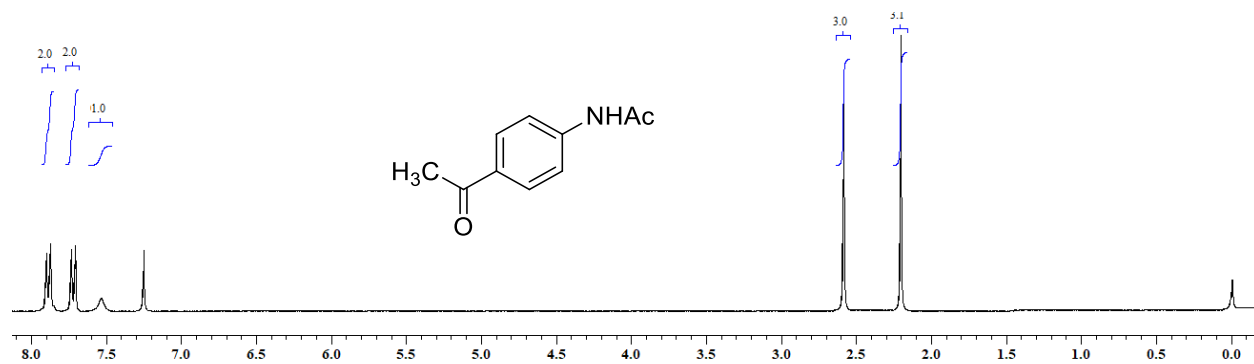


Figure S52: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound 3s

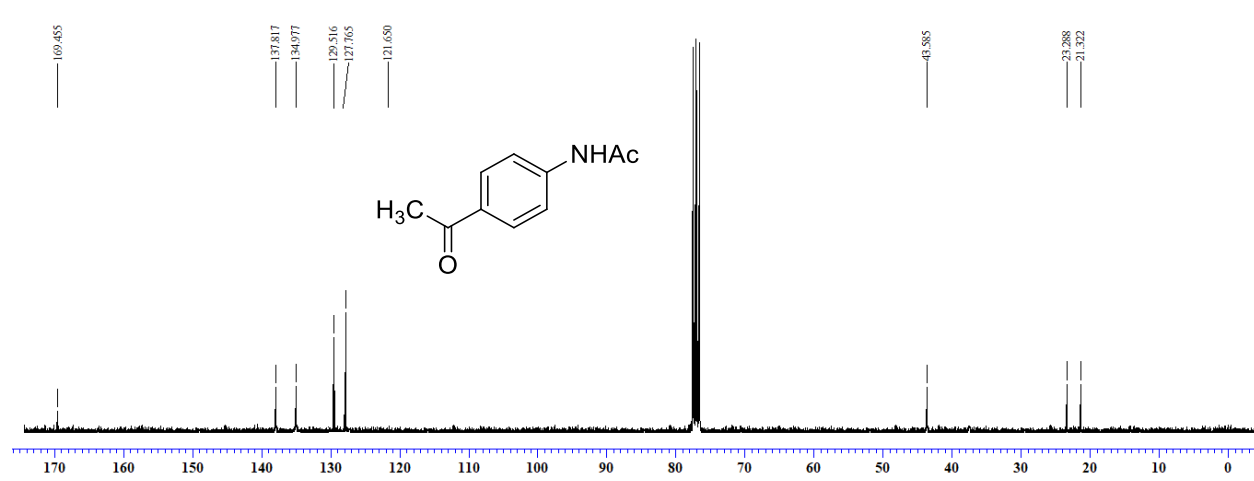


Figure S53: ¹³C-NMR (75 MHz, CDCl₃) Spectrum of 3s

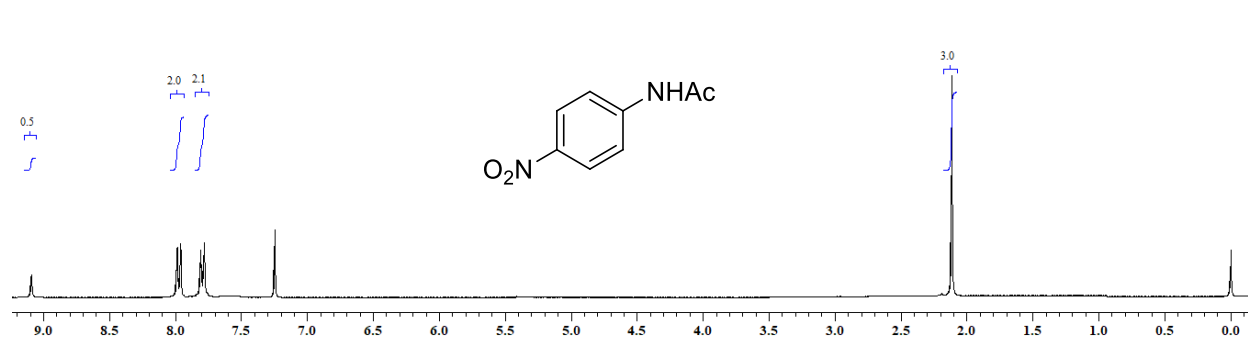


