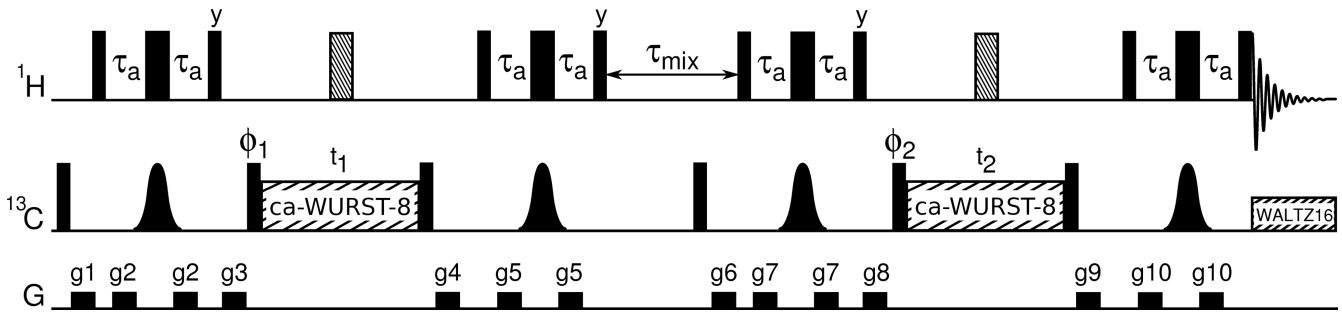
Supporting Information



Pulse scheme of 3D HSQC-NOESY-HSQC experiment used to record intra-residue Ile methyl-methyl NOEs ($H^{\delta 1}$-$H^{\gamma 2}$) in a highly deuterated $\alpha_7\alpha_7$ sample produced with U-^{13}C,^{1}H labeled Ile. Narrow and wide rectangular pulses have flip angles of 90° and 180°, respectively. All pulses are applied along the x-axis unless indicated otherwise. Cross-hatched bars indicate composite 180° pulses of the $90_x180_y90_x$ variety (Levitt & Freeman, 1978). ^{13}C and ^{1}H carriers are positioned at 15 and 0.8 ppm, respectively. Shaped ^{13}C pulses (1.85 ms at 800 MHz, 3.4 kHz peak field) are applied with the RE-BURP profile (Geen & Freeman, 1991) and invert only ^{13}C nuclei resonating between 10-20 ppm, without perturbation of Ile $^{13}C^{\beta}$ and $^{13}C^{\gamma 1}$ spins (25-40 ppm). Decoupling of $^{13}C^{\beta}$ and $^{13}C^{\gamma 1}$ spins during t_1/t_2 is achieved using a constant adiabaticity WURST-8 decoupling scheme (Kupce & Wagner, 1996), with a bandwidth of 15 ppm centered at 32.5 ppm (swept from 25 to 40 ppm). An additional equivalent field swept from 5 to -10 ppm (centered at -2.5 ppm) was applied as well that essentially eliminates decoupling artifacts that would otherwise manifest when only a single field centered at 32.5 ppm is applied (Kupce & Freeman, 1995; Zhang & Gorenstein, 1998). The $B_{1max}(B_{1rms})$ of the combined decoupling fields was 0.82(0.45)kHz. The phase cycle is ϕ_1=(x,-x);ϕ_2=2(x),2(-x);rec=(x,-x,-x,x). Quadrature detection in F_1 and F_2 was accomplished by incrementing ϕ_1 and ϕ_2, respectively, via the States-TPPI method (Marion et al., 1989). The INEPT transfer delay τ_a (extending to the center of the simultaneous $^{13}C/^{1}H$ 180° pulses) was set < $1/(4\cdot{}^{1}J_{CH})$ ~ 1.8 ms; a 75 ms NOE mixing time τ_{mix} was used to observe intra-residue NOEs. Pulsed-field gradients were applied along the z-axis with the

following strengths and durations (G/cm; ms): g1 = (10; 0.5), g2 = (5; 0.4), g3 = (-15; 1), g4 = (-18; 0.4), g5 = (15; 0.8), g6 = (6; 0.5), g7 = (8; 0.3), g8 = (7; 0.2), g9 = (10; 0.5), g10 = (12; 0.4).

References

Geen, H., & Freeman, R. (1991) Band-selective radiofrequency pulses. J. Magn. Reson. 93, 93-141.

Kupce, E., & Freeman, R. (1995) Stretched adiabatic pulses for broadband spin inversion. Journal of Magnetic Resonance Series A 117, 246-256.

Kupce, E., & Wagner, G. (1996) Multisite Band-Selective Decoupling in Proteins. J. Magn. Reson. B 110, 309-312.

