

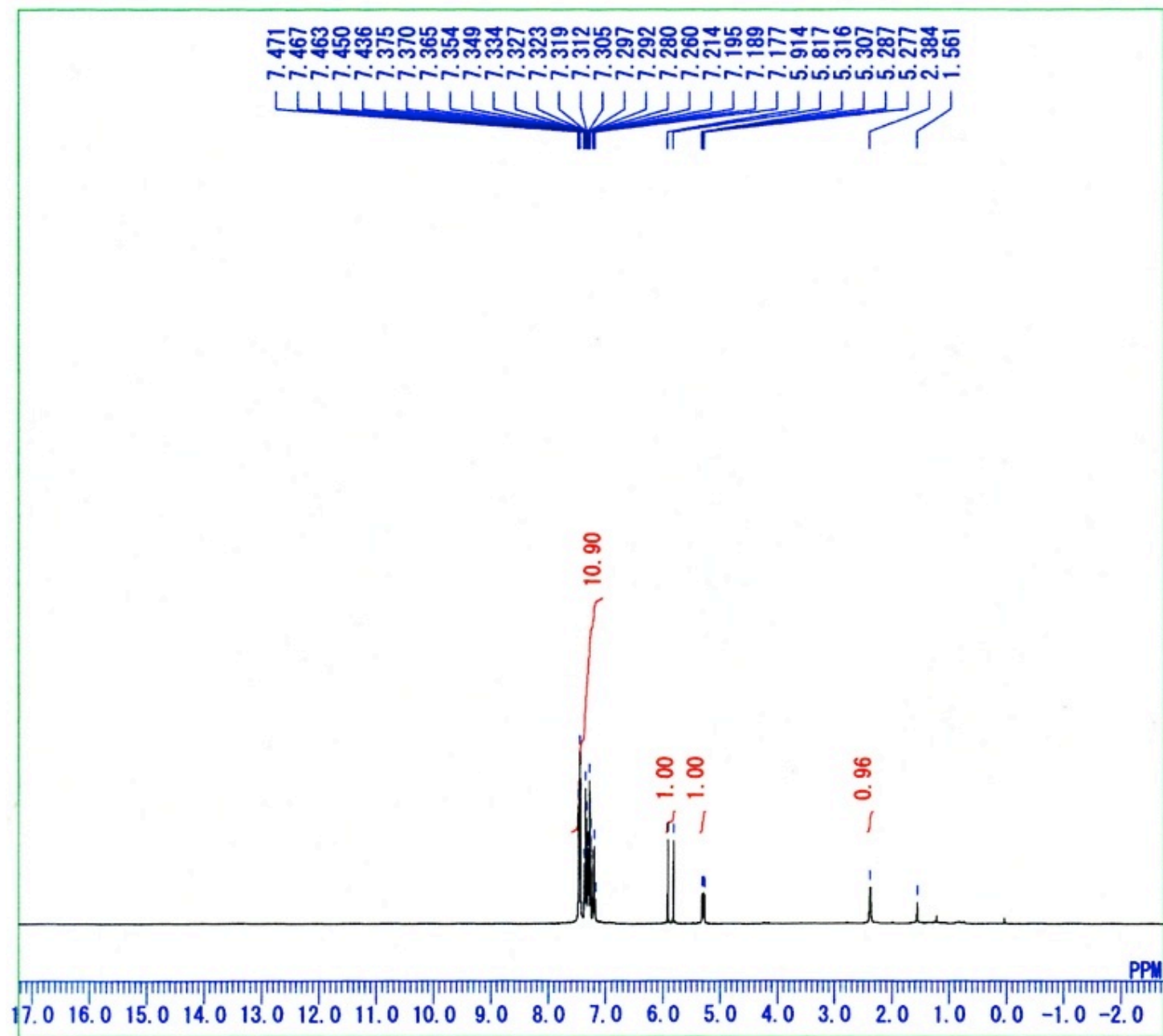
Electronic Supplementary Information (3)

**A Efficient Approach to *gem*-Difluorocyclopropylstannanes *via*
Highly Regio- and Stereoselective Hydrostannation of
gem-Difluorocyclopropenes
and their Unusual Ring-Opening Reaction
to Afford β -Fluoroallylic Alcohols**

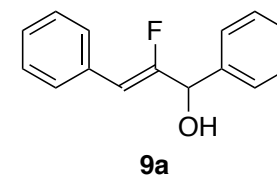
Takashi Nihei, Tomoko Hoshino and Tsutomu Konno*

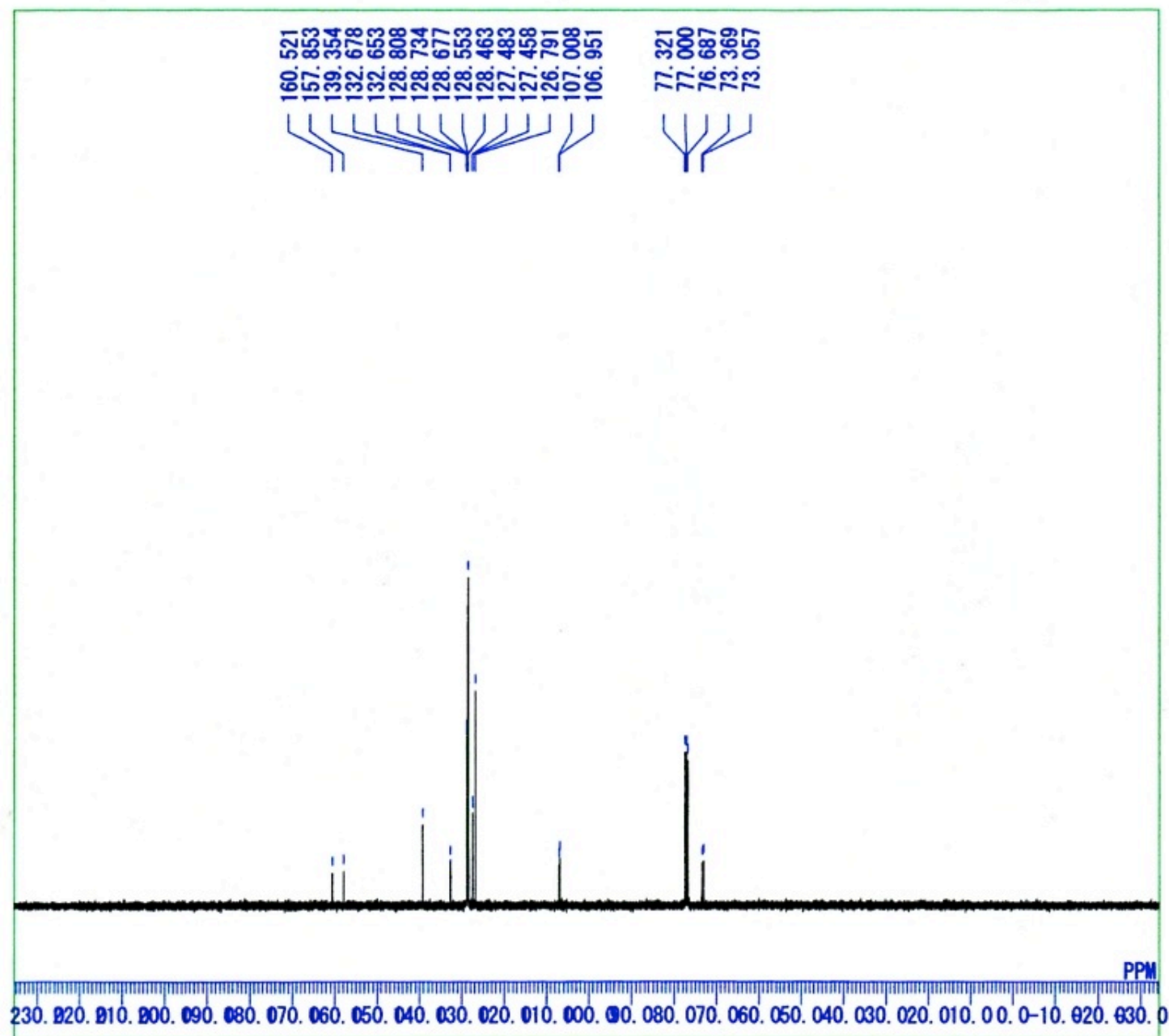
Department of Chemistry and Materials Technology, Kyoto Institute of Technology, Matsugasaki, Sakyo-ku, Kyoto 606-8585, Japan

E-mail: konno@kit.ac.jp, Fax: +81 75-724-7580

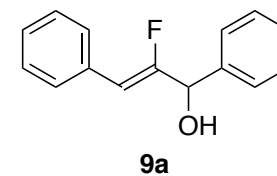


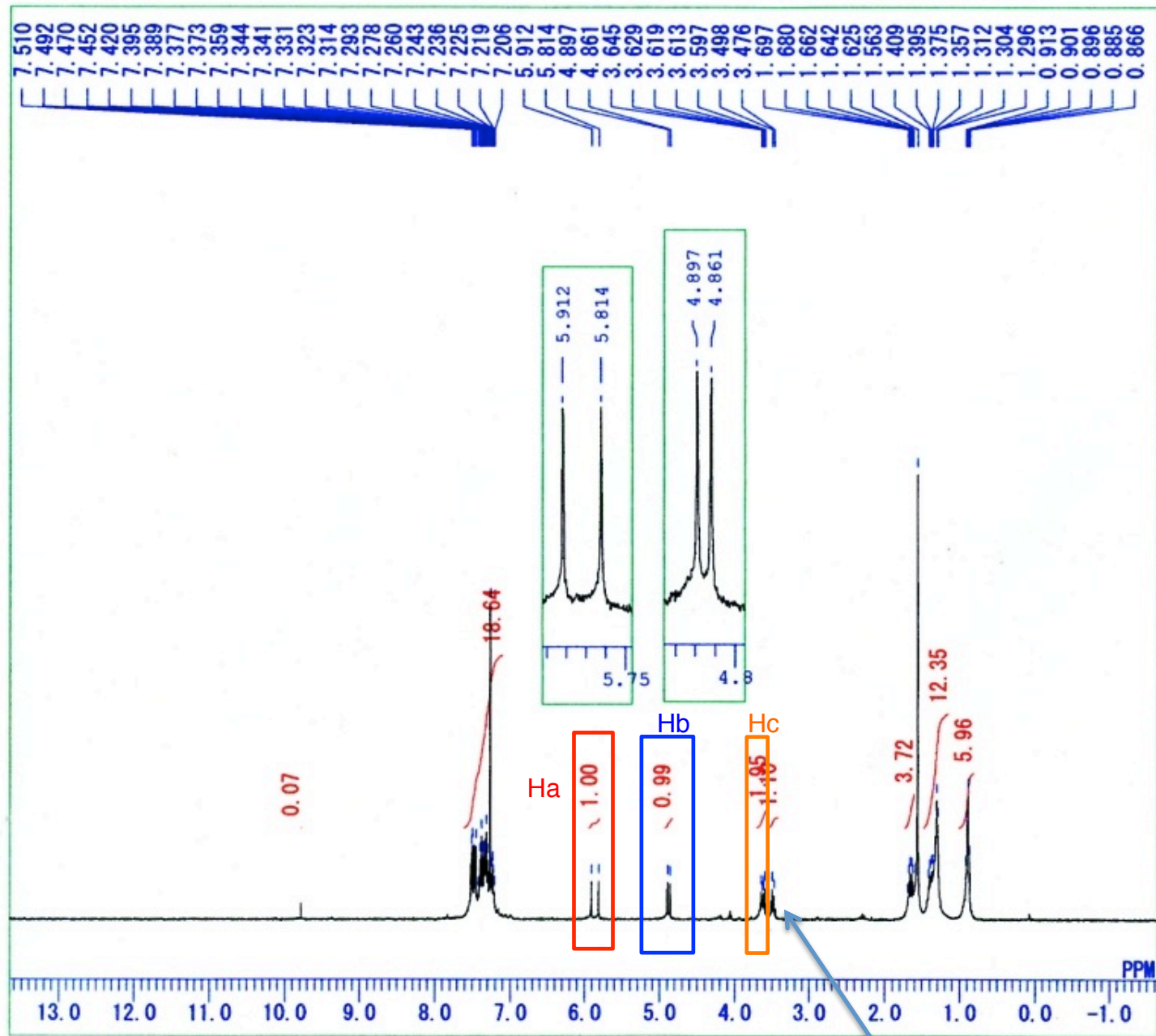
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 EXMOD NON
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 OBSET 135.40 KHz
 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 21.9 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 14



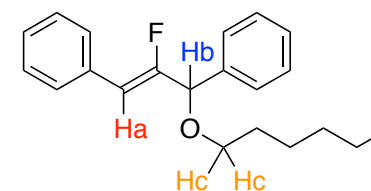


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 OBSET 125.00 KHz
 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 256
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC 1H
 CTEMP 22.4 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGA1N 24





DFILE Rxn. 444 1H. als
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 DATIM Tue Oct 23 10:17:35 2012
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 EXMOD NON
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 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 22.8 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 20

