Supporting Information

Org. Commun. 16:1 (2023) 11-23

Synthesis and biological evaluation of new 4-thiazolidinone derivatives of flurbiprofen

Pelin Süzgün¹, Sevil Şenkardeş ^{1*}, Merve Gürboğa², Özlem Bingöl Özakpınar ² and Ş. Güniz Küçükgüzel ³

¹Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Marmara University, 34854, Istanbul, Türkiye

³Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Fenerbahçe University, 34758, Istanbul, Türkiye

Table of Contents	Page
Figure S1: IR spectrum of the compound 3a	3
Figure S2: ¹ H-NMR spectrum of the compound 3a	4
Figure S3: ¹³ C-NMR spectrum of the compound 3a	4
Figure S4: IR spectrum of the compound 3b	5
Figure S5: ¹ H-NMR spectrum of the compound 3b	5
Figure S6: ¹³ C-NMR spectrum of the compound 3b	6
Figure S7: IR spectrum of the compound 3c	6
Figure S8: ¹ H-NMR spectrum of the compound 3c	7
Figure S9: ¹³ C-NMR spectrum of the compound 3c	7
Figure S10: IR spectrum of the compound 3d	8
Figure S11: IR spectrum of the compound 3e	8
Figure S12: ¹ H-NMR spectrum of the compound 3e	9
Figure S13: ¹³ C-NMR spectrum of the compound 3e	9
Figure S14: IR spectrum of the compound 3f	10
Figure S15: ¹ H-NMR spectrum of the compound 3f	10
Figure S16: ¹³ C-NMR spectrum of the compound 3f	11
Figure S17: IR spectrum of the compound 3g	11
Figure S18: ¹ H-NMR spectrum of the compound 3g	12
Figure S19: IR spectrum of the compound 3h	12
Figure S20: ¹ H-NMRspectrum of the compound 3h	13
Figure S21: ¹³ C-NMR spectrum of the compound 3h	13
Figure S22: IR spectrum of the compound 3i	14
Figure S23: ¹ H-NMR spectrum of the compound 3i	14
Figure S24: ¹³ C-NMR spectrum of the compound 3i	15
Figure S25: IR spectrum of the compound 3j	15
Figure S26: ¹ H-NMR spectrum of the compound 3j	16
Figure S27: ¹³ C-NMR spectrum of the compound 3j	16
Figure S28: IR spectrum of the compound 3k	17

² Department of Pharmaceutical Biohemistry, Faculty of Pharmacy, Marmara University, 34854, Istanbul, Türkiye

Figure S29: ¹ H-NMR spectrum of the compound 3k	17
Figure S30: ¹³ C-NMR spectrum of the compound 3k	18
Figure S31: IR spectrum of the compound 3l	18
Figure S32: ¹ H-NMR spectrum of the compound 3l	19
Figure S33: ¹³ C-NMR spectrum of the compound 3l	19
Figure S34: IR spectrum of the compound 3m	20
Figure S35: ¹ H-NMR spectrum of the compound 3m	20
Figure S36: ¹³ C-NMR spectrum of the compound 3m	21
Figure S37: IR spectrum of the compound 3n	21
Figure S38: ¹ H-NMR spectrum of the compound 3n	22
Figure S39: ¹³ C-NMR spectrum of the compound 3n	22
Figure S40: IR spectrum of the compound 30	23
Figure S41: IR spectrum of the compound 3p	23
Figure S42: IR spectrum of the compound 3r	24
Figure S43: IR spectrum of the compound 3s	24
Figure S44: IR spectrum of the compound 4a	25
Figure S45: ¹ H-NMR spectrum of the compound 4a	25
Figure S46: ¹³ C-NMR spectrum of the compound 4a	26
Figure S47: IR spectrum of the compound 4b	26
Figure S48: H-NMR spectrum of the compound 4b	27
Figure S49: ¹³ C-NMR spectrum of the compound 4b	27
Figure S50: IR spectrum of the compound 4c	28
	28
Figure S51: ¹ H-NMR spectrum of the compound 4c	
Figure S52: ¹³ C-NMR spectrum of the compound 4c	29
Figure S53: IR spectrum of the compound 4d	29
Figure S54: ¹ H-NMR spectrum of the compound 4d	30
Figure S55: ¹³ C-NMR spectrum of the compound 4d	30
Figure S56: IR spectrum of the compound 4e	31
Figure S57: ¹ H-NMR spectrum of the compound 4e	31
Figure S58: ¹³ C-NMR spectrum of the compound 4e	32
Figure S59: IR spectrum of the compound 4f	32
Figure S60: ¹ H-NMR spectrum of the compound 4f	33
Figure S61: ¹³ C-NMR spectrum of the compound 4f	33
Figure S62: IR spectrum of the compound 4g	34
Figure S63: ¹ H-NMR spectrum of the compound 4g	34
Figure S64: IR spectrum of the compound 4h	35
Figure S65: ¹ H-NMR spectrum of the compound 4h	35
Figure S66: ¹³ C-NMR spectrum of the compound 4h	36
Figure S67: IR spectrum of the compound 4i	36
Figure S68: ¹ H-NMR spectrum of the compound 4i	37
Figure S69: ¹³ C-NMR spectrum of the compound 4i	37
Figure S70: IR spectrum of the compound 4j	38
Figure S71: ¹ H-NMR spectrum of the compound 4j	38
Figure S72: ¹³ C-NMR spectrum of the compound 4j	39
Figure S73: IR spectrum of the compound 4k	39
Figure S74: ¹ H-NMR spectrum of the compound 4k	40
Figure S75: ¹³ C-NMR spectrum of the compound 4k	40
Figure S76: IR spectrum of the compound 4l	41

Figure S77: ¹ H-NMR spectrum of the compound 4l	41
Figure S78: ¹³ C-NMR spectrum of the compound 4l	42
Figure S79: IR spectrum of the compound 4m	42
Figure S80: ¹ H-NMR spectrum of the compound 4m	43
Figure S81: ¹³ C-NMR spectrum of the compound 4m	43
Figure S82: IR spectrum of the compound 4n	44
Figure S83: ¹ H-NMR spectrum of the compound 4n	44
Figure S84: ¹³ C-NMR spectrum of the compound 4n	45
Figure S85: IR spectrum of the compound 40	45
Figure S86: ¹ H-NMR spectrum of the compound 40	46
Figure S87: IR spectrum of the compound 4p	46
Figure S88: ¹ H-NMR spectrum of the compound 4p	47
Figure S89: ¹³ C-NMR spectrum of the compound 4p	47
Figure S90: IR spectrum of the compound 4r	48
Figure S91: ¹ H-NMR spectrum of the compound 4r	48
Figure S92: ¹³ C-NMR spectrum of the compound 4r	49
Figure S93: IR spectrum of the compound 4s	49
Figure S94: ¹ H-NMR spectrum of the compound 4s	50
Figure S95: ¹³ C-NMR spectrum of the compound 4s	50

