Application of the Synthetic Aminosugars for Glyco-diversification: Synthesis and Antimicrobial Studies of Pyranmycin

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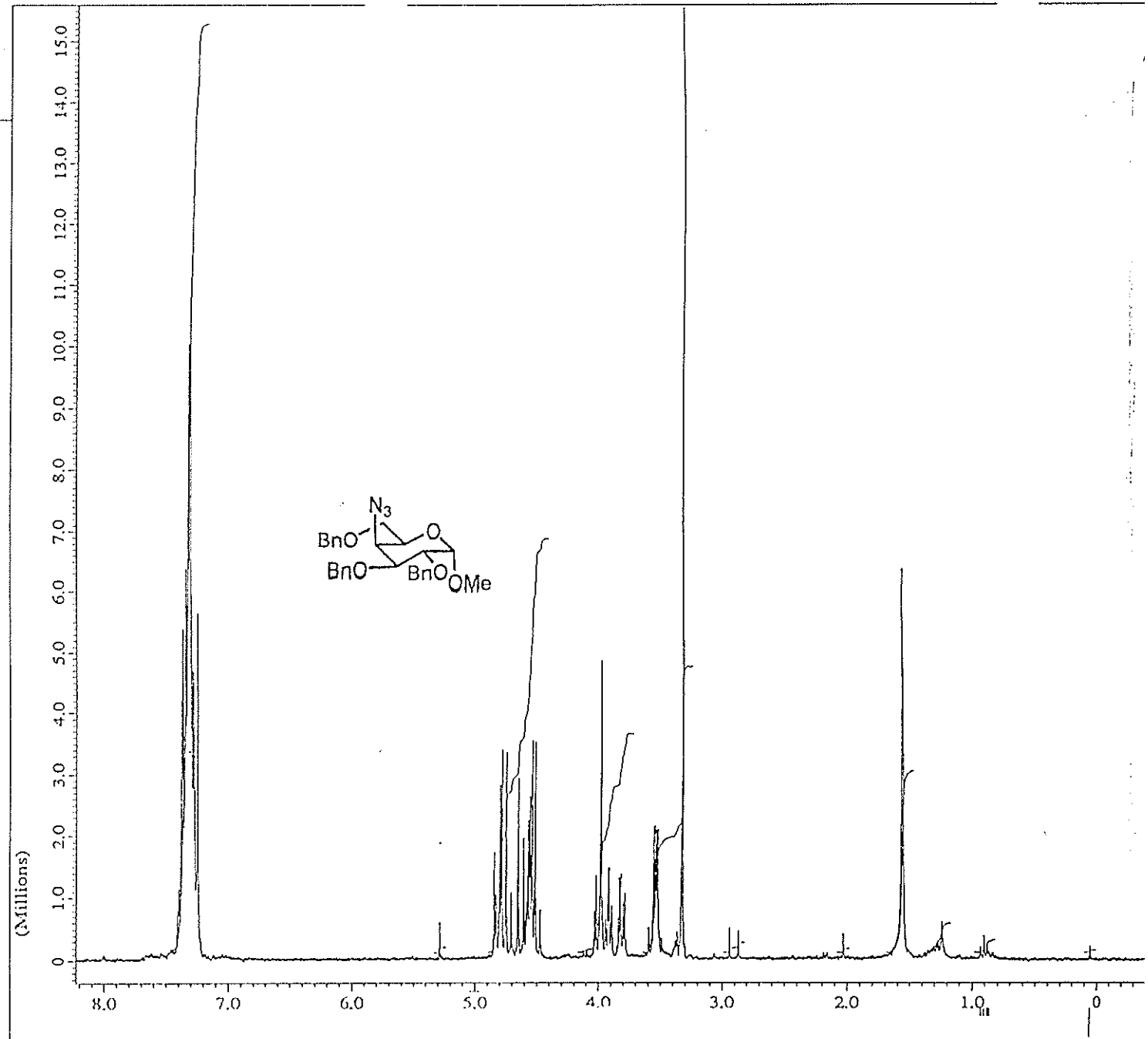
Supporting Information

Table of Content

JEOL

File Name	= proton.346
Author	=
Sample ID	= S#392200
Content	= Single Pulse Experimen
Creation Date	= 2-AUG-2000 10:55:04
Revision Date	= 2-AUG-2000 10:55:22
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pWidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 27
Relaxation_delay	= 4[s]
Scans	= 4
Solvent	= CHLOROFORM-D
Spin_get	= 18[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 18.9[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Methyl 4-azido-2,3,6-tri-*O*-benzyl-4-deoxy-α-D-galactopyranoside (4).

File Name	= 1d_13c_spectrum.35
Author	=
Sample ID	= S#291222
Content	= Single Pulse with Broa
Creation Date	= 25-FEB-2001 08:45:21
Revision Date	= 25-FEB-2001 09:03:14
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 779
Solvent	= CHLOROFORM-D
Spin_act	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_act	= 20.8[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
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X_pulse	= 2.66666667[us]
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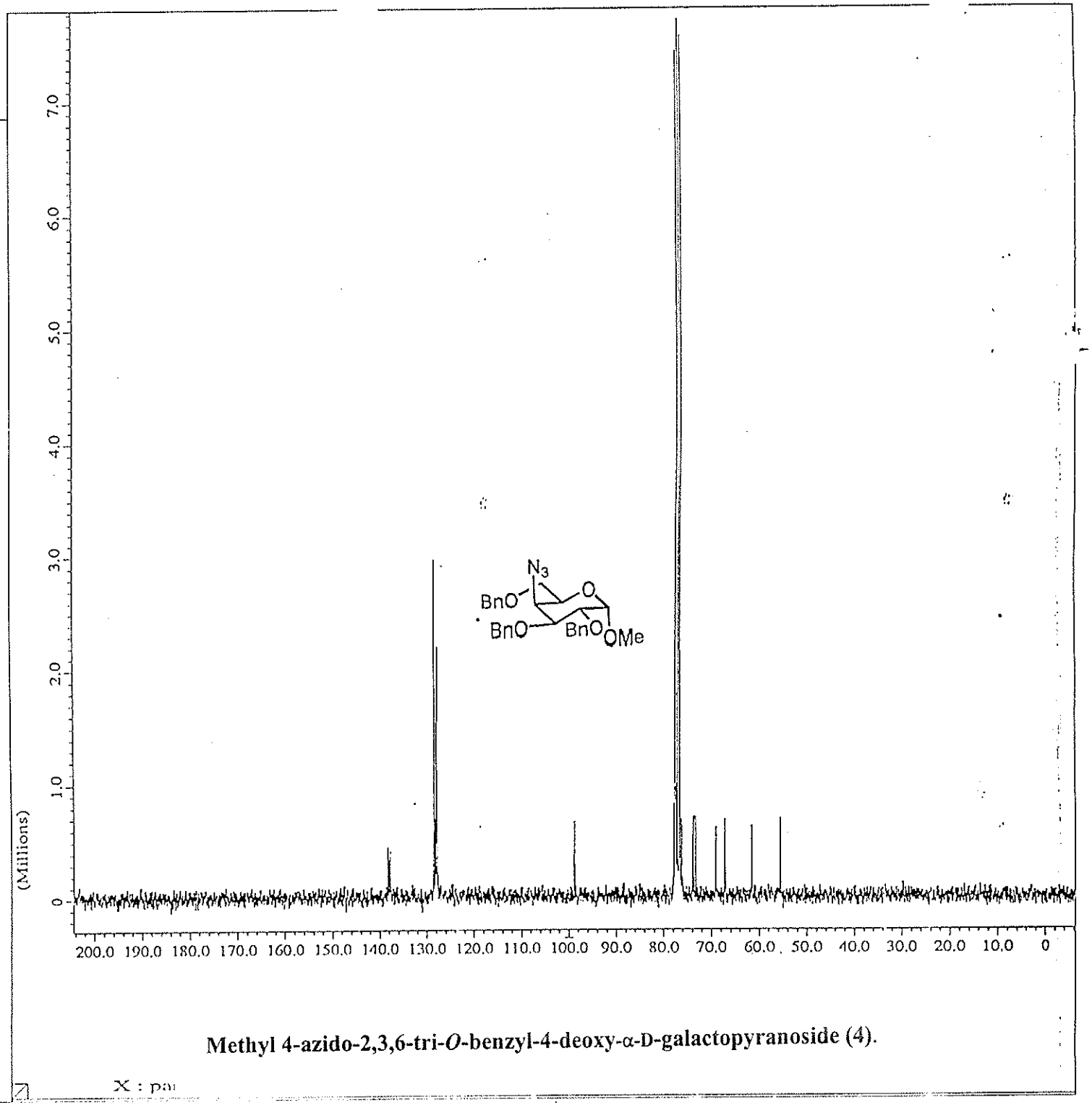
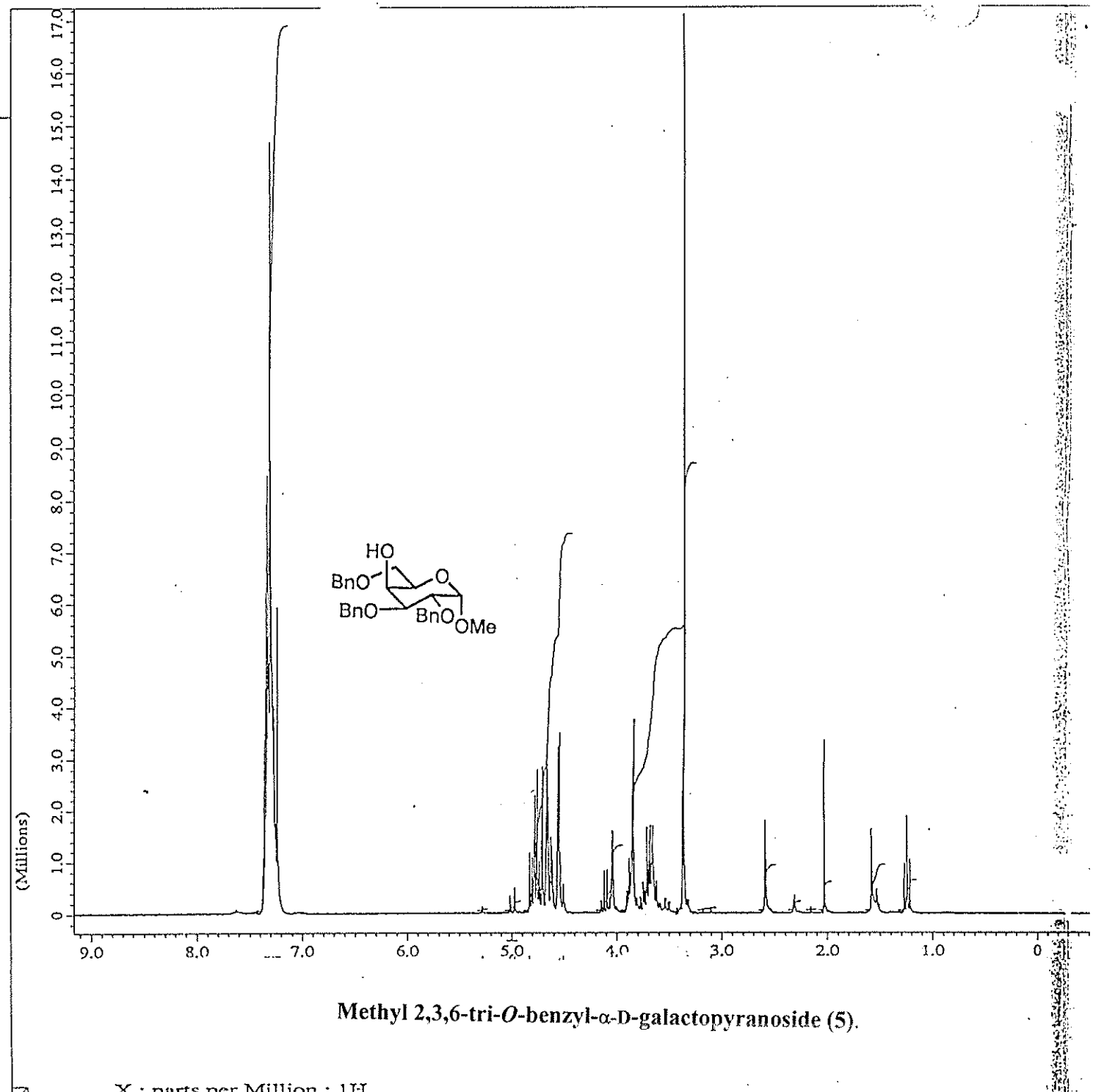
X_sweep	= 17.00680272[kHz]



Methyl 4-azido-2,3,6-tri-*O*-benzyl-4-deoxy-α-D-galactopyranoside (4).

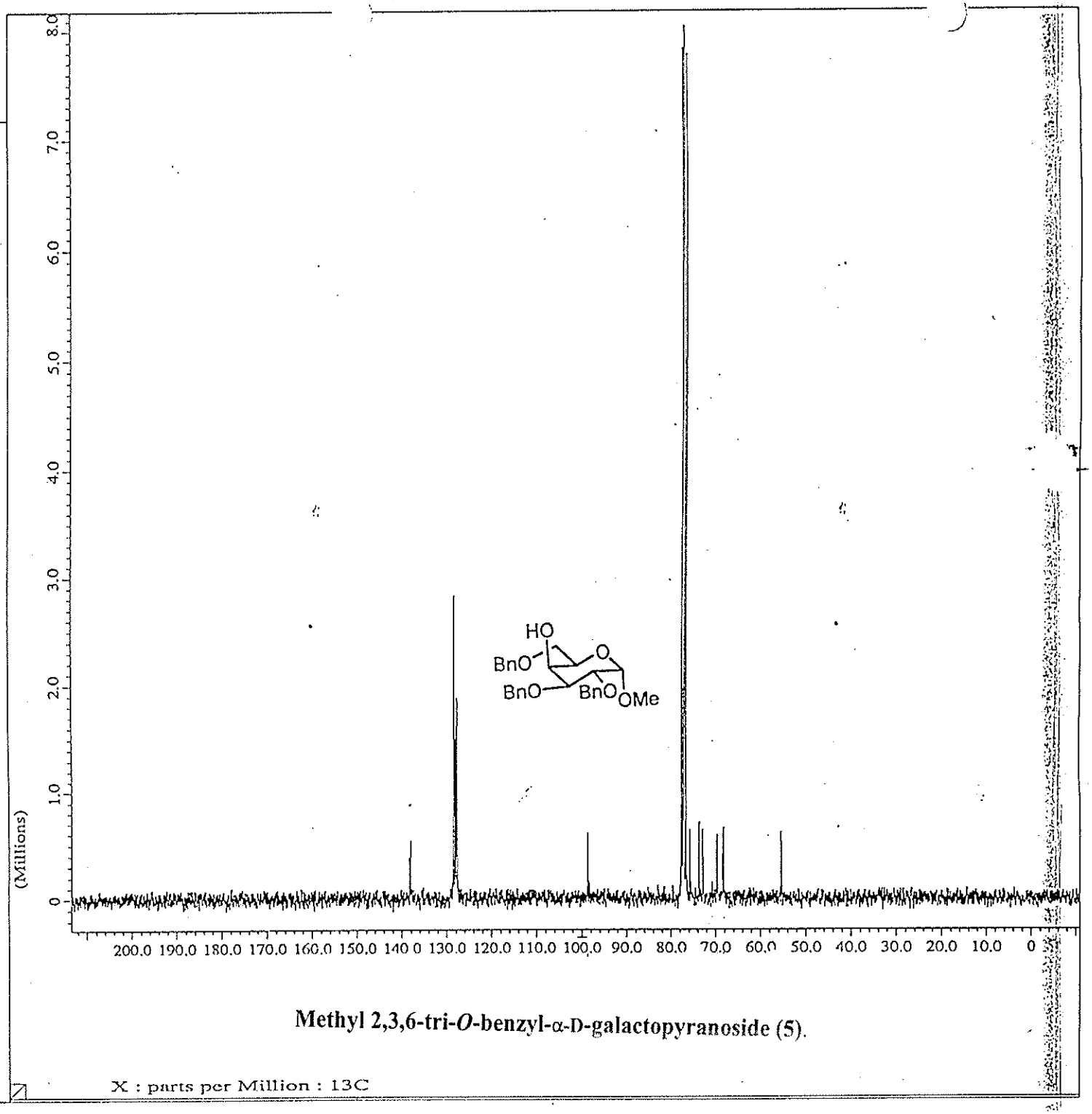
File Name	= proton.101
Author	=
Sample ID	= S#496949
Content	= Single Pulse Experimen
Creation Date	= 31-MAY-2000 13:50:06
Revision Date	= 31-MAY-2000 13:50:36
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 10[us]
Irr90_hi	= 10[us]
Irr90_lo	= 50[us]
Irr_pwidth	= 1[us]
Lock_status	= IDLE
Recvr_gain	= 24
Relaxation_delay	= 4[s]
Scans	= 4
Solvent	= CHLOROFORM-D
Spin_get	= 14[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 19.4[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Methyl 2,3,6-tri-*O*-benzyl-α-D-galactopyranoside (5).

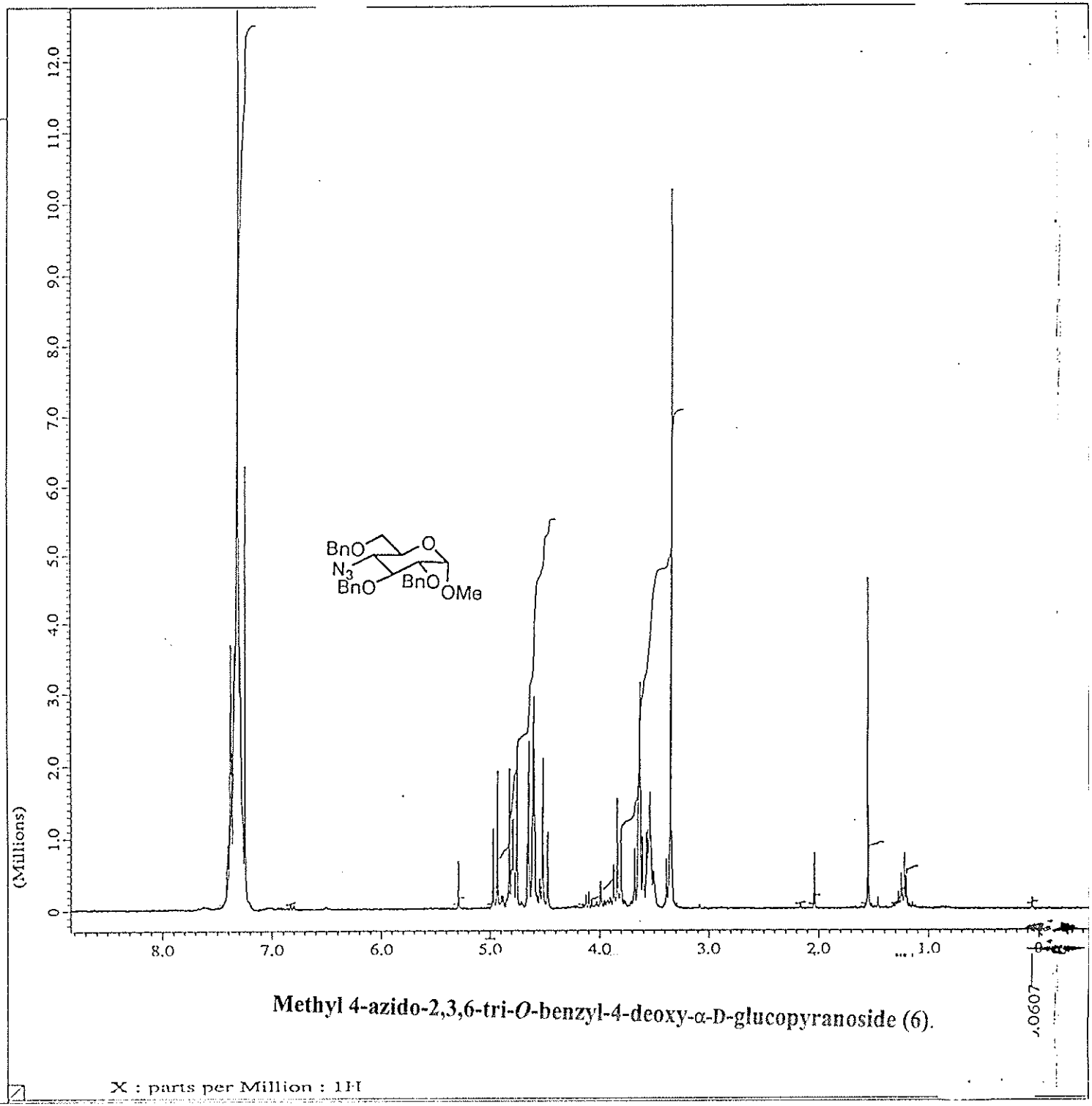
S5

File Name	= 1d_13c_spectrum.34
Author	=
Sample ID	= S#820109
Content	= Single Pulse with Broa
Creation Date	= 24-FEB-2001 23:27:12
Revision Date	= 24-FEB-2001 23:43:25
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 795
Solvent	= CHLOROFORM-D
Spin_act	= 14[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_act	= 21.4[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



Methyl 2,3,6-tri-*O*-benzyl-α-D-galactopyranoside (5).

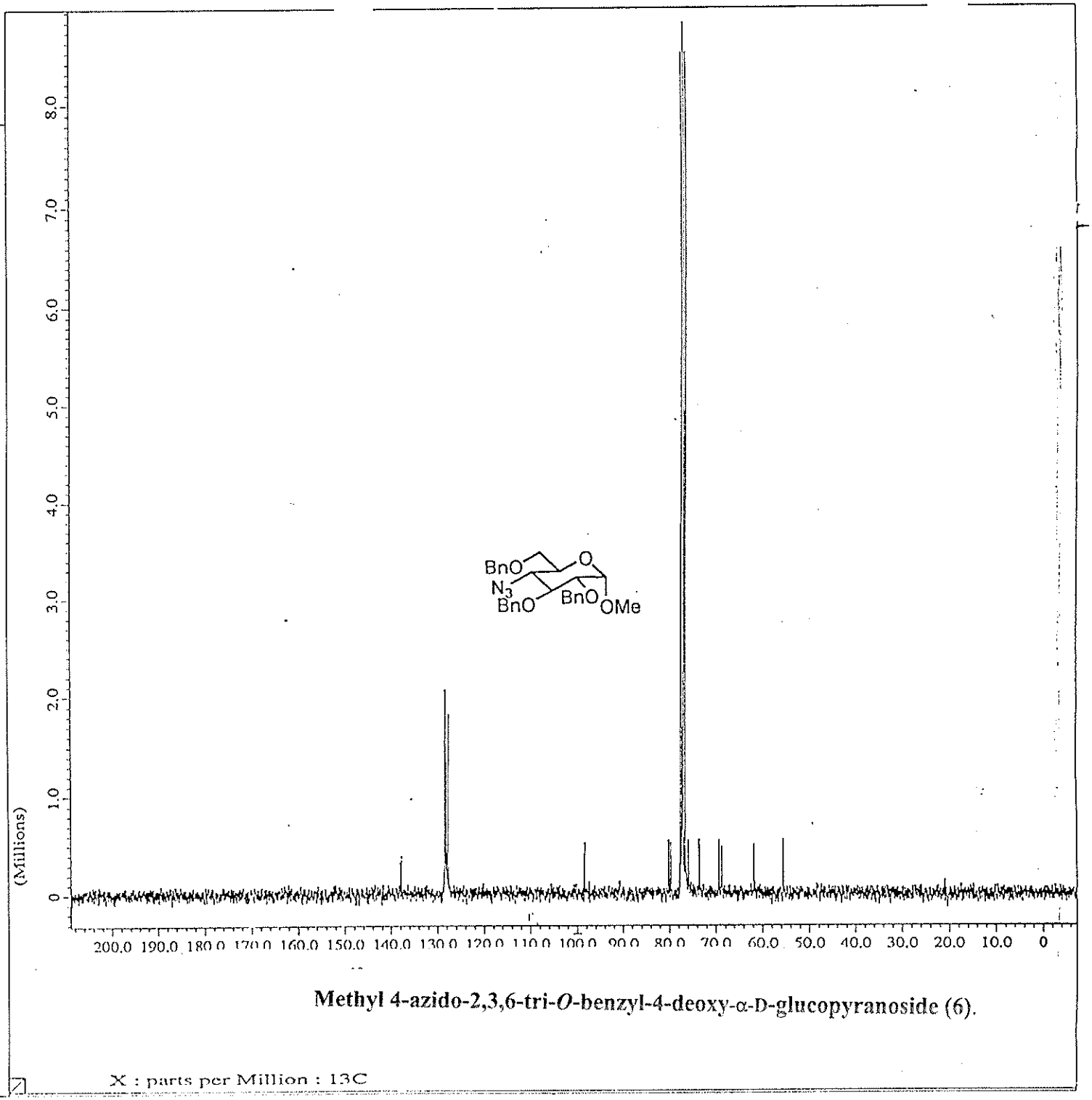
File Name	= proton.109
Author	=
Sample ID	= S#428001
Content	= Single Pulse Experimen
Creation Date	= 2-JUN-2000 11:54:57
Revision Date	= 2-JUN-2000 11:55:19
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 10[us]
Irr90_hi	= 10[us]
Irr90_lo	= 50[us]
Irr_pwidth	= 1[us]
Lock_status	= IDLE
Recvr_gain	= 25
Relaxation_delay	= 4[s]
Scans	= 4
Solvent	= CHLOROFORM-D
Spin_get	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 18.6[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Methyl 4-azido-2,3,6-tri-*O*-benzyl-4-deoxy-α-D-glucopyranoside (6).

JEOL

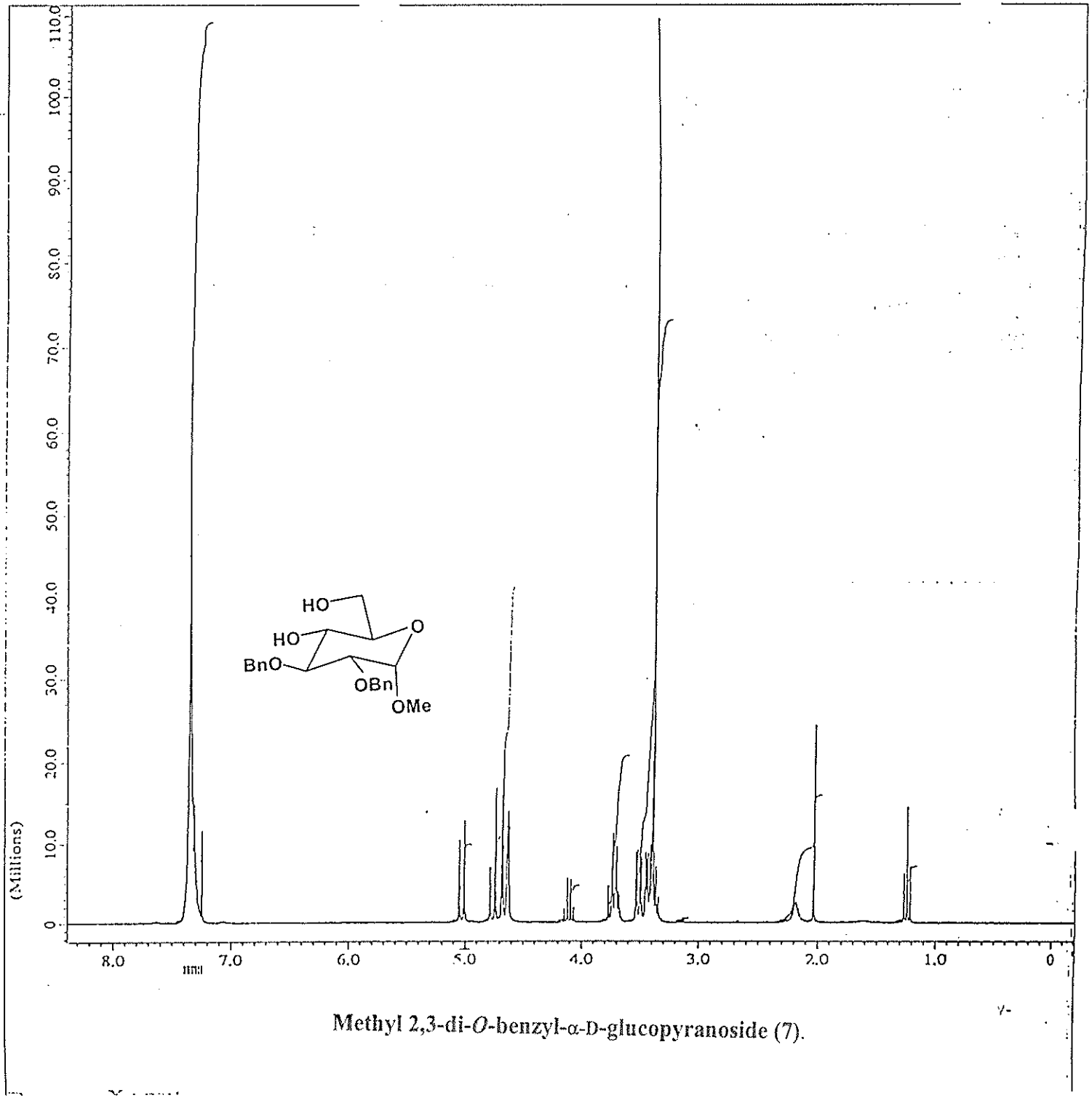
File Name	= 1d_13c_spectrum.36
Author	=
Sample ID	= S#327644
Content	= Single Pulse with Broa
Creation Date	= 25-FEB-2001 09:50:24
Revision Date	= 25-FEB-2001 09:51:12
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 853.0
Solvent	= CHLOROFORM-D
Spin_get	= 14[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20.9[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



Methyl 4-azido-2,3,6-tri-*O*-benzyl-4-deoxy-α-D-glucopyranoside (6).

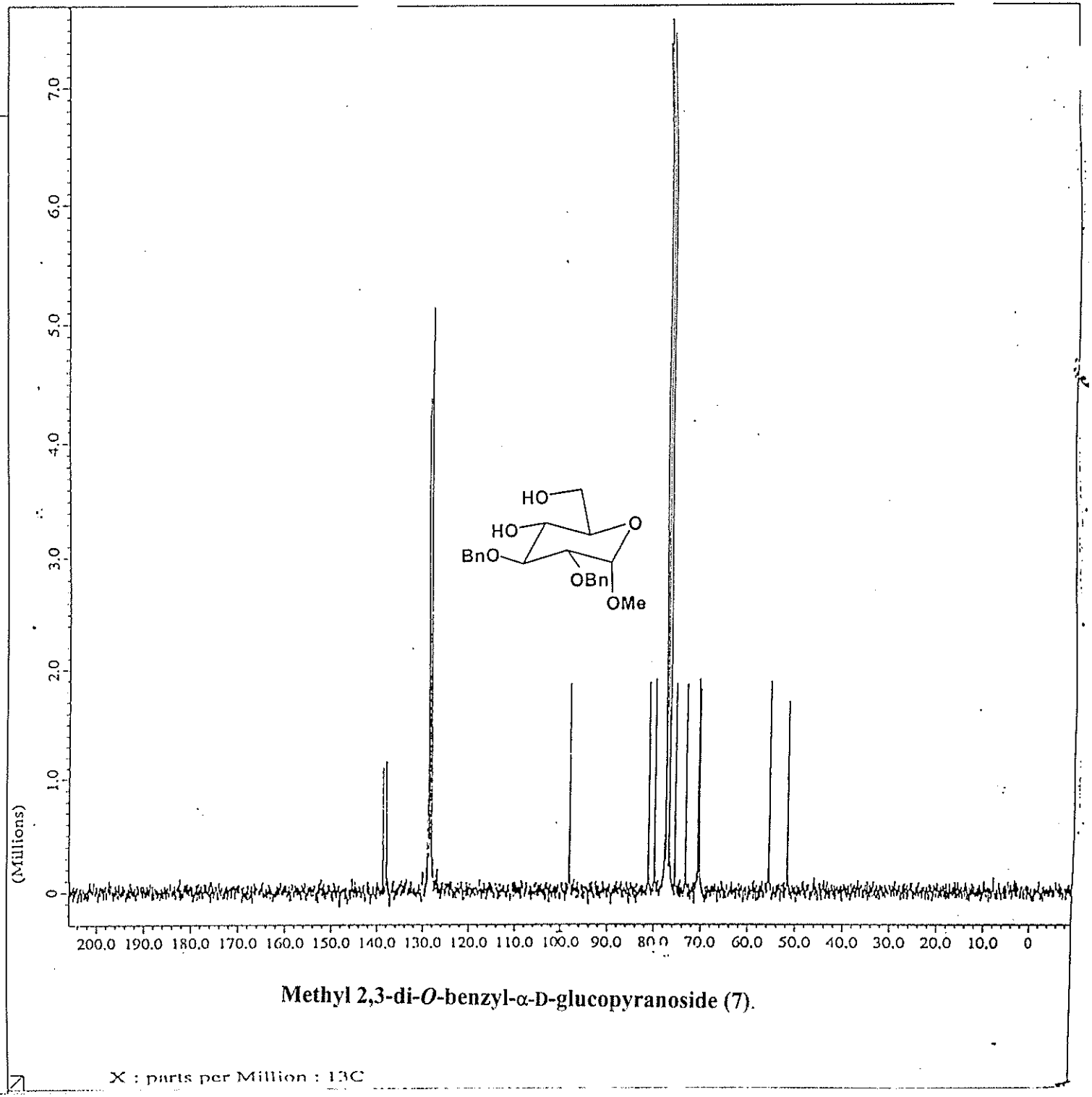
JEOL

File Name	proton.779
Author	
Sample ID	S#811365
Content	Single Pulse Experimen
Creation Date	2-JAN-2001 22:35:32
Revision Date	2-JAN-2001 22:35:49
Spec Site	GSX 270
Spec Type	DELTA NMR
Data Format	1D COMPLEX
Dimensions	X
Dim Title	1H
Dim Size	16384
Dim Units	[ppm]
Acq_delay	0.1822[ms]
Changer_sample	0
Experiment	single_pulse.exp
Field_strength	6.345446[T]
Irr90	10[us]
Irr90_hi	10[us]
Irr90_lo	10[us]
Irr_pwidth	1[us]
Lock_status	IDLE
Recvr_gain	28
Relaxation_delay	4[s]
Scans	16
Solvent	CHLOROFORM-D
Spin_get	9[Hz]
Spin_lock_90	0.1[ms]
Spin_lock_attn	29[dB]
Spin_set	15[Hz]
Spin_state	SPIN ON
Spin_status	SPIN ON
Temp_get	16.1[dC]
Temp_set	21.0[dC]
Temp_state	TEMP OFF
Temp_status	TEMP OFF
X90	11.3[us]
X90_hi	18[us]
X90_lo	36[us]
X_acq_duration	3.03104[s]
X_domain	1H
X_freq	270.16743928[MHz]
X_offset	5.0[ppm]
X_points	16384
X_prescans	0
X_pulse	5.65[us]
X_resolution	0.32991976[Hz]
X_sweep	5.40540541[kHz]



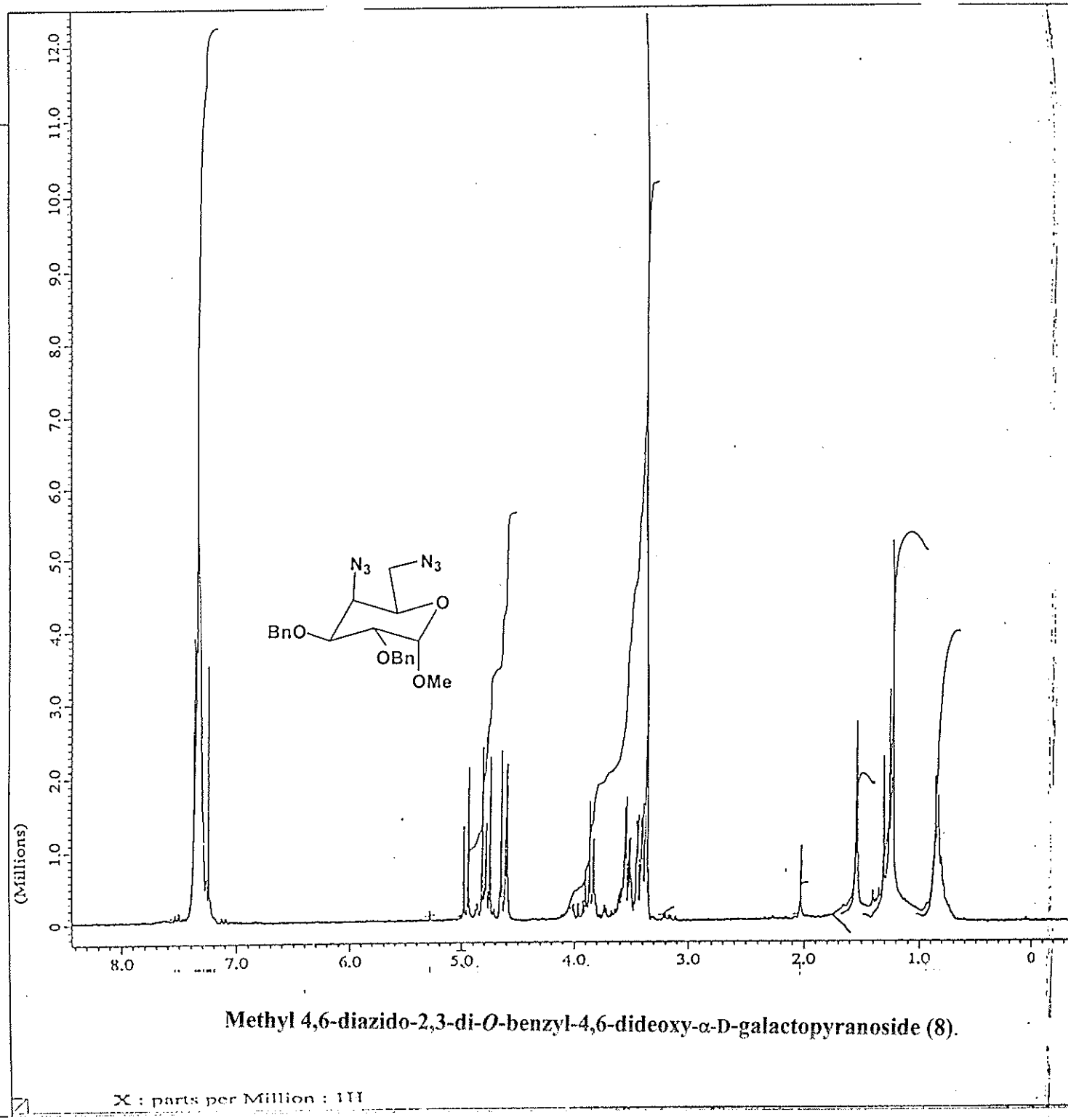
Methyl 2,3-di-*O*-benzyl-α-D-glucopyranoside (7).

File Name	= 1d_13c_spectrum.33
Author	=
Sample ID	= S#793396
Content	= Single Pulse with Broa
Creation Date	= 24-FEB-2001 22:43:54
Revision Date	= 24-FEB-2001 22:44:39
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 797
Solvent	= CHLOROFORM-D
Spin_get	= 14[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.3[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



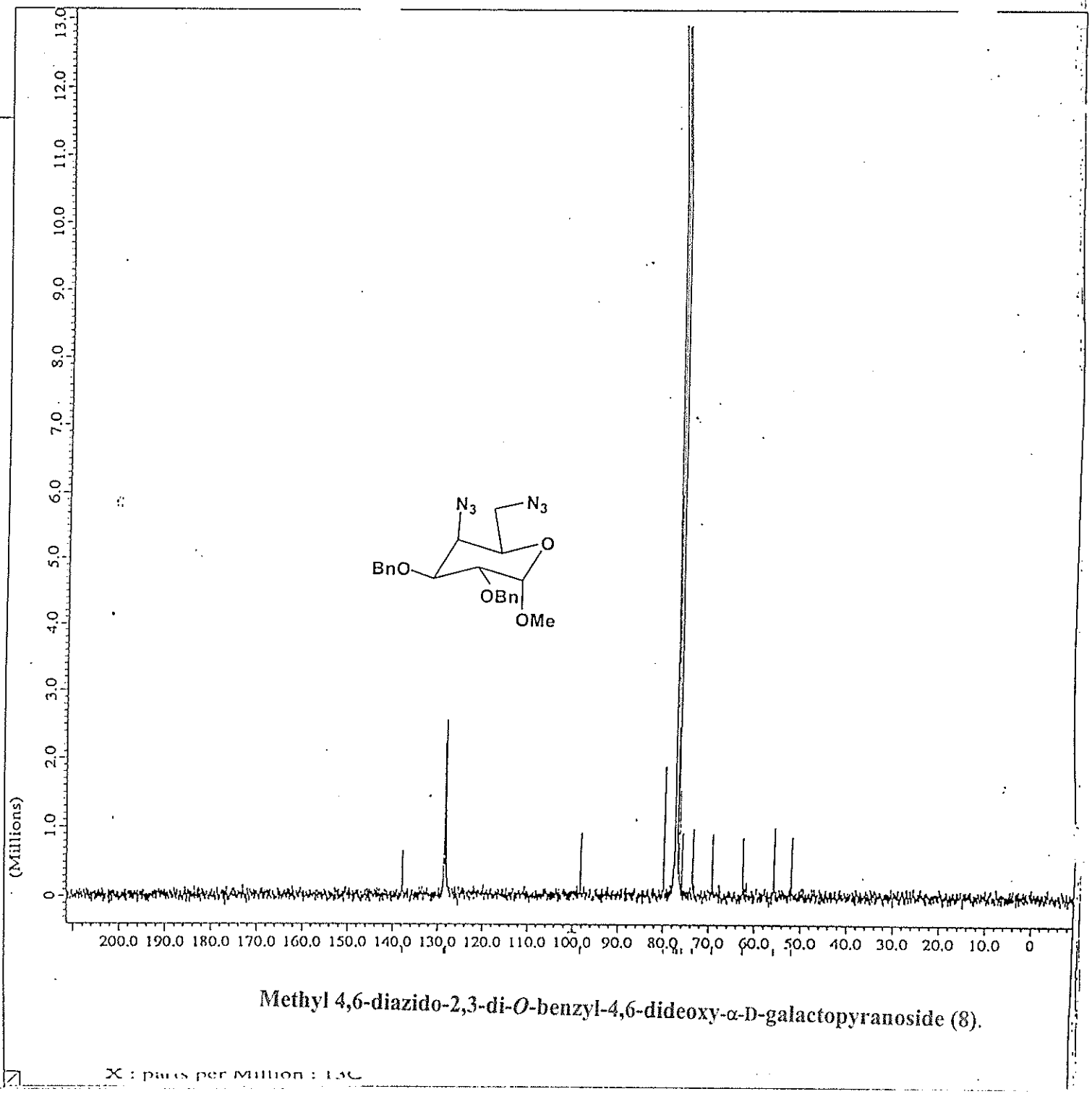
Methyl 2,3-di-*O*-benzyl-α-D-glucopyranoside (7).

File Name	= proton.233
Author	=
Sample ID	= S#740688
Content	= Single Pulse Experimen
Creation Date	= 2-JUL-2000 20:36:07
Revision Date	= 2-JUL-2000 20:36:29
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pWidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 25
Relaxation_delay	= 4[s]
Scans	= 4
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20.3[dC]
Temp_set	= 21[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



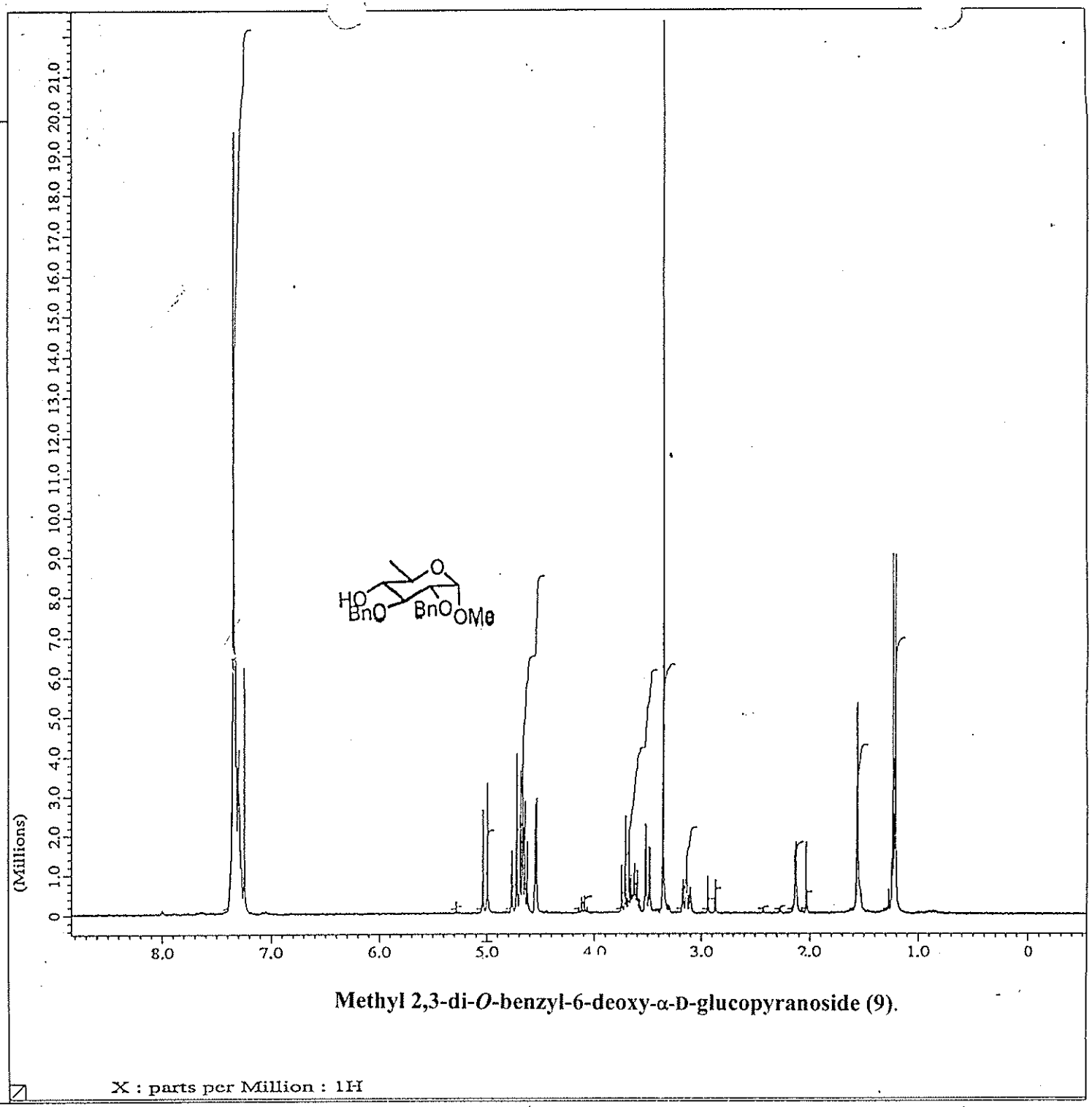
Methyl 4,6-diazido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-galactopyranoside (8).