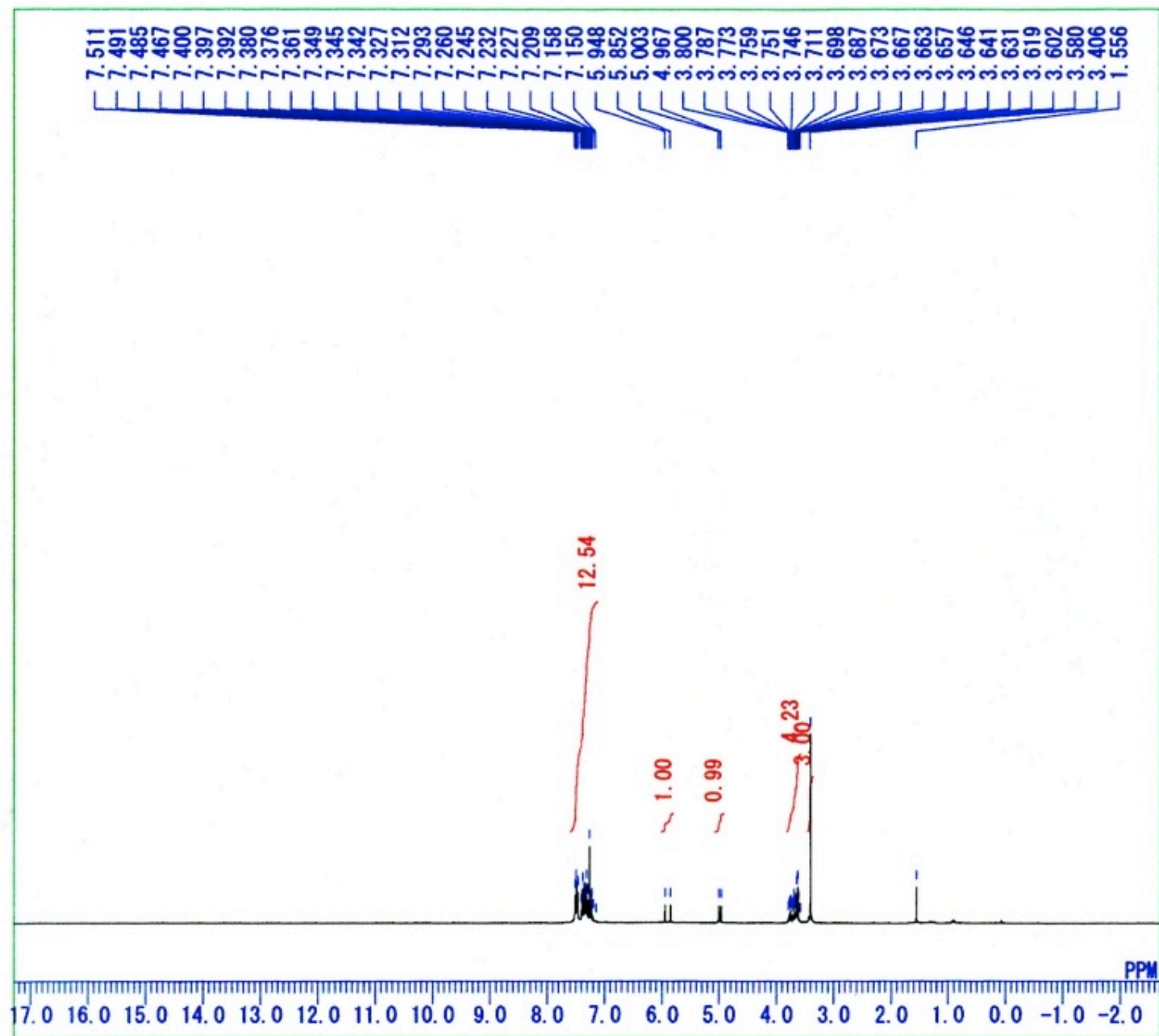


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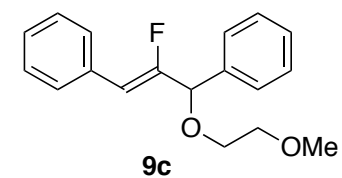
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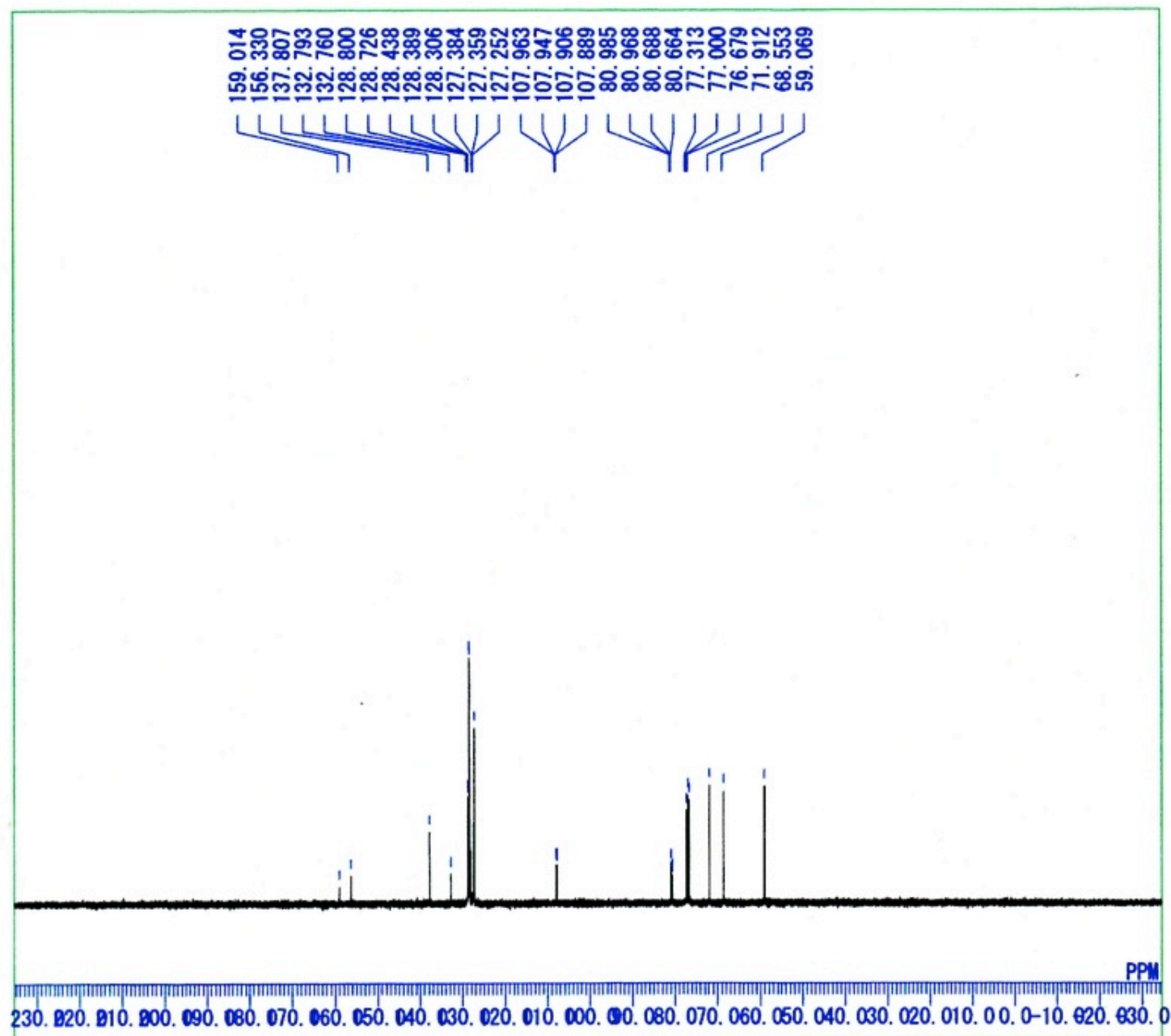
Impurities

Impurities

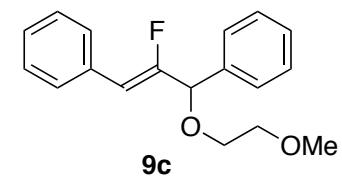


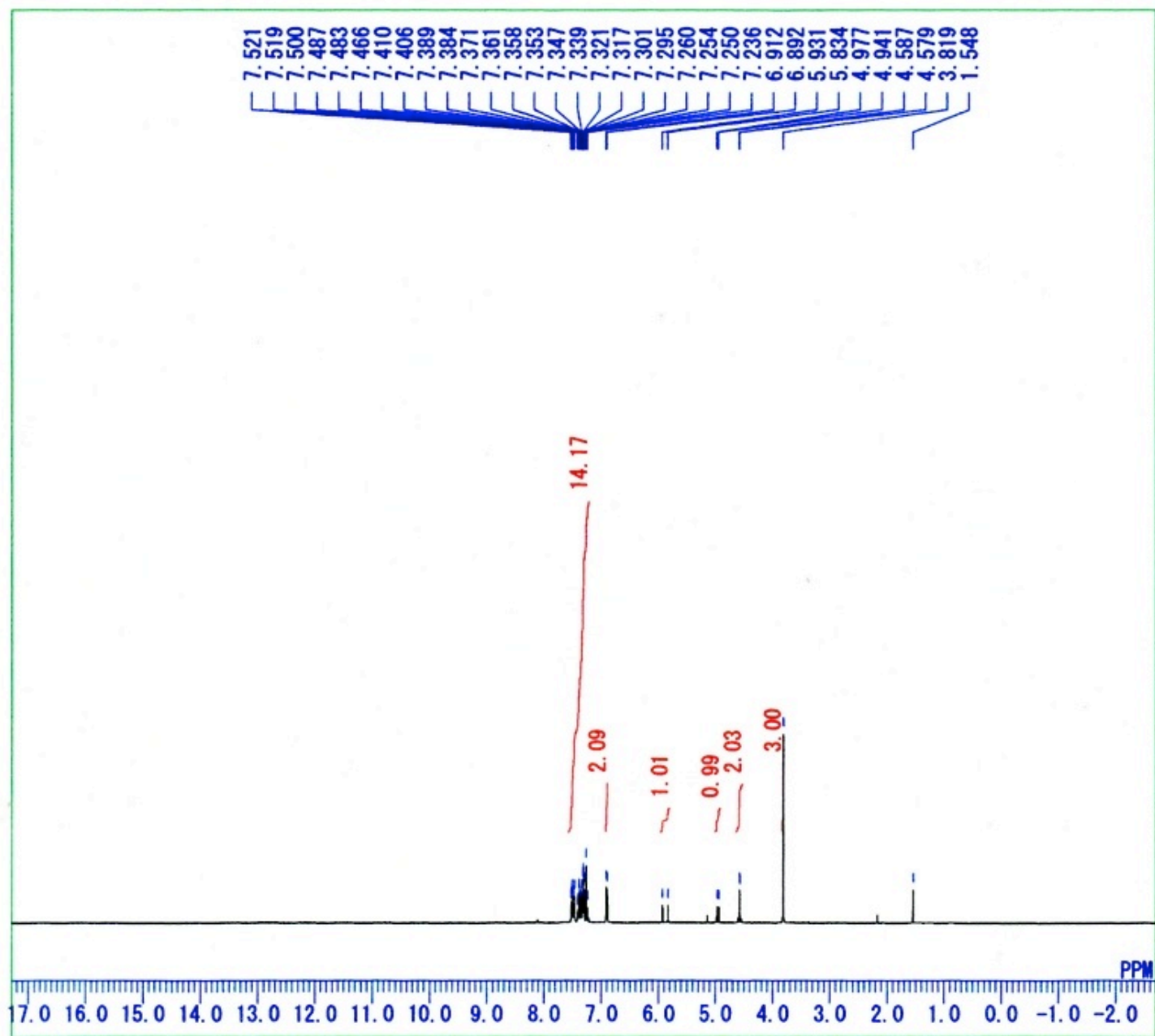
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 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 21.7 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 19



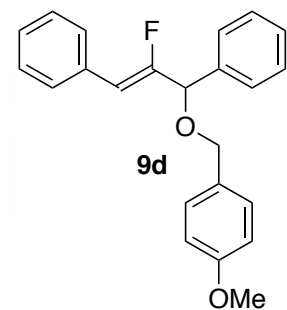


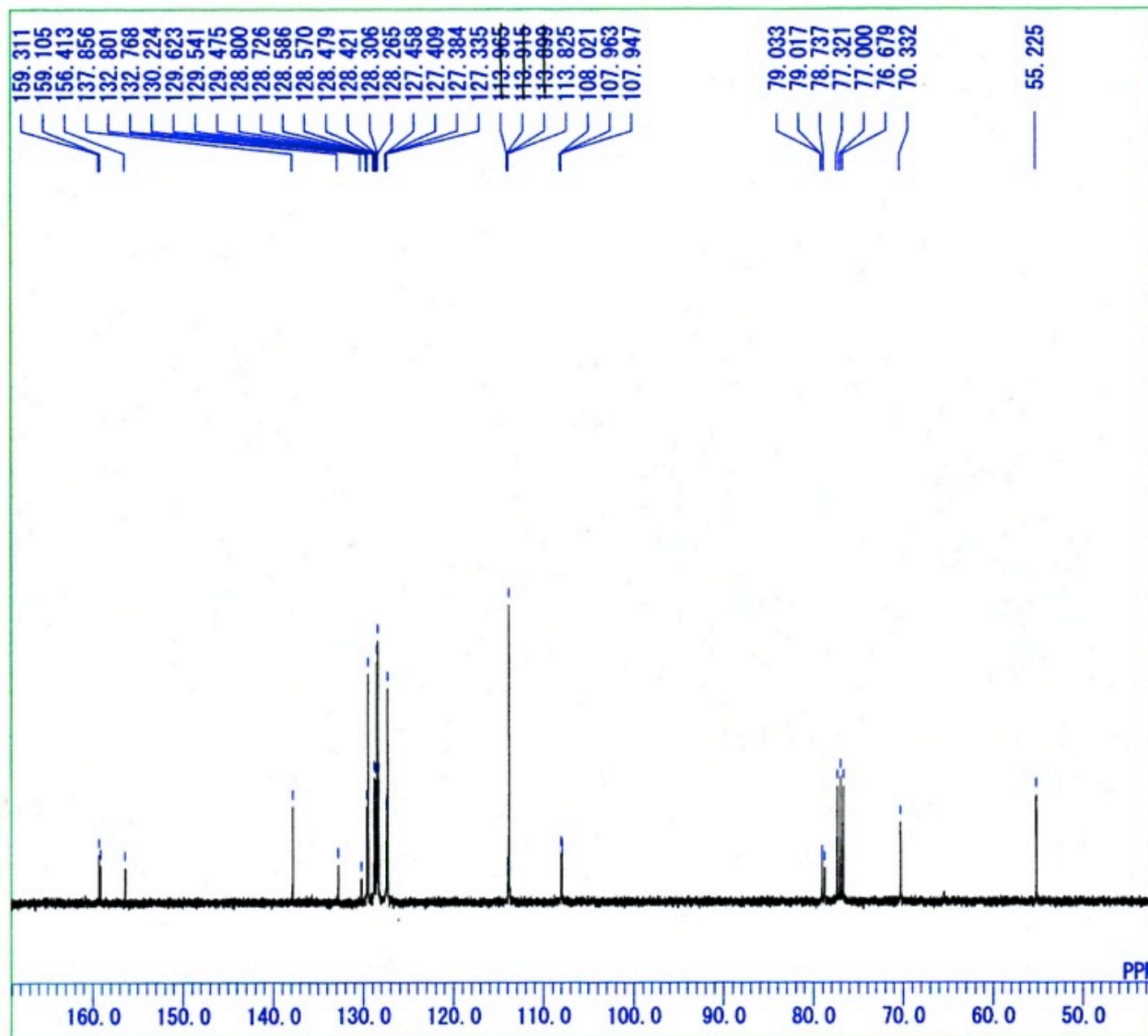
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 SCANS 264
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 CTEMP 22.1 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGAIN 25



