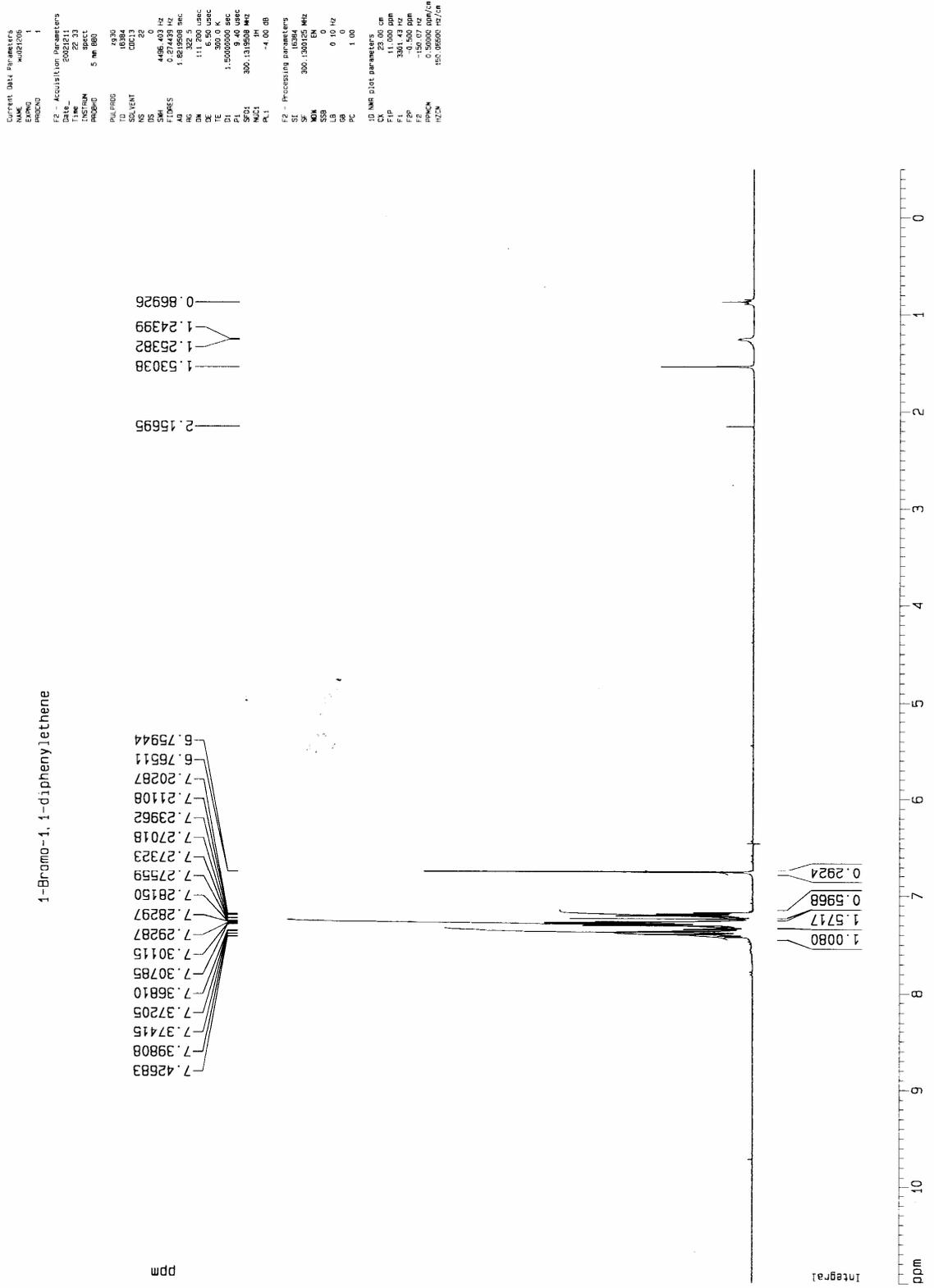


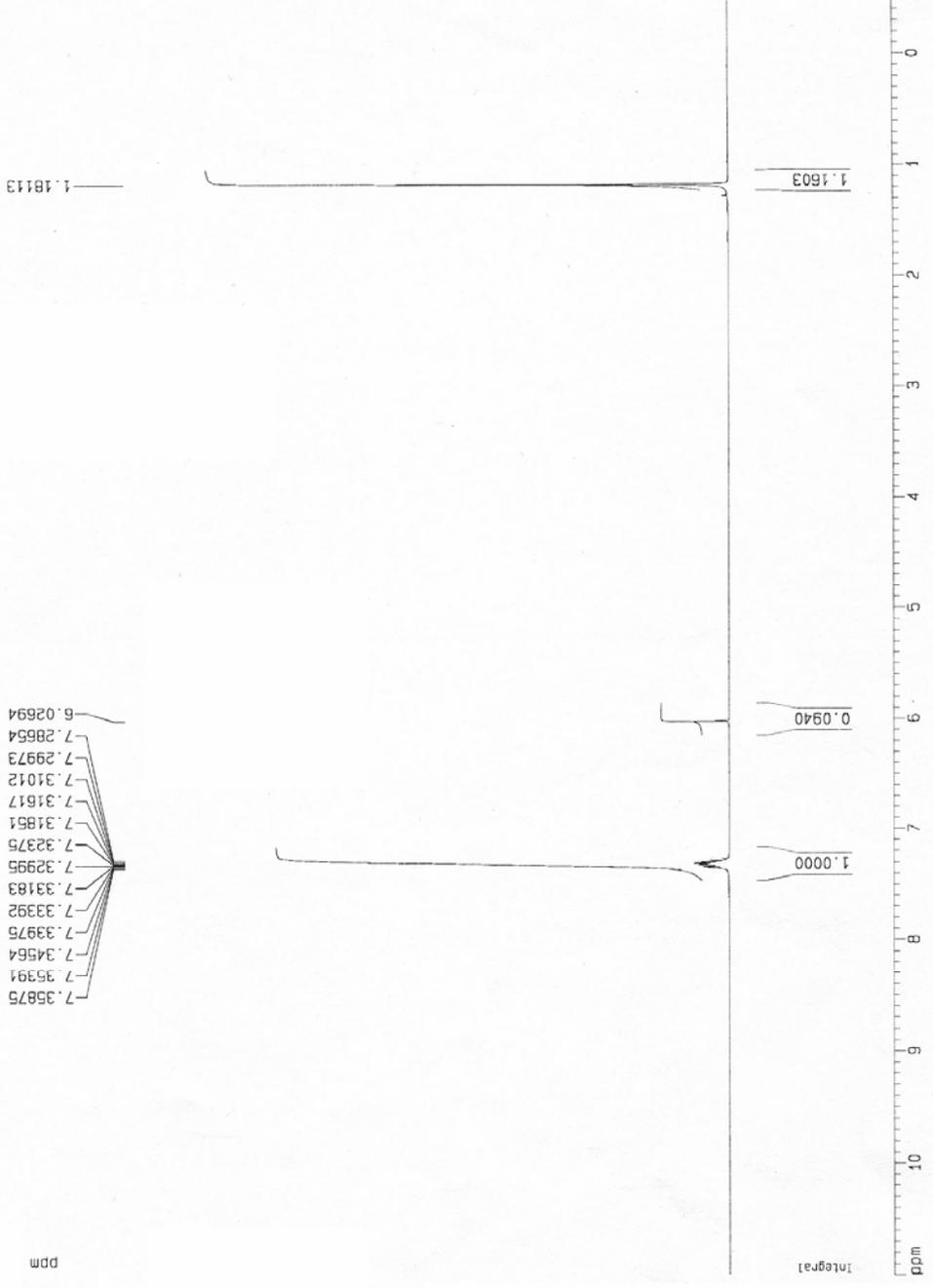
附圖



附圖 1 化合物 3-1 之 ¹H-NMR 光譜

Current Date: 2016/07/27
 Name: 20160727
 INSTRUM: spect
 PULPROG: zgpg30
 TD: 65536
 SFO: 500.1362600
 AQ: 1.00000000
 RG: 1024
 DQ: 0.00000000
 F2 - Acquisition Parameters
 Date_ : 20160727
 Time : 09:51:11
 INSTRUM : spect
 PULPROG : zgpg30
 TD : 65536
 SFO : 500.1362600
 AQ : 1.00000000
 RG : 1024
 DQ : 0.00000000
 F2 - Processing parameters