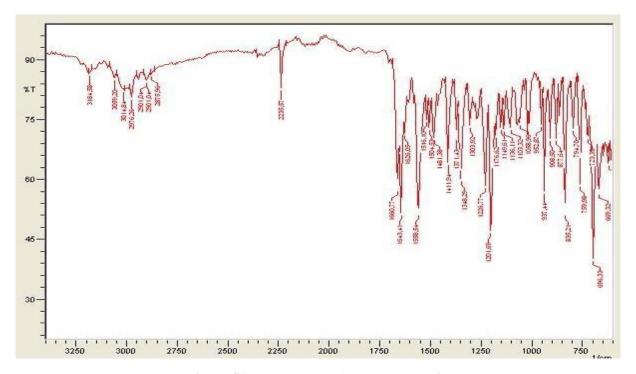


Figure S1: IR spectrum of the compound 3a

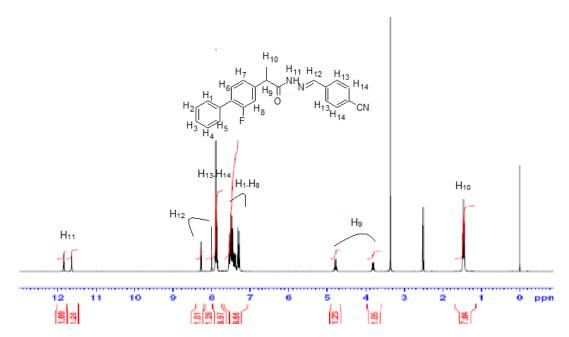


Figure S2: ¹H-NMR spectrum of the compound 3a

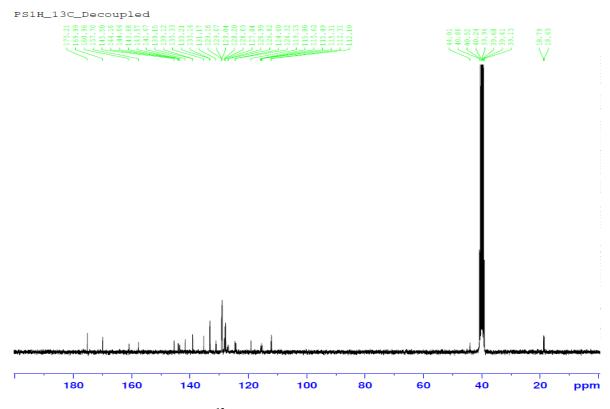


Figure S3: ¹³C-NMR spectrum of the compound 3a

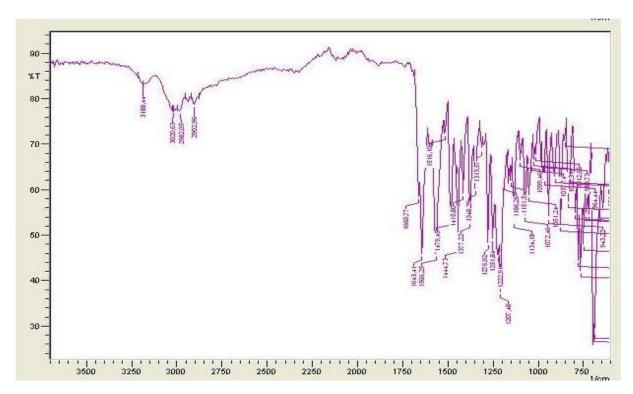


Figure S4: IR spectrum of the compound 3b

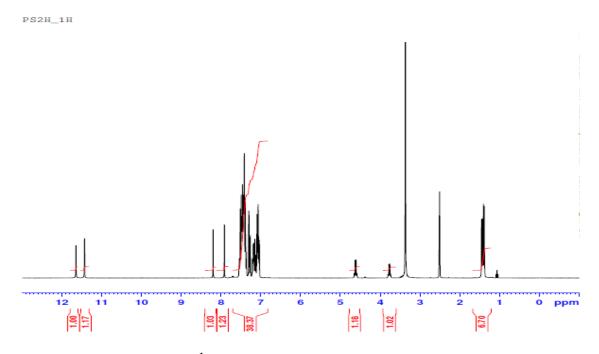


Figure S5: ¹H-NMR spectrum of the compound 3b

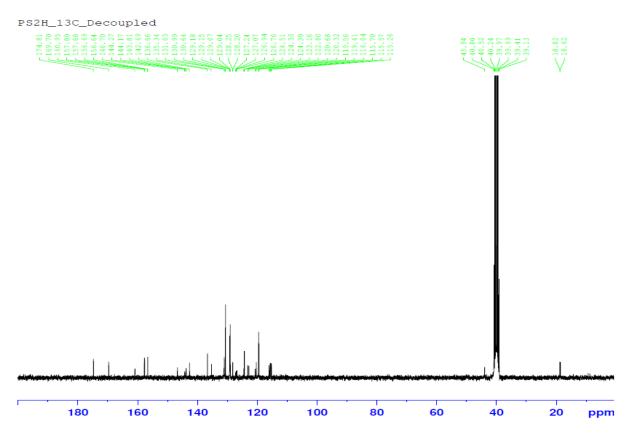
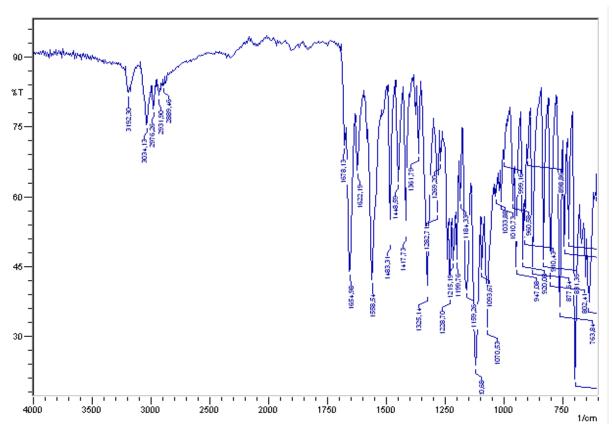


Figure S6: 13 C-NMR spectrum of the compound 3b



 $\ @$ 2023 ACG Publications. All rights reserved.