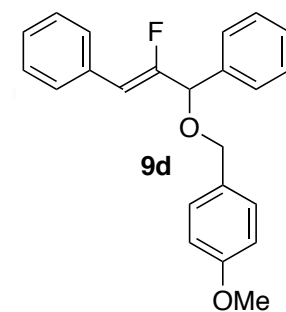


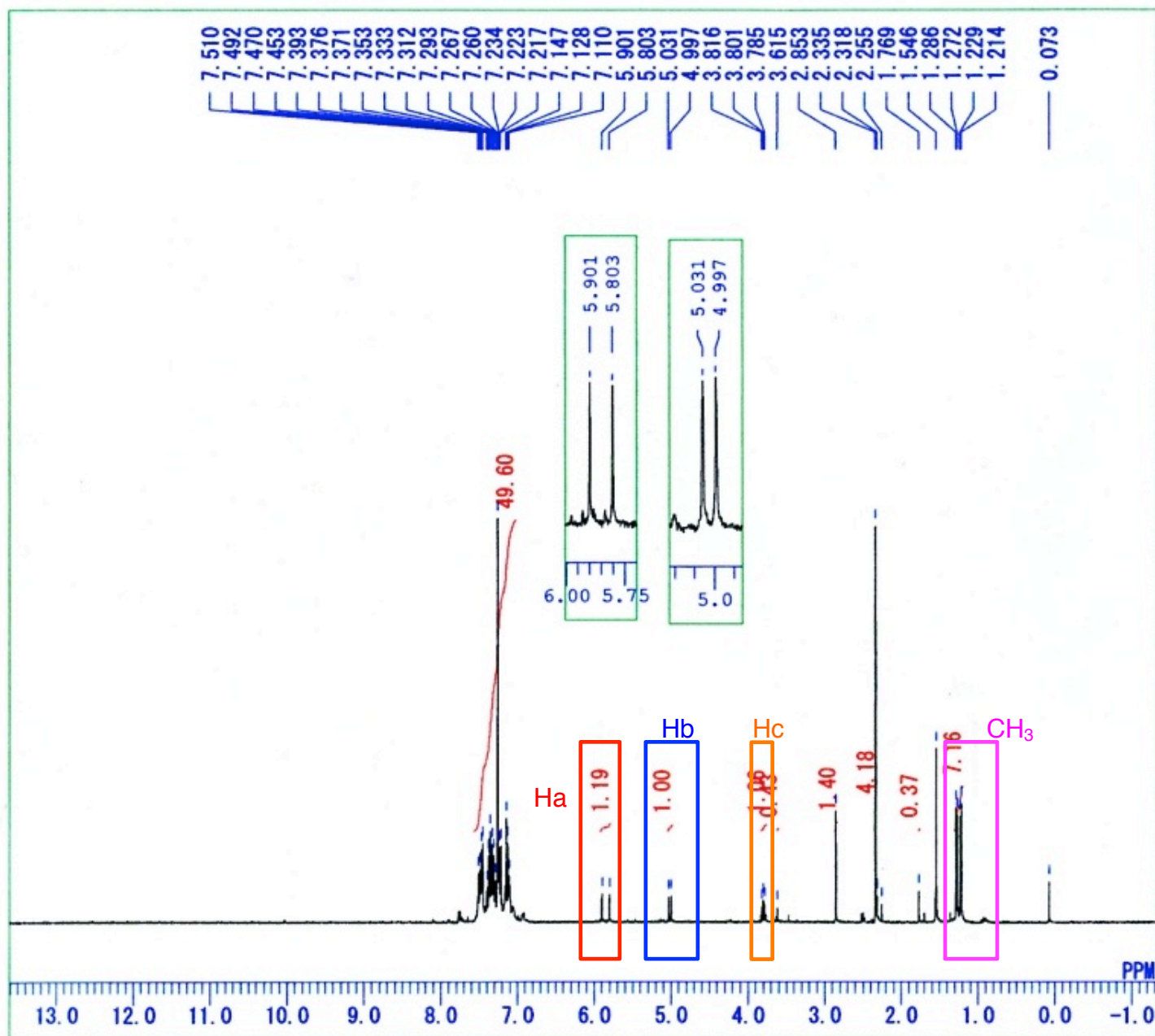
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 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 21.7 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 19



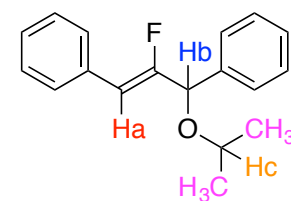


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 OBSET 125.00 KHz
 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 258
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC 1H
 CTEMP 22.3 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGAIN 24





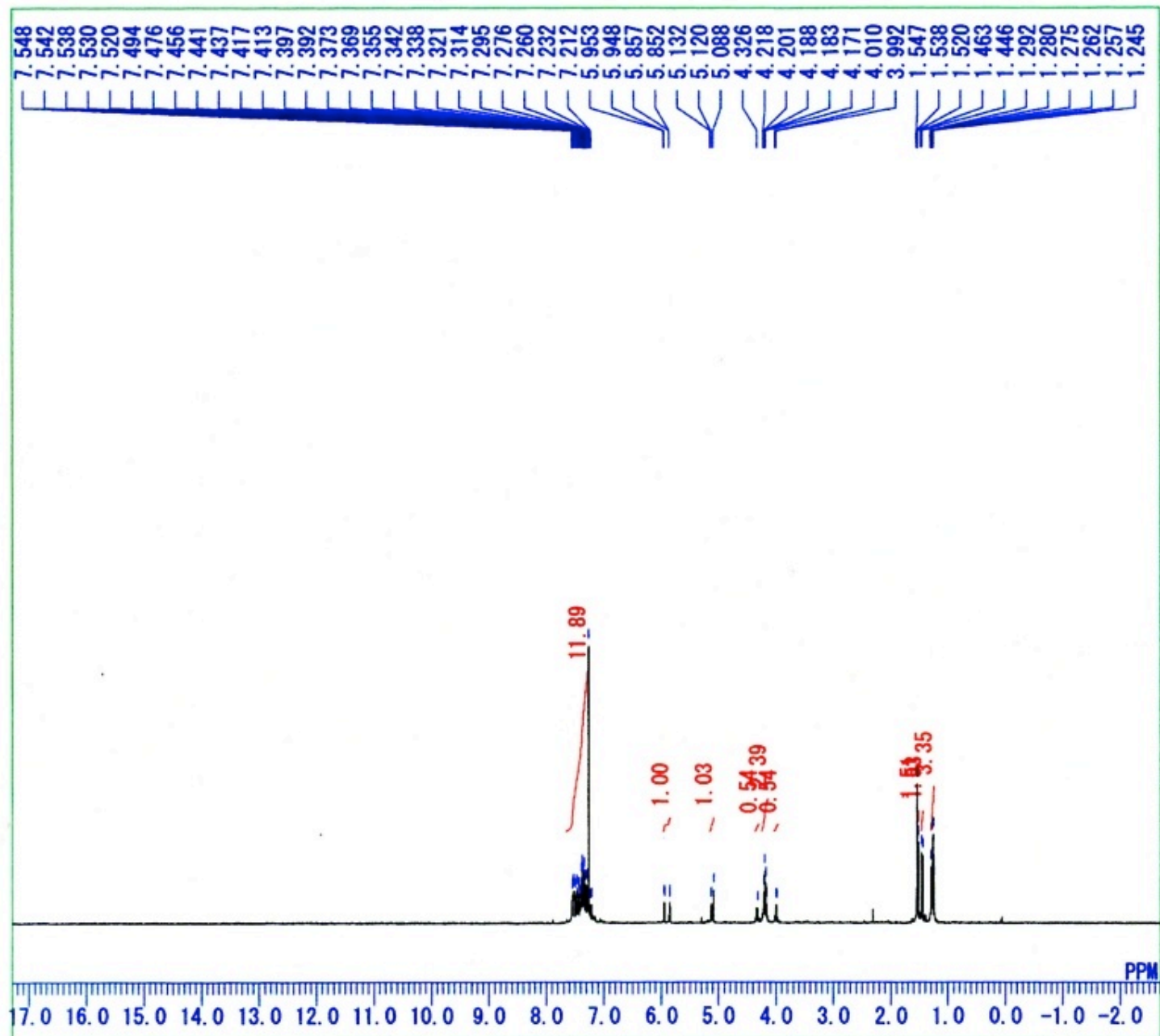
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 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 21.8 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.00 Hz
 RGAIN 20



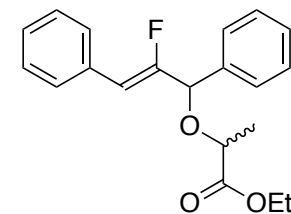
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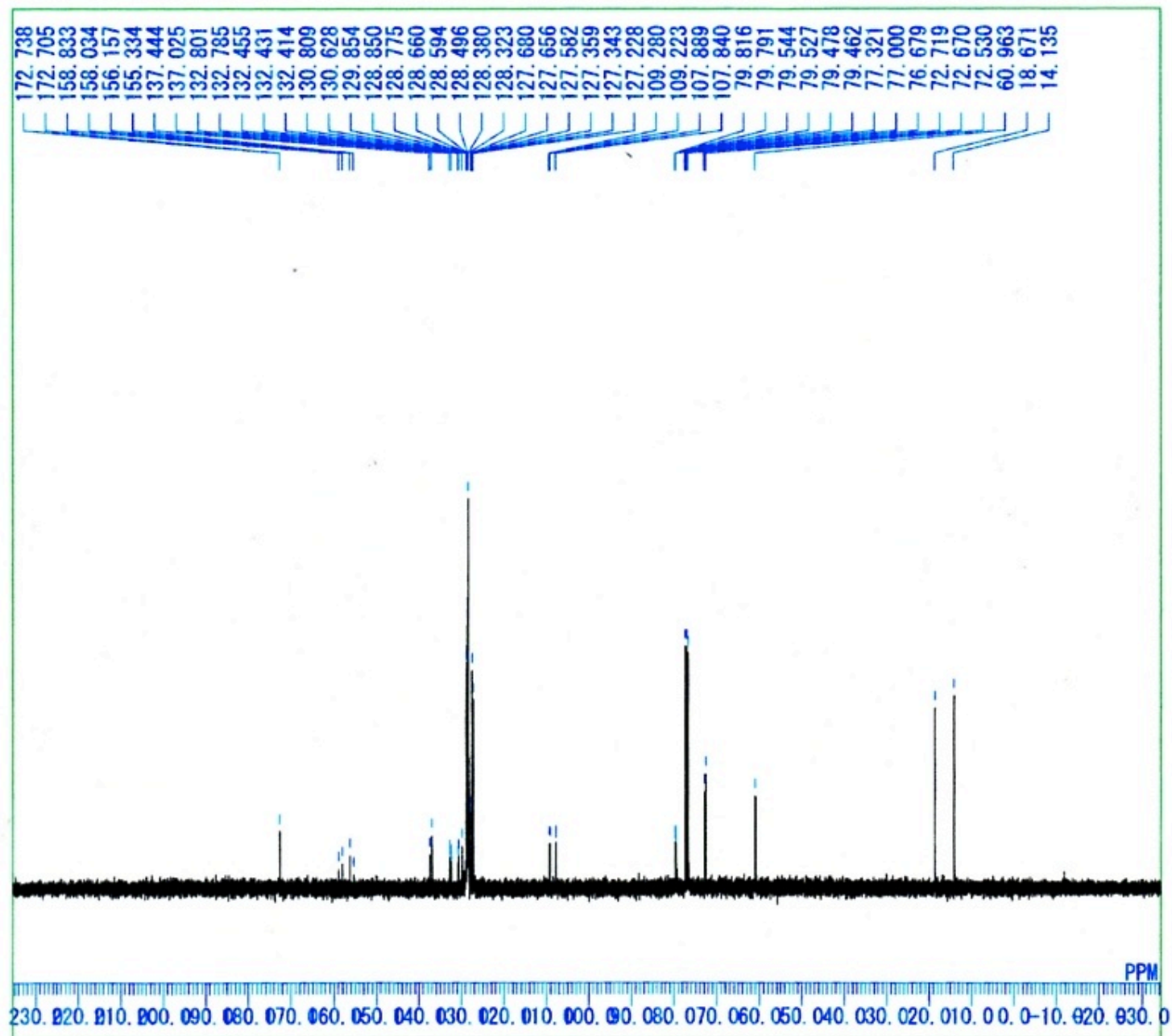
Impurities



