Service Report
Preventive Maintenance

Instrument ID:	Inova 300	**Date:**	3/2/2020
S/N:		**WO#:**	
Engineer:	Don Frank	**OTI No.:**	200302001
		Probe file:	asw_cii_replace

System Checks:

☐	Clean Console
☑	Pneumatic Operation
☑	Cooling Fans
☐	VT Operation
☐	Clean Filters
ok	LHe Boil Off
ok	LN Boil Off

Accessory Checks:

☑	PFG Operation - Profile, Recovery, Gshim
☑	Adjust Sample Present on MSR Board
☑	Clean Upper Barrel
☐	SMS - Clean and inspect
☐	Other Accessory - Clean and Inspect

Computer Checks:

CentOS 6	UNIX Version
VnmrJ 4.2A	VNMR Version
ok	Free Disk Space

Other Misc Checks:

☑	Update Shims (/vnmr/shims/*probe*_lk_d2o)
☑	Z0 in probe file (/vnmr/probes/*probe*)
☐	Run Calibrate Macro (C13 Decp, C/H ratio)
☑	Gradient Shim Map
☑	Tune Probe using C6D6

NMR Checks:

	H1	F19	C13	P31	C13 Indirect	Other
PW90	12.5us @ 57		18us @ 62			
S/N	113:1		91:1			
Lineshape	3.13/40.2/69.3					
gamaH2			2502 @ 42			
Bird Test	PASS		PASS			
Grad Strength	20.5 gauss/cm					
GCAL	0.0099903					
GZRecovery	< 1 ms					
Waltz			PASS			
gC/H Ratio						

Comments:

Data Files saved under /home/vnmr1/opentech/asw_cii_replace/benchmark_030220/
d2o shims updated to /vnmr/shims/probe_lk_d2o
Probe file /vnmr/probes/probe values updated
ASW Probe has broken quartz coil former, needs to be repaired.
PW 90's for low band and high band are long. Suspect AMT amplifier or transmitters have low power.
Remote Status Box has no display.
Missing Lock Reject filter.

OpenVnmrJ

Sample Name		Pulse sequence **PROTON**	Temperature **24**	Study owner **vnmr1**
Date collected **2020-03-02**	Solvent **d2o**	Spectrometer **Inova400.elevance.com-inova300**	Operator **vnmr1**

1% H2O in D2O doped with GdCl3
50% = 3.13 Hz
.55% = 40.2 Hz
.11% = 69.3 Hz

SAMPLE

date	**Mar 2 2020**
solvent	**d2o**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/shmd2o_030220.fid**

ACQUISITION

sfrq	**299.767**
tn	**H1**
at	**4.000**
np	**16000**
sw	**2000.0**
fb	**1000**
pw	**16.0**
pw	**16.0**
tpwr	**57**
d1	**1.000**
tof	**-96.4**
nt	**1**
ct	**1**
alock	**n**
gain	**15**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

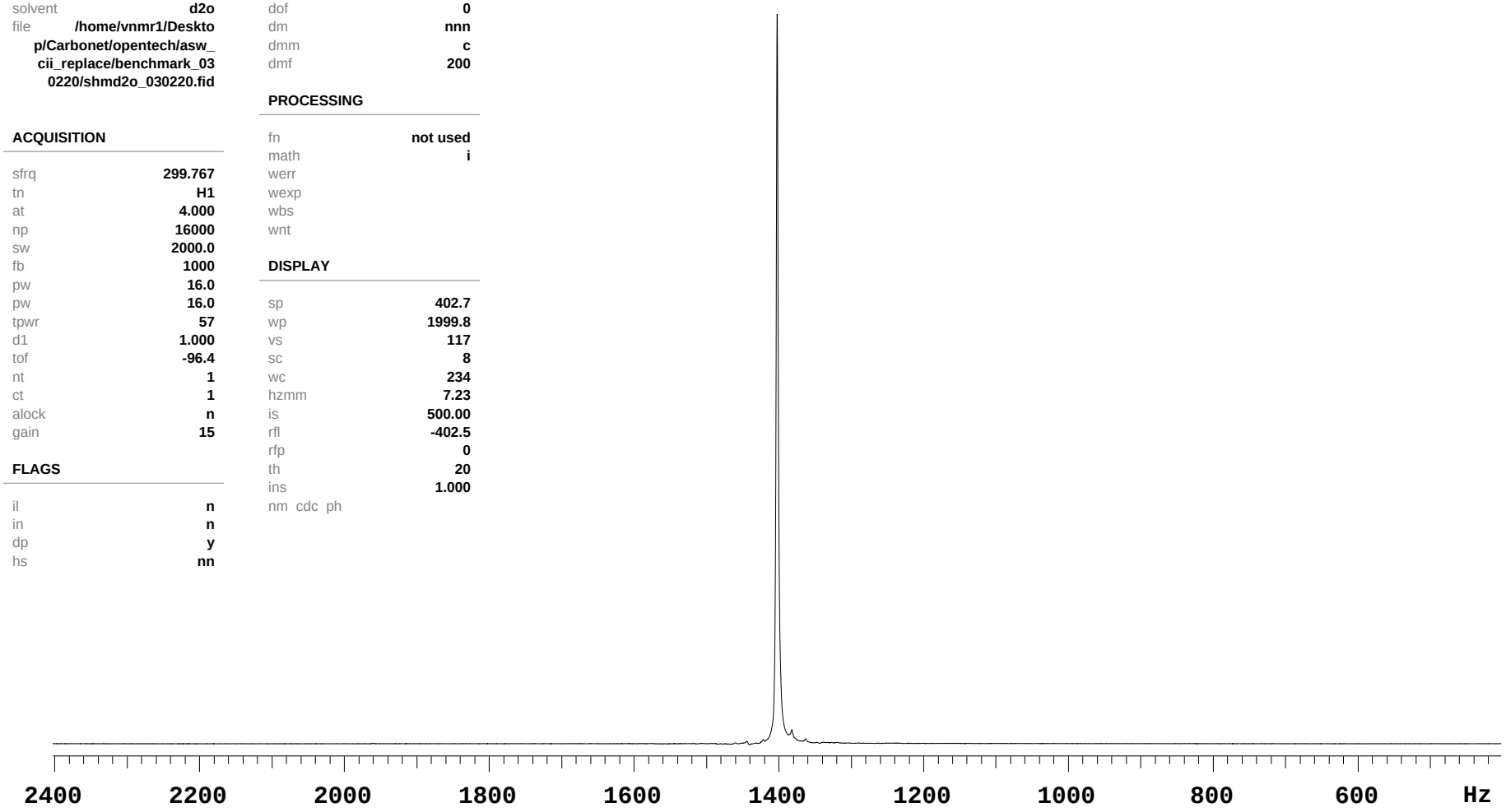
dn	**C13**
dof	**0**
dm	**nnn**
dmm	**c**
dmf	**200**