Figure S57: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound 3t

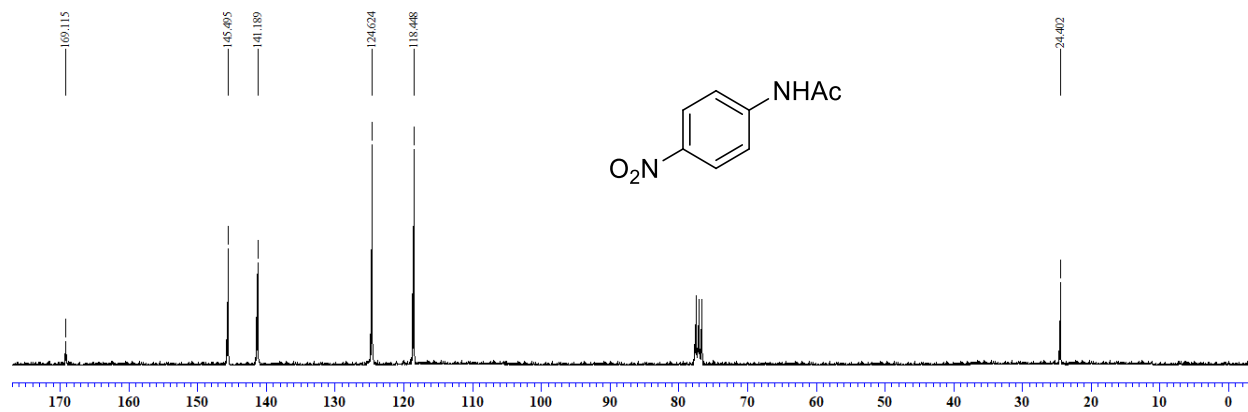


Figure S58: ¹³C-NMR (75 MHz, CDCl₃) Spectrum of 3t

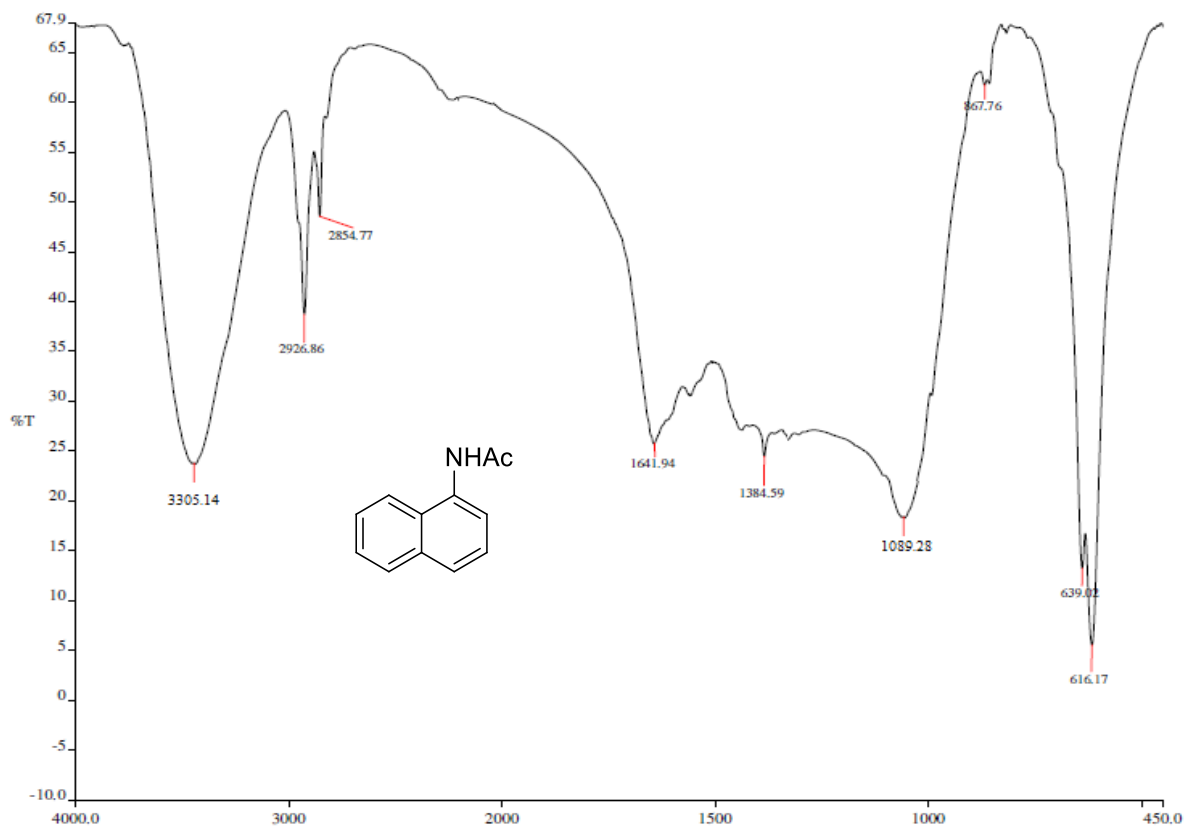