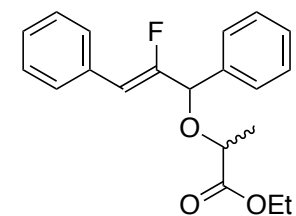
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 OBSET 135.40 KHz
 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 21.8 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 20



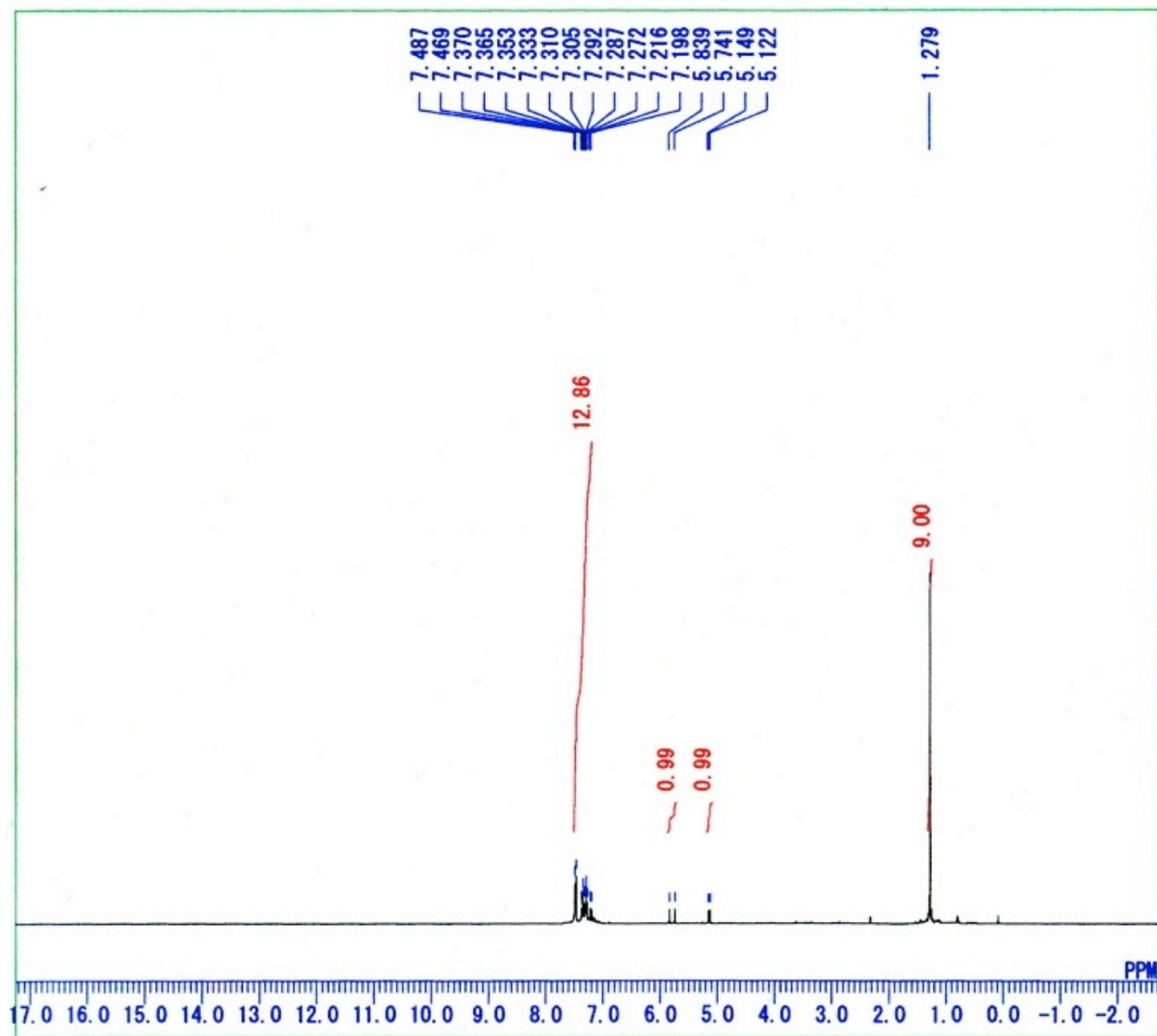
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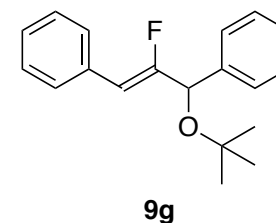
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 EXMOD BCM
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 OBSET 125.00 KHz
 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 267
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC 1H
 CTEMP 22.8 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGAIN 25

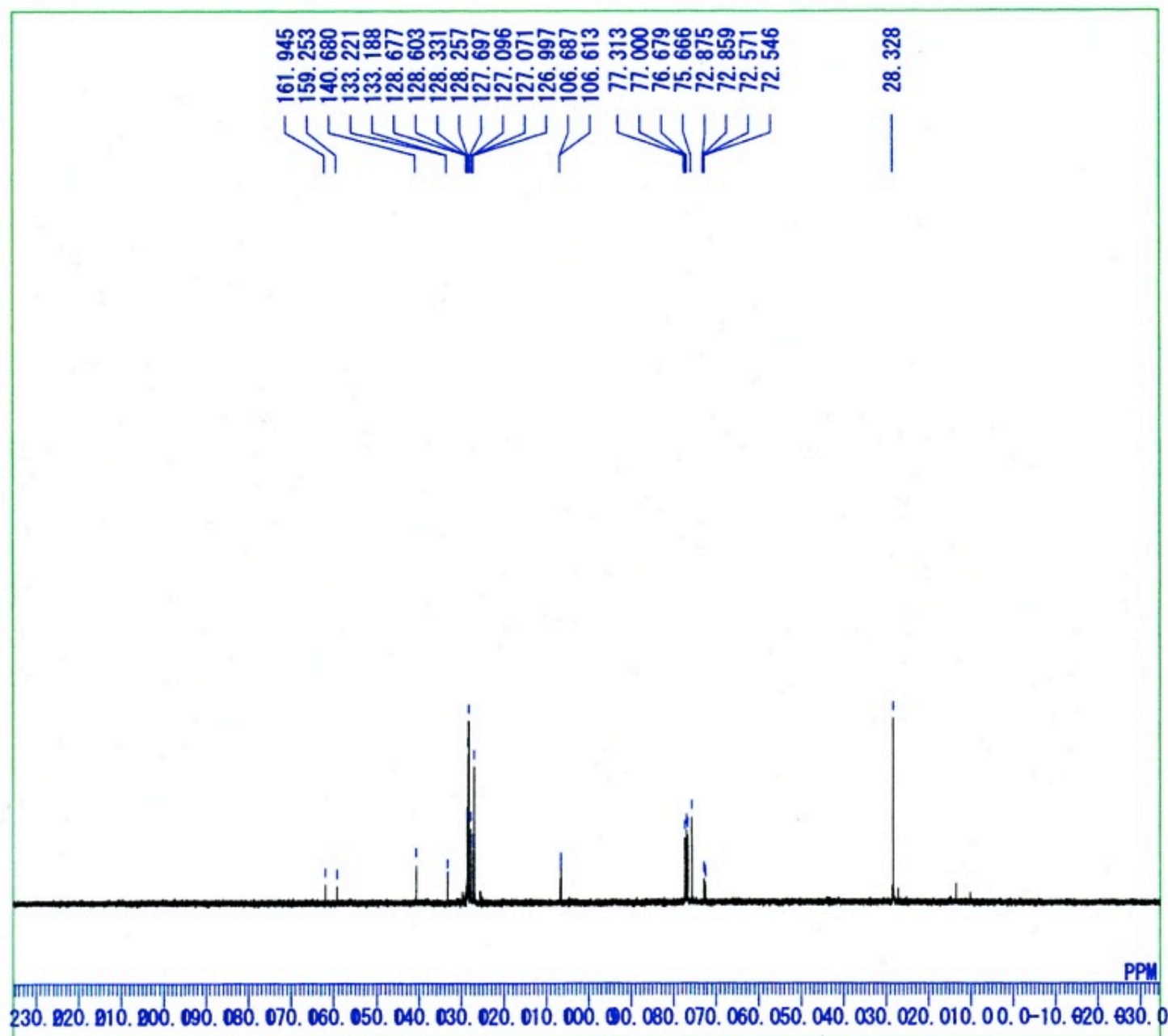


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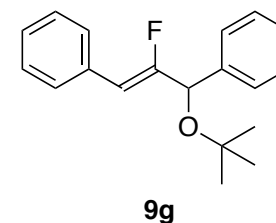


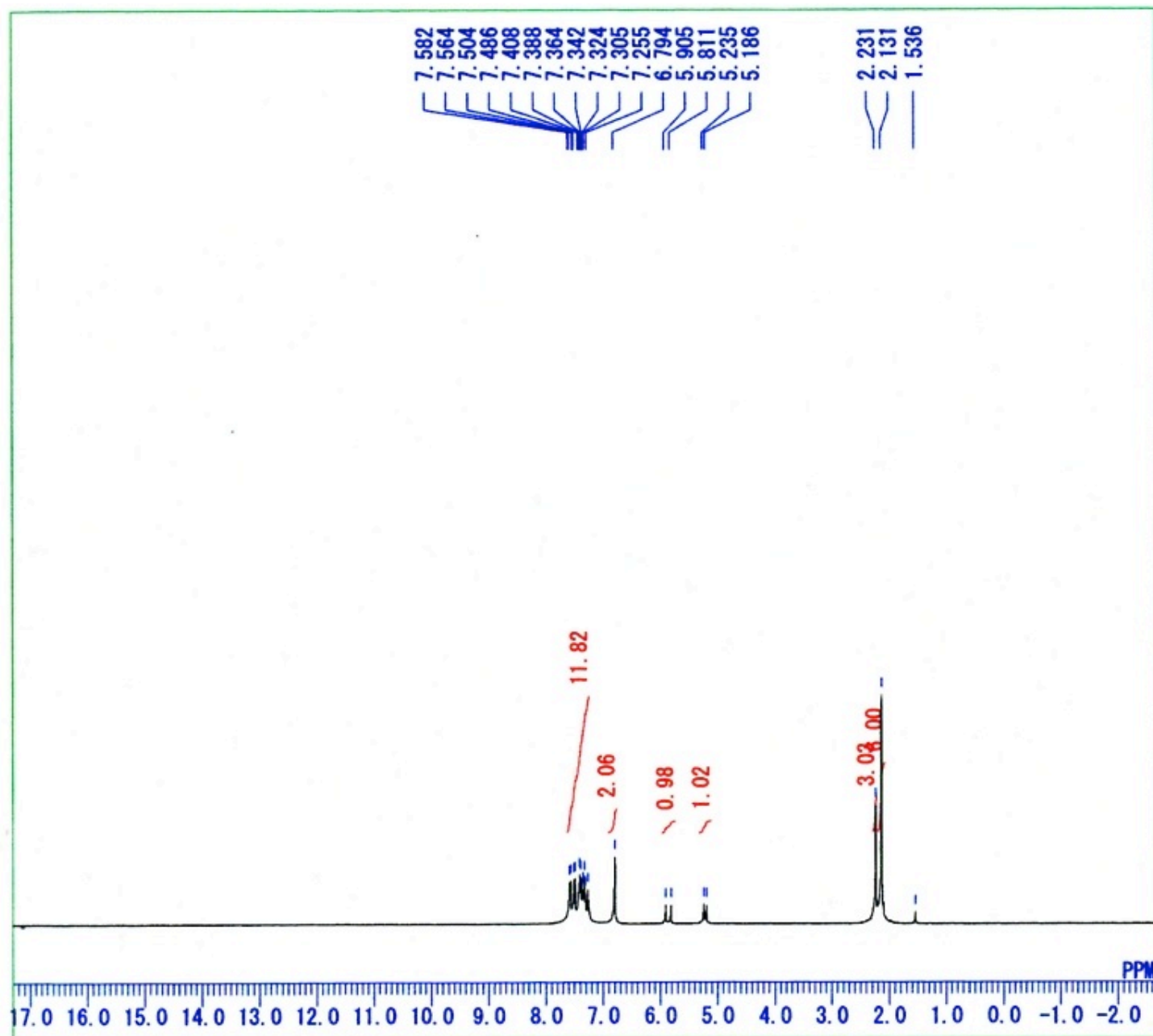
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 EXMOD NON
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 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 21.5 c
 SLVNT CDCL3
 EXREF 1.28 ppm
 BF 0.10 Hz
 RGAIN 11



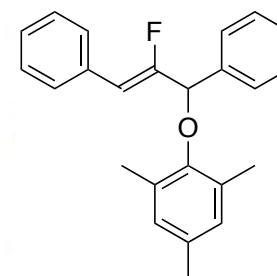


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 EXMOD BCM
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 OBSET 125.00 KHz
 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 128
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC 1H
 CTEMP 22.2 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGAIN 25