 Date_ : 20160727
 Time : 09:51:11
 INSTRUM : spect
 PULPROG : zgpg30
 TD : 65536
 SFO : 500.1362600
 AQ : 1.00000000
 RG : 1024
 DQ : 0.00000000
 F2 - NMR file parameters
 Date_ : 20160727
 Time : 09:51:11
 INSTRUM : spect
 PULPROG : zgpg30
 TD : 65536
 SFO : 500.1362600
 AQ : 1.00000000
 RG : 1024
 DQ : 0.00000000

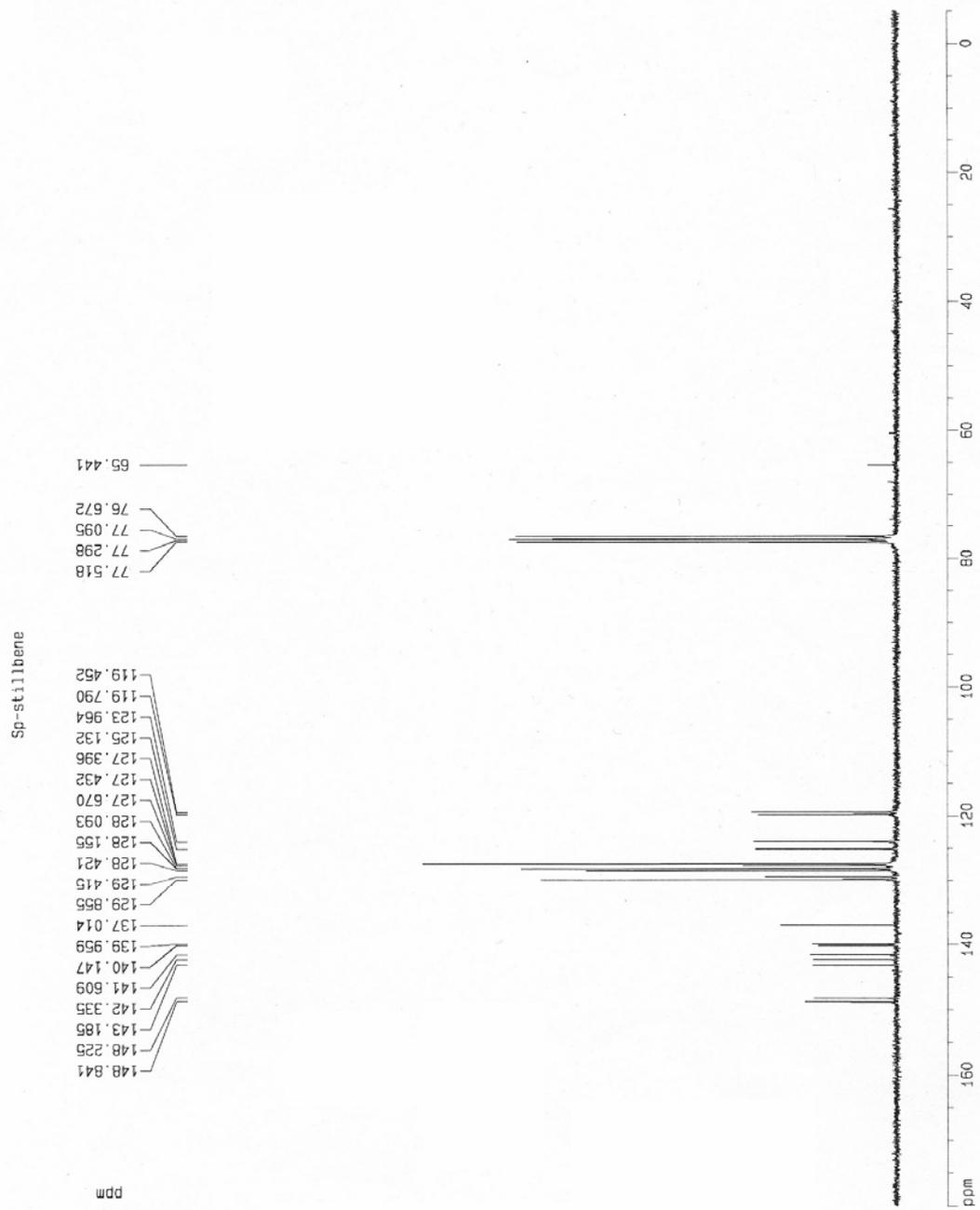
1, 1-diphenyl-2-bromoethene



附圖 2 化合物 3-2 之 ¹H-NMR 光譜

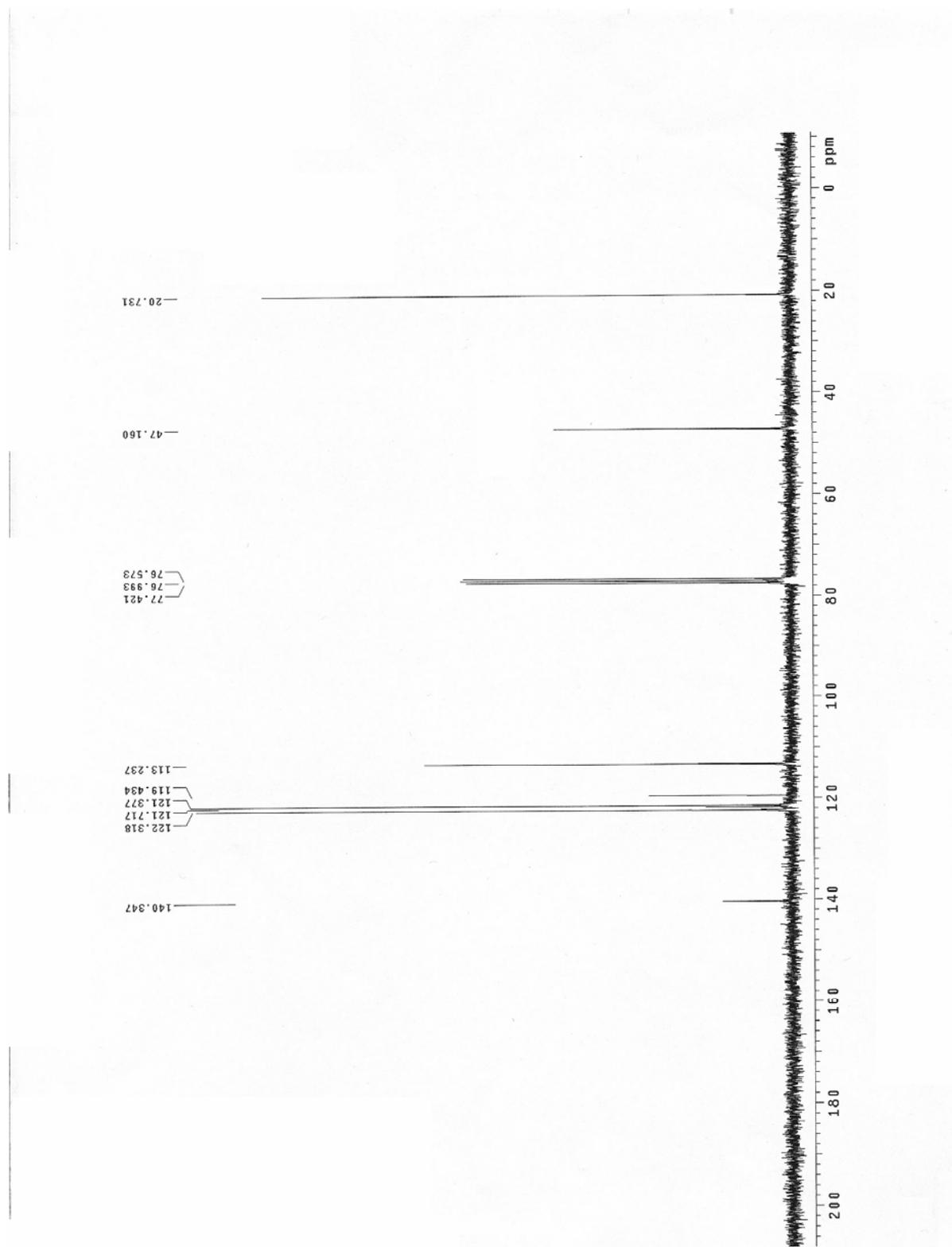
