

## Supplementary Material

### Alternative conditions for the synthesis of novel spiro[1,3-*N,N*-heterocyclic-adamantanes]

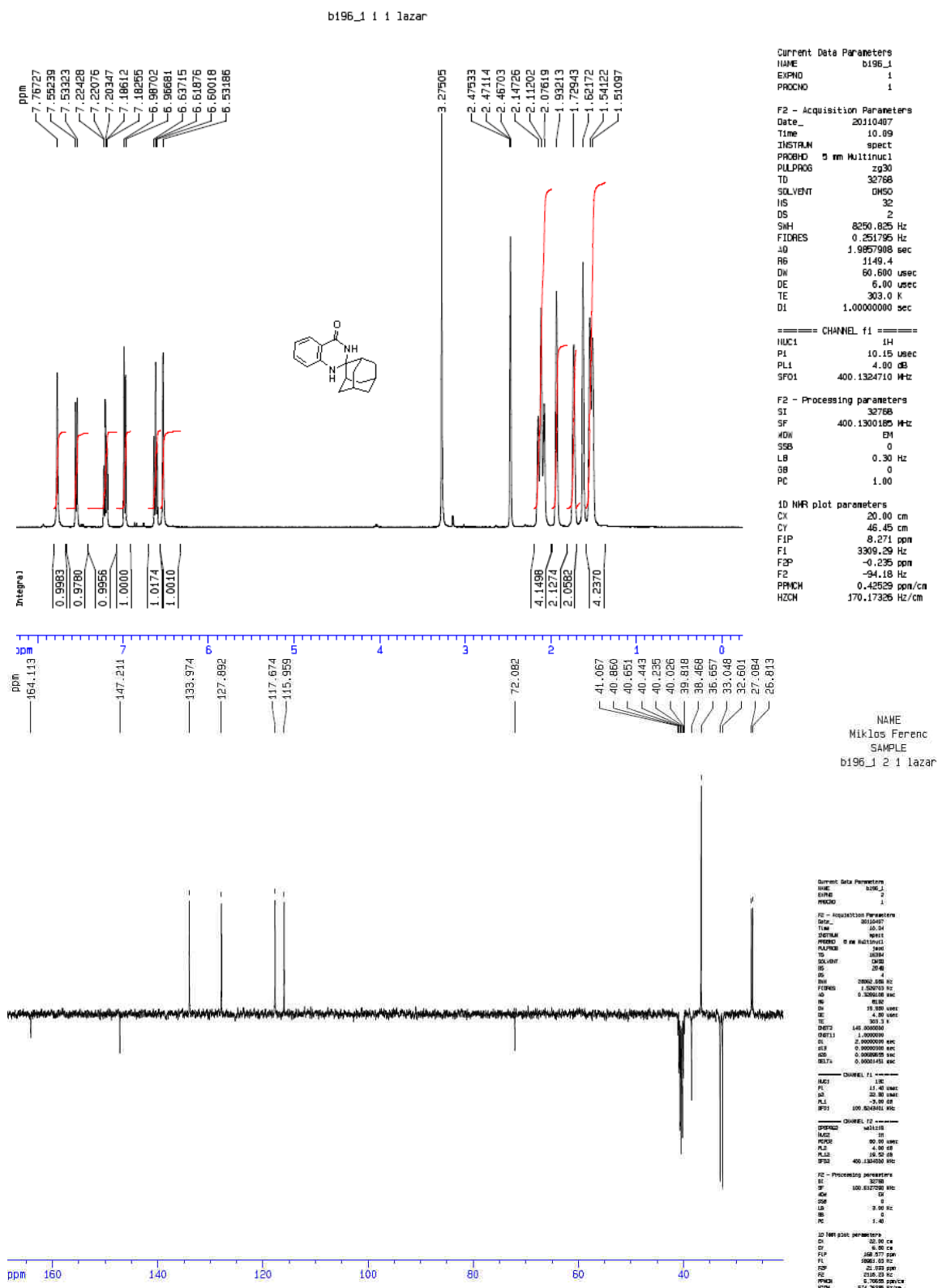
Ferenc Miklós,<sup>a</sup> Alexandra Petrisor,<sup>a</sup> and Ferenc Fülöp<sup>\*a,b</sup>

<sup>a</sup> *Institute of Pharmaceutical Chemistry, and* <sup>b</sup> *Stereochemistry Research Group of the Hungarian Academy of Sciences, University of Szeged, H-6720 Szeged, Eötvös utca 6, Hungary*