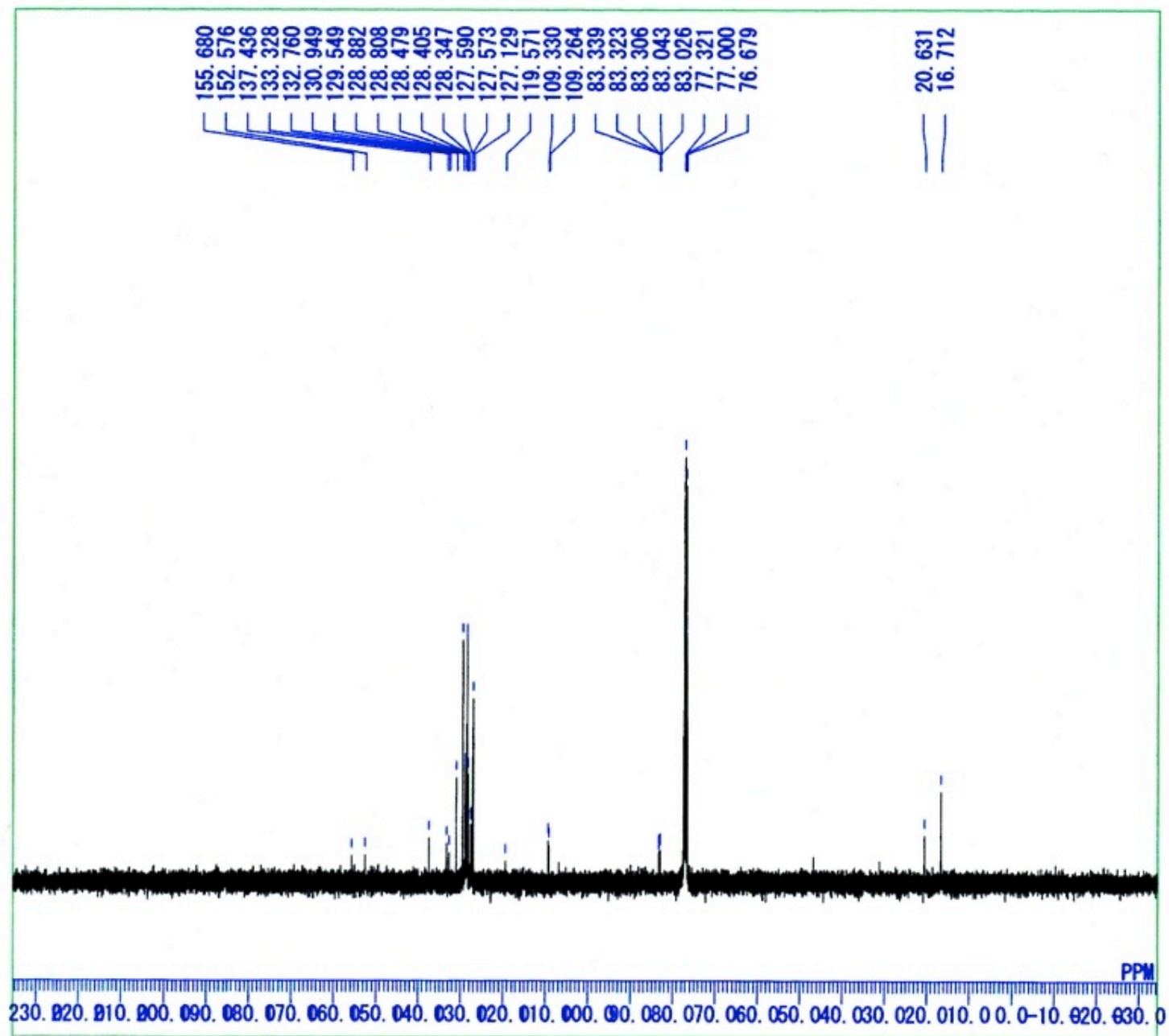




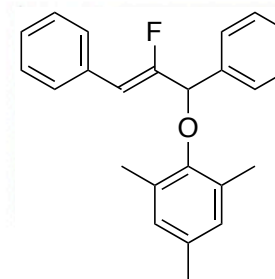
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 EXMOD NON
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 OBSET 135.40 KHz
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 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 21.5 c
 SLVNT CDCL3
 EXREF 6.79 ppm
 BF 0.10 Hz
 RGAIN 16



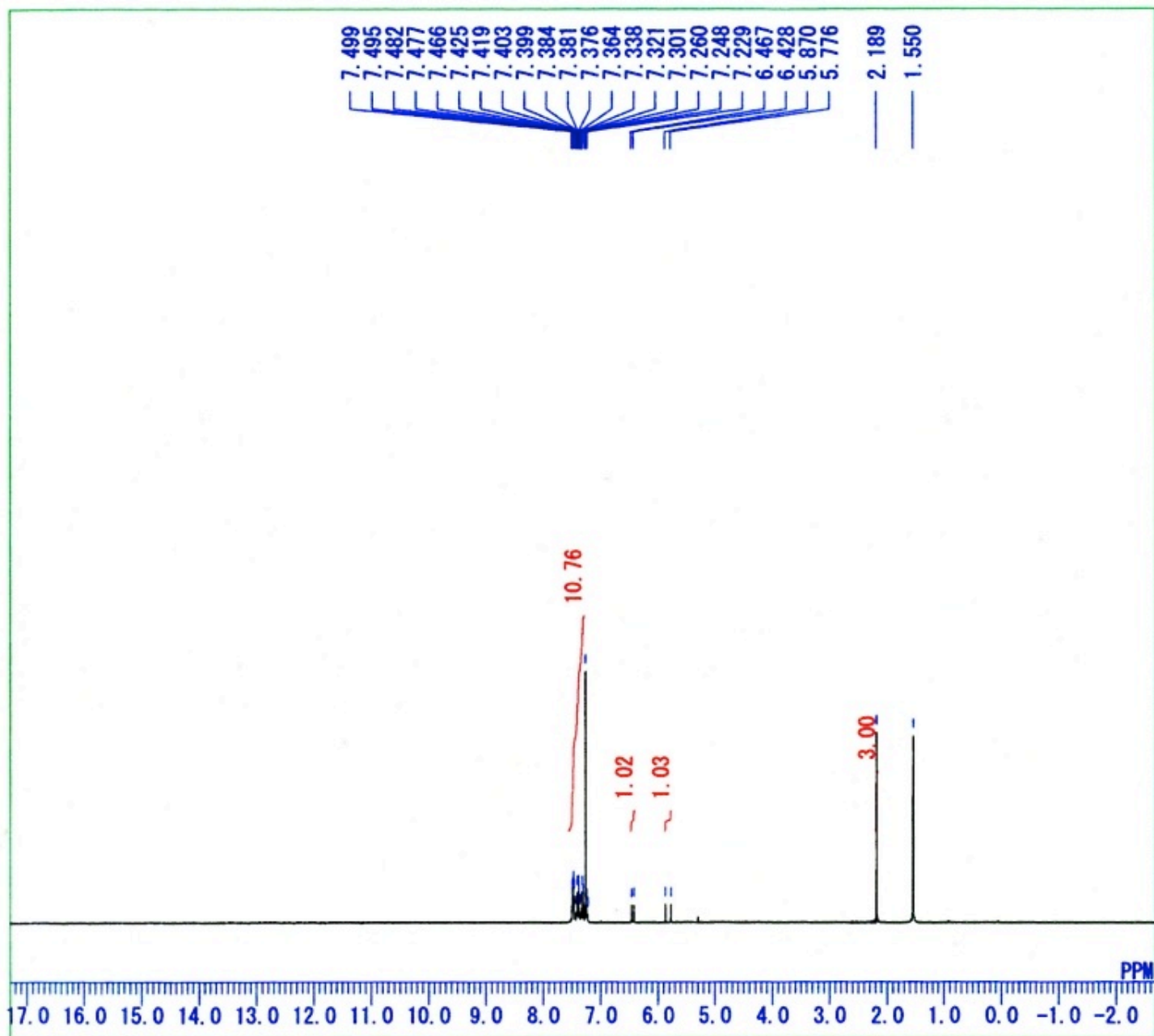
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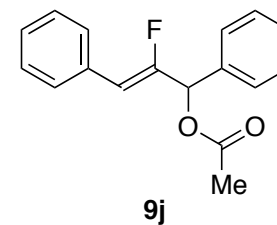
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 EXMOD BCM
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 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 1152
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC 1H
 CTEMP 22.3 °C
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGAIN 25

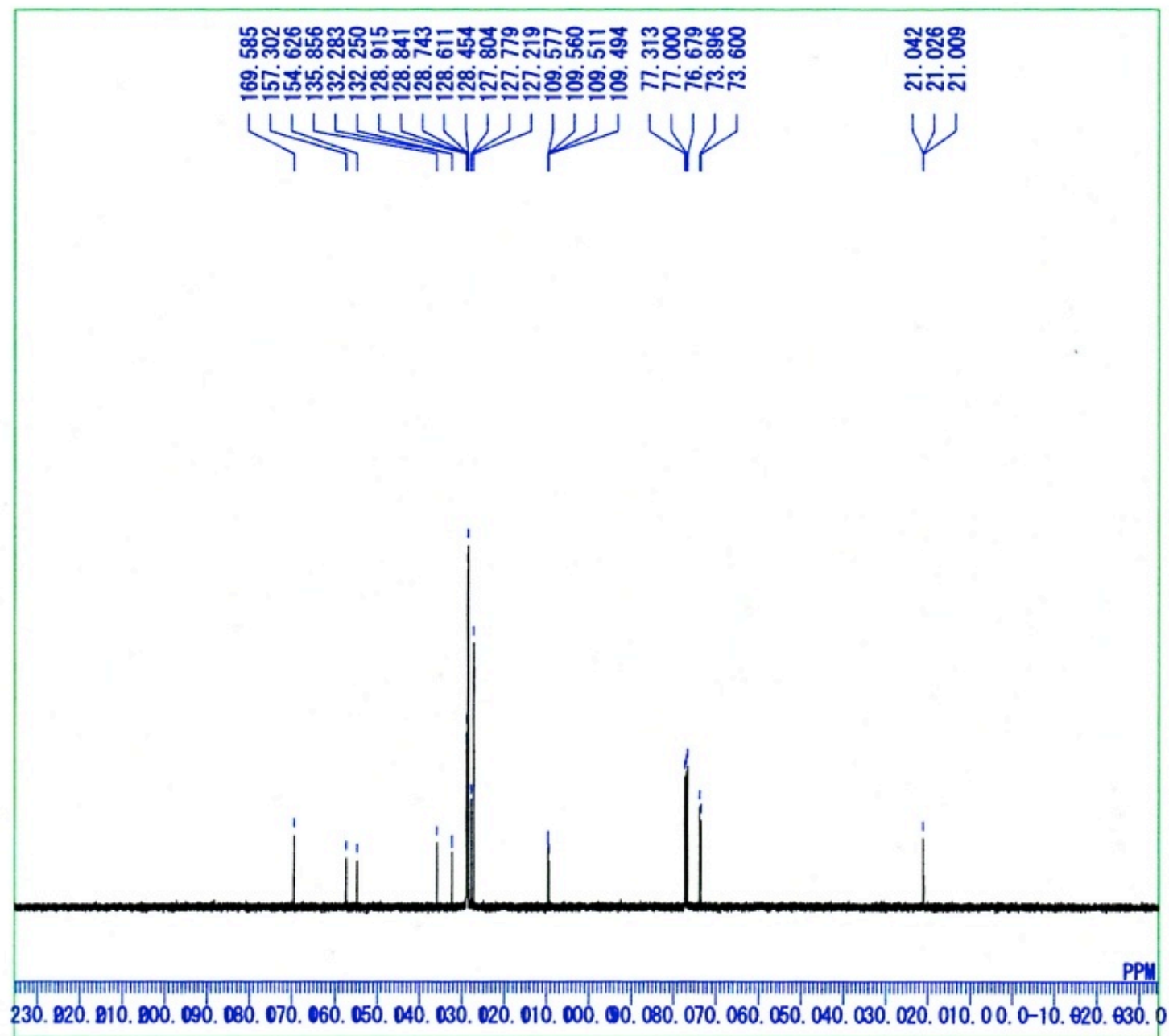


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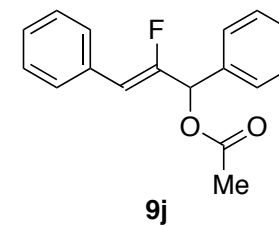


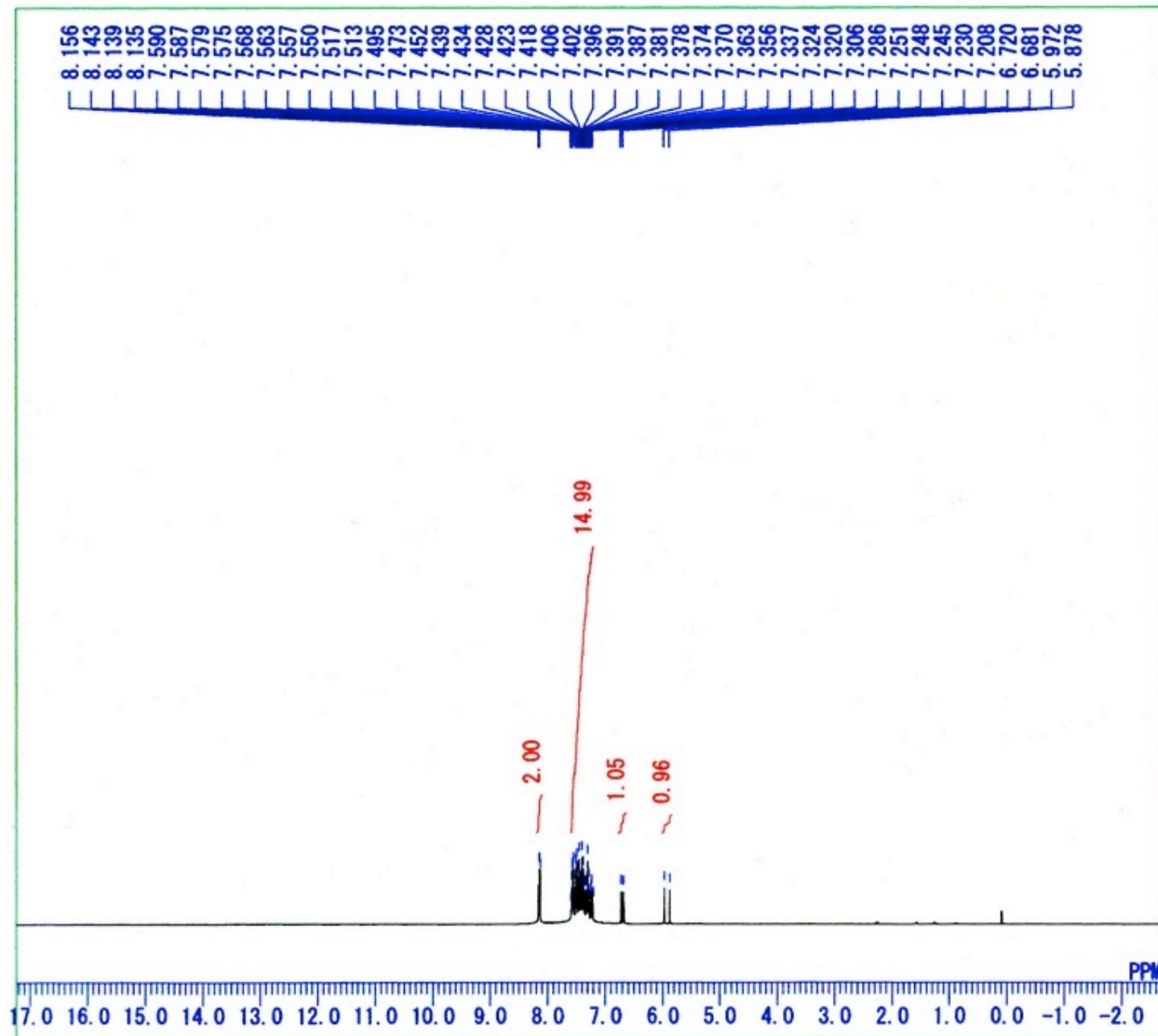
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 OBNUC 1H
 EXMOD NON
 OBFRQ 399.65 MHz
 OBSET 135.40 KHz
 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 21.9 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 24