PROCESSING

fn	**not used**
math	**i**
werr	
wexp	
wbs	
wnt	

DISPLAY

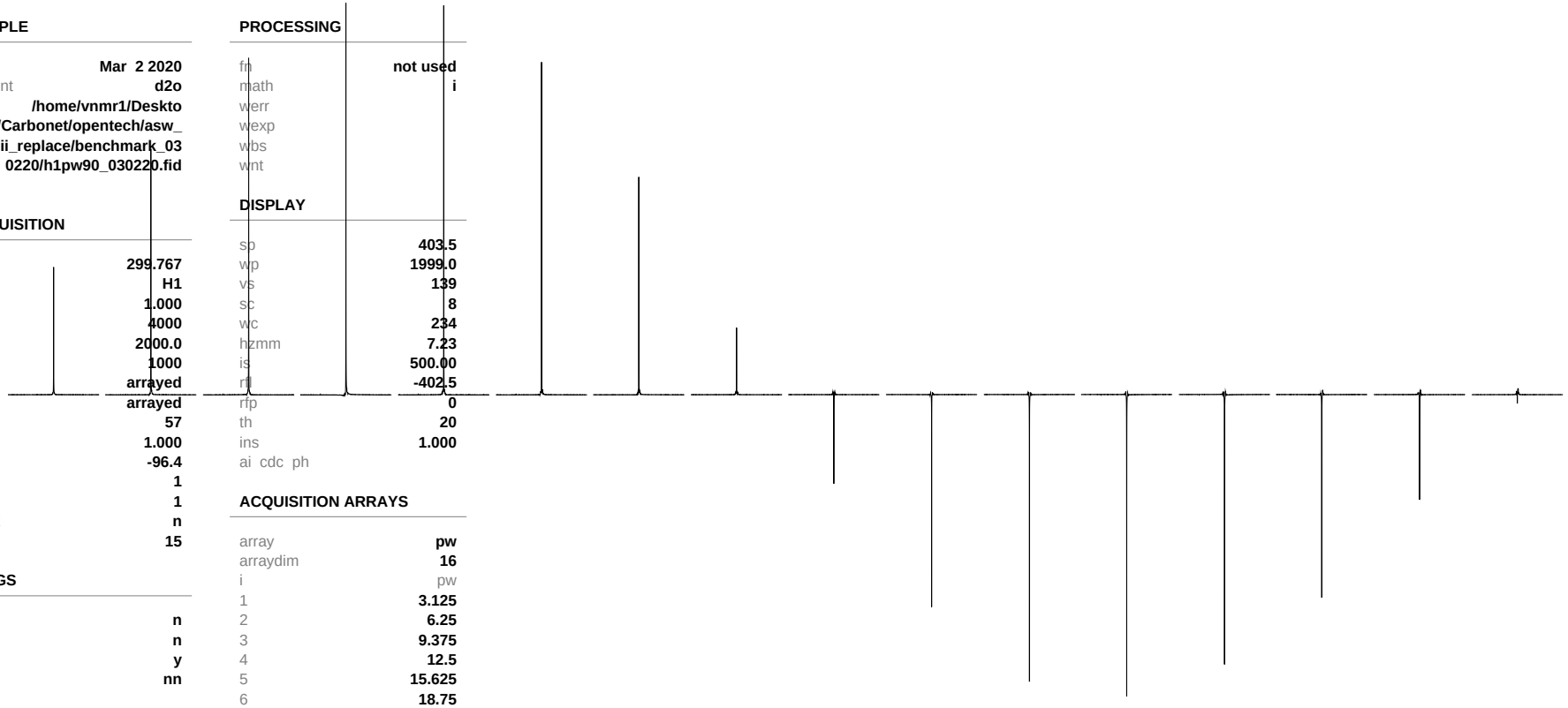
sp	**402.7**
wp	**1999.8**
vs	**117**
sc	**8**
wc	**234**
hzmm	**7.23**
is	**500.00**
rfl	**-402.5**
rfp	**0**
th	**20**
ins	**1.000**
nm cdc ph	



OpenVnmrJ

Sample Name		Pulse sequence	**PROTON**	Temperature	**24**	Study owner	**vnmr1**
Date collected	**2020-03-02**	Solvent	**d2o**	Spectrometer	**Inova400.elevance.com-inova300**	Operator	**vnmr1**

1% H2O in D2O doped with GdCl3
H1 PW90
pw=12.5us tpwr=57



SAMPLE

date	**Mar 2 2020**
solvent	**d2o**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/h1pw90_030220.fid**

ACQUISITION

sfrq	**299.767**
tn	**H1**
at	**1.000**
np	**4000**
sw	**2000.0**
fb	**1000**
pw	**arrayed**
pw	**arrayed**
tpwr	**57**
d1	**1.000**
tof	**-96.4**
nt	**1**
ct	**1**
alock	**n**
gain	**15**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

dn	**C13**
dof	**0**
dm	**nnn**
dmm	**c**
dmf	**200**

PROCESSING

fn	**not used**
math	**i**
werr	
wexp	
wbs	
wnt	

DISPLAY

sp	**403.5**
wp	**1999.0**
vs	**139**
sc	**8**
wc	**234**
hzmm	**7.23**
is	**500.00**
rfl	**-402.5**
rfp	**0**
th	**20**
ins	**1.000**
ai cdc ph	

ACQUISITION ARRAYS

array	**pw**
arraydim	**16**
i	pw
1	**3.125**
2	**6.25**
3	**9.375**
4	**12.5**
5	**15.625**
6	**18.75**
7	**21.875**
8	**25**
9	**28.125**
10	**31.25**
11	**34.375**
12	**37.5**
13	**40.625**
14	**43.75**
15	**46.875**
16	**50**

OpenVnmrJ

Sample Name		Pulse sequence **profile**	Temperature **24**	Study owner **vnmr1**
Date collected **2020-03-02**	Solvent **d2o**	Spectrometer **Inova400.elevance.com-inova300**	Operator **vnmr1**

1% H2O in D2O doped with GdCl3

profile - echo z projection of gradient calibration
profile - gradient calibration
gcal = 0.0099903
max gradient = 20.4601015 gauss/cm

SAMPLE

date	**Mar 2 2020**
solvent	**d2o**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/gzprofile_030220.fid**

ACQUISITION

sfrq	**299.767**
tn	**H1**
at	**0.003**
np	**512**
sw	**100000.0**
fb	**55000**
tpwr	**57**
pw	**25.0**
p1	**12.5**
d1	**1.000**
d2	**0.020**
tof	**-96.4**
nt	**1**
ct	**1**
gain	**15**
spin	**not used**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

dn	**C13**
dof	**0**
dm	**nnn**
dmm	**c**
dmf	**200**
homo	**n**
dpwrf	**undefined**