Current Data Parameters
 Name: 20022248
 EXPNO: 2
 PROCNO: 1

F2 - Acquisition Parameters
 Date_: 20022248
 Time: 8:55
 INSTRUM: spect
 PROBR1: 5 mm BBO
 PULPROG: zgpg30
 TD: 65536
 SOLVENT: CDCl3
 NS: 724
 DS: 4
 SWH: 20385.263 Hz
 AQ: 0.331338 Hz
 RG: 1.174888 Hz
 FWHM: 4.877.5 Hz
 DM: 24.630 MHz
 SFO: 101.626 MHz
 TE: 300.2 K
 DE: 6.0000000 sec
 AL1: 1.5000000 sec
 AL2: 1.5000000 sec
 AL3: 1.5000000 sec
 OP: zgpg30
 P0: 0.0000000 sec
 P1: 0.0000000 sec
 P2: 0.0000000 sec
 P3: 0.0000000 sec
 P4: 0.0000000 sec
 P5: 0.0000000 sec
 P6: 0.0000000 sec
 P7: 0.0000000 sec
 P8: 0.0000000 sec
 P9: 0.0000000 sec
 P10: 0.0000000 sec
 P11: 0.0000000 sec
 P12: 0.0000000 sec
 P13: 0.0000000 sec
 P14: 0.0000000 sec
 P15: 0.0000000 sec
 P16: 0.0000000 sec
 P17: 0.0000000 sec
 P18: 0.0000000 sec
 P19: 0.0000000 sec
 P20: 0.0000000 sec
 P21: 0.0000000 sec
 P22: 0.0000000 sec
 P23: 0.0000000 sec