File Name	= 1d_13c_spectrum.30
Author	=
Sample ID	= JM686101
Content	= Single Pulse with Broa
Creation Date	= 24-FEB-2001 20:10:06
Revision Date	= 24-FEB-2001 20:10:55
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 1315
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.4[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



Methyl 4,6-diazido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-galactopyranoside (8).

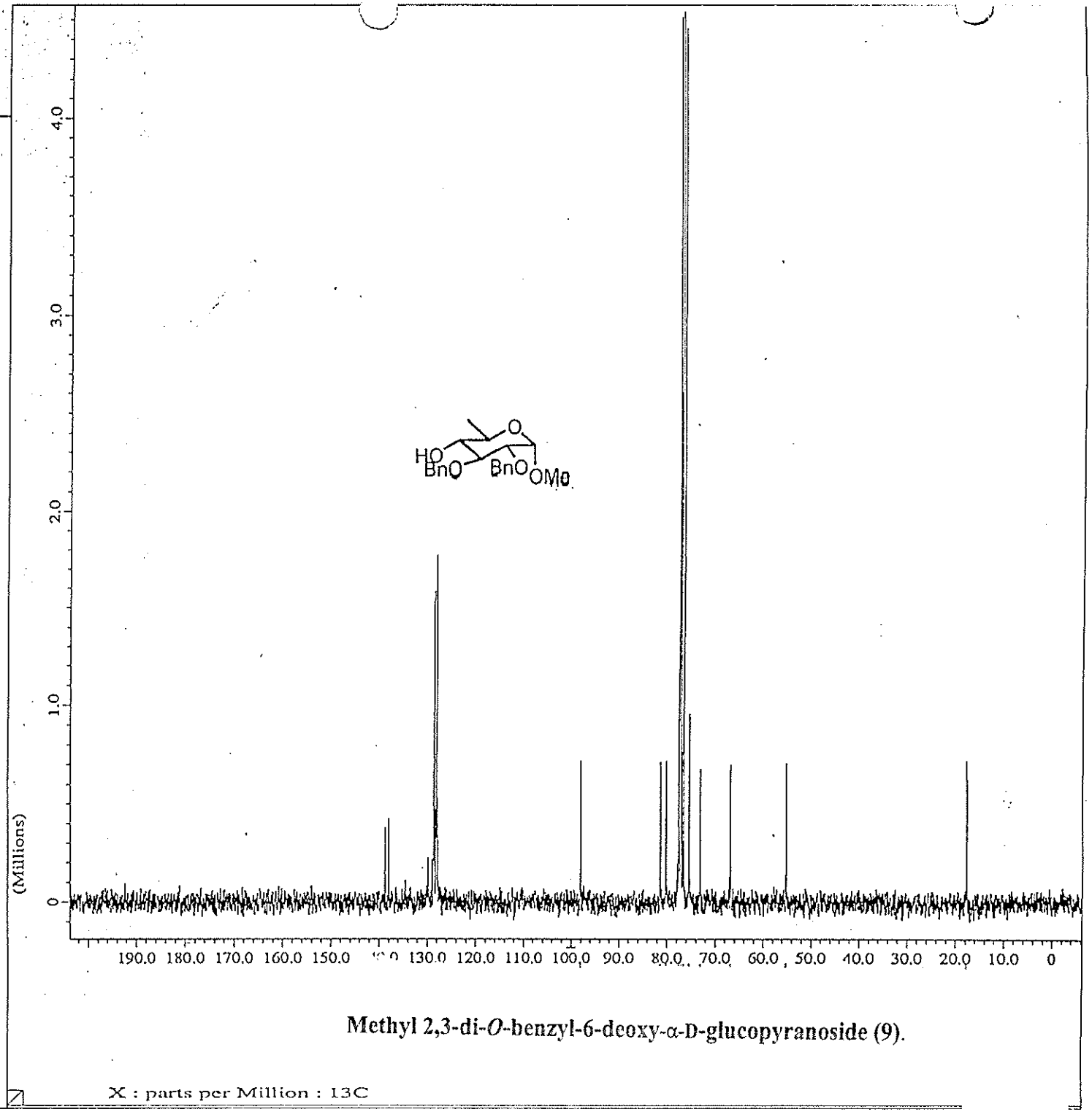
File Name	= proton.221
Author	=
Sample ID	= S#297142
Content	= Single Pulse Experimen
Creation Date	= 29-JUN-2000 08:16:37
Revision Date	= 29-JUN-2000 08:17:08
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 27
Relaxation_delay	= 4[s]
Scans	= 4
Solvent	= CHLOROFORM-D
Spin_gat	= 18[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_gat	= 20[dC]
Temp_set	= 21[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Methyl 2,3-di-*O*-benzyl-6-deoxy-α-D-glucopyranoside (9).

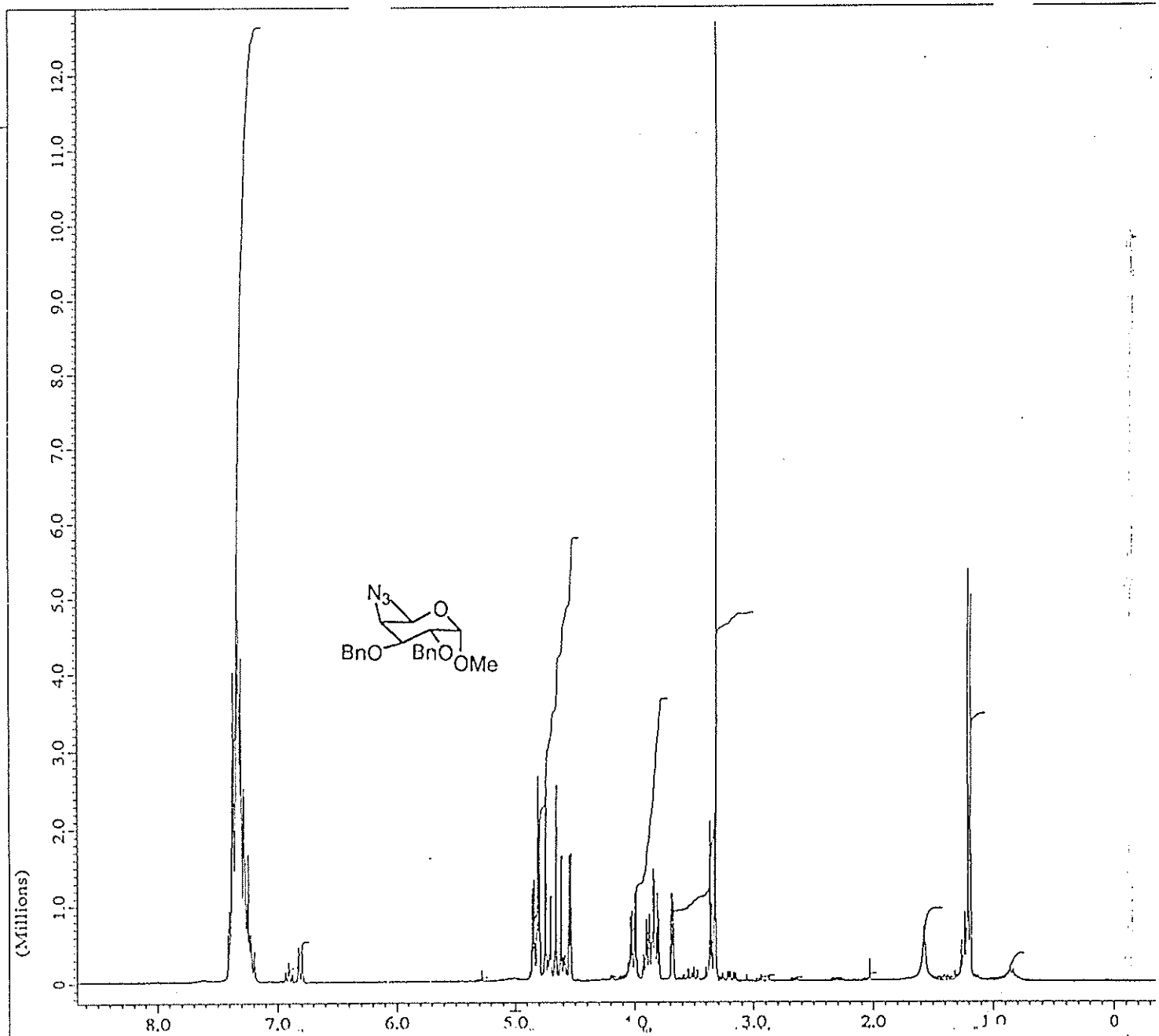
JEOL

File Name	= 1d_13c_spectrum.32
Author	=
Sample ID	= S#754440
Comment	= Single Pulse with Broa
Creation Date	= 24-FEB-2001 21:23:13
Revision Date	= 24-FEB-2001 21:58:27
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field Strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr domain	= 1H
Irr pwidth	= 36[us]
Lock status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 494
Solvent	= CHLOROFORM-D
Spin get	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.2[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



Methyl 2,3-di-*O*-benzyl-6-deoxy-α-D-glucopyranoside (9).

File Name	= proton.235
Author	=
Sample ID	= S#743632
Content	= Single Pulse Experimen
Creation Date	= 2-JUL-2000 20:40:32
Revision Date	= 2-JUL-2000 20:40:54
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 23
Relaxation_delay	= 4[s]
Scans	= 4
Solvent	= CHLOROFORM-D
Spin_gat	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_gat	= 20.4[dC]
Temp_set	= 21[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



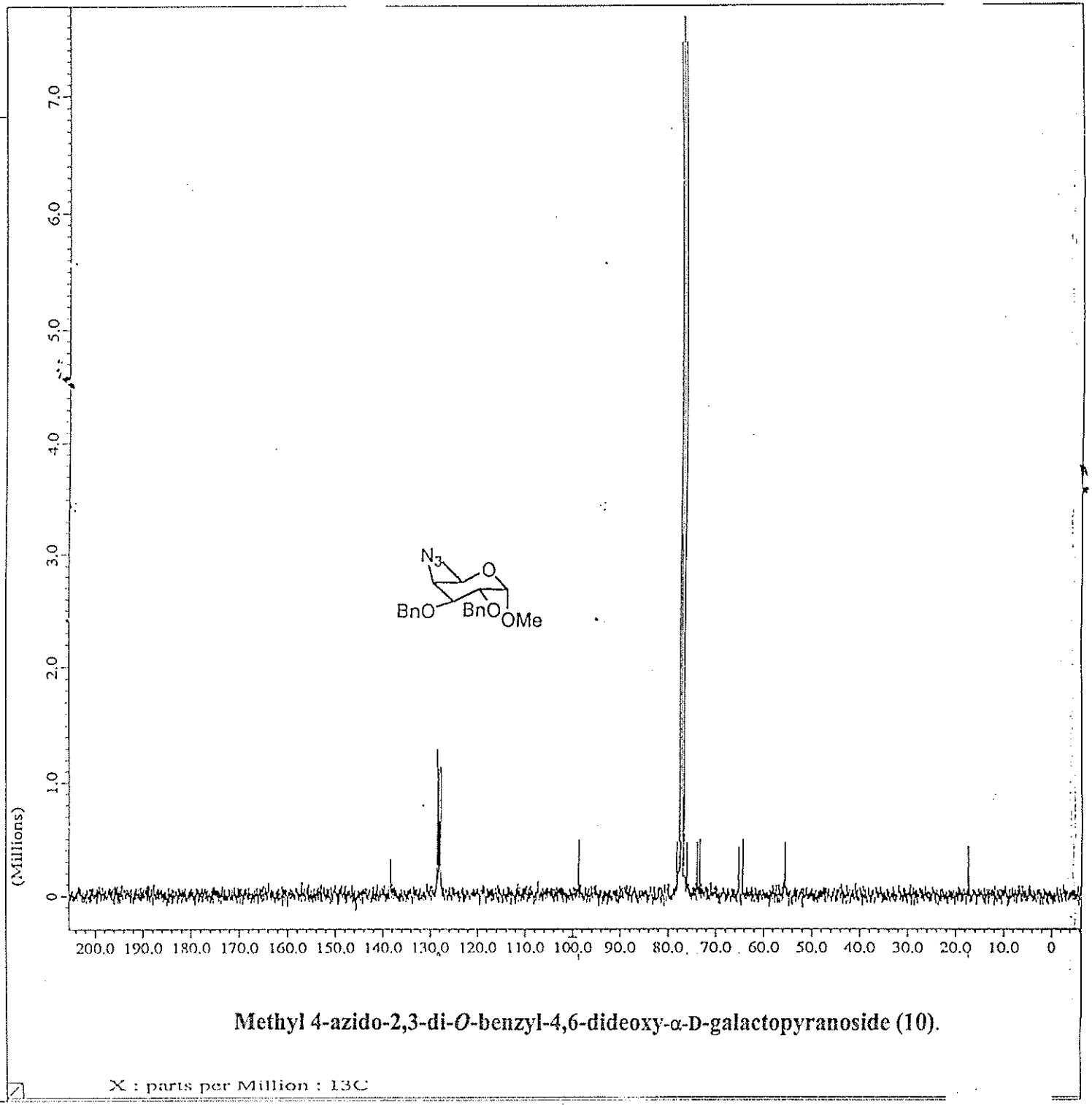
Methyl 4-azido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-galactopyranoside (10).

X : parts per Million : 1H

```
File Name          = 1d_13c_spectrum,31
Author             =
Sample ID          = S#727494
Content            = Single Pulse with Broa
Creation Date      = 24-FEB-2001 20:53:20
Revision Date      = 24-FEB-2001 20:53:56

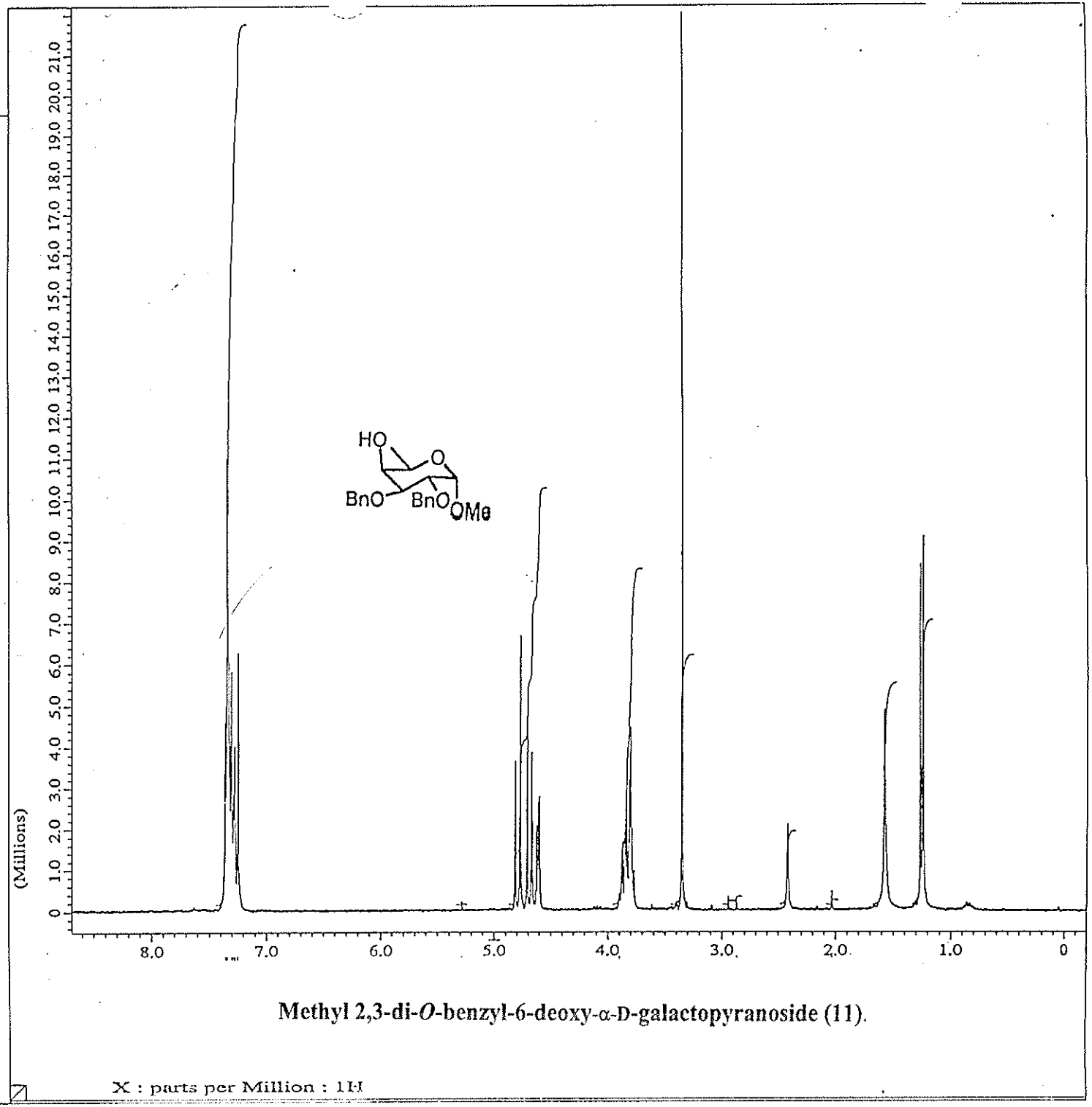
Spec Site          = GSX 270
Spec Type          = DELTA_NMR

Data Format        = 1D COMPLEX
Dimensions         = X
Dim Title          = 13C
Dim Size           = 32768
Dim Units          = [ppm]
Acq_delay          = 57.5[us]
Changer_sample     = 0
Experiment         = single_pulse_dec
Field_strength     = 6.345446[T]
Irr90              = 11.3[us]
Irr90_hi           = 18[us]
Irr90_lo           = 36[us]
Irr_domain         = 1H
Irr_pwidth         = 36[us]
Lock_status        = IDLE
Recvr_gain         = 15
Relaxation_delay   = 1[s]
Scans              = 782
Solvent            = CHLOROFORM-D
Spin_get           = 14[Hz]
Spin_lock_90       = 0.1[ms]
Spin_lock_attn     = 29[dB]
Spin_set           = 15[Hz]
Spin_state         = SPIN ON
Spin_status        = SPIN ON
Temp_get           = 21.4[dC]
Temp_set           = 25[dC]
Temp_state         = TEMP OFF
Temp_status        = TEMP OFF
X90                = 8[us]
X90_hi             = 8.9[us]
X90_lo             = 39[us]
X_acq_duration     = 1.9267584[s]
X_domain           = 13C
X_freq             = 67.94010394[MHz]
X_offset           = 100.0[ppm]
X_points           = 32768
X_prescans         = 4
X_pulse            = 2.66666667[us]
X_resolution       = 0.51900643[Hz]
X_sweep            = 17.00680272[kHz]
```



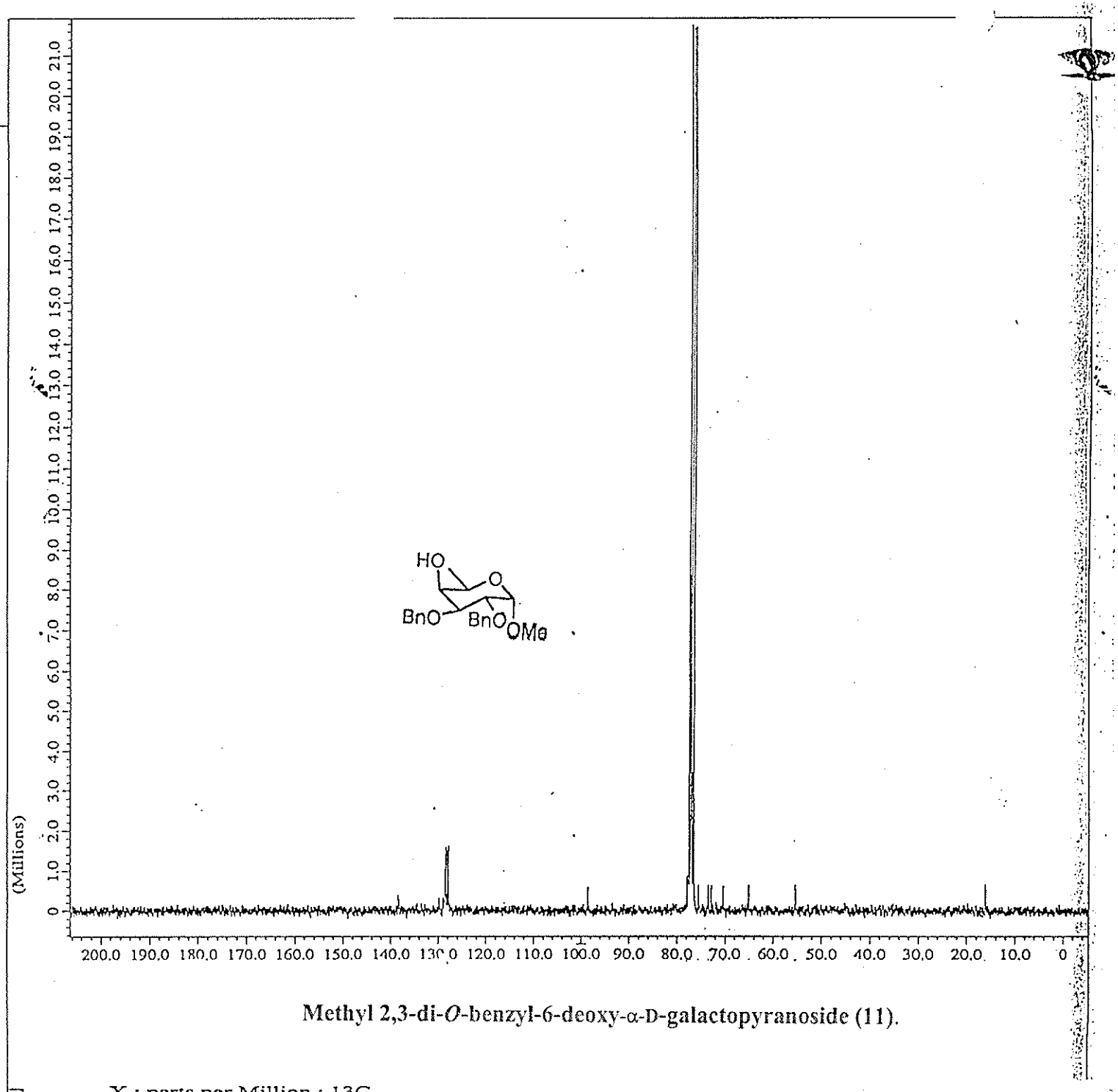
Methyl 4-azido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-galactopyranoside (10).

File Name	= proton.227
Author	=
Sample ID	= S#443202
Content	= Single Pulse Experiman
Creation Date	= 1-JUL-2000 12:20:03
Revision Date	= 1-JUL-2000 12:20:25
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pWidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 27
Relaxation_delay	= 4[s]
Scans	= 4
Solvent	= CHLOROFORM-D
Spin_get	= 13[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 18.3[dC]
Temp_set	= 21[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



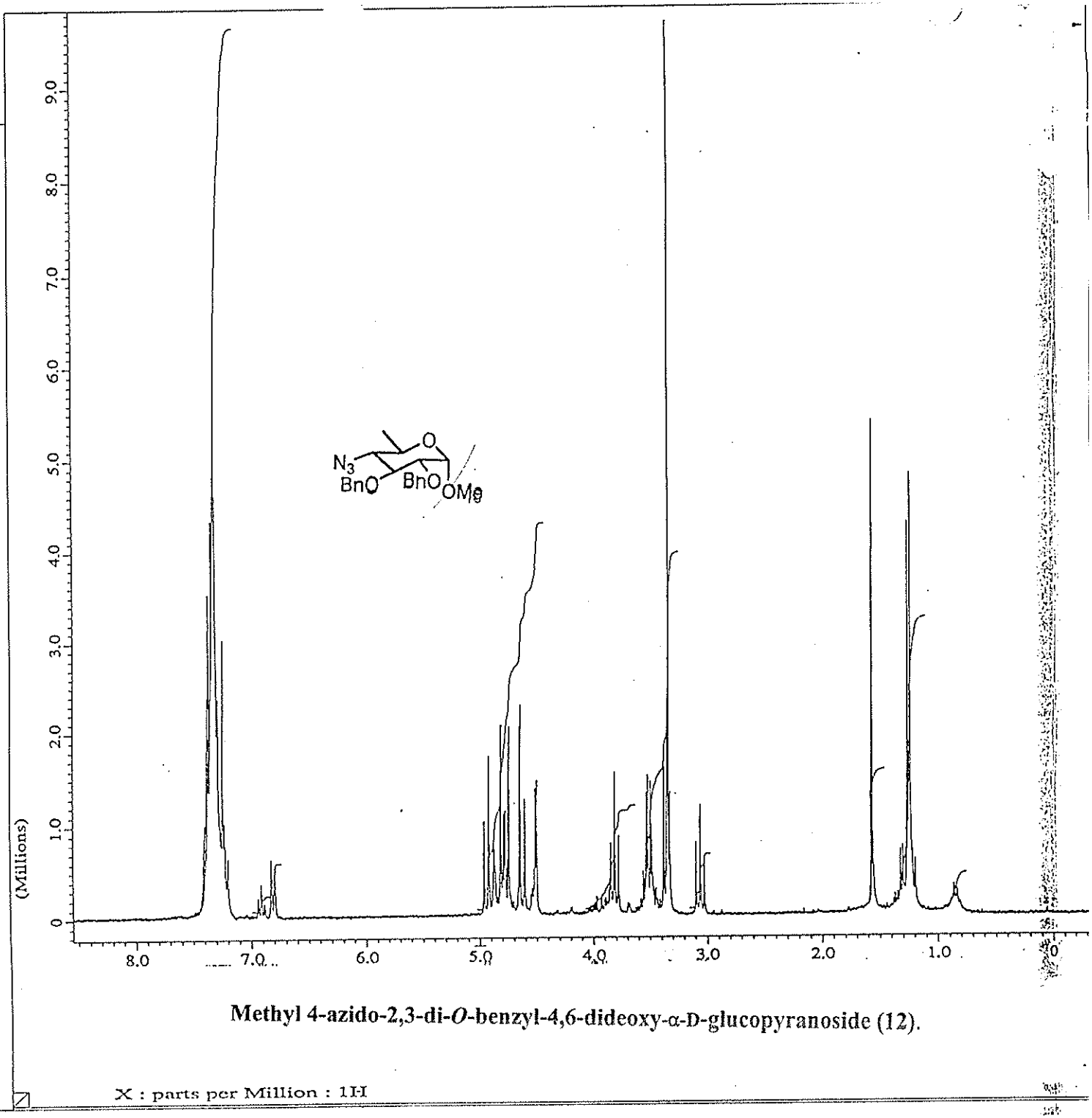
Methyl 2,3-di-*O*-benzyl-6-deoxy-α-D-galactopyranoside (11).

File Name	= 1d_13c_spectrum.22
Author	=
Sample ID	= S#297338
Content	= Single Pulse with Broa
Creation Date	= 24-FEB-2001 10:08:38
Revision Date	= 24-FEB-2001 10:09:33
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 2309
Solvent	= CHLOROFORM-D
Spin_get	= 15[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.9[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



Methyl 2,3-di-*O*-benzyl-6-deoxy-α-D-galactopyranoside (11).

File Name	= proton.239
Author	=
Sample ID	= S#324035
Content	= Single Pulse Experimen
Creation Date	= 6-JUL-2000 09:01:55
Revision Date	= 6-JUL-2000 09:02:16
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 25
Relaxation_delay	= 4[s]
Scans	= 4
Solvent	= CHLOROFORM-D
Spin_get	= 11[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 18.4[dC]
Temp_set	= 21[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]

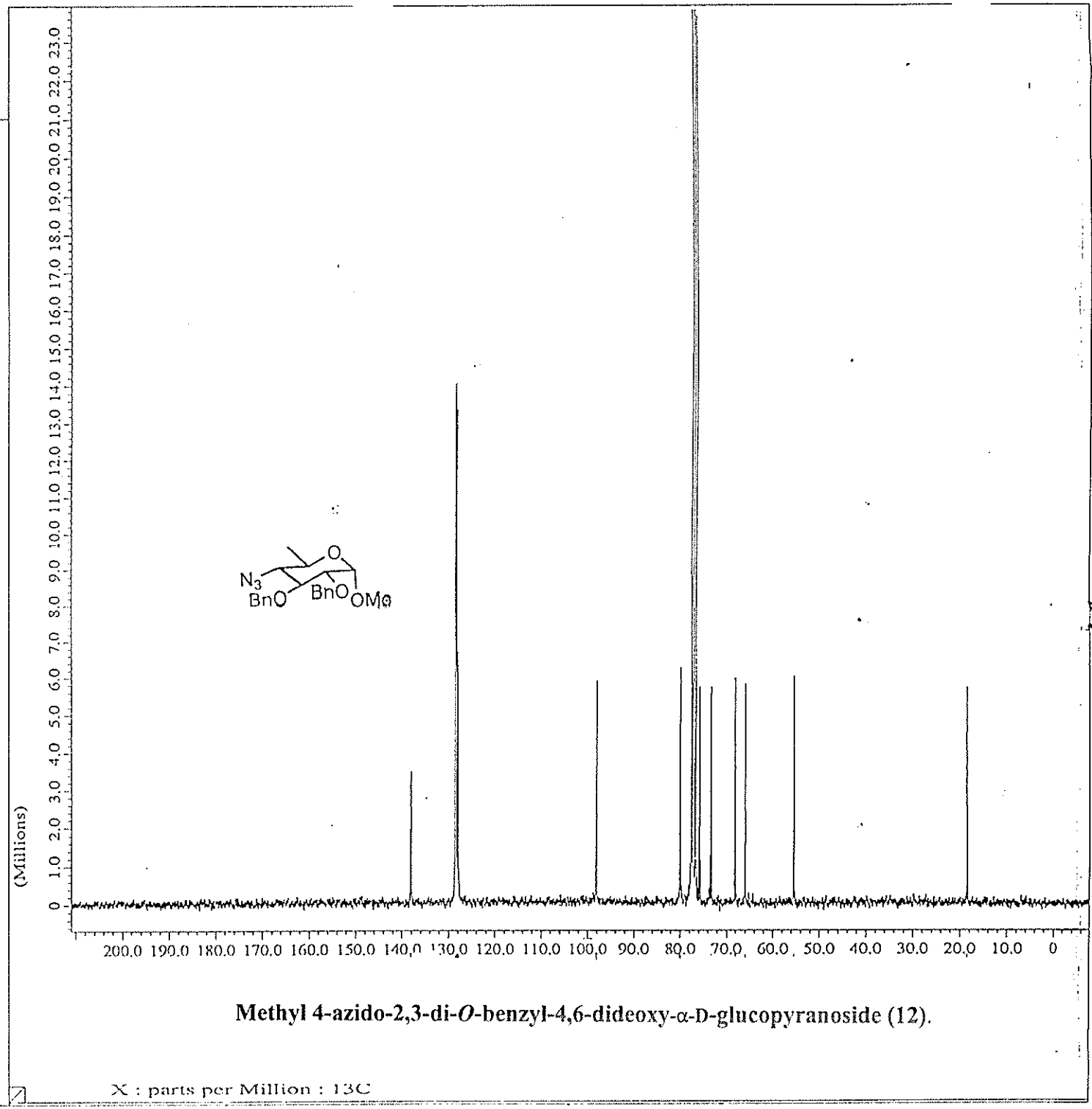


Methyl 4-azido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-glucopyranoside (12).

```
File Name          = 1d_13c_spectrum.20
Author             =
Sample ID          = S#649392
Content            = Single Pulse with Broa
Creation Date      = 23-FEB-2001 20:10:07
Revision Date      = 23-FEB-2001 20:11:01

Spec Site          = GSX 270
Spec Type          = DELTA_NMR

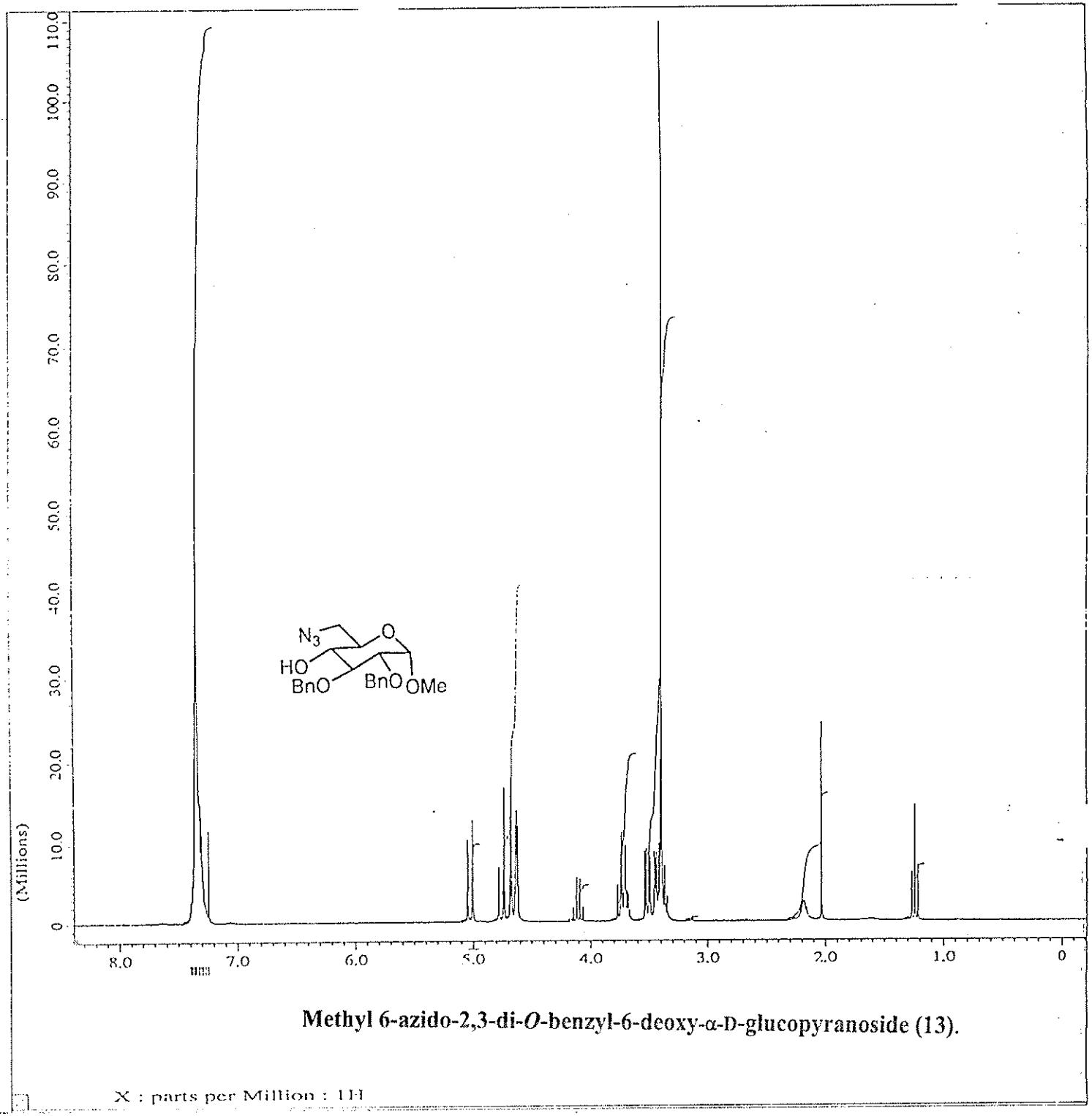
Data Format        = 1D COMPLEX
Dimensions         = X
Dim Title          = 13C
Dim Size           = 32768
Dim Units          = [ppm]
Acq_delay          = 57.5[us]
Changer_sample     = 0
Experiment         = single_pulse_dec
Field_strength     = 6.345446[T]
Irr90              = 11.3[us]
Irr90_hi           = 18[us]
Irr90_lo           = 36[us]
Irr_domain         = 1H
Irr_pwidth         = 36[us]
Lock_status        = IDLE
Recvr_gain         = 15
Relaxation_delay   = 1[s]
Scans              = 3611
Solvent            = CHLOROFORM-D
Spin_get           = 14[Hz]
Spin_lock_90       = 0.1[ms]
Spin_lock_attn     = 29[dB]
Spin_set           = 15[Hz]
Spin_state         = SPIN ON
Spin_status        = SPIN ON
Temp_get           = 21.9[dC]
Temp_set           = 25[dC]
Temp_state         = TEMP OFF
Temp_status        = TEMP OFF
X90                = 8[us]
X90_hi             = 8.9[us]
X90_lo             = 39[us]
X_acq_duration     = 1.9267584[s]
X_domain           = 13C
X_freq             = 67.94010394[MHz]
X_offset           = 100.0[ppm]
X_points           = 32768
X_prescans         = 4
X_pulse            = 2.66666667[us]
X_resolution       = 0.51900643[Hz]
X_sweep            = 17.00680272[kHz]
```



Methyl 4-azido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-glucopyranoside (12).

JEOL

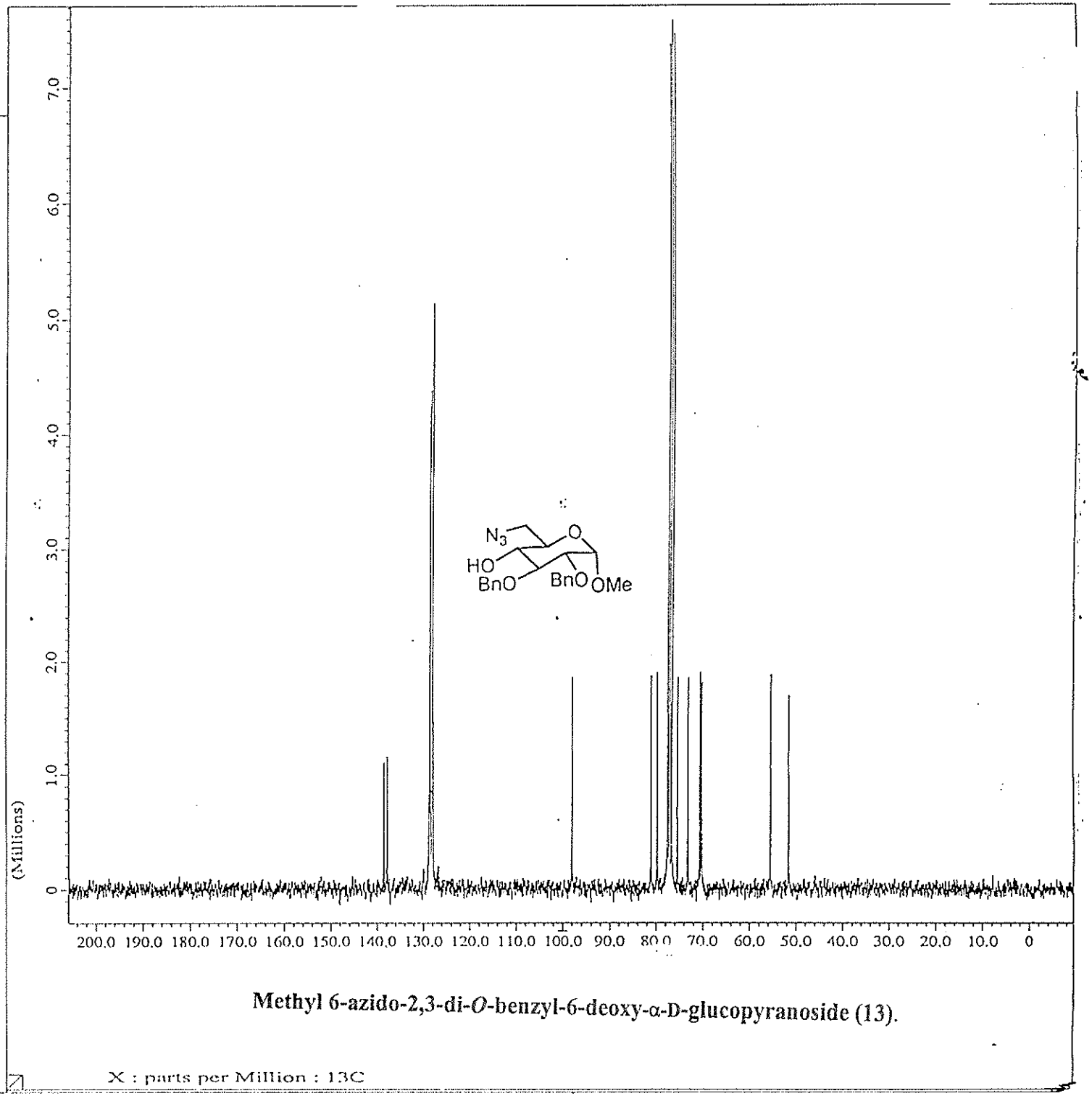
File Name	= proton.779
Author	=
Sample ID	= S#811365
Content	= Single Pulse Experimen
Creation Date	= 2-JAN-2001 22:35:32
Revision Date	= 2-JAN-2001 22:35:49
Spec Site	= GSX 270
Spec Type	= DELTA NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 10[us]
Irr90_hi	= 10[us]
Irr90_lo	= 10[us]
Irr_pWidth	= 1[us]
Lock_status	= IDLE
Recvr_gain	= 28
Relaxation_delay	= 4[s]
Scans	= 16
Solvent	= CHLOROFORM-D
Spin_get	= 9[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 16.1[dC]
Temp_set	= 21.0[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Methyl 6-azido-2,3-di-*O*-benzyl-6-deoxy-α-D-glucopyranoside (13).

X : parts per Million : 1H

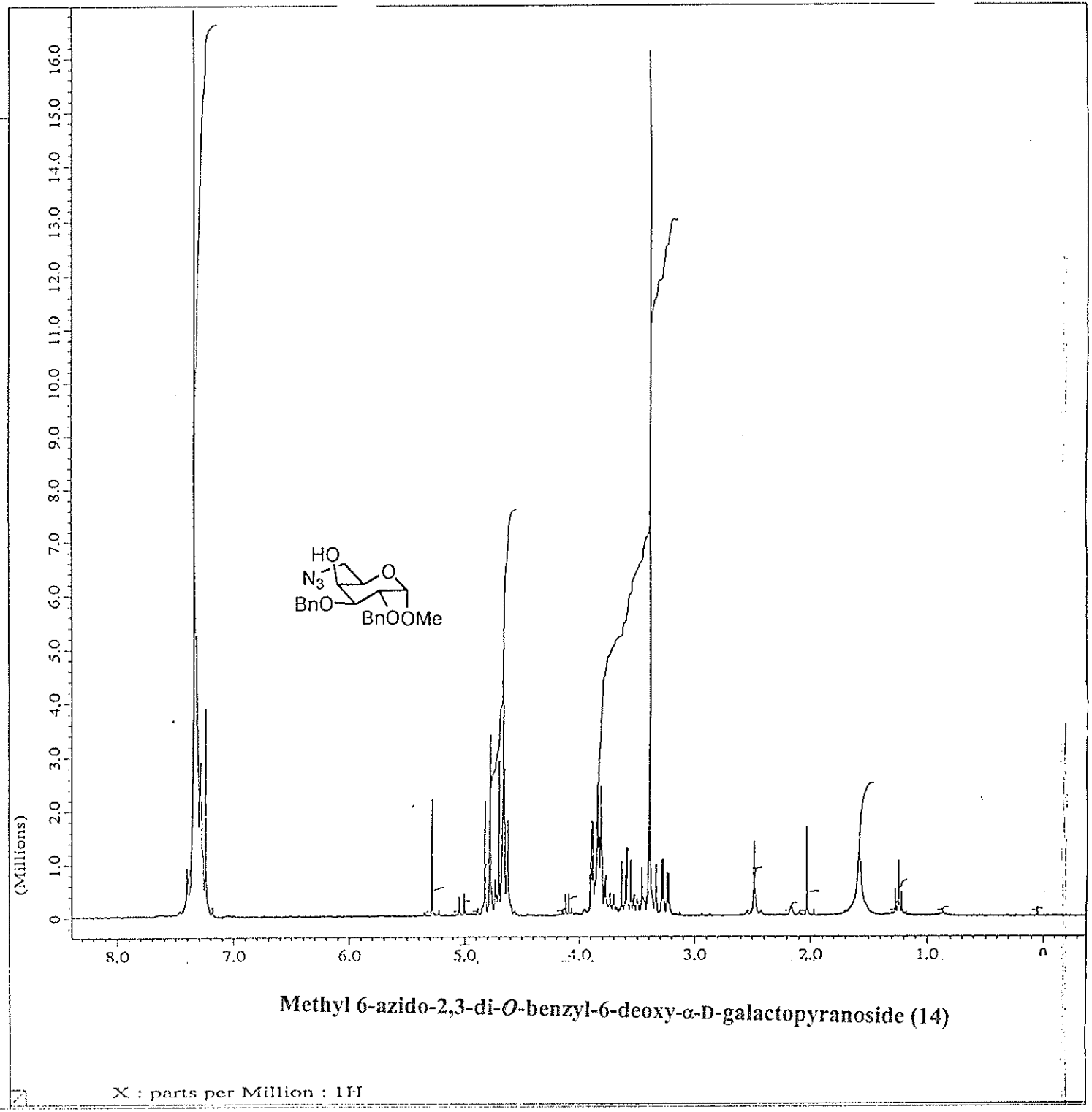
File Name	= 1d_13c_spectrum.33
Author	=
Sample ID	= S#793396
Content	= Single Pulse with Broa
Creation Date	= 24-FEB-2001 22:43:54
Revision Date	= 24-FEB-2001 22:44:39
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 797
Solvent	= CHLOROFORM-D
Spin_get	= 14[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.3[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



Methyl 6-azido-2,3-di-*O*-benzyl-6-deoxy-α-D-glucopyranoside (13).