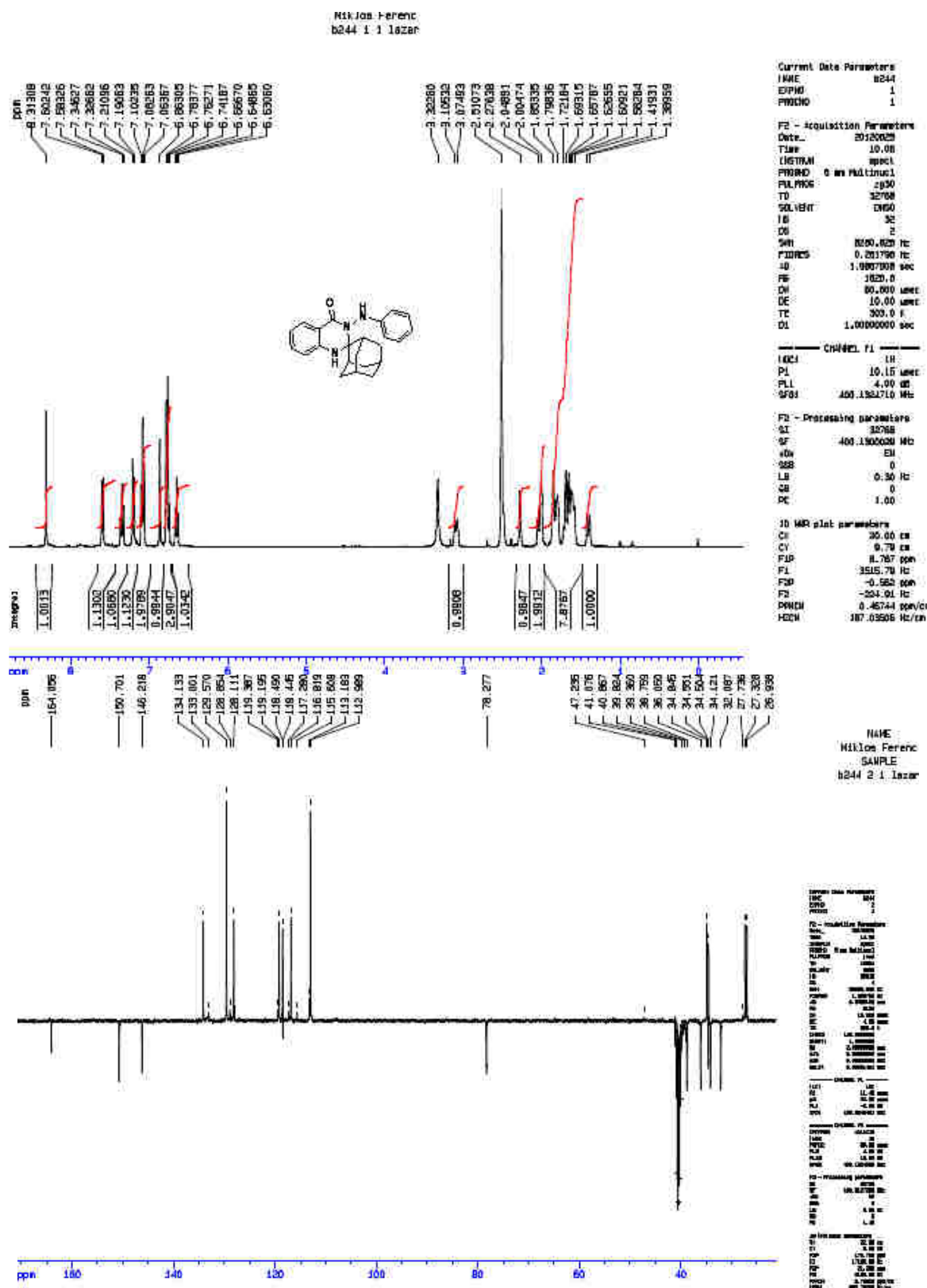
E-mail: [fulop@pharm.u-szeged.hu](mailto:fulop@pharm.u-szeged.hu)

**Contents: Copies of the <sup>1</sup>H and <sup>13</sup>C NMR spectra**

Spiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,2'(1*H*)-quinazolin]-4'(3*H*)-one (3a)

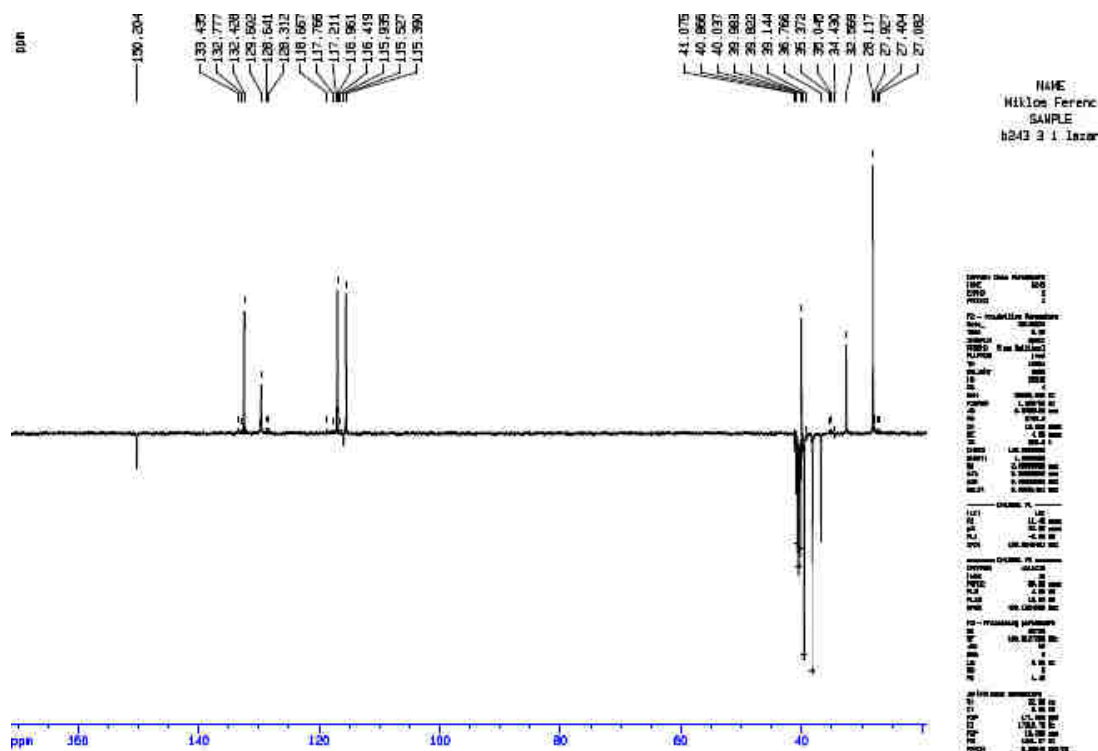
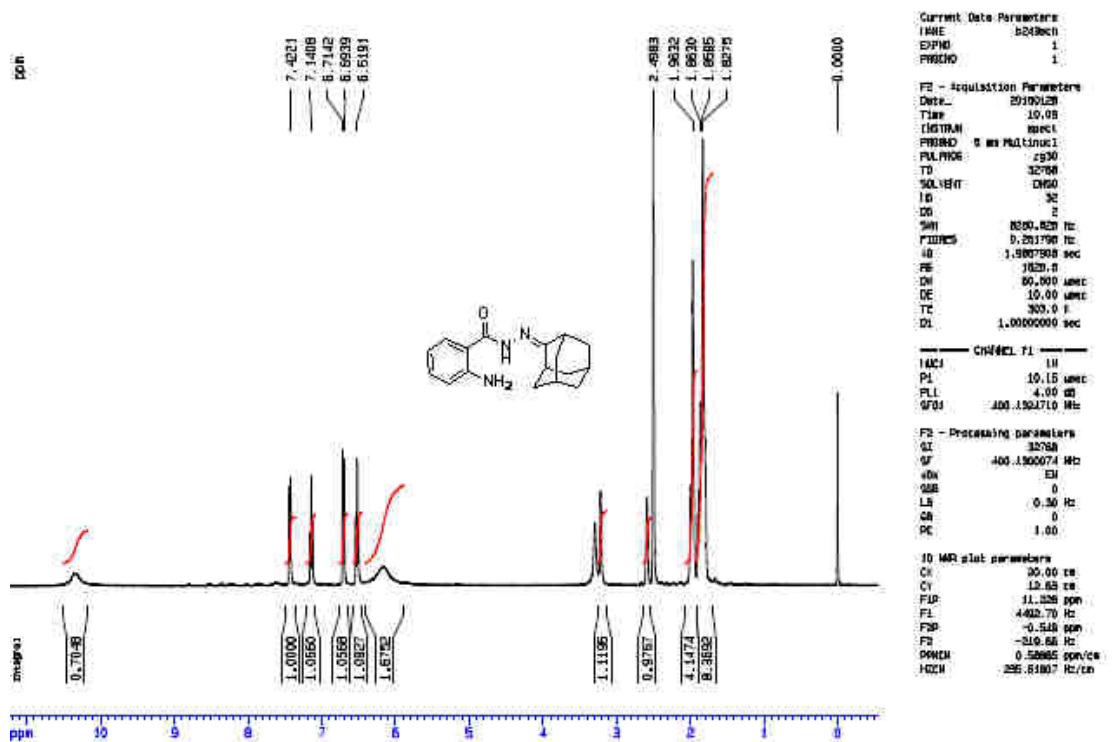