Figure S59: IR Spectrum of Compound **3u**

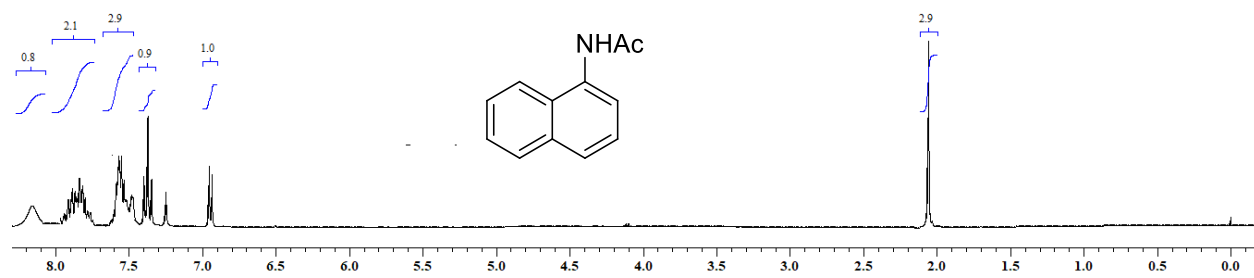


Figure S60: ¹H-NMR (300 MHz, CDCl₃), Spectrum of Compound **3u**

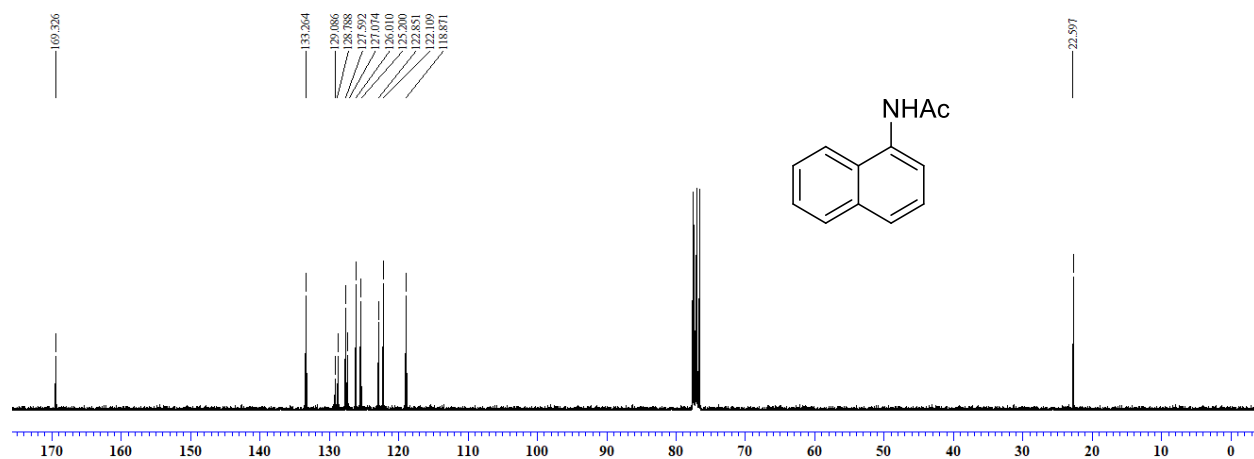


Figure S61: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3u**