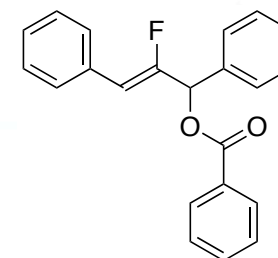


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OBFIN 10500.00 Hz
POINT 32768
FREQU 27118.64 Hz
SCANS 256
ACQTM 1.2083 sec
PD 1.7920 sec
PW1 6.20 usec
IRNUC 1H
CTEMP 21.8 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.10 Hz
RGAIN 24

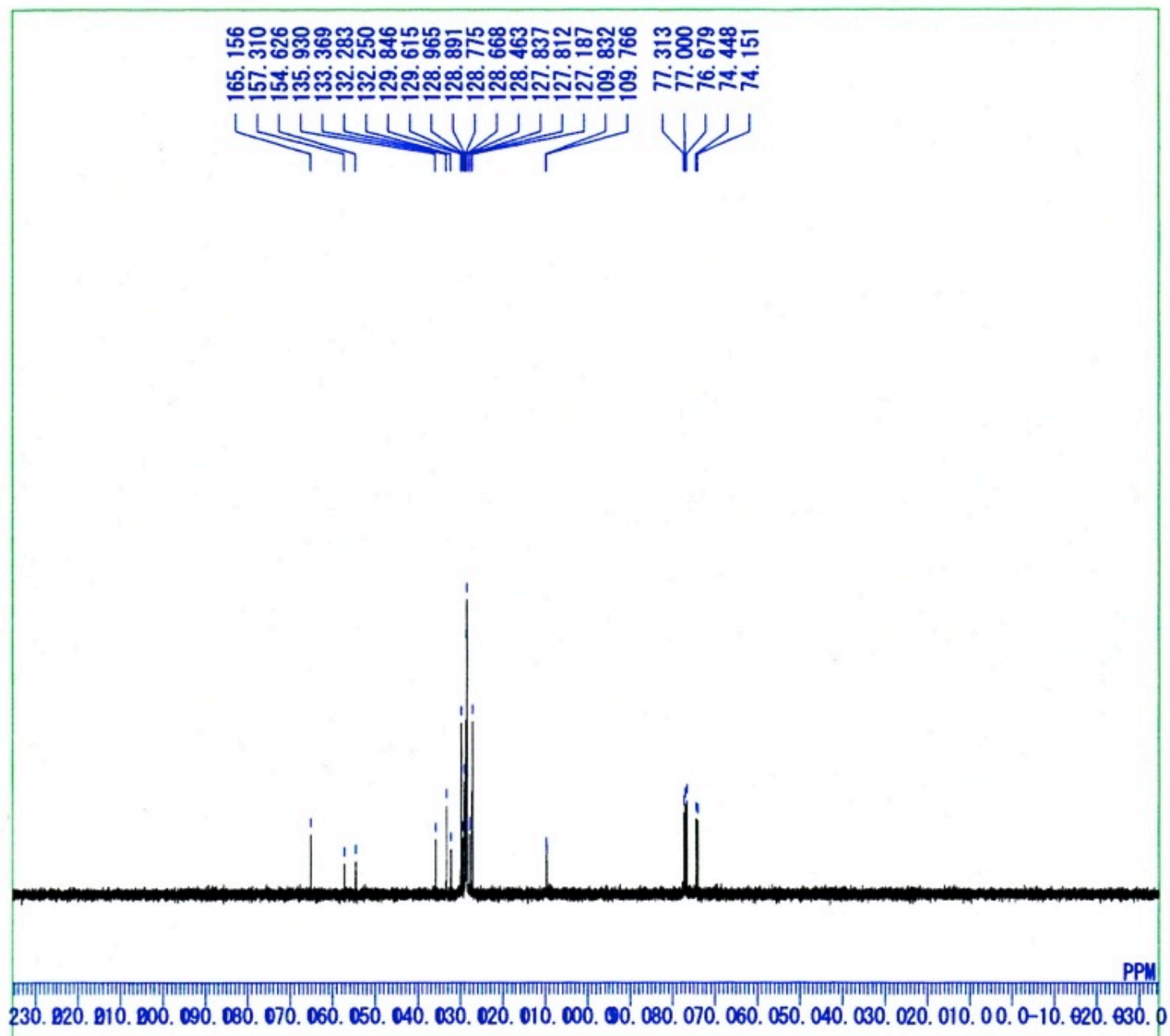




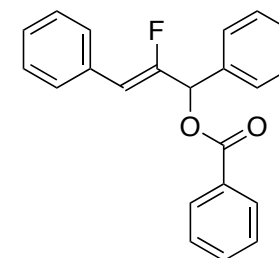
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 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 21.2 c
 SLVNT CDCL3
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 RGAIN 12



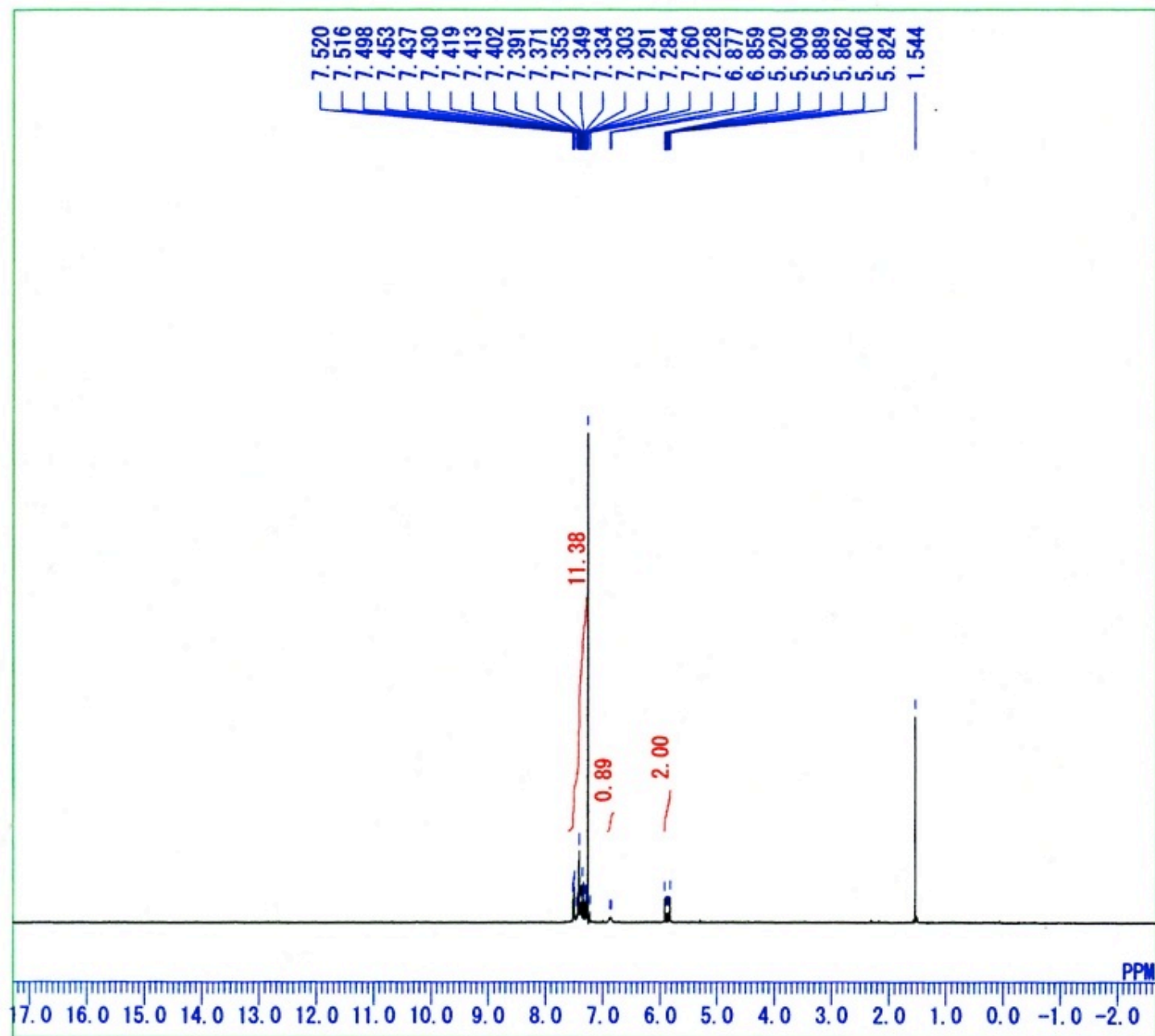
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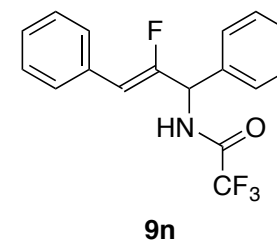
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 OBSET 125.00 KHz
 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 128
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC 1H
 CTEMP 22.1 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.00 Hz
 RGAIN 26

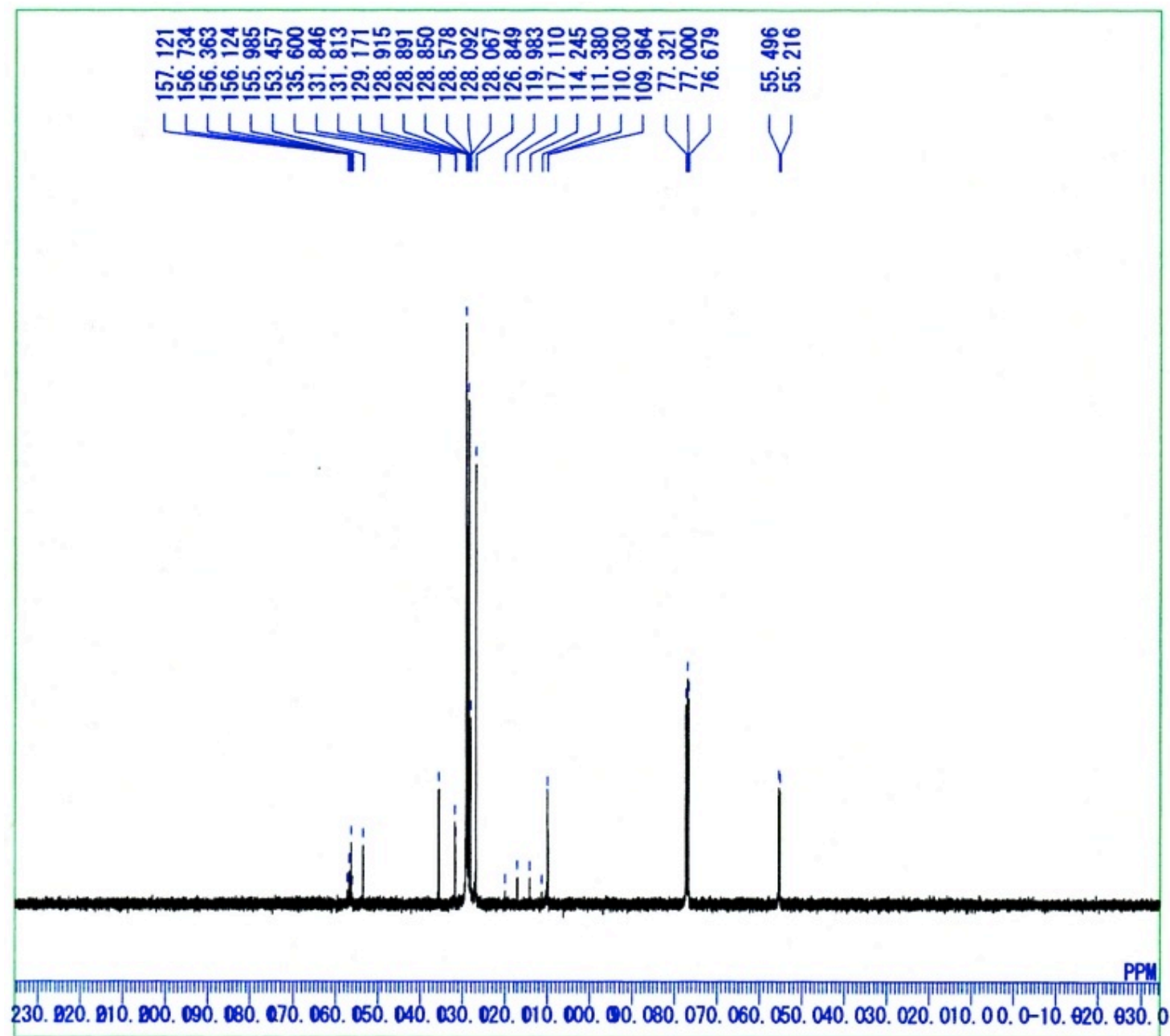


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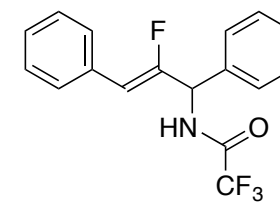