3'-(Phenylamino)-1'H-spiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,2'(1'H)-quinazolin]-4'(3'H)-one (3b)



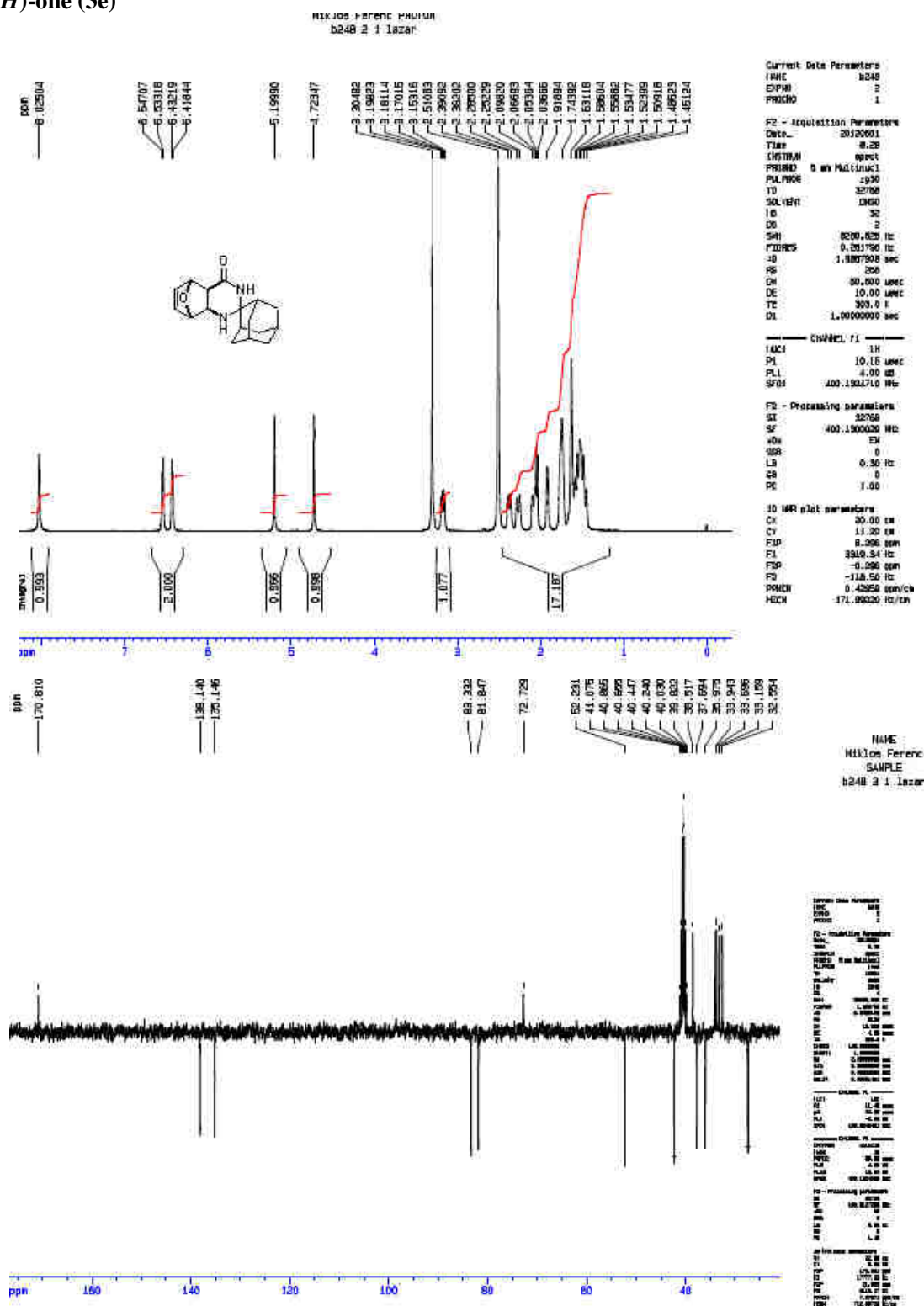
2-Amino-N'-tricyclo[3.3.1.1<sup>3,7</sup>]decanylidenebenzohydrazide (3c)