GRADIENTS

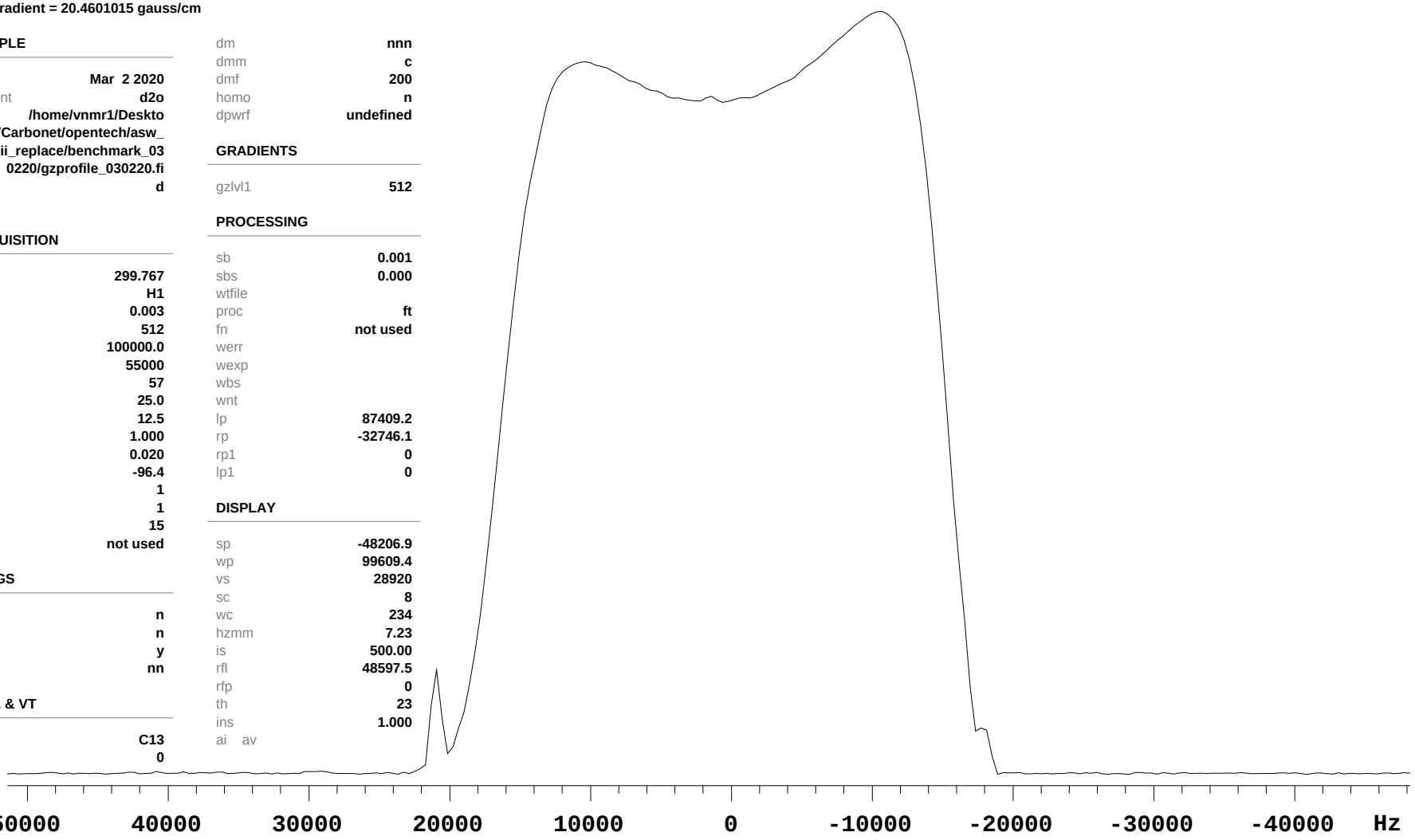
gzlvl1	**512**

PROCESSING

sb	**0.001**
sbs	**0.000**
wtfile	
proc	**ft**
fn	**not used**
werr	
wexp	
wbs	
wnt	
lp	**87409.2**
rp	**-32746.1**
rp1	**0**
lp1	**0**

DISPLAY

sp	**-48206.9**
wp	**99609.4**
vs	**28920**
sc	**8**
wc	**234**
hzmm	**7.23**
is	**500.00**
rfl	**48597.5**
rfp	**0**
th	**23**
ins	**1.000**
ai av	



OpenVnmrJ

Sample Name		Pulse sequence **g2pul**	Temperature **24**	Study owner **vnmr1**
Date collected **2020-03-02**	Solvent **d2o**	Spectrometer **Inova400.elevance.com-inova300**	Operator **vnmr1**

1% H2O in D2O doped with GdCl3

g2pul - gradient recovery test

SAMPLE

date	**Mar 2 2020**
solvent	**d2o**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/gzrecovery_030220.fid**

ACQUISITION

sfrq	**299.767**
tn	**H1**
at	**4.000**
np	**16000**
sw	**2000.0**
fb	**1000**
tpwr	**57**
pw	**12.5**
d1	**2.000**
d2	**arrayed**
tof	**-96.4**
nt	**1**
ct	**1**
gain	**15**
spin	**0**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

dn	**C13**
dof	**0**
dm	**nnn**
dmm	**c**
dmf	**200**
homo	**n**
dpwrf	**undefined**

GRADIENTS

gzlvl1	**1001**
gt1	**0.001**

PROCESSING

lb	**10.00**
wtfile	
proc	**ft**
fn	**not used**
werr	
wexp	
wbs	
wnt	
lp	**-22.0**
rp	**49.8**
rp1	**0**
lp1	**0**