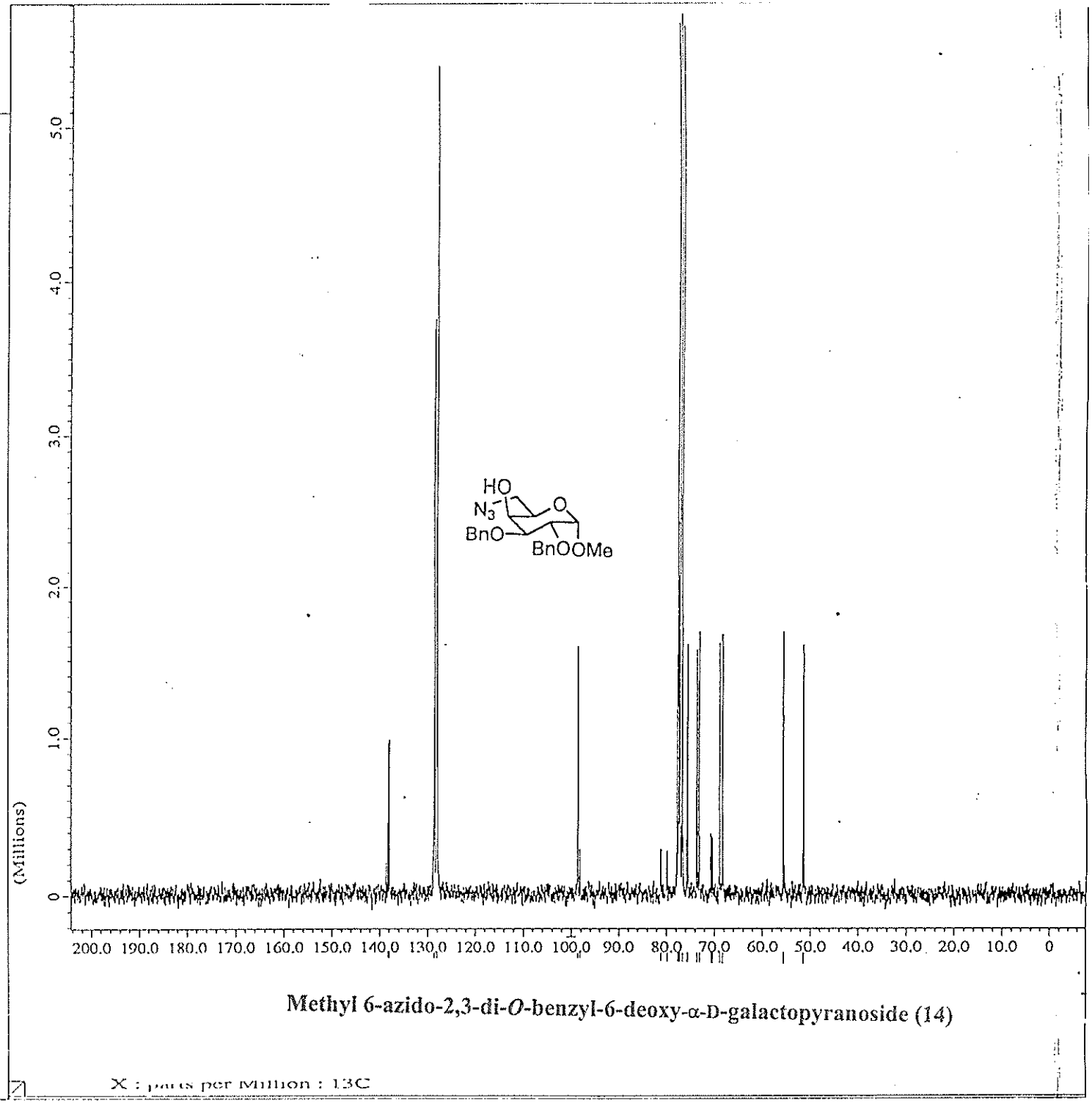
JEOL

File Name	proton.414
Author	
Sample ID	S#302708
Content	Single Pulse Experimen
Creation Date	21-AUG-2000 08:26:23
Revision Date	21-AUG-2000 08:26:43
Spec Site	GSX 270
Spec Type	DELTA_NMR
Data Format	1D COMPLEX
Dimensions	X
Dim Title	1H
Dim Size	16384
Dim Units	[ppm]
Acq_delay	0.1822[ms]
Changer_sample	0
Experiment	single_pulse.exp
Field_strength	6.345446[T]
Irr90	11.3[us]
Irr90_hi	18[us]
Irr90_lo	36[us]
Irr_pwidth	36[us]
Lock_status	IDLE
Recvr_gain	26
Relaxation_delay	4[s]
Scans	4
Solvent	CHLOROFORM-D
Spin_get	17[Hz]
Spin_lock_90	0.1[ms]
Spin_lock_attn	29[dB]
Spin_set	15[Hz]
Spin_state	SPIN ON
Spin_status	SPIN ON
Temp_get	17.4[dC]
Temp_set	21[dC]
Temp_state	TEMP OFF
Temp_status	TEMP OFF
X90	11.3[us]
X90_hi	18[us]
X90_lo	36[us]
X_acq_duration	3.03104[s]
X_domain	1H
X_freq	270.16743928[MHz]
X_offset	5.0[ppm]
X_points	16384
X_prescans	0
X_pulse	5.65[us]
X_resolution	0.32991976[Hz]
X_sweep	5.40540541[kHz]



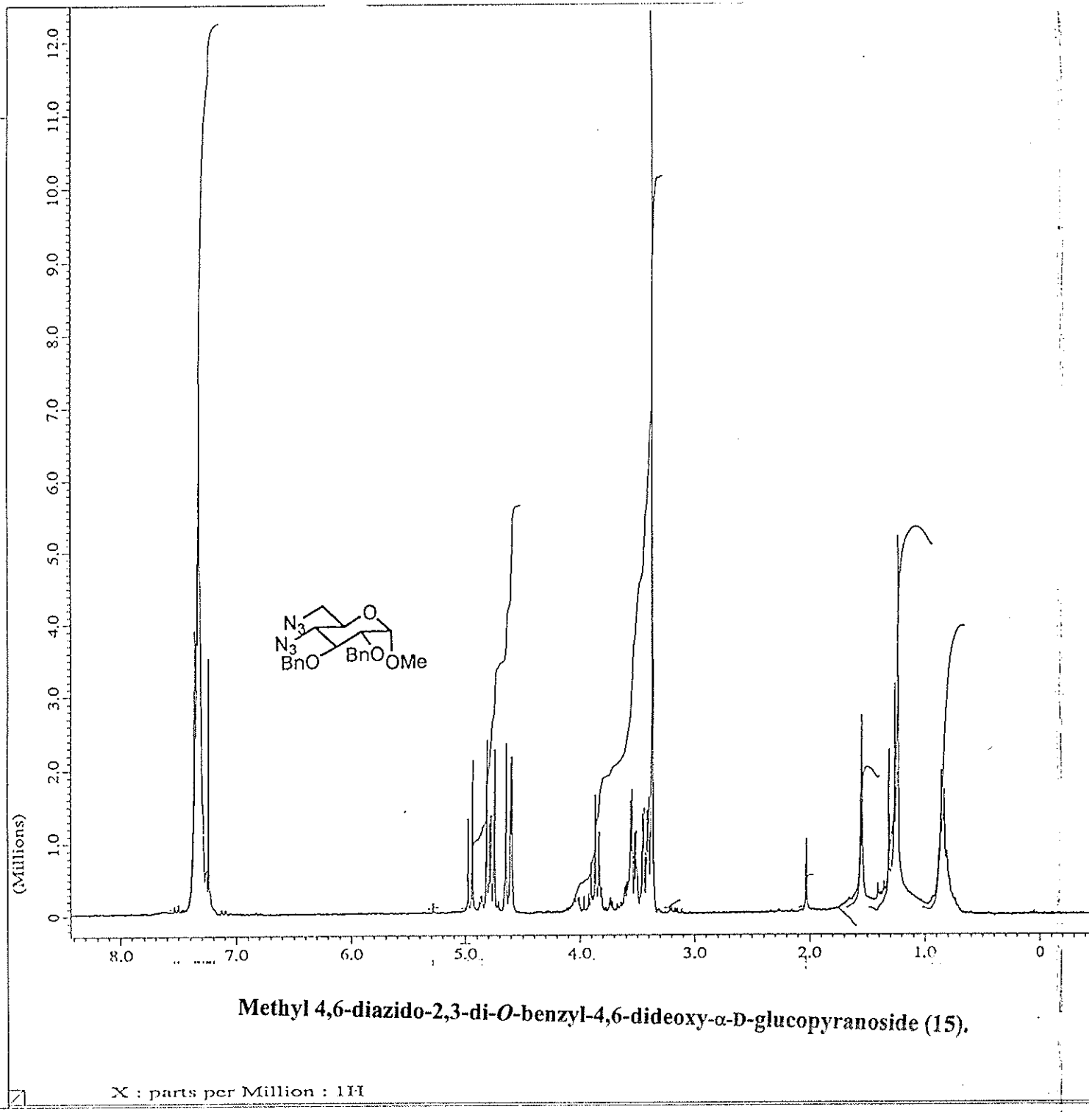
Methyl 6-azido-2,3-di-*O*-benzyl-6-deoxy-α-D-galactopyranoside (14)

File Name	= 1d_13c_spectrum.61
Author	=
Sample ID	= S#727085
Content	= Single Pulse with Broa
Creation Date	= 1-MAR-2001 20:41:06
Revision Date	= 1-MAR-2001 20:48:57
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 547
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



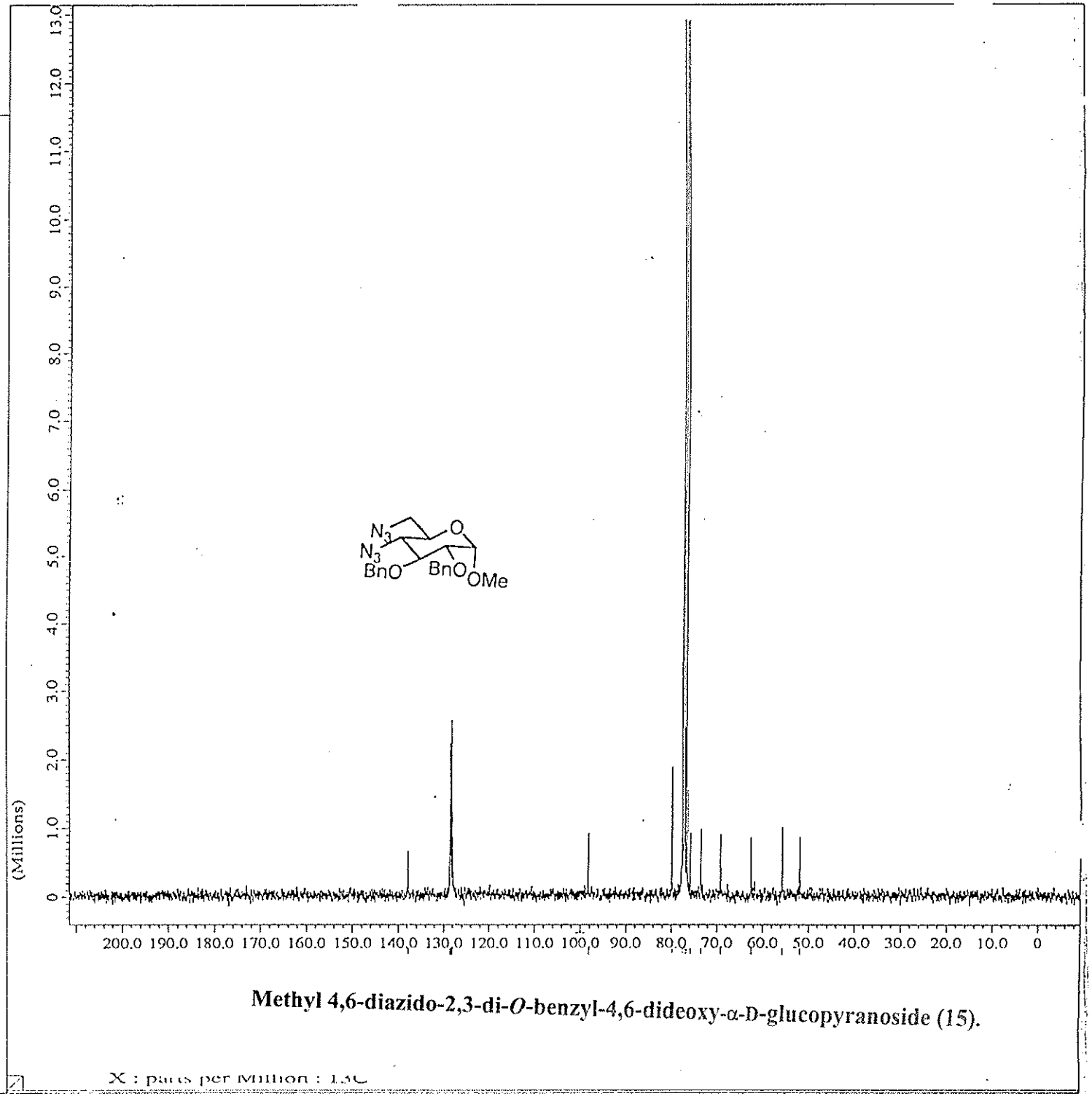
Methyl 6-azido-2,3-di-*O*-benzyl-6-deoxy-α-D-galactopyranoside (14)

File Name	= proton.233
Author	=
Sample ID	= S#740688
Content	= Single Pulse Experimen
Creation Date	= 2-JUL-2000 20:36:07
Revision Date	= 2-JUL-2000 20:36:29
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 25
Relaxation_delay	= 4[s]
Scans	= 4
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20.3[dC]
Temp_set	= 21[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



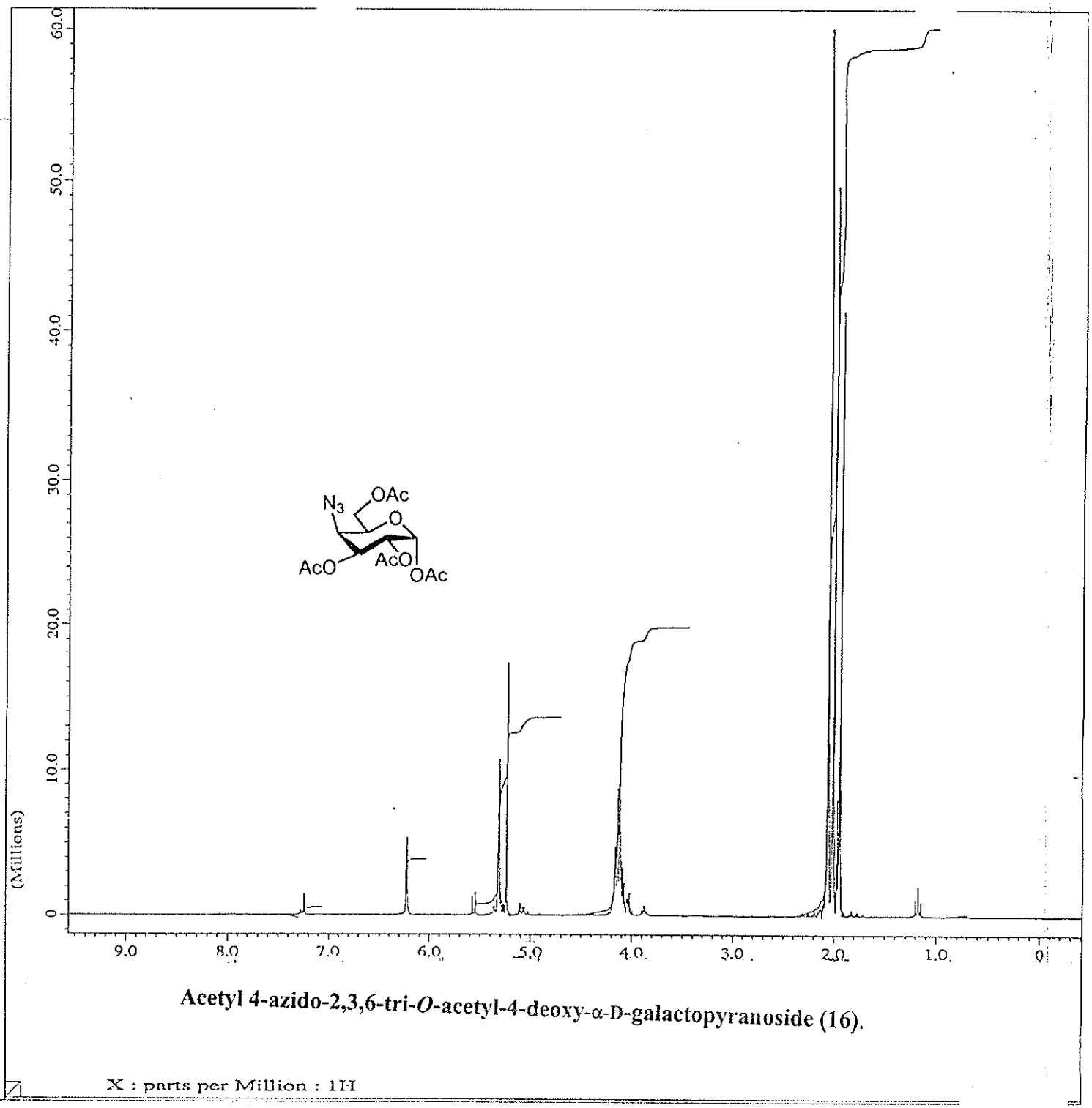
Methyl 4,6-diazido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-glucopyranoside (15).

File Name	= 1d_13c_spectrum.30
Author	=
Sample ID	= S#686101
Content	= Single Pulse with Broa
Creation Date	= 24-FEB-2001 20:10:06
Revision Date	= 24-FEB-2001 20:10:55
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 1315
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.4[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



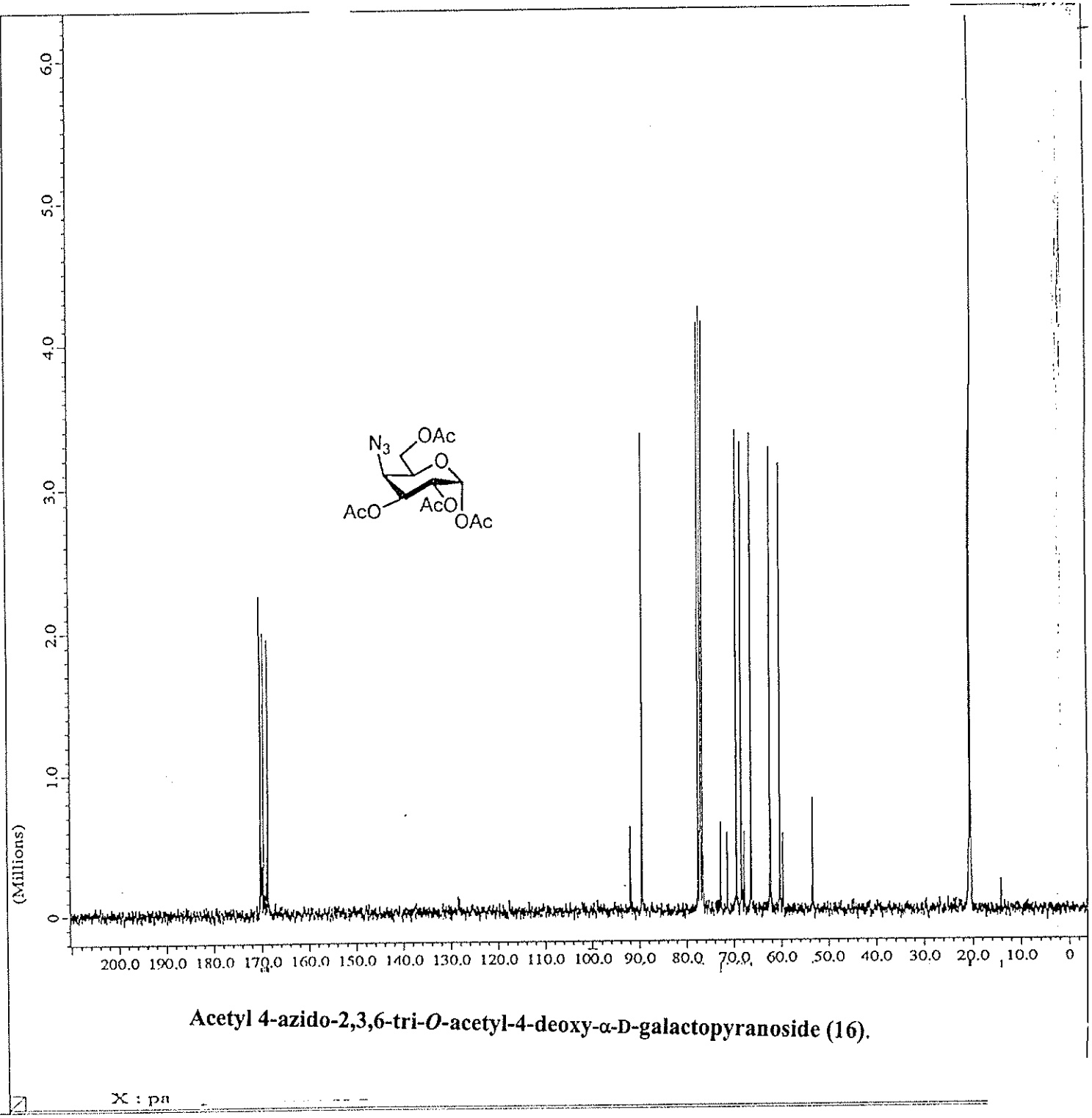
Methyl 4,6-diazido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-glucopyranoside (15).

File Name	= proton.2351
Author	=
Sample ID	= S1386278
Content	= Single Pulse Experimen
Creation Date	= 19-FEB-2002 10:45:54
Revision Date	= 19-FEB-2002 10:46:15
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1021[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 17
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_gat	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_gat	= 20.8[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



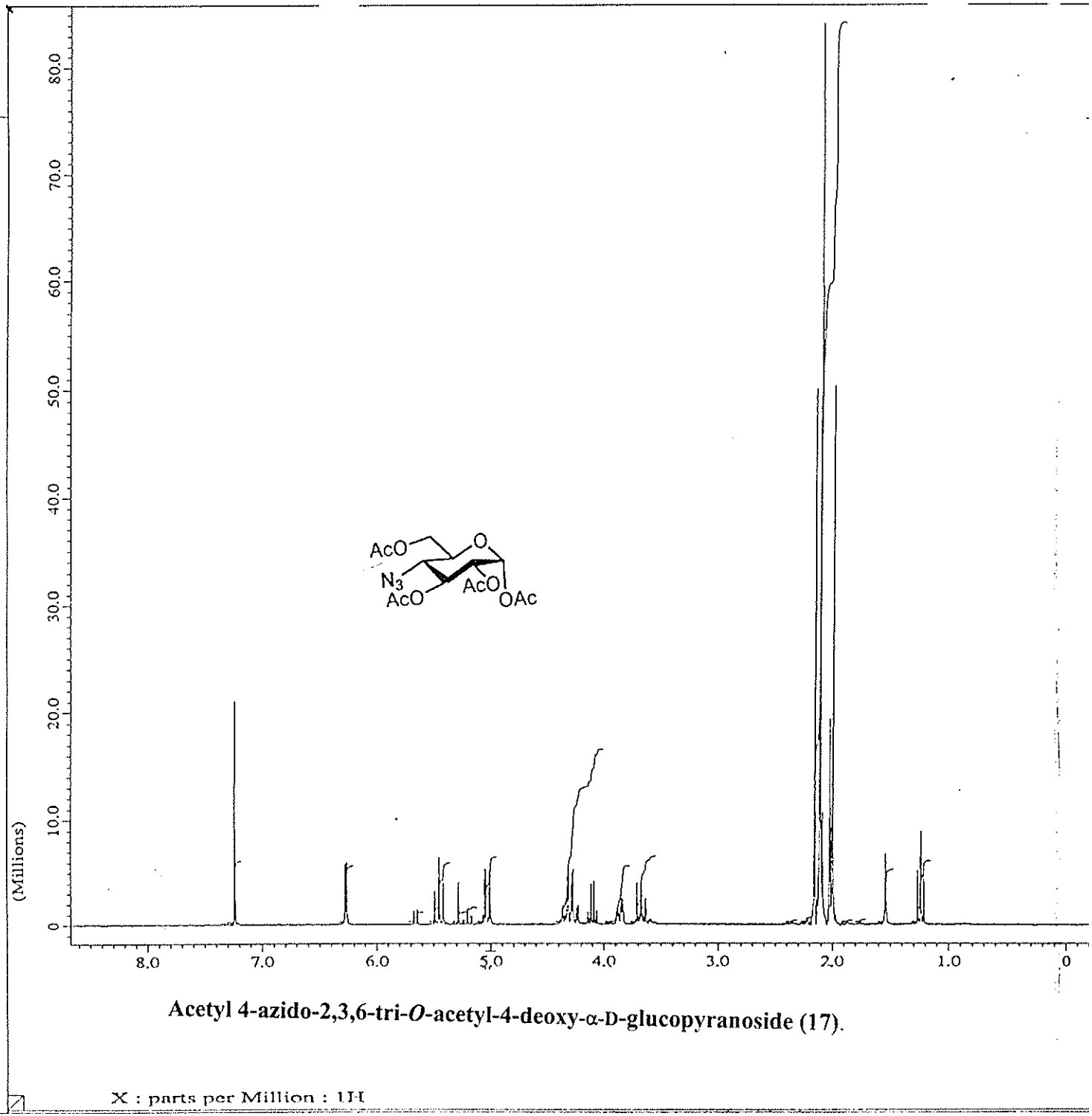
Acetyl 4-azido-2,3,6-tri-*O*-acetyl-4-deoxy-α-D-galactopyranoside (16).

File Name	= 1d_13c_spectrum.300
Author	=
Sample ID	= S#386314
Content	= Single Pulse with Broa
Creation Date	= 19-FEB-2002 11:06:59
Revision Date	= 19-FEB-2002 11:07:40
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 423
Solvent	= CHLOROFORM-D
Spin_get	= 18[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 22.5[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



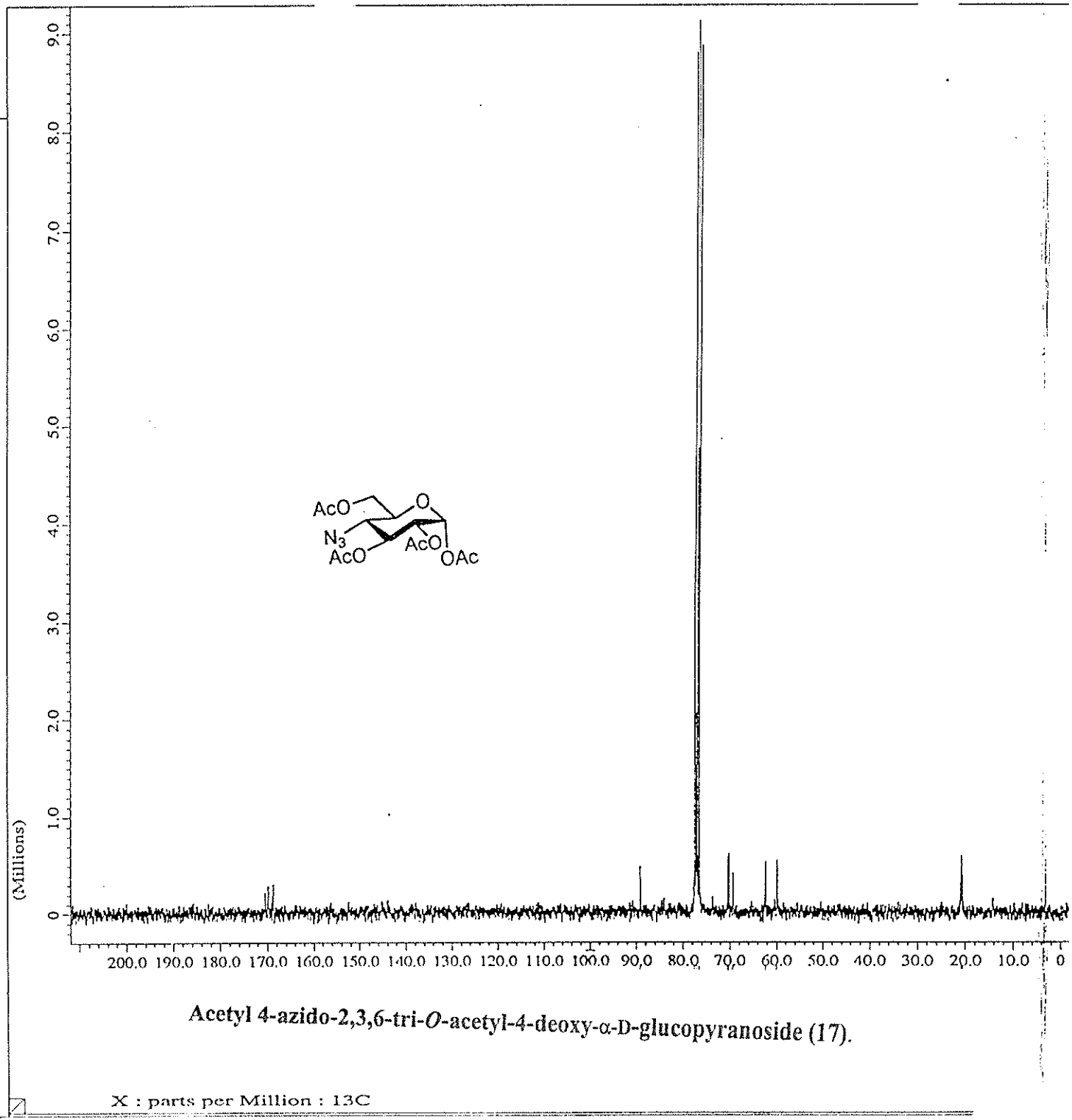
Acetyl 4-azido-2,3,6-tri-*O*-acetyl-4-deoxy-α-D-galactopyranoside (16).

File Name	= proton.2211
Author	=
Sample ID	= S1454216
Content	= Single Pulse Experimen
Creation Date	= 2-FEB-2002 12:39:06
Revision Date	= 2-FEB-2002 12:39:24
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 29
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 14[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 19.8[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



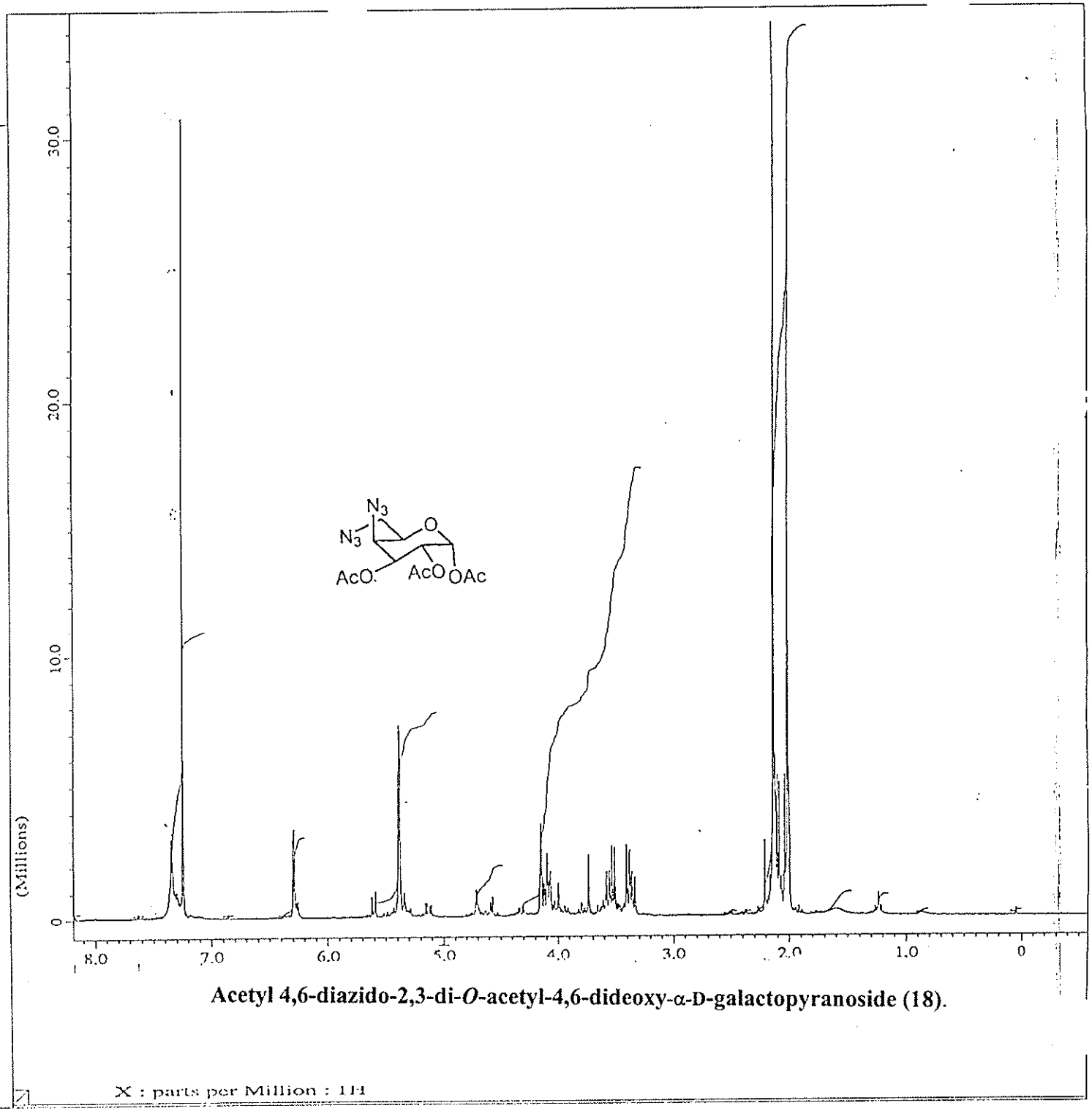
Acetyl 4-azido-2,3,6-tri-*O*-acetyl-4-deoxy-α-D-glucopyranoside (17).

File Name	= 1d_13c_spectrum.271
Author	=
Sample ID	= S#320432
Content	= Single Pulse with Broa
Creation Date	= 3-FEB-2002 09:46:06
Revision Date	= 3-FEB-2002 09:46:26
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 1021.0
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 22[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



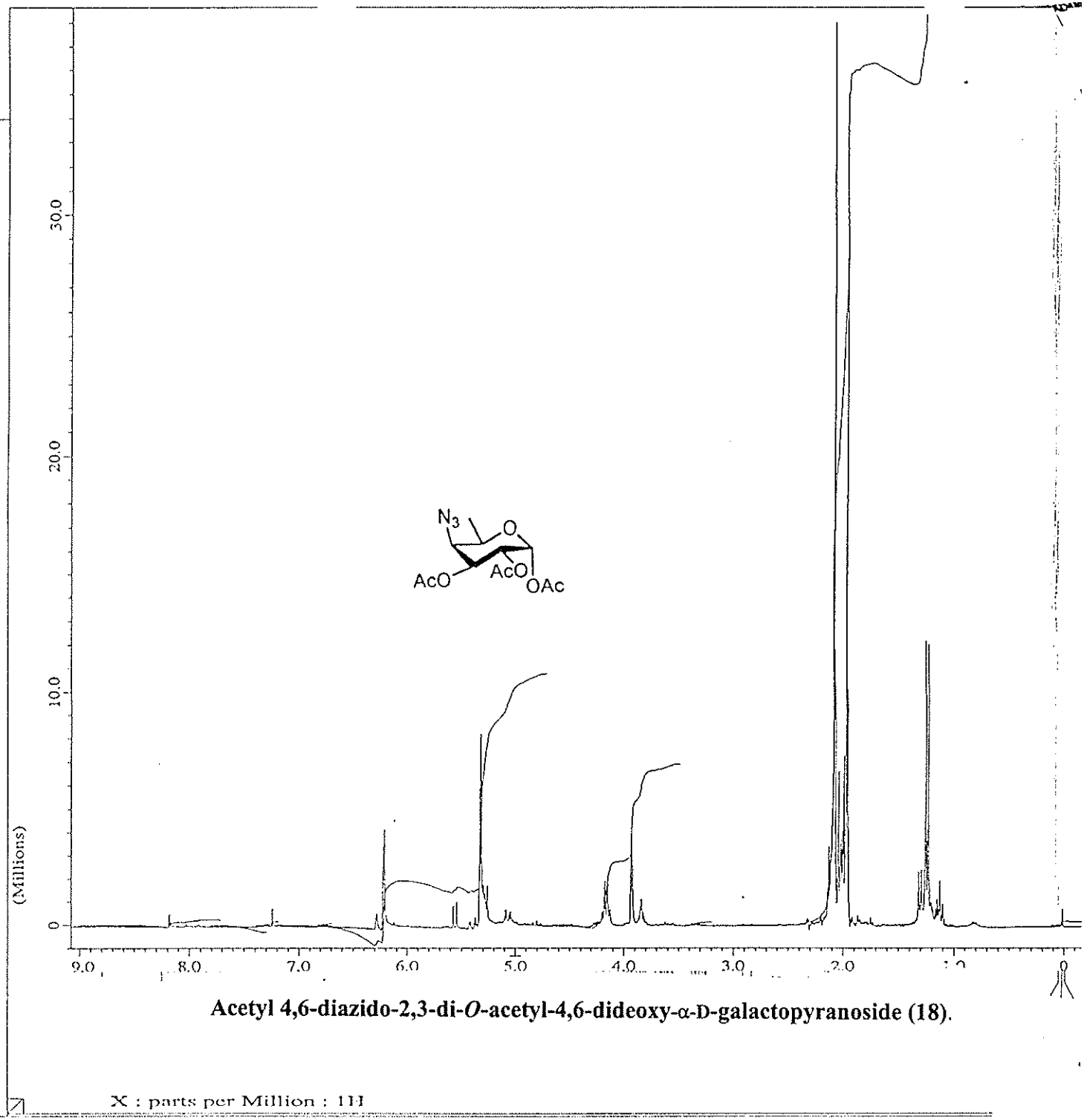
Acetyl 4-azido-2,3,6-tri-*O*-acetyl-4-deoxy-α-D-glucopyranoside (17).

File Name	= proton.1028
Author	=
Sample ID	= S#704378
Content	= Single Pulse Experimen
Creation Date	= 28-FEB-2001 19:36:04
Revision Date	= 28-FEB-2001 19:36:23
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 25
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 18.2[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Acetyl 4,6-diazido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-galactopyranoside (18).

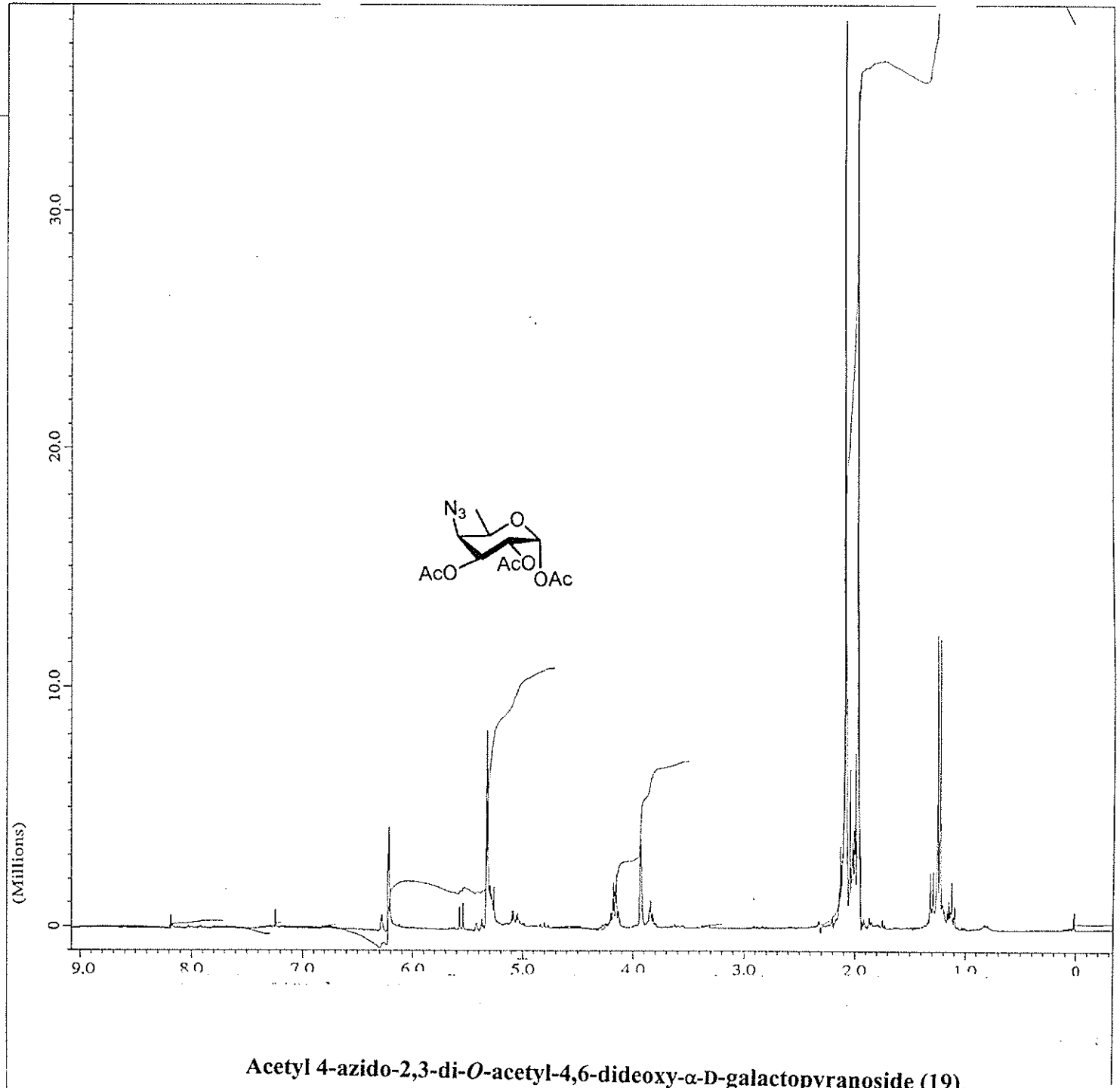
File Name	= proton.1654
Author	=
Sample ID	= S#465320
Content	= Single Pulse Experimen
Creation Date	= 29-SEP-2001 12:57:51
Revision Date	= 29-SEP-2001 12:58:08
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 18
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 15[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Acetyl 4,6-diazido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-galactopyranoside (18).

JEOL

File Name	= proton.1654
Author	=
Sample ID	= S#465320
Content	= Single Pulse Experimen
Creation Date	= 29-SEP-2001 12:57:51
Revision Date	= 29-SEP-2001 12:58:08
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 18
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 15[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Acetyl 4-azido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-galactopyranoside (19).