Miklos Ferenc  
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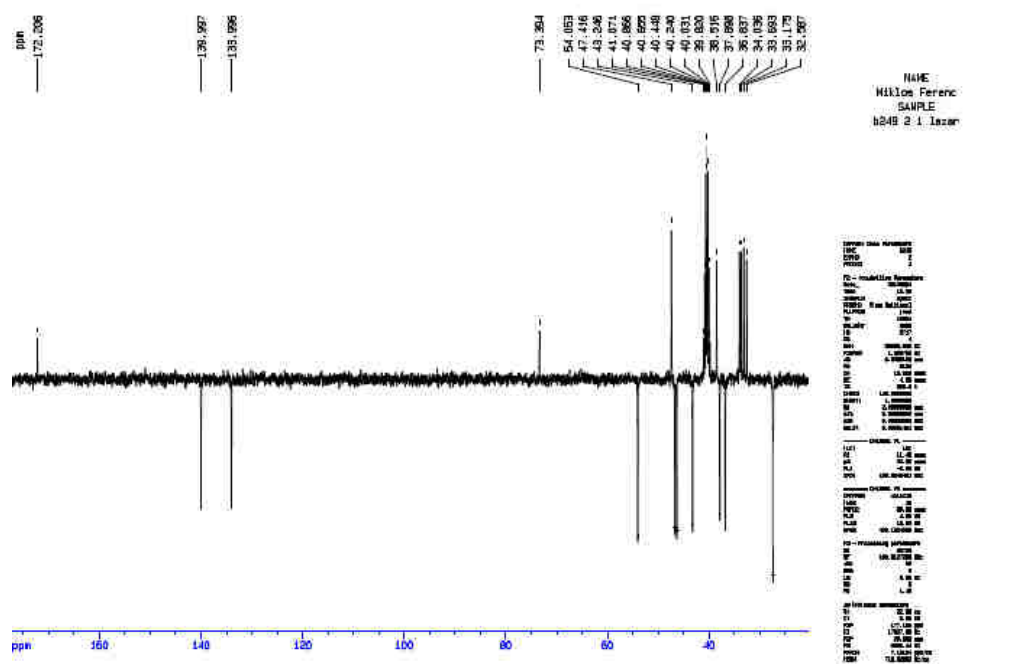
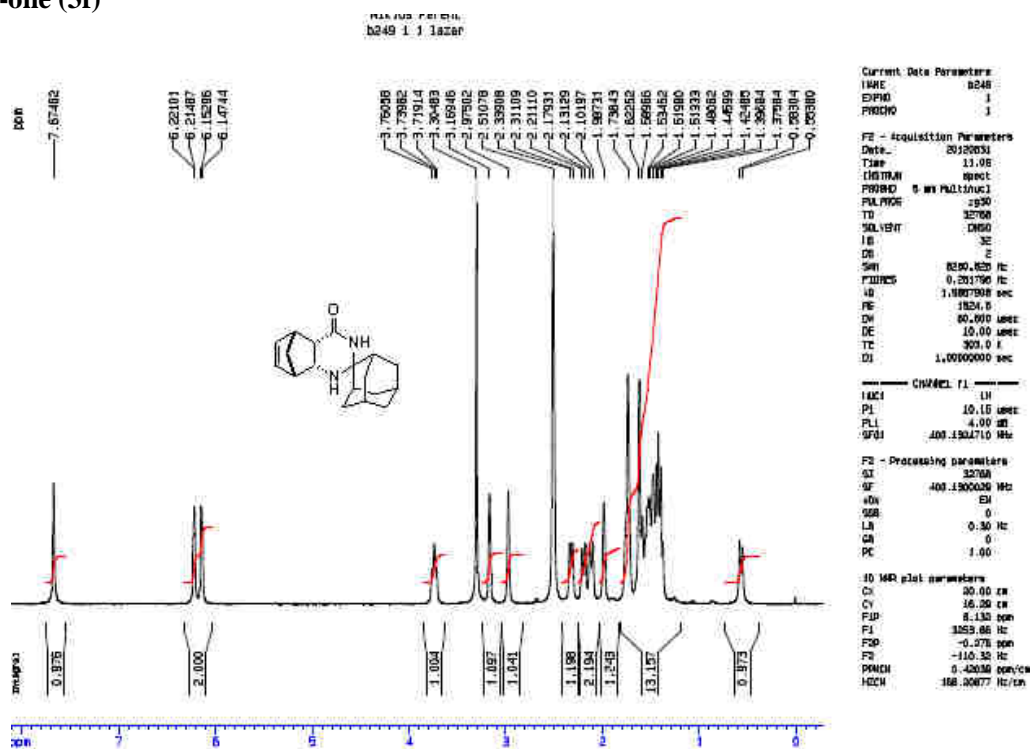




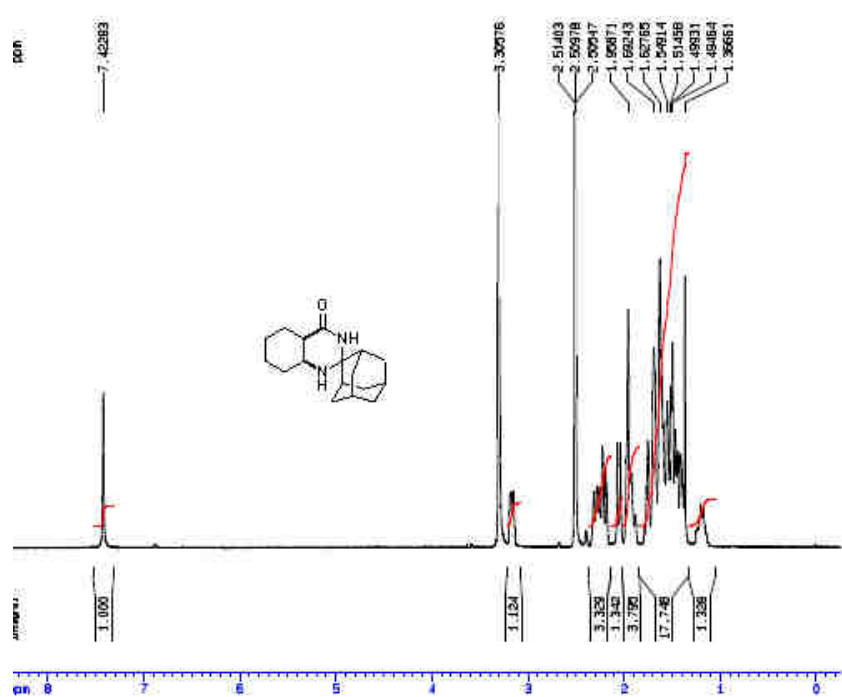
**diexo-5',8'-Epoxy-4a',5',8',8a'-tetrahydro-1'H-spiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,2'-quinazolin]-4'(3'H)-one (3e)**