Figure S7: IR spectrum of the compound 3c

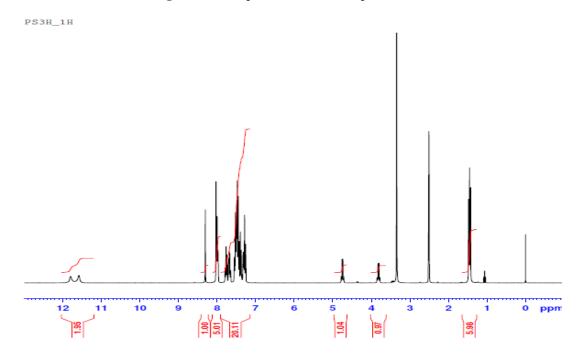


Figure S8: ¹H-NMR spectrum of the compound 3c

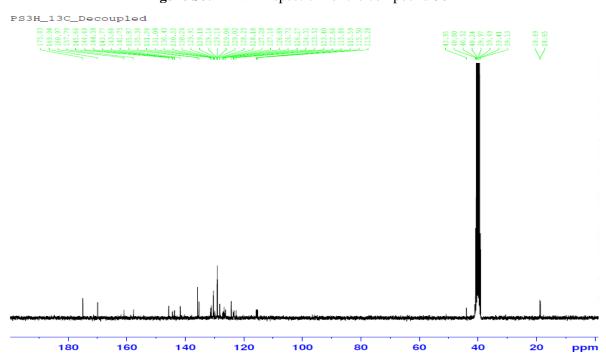


Figure S9: ¹³C-NMR spectrum of the compound 3c

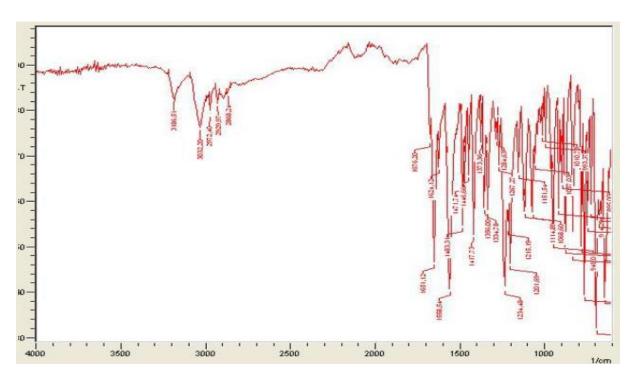


Figure S10: IR spectrum of the compound 3d

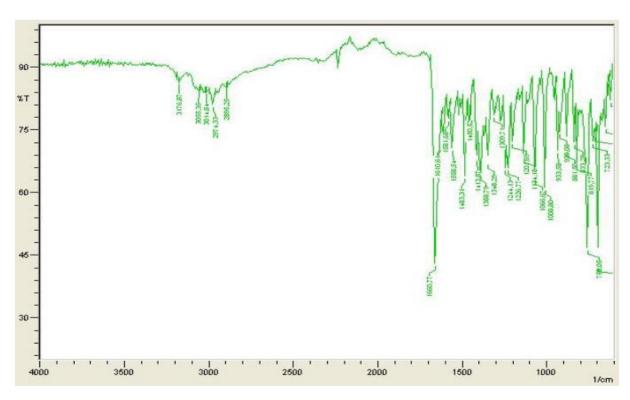


Figure S11: IR spectrum of the compound 3e

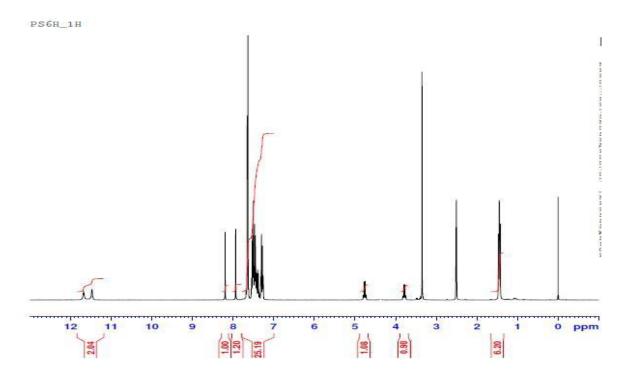


Figure S12: ¹H-NMR spectrum of the compound 3e

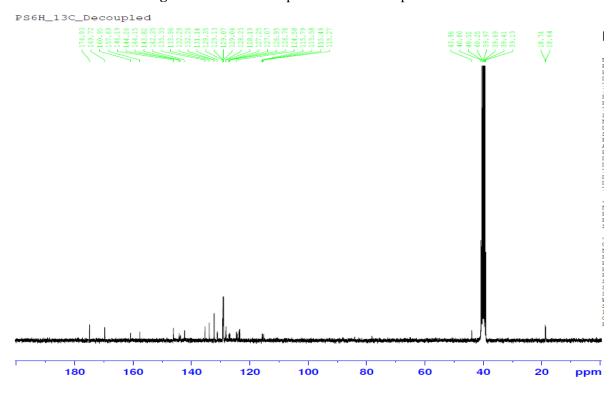


Figure S13: ¹³C-NMR spectrum of the compound **3e**

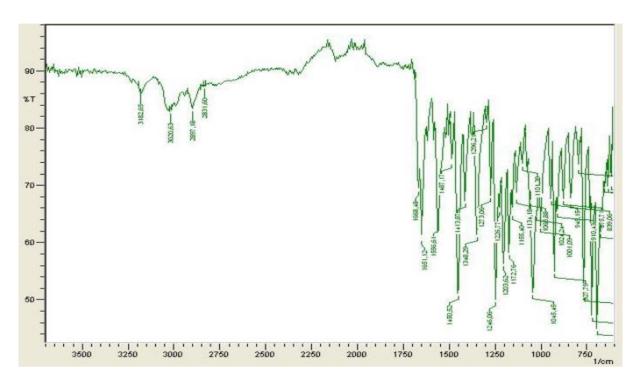


Figure S14: IR spectrum of the compound 3f

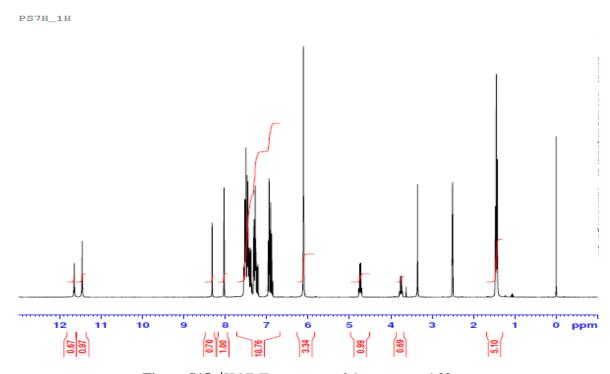


Figure S15: $^{1}\text{H-NMR}$ spectrum of the compound 3f

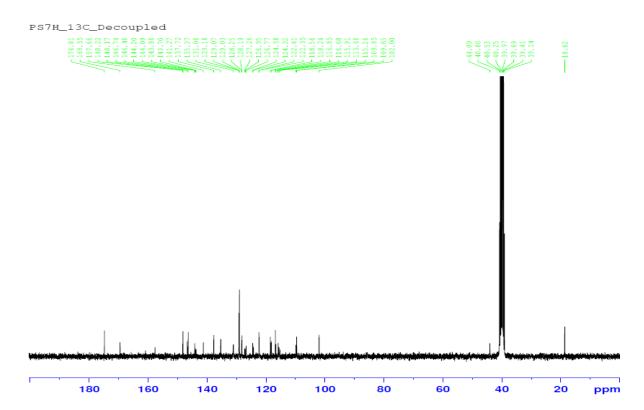


Figure S16: ¹³C-NMR spectrum of the compound **3f**

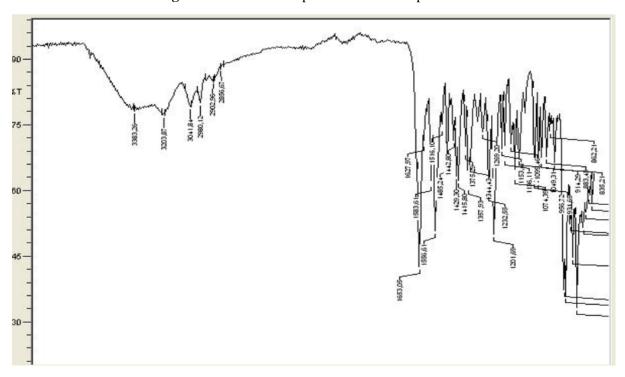


Figure S17: IR spectrum of the compound 3g

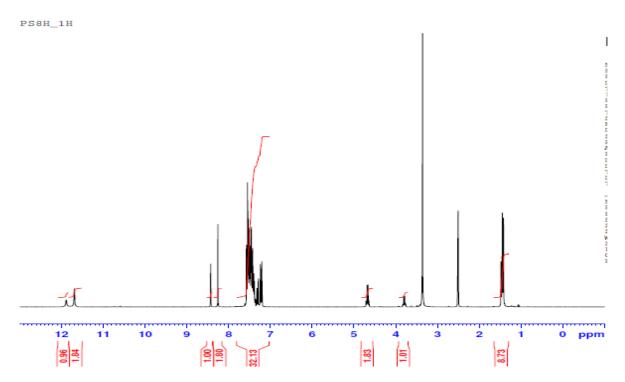


Figure S18: ¹H-NMR spectrum of the compound 3g

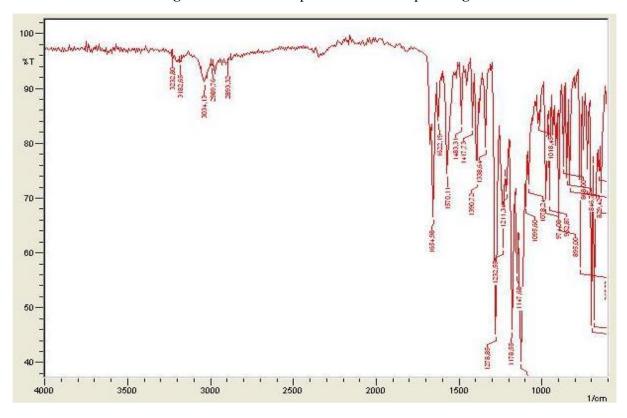


Figure S19: IR spectrum of the compound 3h

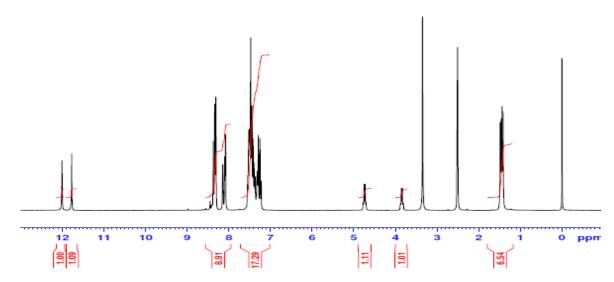


Figure S20: ¹H-NMRspectrum of the compound 3h

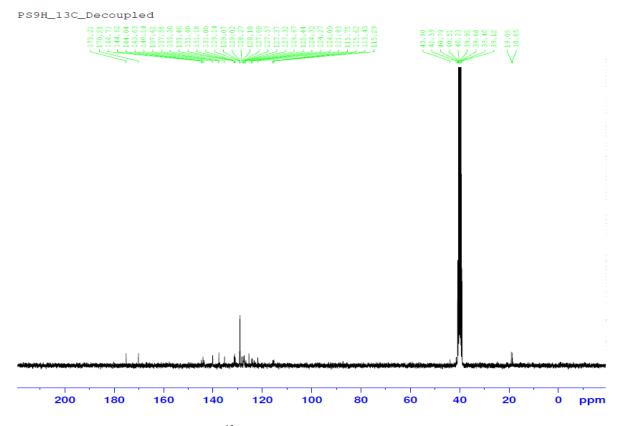


Figure S21: ¹³C-NMR spectrum of the compound 3h

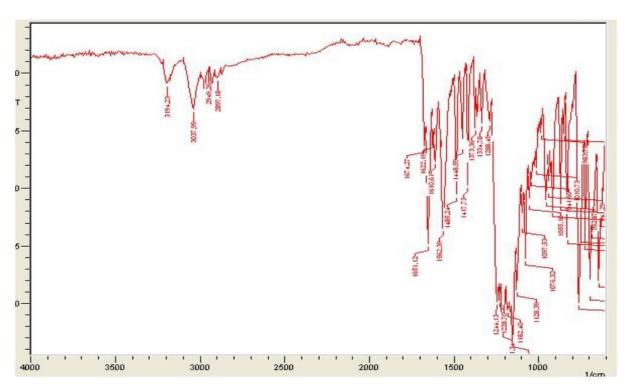


Figure S22: IR spectrum of the compound 3i