JEOL

```
File Name          = 1d_13c_spectrum.223
Author             =
Sample ID          = S#396842
Content            = Single Pulse with Broa
Creation Date      =  3-JAN-2002 11:12:28
Revision Date      =  3-JAN-2002 11:12:53

Spec Site          = GSX 270
Spec Type          = DELTA_NMR

Data Format        = 1D COMPLEX
Dimensions         = X
Dim Title          = 13C
Dim Size           = 32768
Dim Units          = [ppm]
Acq_delay          = 57.5[us]
Changer_sample     = 0
Experiment         = single_pulse_dec
Field_strength     = 6.345446[T]
Irr90              = 11.6[us]
Irr90_hi           = 18[us]
Irr90_lo           = 41[us]
Irr_domain         = 1H
Irr_pwidth         = 41[us]
Lock_status        = IDLE
Recvr_gain         = 15
Relaxation_delay= 1[s]
Scans              = 188
Solvent            = CHLOROFORM-D
Spin_get           = 16[Hz]
Spin_lock_90       = 0.1[ms]
Spin_lock_attn     = 24[dB]
Spin_set           = 15[Hz]
Spin_state         = SPIN ON
Spin_status        = SPIN ON
Temp_get           = 21.8[dC]
Temp_set           = 25[dC]
Temp_state         = TEMP OFF
Temp_status        = TEMP OFF
X90                = 8[us]
X90_hi             = 8.9[us]
X90_lo             = 39[us]
X_acq_duration     = 1.9267584[s]
X_domain           = 13C
X_freq             = 67.94010394[MHz]
X_offset           = 100.0[ppm]
X_points           = 32768
X_prescans         = 4
X_pulse            = 2.66666667[us]
X_resolution       = 0.51900643[Hz]
X_sweep            = 17.00680272[kHz]
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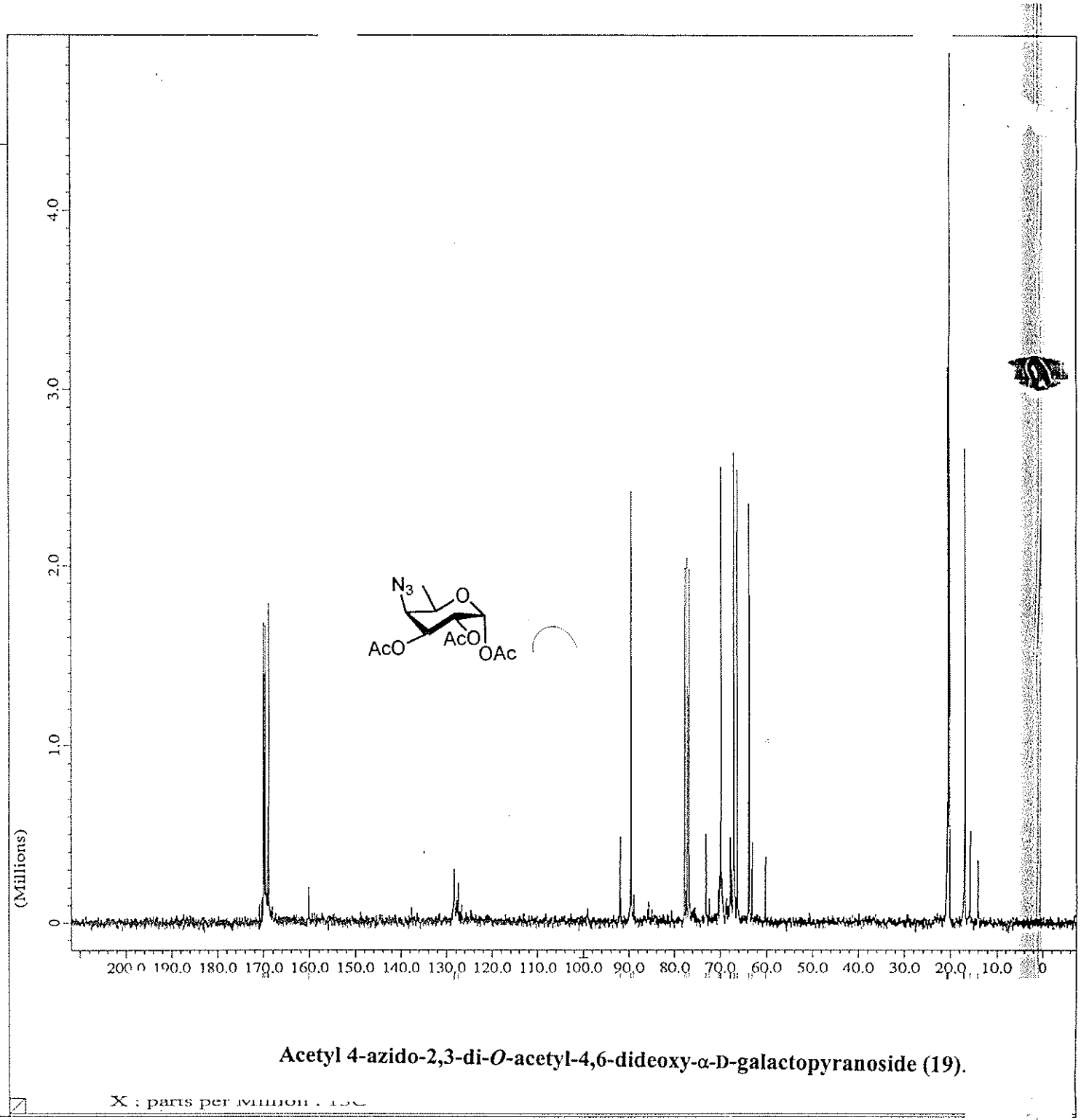
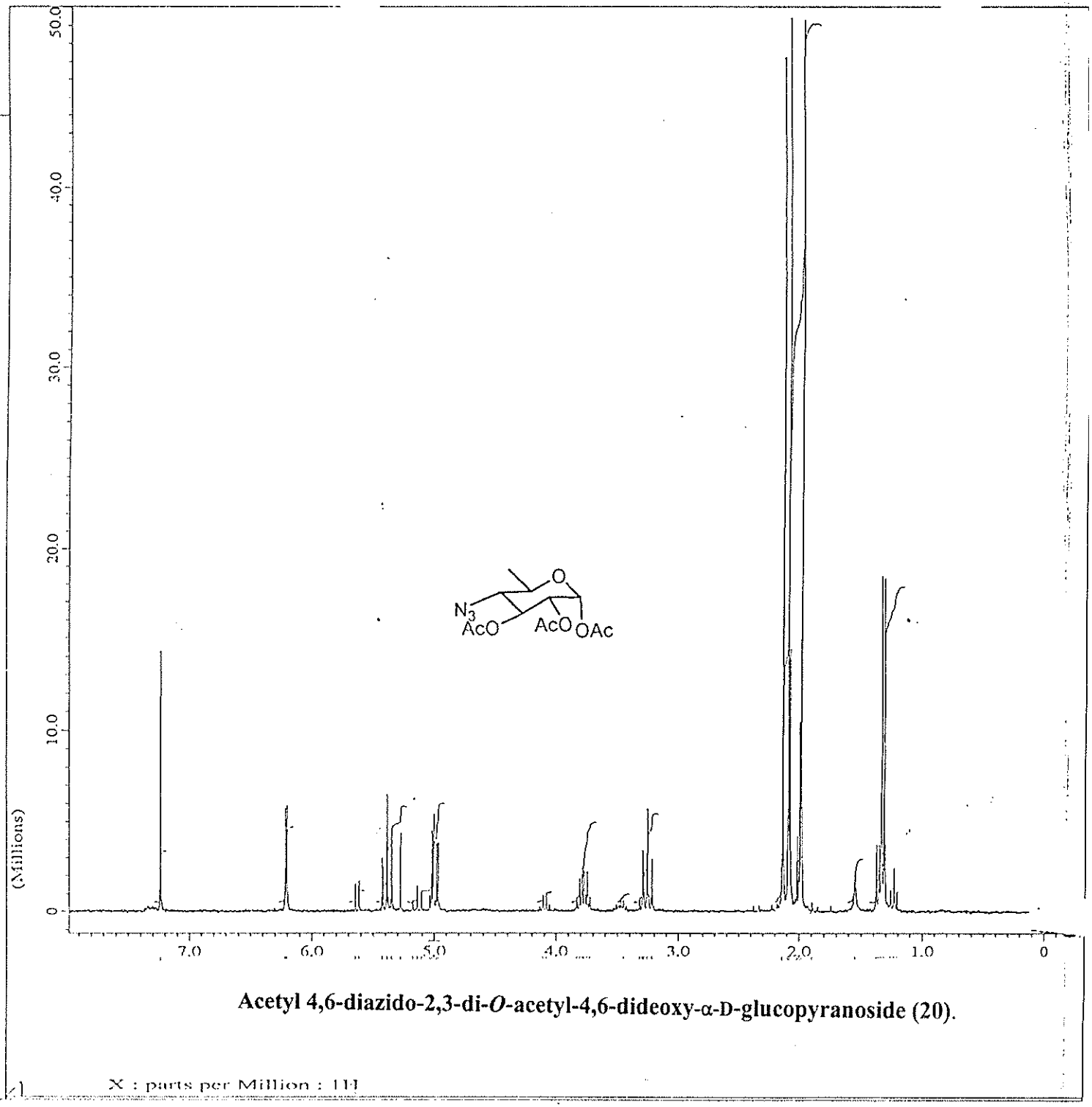


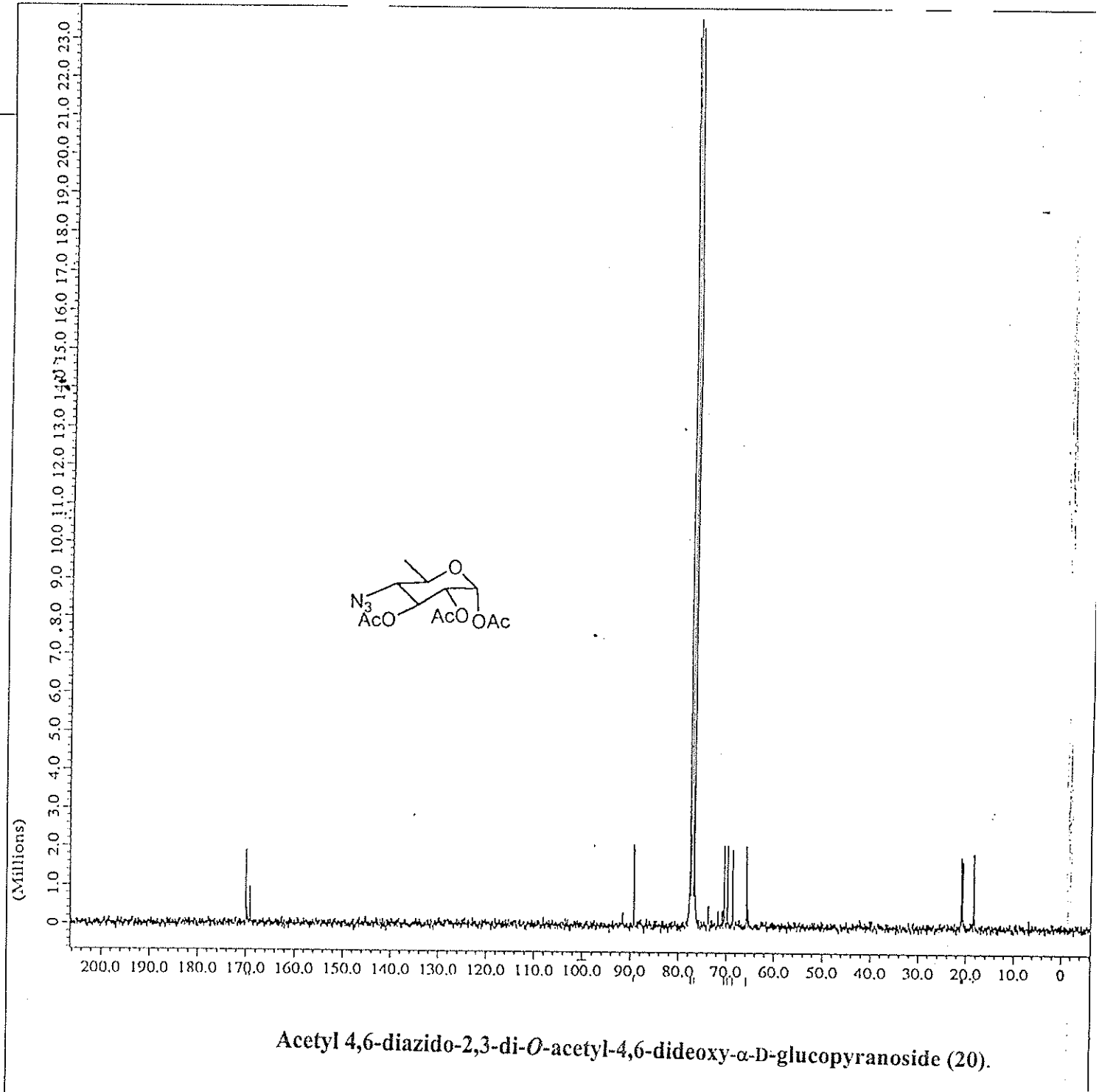
Acetyl 4-azido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-galactopyranoside (19).

File Name	= proton.830
Author	=
Sample ID	= S#601689
Content	= Single Pulse Experimen
Creation Date	= 11-JAN-2001 16:46:05
Revision Date	= 11-JAN-2001 16:46:35
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.34[46[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 30
Relaxation_delay	= 4[s]
Scans	= 16
Solvent	= CHLOROFORM-D
Spin_get	= 13[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 19.3[dC]
Temp_set	= 21.0[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



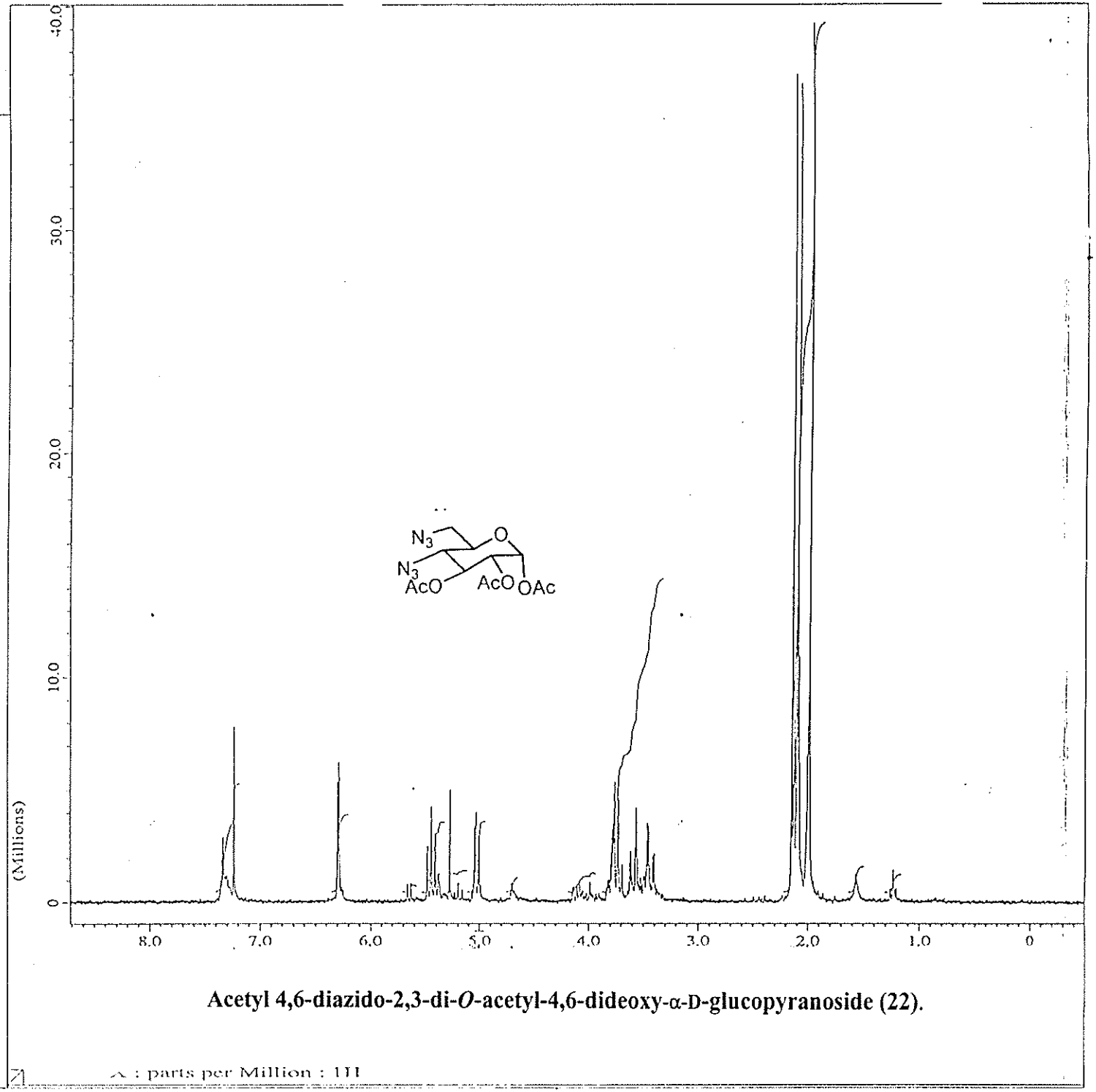
Acetyl 4,6-diazido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-glucopyranoside (20).

File Name	= 1d_13c_spectrum.29
Author	=
Sample ID	= S#611525
Content	= Single Pulse with Broa
Creation Date	= 24-FEB-2001 19:01:06
Revision Date	= 24-FEB-2001 19:01:55
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 2448
Solvent	= CHLOROFORM-D
Spin_get	= 13[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.2[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



Acetyl 4,6-diazido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-glucopyranoside (20).

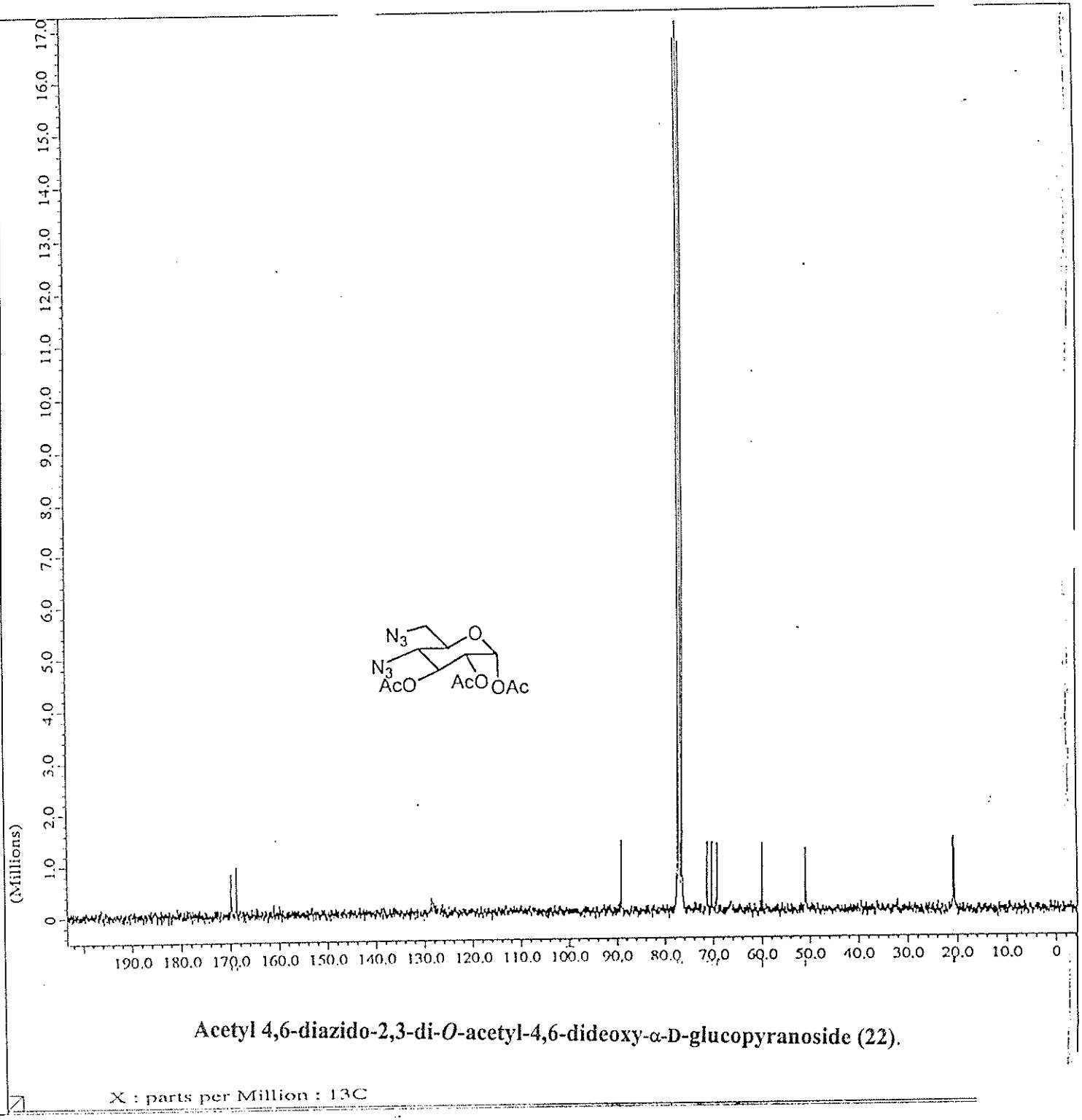
File Name	= proton.828
Author	=
Sample ID	= S#592105
Content	= Single Pulse Experimen
Creation Date	= 11-JAN-2001 16:30:06
Revision Date	= 11-JAN-2001 16:30:30
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 30
Relaxation_delay	= 4[s]
Scans	= 16
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 19.3[dC]
Temp_set	= 21.0[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Acetyl 4,6-diazido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-glucopyranoside (22).

JEOL

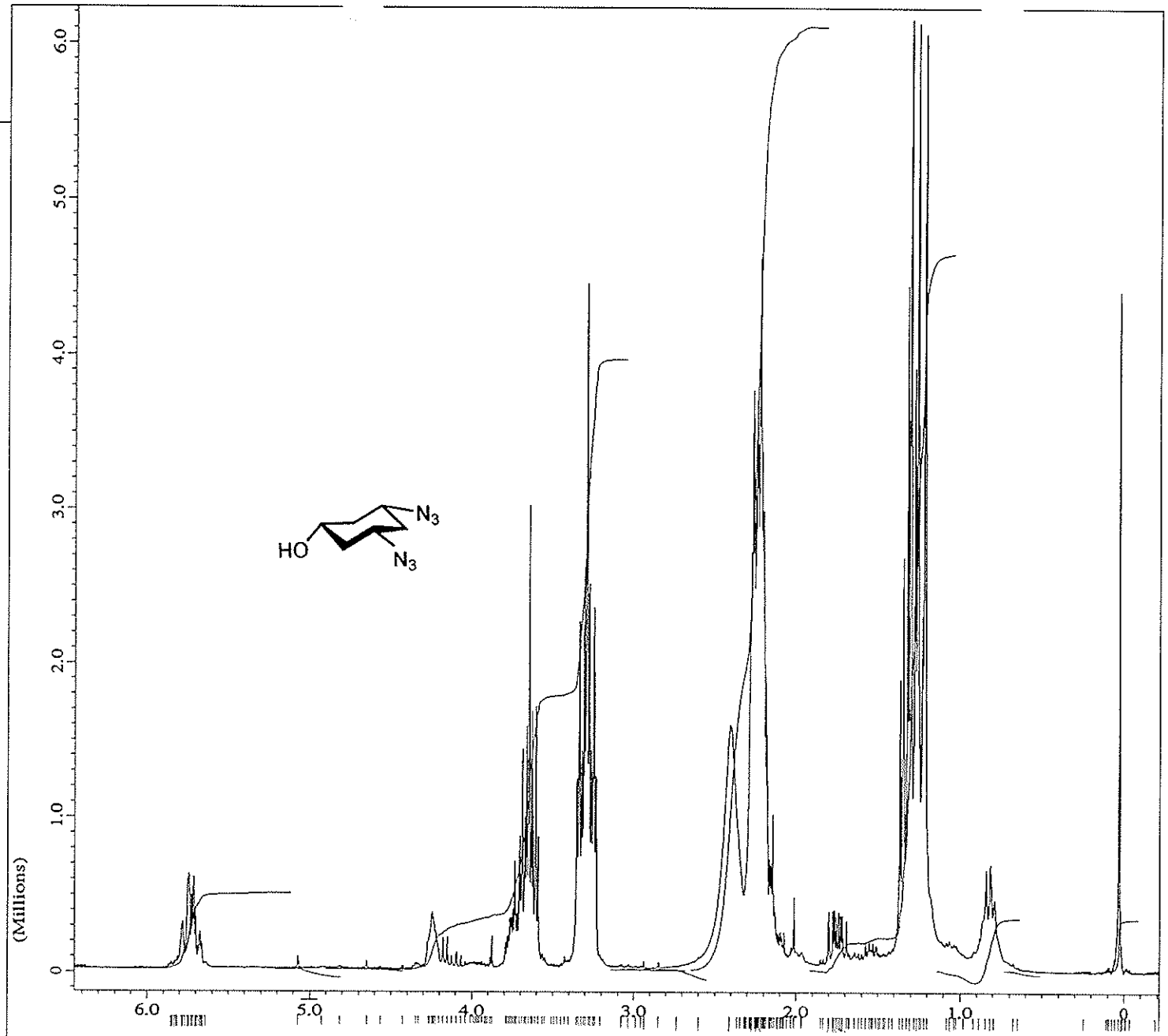
File Name	= 1d_13c_spectrum.28
Author	=
Sample ID	= S#552921
Content	= Single Pulse with Broa
Creation Date	= 24-FEB-2001 16:56:10
Revision Date	= 24-FEB-2001 16:56:44
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_domain	= 1H
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 1890
Solvent	= CHLOROFORM-D
Spin_get	= 14[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.5[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



Acetyl 4,6-diazido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-glucopyranoside (22).

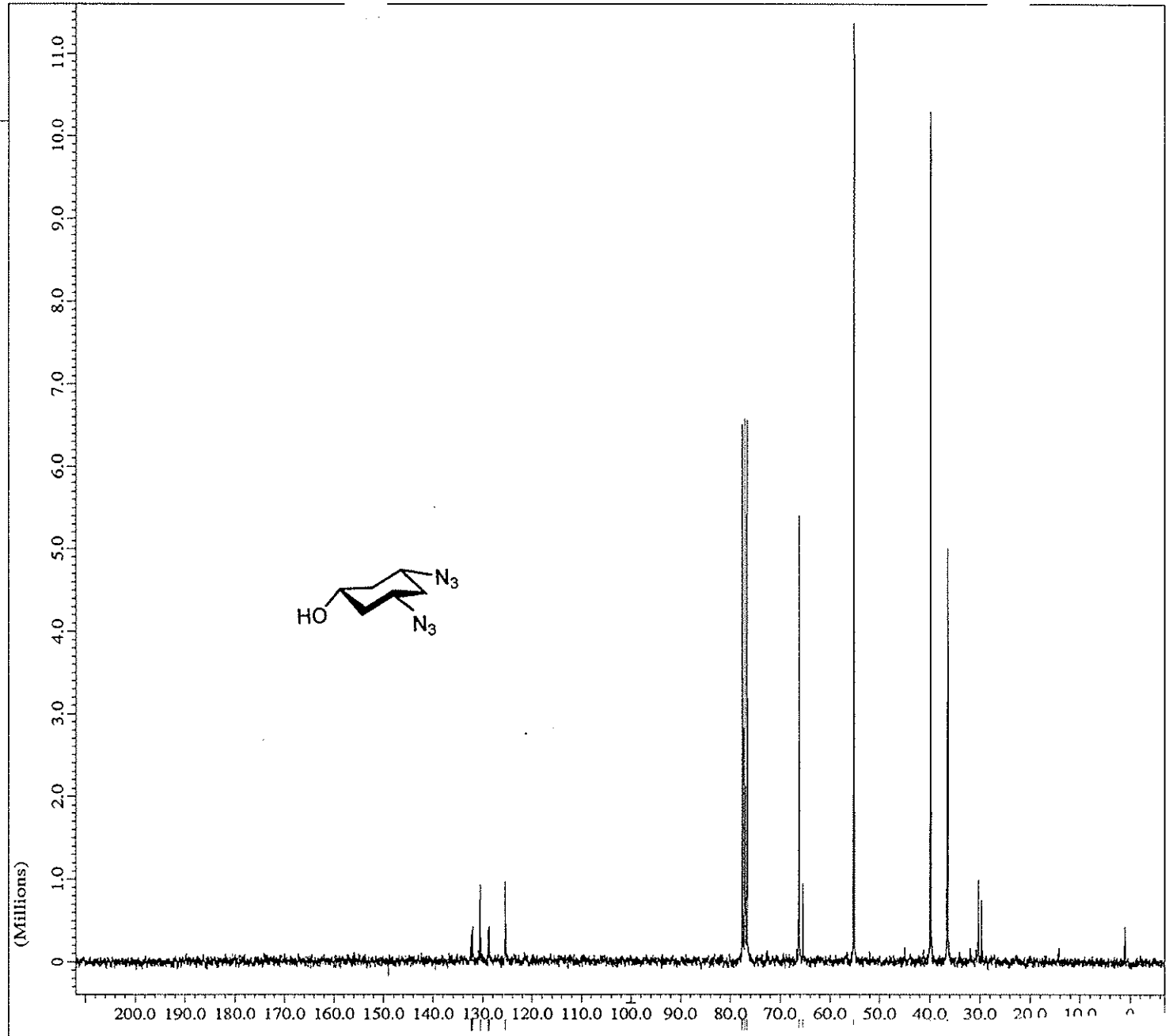
JEOL

File Name	= proton.2988
Author	=
Sample ID	= S#571566
Content	= Single Pulse Experiman
Creation Date	= 26-JUN-2002 15:54:55
Revision Date	= 26-JUN-2002 15:55:18
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 10[us]
Irr90_hi	= 10[us]
Irr90_lo	= 50[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 17
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 19.9[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



***Cis, cis*-3,5-diazidocyclohexanol (30).**

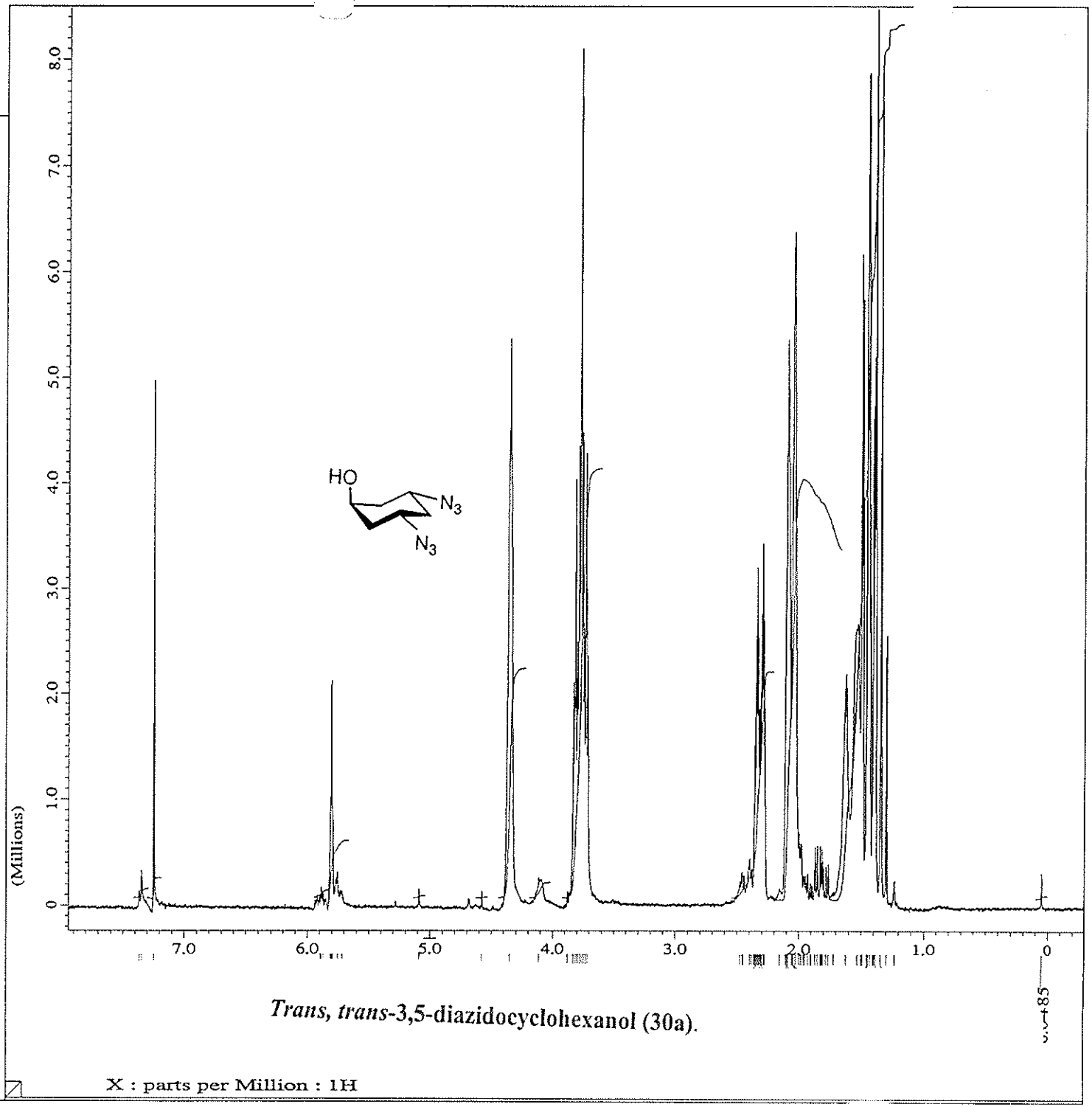
File Name	= 1d_13c_spectrum.461
Author	=
Sample ID	= S#571761
Content	= Single Pulse with Broa
Creation Date	= 26-JUN-2002 16:26:18
Revision Date	= 26-JUN-2002 16:27:16
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 634
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.8[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



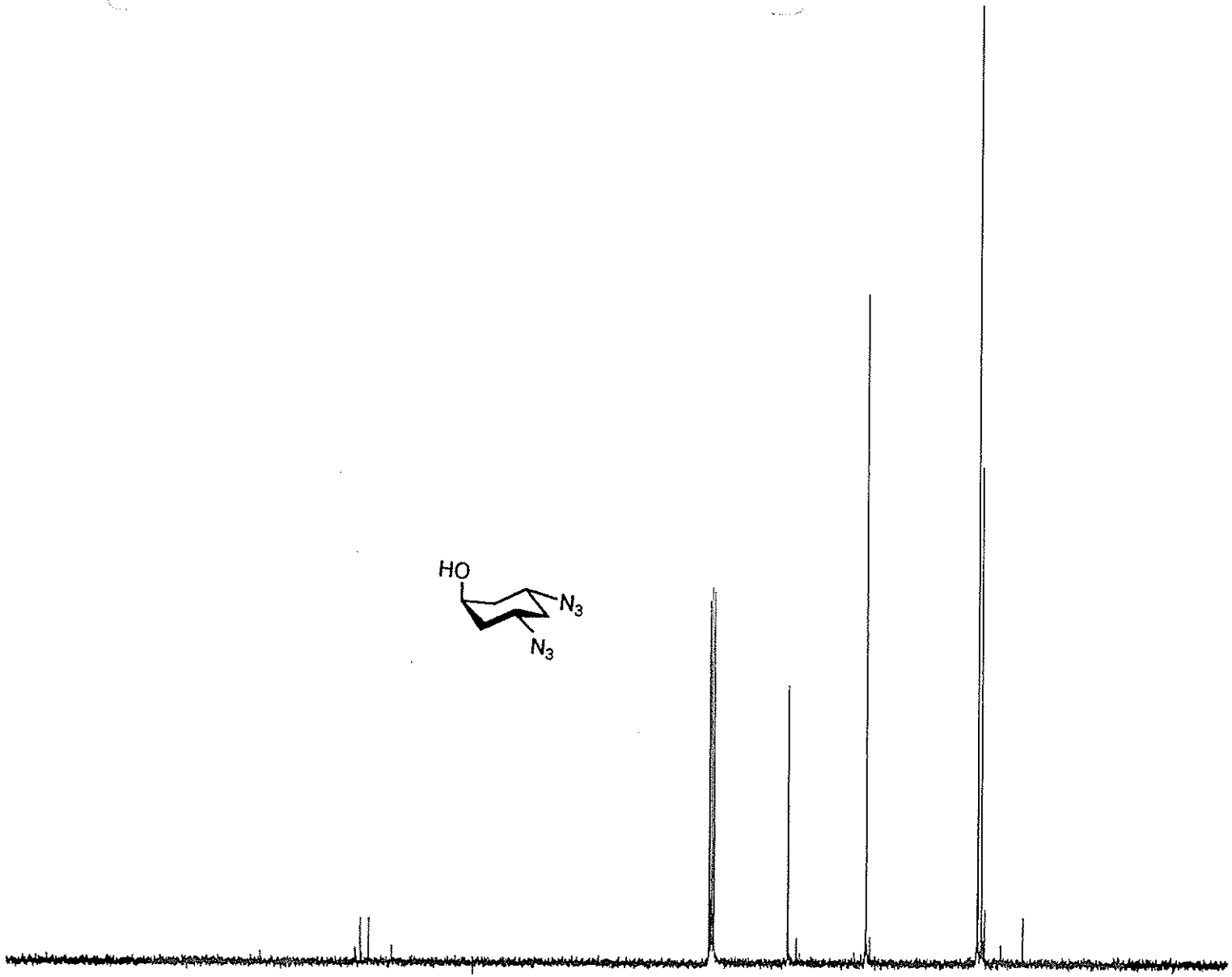
Cis, cis-3,5-diazidocyclohexanol (30).

JEOL

File Name	= proton.124
Author	=
Sample ID	= S#538422
Content	= Single Pulse Experiman
Creation Date	= 11-AUG-2001 14:59:28
Revision Date	= 11-AUG-2001 15:00:21
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experimant	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 25
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20.1[dC]
Temp_set	= 25.3[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Trans, trans-3,5-diazidocyclohexanol (30a).



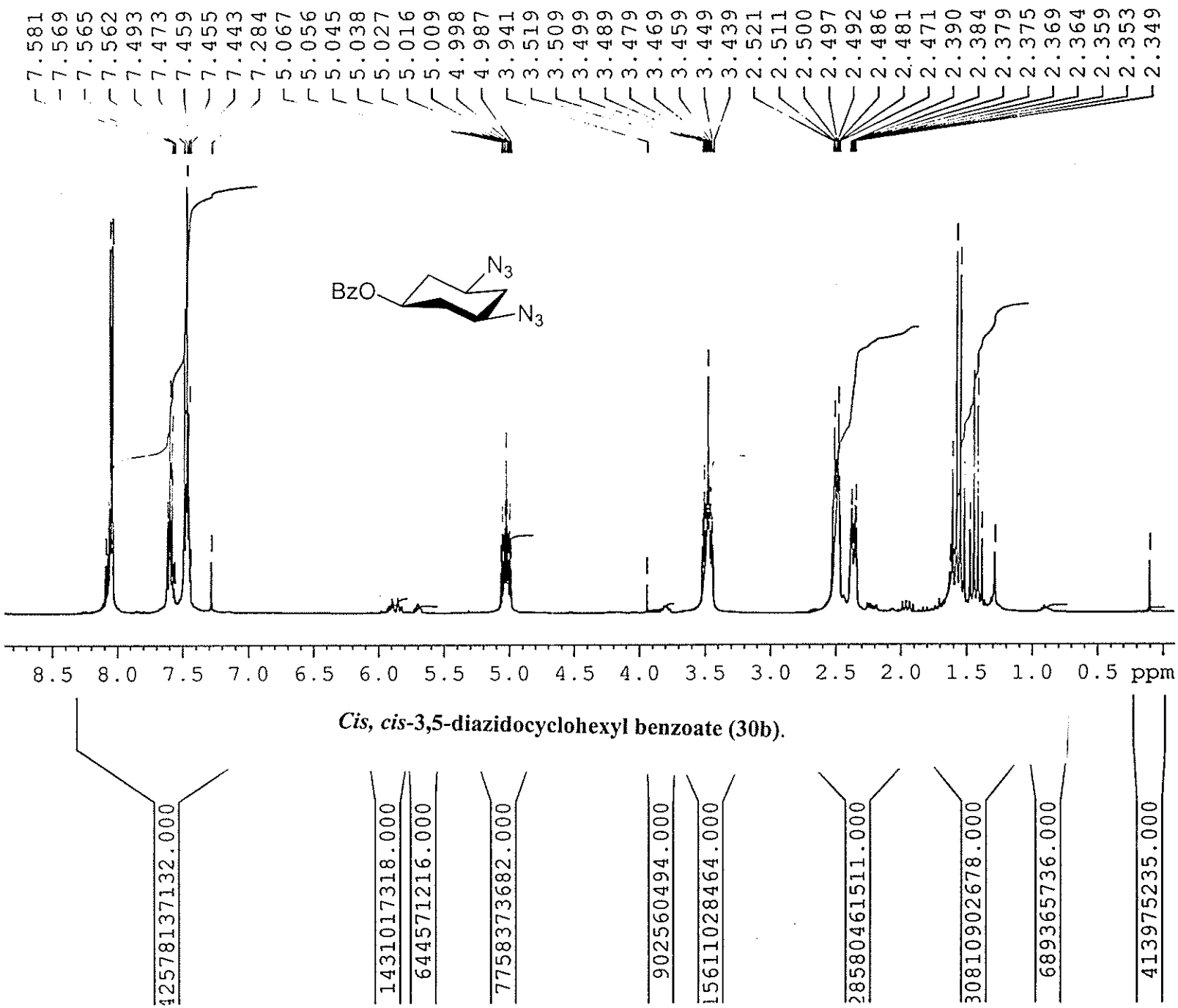
Current Data Parameters
NAME 090301
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 500000
Time 15.27
INSTRUM arx400
PROBHD 5 mm Multinu
PULPROG zgdc
TD 65536
SOLVENT CDCl3
NS 7000
DS 2
SWH 25000.000 Hz
FIDRES 0.381470 Hz
AQ 1.3107700 sec
RG 32768
DW 20.000 usec
DE 25.00 usec
TE 300.0 K
D12 0.00002000 sec
DL5 20.00 dB
CPDPRG waltz16
P31 100.00 usec
D1 0.40000001 sec
P1 6.00 usec
DE 25.00 usec
SFO1 100.6231179 MHz
NUCLEUS 13C
D11 0.03000000 sec

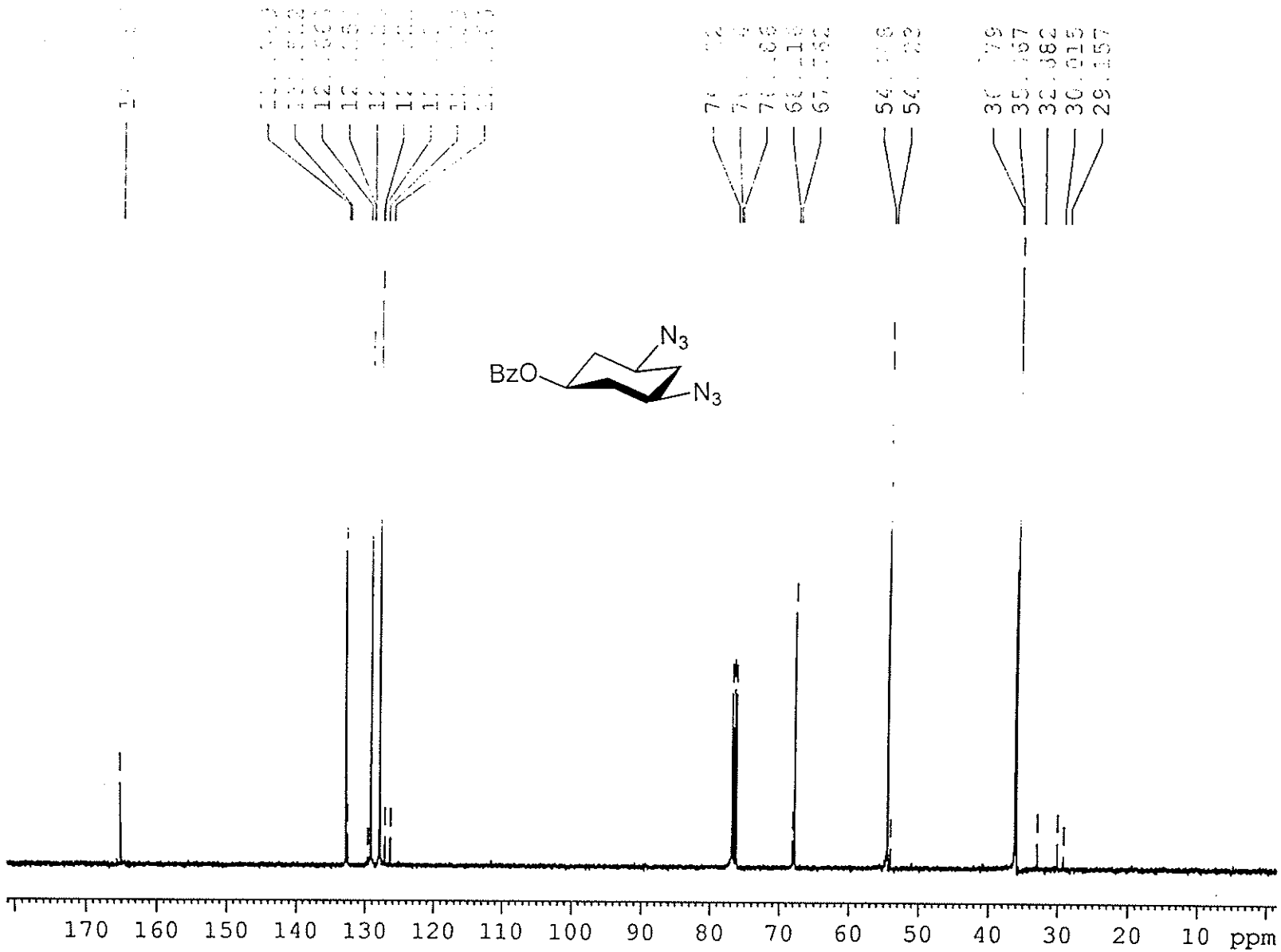
F2 - Processing parameters
SI 32768
SF 100.6128220 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 20.00 cm
F1P 180.000 ppm
F1 18110.31 Hz
F2P 0.000 ppm
F2 0.00 Hz
PPMCM 9.00000 ppm/cm
HZCM 905.51538 Hz/cm

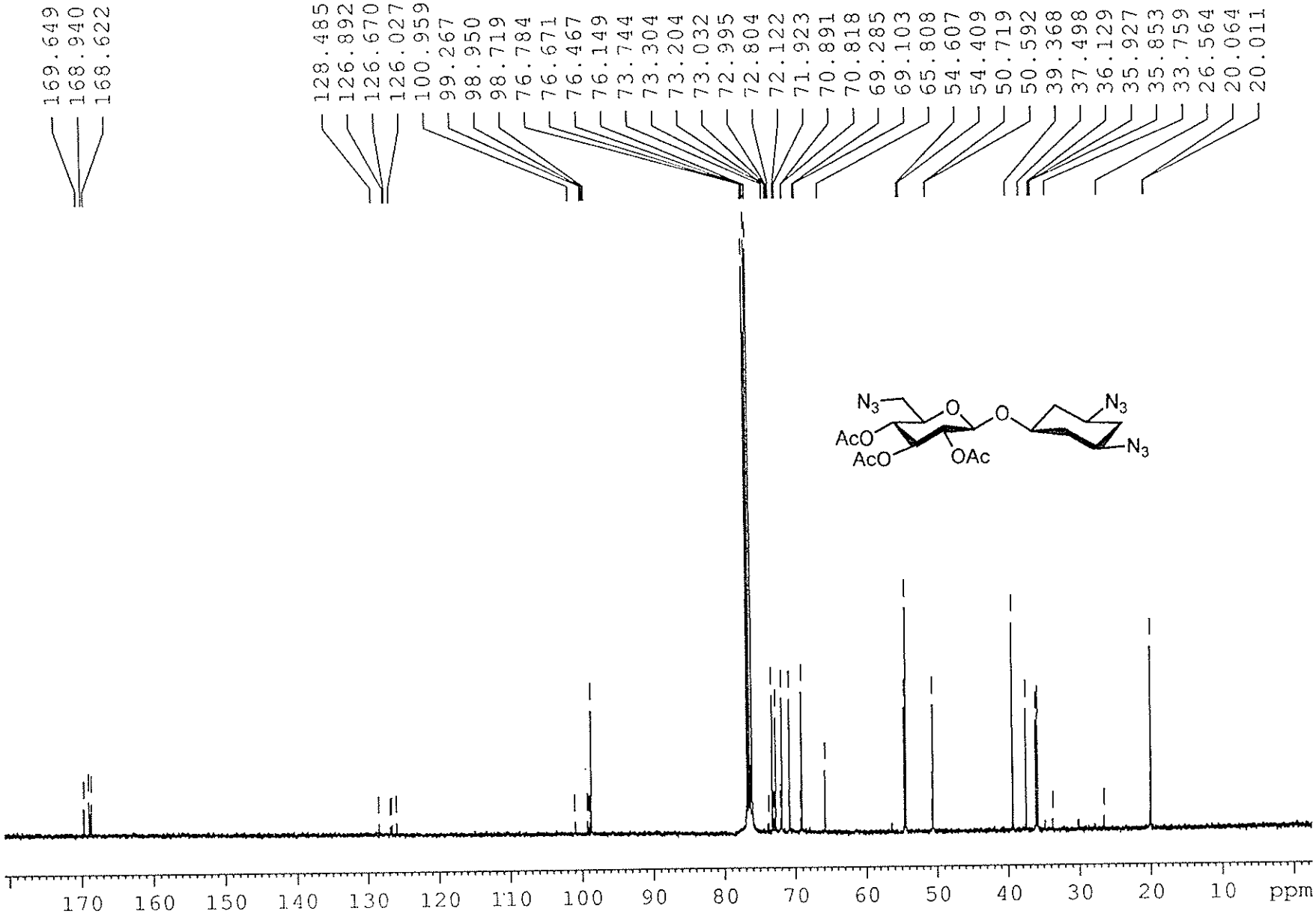
***Trans, trans*-3,5-diazidocyclohexanol (30a).**



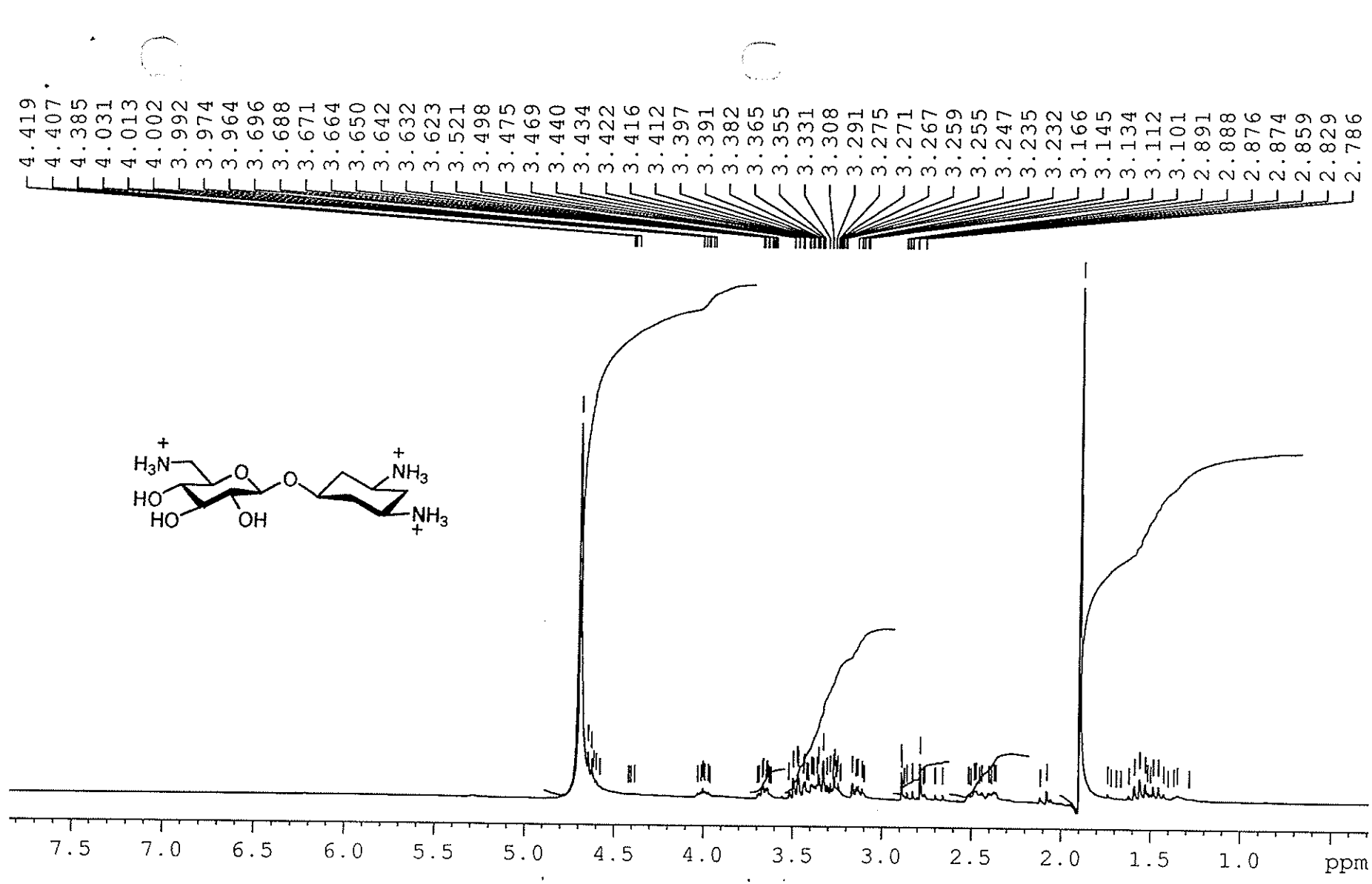
***Cis, cis*-3,5-diazidocyclohexyl benzoate (30b).**



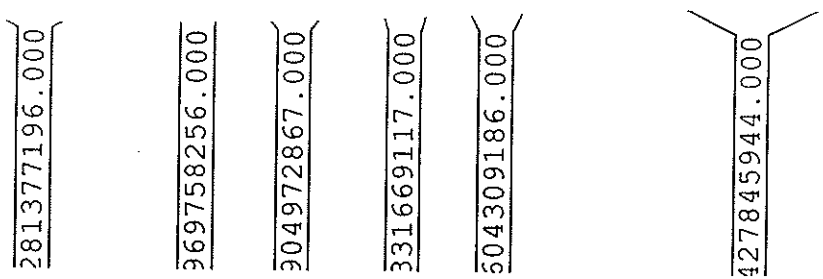
***Cis, cis*-3,5-diazidocyclohexyl benzoate (30b).**

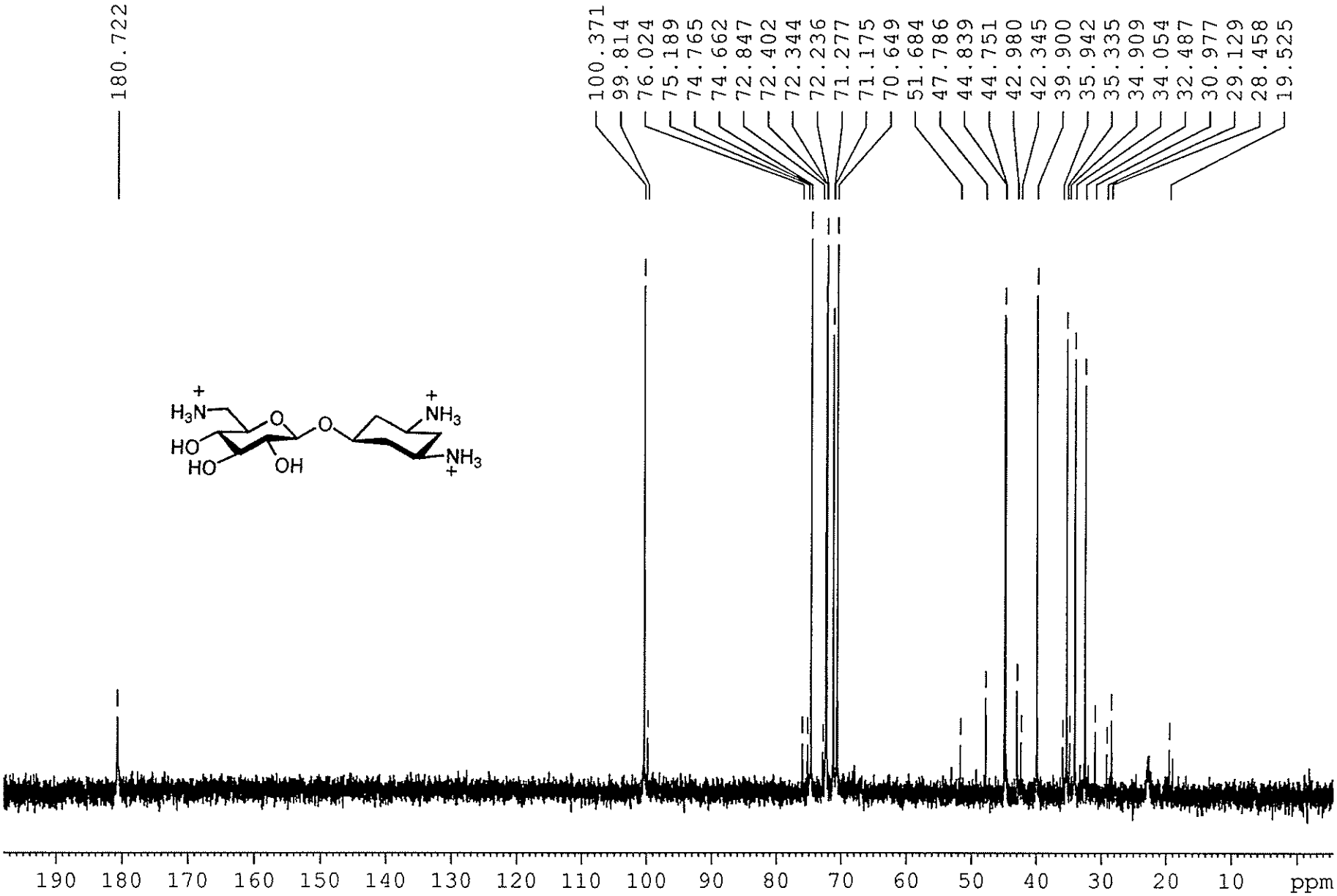


***Cis, cis*-3,5-diazidocyclohexyl β-D-2,3,4-tri-*O*-acetyl-6-azido-6-deoxyglucopyranoside (31).**



***Cis, cis*-3,5-diaminocyclohexyl β-D-6-amino-6-deoxyglucopyranoside (32).**

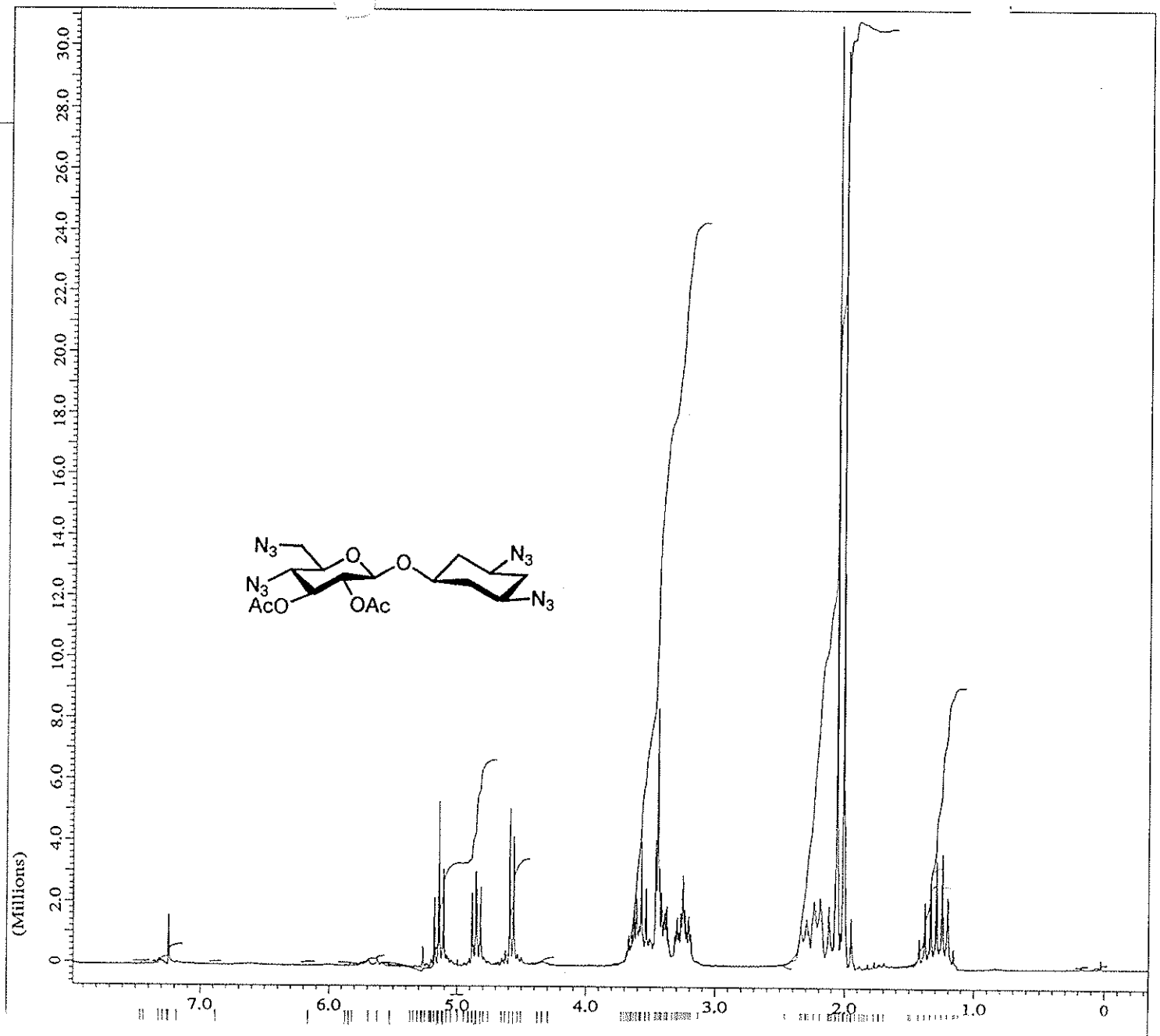




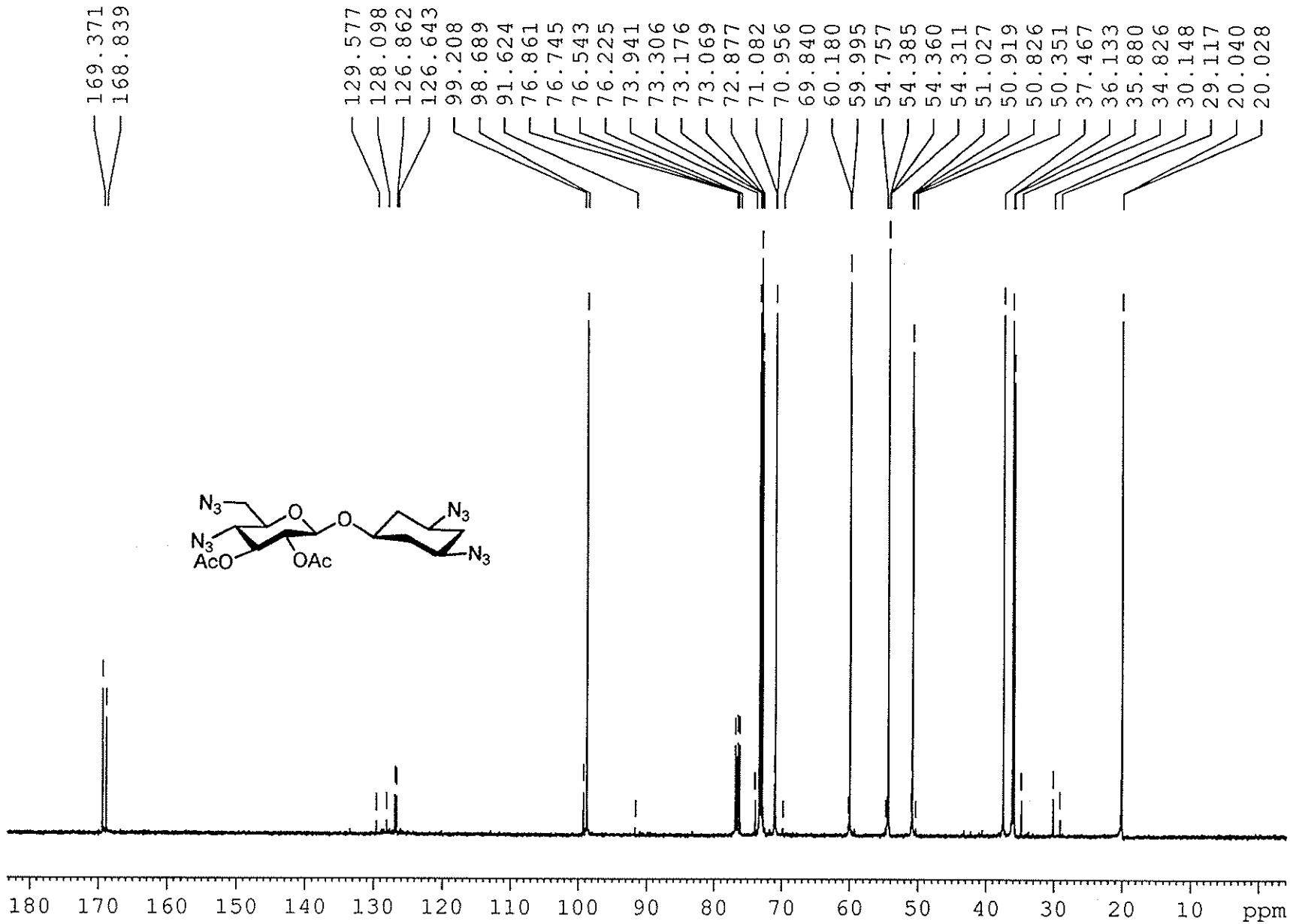
***Cis, cis*-3,5-diaminocyclohexyl β-D-6-amino-6-deoxyglucopyranoside (32).**

JEOL

File Name	= proton.1741
Author	=
Sample ID	= S#546053
Content	= Single Pulse Experimen
Creation Date	= 18-OCT-2001 15:12:24
Revision Date	= 18-OCT-2001 15:12:40
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1822[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.3[us]
Irr90_hi	= 18[us]
Irr90_lo	= 36[us]
Irr_pwidth	= 36[us]
Lock_status	= IDLE
Recvr_gain	= 18
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 29[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 19.1[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.3[us]
X90_hi	= 18[us]
X90_lo	= 36[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.65[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



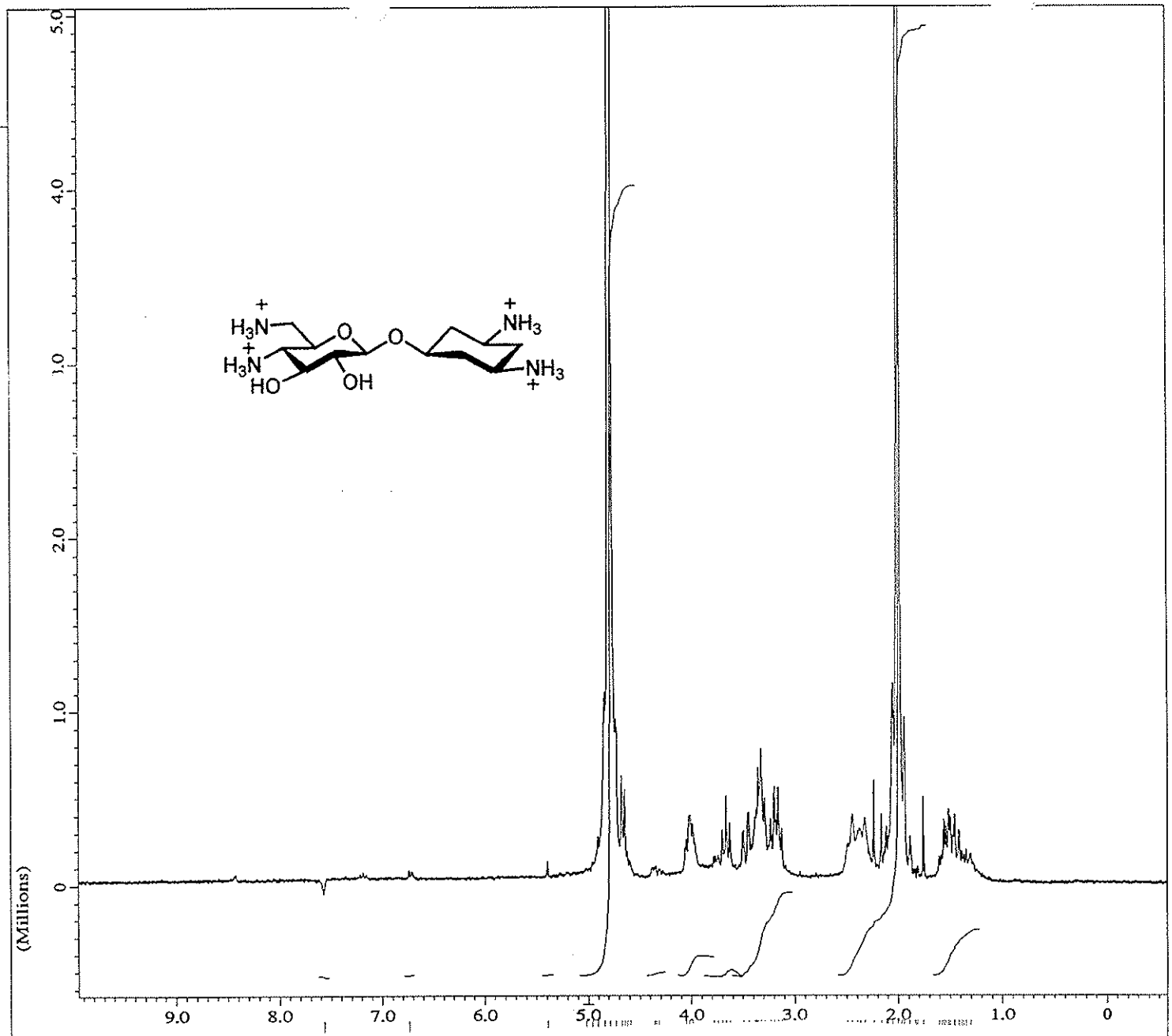
***Cis, cis*-3,5-diazidocyclohexyl β-D-2,3-di-*O*-acetyl-4,6-diazido-4,6-dideoxyglucopyranoside (33).**



***Cis, cis*-3,5-diazidocyclohexyl β-D-2,3-di-*O*-acetyl-4,6-diazido-4,6-dideoxyglucopyranoside (33).**

JEOL

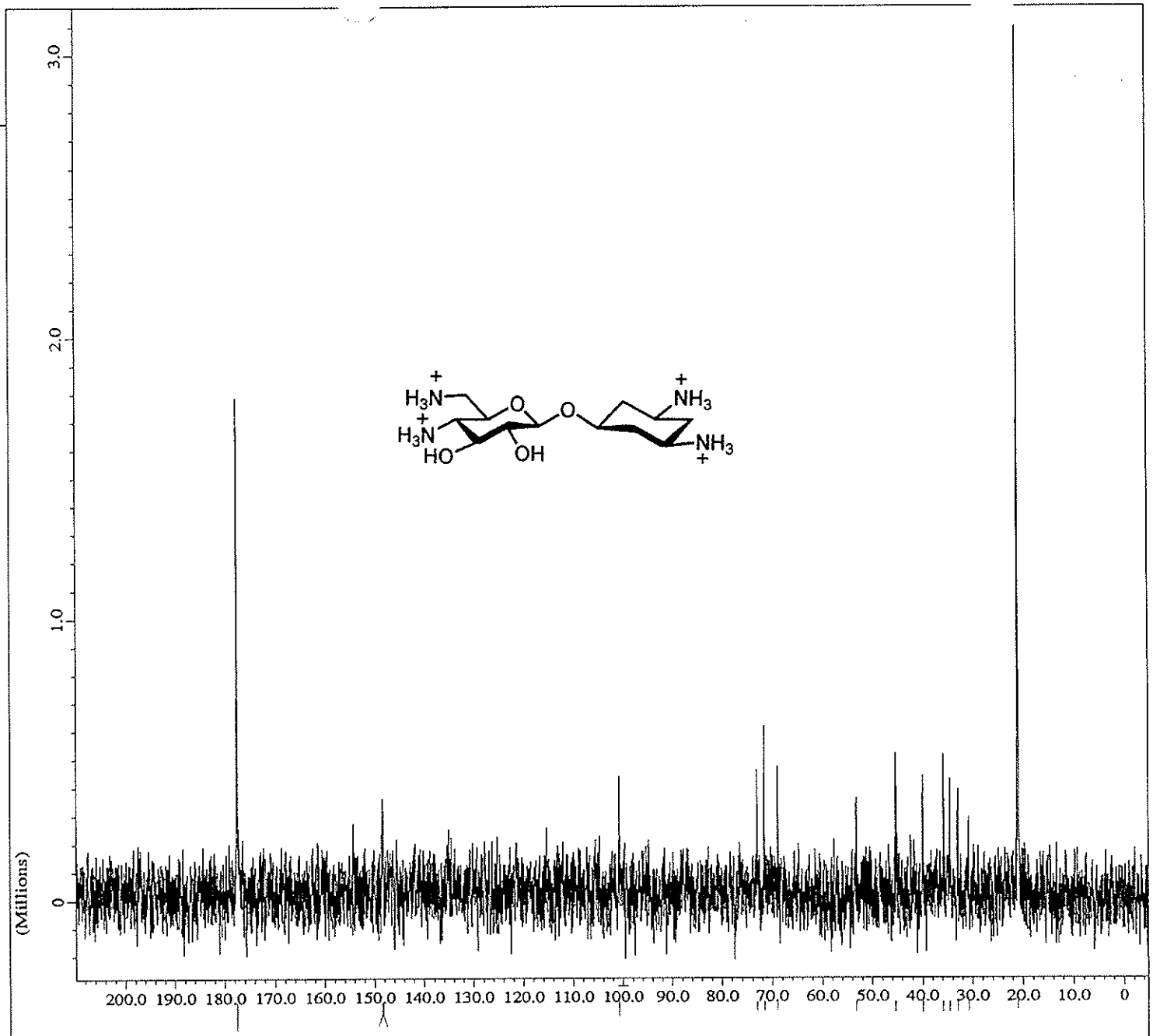
File Name	= proton.2853
Author	=
Sample ID	= S#412791
Content	= Single Pulse Experiman
Creation Date	= 2-JUN-2002 12:30:19
Revision Date	= 2-JUN-2002 11:30:59
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 22
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= D2O
Spin_get	= 15[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 19.1[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



Cis, cis-3,5-diaminocyclohexyl β-D-4,6-diamino-4,6-dideoxygluco-pyranoside (34).

JEOL

File Name	= 1d_13c_spectrum.430
Author	=
Sample ID	= S#655283
Content	= Single Pulse with Broa
Creation Date	= 2-JUN-2002 22:36:04
Revision Date	= 2-JUN-2002 21:37:08
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 4172
Solvent	= D2O
Spin_get	= 15[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.1[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]

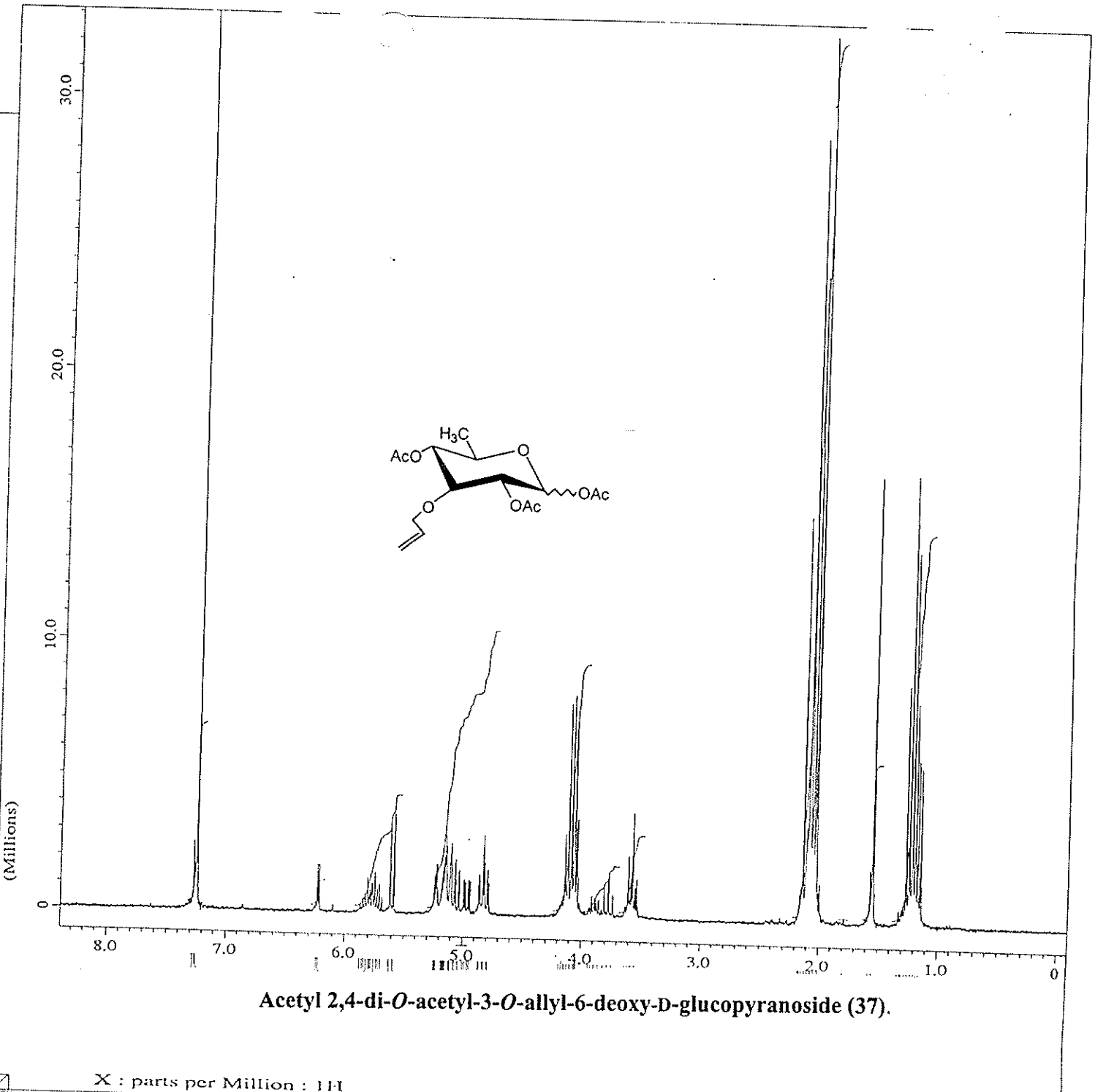


Cis, cis-3,5-diaminocyclohexyl β-D-4,6-diamino-4,6-dideoxygluco-pyranoside (34).