*diendo-5',8'-Methano-4a',5',8',8a'-tetrahydro-1'H-spiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,2'-quinazolin]-4'(3'H)-one (3f)*



*cis*-Hexahydro-1'*H*-spiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,2'-quinazolin]-4'(3'*H*)-one (3g)



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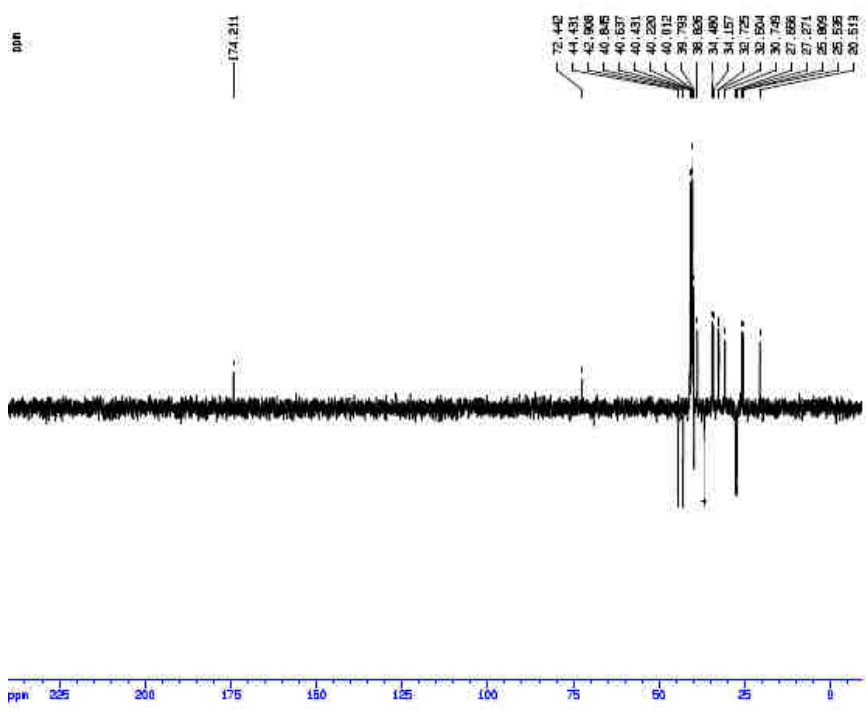
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TE       10.00 usec
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CY       184.94 cm
FIDP     8.413 ppm
FLP      3386.34 Hz
F2P     -0.355 ppm
F2       -102.00 Hz
SFOEND   0.43540 mag/1 cm
H2CM     473.41705 Hz/cm
    