 P24: 0.0000000 sec
 P25: 0.0000000 sec
 P26: 0.0000000 sec
 P27: 0.0000000 sec
 P28: 0.0000000 sec
 P29: 0.0000000 sec
 P30: 0.0000000 sec
 P31: 0.0000000 sec
 P32: 0.0000000 sec
 P33: 0.0000000 sec
 P34: 0.0000000 sec
 P35: 0.0000000 sec
 P36: 0.0000000 sec
 P37: 0.0000000 sec
 P38: 0.0000000 sec
 P39: 0.0000000 sec
 P40: 0.0000000 sec
 P41: 0.0000000 sec
 P42: 0.0000000 sec
 P43: 0.0000000 sec
 P44: 0.0000000 sec
 P45: 0.0000000 sec
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 P49: 0.0000000 sec
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 P51: 0.0000000 sec
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 P53: 0.0000000 sec
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 P65: 0.0000000 sec
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 P67: 0.0000000 sec
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 P72: 0.0000000 sec
 P73: 0.0000000 sec
 P74: 0.0000000 sec
 P75: 0.0000000 sec
 P76: 0.0000000 sec
 P77: 0.0000000 sec
 P78: 0.0000000 sec
 P79: 0.0000000 sec
 P80: 0.0000000 sec
 P81: 0.0000000 sec
 P82: 0.0000000 sec
 P83: 0.0000000 sec
 P84: 0.0000000 sec
 P85: 0.0000000 sec
 P86: 0.0000000 sec
 P87: 0.0000000 sec
 P88: 0.0000000 sec
 P89: 0.0000000 sec
 P90: 0.0000000 sec
 P91: 0.0000000 sec
 P92: 0.0000000 sec
 P93: 0.0000000 sec
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 P97: 0.0000000 sec