```
File Name          = proton.3481
Author             =
Sample ID          = S#344746
Content            = Single Pulse Experimen
Creation Date      = 26-NOV-2002 09:36:41
Revision Date      = 26-NOV-2002 09:36:59

Spec Site          = GSX 270
Spec Type          = DELTA_NMR

Data Format        = 1D COMPLEX
Dimensions         = X
Dim_Title          = 1H
Dim_Size           = 16384
Dim_Units          = [ppm]
Acq_delay          = 0.1821[ms]
Changer_sample     = 0
Experiment         = single_pulse.exp
Field_strength     = 6.345446[T]
Irr90              = 11.6[us]
Irr90_hi           = 18[us]
Irr90_lo           = 41[us]
Irr_pwidth         = 41[us]
Lock_status        = IDLE
Recvr_gain         = 29
Relaxation_delay   = 4[s]
Scans              = 8
Solvent            = CHLOROFORM-D
Spin_get           = 17[Hz]
Spin_lock_90       = 0.1[ms]
Spin_lock_attn     = 24[dB]
Spin_set           = 15[Hz]
Spin_state         = SPIN ON
Spin_status        = SPIN ON
Temp_get           = 19.6[dC]
Temp_set           = 25.3[dC]
Temp_state         = TEMP OFF
Temp_status        = TEMP OFF
X90                = 11.6[us]
X90_hi             = 18[us]
[illegible]        = 41[us]
[illegible]duration = 3.03104[s]
X_domain           = 1H
X_freq             = 270.16743928[MHz]
X_offset           = 5.0[ppm]
X_points           = 16384
X_prescans         = 0
X_pulse            = 5.8[us]
X_resolution       = 0.32991976[Hz]
X_sweep            = 5.40540541[kHz]
```



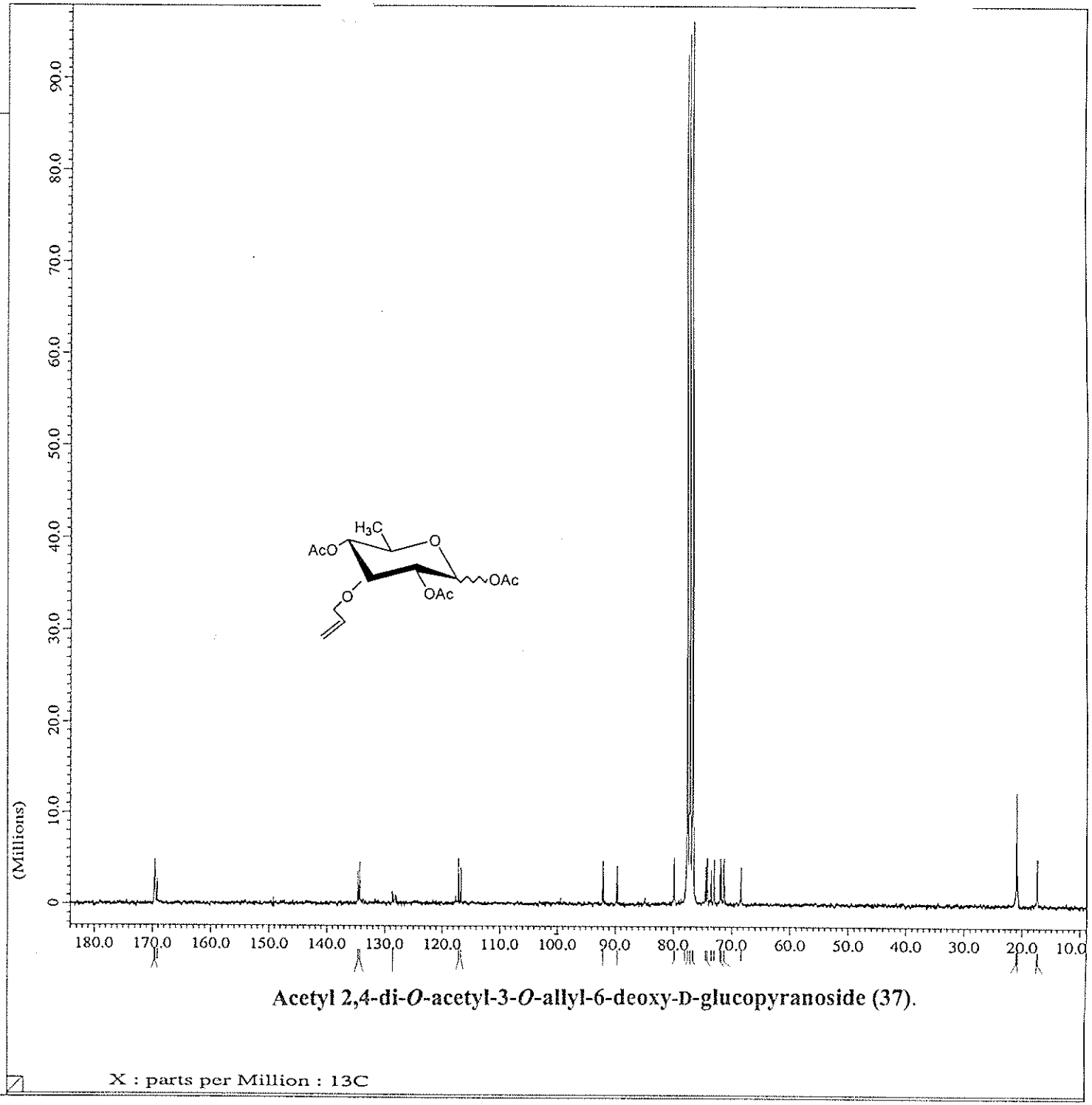
Acetyl 2,4-di-*O*-acetyl-3-*O*-allyl-6-deoxy-D-glucopyranoside (37).

JEOL

```
File Name          = 1d_13c_spectrum.651
Author             =
Sample ID          = S#770679
Content            = Single Pulse with Broa
Creation Date      = 20-JUN-2003 07:10:16
Revision Date      = 20-JUN-2003 08:39:37

Spec Site          = GSX 270
Spec Type          = DELTA_NMR

Data Format        = 1D COMPLEX
Dimensions         = X
Dim Title          = 13C
Dim Size           = 32768
Dim Units          = [ppm]
Acq_delay          = 57.5[us]
Changer_sample     = 0
Experiment         = single_pulse_dec
Field_strength     = 6.345446[T]
Irr90              = 11.6[us]
Irr90_hi           = 18[us]
Irr90_lo           = 41[us]
Irr_domain         = 1H
Irr_pwidth         = 41[us]
Lock_status        = IDLE
Recvr_gain         = 15
Relaxation_delay= 1[s]
Scans              = 12000
Solvent            = CHLOROFORM-D
Spin_get           = 16[Hz]
Spin_lock_90       = 0.1[ms]
Spin_lock_attn     = 24[dB]
Spin_set           = 15[Hz]
Spin_state         = SPIN ON
Spin_status        = SPIN ON
Temp_get           = 22.3[dC]
Temp_set           = 40.3[dC]
Temp_state         = TEMP OFF
Temp_status        = TEMP OFF
X90                = 8[us]
X90_hi             = 8.9[us]
X90_lo             = 39[us]
X_acq_duration     = 1.9267584[s]
X_domain           = 13C
X_freq             = 67.94010394[MHz]
X_offset           = 100.0[ppm]
X_points           = 32768
X_prescans         = 4
X_pulse            = 2.66666667[us]
X_resolution       = 0.51900643[Hz]
X_sweep            = 17.00680272[kHz]
```

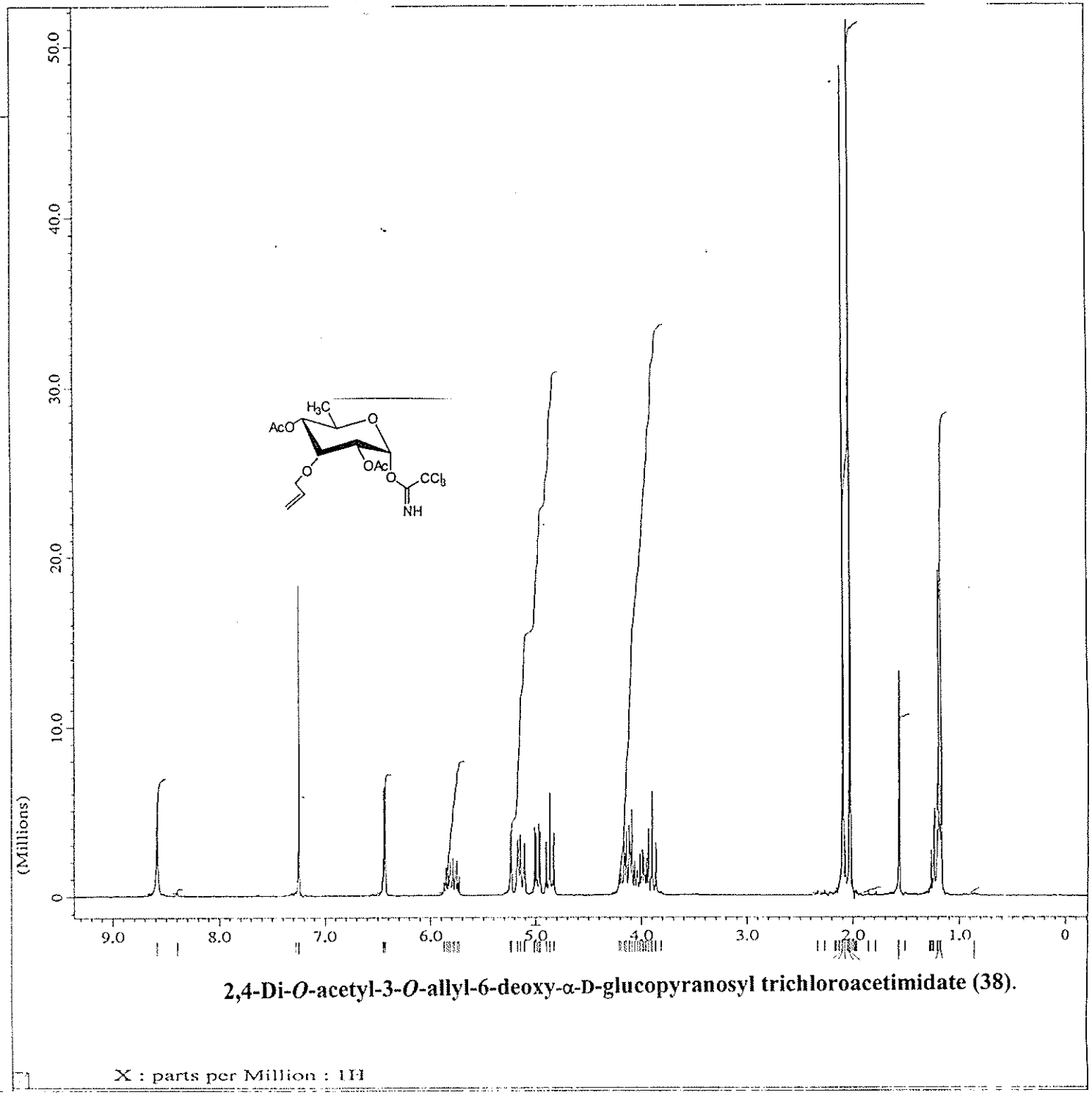


Acetyl 2,4-di-*O*-acetyl-3-*O*-allyl-6-deoxy-D-glucopyranoside (37).