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 OBSET 135.40 KHz
 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 22.0 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 24

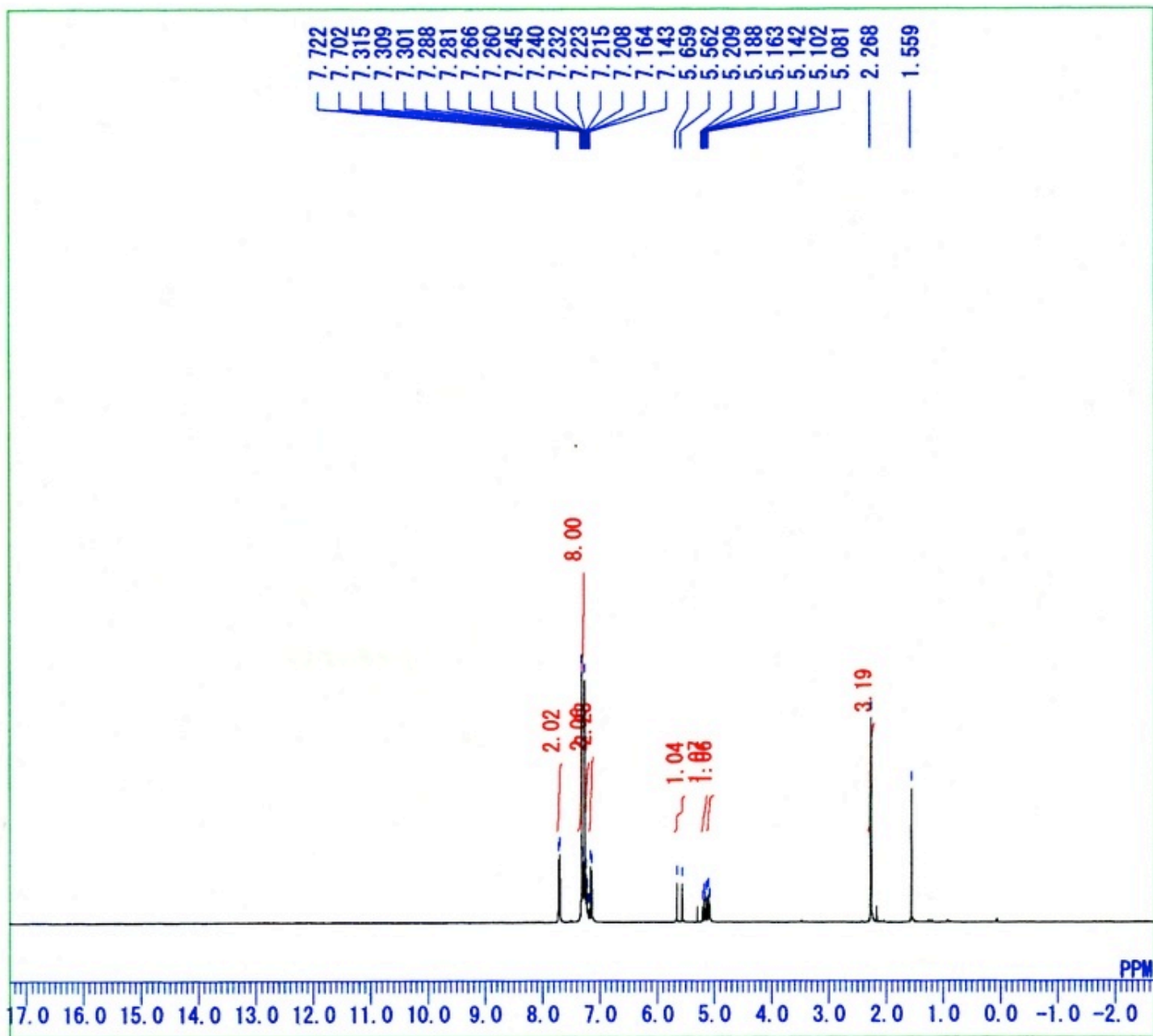




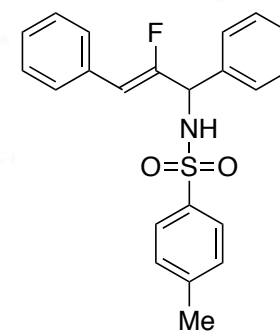
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 OBSET 125.00 KHz
 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 1037
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC 1H
 CTEMP 22.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGAIN 25



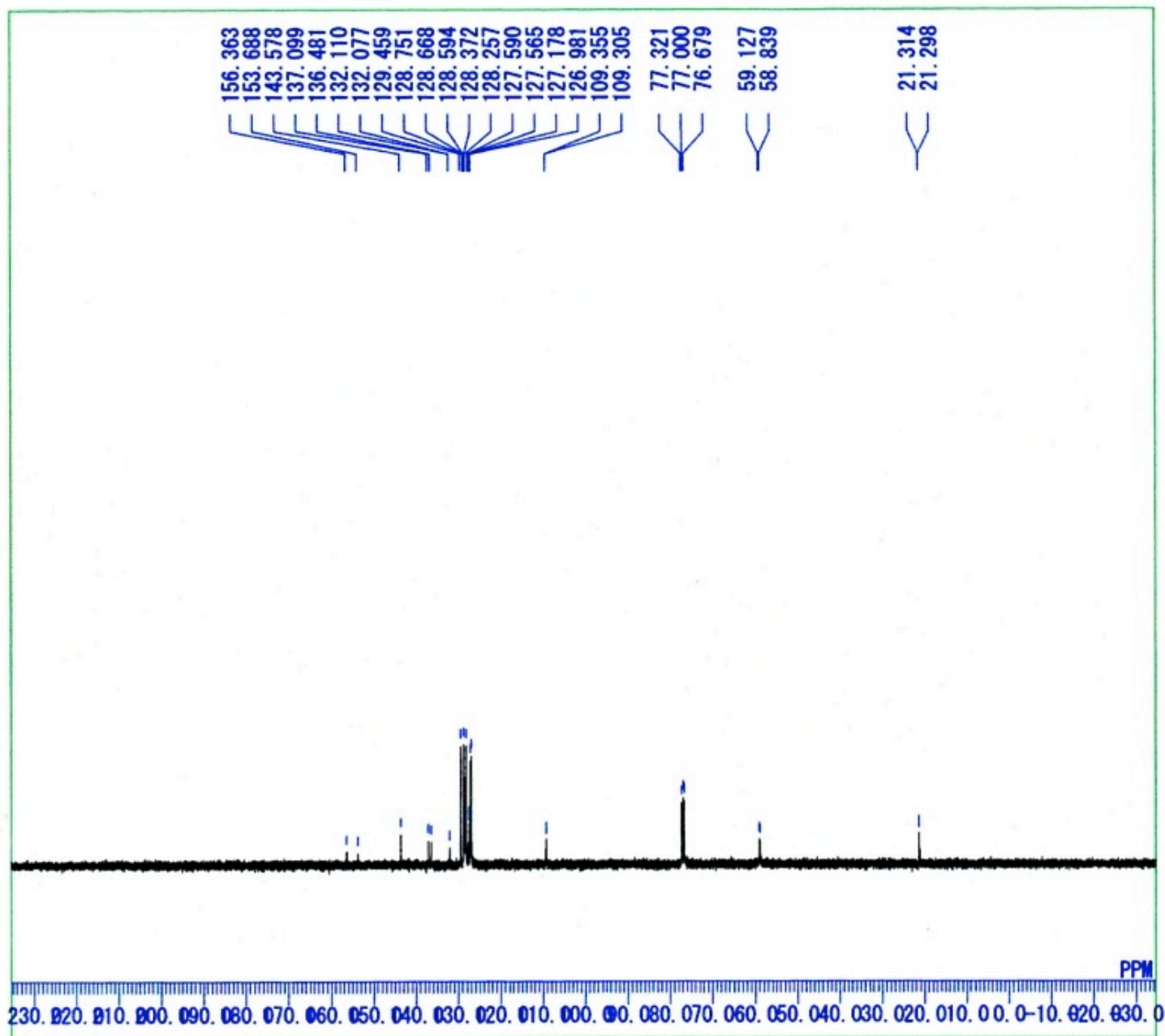
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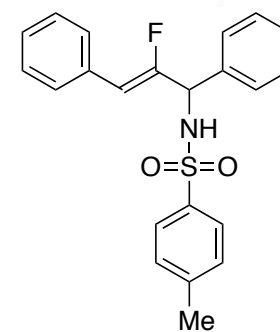
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 EXMOD NON
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 OBSET 135.40 KHz
 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 22.1 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 19



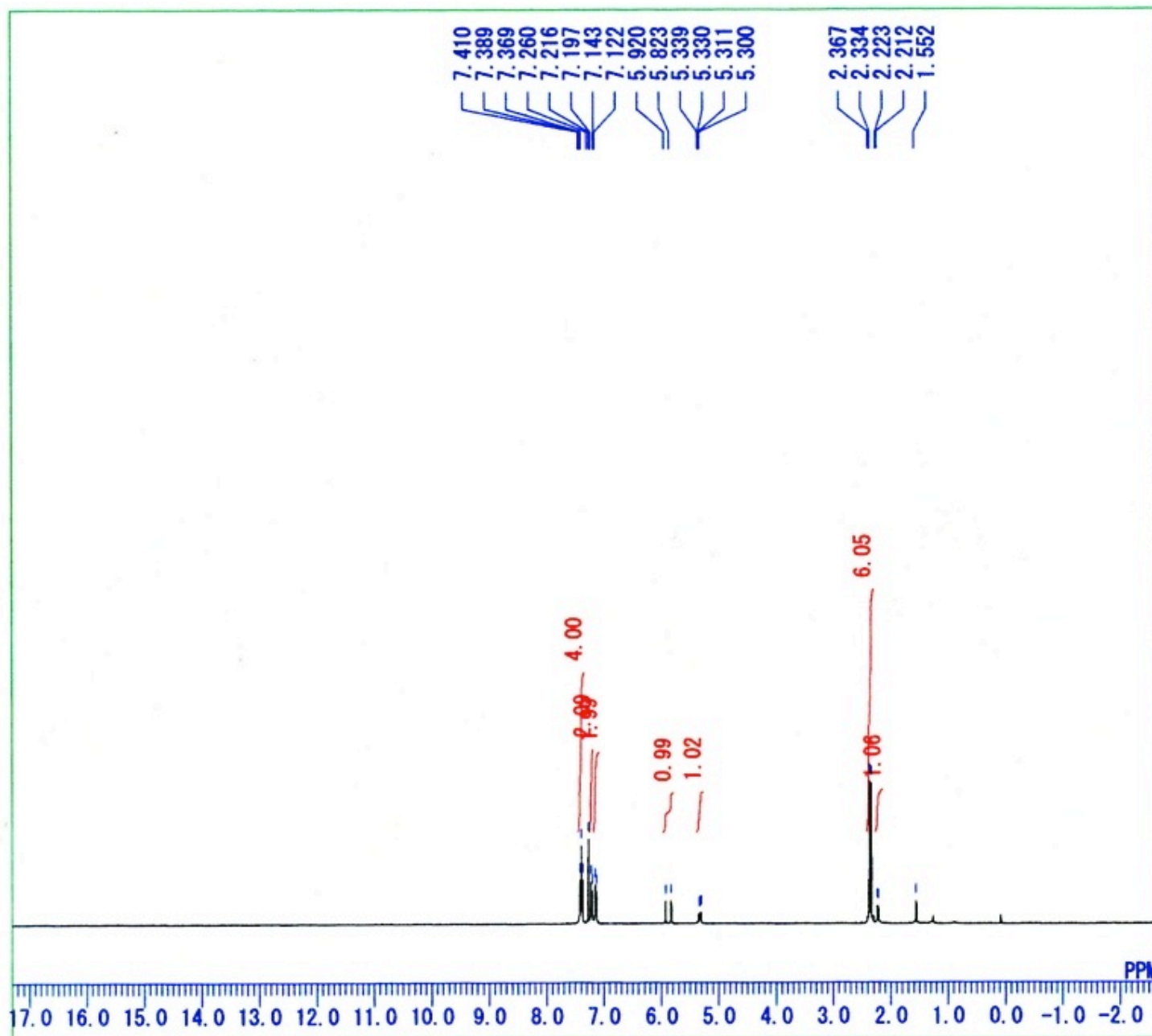
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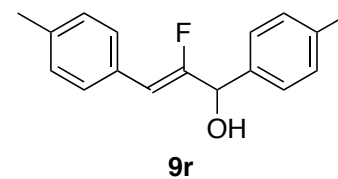
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 OBNUC ¹³C
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 OBFRQ 100.40 MHz
 OBSET 125.00 KHz
 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 256
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC ¹H
 CTEMP 22.2 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGAIN 25