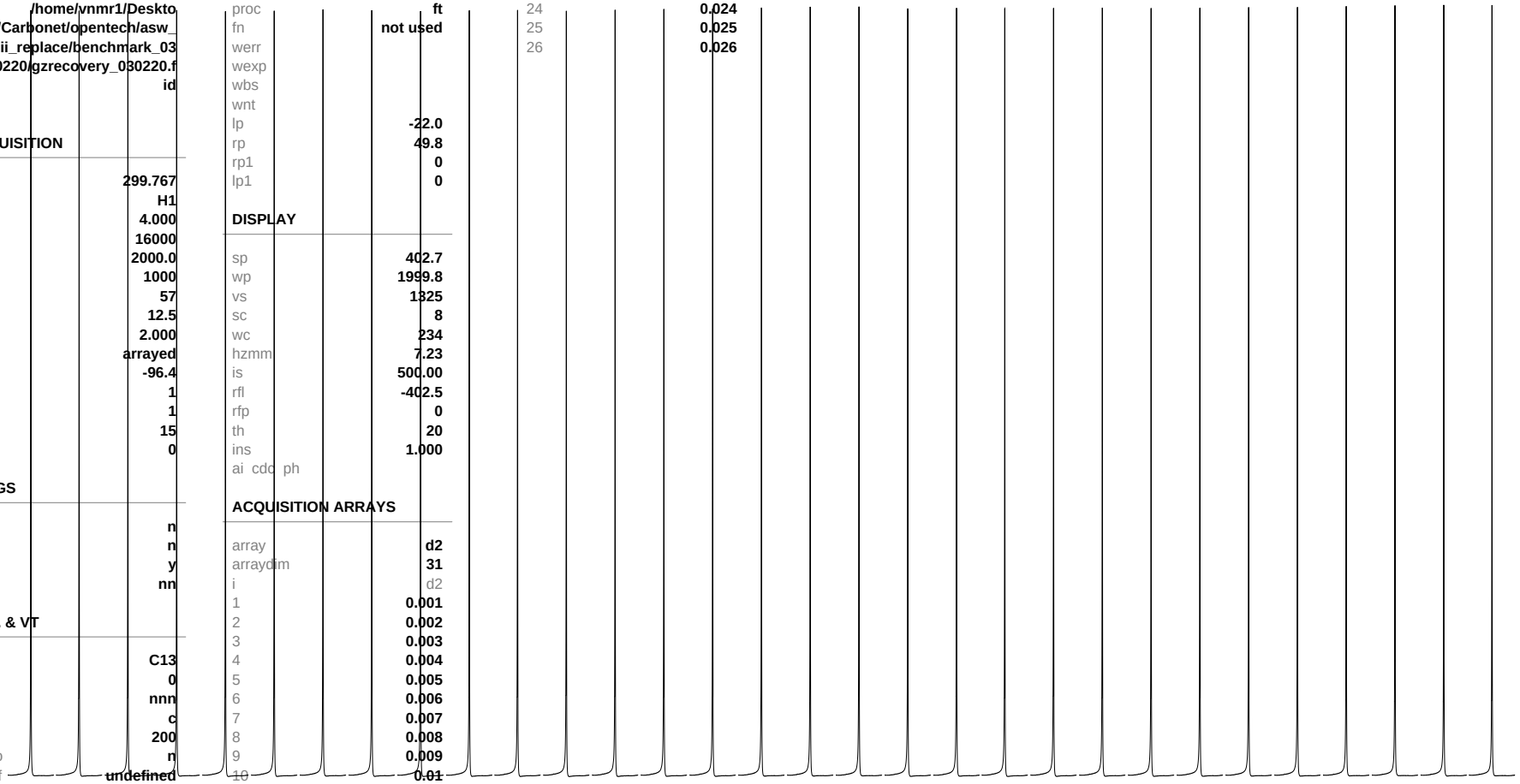
DISPLAY

sp	**402.7**
wp	**1999.8**
vs	**1325**
sc	**8**
wc	**234**
hzmm	**7.23**
is	**500.00**
rfl	**-402.5**
rfp	**0**
th	**20**
ins	**1.000**
ai cdc ph	

ACQUISITION ARRAYS

array	**d2**
arraydim	**31**

i	d2
1	**0.001**
2	**0.002**
3	**0.003**
4	**0.004**
5	**0.005**
6	**0.006**
7	**0.007**
8	**0.008**
9	**0.009**
10	**0.01**
11	**0.011**
12	**0.012**
13	**0.013**
14	**0.014**
15	**0.015**
16	**0.016**
17	**0.017**
18	**0.018**
19	**0.019**
20	**0.02**
21	**0.021**
22	**0.022**
23	**0.023**
24	**0.024**
25	**0.025**
26	**0.026**
27	**0.027**
28	**0.028**
29	**0.029**
30	**0.03**
31	**1**



OpenVnmrJ

Sample Name		Pulse sequence **s2pul**	Temperature **24**	Study owner **vnmr1**
Date collected **2020-03-02**	Solvent **cdcl3**	Spectrometer **Inova400.elevance.com-inova300**	Operator **vnmr1**

1H SENSITIVITY
0.1%Ethylbenzene in CDCl3
S/N = 113:1

SAMPLE

date	**Mar 2 2020**
solvent	**cdcl3**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/h1sn_030220.fid**

ACQUISITION

sfrq	**299.766**
tn	**H1**
at	**2.000**
np	**16026**
sw	**4006.4**
fb	**2000**
pw	**13.8**
pw	**13.8**
tpwr	**57**
d1	**0**
tof	**0**
nt	**1**
ct	**1**
alock	**n**
gain	**40**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

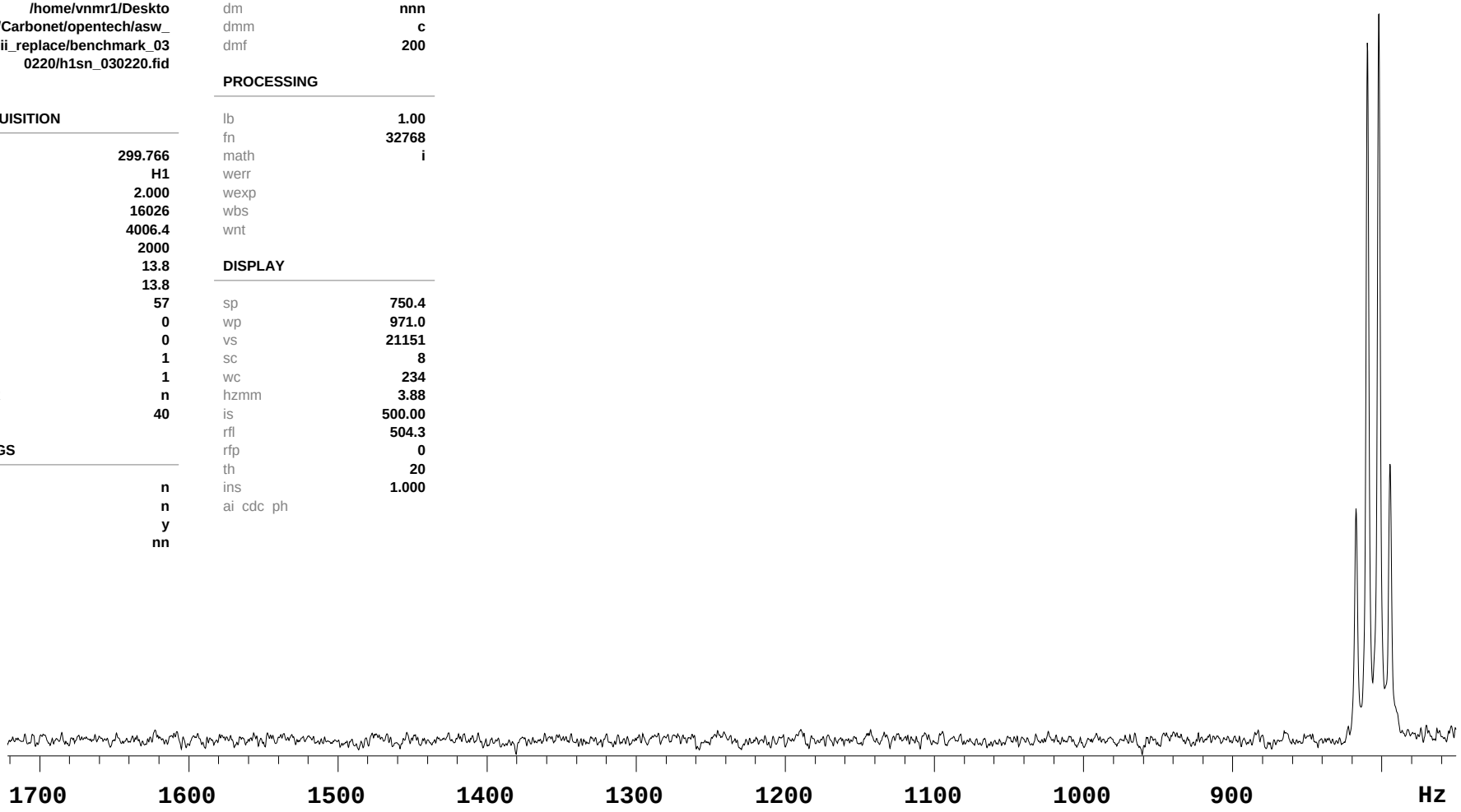
dn	**H1**
dof	**-776.0**
dm	**nnn**
dmm	**c**
dmf	**200**