```
File Name          = proton.3295
Author             =
Sample ID          = SP[illegible]628
[illegible]t       = Single Pulse Experimen
[illegible] Date   = 19-SEP-2002 09:20:03
Revision Date      = 19-SEP-2002 09:20:25

[illegible] Site   = GSX 270
Spec Type          = DELTA_NMR

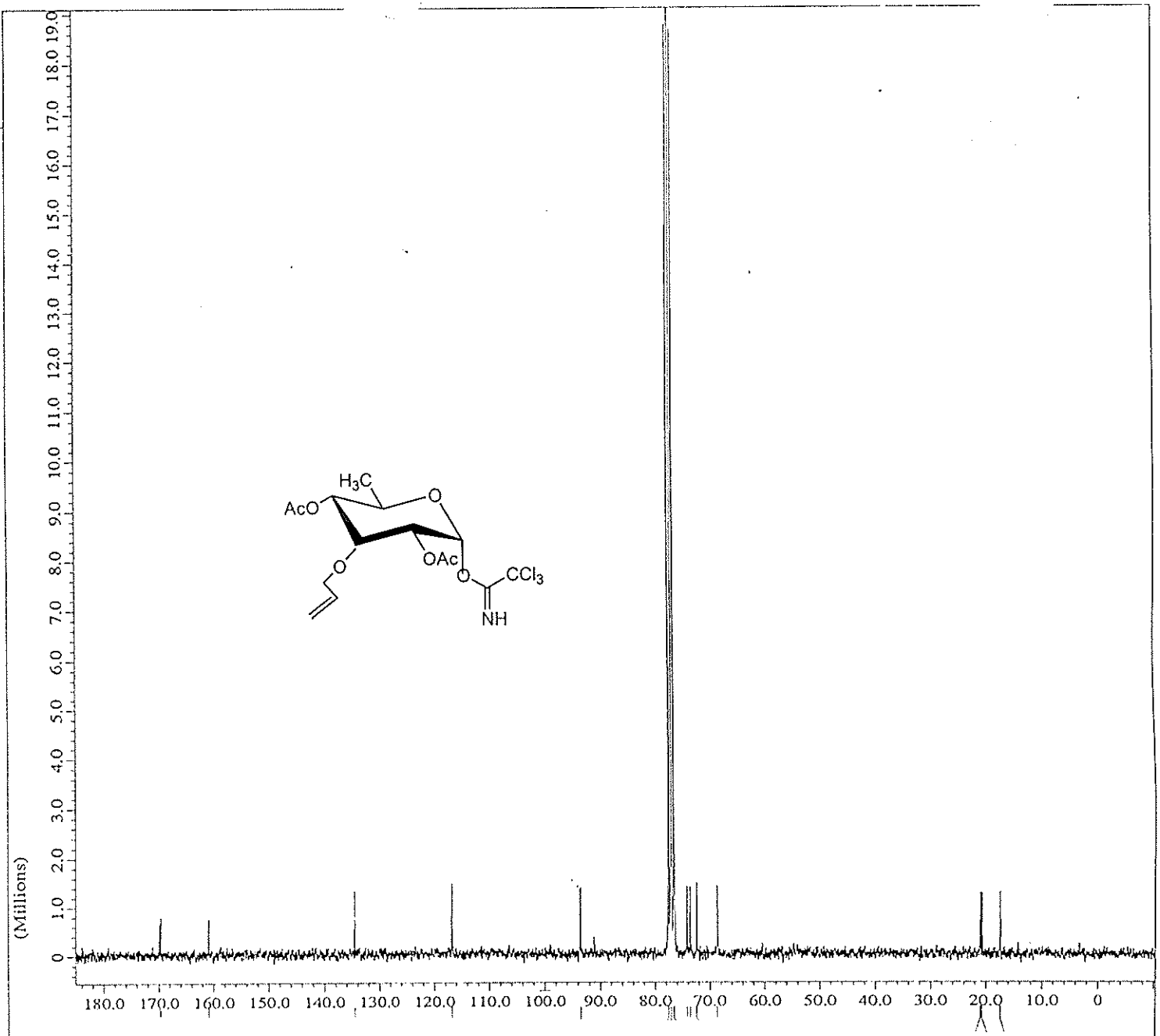
Data Format        = 1D COMPLEX
Dimensions         = X
Dim Title          = 1H
Dim Size           = 16384
Dim Units          = [ppm]
Acq_delay          = 0.1821[ms]
Changer_sample     = 0
Experiment         = single_pulse.exp
Field_strength     = 6.345446[T]
Irr90              = 11.6[us]
Irr90_hi           = 18[us]
Irr90_lo           = 41[us]
Irr_pwidth         = 41[us]
Lock_status        = IDLE
Recvr_gain         = 26
Relaxation_delay   = 4[s]
Scans              = 8
Solvent            = CHLOROFORM-D
Spin_get           = 17[Hz]
Spin_lock_90       = 0.1[ms]
Spin_lock_attn     = 24[dB]
Spin_set           = 15[Hz]
Spin_state         = SPIN ON
Spin_status        = SPIN ON
Temp_get           = 20.5[dC]
Temp_set           = 25.3[dC]
Temp_state         = TEMP OFF
Temp_status        = TEMP OFF
X90                = 11.6[us]
X90_hi             = 18[us]
X90_lo             = 41[us]
X_acq_duration     = 3.03104[s]
X_domain           = 1H
X_freq             = 270.16743928[MHz]
X_offset           = 5.0[ppm]
X_points           = 16384
X_prescans         = 0
X_pulse            = 5.8[us]
X_resolution       = 0.32991976[Hz]
X_sweep            = 5.40540541[kHz]
```



2,4-Di-*O*-acetyl-3-*O*-allyl-6-deoxy-α-D-glucopyranosyl trichloroacetimidate (38).

JEOL

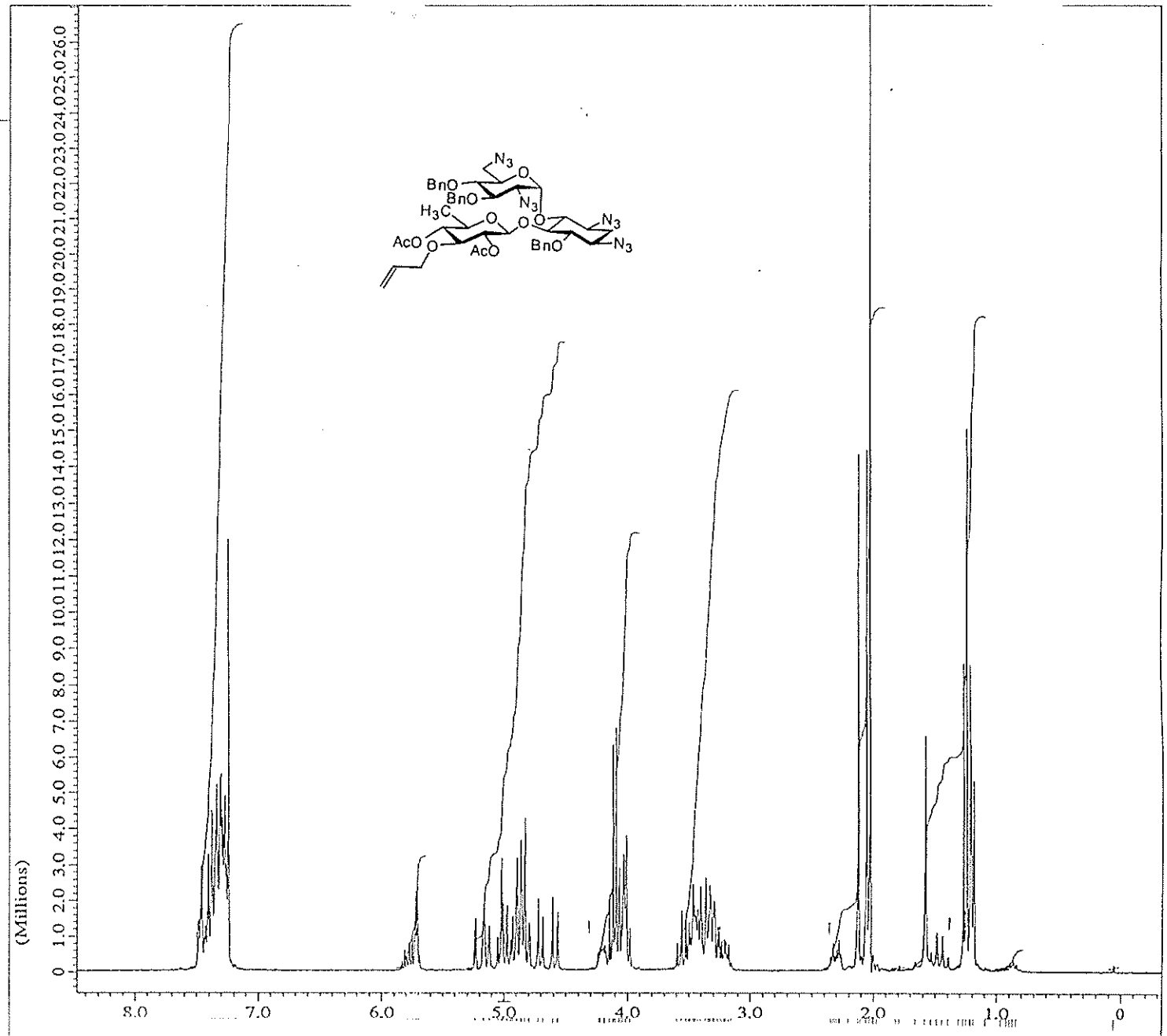
File Name	= 1d_13c_spectrum.536
Author	=
Sample ID	= S#748860
Content	= Single Pulse with Broa
Creation Date	= 20-SEP-2002 22:39:39
Revision Date	= 20-SEP-2002 22:40:56
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 2278
Solvent	= CHLOROFORM-D
[illegible]_get	= 17[Hz]
[illegible]lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 22.9[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



2,4-Di-*O*-acetyl-3-*O*-allyl-6-deoxy-α-D-glucopyranosyl trichloroacetimidate (38).

JEOL

File Name	= proton.3336
Author	=
Sample ID	= S#379693
Content	= Single Pulse Experimen
Creation Date	= 5-OCT-2002 10:34:55
Revision Date	= 5-OCT-2002 10:35:16
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pWidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 25
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20.4[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]

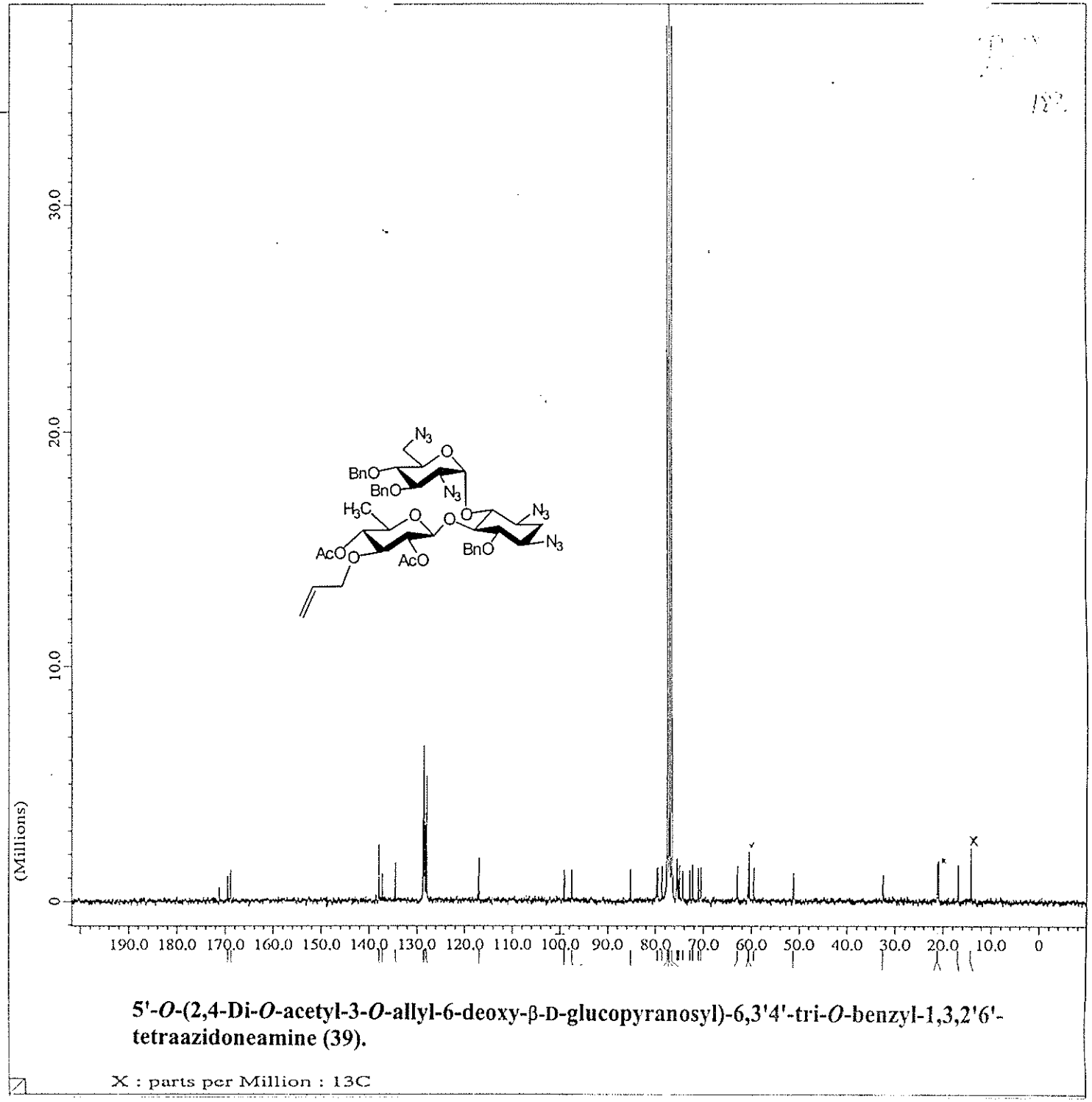


5'-*O*-(2,4-Di-*O*-acetyl-3-*O*-allyl-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (39).

X : parts per Million : 1H

JEOL

File Name	= 1d_13c_spectrum.550
Author	=
Sample ID	= S#752726
Content	= Single Pulse with Broa
Creation Date	= 6-OCT-2002 23:55:53
Revision Date	= 7-OCT-2002 08:21:41
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 3709
Solvent	= CHLOROFORM-D
Spin_act	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_act	= 22.5[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



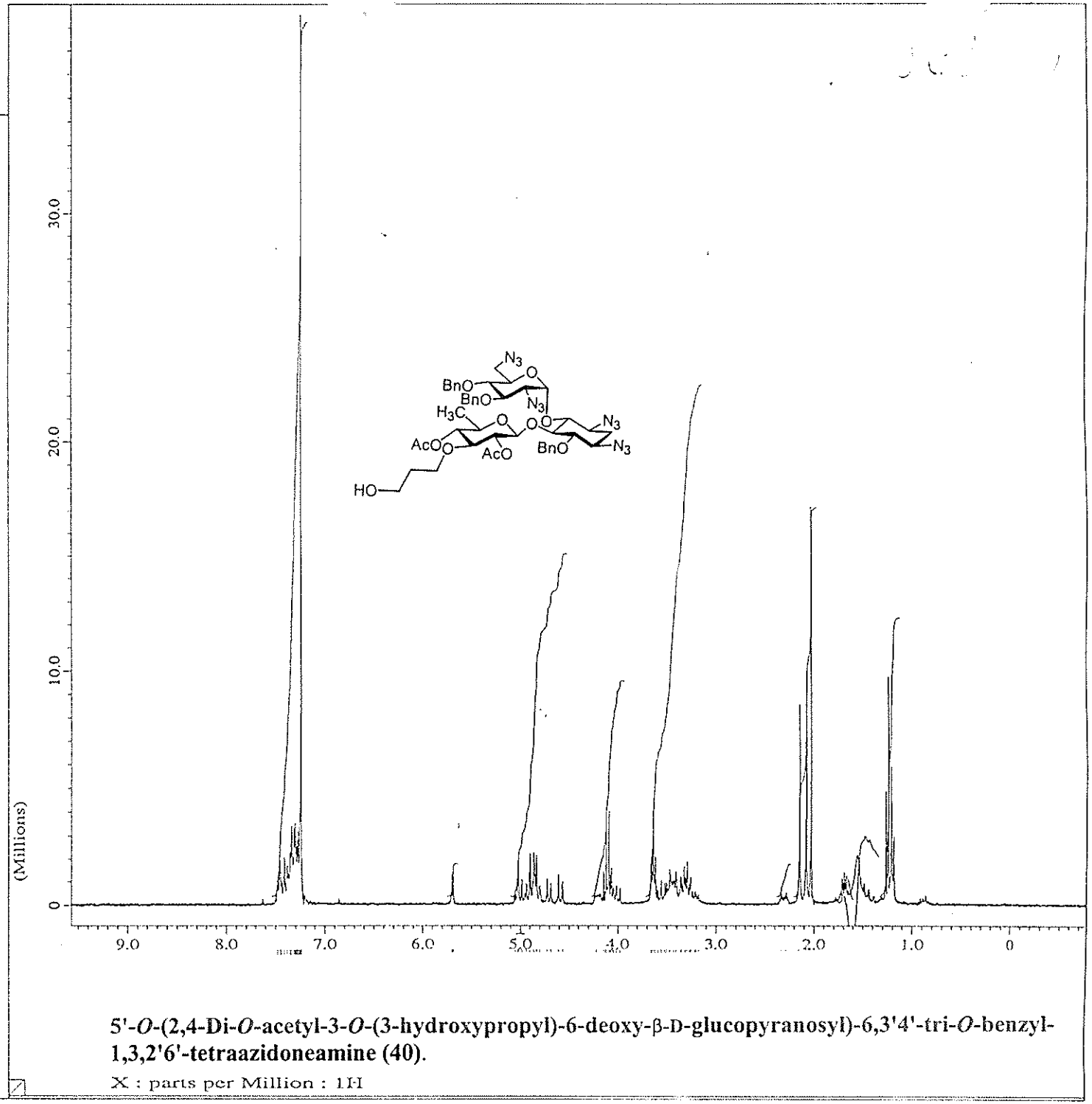
5'-*O*-(2,4-Di-*O*-acetyl-3-*O*-allyl-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (39).

JEOL

```
File Name          = proton.3527
Author             =
Sample ID          = S#364253
Content            = Single Pulse Experimen
Creation Date      = 16-DEC-2002 10:09:11
Revision Date      = 16-DEC-2002 10:09:29

Spec Site          = GSX 270
Spec Type          = DELTA_NMR

Data Format        = 1D COMPLEX
Dimensions         = X
Dim Title          = 1H
Dim Size           = 16384
Dim Units          = [ppm]
Acq_delay          = 0.1821[ms]
Changer_sample     = 0
Experiment         = single_pulse.exp
Field_strength     = 6.345446[T]
Irr90              = 11.6[us]
Irr90_hi           = 18[us]
Irr90_lo           = 41[us]
Irr_pwidth         = 41[us]
Lock_status        = IDLE
Recvr_gain         = 29
Relaxation_delay   = 4[s]
Scans              = 8
Solvent            = CHLOROFORM-D
Spin_get           = 14[Hz]
Spin_lock_90       = 0.1[ms]
Spin_lock_attn     = 24[dB]
Spin_set           = 15[Hz]
Spin_state         = SPIN ON
Spin_status        = SPIN ON
Temp_get           = 19.4[dC]
Temp_set           = 22.2[dC]
Temp_state         = TEMP OFF
Temp_status        = TEMP OFF
X90                = 11.6[us]
X90_hi             = 18[us]
X90_lo             = 41[us]
X_acq_duration     = 3.03104[s]
X_domain           = 1H
X_freq             = 270.16743928[MHz]
X_offset           = 5.0[ppm]
X_points           = 16384
X_prescans         = 0
X_pulse            = 5.8[us]
X_resolution       = 0.32991976[Hz]
X_sweep            = 5.40540541[kHz]
```



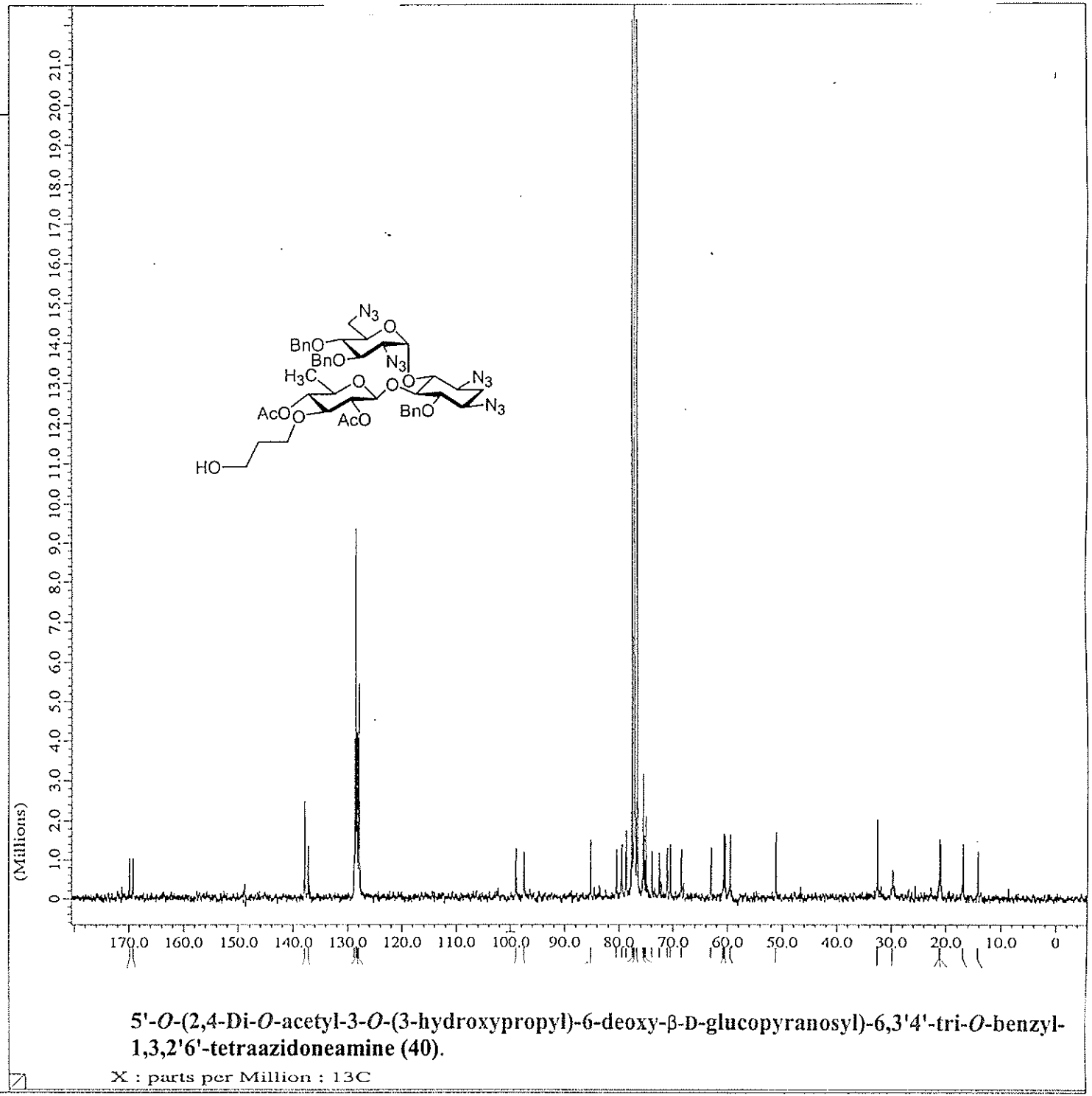
5'-*O*-(2,4-Di-*O*-acetyl-3-*O*-(3-hydroxypropyl)-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (40).

X : parts per Million : 1H

SS8

JEOL

File Name	= 1d_13c_spectrum.580
Author	=
Sample ID	= S#412560
Content	= Single Pulse with Broa
Creation Date	= 14-DEC-2002 13:13:37
Revision Date	= 14-DEC-2002 13:14:00
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 2165
Solvent	= CHLOROFORM-D
Spin_act	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.8[dC]
Temp_set	= 22.2[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]

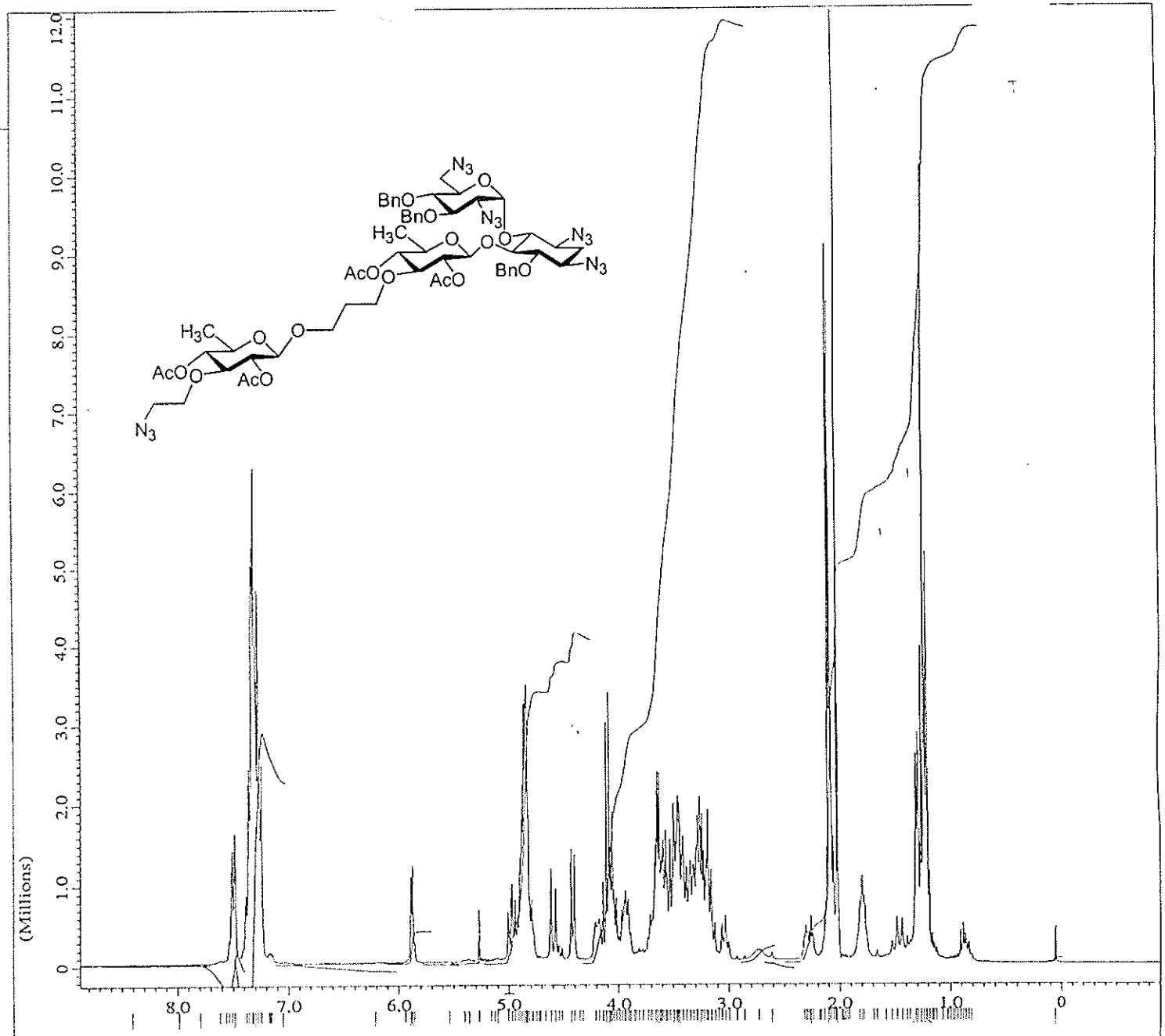


5'-*O*-(2,4-Di-*O*-acetyl-3-*O*-(3-hydroxypropyl)-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (40).

X : parts per Million : 13C

JEOL

File Name	= proton.3570
Author	=
Sample ID	= S#598472
Content	= Single Pulse Experimen
Creation Date	= 31-DEC-2002 16:39:48
Revision Date	= 31-DEC-2002 16:40:09
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 18
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 19.6[dC]
Temp_set	= 22.2[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



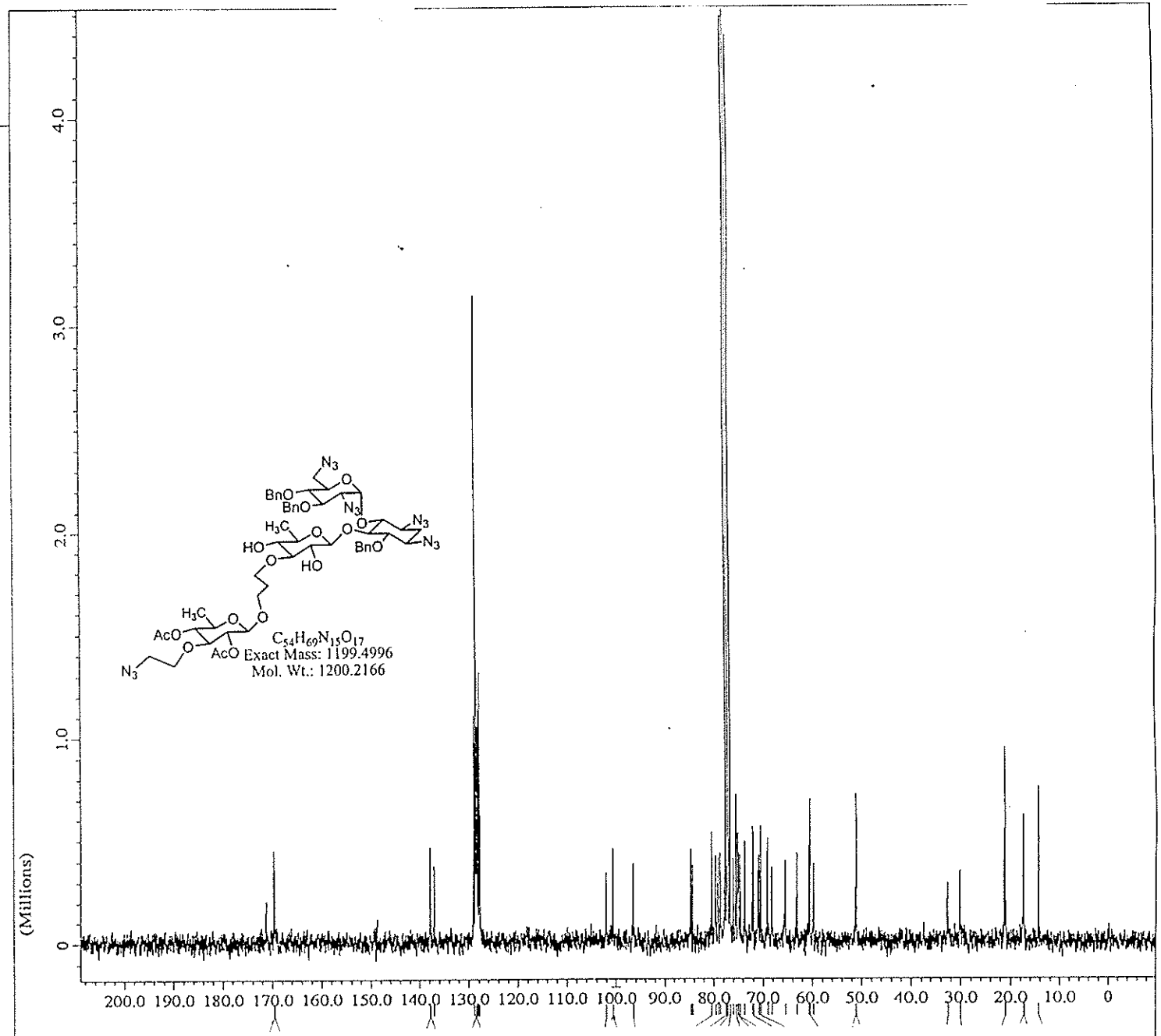
5'-*O*-(2,4-Di-*O*-acetyl-3-*O*-(3-(2',4'-di-*O*-acetyl-3'-*O*-(2"-azidoethyl)-6'-deoxy-β-D-glucopyranosyl)-propyl)-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (42).

JEOL

```
File Name          = 1d_13c_spectrum.588
Author             =
Sample ID          = S#600602
Content            = Single Pulse with Broa
Creation Date      = 31-DEC-2002 17:03:01
Revision Date      = 31-DEC-2002 19:44:50