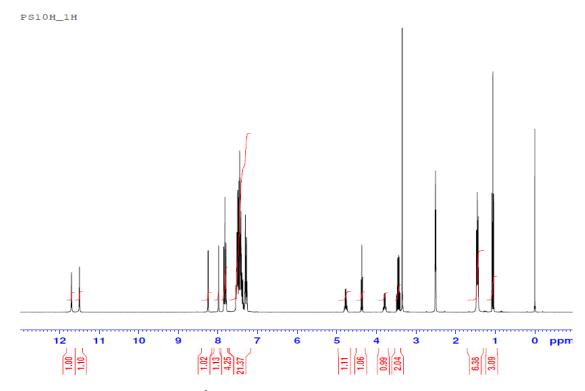


Figure S23: ¹H-NMR spectrum of the compound 3i

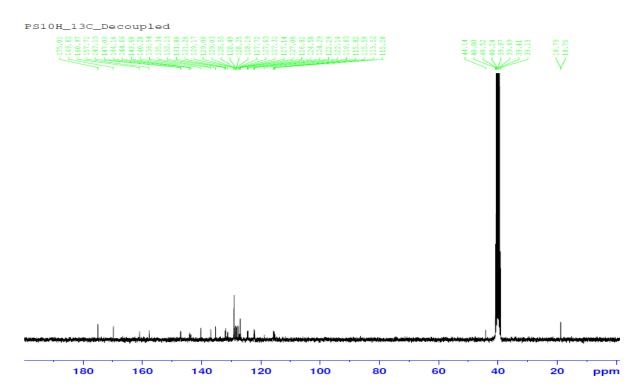


Figure S24: ¹³C-NMR spectrum of the compound 3i

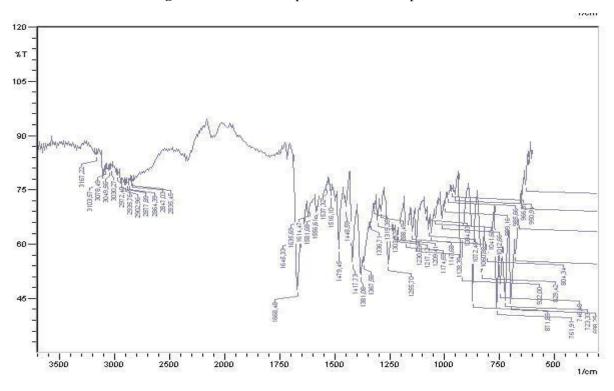


Figure S25: IR spectrum of the compound 3j

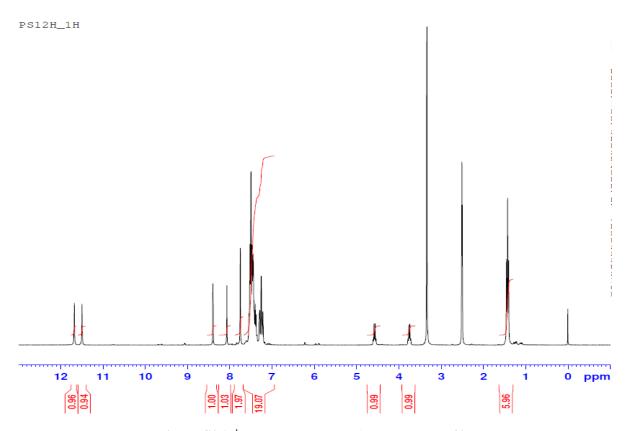


Figure S26: ¹H-NMR spectrum of the compound 3j

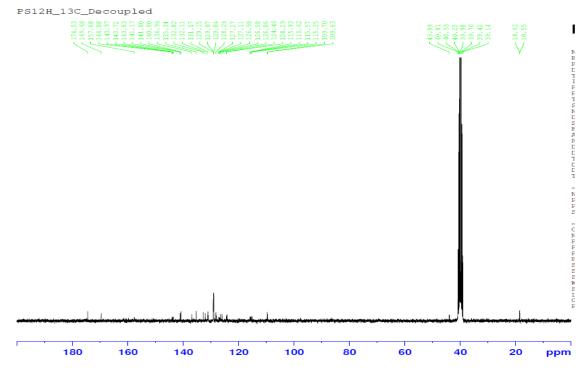


Figure S27: ¹³C-NMR spectrum of the compound 3j

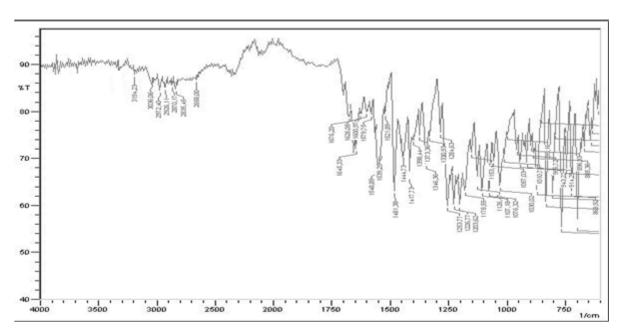


Figure S28: IR spectrum of the compound 3k

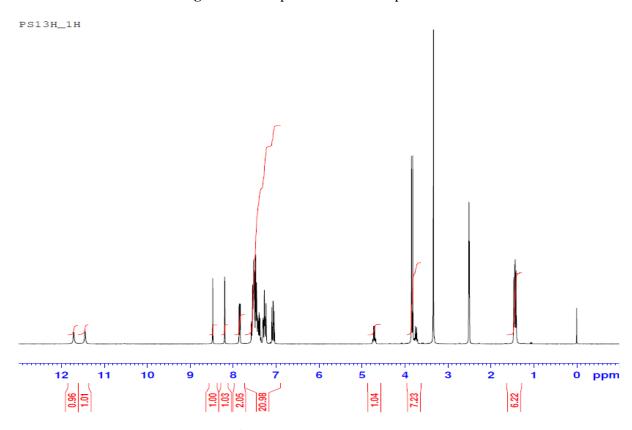


Figure S29: $^{1}\text{H-NMR}$ spectrum of the compound 3k

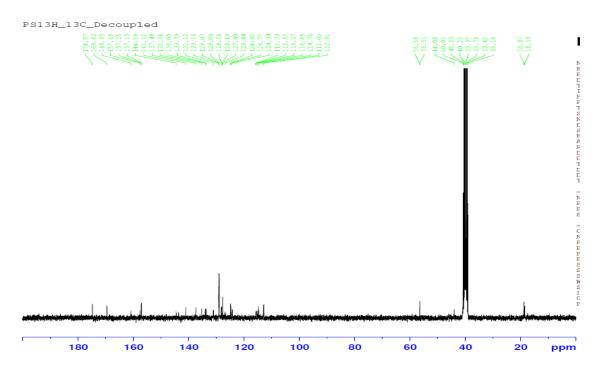


Figure S30: ¹³C-NMR spectrum of the compound 3k

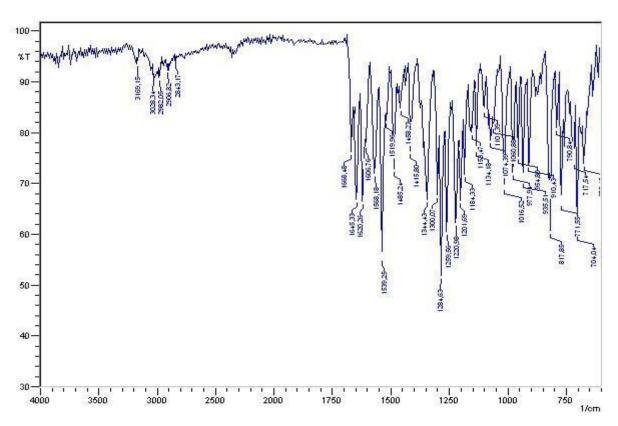


Figure S31: IR spectrum of the compound 31

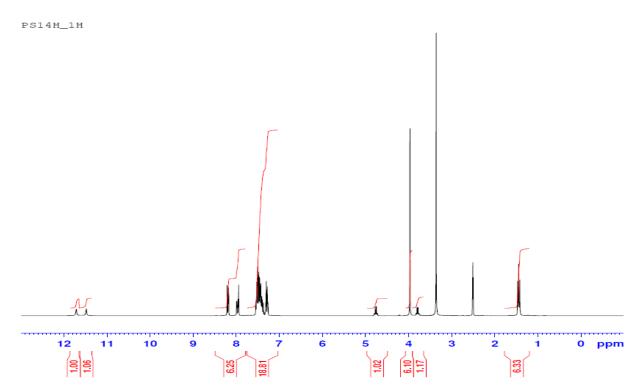


Figure S32: ¹H-NMR spectrum of the compound 3l

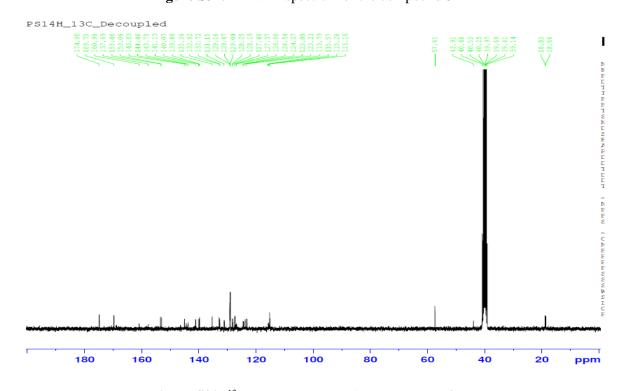


Figure S33: ¹³C-NMR spectrum of the compound 31

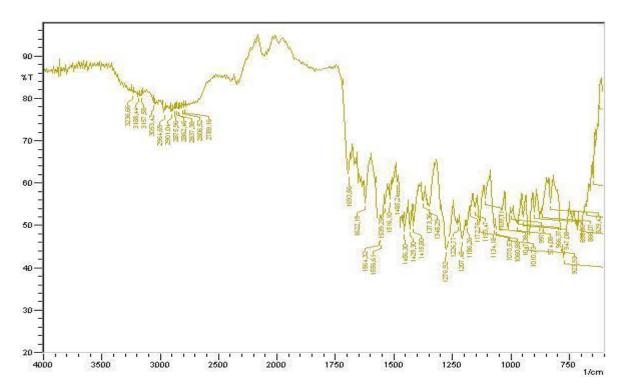


Figure S34: IR spectrum of the compound 3m

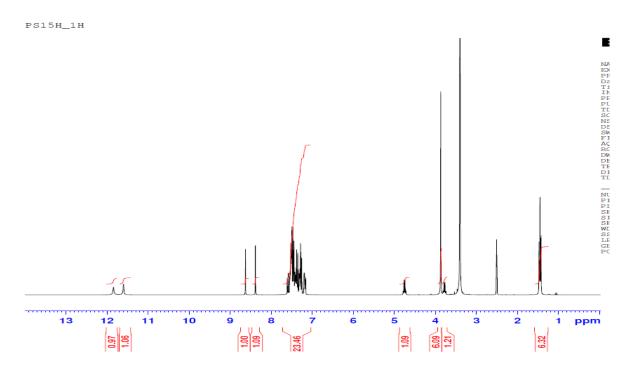


Figure S35: ¹H-NMR spectrum of the compound 3m

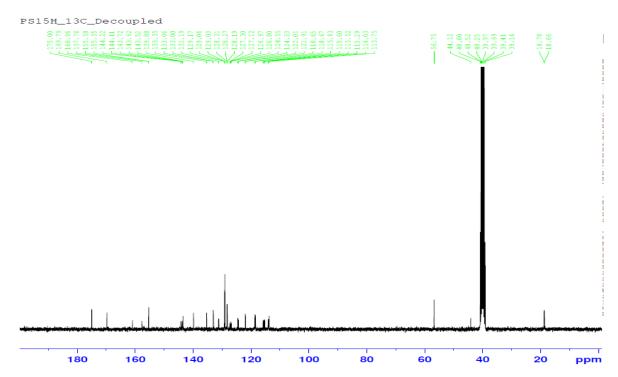


Figure S36: ¹³C-NMR spectrum of the compound 3m

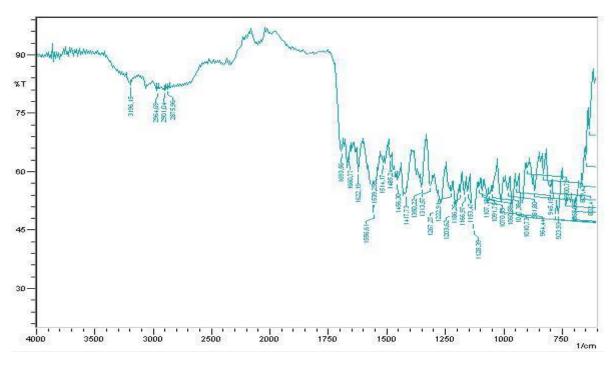


Figure S37: IR spectrum of the compound 3n

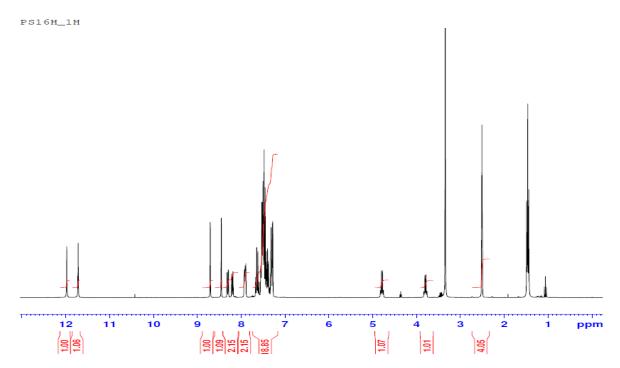


Figure S38: ¹H-NMR spectrum of the compound 3n