PROCESSING

lb	**1.00**
fn	**32768**
math	**i**
werr	
wexp	
wbs	
wnt	

DISPLAY

sp	**750.4**
wp	**971.0**
vs	**21151**
sc	**8**
wc	**234**
hzmm	**3.88**
is	**500.00**
rfl	**504.3**
rfp	**0**
th	**20**
ins	**1.000**
ai cdc ph	



OpenVnmrJ

Sample Name		Pulse sequence	**s2pul**	Temperature	**24**	Study owner	**vnmr1**
Date collected	**2020-03-02**	Solvent	**cdcl3**	Spectrometer	**Inova400.elevance.com-inova300**	Operator	**vnmr1**

1H Bird Test

SAMPLE

date	**Mar 2 2020**
solvent	**cdcl3**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/h1bird_030220.fid**

ACQUISITION

sfrq	**299.761**
tn	**H1**
at	**2.000**
np	**16026**
sw	**4006.4**
fb	**2000**
pw	**0**
tpwr	**57**
d1	**0**
tof	**arrayed**
nt	**1**
ct	**1**
alock	**n**
gain	**40**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

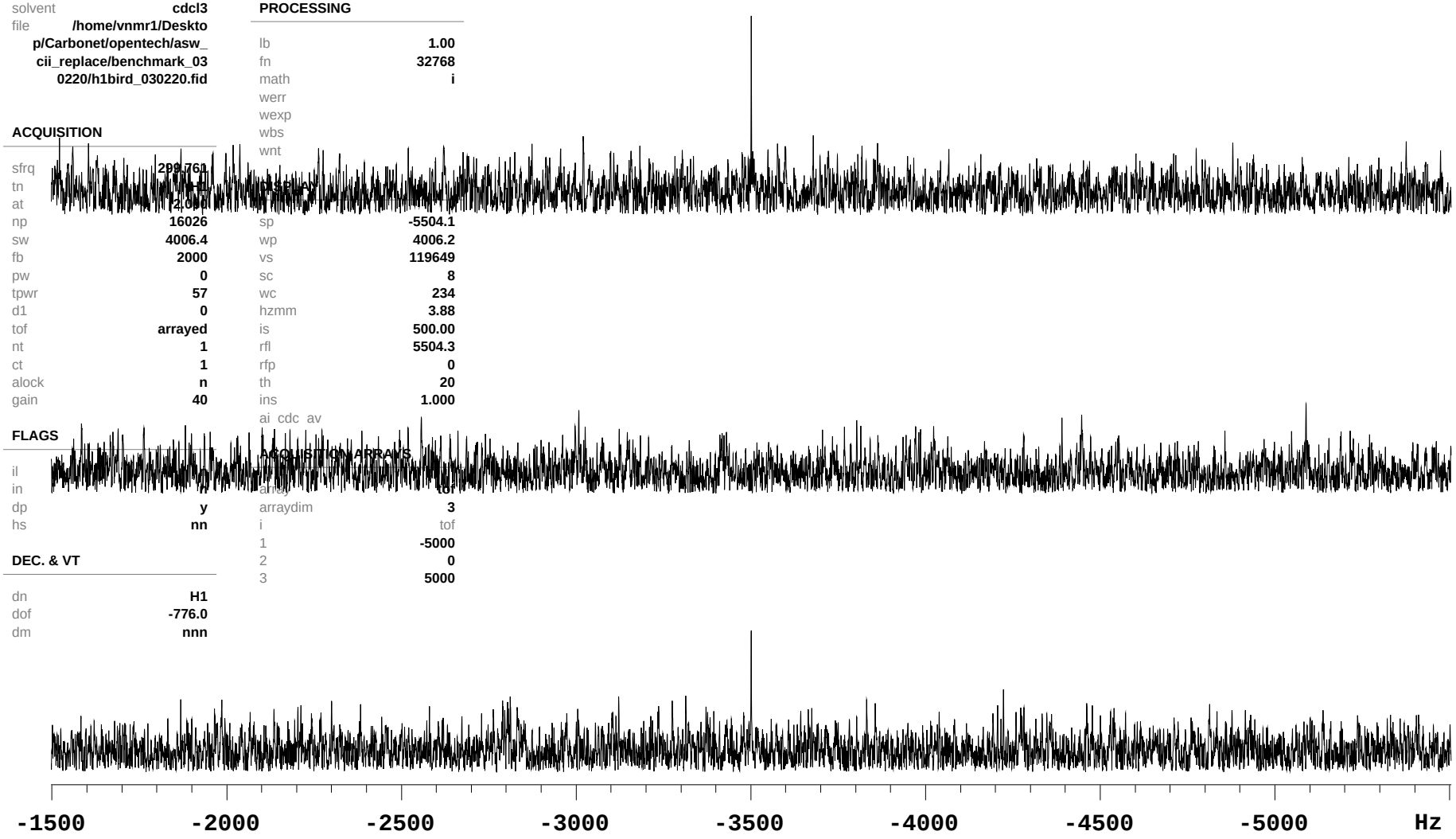
dn	**H1**
dof	**-776.0**
dm	**nnn**
dmm	**c**
dmf	**200**

PROCESSING

lb	**1.00**
fn	**32768**
math	**i**
werr	
wexp	
wbs	
wnt	
sp	**-5504.1**
wp	**4006.2**
vs	**119649**
sc	**8**
wc	**234**
hzmm	**3.88**
is	**500.00**
rfl	**5504.3**
rfp	**0**
th	**20**
ins	**1.000**
ai cdc av	

ACQUISITION ARRAYS

array	**tof**
arraydim	**3**
i	tof
1	**-5000**
2	**0**
3	**5000**



OpenVnmrJ

Sample Name		Pulse sequence	**s2pul**	Temperature	**24**	Study owner	**vnmr1**
Date collected	**2020-03-02**	Solvent	**c6d6**	Spectrometer	**Inova400.elevance.com-inova300**	Operator	**vnmr1**

13C PW90
40% Dioxane in Benzene-d6
pw=18us tpwr=62

SAMPLE

date	**Mar 2 2020**
solvent	**c6d6**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/c13pw90_030220.fid**

ACQUISITION

sfrq	**75.381**
tn	**C13**
at	**0.400**
np	**12820**
sw	**16025.6**
fb	**9000**
pw	**18.0**
pw	**36.0**
tpwr	**62**
d1	**5.000**
tof	**-2113.7**
nt	**1**
ct	**1**
alock	**n**
gain	**25**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