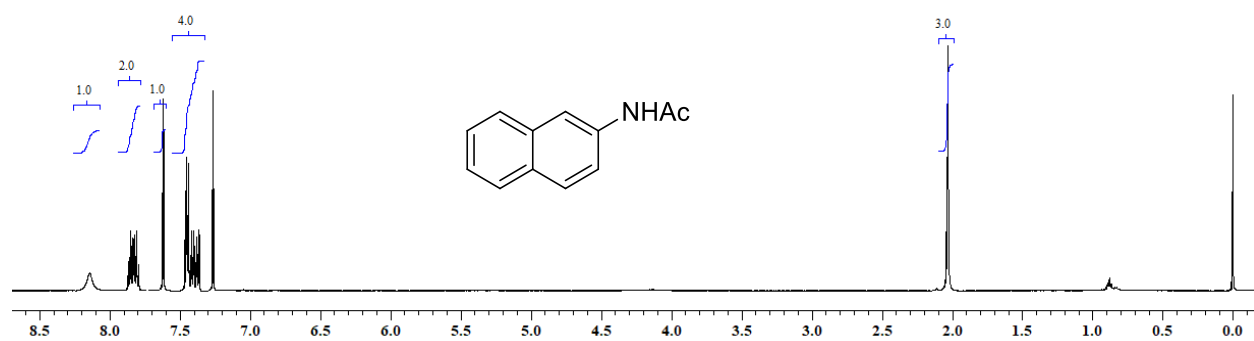


Figure S62: ^1H -NMR (300 MHz, CDCl_3), Spectrum of Compound **3v**

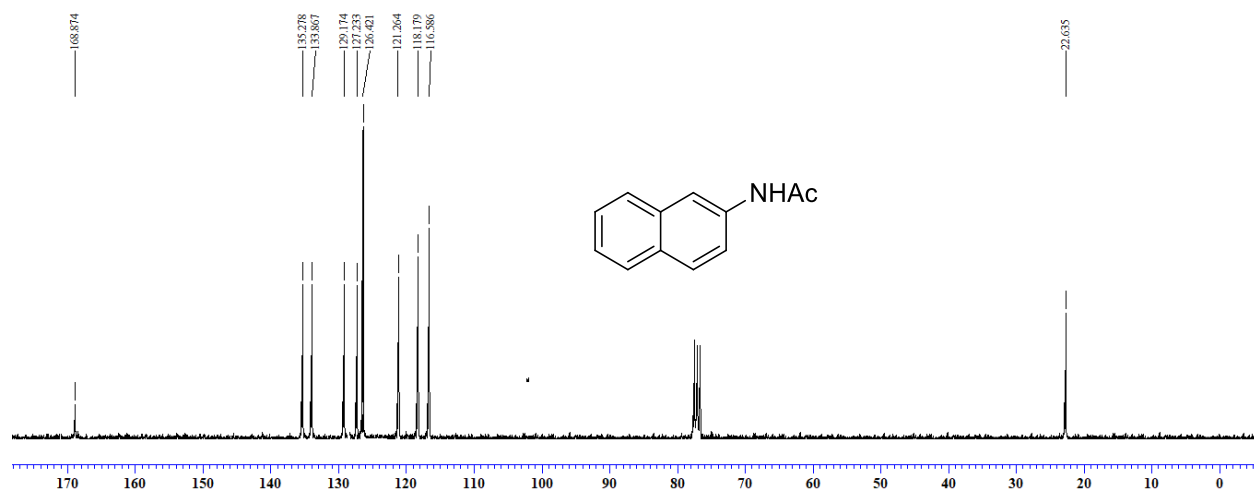


Figure S63: ^{13}C -NMR (75 MHz, CDCl_3) Spectrum of **3v**