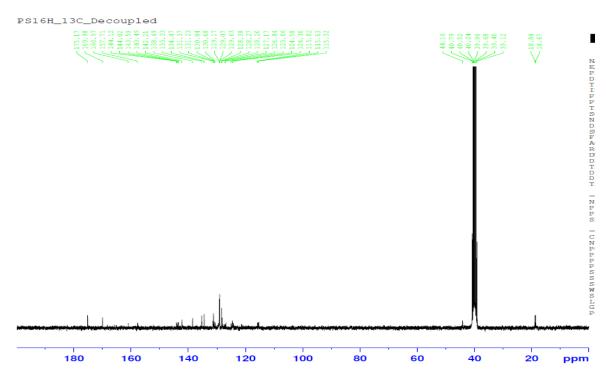


Figure S39: ¹³C-NMR spectrum of the compound **3n**

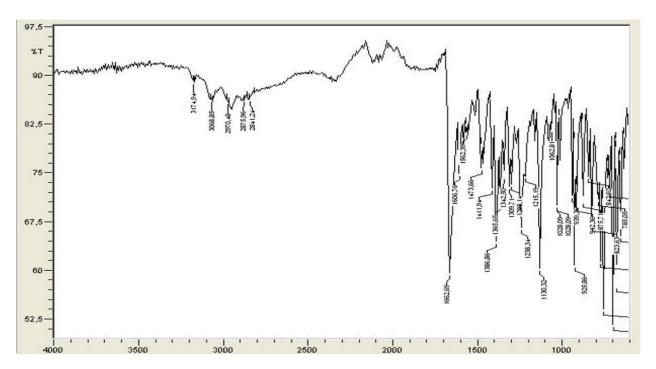


Figure S40: IR spectrum of the compound 30

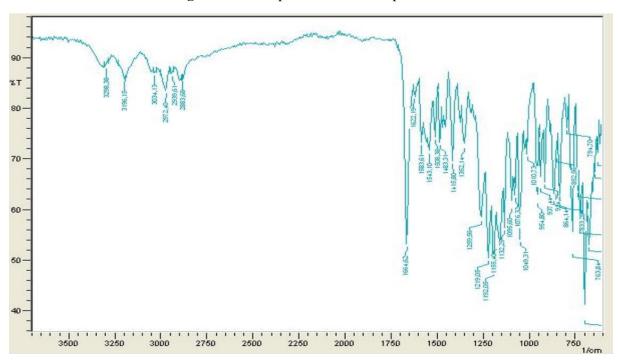


Figure S41: IR spectrum of the compound 3p

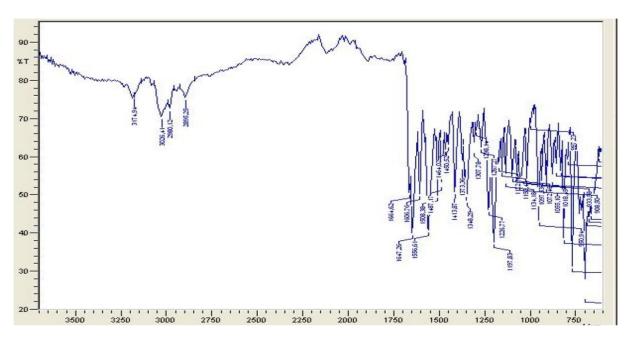


Figure S42: IR spectrum of the compound 3r

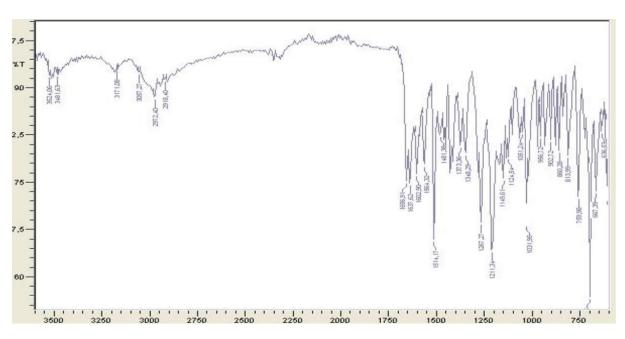


Figure S43: IR spectrum of the compound 3s

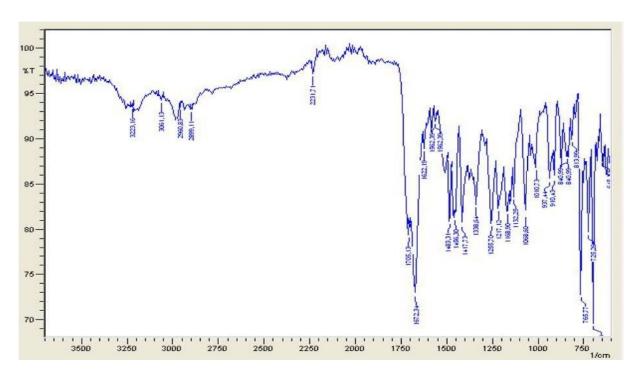


Figure S44: IR spectrum of the compound 4a

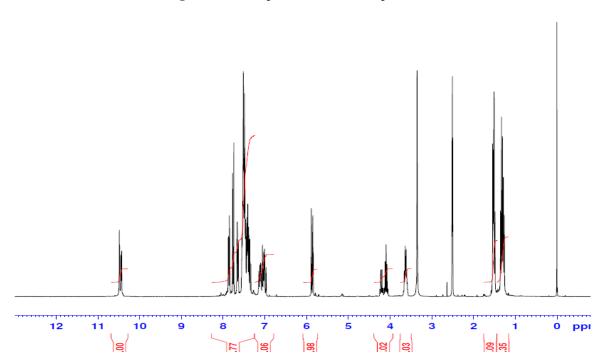


Figure S45: ¹H-NMR spectrum of the compound 4a

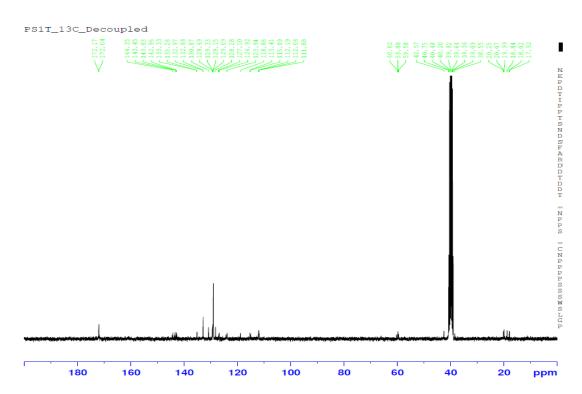


Figure S46: ¹³C-NMR spectrum of the compound 4a

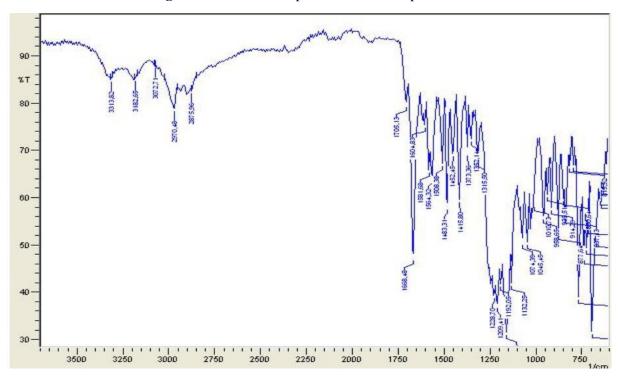


Figure S47: IR spectrum of the compound 4b

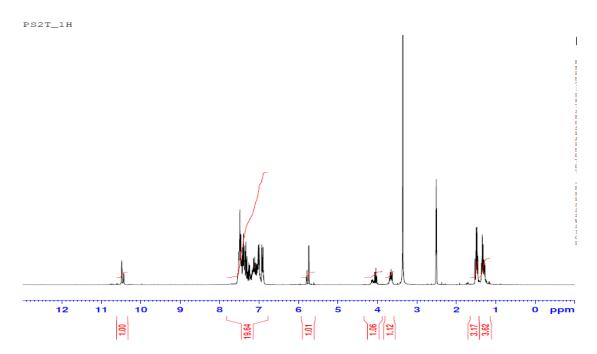


Figure S48: 1H-NMR spectrum of the compound 4b

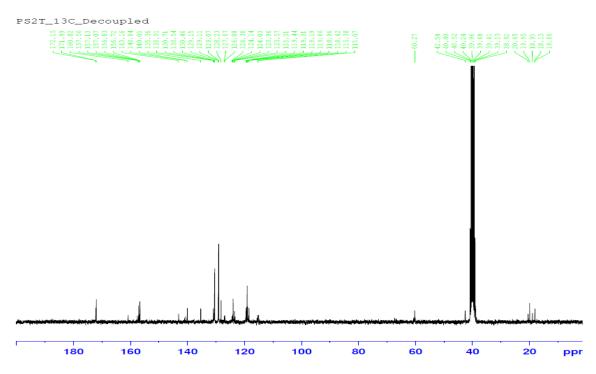


Figure S49:¹³C-NMR spectrum of the compound 4b

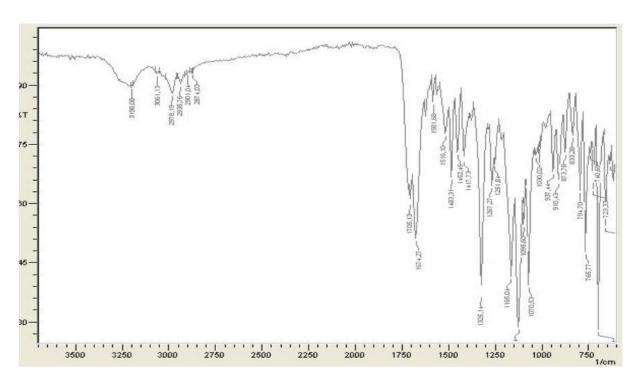


Figure S50: IR spectrum of the compound 4c

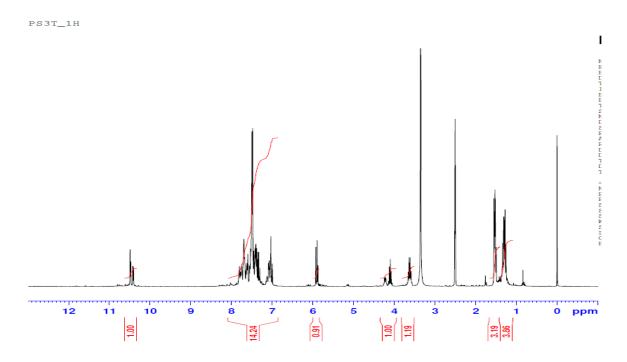


Figure S51: ¹H-NMR spectrum of the compound 4c

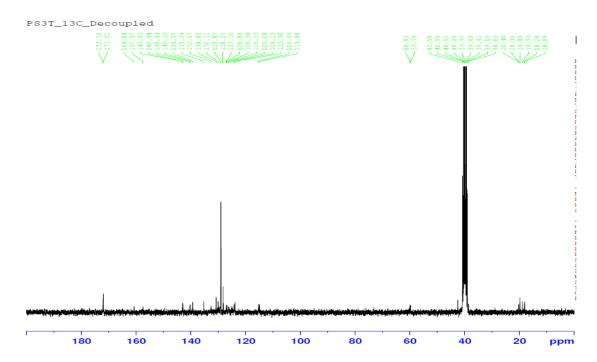


Figure S52: ¹³C-NMR spectrum of the compound 4c

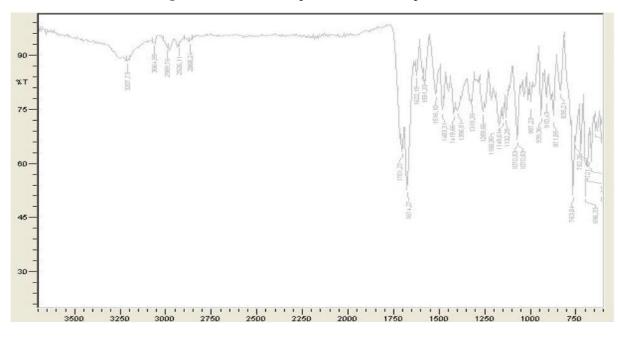


Figure S53: IR spectrum of the compound 4d

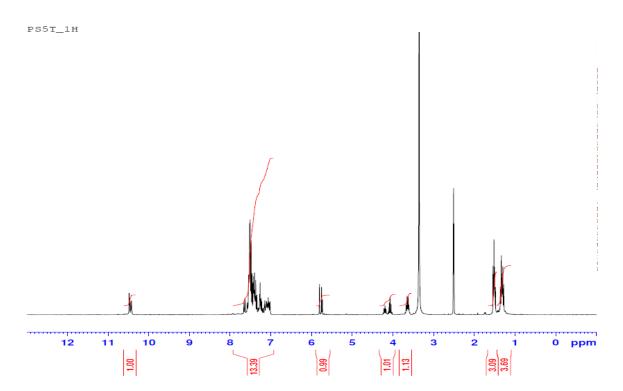


Figure S54: ¹H-NMR spectrum of the compound 4d