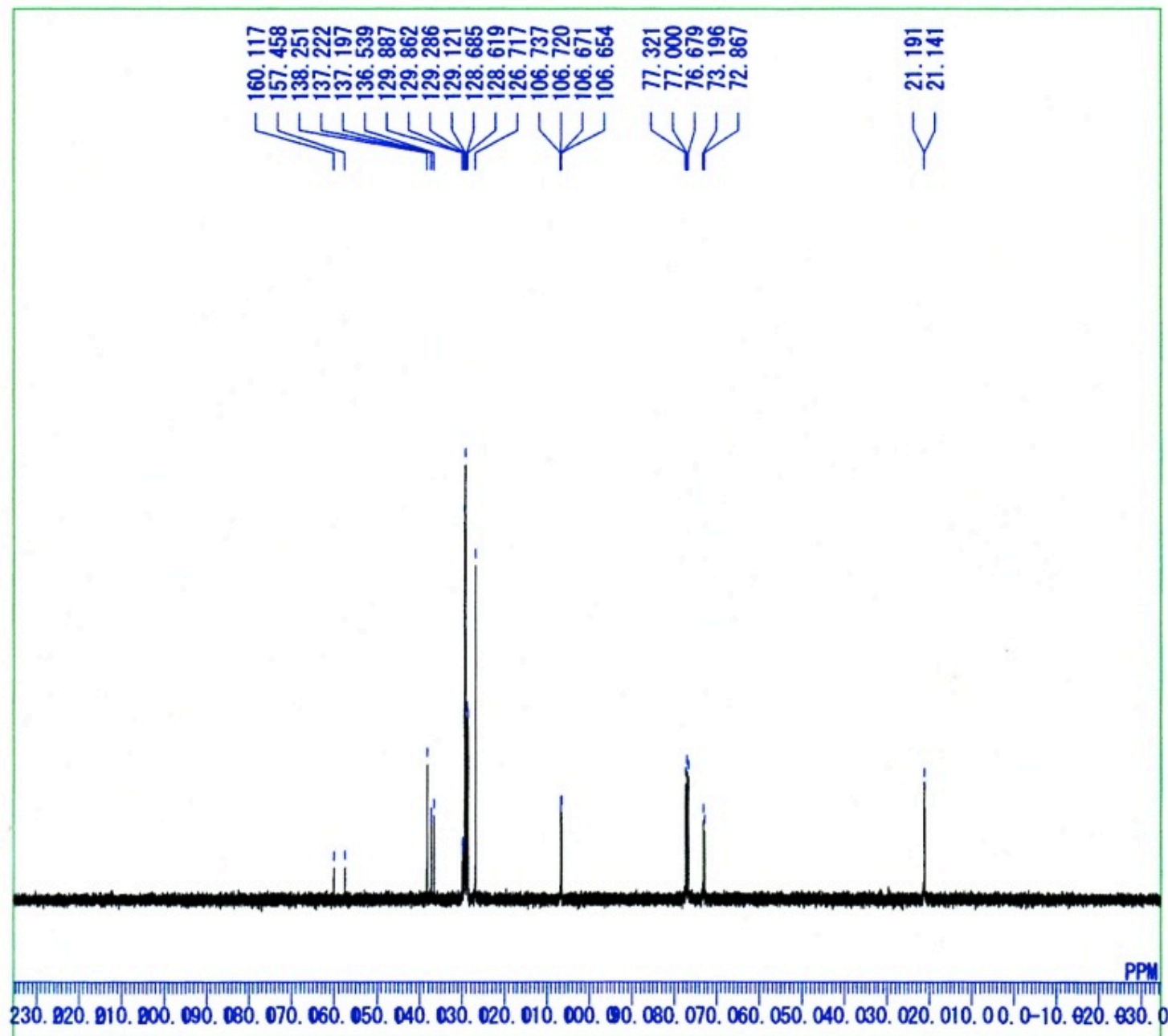


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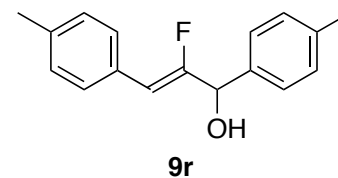


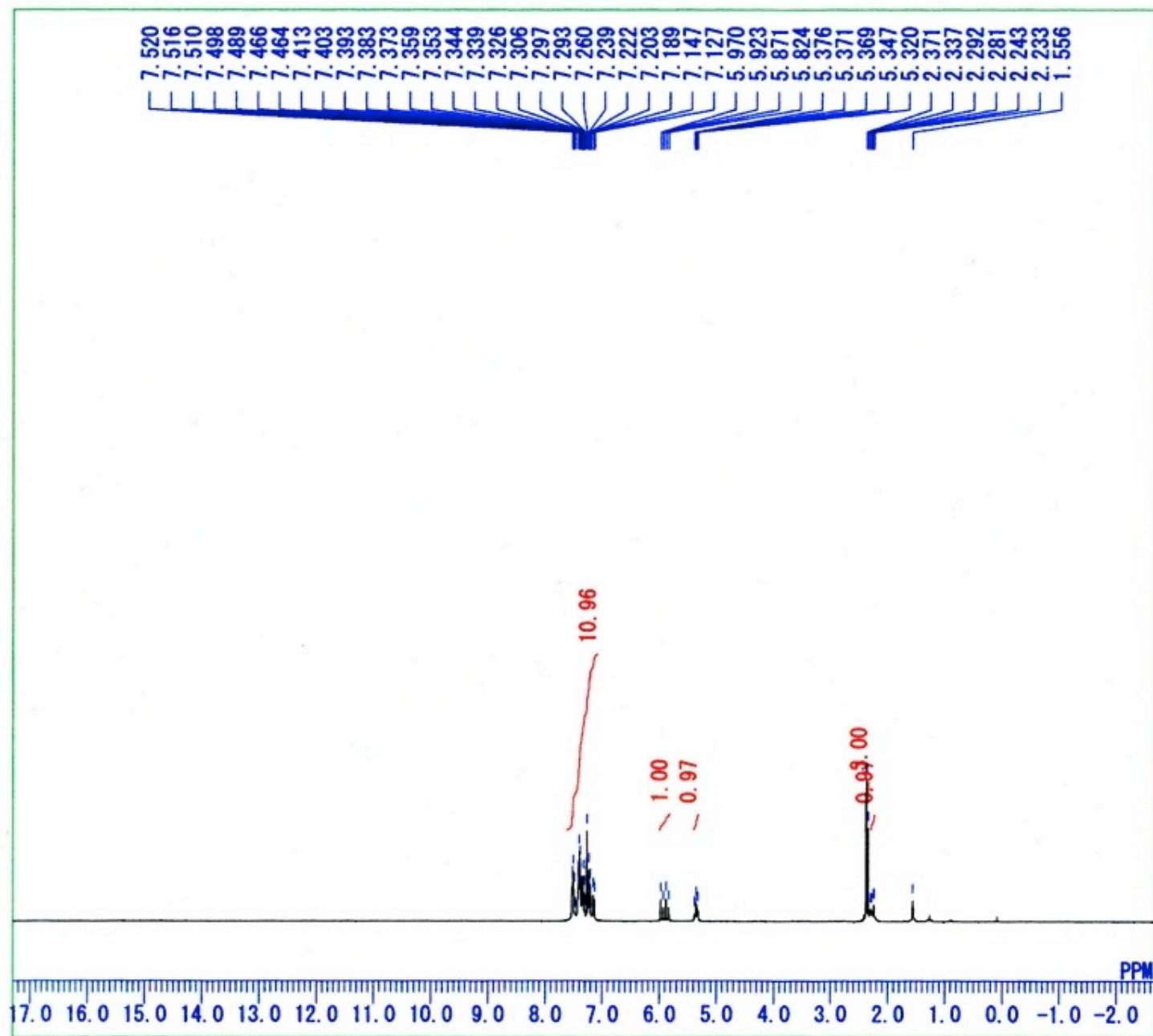
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 EXMOD NON
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 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 22.4 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 19



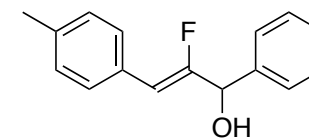


DFILE Toly-Toly-OH 13C.als
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 DATIM Thu Feb 21 17:35:23 2013
 OBNUC 13C
 EXMOD BCM
 OBFRQ 100.40 MHz
 OBSET 125.00 KHz
 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 256
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC 1H
 CTEMP 22.8 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGA1N 25



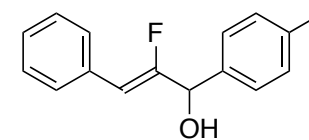


DFILE Ph-Tolyl-OH 1H.als
 COMNT auto
 DATIM Fri Feb 22 15:28:23 2013
 OBNUC 1H
 EXMOD NON
 OBFRQ 399.65 MHz
 OBSET 135.40 KHz
 OBFIN 24.90 Hz
 POINT 16384
 FREQU 7992.01 Hz
 SCANS 8
 ACQTM 2.0501 sec
 PD 4.9500 sec
 PW1 5.50 usec
 IRNUC 1H
 CTEMP 22.5 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.10 Hz
 RGAIN 19

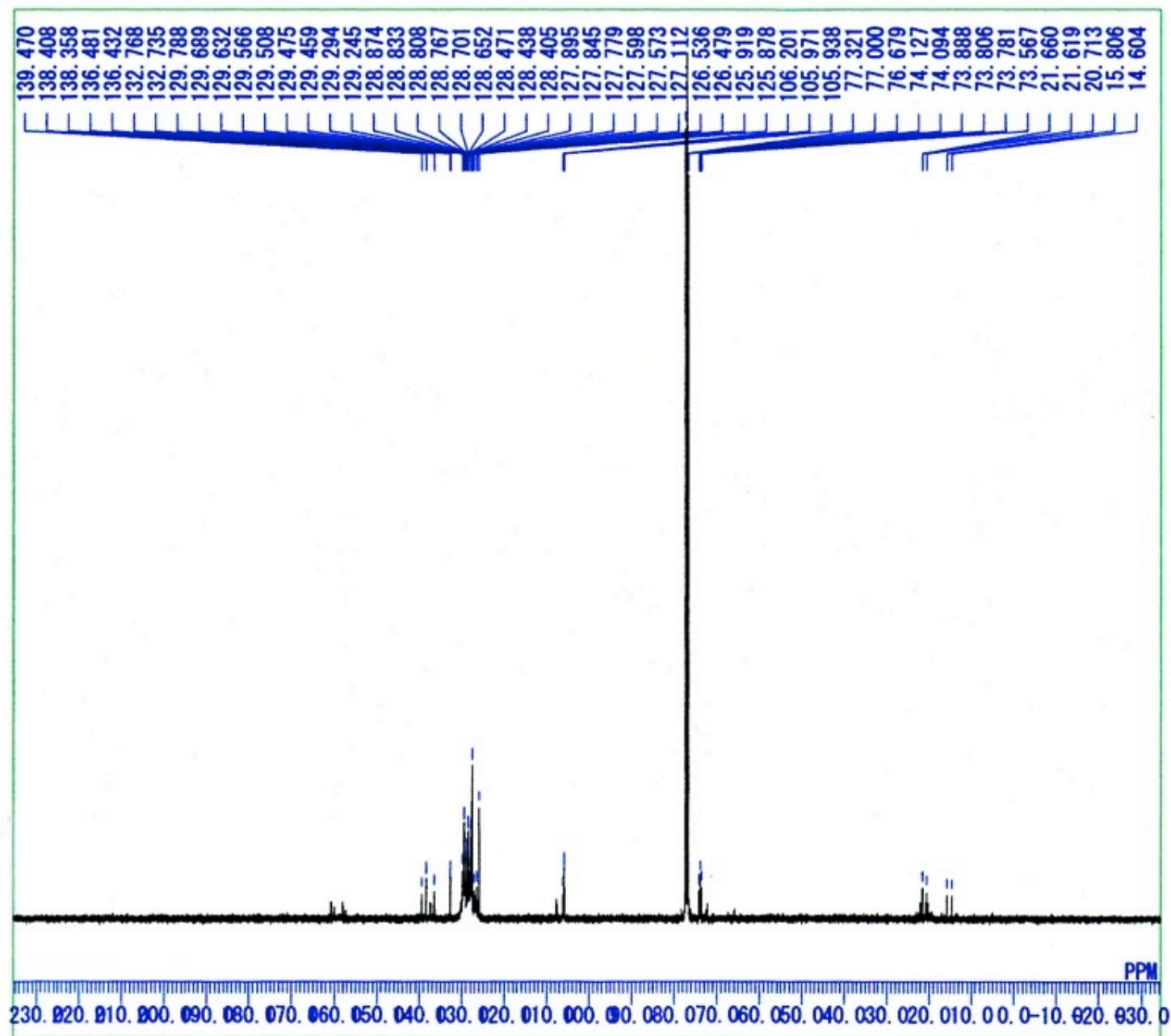


9s

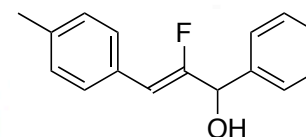
+



9s'

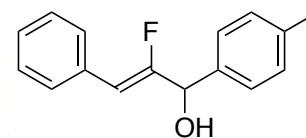


DFILE Ph-Tolyl-OH 13C-2.als
 COMNT auto
 DATIM Tue Feb 26 09:13:43 2013
 OBNUC 13C
 EXMOD BCM
 OBFRQ 100.40 MHz
 OBSET 125.00 KHz
 OBFIN 10500.00 Hz
 POINT 32768
 FREQU 27118.64 Hz
 SCANS 13102
 ACQTM 1.2083 sec
 PD 1.7920 sec
 PW1 6.20 usec
 IRNUC 1H
 CTEMP 20.7 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.10 Hz
 RGAIN 25



9s

+



9s'