Spec Site          = GSX 270
Spec Type          = DELTA_NMR

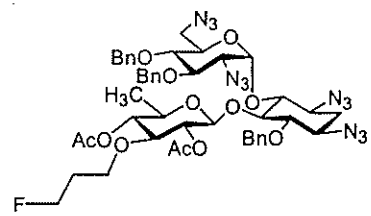
Data Format        = 1D COMPLEX
Dimensions         = X
Dim Title          = 13C
Dim Size           = 32768
Dim Units          = [ppm]
Acq_delay          = 57.5[us]
Changer_sample     = 0
Experiment         = single_pulse_dec
Field_strength     = 6.345446[T]
Irr90              = 11.6[us]
Irr90_hi           = 18[us]
Irr90_lo           = 41[us]
Irr_domain         = 1H
Irr_pwidth         = 41[us]
Lock_status        = IDLE
Recvr_gain         = 15
Relaxation_delay= 1[s]
Scans              = 443
Solvent            = CHLOROFORM-D
Spin_get           = 17[Hz]
Spin_lock_90       = 0.1[ms]
Spin_lock_attn     = 24[dB]
Spin_set           = 15[Hz]
Spin_state         = SPIN ON
Spin_status        = SPIN ON
Temp_get           = 21.7[dC]
Temp_set           = 22.2[dC]
Temp_state         = TEMP OFF
Temp_status        = TEMP OFF
X90                = 8[us]
X90_hi             = 8.9[us]
X90_lo             = 39[us]
X_acq_duration     = 1.9267584[s]
X_domain           = 13C
X_freq             = 67.94010394[MHz]
X_offset           = 100.0[ppm]
X_points           = 32768
X_prescans         = 4
X_pulse            = 2.66666667[us]
X_resolution       = 0.51900643[Hz]
X_sweep            = 17.00680272[kHz]
```



5'-*O*-(2,4-Di-*O*-acetyl-3-*O*-(3-(2',4'-di-*O*-acetyl-3'-*O*-(2''-azidoethyl)-6'-deoxy-β-D-glucopyranosyl)-propyl)-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (42).

JEOL

File Name	= proton.3619
Author	=
Sample ID	= S#310690
Content	= Single Pulse Experimen
Creation Date	= 14-JAN-2003 08:39:54
Revision Date	= 14-JAN-2003 08:40:14
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 25
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20.1[dC]
Temp_set	= 38.0[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]

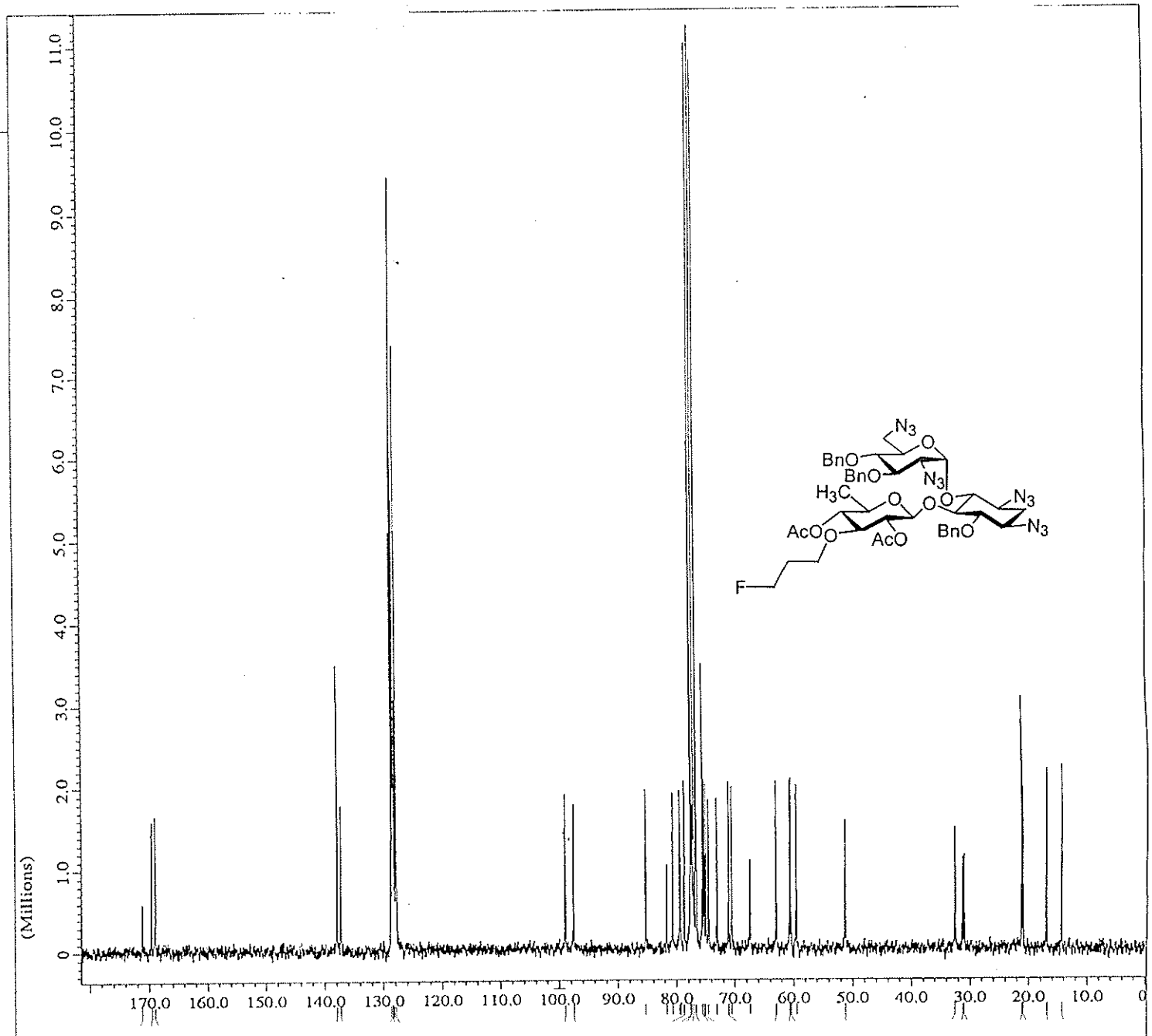


$C_{46}H_{55}FN_{12}O_{12}$
Exact Mass: 986.4046
Mol. Wt.: 987.0010

5'-*O*-(2,4-Di-*O*-acetyl-3-*O*-(3-fluoropropyl)-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (43).

JEOL

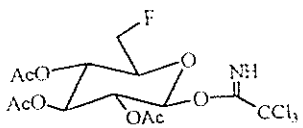
File Name	= 1d_13c_spectrum.595
Author	=
Sample ID	= S#332796
Content	= Single Pulse with Broa
Creation Date	= 14-JAN-2003 10:14:18
Revision Date	= 14-JAN-2003 10:14:38
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 1214
Solvent	= CHLOROFORM-D
Spin_get	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.8[dC]
Temp_set	= 38.0[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]

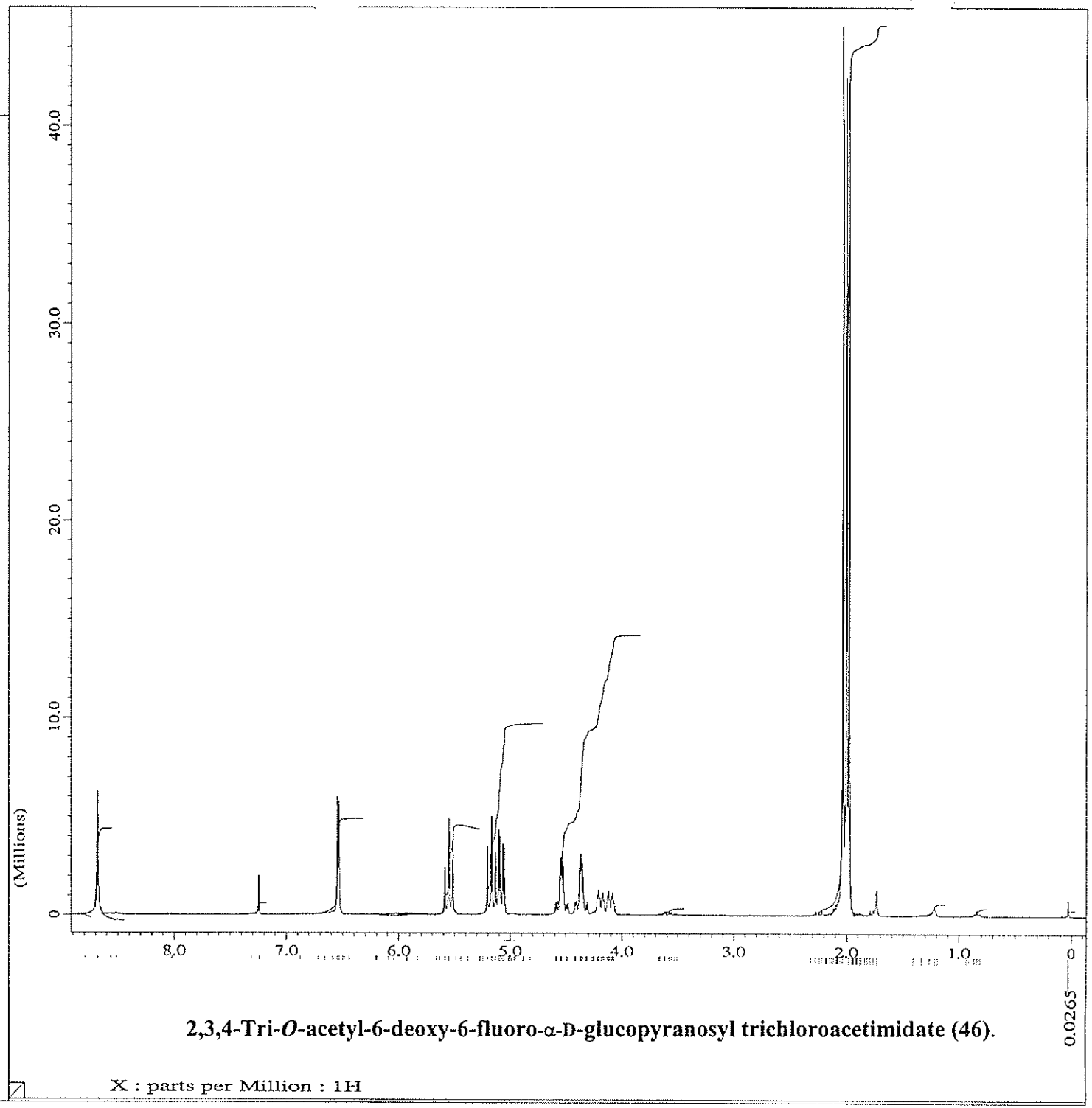


5'-*O*-(2,4-Di-*O*-acetyl-3-*O*-(3-fluoropropyl)-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (43).

JEOL

File Name	= proton.221
Author	=
Sample ID	= S#535862
Content	= Single Pulse Experimen
Creation Date	= 15-JUN-2002 14:54:59
Revision Date	= 15-JUN-2002 14:55:27
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 19
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 15[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 19.3[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



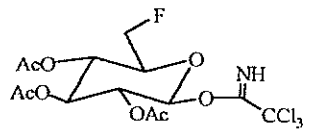


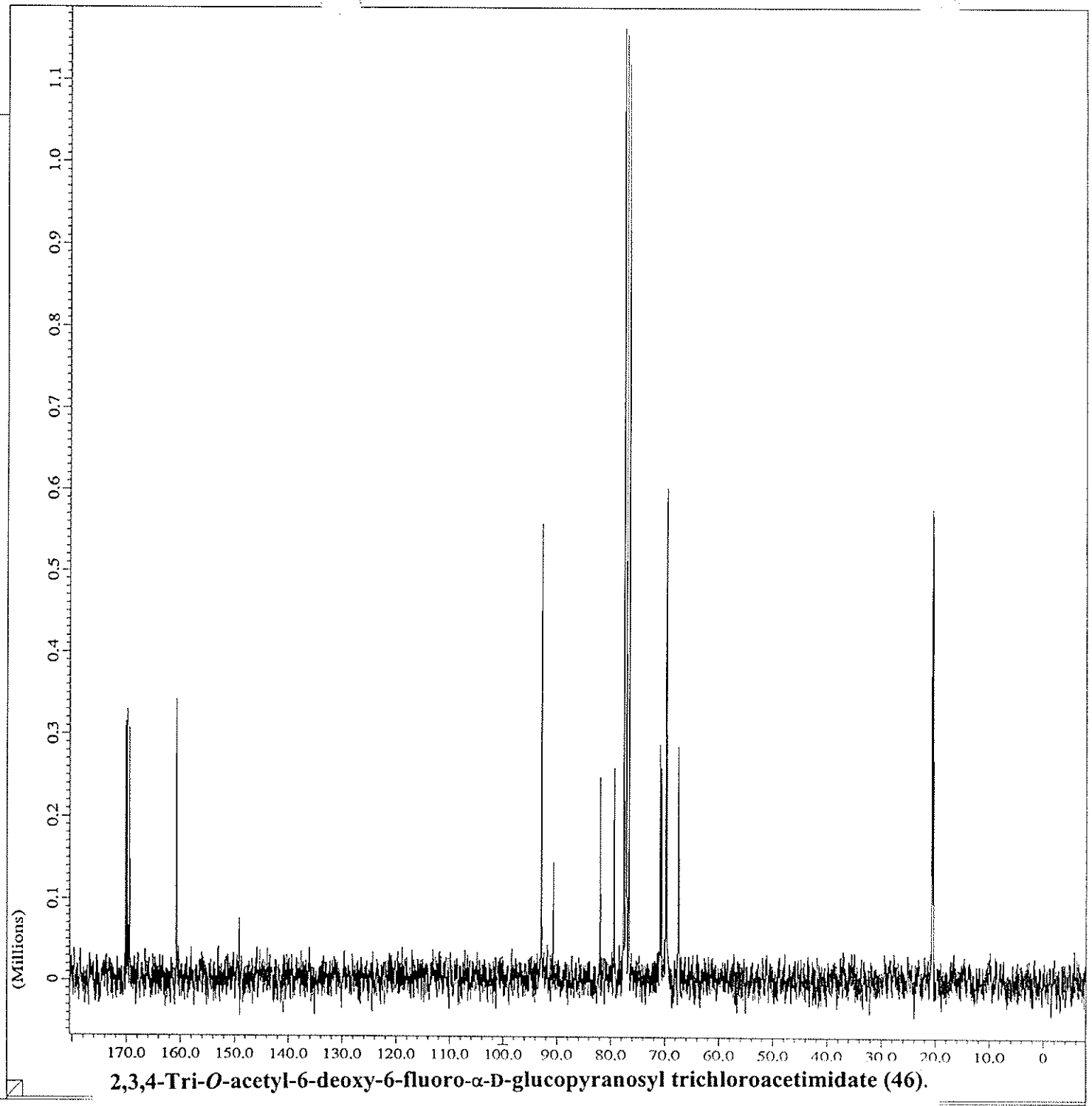
2,3,4-Tri-*O*-acetyl-6-deoxy-6-fluoro-α-D-glucopyranosyl trichloroacetimidate (46).

X : parts per Million : 1H

JEOL

File Name	= 1d_13c_spectrum.41
Author	=
Sample ID	= S#538660
Content	= Single Pulse with Broa
Creation Date	= 15-JUN-2002 15:03:13
Revision Date	= 15-JUN-2002 15:03:28
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 103
Solvent	= CHLOROFORM-D
Spin_get	= 15[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.3[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]

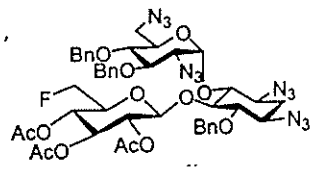




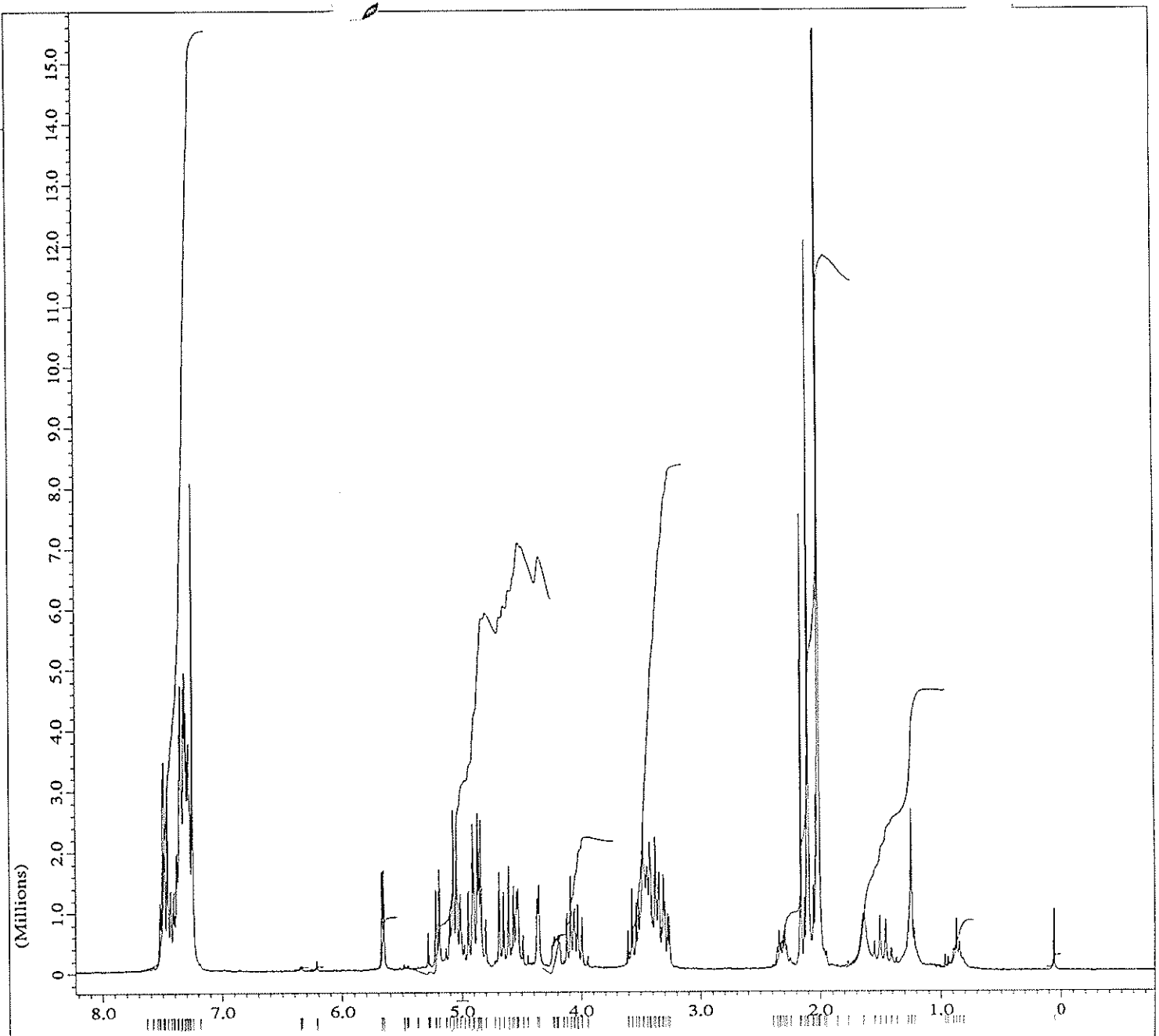
2,3,4-Tri-*O*-acetyl-6-deoxy-6-fluoro-α-D-glucopyranosyl trichloroacetimidate (46).

JEOL

File Name	= proton.223
Author	=
Sample ID	= S#581203
Content	= Single Pulse Experimen
Creation Date	= 17-JUN-2002 16:10:18
Revision Date	= 17-JUN-2002 16:10:45
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 23
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= CHLOROFORM-D
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



S66

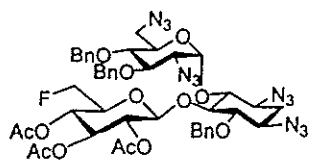


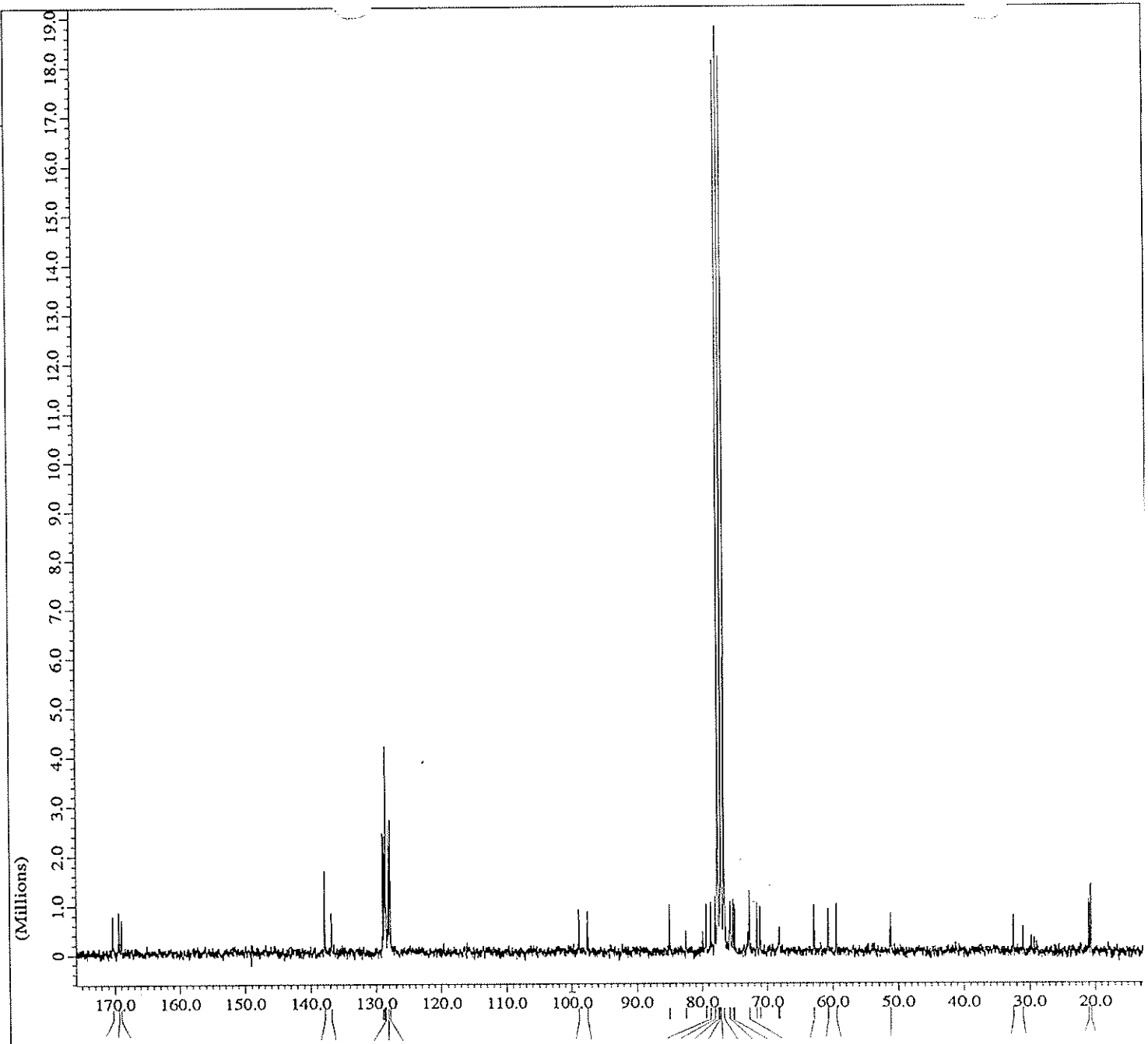
5'-*O*-(2,3,4-Tri-*O*-acetyl-6-deoxy-6-fluoro-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (47).

X : parts per Million : 1H

JEOL

File Name	= 1d_13c_spectrum.42
Author	=
Sample ID	= S#638992
Content	= Single Pulse with Broa
Creation Date	= 18-JUN-2002 19:15:57
Revision Date	= 18-JUN-2002 19:16:26
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 1856
Solvent	= CHLOROFORM-D
Spin_get	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.7[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]

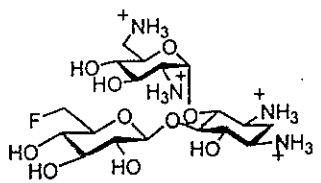


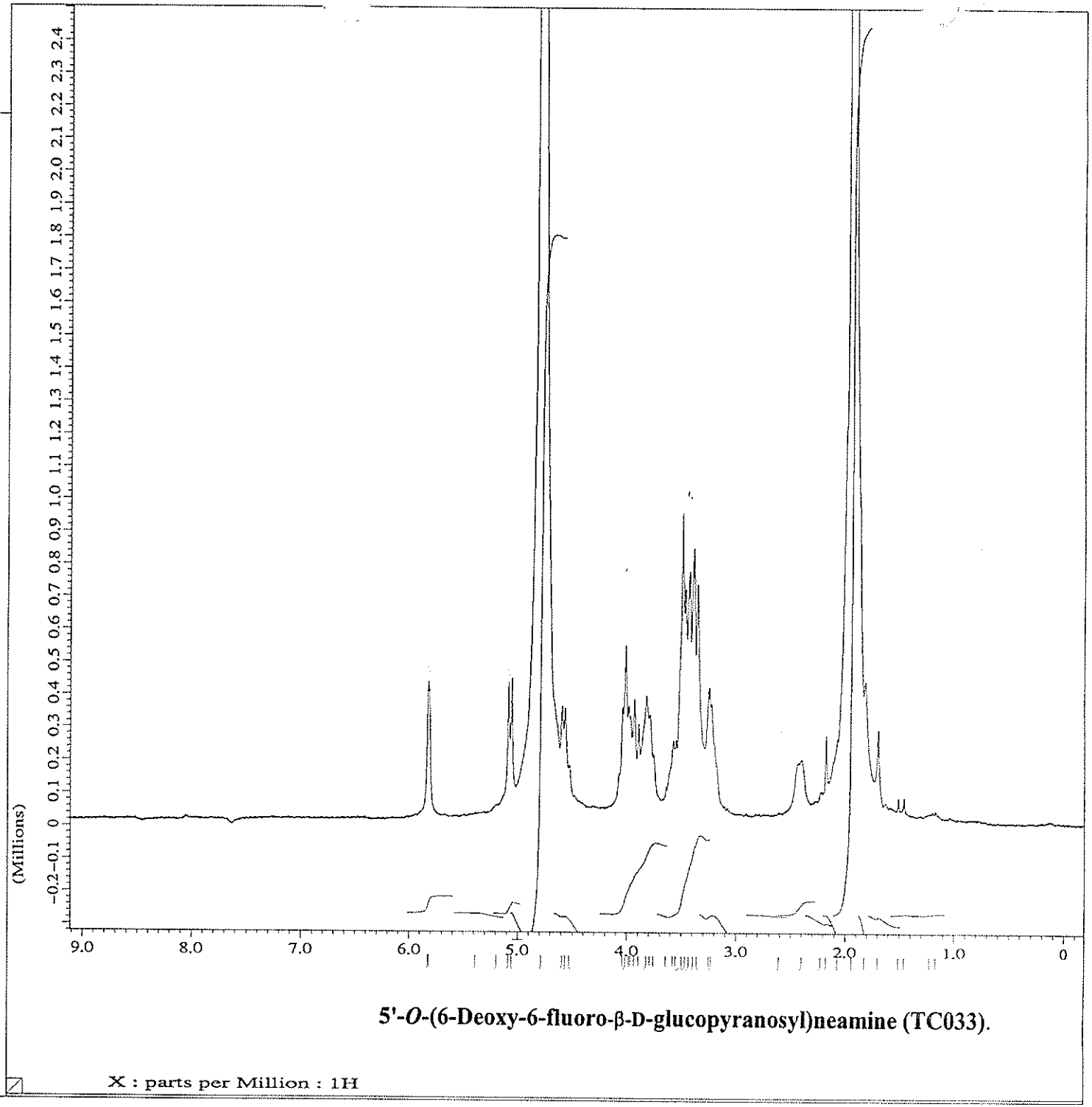


5'-*O*-(2,3,4-Tri-*O*-acetyl-6-deoxy-6-fluoro-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (47).

X : parts per Million : 13C

File Name	= proton.3005
Author	=
Sample ID	= S#357971
Content	= Single Pulse Experimen
Creation Date	= 1-JUL-2002 09:58:58
Revision Date	= 1-JUL-2002 10:05:20
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 10[us]
Irr90_hi	= 10[us]
Irr90_lo	= 50[us]
Irr_pWidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 18
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= D2O
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]

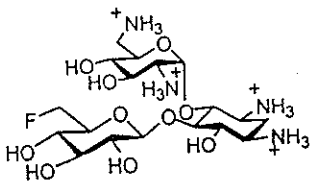


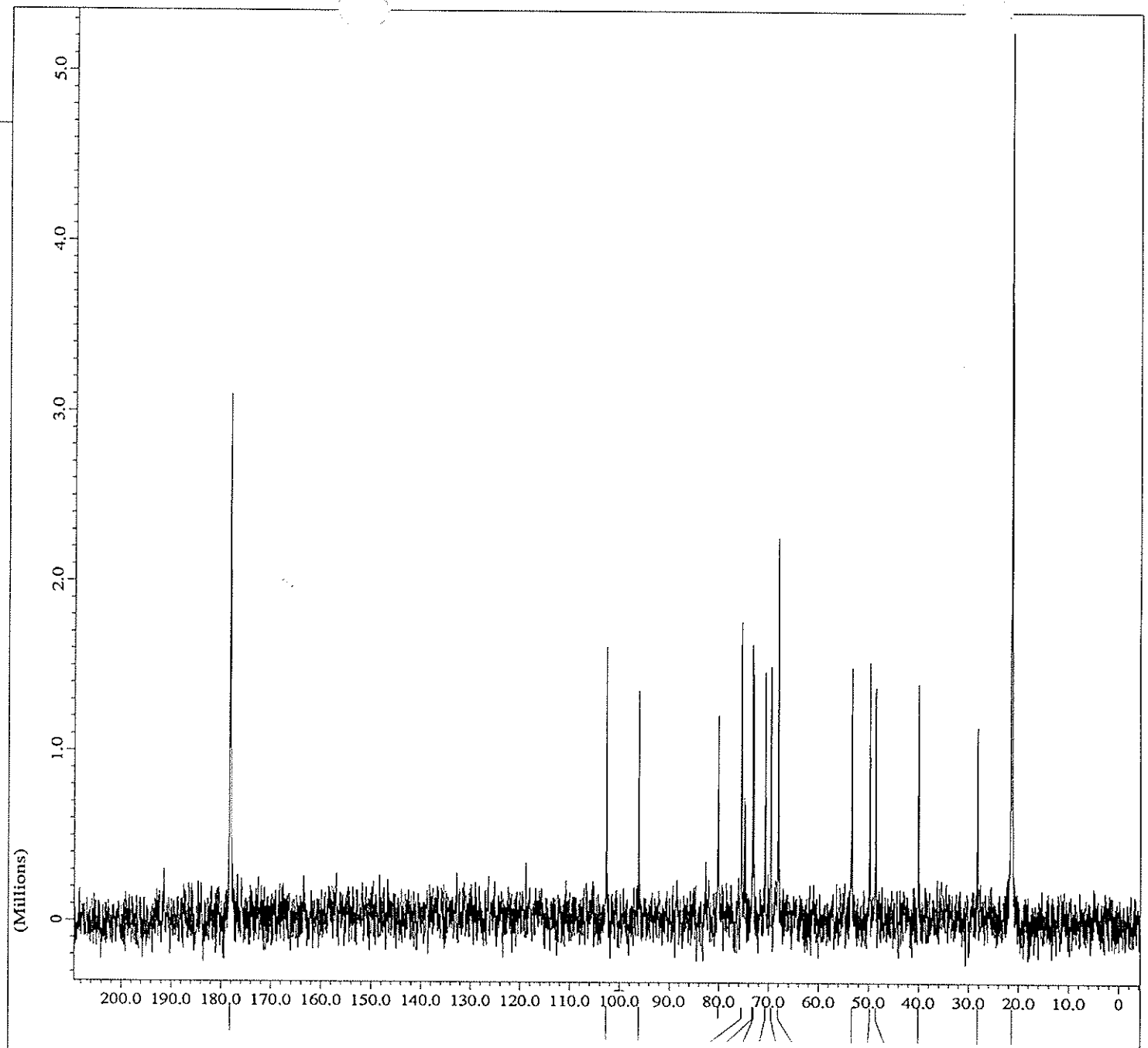


5'-*O*-(6-Deoxy-6-fluoro-β-D-glucopyranosyl)neamine (TC033).

JEOL

File Name	= 1d_13c_spectrum.44
Author	=
Sample ID	= S#630161
Content	= Single Pulse with Broa
Creation Date	= 1-JUL-2002 22:47:28
Revision Date	= 1-JUL-2002 22:47:52
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 6494
Solvent	= D2O
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 22.2[dC]
Temp_set	= 25[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



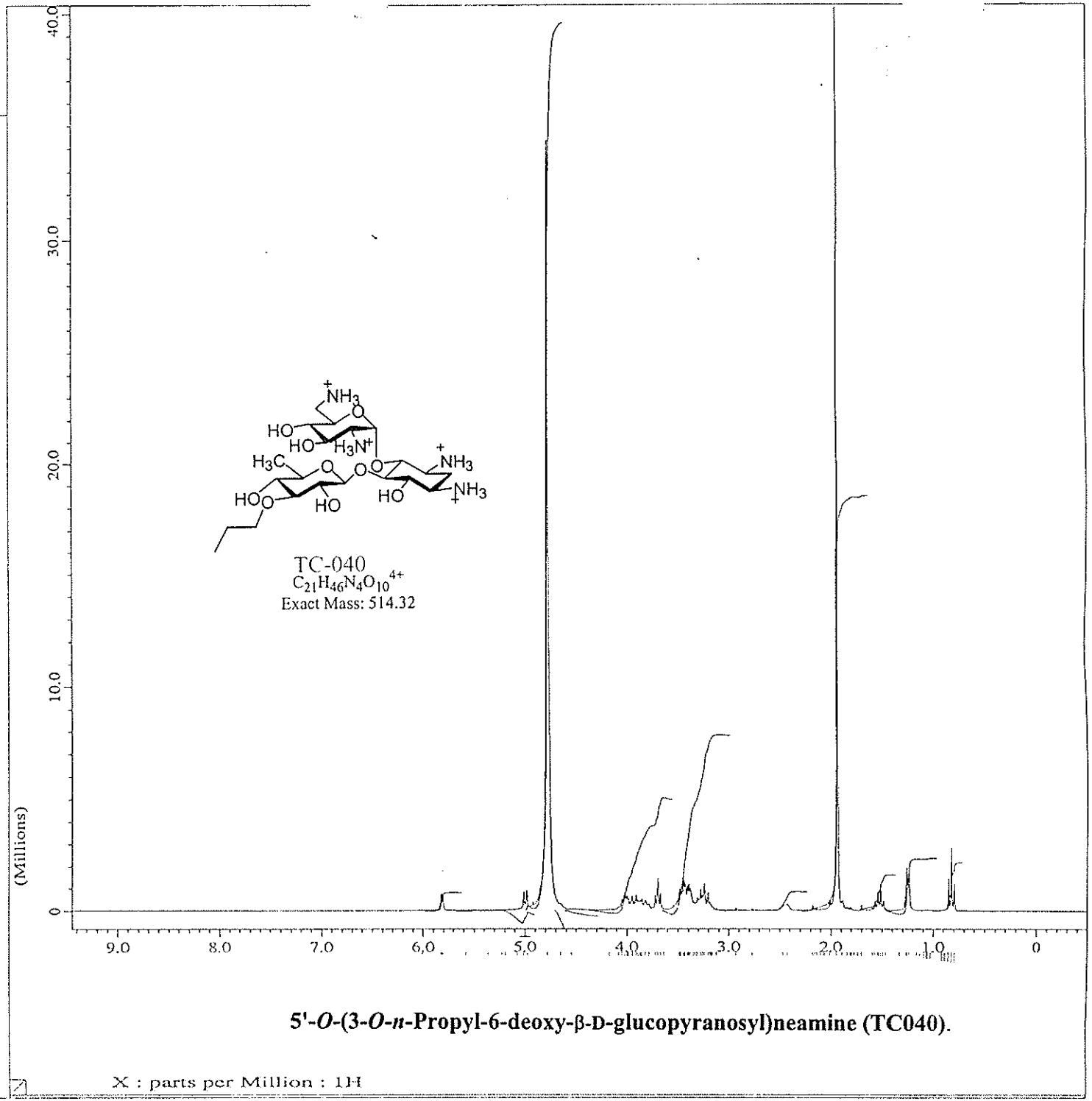


5'-*O*-(6-Deoxy-6-fluoro-β-D-glucopyranosyl)neamine (TC033).

X : parts per Million : 13C

JEOL

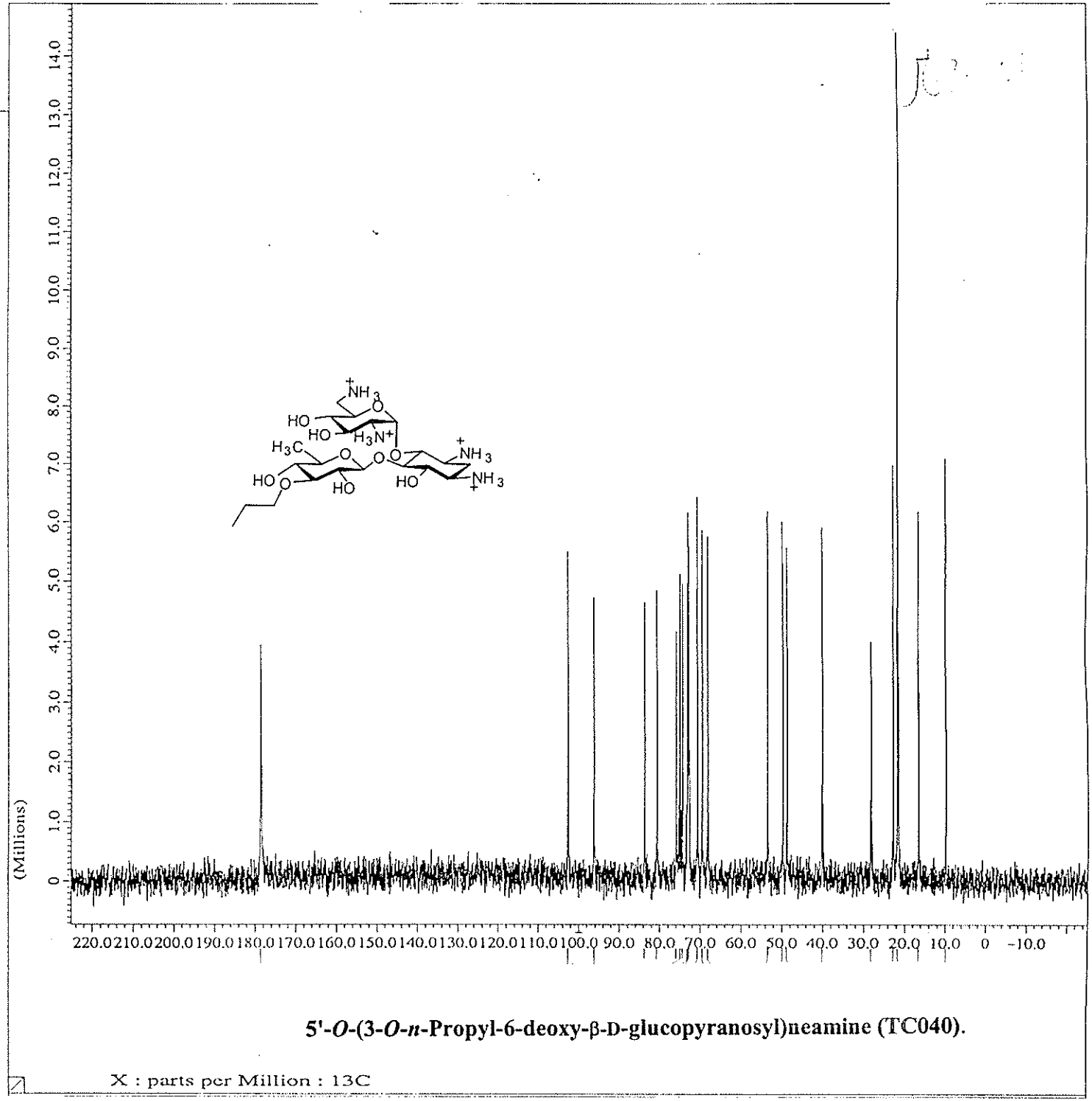
File Name	= proton.3625
Author	=
Sample ID	= S#342841
Content	= Single Pulse Experimen
Creation Date	= 15-JAN-2003 09:33:43
Revision Date	= 15-JAN-2003 09:34:00
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 18
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= D2O
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 20[dC]
Temp_set	= 38.0[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



5'-*O*-(3-*O*-*n*-Propyl-6-deoxy-β-D-glucopyranosyl)neamine (TC040).

JEOL

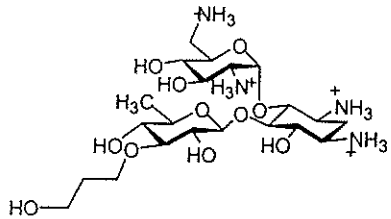
File Name	= 1d_13c_spectrum.596
Author	=
Sample ID	= S#659644
Content	= Single Pulse with Broa
Creation Date	= 17-JAN-2003 09:05:14
Revision Date	= 17-JAN-2003 09:05:34
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 13C
Dim Size	= 32768
Dim Units	= [ppm]
Acq_delay	= 57.5[us]
Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_domain	= 1H
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
Scans	= 18151
Solvent	= D2O
Spin_get	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_get	= 21.8[dC]
Temp_set	= 38.0[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
X_freq	= 67.94010394[MHz]
X_offset	= 100.0[ppm]
X_points	= 32768
X_prescans	= 4
X_pulse	= 2.66666667[us]
X_resolution	= 0.51900643[Hz]
X_sweep	= 17.00680272[kHz]



5'-*O*-(3-*O*-*n*-Propyl-6-deoxy-β-D-glucopyranosyl)neamine (TC040).

JEOL

File Name	= proton.3594
Author	=
Sample ID	= S#385025
Content	= Single Pulse Experimen
Creation Date	= 7-JAN-2003 10:43:34
Revision Date	= 7-JAN-2003 10:43:52
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
Acq_delay	= 0.1821[ms]
Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 19
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= D2O
Spin_act	= 17[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
Spin_status	= SPIN ON
Temp_act	= 19.8[dC]
Temp_set	= 22.2[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 11.6[us]
X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
X_offset	= 5.0[ppm]
X_points	= 16384
X_prescans	= 0
X_pulse	= 5.8[us]
X_resolution	= 0.32991976[Hz]
X_sweep	= 5.40540541[kHz]



$C_{21}H_{46}N_4O_{11}^{4+}$
Exact Mass: 530.3163

5'-*O*-(3-*O*-(3-Hydroxypropyl)-6-deoxy-β-D-glucopyranosyl)neamine (TC041).

X : parts per Million : 1H

JEOL

File Name	= 1d_13c_spectrum.590
Author	=
Sample ID	= S#638524
Content	= Single Pulse with Broa
Creation Date	= 8-JAN-2003 08:53:54
Revision Date	= 8-JAN-2003 08:54:18
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
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Dim Size	= 32768
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Lock_status	= IDLE
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Relaxation_delay	= 1[s]
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Solvent	= D2O
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Temp_set	= 25.1[dC]
Temp_state	= TEMP OFF
Temp_status	= TEMP OFF
X90	= 8[us]
X90_hi	= 8.9[us]
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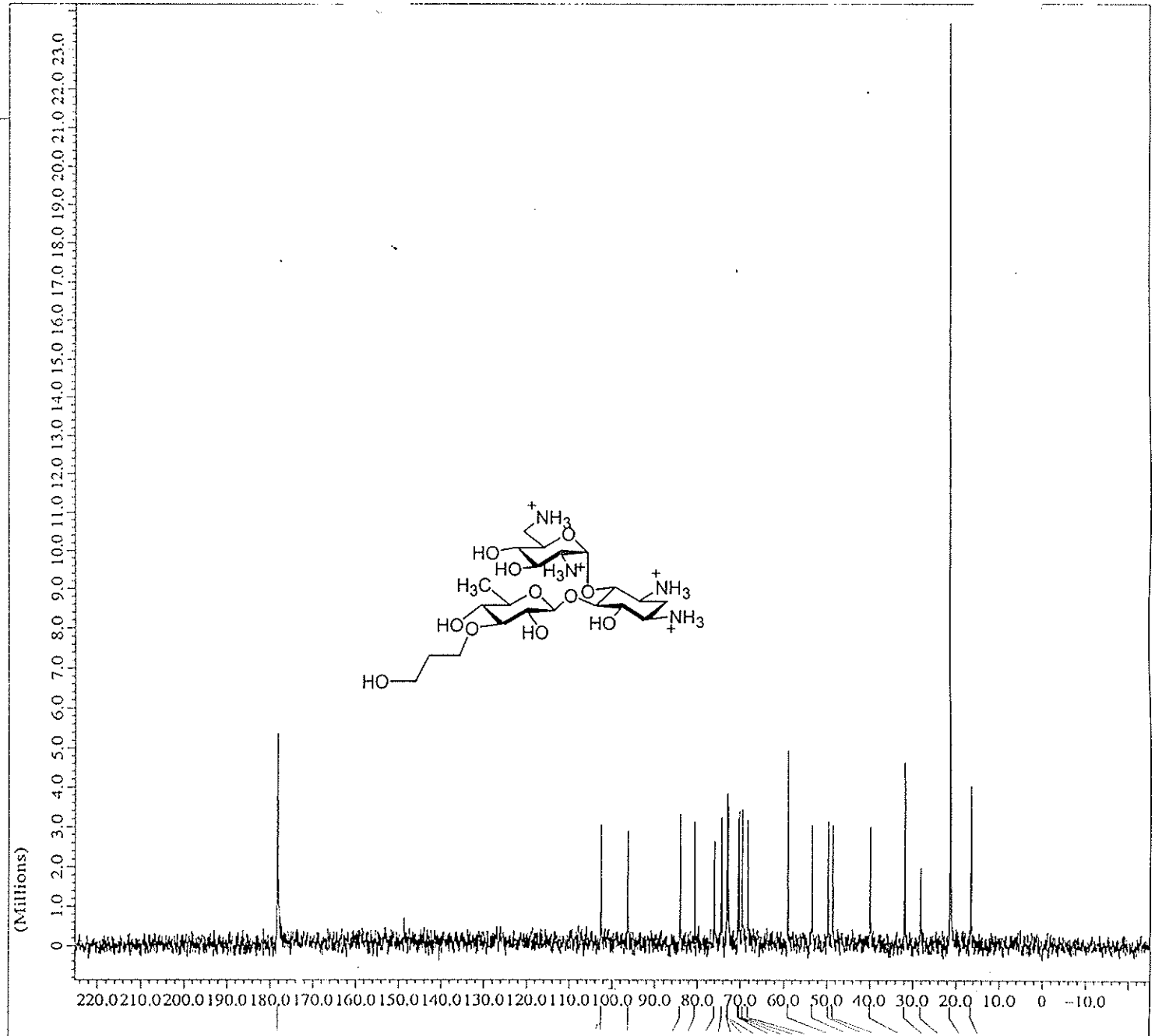

5'-*O*-(3-*O*-(3-Hydroxypropyl)-6-deoxy-β-D-glucopyranosyl)neamine (TC041).

JEOL

File Name	= proton.3628
Author	=
Sample ID	= S#402415
Content	= Single Pulse Experimen
Creation Date	= 18-JAN-2003 11:12:47
Revision Date	= 18-JAN-2003 11:13:05
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
Dimensions	= X
Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
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Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
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Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
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Lock_status	= IDLE
Recvr_gain	= 17
Relaxation_delay	= 4[s]
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Solvent	= D2O
Spin_get	= 18[Hz]
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X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
X_freq	= 270.16743928[MHz]
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X_points	= 16384
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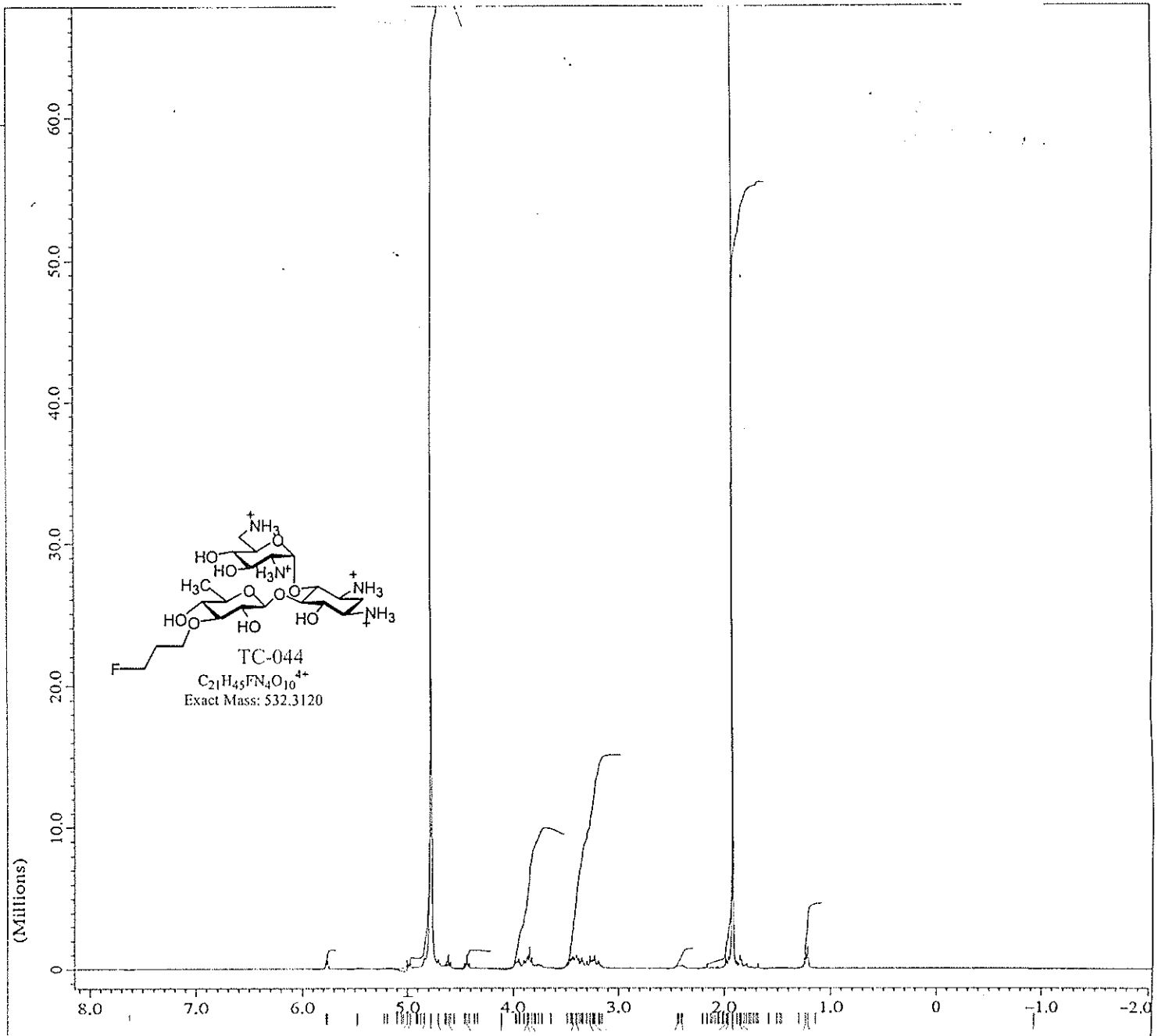

5'-*O*-(3-*O*-(3-Fluoropropyl)-6-deoxy-β-D-glucopyranosyl)neamine (TC044).

JEOL

File Name	= 1d_13c_spectrum.598
Author	=
Sample ID	= S#672481
Content	= Single Pulse with Broa
Creation Date	= 19-JAN-2003 09:09:48
Revision Date	= 19-JAN-2003 09:10:07
Spec Site	= GSX 270
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Dim Size	= 32768
Dim Units	= [ppm]
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Changer_sample	= 0
Experiment	= single_pulse_dec
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
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Irr_pwidth	= 41[us]
Lock_status	= IDLE
Recvr_gain	= 15
Relaxation_delay	= 1[s]
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Solvent	= D2O
Spin_get	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
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X90_hi	= 8.9[us]
X90_lo	= 39[us]
X_acq_duration	= 1.9267584[s]
X_domain	= 13C
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X_offset	= 100.0[ppm]
X_points	= 32768
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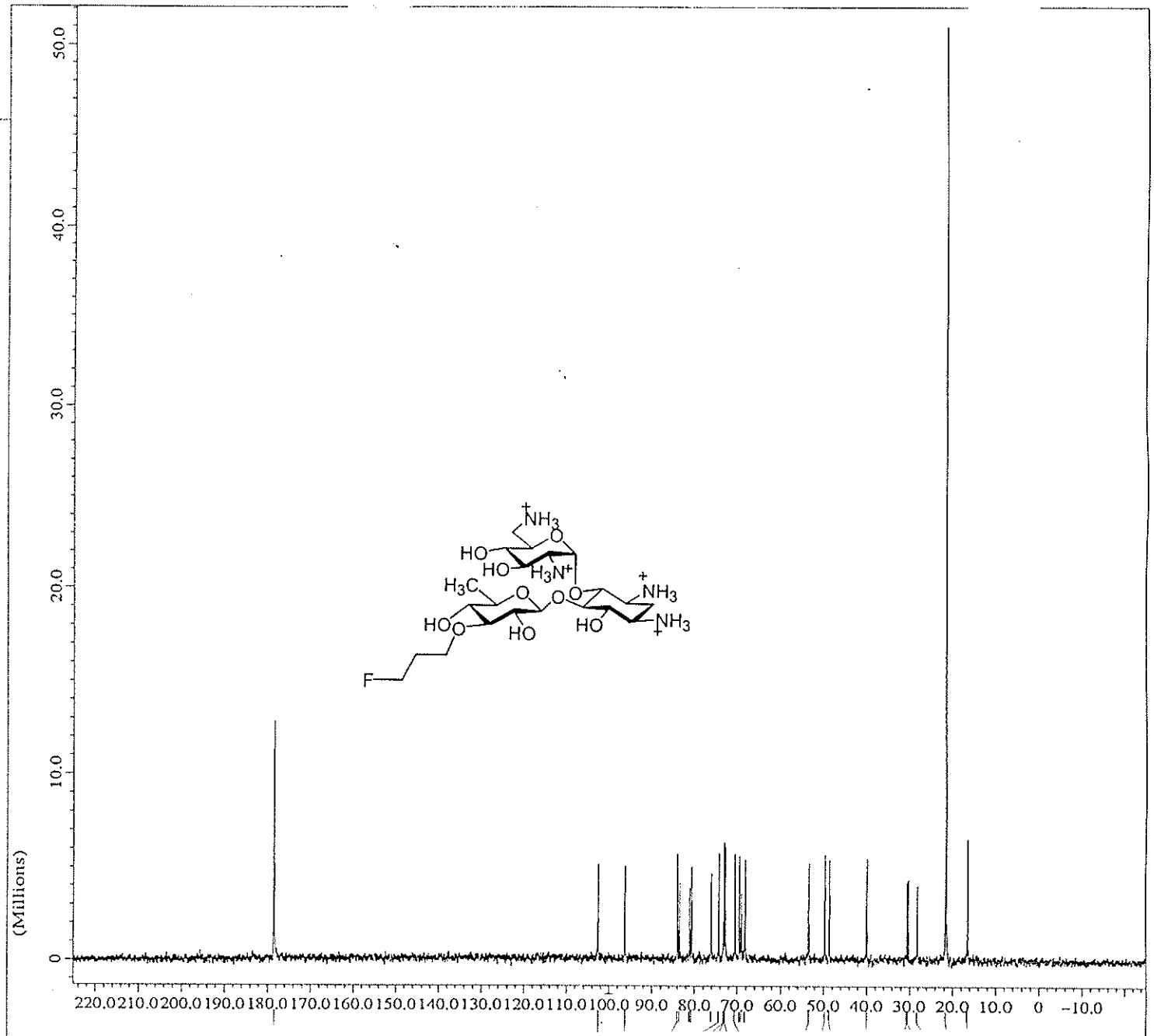

5'-*O*-(3-*O*-(3-Fluoropropyl)-6-deoxy-β-D-glucopyranosyl)neamine (TC044).

File Name	= proton.3607
Author	=
Sample ID	= S#503004
Content	= Single Pulse Experimen
Creation Date	= 8-JAN-2003 14:00:40
Revision Date	= 8-JAN-2003 14:00:54
Spec Site	= GSX 270
Spec Type	= DELTA_NMR
Data Format	= 1D COMPLEX
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Dim Title	= 1H
Dim Size	= 16384
Dim Units	= [ppm]
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Changer_sample	= 0
Experiment	= single_pulse.exp
Field_strength	= 6.345446[T]
Irr90	= 11.6[us]
Irr90_hi	= 18[us]
Irr90_lo	= 41[us]
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Lock_status	= IDLE
Recvr_gain	= 17
Relaxation_delay	= 4[s]
Scans	= 8
Solvent	= D2O
Spin_get	= 16[Hz]
Spin_lock_90	= 0.1[ms]
Spin_lock_attn	= 24[dB]
Spin_set	= 15[Hz]
Spin_state	= SPIN ON
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X90_hi	= 18[us]
X90_lo	= 41[us]
X_acq_duration	= 3.03104[s]
X_domain	= 1H
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X_offset	= 5.0[ppm]
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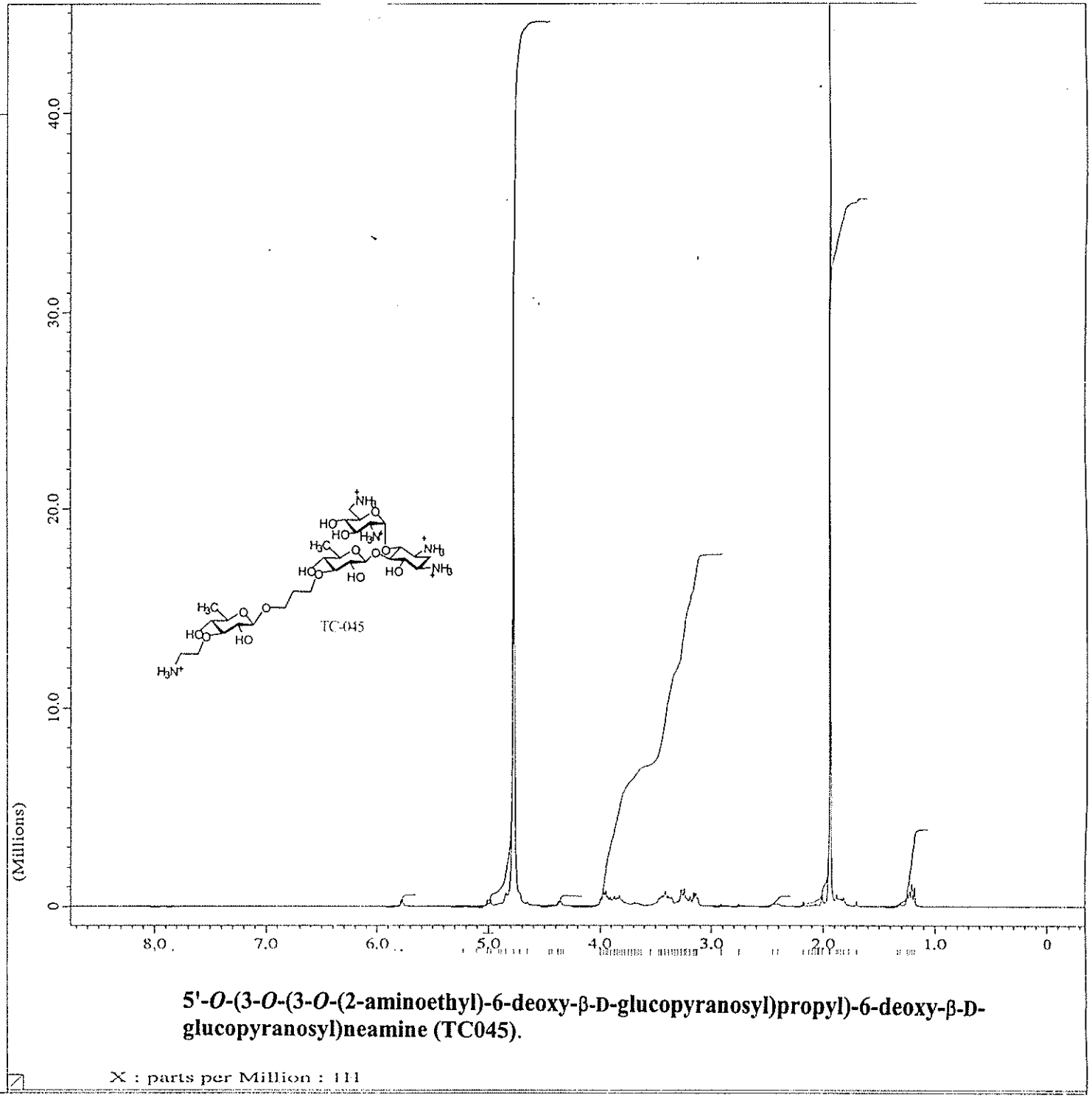

5'-*O*-(3-*O*-(3-*O*-(2-aminoethyl)-6-deoxy-β-D-glucopyranosyl)propyl)-6-deoxy-β-D-glucopyranosyl)neamine (TC045).

JEOL

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Author             =
Sample ID          = S#639755
Content            = Single Pulse with Broa
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Revision Date      =  9-JAN-2003 08:57:47

Spec Site          = GSX 270
Spec Type          = DELTA_NMR

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Experiment         = single_pulse_dec
Field_strength     = 6.345446[T]
Irr90              = 11.6[us]
Irr90_hi           = 18[us]
Irr90_lo           = 41[us]
Irr_domain         = 1H
Irr_pwidth         = 41[us]
Lock_status        = IDLE
Recvr_gain         = 15
Relaxation_delay= 1[s]
Scans              = 18669
Solvent            = D2O
Spin_get           = 16[Hz]
Spin_lock_90       = 0.1[ms]
Spin_lock_attn     = 24[dB]
Spin_set           = 15[Hz]
Spin_state         = SPIN ON
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Temp_get           = 21.6[dC]
Temp_set           = 25.1[dC]
Temp_state         = TEMP OFF
Temp_status        = TEMP OFF
X90                = 8[us]
X90_hi             = 8.9[us]
X90_lo             = 39[us]
X_acq_duration     = 1.9267584[s]
X_domain           = 13C
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X_offset           = 100.0[ppm]
X_points           = 32768
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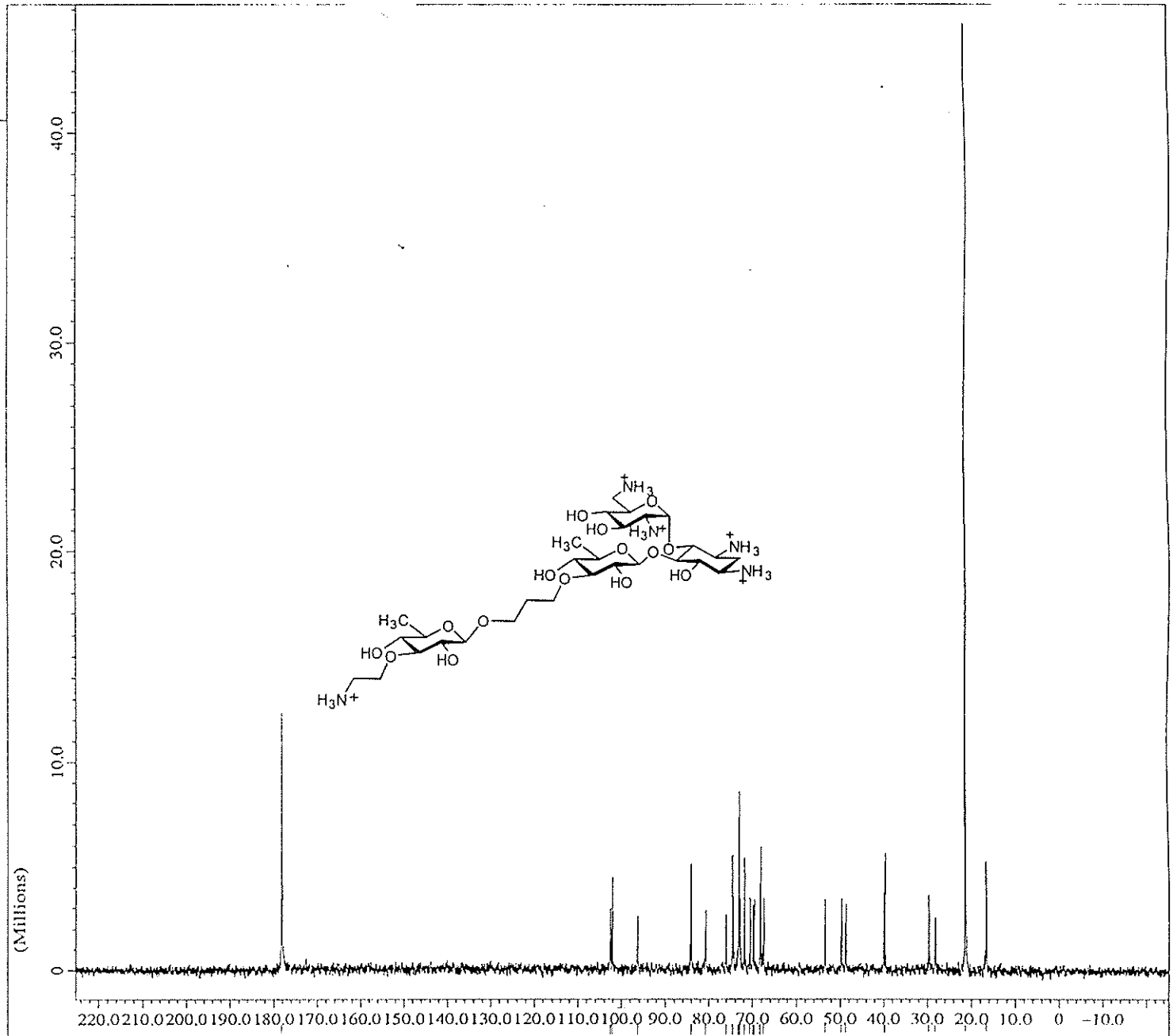

5'-*O*-(3-*O*-(3-*O*-(2-aminoethyl)-6-deoxy-β-D-glucopyranosyl)propyl)-6-deoxy-β-D-glucopyranosyl)neamine (TC045).

S77

Proton magnetic resonance spectra were recorded using spectrometers at 270 or 400 MHz. Chemical shifts were reported as parts per million (ppm) downfield from tetramethylsilane in δ unit, and coupling constants were given in cycles per second (Hz). Splitting patterns were designed as s, singlet; d, doublet; t, triplet; q, quartet; m, multiplet. ^{13}C spectra were obtained using spectrometers at 68 MHz or 100 MHz. Routine ^{13}C NMR spectra were fully decoupled by broad-band waltz decoupling. All NMR spectra were recorded at ambient temperature unless otherwise noted. Purchased chemical reagents and starting materials were used without purification unless otherwise noted. Dichloromethane was distilled over CaH_2. Other solvents were used without purification.

Methyl 4-azido-2,3,6-tri-*O*-benzyl-4-deoxy-a-D-glucopyranoside (6). Please refer to the procedure for the preparation of **4**. ^1H NMR (270 MHz, $CDCl_3$) δ 7.2 - 7.4 (m, 15H), 4.95 (d, *J* = 11.6 Hz, 1H), 4.80 (d, *J* = 11.6 Hz, 1H), 4.78 (d, *J* = 12.2 Hz, 1H), 4.63 (d, *J* = 12.2 Hz, 1H), 4.62 (d, *J* = 12.2 Hz, 1H), 4.60 (d, *J* = 3.3 Hz, 1H), 4.49 (d, *J* = 12.2 Hz, 1H), 3.84 (dd, *J* = 9.2 Hz, *J* = 9.6 Hz, 1H), 3.5 - 3.7 (m, 5H), 3.33 (s, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 138.10 (s), 137.95 (s), 137.81 (s), 128.6 (s), 128.5 (s), 128.4 (s), 128.2 (s), 128.1 (s), 127.9 (s), 127.8 (s), 98.4 (s), 80.2 (s), 79.7 (s), 75.8 (s), 73.6 (s), 73.4 (s), 69.3 (s), 68.7 (s), 61.8 (s), 55.5 (s); LRFAB m/e 507 $[M+NH_4]^+$; HRFAB Calcd for $C_{28}H_{35}N_4O_5$ $[M+NH_4]^+$ m/e 507.2607; measure m/e 507.2611.

Methyl 4,6-diazido-2,3-di-*O*-benzyl-4,6-dideoxy-a-D-galactopyranoside (8). Please refer to the procedure for the preparation of **4**. ^1H NMR (270 MHz, $CDCl_3$) δ 7.2-7.4 (m, 10H), 4.85 (d, *J* =11.7 Hz, 1H), 4.84 (d, *J* =12.1 Hz, 1H), 4.75 (d, *J* =11.7 Hz, 1H), 4.65 (d, *J* =12.1 Hz, 1H), 4.61 (d, *J* = 3.8 Hz, 1H), 4.04 (dd, *J* = 9.7 Hz, *J* = 3.8 Hz, 1H), 3.85 (dd, *J* = 9.7 Hz, *J* = 3.8 Hz, 1H),

3.8 – 3.9 (m, 2H), 3.53 (dd, J = 12.6 Hz, J = 7.9 Hz, 1H), 3.38 (s, 3H), 3.19 (dd, J = 12.6 Hz, J = 5.1 Hz, 1H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 137.9 (s), 137.8 (s), 128.4 (s), 128.3 (s), 127.9 (s), 127.8 (s), 127.7 (s), 127.6 (s), 98.5 (s), 77.5 (s), 75.7 (s), 73.7 (s), 73.2 (s), 67.4 (s), 61.4 (s), 55.4 (s), 51.5 (s); LRCI m/e 442.4 $[M+NH_4]^+$; HRCI Calcd for $C_{21}H_{28}N_7O_5$ $[M+NH_4]^+$ m/e 442.2203; measure m/e 442.2198.

Methyl 4-azido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-galactopyranoside (10). Please refer to the procedure for the preparation of **4**. ^{1}H NMR (270 MHz, $CDCl_3$) δ 7.2 - 7.4 (m, 10H), 4.84 (d, J = 11.9 Hz, 1H), 4.82 (d, J = 12.2 Hz, 1H), 4.73 (d, J = 11.9 Hz, 1H), 4.64 (d, J = 12.2 Hz, 1H), 4.54 (d, J = 3.6 Hz, 1H), 4.01 (dd, J = 9.8 Hz, J = 3.6 Hz, 1H), 3.89 (dq, J = 6.3 Hz, J = 1.3 Hz, 1H), 3.82 (dd, J = 9.8 Hz, J = 3.6 Hz, 1H), 3.69 (dd, J = 3.6 Hz, J = 1.3 Hz, 1H), 3.33 (s, 3H), 1.21 (d, J = 6.3 Hz, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 138.34 (s), 138.29 (s), 128.54 (s), 128.48 (s), 128.2 (s), 127.90 (s), 127.84 (s), 127.8 (s), 98.8 (s), 78.1 (s), 76.0 (s), 73.8 (s), 73.3 (s), 65.1 (s), 64.3 (s), 55.5 (s), 17.4 (s); LRFAB m/e 401 $[M+NH_4]^+$; HRFAB Calcd for $C_{21}H_{29}N_4O_4$ $[M+NH_4]^+$ m/e 401.2189; measure m/e 401.2204.

Methyl 2,3-di-*O*-benzyl-6-deoxy-α-D-galactopyranoside (11). Please refer to the procedure for the preparation of **5**. ^{1}H NMR (270 MHz, $CDCl_3$) δ 7.2 - 7.4 (m, 10H), 4.79 (d, J = 11.9 Hz, 2H), 4.69 (d, J = 11.6 Hz, 1H), 4.65 (d, J = 11.9 Hz, 1H), 4.60 (d, J = 3.3 Hz, 1H), 3.7 - 3.9 (m, 4H), 3.36 (s, 3H), 2.42 (broad, 1H, 4-OH), 1.25 (d, J = 6.6 Hz, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 138.4 (s), 138.2 (s), 128.6 (s), 128.5 (s), 128.1 (s), 127.95 (s), 127.88 (s), 98.6 (s), 78.0 (s), 75.5 (s), 73.5 (s), 72.9 (s), 70.4 (s), 65.1 (s), 55.4 (s), 16.2 (s); LRFAB m/e 376 $[M+NH_4]^+$; HRFAB Calcd for $C_{21}H_{30}N_1O_5$ $[M+NH_4]^+$ m/e 376.2124; measure m/e 376.2131.

Methyl 4-azido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-glucopyranoside (12). Please refer to the procedure for the preparation of **4**. ^{1}H NMR (270 MHz, $CDCl_3$) δ 7.2 - 7.4 (m, 10H), 4.94 (d, *J* = 10.5 Hz, 1H), 4.78 (d, *J* = 10.5 Hz, 1H), 4.76 (d, *J* = 12.0 Hz, 1H), 4.63 (d, *J* = 12.0 Hz, 1H), 4.51 (d, *J* = 3.7 Hz, 1H), 3.81 (dd, *J* = 9.6 Hz, *J* = 9.6 Hz, 1H), 3.50 (dd, *J* = 9.6 Hz, *J* = 3.7 Hz, 1H), 3.4 - 3.5 (m, 1H), 3.35 (s, 3H), 3.06 (dd, *J* = 9.6 Hz, *J* = 9.9 Hz, 1H), 1.25 (d, *J* = 5.9 Hz, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 138.1 (s), 138.0 (s), 128.6 (s), 128.5 (s), 128.4 (s), 128.2 (s), 128.1 (s), 127.9 (s), 98.1 (s), 80.7 (s), 79.9 (s), 75.8 (s), 73.4 (s), 68.1 (s), 65.9 (s), 55.4 (s), 18.5 (s); LRFAB m/e 401 $[M+NH_4]^+$; HRFAB Calcd for $C_{21}H_{29}N_4O_4$ $[M+NH_4]^+$ m/e 401.2189; measure m/e 401.2203.