dn	**H1**
dof	**-121.0**
dm	**nnn**
dmm	**c**
dmf	**200**

PROCESSING

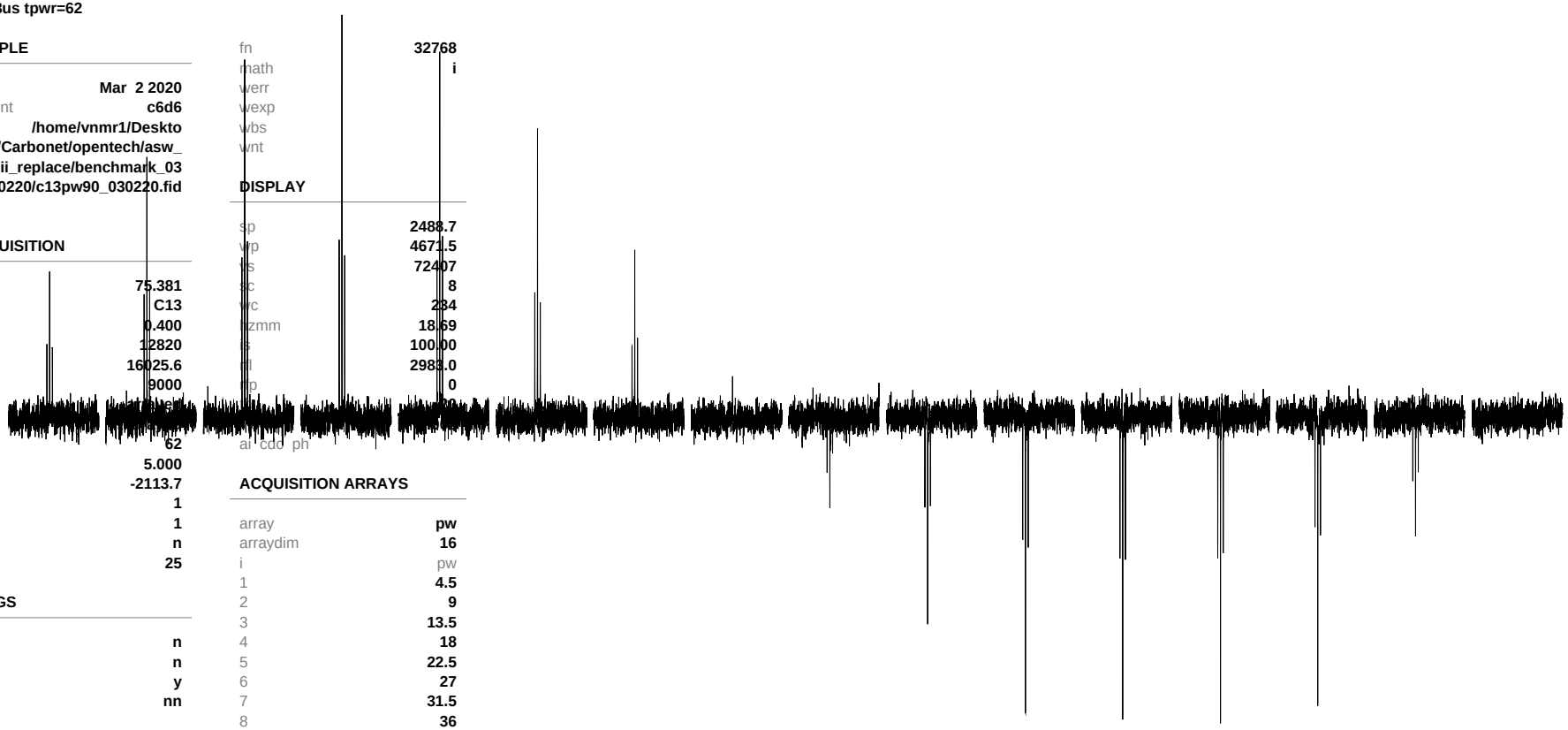
lb	**3.50**
fn	**32768**
math	**i**
werr	
wexp	
wbs	
wnt	

DISPLAY

sp	**2488.7**
wp	**4671.5**
vs	**72407**
sc	**8**
wc	**234**
hzmm	**18.69**
is	**100.00**
rfl	**2983.0**
rfp	**0**
th	**0**
ai cdc ph	

ACQUISITION ARRAYS

array	**pw**
arraydim	**16**
i	pw
1	**4.5**
2	**9**
3	**13.5**
4	**18**
5	**22.5**
6	**27**
7	**31.5**
8	**36**
9	**40.5**
10	**45**
11	**49.5**
12	**54**
13	**58.5**
14	**63**
15	**67.5**
16	**72**



OpenVnmrJ

Sample Name		Pulse sequence **s2pul**	Temperature **24**	Study owner **vnmr1**
Date collected **2020-03-02**	Solvent **c6d6**	Spectrometer **Inova400.elevance.com-inova300**	Operator **vnmr1**

13C SENSITIVITY
40% Dioxane in Benzene-d6
S/N = 91:1

SAMPLE

date	**Mar 2 2020**
solvent	**c6d6**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/c13sn_030220.fid**

ACQUISITION

sfrq	**75.383**
tn	**C13**
at	**0.400**
np	**12820**
sw	**16025.6**
fb	**9000**
pw	**18.0**
pw	**18.0**
tpwr	**62**
d1	**5.000**
tof	**0**
nt	**1**
ct	**1**
alock	**n**
gain	**40**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

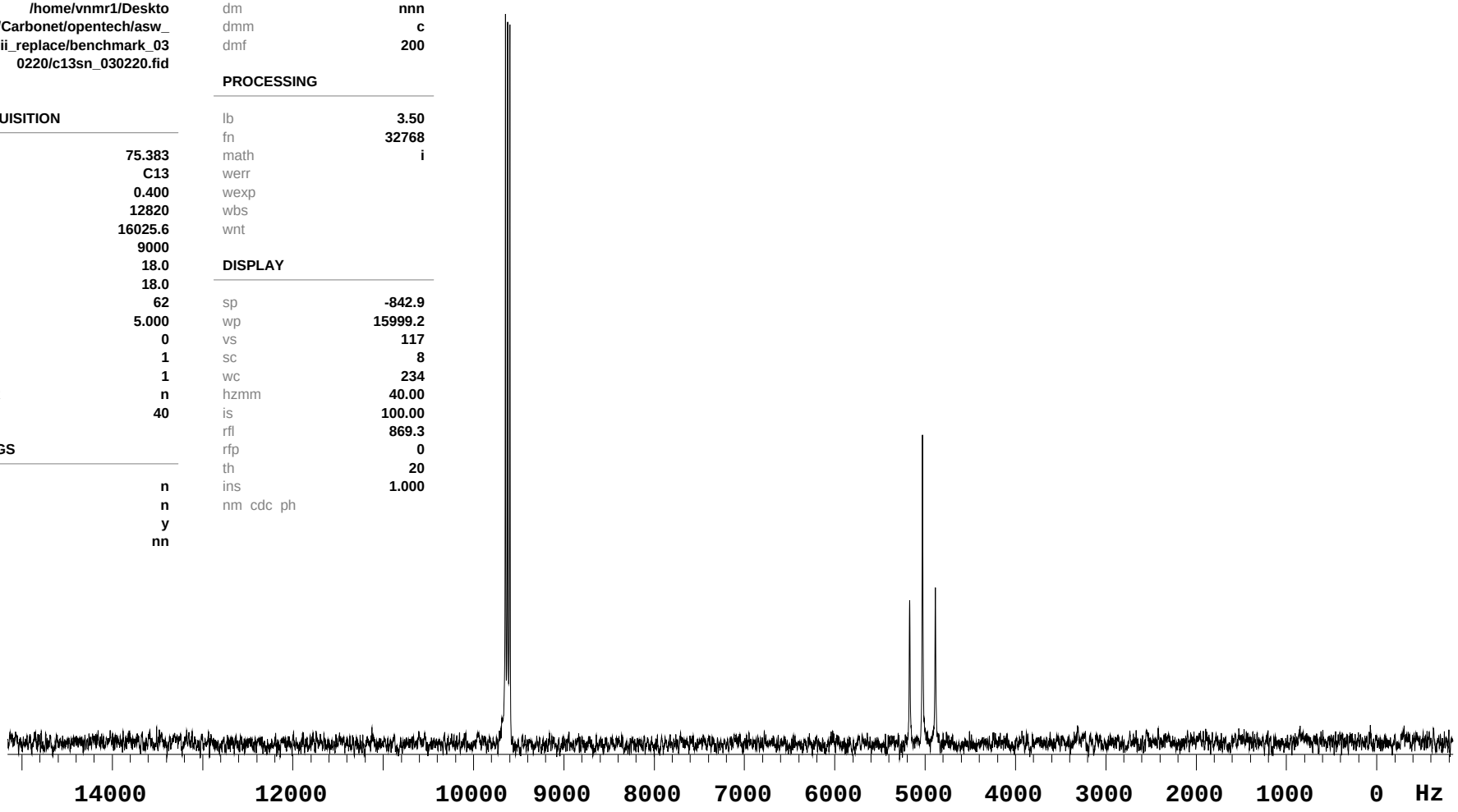
dn	**H1**
dof	**-121.0**
dm	**nnn**
dmm	**c**
dmf	**200**