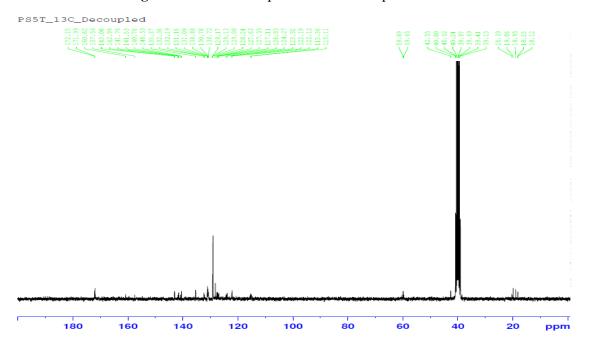


Figure S55: ¹³C-NMR spectrum of the compound 4d

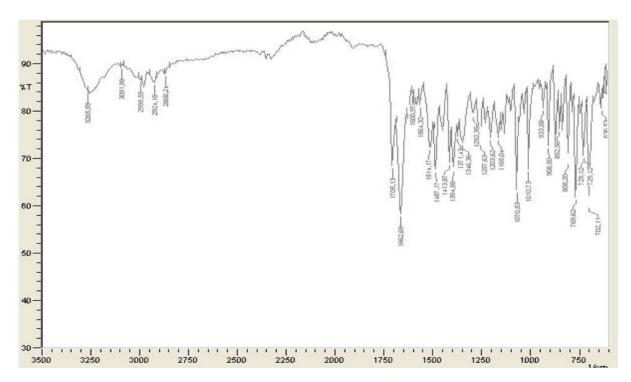


Figure S56: IR spectrum of the compound 4e

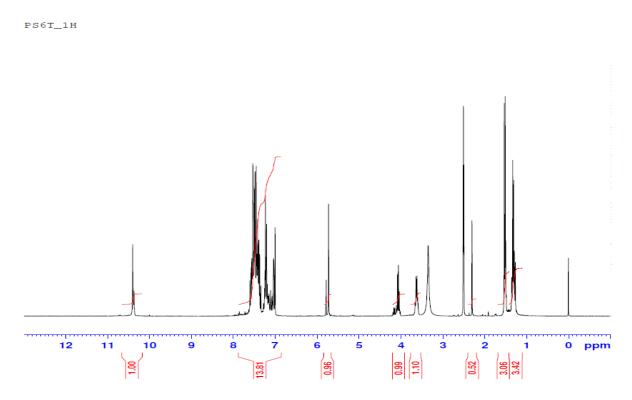


Figure S57: ¹H-NMR spectrum of the compound 4e

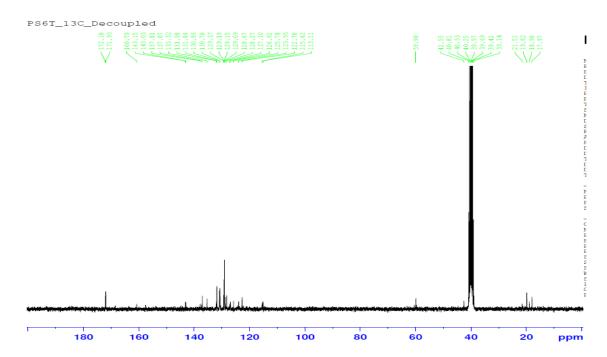


Figure S58: ¹³C-NMR spectrum of the compound 4e

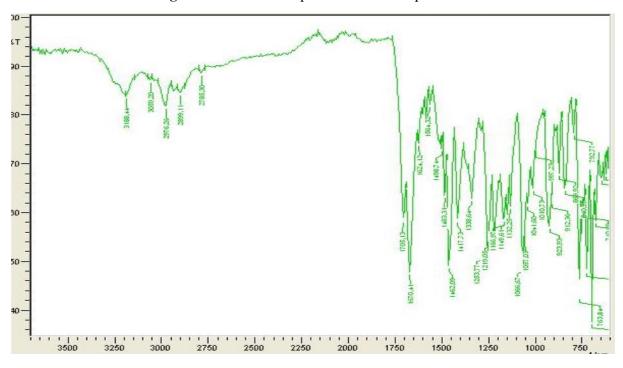


Figure S59: IR spectrum of the compound 4f

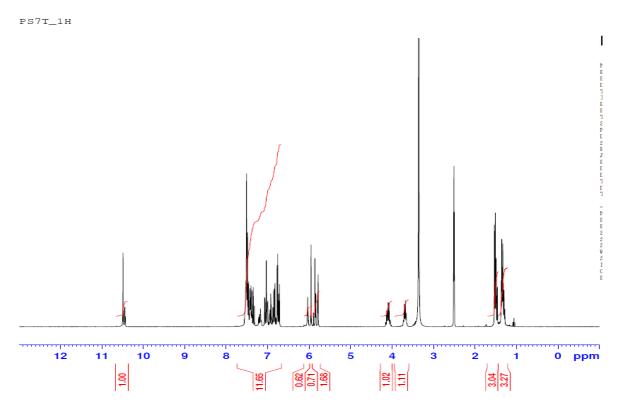


Figure S60: $^{1}\text{H-NMR}$ spectrum of the compound 4f

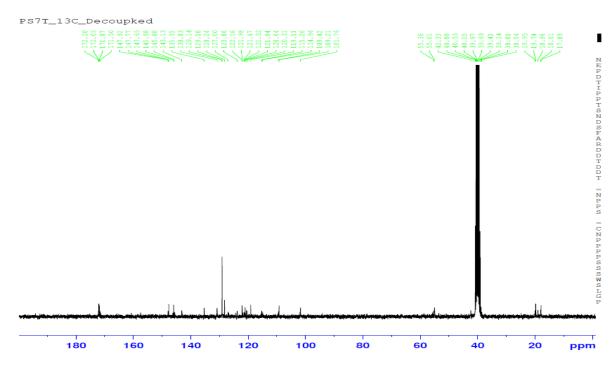


Figure S61: ¹³C-NMR spectrum of the compound 4f

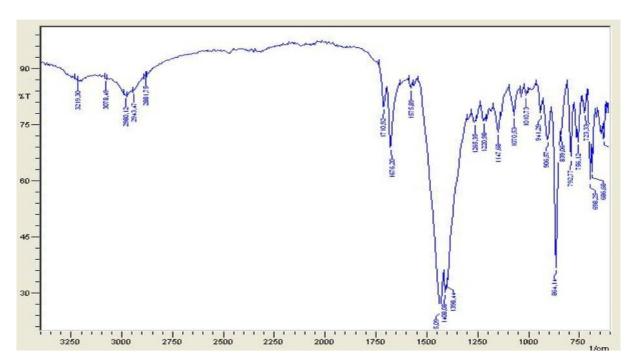


Figure S62: IR spectrum of the compound 4g

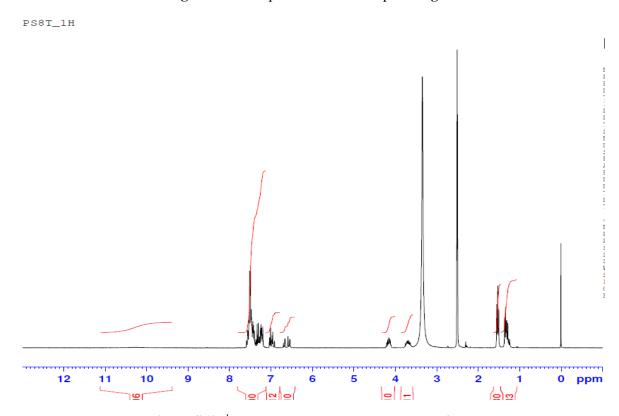


Figure S63: ¹H-NMR spectrum of the compound 4g

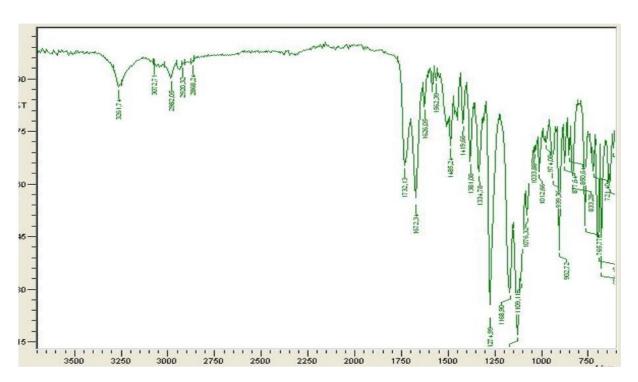


Figure S64: IR spectrum of the compound 4h

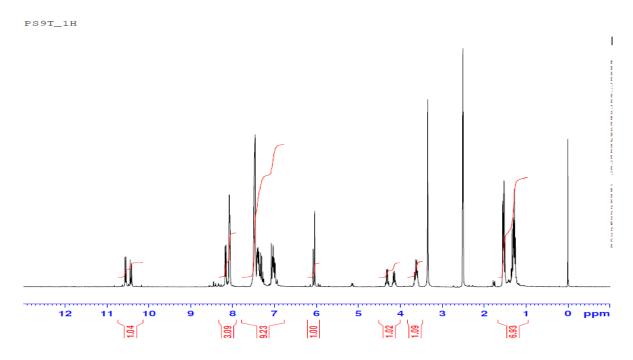


Figure S65: ¹H-NMR spectrum of the compound 4h

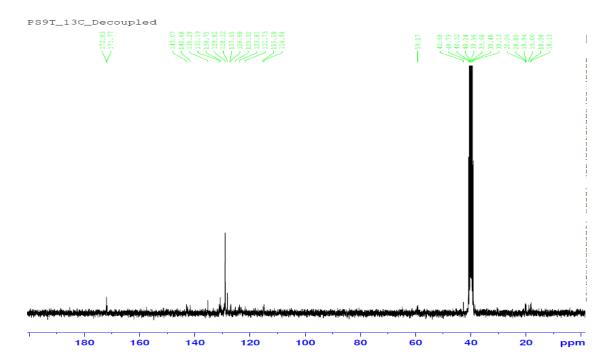


Figure S66: ¹³C-NMR spectrum of the compound 4h

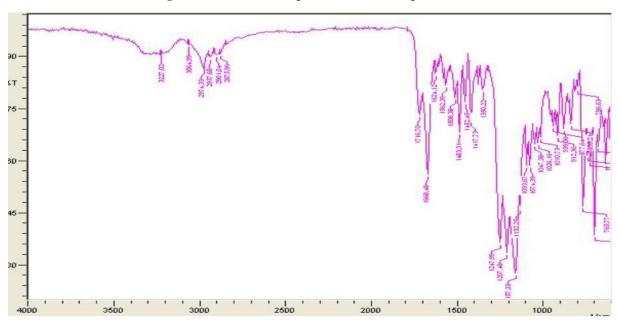


Figure S67: IR spectrum of the compound 4i

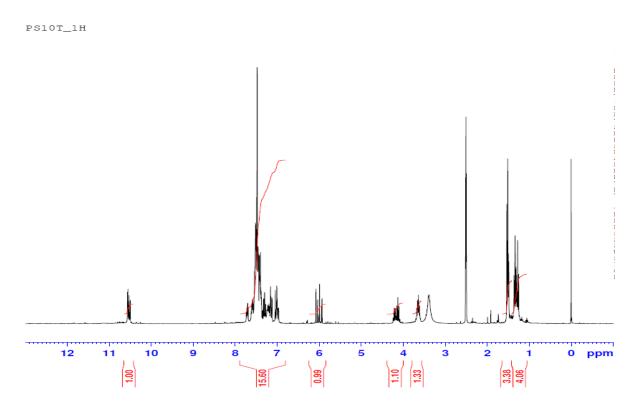


Figure S68: ¹H-NMR spectrum of the compound 4i

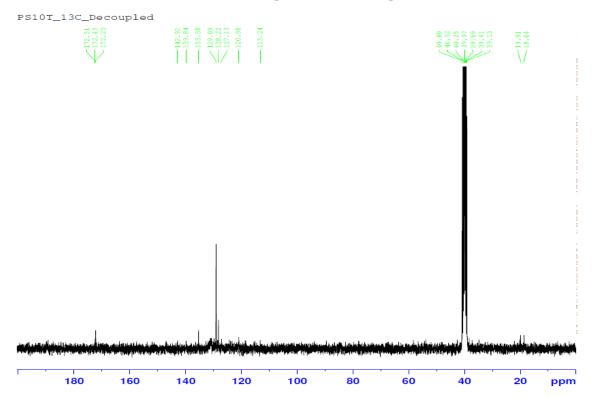


Figure S69: ¹³C-NMR spectrum of the compound 4i

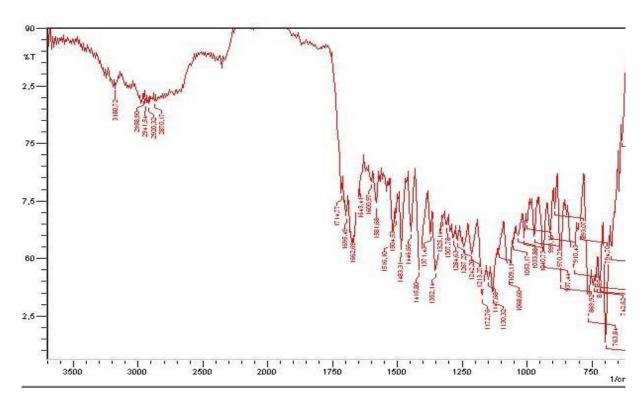