 P98: 0.0000000 sec
 P99: 0.0000000 sec
 P100: 0.0000000 sec

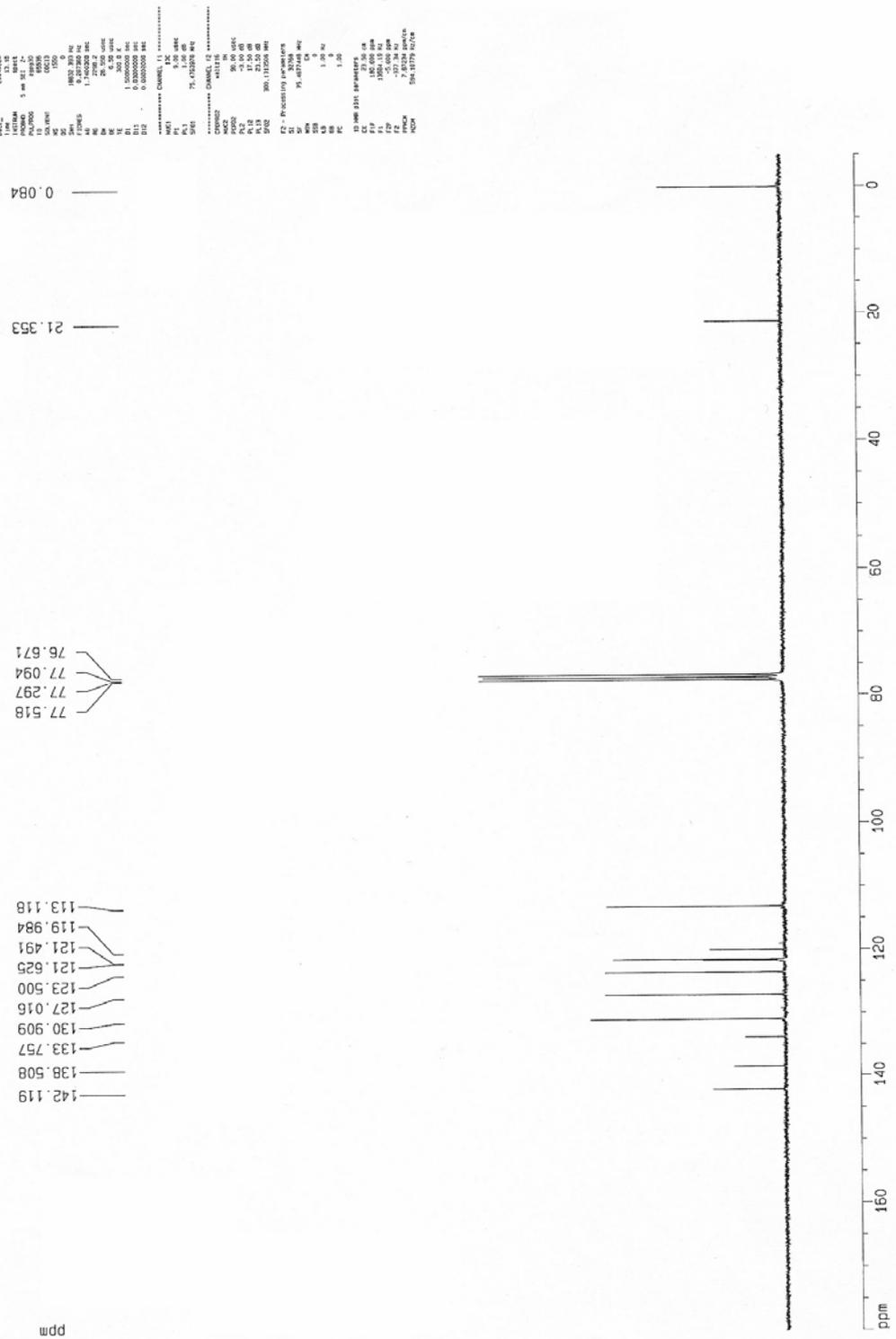


附圖 5 DPVSBF 之 ¹³C-NMR 光譜

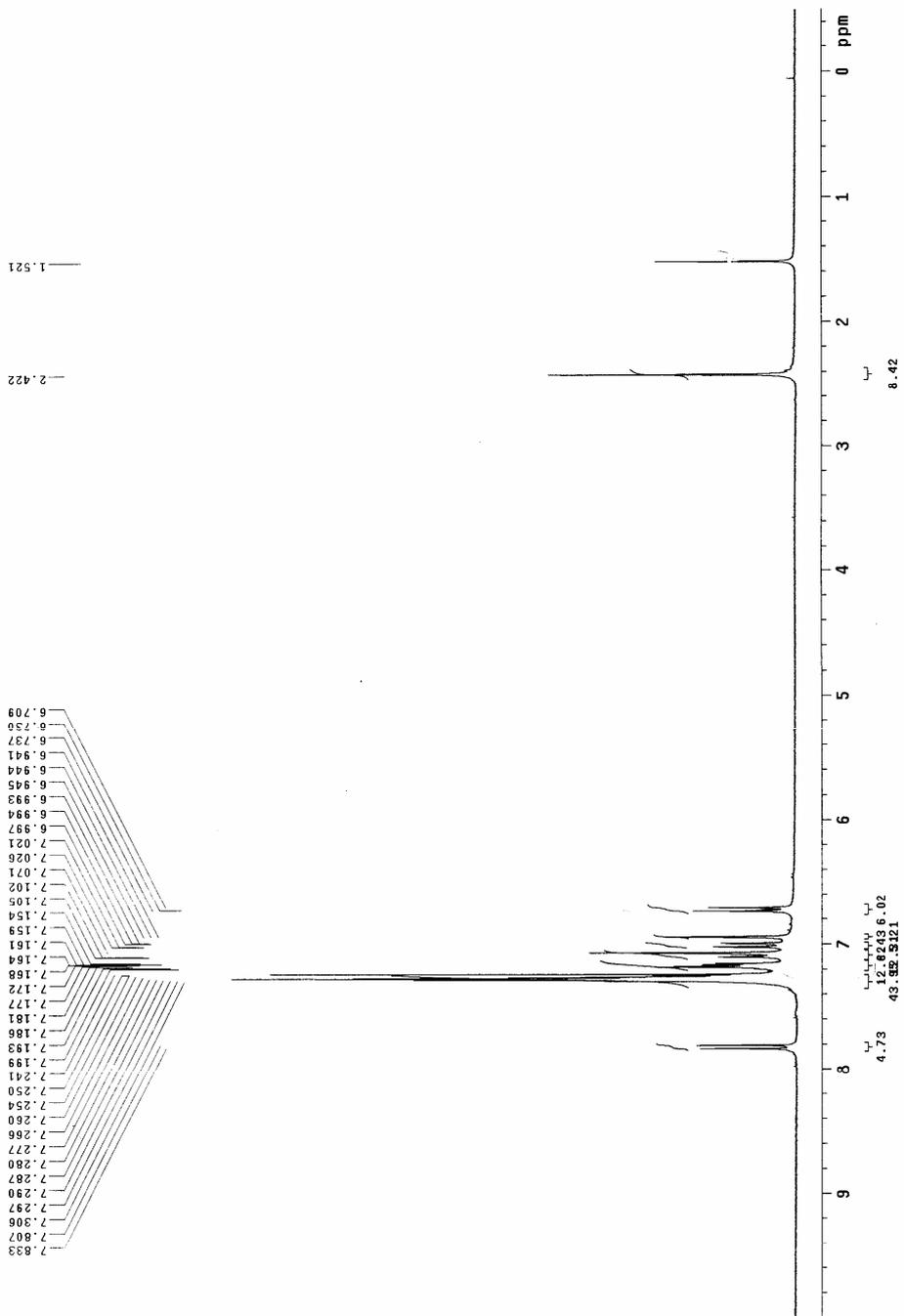
附圖 7 化合物 4-2 之 ^{13}C -NMR 光譜



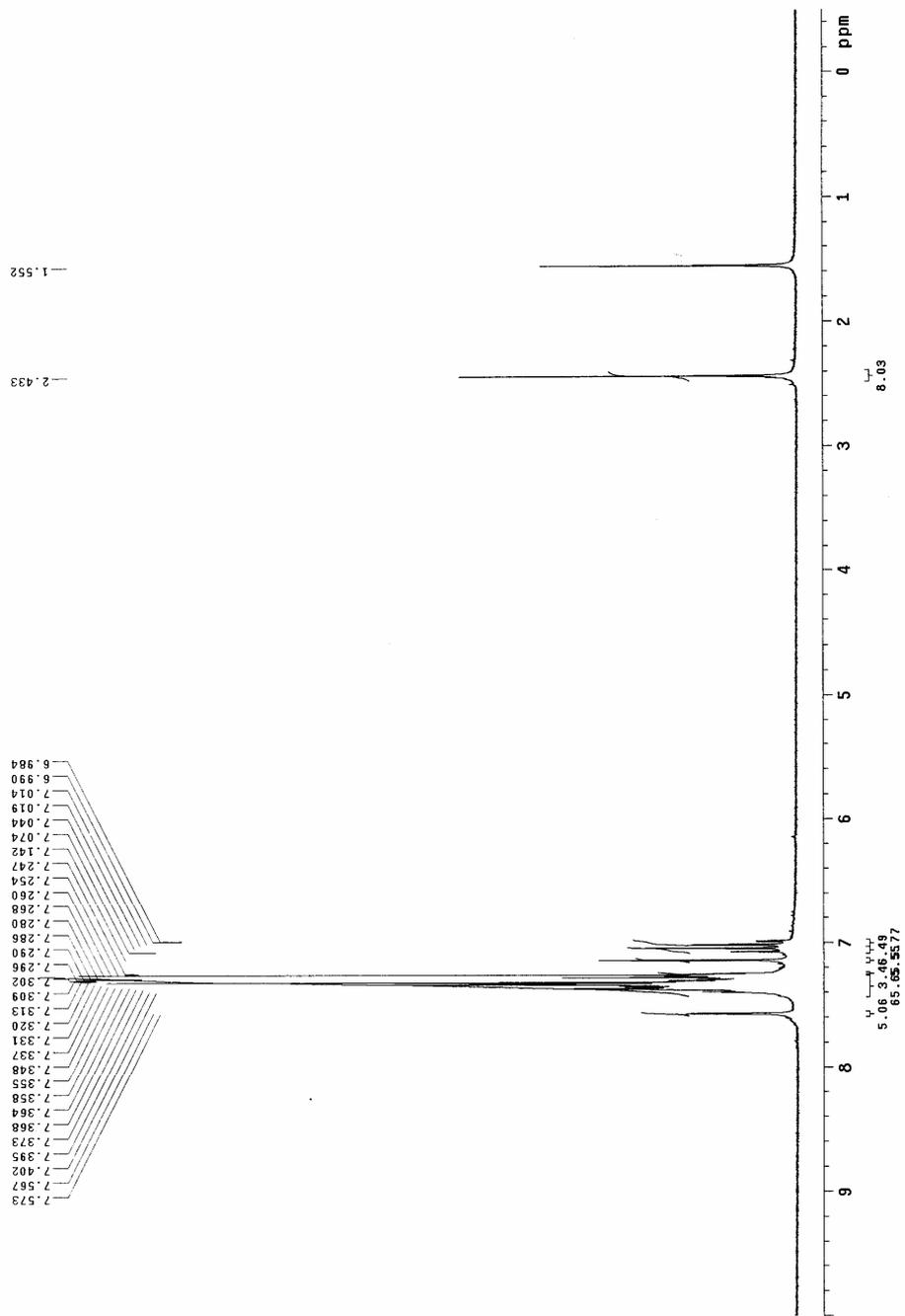
C13 with H decoupled spectrum of sample in solvent at Bruker 5mm BBO 300 NMR, NCTU



附圖 9 化合物 4-3 之 ¹³C-NMR 光譜



附圖 12 DPVTCz 之 $^1\text{H-NMR}$ 光譜



附圖 14 3,6-DPVTCz 之 ¹H-NMR 光譜