```



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NAME
Hikloa Ferenc
SAMPLE
h254 2 i Iszar

===== CHANNEL f1 =====
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PL1      0.00 dB
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SOLVENT DMSO
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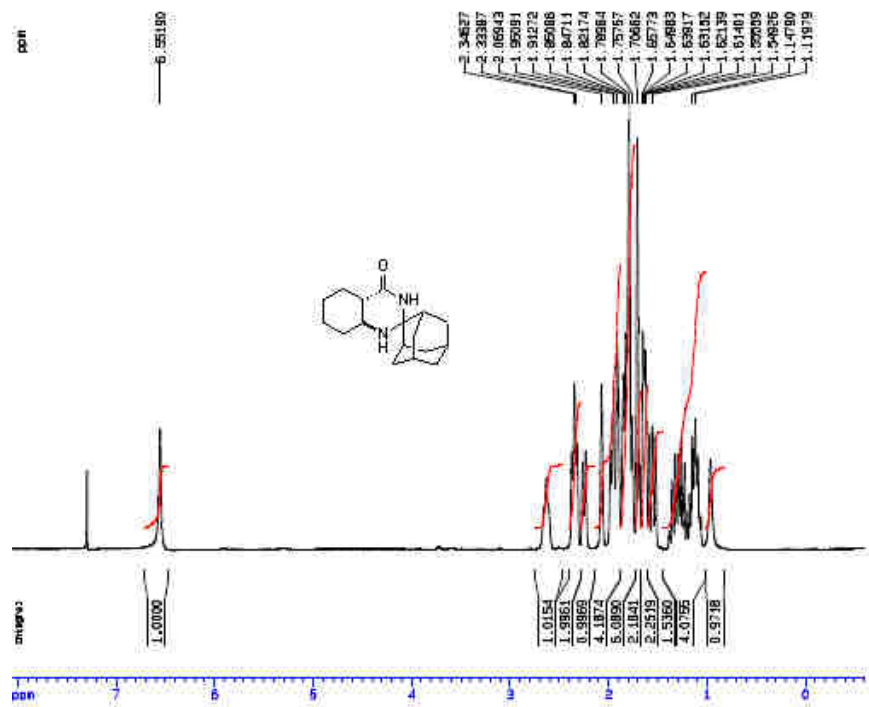
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F0 MPR plot parameters
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CY       184.94 cm
FIDP     8.413 ppm
FLP      3386.34 Hz
F2P     -0.355 ppm
F2       -102.00 Hz
SFOEND   0.43540 mag/1 cm
H2CM     473.41705 Hz/cm
    
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*trans*-Hexahydro-1*H*-spiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,2'-quinazolin]-4'(3*H*)-one (3h)

MILTON FERENC  
b255 i 1 lazar



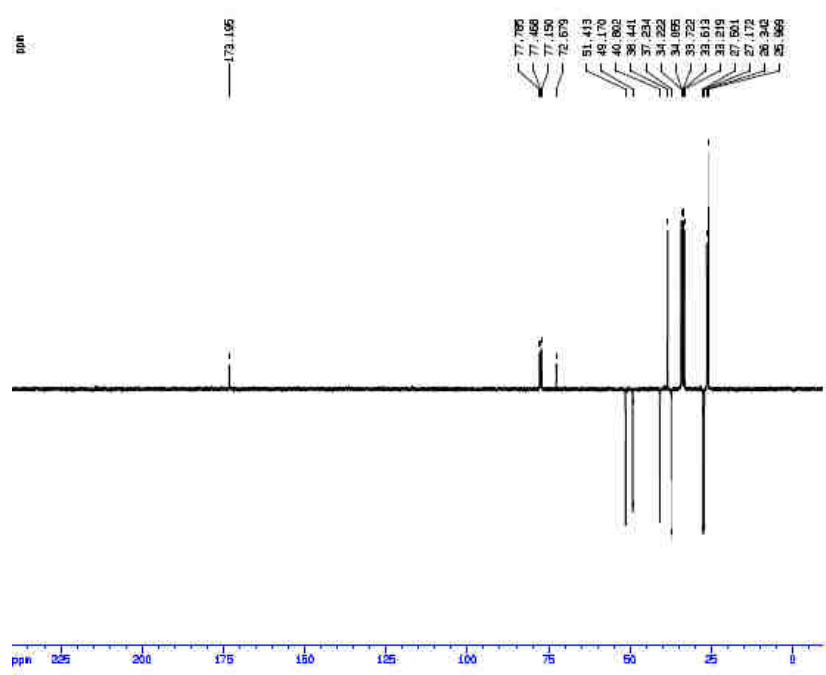
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Channel f1  
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F2P -0.001 ppm  
F3 -240.28 Hz  
SFOH 0.48373 ppm/cyc  
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NAME  
MILTON FERENC  
SAMPLE  
b255 2 i 1 lazar

Current Data Parameters  
NAME  
EXPNO  
PROCNO

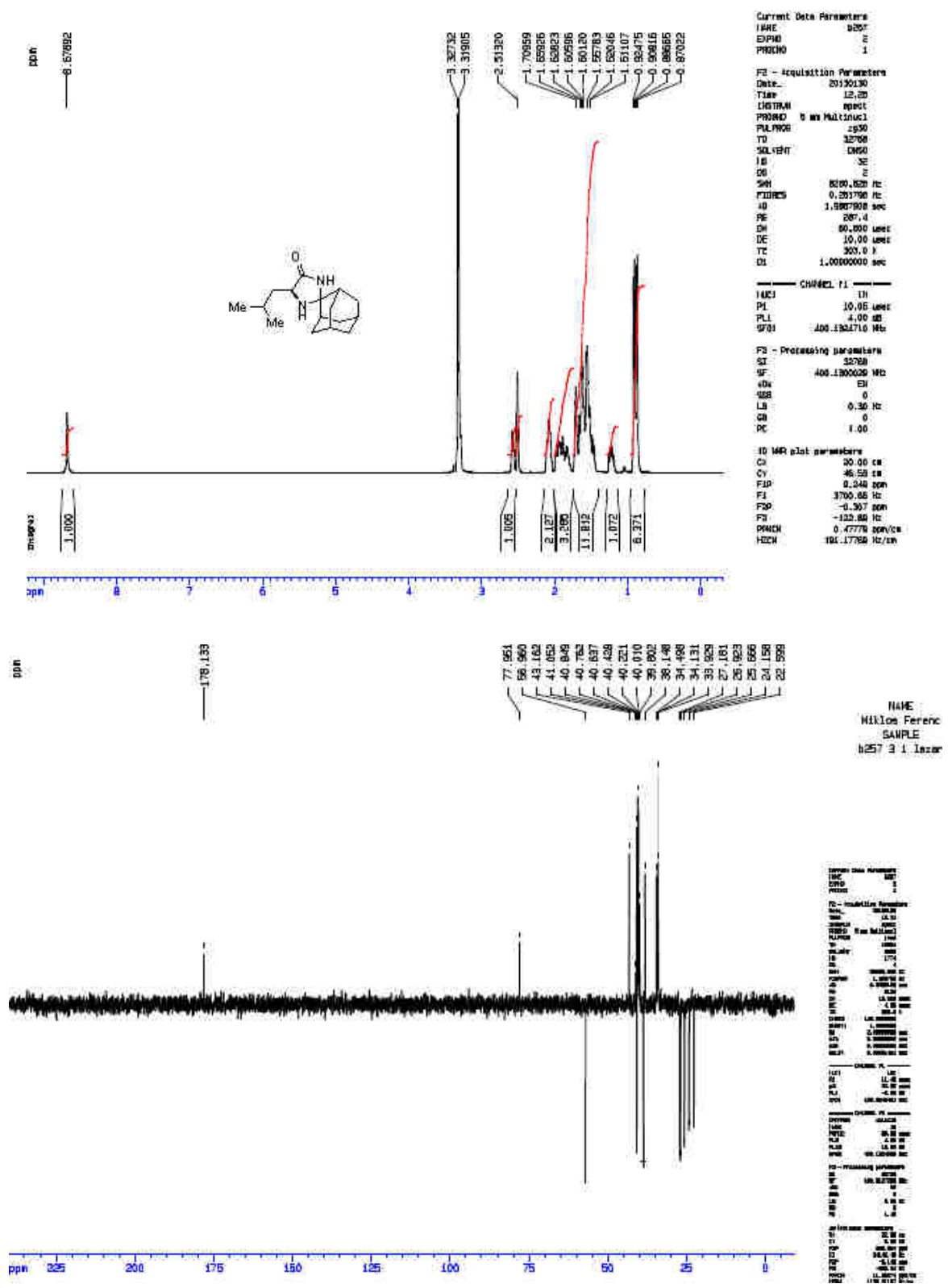
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PULPROG  