Figure S70: IR spectrum of the compound 4j

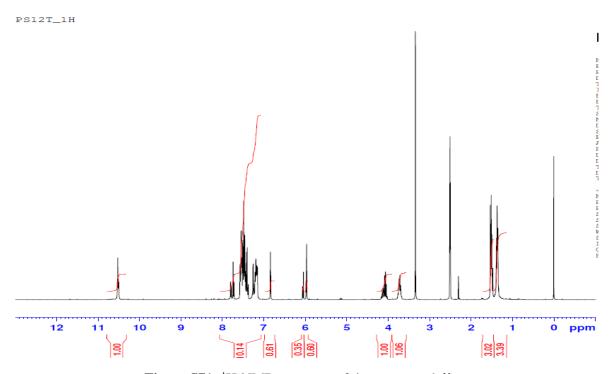


Figure S71: ¹H-NMR spectrum of the compound 4j

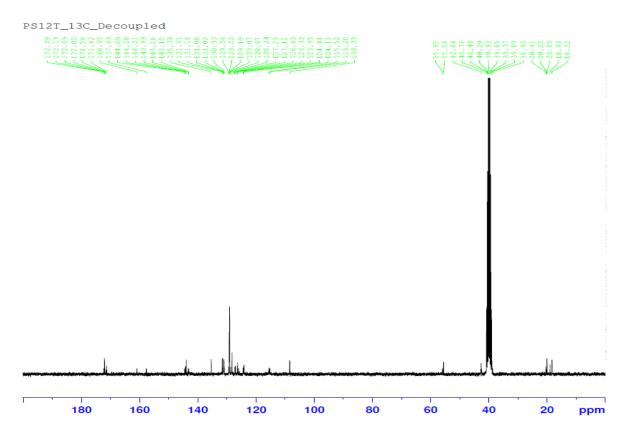


Figure S72: ¹³C-NMR spectrum of the compound 4j

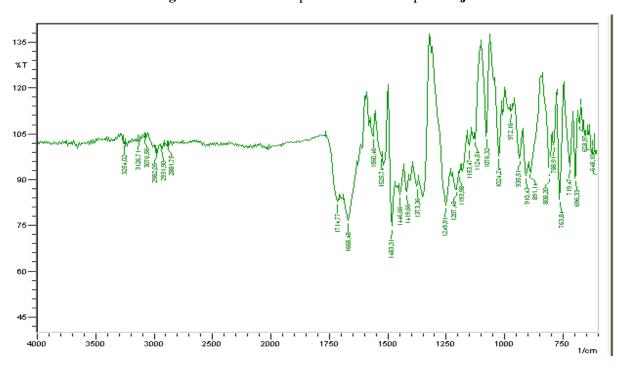


Figure S73: IR spectrum of the compound 4k

© 2023 ACG Publications. All rights reserved.

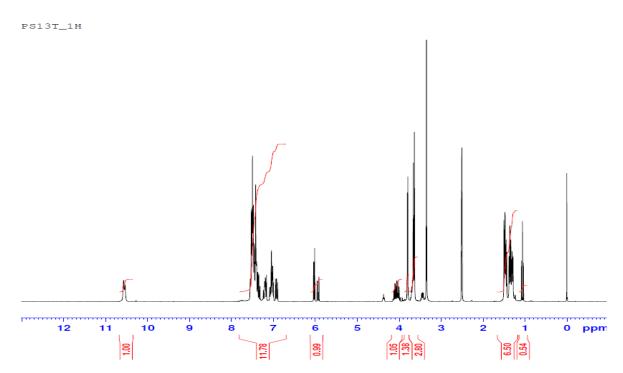


Figure S74: $^1\text{H-NMR}$ spectrum of the compound 4k

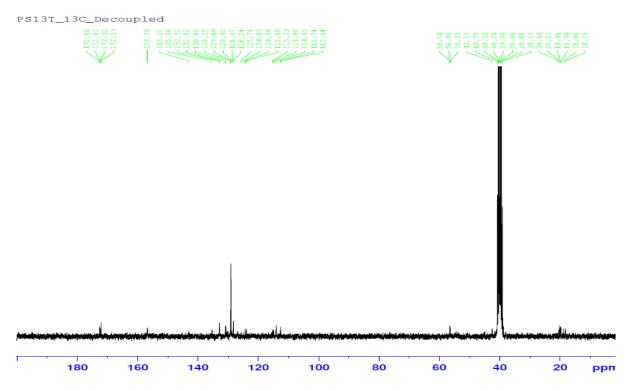


Figure S75: ¹³C-NMR spectrum of the compound 4k

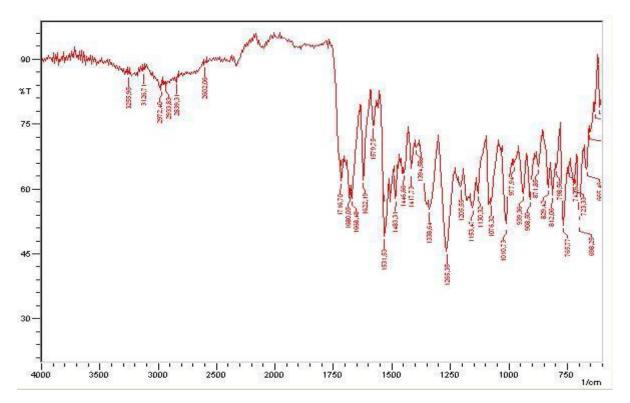


Figure S76: IR spectrum of the compound 4l

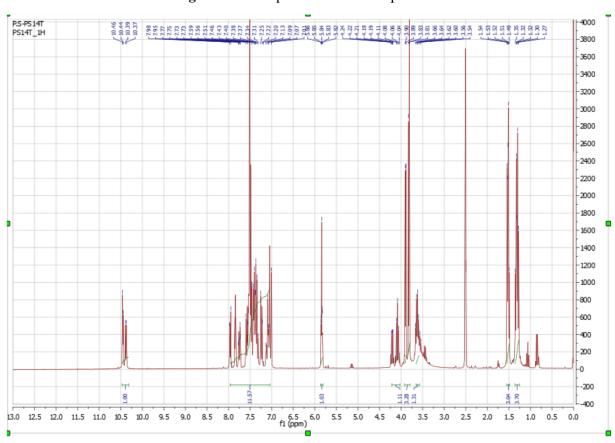


Figure S77: ¹H-NMR spectrum of the compound **41** © 2023 ACG Publications. All rights reserved.

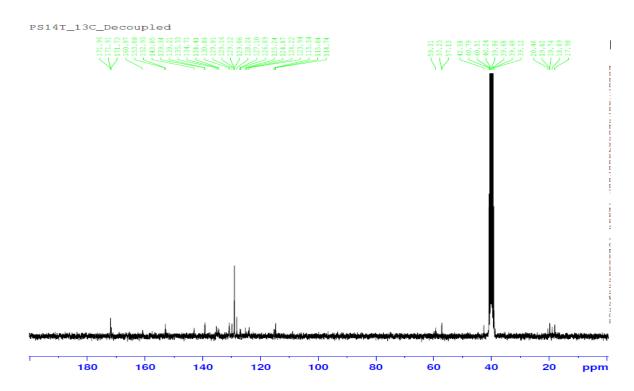


Figure S78: ¹³C-NMR spectrum of the compound 4l

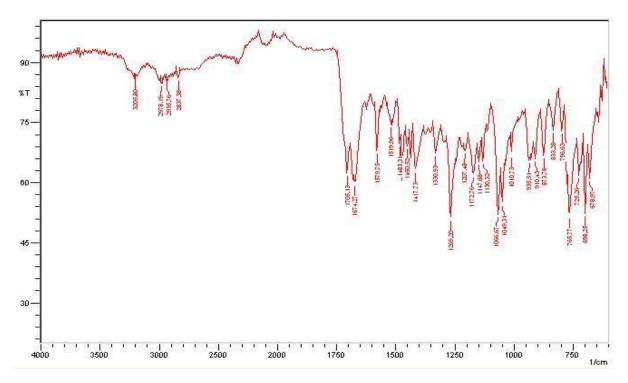


Figure S79: IR spectrum of the compound 4m

 $\ @$ 2023 ACG Publications. All rights reserved.

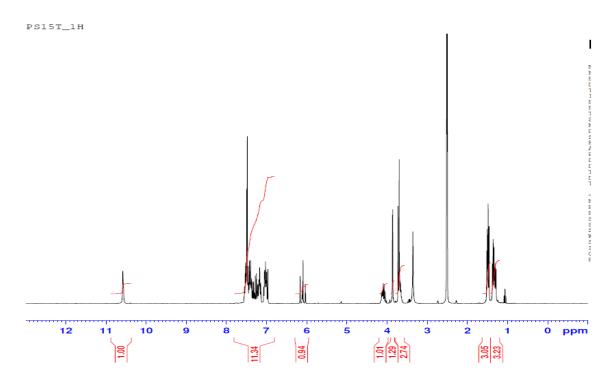


Figure S80: ¹H-NMR spectrum of the compound 4m

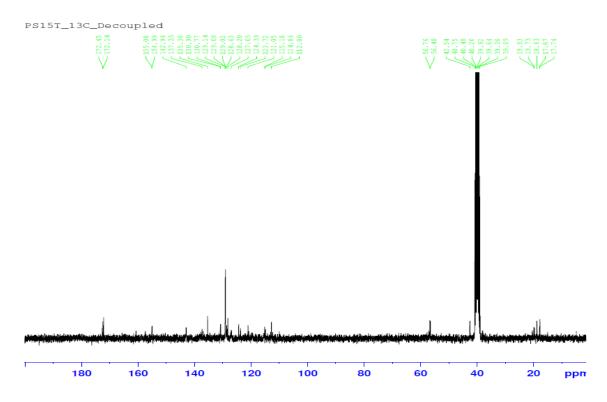


Figure S81: ¹³C-NMR spectrum of the compound 4m

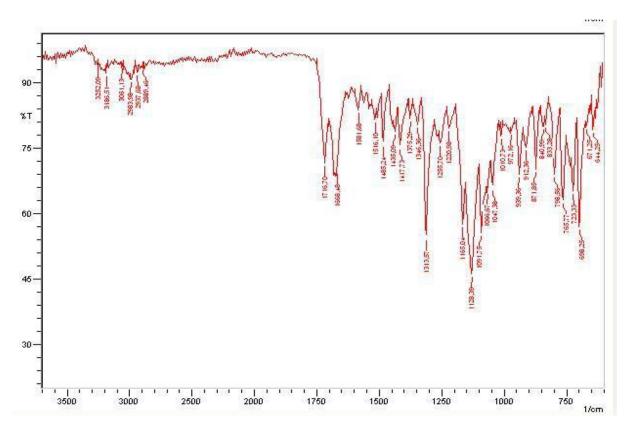


Figure S82: IR spectrum of the compound 4n

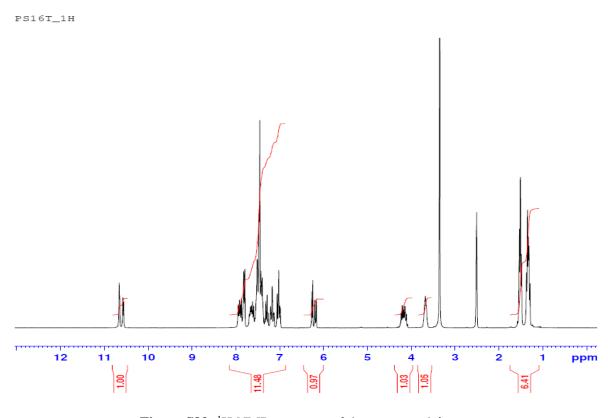


Figure S83: ¹H-NMR spectrum of the compound 4n

 $\ @$ 2023 ACG Publications. All rights reserved.