PROCESSING

lb	**3.50**
fn	**32768**
math	**i**
werr	
wexp	
wbs	
wnt	

DISPLAY

sp	**-842.9**
wp	**15999.2**
vs	**117**
sc	**8**
wc	**234**
hzmm	**40.00**
is	**100.00**
rfl	**869.3**
rfp	**0**
th	**20**
ins	**1.000**
nm cdc ph	



OpenVnmrJ

Sample Name		Pulse sequence **s2pul**	Temperature **24**	Study owner **vnmr1**
Date collected **2020-03-02**	Solvent **c6d6**	Spectrometer **Inova400.elevance.com-inova300**	Operator **vnmr1**

13C GamaH2
amma-H2 calculation
See J. Magnetic Resonance 7:442 (1972)
J0 = 142.00 Hz, dof[1] = -2003.00 Hz, dof[2] = 997.00 Hz
Jr[1] = 73.00 Hz, Jr[2] = 73.00 Hz

Gamma-H2 = 2502.72 Hz
90 degree pulse = 99.9 usec
coalescence frequency = -503.00 Hz

SAMPLE

date	**Mar 2 2020**
solvent	**c6d6**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/gamah2_030220.fid**

ACQUISITION

sfrq	**75.383**
tn	**C13**
at	**0.400**
np	**12820**
sw	**16025.6**
fb	**9000**
pw	**18.0**
pw	**18.0**
tpwr	**62**
d1	**5.000**
tof	**0**
nt	**1**
ct	**1**
alock	**n**
gain	**50**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

dn	**H1**
dof	**arrayed**
dm	**y**
dmm	**c**
dmf	**200**
dpwr	**42**

PROCESSING

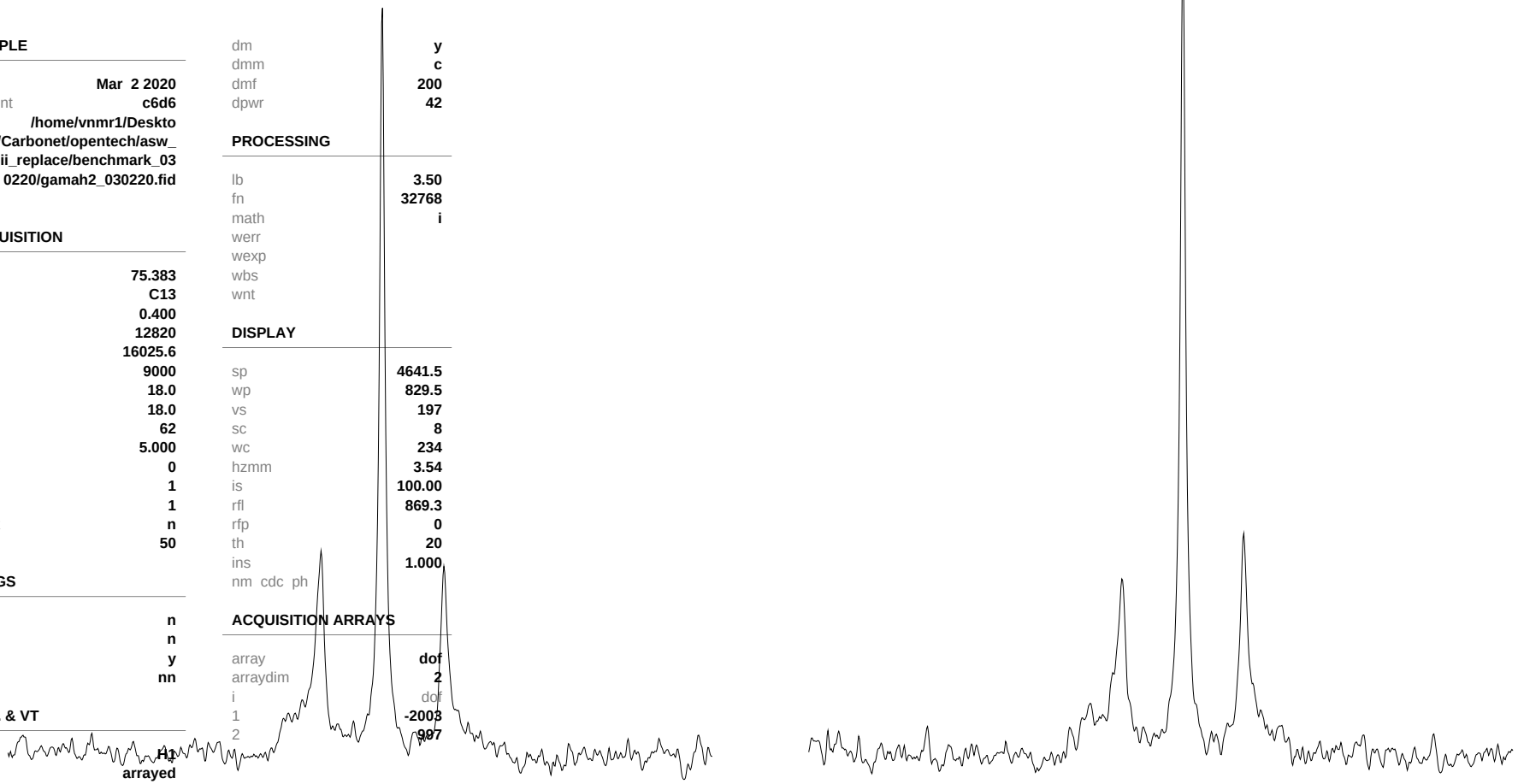
lb	**3.50**
fn	**32768**
math	**i**
werr	
wexp	
wbs	
wnt	

DISPLAY

sp	**4641.5**
wp	**829.5**
vs	**197**
sc	**8**
wc	**234**
hzmm	**3.54**
is	**100.00**
rfl	**869.3**
rfp	**0**
th	**20**
ins	**1.000**
nm cdc ph	