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DS  
SWH  
FIDRES  
AQ  
RG  
CW  
DE  
TE  
DQ

Channel f1  
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P1  
PL1  
SFO1

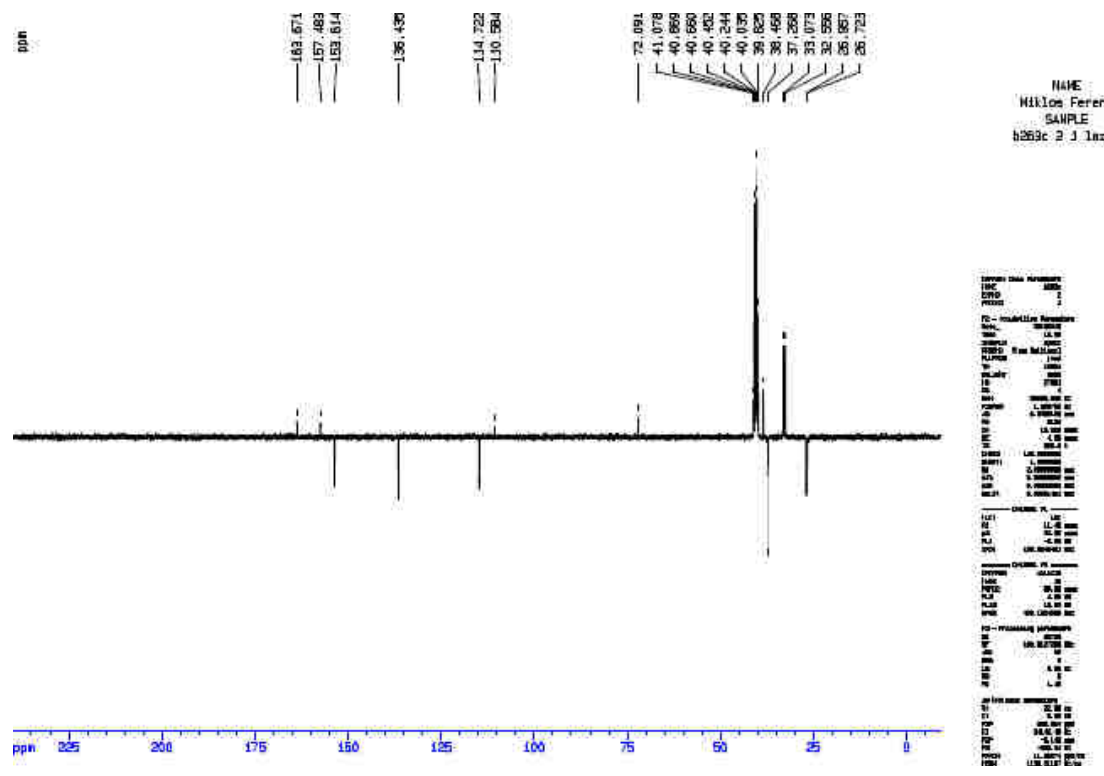
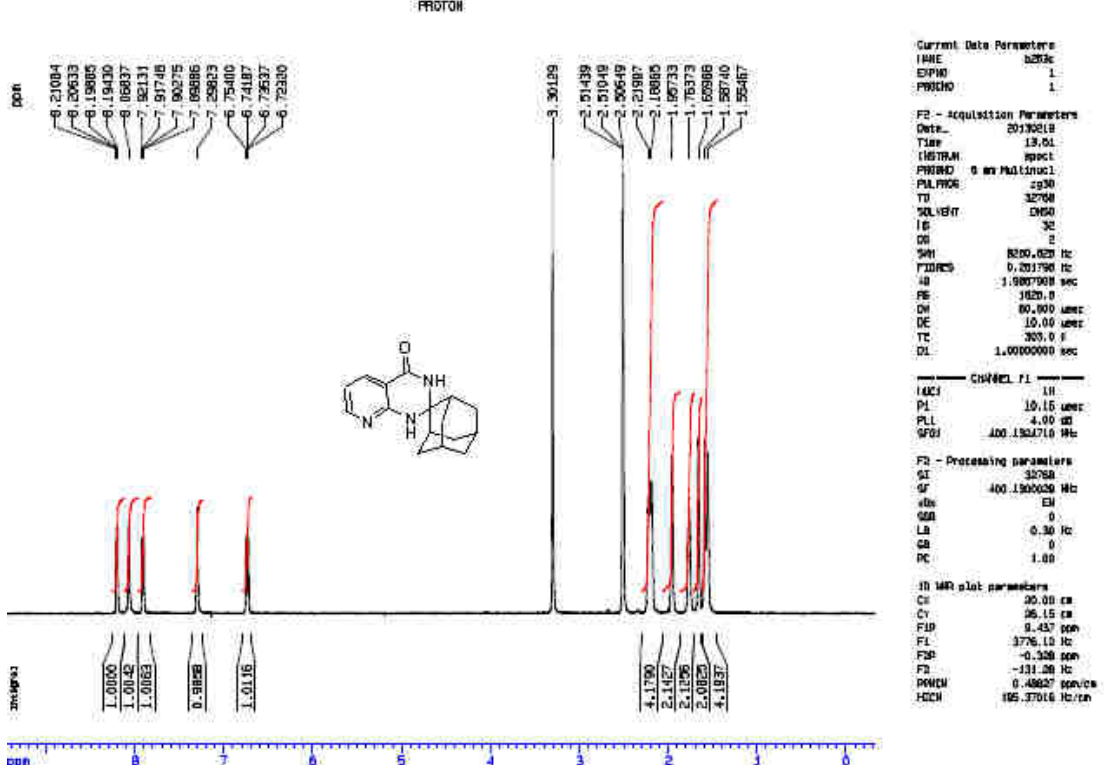
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WDW  
SSB  
LB  
GB  
PC

ID NMR plot parameters  
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CY  
FIDP  
F1  
F2P  
F3  
SFOH  
H2CH

(5'S)-5'-Isobutylspiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,2'-imidazolidin]-4'-one (3i)

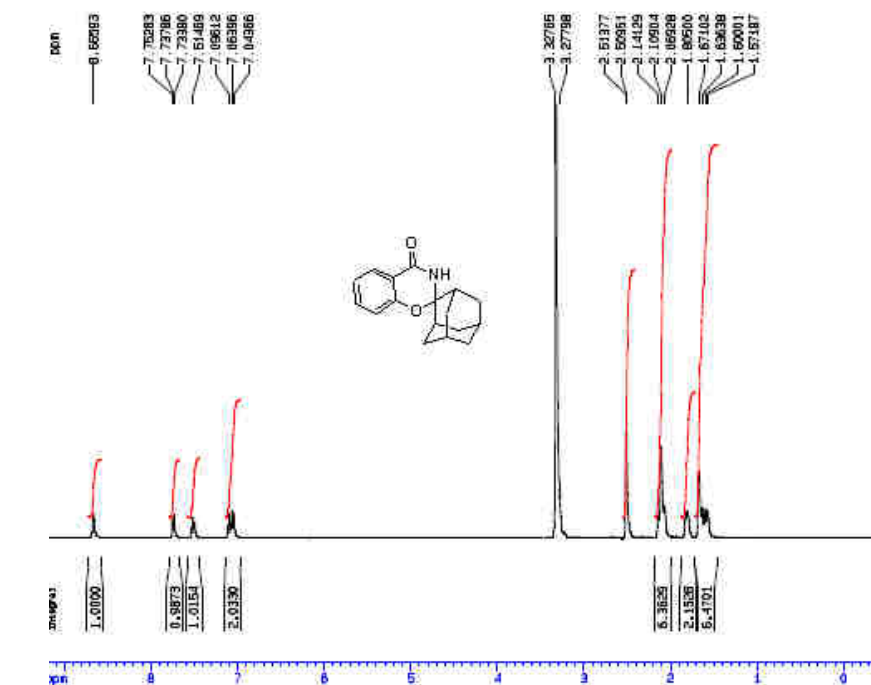


**1<sup>H</sup>-Spiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,2'-pyrido[2,3-d]pyrimidin]-4'(3'*H*)-one (3j)**



Spiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,2'-pyrido[3,2-*e*][1,3]oxazin]-4'(3'*H*)-one (3k)

Niklos Ferenc  
b251 1 1 Izaz



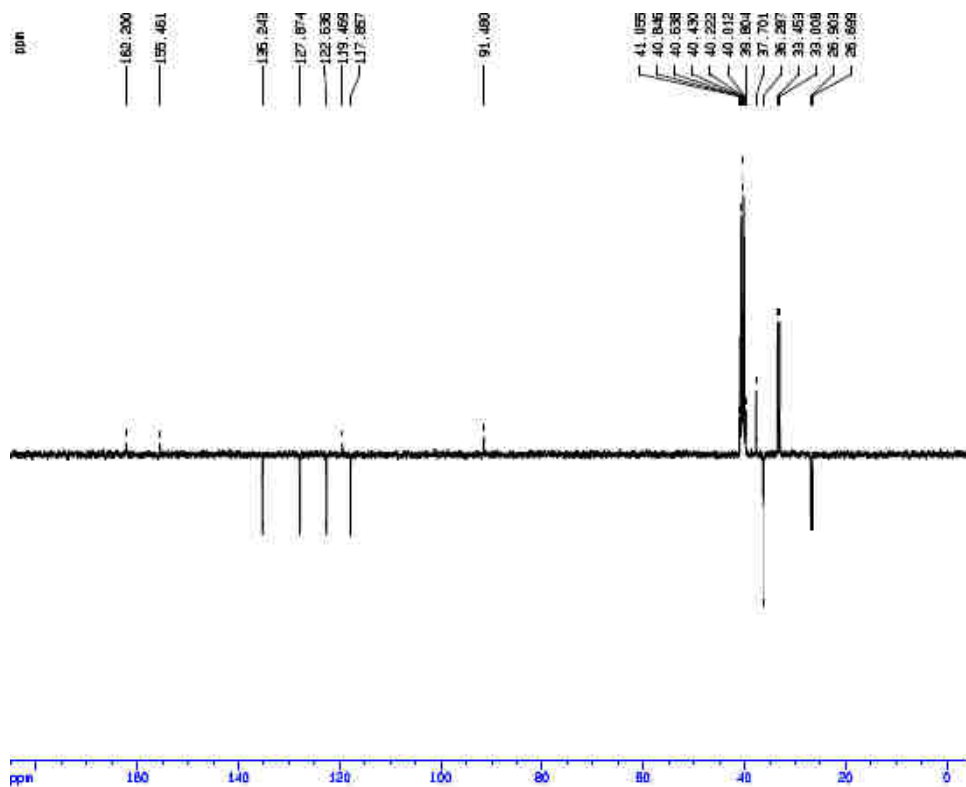
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SOLVENT: CHCl3  
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SWH: 6200.820 Hz  
FIDRES: 0.201750 Hz  
AQ: 1.9807500 sec  
RG: 1020.0  
DE: 80.000 umic  
DC: 10.000 umic  
TE: 303.0 K  
DQ: 1.00000000 sec

CHANNEL f1  
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SFO1: 400.146210 MHz