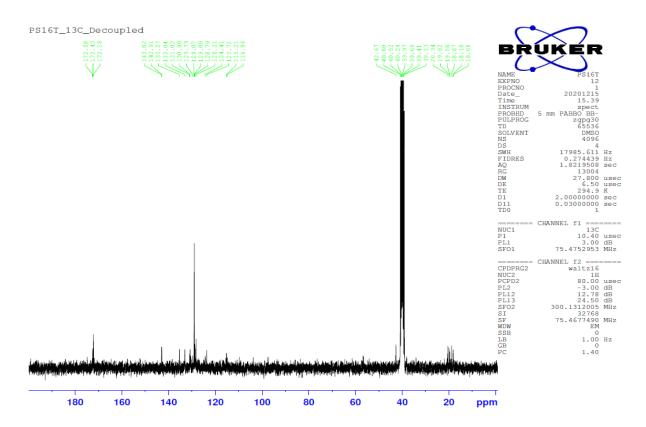


Figure S84: ¹³C-NMR spectrum of the compound 4n

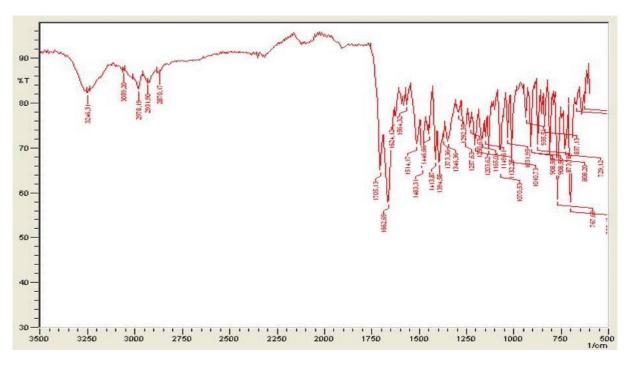


Figure S85: IR spectrum of the compound 40

© 2023 ACG Publications. All rights reserved.

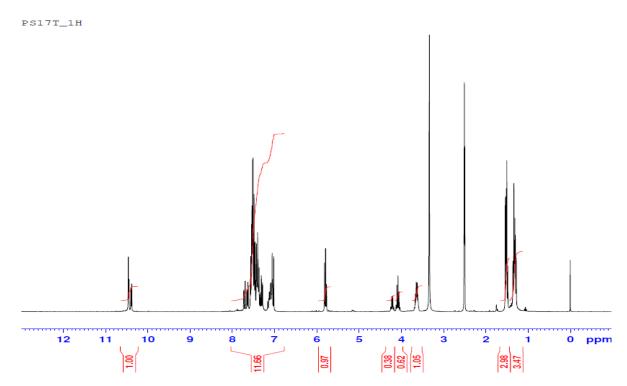


Figure S86: ¹H-NMR spectrum of the compound 40

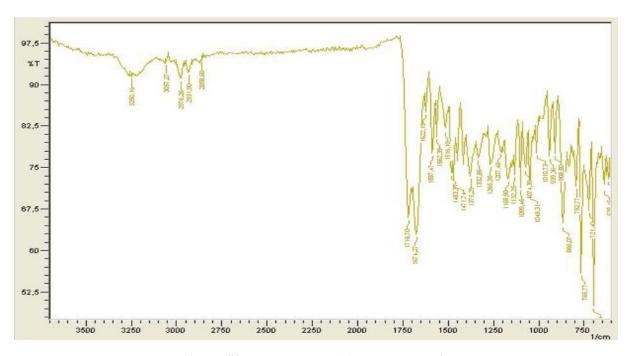


Figure S87: IR spectrum of the compound 4p

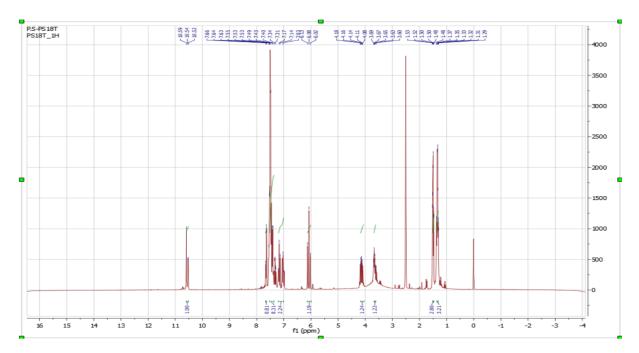


Figure S88: ¹H-NMR spectrum of the compound 4p

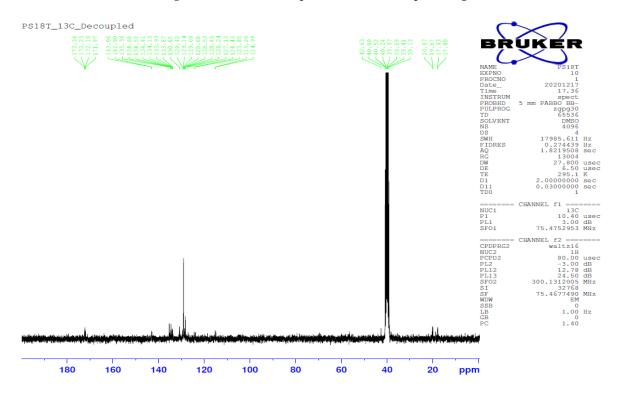


Figure S89: ¹³C-NMR spectrum of the compound **4p**

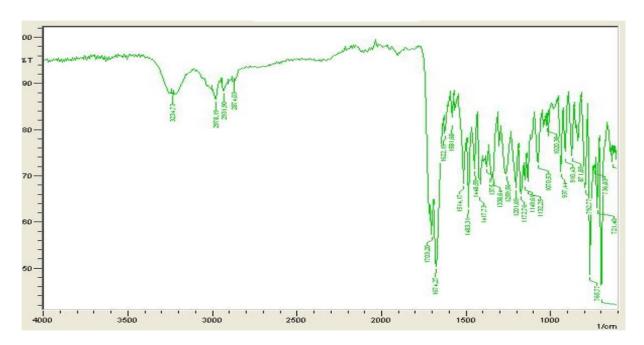


Figure S90: IR spectrum of the compound 4r

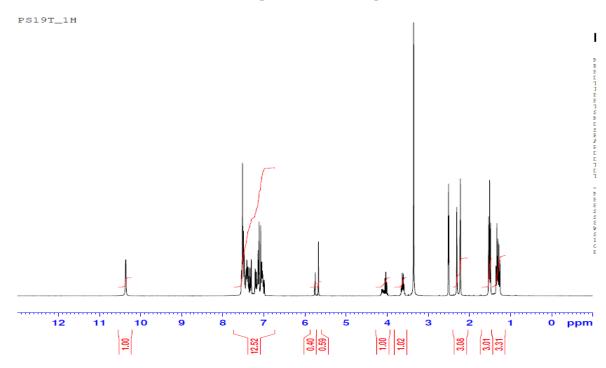


Figure S91: ¹H-NMR spectrum of the compound 4r

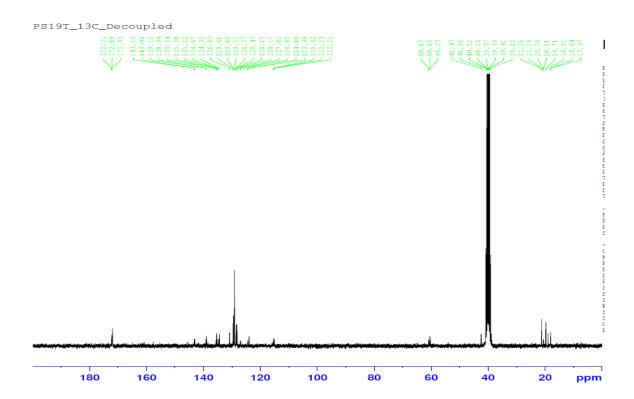


Figure S92: ¹³C-NMR spectrum of the compound **4r**

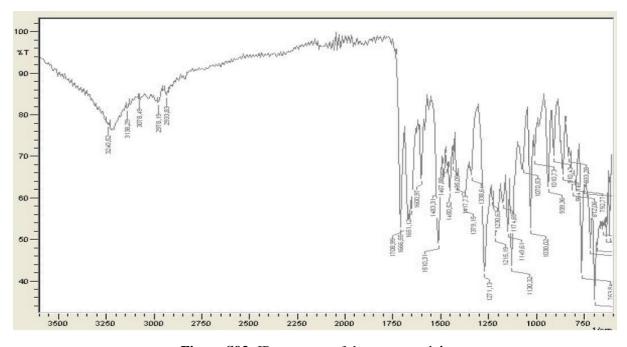


Figure S93: IR spectrum of the compound 4s

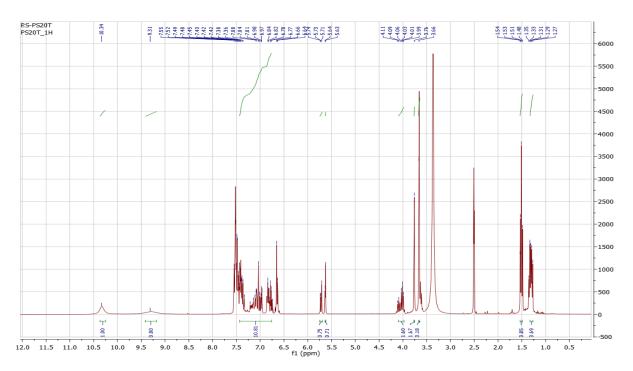


Figure S94: ¹H-NMR spectrum of the compound 4s

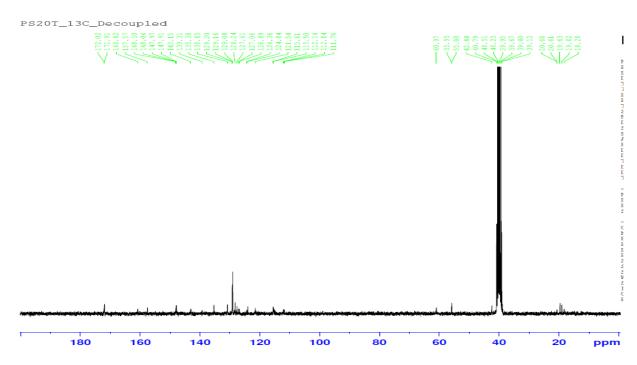


Figure S95: ¹³C-NMR spectrum of the compound 4s