ACQUISITION ARRAYS

array	**dof**
arraydim	**2**
i	dof
1	**-2003**
2	**997**



OpenVnmrJ

Sample Name		Pulse sequence	**s2pul**	Temperature	**24**	Study owner	**vnmr1**
Date collected	**2020-03-02**	Solvent	**c6d6**	Spectrometer	**Inova400.elevance.com-inova300**	Operator	**vnmr1**

13C Waltz Test

SAMPLE

date	**Mar 2 2020**
solvent	**c6d6**
file	**/home/vnmr1/Desktop/Carbonet/opentech/asw_cii_replace/benchmark_030220/waltz_030220.fid**

ACQUISITION

sfrq	**75.383**
tn	**C13**
at	**0.400**
np	**12820**
sw	**16025.6**
fb	**9000**
pw	**18.0**
pw	**18.0**
tpwr	**62**
d1	**5.000**
tof	**0**
nt	**1**
ct	**1**
alock	**n**
gain	**50**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

dn	**H1**
dof	**arrayed**
dm	**y**
dmm	**w**
dmf	**10000**
dpwr	**42**

PROCESSING

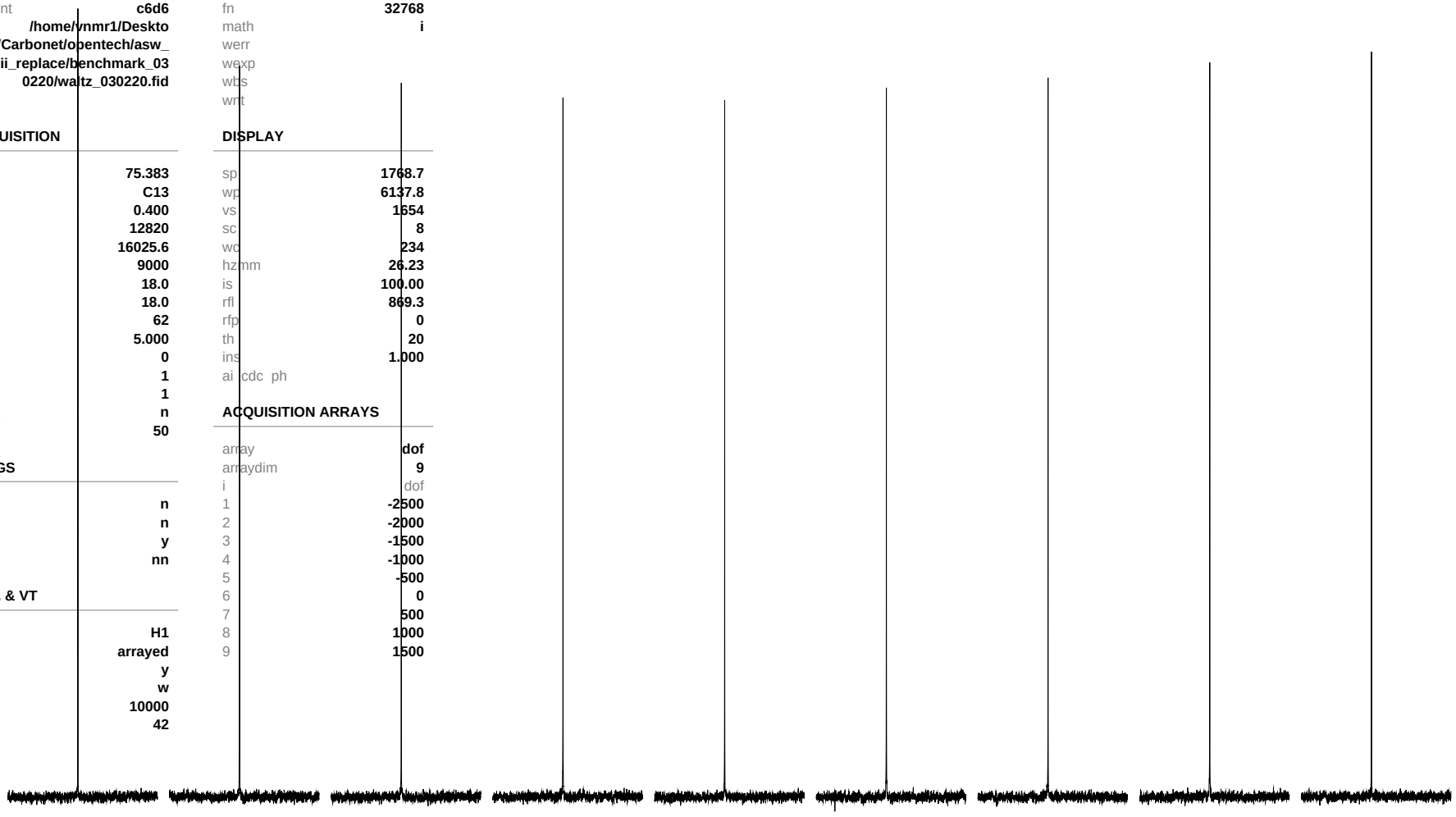
lb	**3.50**
fn	**32768**
math	**i**
werr	
wexp	
wbs	
wnt	

DISPLAY

sp	**1768.7**
wp	**6137.8**
vs	**1654**
sc	**8**
wc	**234**
hzmm	**26.23**
is	**100.00**
rfl	**869.3**
rfp	**0**
th	**20**
ins	**1.000**
ai cdc ph	

ACQUISITION ARRAYS

array	**dof**
arraydim	**9**
i	dof
1	**-2500**
2	**-2000**
3	**-1500**
4	**-1000**
5	**-500**
6	**0**
7	**500**
8	**1000**
9	**1500**



OpenVnmrJ

Sample Name		Pulse sequence **s2pul**	Temperature **24**	Study owner **vnmr1**
Date collected **2020-03-02**	Solvent **c6d6**	Spectrometer **Inova400.elevance.com-inova300**	Operator **vnmr1**

13C Bird Test

SAMPLE

date	**Mar 2 2020**
solvent	**c6d6**
file	**/home/vnmr1/Deskto p/Carbonet/opentech/asw_ cii_replace/benchmark_03 0220/c13bird_030220.fid**

ACQUISITION

sfrq	**[illegible]**
tn	**C13**
at	**0.200**
np	**12820**
sw	**16025.6**
fb	**9000**
pw	**0**
tpwr	**62**
d1	**5.000**
tof	**arrayed**
nt	**1**
ct	**1**
alock	**n**
gain	**50**

FLAGS

il	**n**
in	**n**
dp	**y**
hs	**nn**

DEC. & VT

dn	**H1**
dof	**-121.0**
dm	**nnn**

dmm	**c**
dmf	**200**

PROCESSING

lb	**3.50**
fn	**32768**
math	**i**
lvert	
lvert	

DISPLAY

sp	**-10868.3**
wp	**16024.7**
vs	**41**
sc	**8**
wc	**234**
hzmm	**40.00**
is	**100.00**
rfl	**10869.3**
rfp	**0**
th	**20**
vs	**1.000**
[illegible]	
[illegible]	
array	**tof**
arraydim	**3**
i	tof
1	**-10000**
2	**0**
3	**10000**