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GD MAG plot parameters  
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CY: 30.71 um  
FID: 0.014 umic  
FI: 3686.04 Hz  
FSD: -0.372 umic  
PS: -148.87 Hz  
PRNDI: 0.47936 umic/Hz  
HDCN: 101.78059 Hz/Hz



NAME:  
Niklos Ferenc  
SAMPLE  
b251 2 1 Izaz

Current Data Parameters  
NAME: b251  
EXPNO: 1  
PROCNO: 1

F2 - Acquisition Parameters  
Date\_: 20130130  
Time: 8.27  
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PROBHD: 5 mm Multispec1  
PULPROG: zgpg30  
TD: 32768  
SOLVENT: CHCl3  
NS: 2  
DS: 2  
SWH: 6200.820 Hz  
FIDRES: 0.201750 Hz  
AQ: 1.9807500 sec  
RG: 1020.0  
DE: 80.000 umic  
DC: 10.000 umic  
TE: 303.0 K  
DQ: 1.00000000 sec

CHANNEL f1  
NUC1: 13C  
P1: 12.00 umic  
PL1: 0.00 Hz  
SFO1: 101.625400 MHz

F2 - Processing parameters  
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SF: 101.625400 MHz  
WDW: EM  
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GB: 0  
PC: 1.00

GD MAG plot parameters  
CX: 00.00 um  
CY: 30.71 um  
FID: 0.014 umic  
FI: 3686.04 Hz  
FSD: -0.372 umic  
PS: -148.87 Hz  
PRNDI: 0.47936 umic/Hz  
HDCN: 101.78059 Hz/Hz

1'-Phenyl-5',7'-dihydrospiro[tricyclo[3.3.1.1<sup>3,7</sup>]decane-2,6'-pyrazolo[3,4-d]pyrimidin]-4'(1'H)-one (3l)