Methyl 6-azido-2,3-di-*O*-benzyl-6-deoxy-α-D-galactopyranoside (14). Please refer to the procedure for the preparation of **5**. ^{1}H NMR (270 MHz, $CDCl_3$) δ 7.2 - 7.4 (m, 10H), 4.80 (d, *J* = 11.5 Hz, 1H), 4.75 (d, *J* = 11.5 Hz, 1H), 4.69 (d, *J* = 8.6 Hz, 1H), 4.66 (d, *J* = 3.6 Hz, 1H), 4.64 (d, *J* = 8.6 Hz, 1H), 3.8 - 3.9 (m, 3H), 3.83 (dd, *J* = 8.2 Hz, *J* = 3.6 Hz, 1H), 3.59 (dd, *J* = 12.8 Hz, *J* = 8.4 Hz, 1H), 3.40 (s, 3H), 3.26 (dd, *J* = 12.8 Hz, *J* = 4.3 Hz, 1H), 2.48 (s, 1H, 4-OH); ^{13}C NMR (68 MHz, $CDCl_3$) δ 138.3 (s), 138.0 (s), 128.7 (s), 128.5 (s), 128.1 (s), 127.99 (s), 127.96 (s), 98.6 (s), 77.3 (s), 75.6 (s), 73.6 (s), 73.2 (s), 69.8 (s), 68.3 (s), 55.6 (s), 51.3 (s); LRFAB m/e 417 $[M+NH_4]^+$; HRFAB Calcd for $C_{21}H_{29}N_4O_5$ $[M+NH_4]^+$ m/e 417.2138; measure m/e 417.2122.

Methyl 4,6-diazido-2,3-di-*O*-benzyl-4,6-dideoxy-α-D-glucopyranoside (15). Please refer to the procedure for the preparation of **4**. ^{1}H NMR (270 MHz, $CDCl_3$) δ 7.2 - 7.4 (m, 10H), 4.97 (d, *J* = 10.6 Hz, 1H), 4.79 (d, *J* = 10.6 Hz, 1H), 4.77 (d, *J* = 12.0 Hz, 1H), 4.63 (d, *J* = 12.0 Hz, 1H), 4.60

(d, *J* = 2.6 Hz, 1H), 3.87 (dd, *J* = 9.6 Hz, *J* = 9.0 Hz, 1H), 3.5 - 3.6 (m, 3H), 3.4 - 3.5 (m, 2H), 3.36 (s, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 137.9(s), 137.8 (s), 128.6 (s), 128.5 (s), 128.4 (s), 128.20 (s), 128.16 (s), 128.0 (s), 98.2 (s), 79.86 (s), 79.85 (s), 75.8 (s), 73.5 (s), 69.2 (s), 62.5 (s), 55.7 (s), 51.8 (s); LRFAB m/e 442 $[M+NH_4]^+$; HRFAB Calcd for $C_{21}H_{28}N_7O_5$ $[M+NH_4]^+$ m/e 442.2203; measure m/e 442.2216.

Acetyl 4-azido-2,3,6-tri-*O*-acetyl-4-deoxy-α-D-galactopyranoside (16). ^{1}H NMR (270 MHz, $CDCl_3$) (α anomer) δ 6.23 (d, *J* = 2.6 Hz, 1H), 5.32 (m, 2H), 4.0 - 4.2 (m, 4H), 2.072 (s, 3H), 2.070 (s, 3H), 2.01 (s, 3H), 1.95 (s, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) (α anomer) δ 170.4 (s), 170.1 (s), 169.7 (s), 168.8 (s), 89.5 (s), 69.5 (s), 68.5 (s), 66.5 (s), 62.5 (s), 60.4 (s), 20.8 (s), 20.7 (s), 20.5 (s, 2 carbons); LRFAB m/e 380.1 $[M+Li]^+$; HRFAB Calcd for $C_{14}H_{19}N_3O_9Li$ $[M+Li]^+$ m/e 380.1281; measure m/e 380.1274.

Acetyl 4-azido-2,3,6-tri-*O*-acetyl-4-deoxy-α-D-glucopyranoside (17). ^{1}H NMR (270 MHz, $CDCl_3$) (α anomer) δ 6.27 (d, *J* = 4.0 Hz, 1H), 5.45 (dd, *J* = 10.2 Hz, *J* = 9.9 Hz, 1H), 5.03 (dd, *J* = 10.2 Hz, *J* = 4.0 Hz, 1H), 4.35 (dd, *J* = 12.5 Hz, *J* = 2.5 Hz, 1H), 4.26 (dd, *J* = 12.5 Hz, *J* = 3.6 Hz, 1H), 3.87 (ddd, *J* = 10.2 Hz, *J* = 3.6 Hz, *J* = 2.5 Hz, 1H), 3.67 (dd, *J* = 10.2 Hz, *J* = 9.9 Hz, 1H), 2.16 (s, 3H), 2.12 (s, 6H), 2.00 (s, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) (α anomer) δ 170.5 (s), 169.90 (s), 169.84 (s), 168.4 (s), 89.2 (s), 70.5 (s), 70.2 (s), 69.3 (s), 62.4 (s), 59.9 (s, C-4), 21.0 (s), 20.82 (s), 20.77 (s), 20.5 (s); LRFAB m/e 380.1 $[M+Li]^+$; HRFAB Calcd for $C_{14}H_{19}N_3O_9Li$ $[M+Li]^+$ m/e 380.1281; measure m/e 380.1272.

Acetyl 4,6-diazido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-galactopyranoside (18). ^{1}H NMR (270 MHz, $CDCl_3$) (α anomer) δ 6.30 (d, *J* = 2.6 Hz, 1H), 5.38 (m, 2H), 4.14 (m, 1H), 4.09 (ddd, *J* = 6.6 Hz, *J* = 6.9 Hz, *J* = 1.3 Hz, 1H), 3.54 (dd, *J* = 12.5 Hz, *J* = 6.6 Hz, 1H), 3.37 (dd, *J* = 12.5 Hz, *J* = 6.9 Hz, 1H), 2.14 (s, 3H), 2.13 (s, 3H), 2.01 (s, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) (α anomer) δ 170.2 (s), 169.8 (s), 168.8 (s), 89.5 (s), 69.7 (s), 69.5 (s), 66.5 (s), 60.4 (s), 50.8 (s), 20.9 (s), 20.60 (s), 20.56 (s); LRFAB m/e 363.1 $[M+Li]^+$; HRFAB Calcd for $C_{12}H_{16}N_6O_7Li$ $[M+Li]^+$ m/e 363.1241; measure m/e 363.1234.

Acetyl 4-azido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-galactopyranoside (19). ^{1}H NMR (270 MHz, $CDCl_3$) (α anomer) δ 6.22 (d, *J* = 2.6 Hz, 1H), 5.30 (m, 2H), 4.16 (qd, *J* = 6.3 Hz, *J* = 1.0 Hz, 1H), 3.92 (m, 1H), 2.09 (s, 3H), 2.08 (s, 3H), 1.97 (s, 3H), 1.24 (d, *J* = 6.3 Hz, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) (α anomer) δ 170.0 (s), 169.6 (s), 168.9 (s), 89.6 (s), 69.9 (s), 67.1 (s), 66.4 (s), 63.8 (s. C-4), 20.7 (s), 20.5 (s, 2 carbons), 17.0 (s); LRFAB m/e 322.1 $[M+Li]^+$; HRFAB Calcd for $C_{12}H_{17}N_3O_7Li$ $[M+Li]^+$ m/e 322.1227; measure m/e 322.1235.

Acetyl 4-azido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-glucopyranoside (20). ^{1}H NMR (270 MHz, $CDCl_3$) (α anomer) δ 6.22 (d, *J* = 2.6 Hz, 1H), 5.3 (m, 2H), 4.16 (qd, *J* = 6.3 Hz, *J* = 1.0 Hz, 1H), 3.92 (m, 1H), 2.09 (s, 3H), 2.08 (s, 3H), 1.97 (s, 3H), 1.24 (d, *J* = 6.3 Hz, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) (α anomer) δ 170.0 (s), 169.1 (s), 89.2 (s), 70.4 (s), 69.7 (s), 68.6 (s), 65.7 (s), 20.1 (s), 20.8 (s), 20.6 (s), 18.3 (s); LRFAB m/e 363.1 $[M+Li]^+$; HRFAB Calcd for $C_{12}H_{16}N_6O_7Li$ $[M+Li]^+$ m/e 363.1241; measure m/e 363.1231.

Acetyl 4,6-diazido-2,3-di-*O*-acetyl-4,6-dideoxy-α-D-glucopyranoside (22). ^{1}H NMR (270 MHz, $CDCl_3$) (α anomer) δ 6.29 (d, *J* = 3.6 Hz, 1H), 5.45 (dd, *J* = 10.1 Hz, *J* = 9.6 Hz, 1H), 5.02 (dd, *J* = 10.1 Hz, *J* = 3.6 Hz, 1H), 3.77 (dd, *J* = 10.2 Hz, *J* = 9.6 Hz, 1H), 3.58 (dd, *J* = 13.6 Hz, *J* = 2.0 Hz, 1H), 3.50 (ddd, *J* = 10.2 Hz, *J* = 3.4 Hz, *J* = 2.0 Hz, 1H), 3.43 (dd, *J* = 13.6 Hz, *J* = 3.4 Hz, 1H), 2.15 (s, 3H), 2.10 (s, 3H), 1.99 (s, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) (α anomer) δ 169.9 (s), 169.8 (s), 168.8 (s), 89.2 (s), 71.4 (s), 69.3 (s), 69.3(s), 60.0 (s), 51.0 (s), 21.0 (s), 20.8 (s), 20.5 (s); LRFAB m/e 363.1 $[M+Li]^+$; HRFAB Calcd for $C_{12}H_{16}N_6O_7Li$ $[M+Li]^+$ m/e 363.1241; measure m/e 363.1231.

For the synthesis of **23 - 29**, please refer to reference 28.

2,4-Di-*O*-acetyl-3-*O*-allyl-6-deoxy-α-D-glucopyranosyl trichloroacetimidate (38). Please refer the general procedure for the preparation of glycosyl trichloroacetimidate. ^{1}H NMR (270 M Hz, $CDCl_3$) δ 8.58 (s, N*H*CCl_3), 6.44 (d, *J* = 3.6 Hz, 1H), 5.80 (dddd, *J* = 17.4 Hz, *J* = 10.2 Hz, *J* = 5.3 Hz, *J* = 5.6 Hz, 1H), 5.21 (dd, *J* = 17.4 Hz, *J* = 1.6 Hz, 1H), 5.12 (dd, *J* = 10.2 Hz, *J* = 1.6 Hz, 1H), 4.98 (dd, *J* = 9.9 Hz, *J* = 3.6 Hz, 1H), 4.87 (dd, *J* = 9.9 Hz, *J* = 9.6 Hz, 1H), 4.17 (dd, *J* = 12.9 Hz, *J* = 5.3 Hz, 1H), 4.07 (dd, *J* = 12.9 Hz, *J* = 5.6 Hz, 1H), 3.97(dq, *J* = 9.9 Hz, *J* = 6.3 Hz, 1H), 3.90 (dd, *J* = 9.9 Hz, *J* = 9.6 Hz, 1H), 2.10 (s, 3H), 2.03 (s, 3H), 1.19 (d, *J* = 6.3 Hz, 3H); ^{13}C NMR (68MHz, $CDCl_3$) δ 169.9 (s), 169.6 (s), 160.9 (s), 134.5 (s), 116.8 (s), 93.6 (s), 76.5 (s), 74.2 (s), 73.6 (s), 72.4 (s), 68.7 (s), 21.0 (s), 20.7 (s), 17.4 (s).

2,3,4-Tri-*O*-acetyl-6-deoxy-6-fluoro-α-D-glucopyranosyl trichloroacetimidate (46). Please refer the general procedure for the preparation of glycosyl trichloroacetimidate. ^{1}H NMR (270

MHz, $CDCl_3$) δ 8.67 (s, 1H), 6.54 (d, *J* = 5.4 Hz, 1H), 5.55 (t, *J* = 10.8 Hz, 1H), 5.15 (t, *J* = 10.8 Hz, 1H), 5.05 (dd, *J* = 8.1 Hz, *J* = 5.4 Hz, 1H), 4.6 – 4.5 (m, 1H), 4.4 – 4.3 (m, 1H), 4.2 – 4.1 (m, 1H), 2.03 (s, 3H), 2.0 (s, 3H), 1.9 (s, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 170.1 (s), 169.8 (s), 169.5 (s), 160.8 (s), 92.9 (s), 90.7 (s), 80.7 (d, J_{CF} = 177 Hz), 70.7 (d, J_{CF} = 19 Hz), 69.7 (d, J_{CF} = 8.8 Hz), 67.6 (s), 67.4 (s), 20.8 (s), 20.6 (s), 20.5 (s).

***Cis, cis*-3,5-diazidocyclohexyl β-D-2,3,4-tri-*O*-acetyl-6-azido-6-deoxyglucopyranoside (31)**. Please refer to the general procedure for glycosylation. The compound is mixed with inseparable impurities, and characterized only by ^1H and ^{13}C NMR. ^1H NMR (270 MHz, $CDCl_3$) δ 5.19 (t, *J* = 9.6 Hz, 1H), 4.94 (dd, *J* = 9.6 Hz, *J* = 7.9 Hz, 1H), 4.93 (t, *J* = 9.6 Hz, 1H), 4.63 (d, *J* = 7.9 Hz, 1H), 3.67 (ddd, *J* = 9.6 Hz, *J* = 4.7 Hz, *J* = 2.3 Hz, 1H), 3.60-3.78 (m, 1H), 3.30-3.51 (m, 1H), 3.32 (tt, *J* = 11.9 Hz, *J* = 4.1 Hz, 2H), 3.11 (dd, *J* = 13.2 Hz, *J* = 2.3 Hz), 2.16-2.38 (m, 3H), 2.04 (s, 3H), 2.02 (s, 3H), 1.99(s, 3H), 1.18-1.46(m, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 169.6 (s), 168.9 (s), 168.6 (s), 98.7 (s), 73.7 (s), 73.3 (s), 71.9 (s), 70.8 (s), 69.1 (s), 54.6 (s), 54.4 (s), 50.6 (s), 37.5 (s), 36.1 (s), 35.9 (s), 35.8 (s), 20.1 (s), 20.0 (s).

***Cis, cis*-3,5-diazidocyclohexyl β-D-2,3,4-tri-*O*-acetyl-6-azido-6-deoxyglucopyranoside (31)**. Please refer to the general procedure for glycosylation. The compound is mixed with inseparable impurities, and characterized only by ^1H and ^{13}C NMR. ^1H NMR (270 MHz, $CDCl_3$) δ 5.19 (t, *J* = 9.6 Hz, 1H), 4.94 (dd, *J* = 9.6 Hz, *J* = 7.9 Hz, 1H), 4.93 (t, *J* = 9.6 Hz, 1H), 4.63 (d, *J* = 7.9 Hz, 1H), 3.67 (ddd, *J* = 9.6 Hz, *J* = 4.7 Hz, *J* = 2.3 Hz, 1H), 3.60-3.78 (m, 1H), 3.30-3.51 (m, 1H), 3.32 (tt, *J* = 11.9 Hz, *J* = 4.1 Hz, 2H), 3.11 (dd, *J* = 13.2 Hz, *J* = 2.3 Hz), 2.16-2.38 (m, 3H), 2.04 (s, 3H), 2.02 (s, 3H), 1.99(s, 3H), 1.18-1.46(m, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 169.6 (s), 168.9 (s), 168.6 (s),

98.7 (s), 73.7 (s), 73.3 (s), 71.9 (s), 70.8 (s), 69.1 (s), 54.6 (s), 54.4 (s), 50.6 (s), 37.5 (s), 36.1 (s), 35.9 (s), 35.8 (s), 20.1 (s), 20.0 (s).

***Cis, cis*-3,5-diazidocyclohexyl β-D-2,3-di-*O*-acetyl-4,6-diazido-4,6-dideoxyglucopyranoside (33)**. Please refer to the general procedure for glycosylation. ^{1}H NMR (270 MHz, $CDCl_3$) δ 5.11 (t, *J* = 9.6 Hz, 1H), 4.85 (dd, *J* = 9.6 Hz, *J* = 7.9 Hz, 1H), 4.58 (d, *J* = 7.9 Hz, 1H), 3.64 (tt, *J* = 12.0 Hz, *J* = 4.3 Hz, 1H), 3.57 (t, *J* = 9.6 Hz, 1H), 3.45 (d, *J* = 4.3 Hz, 1H), 3.40 (dt, *J* = 9.6 Hz, *J* = 4.3 Hz, 1H), 3.25 (tt, *J* = 12.0 Hz, *J* = 4.3 Hz, 2H), 2.27-2.38 (m, 1H), 2.15-2.26 (m, 2H), 2.06 (s, 3H), 2.00 (s, 3H), 1.27 (q, *J* = 12.0 Hz, 2H), 1.15-1.45 (m, 1H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 169.4 (s), 168.8 (s), 98.7 (s), 73.3 (s), 73.1 (s), 72.9 (s), 71.0 (s), 60.0 (s), 54.4 (s), 54.3 (s), 50.8 (s), 37.5 (s), 36.1 (s), 35.9 (s), 20.1 (s), 20.0 (s); LRFAB m/e 501 $[M+Na]^+$; HRFAB Calcd for $C_{12}H_{22}N_{12}O_6Na$ $[M+Na]^+$ m/e 501.1683; measure m/e 501.1692.

5-*O*-(2,4-Di-*O*-acetyl-3-*O*-allyl-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetra-azidoneamine (39). Please refer to the general procedure for glycosylation. ^{1}H NMR (270 M Hz, $CDCl_3$) δ 7.2 – 7.5 (m, 15H), 5.76 (dddd, *J* = 17.1 Hz, *J* = 10.2 Hz, *J*= 5.6 Hz, *J* = 5.6 Hz, 1H), 5.71 (d, *J* = 3.6 Hz, 1H), 5.20 (dd, *J* = 17.1 Hz, *J* = 1.6 Hz, 1H), 5.14 (dd, *J* = 10.2 Hz, *J* = 1.6 Hz, 1H), 5.03 (d, *J* = 11.2 Hz, 1H), 5.00 (d, *J* = 11.9 Hz, 1H), 4.8 - 4.9 (m, 5H), 4.70 (d, *J* = 9.9 Hz, 1H), 4.59 (d, *J* = 11.2 Hz, 1H), 4.20 (m, 1H), 4.0 - 4.1 (m, 4H), 3.2 - 3.6 (m, 10H), 2.30 (ddd, *J* = 13.5 Hz, *J* = 4.6 Hz, *J* = 4.6 Hz, 1H), 2.13 (s, 3H), 2.06 (s, 3H), 1.46 (ddd, *J* = 13.5 Hz, *J* = 12.5 Hz, *J* = 12.5 Hz, 1H), 1.20 (d, *J* = 6.3 Hz, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 169.5(s), 168.8(s), 137.9 (s, 2C), 137.2 (s), 134.5 (s), 128.7 (s), 128.7 (s), 128.5 (s), 128.4 (s), 128.2 (s), 127.9 (s), 117.0 (s), 99.0 (s), 97.5 (s), 85.2 (s), 79.7 (s), 79.5 (s), 78.7 (s), 77.3 (s), 75.5 (s, 2 carbons), 75.3

(s), 75.0 (s), 74.4 (s), 72.9 (s), 72.3 (s), 71.1 (s), 70.6 (s), 63.0 (s), 60.7 (s), 59.5 (s), 51.2 (s), 32.6 (s), 21.2 (s), 21.1 (s), 17.0 (s); MALDI Calcd for $C_{46}H_{54}N_{17}O_{12}K$ $[M+K]^+$ m/e 1005.3616; measure m/e 1005.3566.

5-*O*-(3-*O*-(3-(2,4-Di-*O*-acetyl-3-*O*-(2-azidoethyl)-6-deoxy-β-D-glucopyranosyl)-*n*-propyl)-6-deoxy-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (42). Please refer to the general procedure for glycosylation. ^{1}H NMR (270 MHz, $CDCl_3$) δ 7.3-7.5 (m, 15H), 5.88 (d, *J* = 3.9 Hz, 1H), 4.8 - 5.0 (m, 8H), 4.60 (d, *J* = 11.2 Hz, 1H), 4.32 (d, *J* = 7.9 Hz, 1H), 3.9 - 4.2 (m, 4H), 3.0 - 3.7 (m, 21H), 2.28 (ddd, *J* = 13.3 Hz, *J* = 4.3 Hz, *J* = 4.0 Hz, 1H), 2.10 (s, 3H), 2.08 (s, 3H), 1.80 (m, 2H), 1.46 (ddd, *J* = 13.3 Hz, *J* = 12.5 Hz, *J* = 12.5 Hz, 1H), 1.30 (d, *J* = 5.3 Hz, 3H), 1.23 (d, *J* = 5.9Hz, 3H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 169.7 (s), 169.5 (s), 137.9 (s), 137.8 (s), 137.1 (s), 128.9 (s), 128.6 (s), 128.5 (s), 128.2 (s), 128.0 (s), 127.8 (s), 102.0 (s), 100.6 (s), 96.5 (s), 84.7 (s), 84.3 (s), 80.4 (s), 79.6 (s), 79.1 (s), 78.7 (s), 76.0 (s), 75.5 (s), 75.1 (s), 75.0 (s), 74.6 (s), 73.7 (s), 72.1 (s), 72.0 (s), 70.9 (s), 70.5 (s), 69.1 (s), 68.3 (s), 65.5 (s), 63.2 (s), 60.7 (s), 60.5 (s), 59.8 (s), 51.2 (s), 51.1 (s), 32.6 (s), 30.1 (s), 21.1 (s), 21.0 (s), 17.4 (s), 17.2 (s); MALDI Calcd for $C_{54}H_{69}N_{15}O_{17}Na$ $[M+Na]^+$ m/e 1222.4888; measure m/e 1222.4854.

5-*O*-(2,3,4-Tri-*O*-acetyl-6-deoxy-6-fluoro-β-D-glucopyranosyl)-6,3'4'-tri-*O*-benzyl-1,3,2'6'-tetraazidoneamine (47). Please refer to the general procedure for glycosylation. ^{1}H NMR (270 MHz, $CDCl_3$) δ 7.2 - 7.5 (m, 15H), 5.66 (d, *J* = 2.7 Hz, 1H), 5.20 (d, *J* = 7.6 Hz, 1H), 5.0 - 5.1 (m, 3H), 4.8 - 5.0 (m, 3H), 4.5 - 4.7 (m, 2H), 4.21 (ddd, *J* = 9.9 Hz, *J* = 4.9 Hz, *J* = 2.6 Hz, 1H), 4.09 (dd, *J* = 8.9 Hz, *J* = 9.2 Hz, 1H), 4.03 (dd, *J* = 8.9 Hz, *J* = 8.6 Hz, 1H), 3.2 - 3.6 (m, 10H), 2.32 (ddd, *J* = 13.2 Hz, *J* = 4.3 Hz, *J* = 4.3 Hz, 1H), 2.10 (s, 3H), 2.015 (s, 3H), 2.010 (s, 3H), 1.48 (ddd,

J = 13.2 Hz, *J* = 12.5 Hz, *J* = 12.5 Hz, 1H); ^{13}C NMR (68 MHz, $CDCl_3$) δ 170.3 (s), 169.4 (s), 168.9 (s), 137.9 (s), 136.8 (s), 129.0 (s), 128.8 (s), 128.7 (s), 128.5 (s), 128.2 (s), 128.0 (s), 98.9 (s), 97.6 (s), 85.0 (s), 80.9 (d, *J* = 213 Hz), 79.4 (s), 78.7 (s), 78.0 (s), 77.3 (s), 75.8 (s), 75.7 (s), 75.3 (s), 75.0 (s), 72.8 (s), 71.6 (s), 71.1 (s), 68.2 (d, *J* = 7.5 Hz), 62.9 (s), 60.7 (s), 59.5 (s), 51.2 (s), 32.5 (s), 21.0 (s), 20.7 (s), 20.6 (s); MALDI Calcd for $C_{45}H_{51}O_{13}N_{12}FNa$ $[M+Na]^+$ m/e 1009.3575; measure m/e 1009.3602.

***Cis, cis*-3,5-diaminocyclohexyl β-D-4,6-diamino-4,6-dideoxygluco-pyranoside (34)**. Please refer to the procedure for the synthesis of **32**. ^{1}H NMR (270 MHz, D_2O) (acetate salt) δ 4.66 (d, *J* = 7.9 Hz, 1H), 4.0 (m, 2H), 3.66 (dd, *J* = 9.9 Hz, *J* = 9.9 Hz, 1H), 3.48 (d, *J* = 13.2 Hz, 1H), 3.3 - 3.4 (m, 3H), 3.1 - 3.2 (m, 2H), 2.3 - 2.5 (m, 3H), 2.00 (s, 12H), 1.3 - 1.6 (m, 3H); ^{13}C NMR (68 MHz, D_2O) (acetate salt) δ 177.6 (s), 100.8 (s), 73.04 (s), 73.00 (s), 71.6 (s), 68.9 (s), 53.3 (s), 45.4 (s), 45.3 (s), 40.0 (s), 35.8 (s), 34.6 (s), 33.0 (s), 21.0 (s). LRFAB m/e 291 $[MH]^+$; HRFAB Calcd for $C_{12}H_{27}N_4O_4$ $[MH]^+$ m/e 291.2032; measure m/e 291.2025.

5-*O*-(6-Deoxy-6-fluoro-β-D-glucopyranosyl)neamine (TC033). Please refer to the procedure for the final synthesis. ^{1}H NMR (270 MHz, D_2O) (chloride salt) δ 5.83 (d, *J* = 2.7 Hz, 1H), 5.08 (d, *J* = 8.1 Hz, 1H), 4.55 (d, *J* = 8.1 Hz, 1H), 4.0 - 3.8 (m, 8H), 3.6 – 3.3 (m, 8H), 2.4 (m, 2H); ^{13}C NMR (68 MHz, D_2O) (acetate salt) δ 178.2 (s), 102.6 (s), 96.1 (s), 81.4 (d, J_{CF} = 163 Hz), 80.1 (s), 75.5 (s), 75.4 (s), 74.9 (d, J_{CF} = 13.6 Hz), 73.3 (s), 73.0 (s), 70.7 (s), 69.6 (s), 68.1 (s, 2 carbons), 53.4 (s), 49.8 (s), 48.6 (s), 40.0 (s), 28.2 (s), 21.4 (s). LRFAB m/e 487 $[MH]^+$; HRFAB Calcd for $C_{18}H_{36}O_{10}N_4F$ $[MH]^+$ m/e 487.2415; measure m/e 487.2427.

5-*O*-(3-*O*-*n*-Propyl-6-deoxy-β-D-glucopyranosyl)neamine (TC040). Please refer to the procedure for the final synthesis. ^{1}H NMR (270 M Hz, D_2O) (acetate salt) δ 5.81 (d, *J* = 3.6 Hz, 1H), 5.00 (d, *J* = 7.9 Hz, 1H), 3.8 - 4.0 (m, 5H), 3.70 (dd, *J* = 6.6 Hz, *J* = 6.9 Hz, 2H), 3.1 - 3.5 (m, 10H), 2.45 (m, 1H), 1.94 (s, 12H), 1.83 (m, 1H), 1.53 (m, 2H), 1.25 (d, *J* = 5.9 Hz, 3H), 0.82 (t, *J* = 7.5 Hz, 3H); ^{13}C NMR (68 MHz, D_2O) (acetate salt) δ 178.7 (s), 102.7 (s), 96.3 (s), 83.7 (s), 80.7 (s), 76.0 (s), 75.1 (s), 74.5 (s), 73.3 (s), 73.1 (s), 72.9 (s), 70.8 (s), 69.6 (s), 68.2 (s), 53.5 (s), 49.8 (s), 48.8 (s), 40.1 (s), 28.2 (s), 22.8 (s), 21.7 (s), 16.6 (s), 9.8 (s); MALDI Calcd for $C_{21}H_{46}N_4O_{10}Na$ $[M+Na]^+$ m/e 533.2793; measure m/e 533.2817.

5-*O*-(3-*O*-(3-Hydroxypropyl)-6-deoxy-β-D-glucopyranosyl)neamine (TC041). Please refer to the procedure for the final synthesis. ^{1}H NMR (270 M Hz, D_2O) (acetate salt) δ 5.80 (d, *J* = 3.6 Hz, 1H), 5.02 (d, *J* = 7.9 Hz, 1H), 3.8 - 4.0 (m, 7H), 3.64 (dd, *J* = 6.3 Hz, *J* = 6.3 Hz, 2H), 3.2 - 3.5 (m, 10H), 2.45 (m, 1H), 1.92 (s, 12H), 1.7 - 2.0 (m, 3H), 1.26 (d, *J* = 6.0 Hz, 3H); ^{13}C NMR (68 MHz, D_2O) (acetate salt) δ 178.2 (s), 102.6 (s), 96.4 (s), 84.1 (s), 80.7 (s), 76.1 (s), 74.4 (s), 73.2 (s), 73.1 (s), 72.9 (s), 70.6 (s), 70.3 (s), 69.6 (s), 68.3 (s), 59.0 (s), 53.4 (s), 49.7 (s), 48.7 (s), 40.0 (s), 31.9 (s), 28.2 (s), 21.4 (s), 16.6 (s); MALDI Calcd for $C_{21}H_{46}N_4O_{11}Na$ $[M+Na]^+$ m/e 549.2742; measure m/e 549.2738.

5-*O*-(3-*O*-(3-Fluoropropyl)-6-deoxy-β-D-glucopyranosyl)neamine (TC044). Please refer to the procedure for the final synthesis. ^{1}H NMR (270 M Hz, D_2O) (acetate salt) δ 5.77 (d, *J* = 4.0 Hz, 1H), 4.99 (d, *J* = 7.9 Hz, 1H), 4.61 (dd, *J* = 5.9 Hz, *J* = 5.6 Hz, 1H), 4.44 (dd, *J* = 5.9 Hz, *J* = 5.9 Hz, 1H), 3.7 - 4.0 (m, 7H), 3.1 - 3.6 (m, 10H), 2.42 (ddd, *J* = 12.5 Hz, *J* = 4.3 Hz, *J* = 4.3 Hz, 1H), 1.92 (s, 12H), 1.8 - 2.0 (m, 3H), 1.23 (d, *J* = 6.3 Hz, 3H); ^{13}C NMR (68 M Hz, D_2O) (acetate salt)

δ 178.5 (s), 102.6 (s), 96.3 (s), 84.1 (s), 82.4 (d, J_{CF} = 157.8 Hz), 80.7 (s), 76.1 (s), 74.4 (s), 73.2 (s), 73.1 (s), 72.9 (s), 70.6 (s), 69.6 (s), 69.1 (d, J_{CF} = 5.2 Hz), 68.3 (s), 53.4 (s), 49.7 (s), 48.7 (s), 40.0 (s), 30.5 (d, J_{CF} = 19.2 Hz), 28.2 (s), 21.6 (s), 16.6 (s); MALDI Calcd for $C_{21}H_{45}FN_4O_{10}Na$ $[M+Na]^+$ m/e 551.2699; measure m/e 551.2719.

5-*O*-(3-*O*-(3-*O*-(2-aminoethyl)-6-deoxy-β-D-glucopyranosyl)-*n*-propyl)-6-deoxy-β-D-gluco-pyranosyl)neamine (TC045). Please refer to the procedure for the final synthesis. ^{1}H NMR (270 MHz, D_2O) (acetate salt) δ 5.78 (d, *J* = 3.6 Hz, 1H), 4.99 (d, *J* = 7.9 Hz, 1H), 4.35 (m, 1H), 3.6 - 4.0 (m, 10H), 3.1 - 3.5 (m, 17H), 2.43 (m, 1H), 1.94 (s, 15H), 1.8 - 2.0 (m, 3H), 1.24 (d, *J* = 5.9 Hz, 3H), 1.20 (d, *J* = 5.9Hz, 3H); ^{13}C NMR (68 MHz, D_2O) (acetate salt) δ 178.2 (s), 102.6 (s), 102.1 (s), 96.4 (s), 84.2 (s), 84.1 (s), 80.8 (s), 76.1 (s), 74.6 (s), 74.4 (s), 73.3 (s), 73.1 (s, 2 carbons), 72.9 (s), 71.9 (s), 70.6 (s), 70.0 (s), 69.6 (s), 68.3 (s), 68.2 (s), 67.5 (s), 53.4 (s), 49.7 (s), 48.7 (s), 40.0 (s), 39.7 (s), 29.7 (s), 28.2 (s), 21.4 (s), 16.7 (s), 16.6 (s); MALDI Calcd for $C_{29}H_{57}N_5O_{15}Na$ $[M+Na]^+$ m/e 738.3743; measure m/e 738.3786.