Levitt, M., & Freeman, R. (1978) NMR population inversion using a composite pulse. J. Magn. Reson. 33, 473-476.

Marion, D., Ikura, M., Tschudin, R., & Bax, A. (1989) Rapid recording of 2D NMR spectra without phase cycling. Application to the study of hydrogen exchange in proteins. J. Magn. Reson. 85, 393-399.

Zhang, S. M., & Gorenstein, D. G. (1998) Bloch-Siegert shift compensated and cyclic irradiation sidebands eliminated, double-adiabatic homonuclear decoupling for C-13- and N-15-double-labeled proteins. Journal of Magnetic Resonance 132, 81-87.

Pulse sequence code:

```
/*  Ile_cg2_cd1_noesy_800_lek.c

    This pulse sequence will allow one to perform the following

    experiment:

    3D C(methyl,Ile) -  noesy - C(methyl,Ile) - H (methyl)

    Uses three channels:

         1)  1H             - 4.73 ppm

         2) 13C             - 15.5 ppm

         3) 15N             - 119.0 ppm

    Set dm = 'nnny', dmm = 'cccp' [13C decoupling during acquisition].

    Set dm2 = 'nnnn', dmm2 = 'cccp'.

    F1: 13C methyl

    F2: 13C methyl

    F3: 1H  methyl

    Modified from methyl_3d_noesy_600_v2.c by LEK on July 21, 2010

    Sequence written to be able to observe Ile-d1 Ile-cg2 noes and given that d1's
   are assigned

     enable the assignment of cg2's.
```

```
   To calibrate:


     pwc at dhpwr=63


     pwc_reb at d_reb, sh_reb as a selective reburp pulse to invert between 10-20
    ppm so as

      to minimize the sw needed


     Cb decoupling: CAWURST-8 between 40-25 ppm and 6-(-9) ppm to compensate for bs
    (use pbox)


*/


#include <standard.h>


static int  phi1[2] = {0,2},

            phi2[4] = {0,0,2,2},

            rec[4]  = {0,2,2,0};


static double d2_init=0.0, d3_init=0.0;


pulsesequence()

{

/* DECLARE VARIABLES */


 char       fsat[MAXSTR],

            fscuba[MAXSTR],

            f1180[MAXSTR],    /* Flag to start t1 @ halfdwell         */

            f2180[MAXSTR],    /* Flag to start t2 @ halfdwell         */

            sh_reb[MAXSTR],   /* reburp for inversion during first inept     */

            c180_flga[MAXSTR],
```

```
            c180_flgb[MAXSTR],
            mess_flg[MAXSTR],

            cbdec[MAXSTR];

int         phase, phase2, t2_counter, ni2, ni,
            t1_counter;   /* used for states tppi in t2,t1        */

double      tau1,         /*  t1 delay */
            tau2,         /*  t2 delay */
            taua,         /*  ~ 1/4JCH =  1.7 ms; first inept */
            mix,    /* noesy mixing time */
            pwc,          /* 90 c pulse at dhpwr            */
            tsatpwr,      /* low level 1H trans.power for presat  */
            dhpwr,        /* power level for high power 13C pulses on dec1 */
            sw1,          /* sweep width in f1                    */
            sw2,          /* sweep width in f2                    */

            d_reb,
            pwc_reb,

            dhpwr2,
            pwn,

            tpwrmess,
            dly_pg1,

            tof_me,
```

```
            dpwr_cb,
            dmf_cb,
            dres_cb,

            gt0,
            gt1,
            gt2,
            gt3,
            gt4,
            gt5,
            gt6,
            gt7,
            gt8,
            gt9,
            gt10,

            gzlvl0,
            gzlvl1,
            gzlvl2,
            gzlvl3,
            gzlvl4,
            gzlvl5,
            gzlvl6,
            gzlvl7,
            gzlvl8,
            gzlvl9,
            gzlvl10;

/* LOAD VARIABLES */
```

```
getstr("fsat",fsat);
getstr("f1180",f1180);
getstr("f2180",f2180);
getstr("fscuba",fscuba);
getstr("mess_flg",mess_flg);
getstr("c180_flga",c180_flga);
getstr("c180_flgb",c180_flgb);

getstr("sh_reb",sh_reb);
getstr("cbdec",cbdec);

taua   = getval("taua");
mix   = getval("mix");
pwc = getval("pwc");
tpwr = getval("tpwr");
tsatpwr = getval("tsatpwr");
dhpwr = getval("dhpwr");
dpwr = getval("dpwr");
phase = (int) ( getval("phase") + 0.5);
phase2 = (int) ( getval("phase2") + 0.5);
sw1 = getval("sw1");
sw2 = getval("sw2");
ni2 = getval("ni2");
ni  = getval("ni");

d_reb = getval("d_reb");
pwc_reb = getval("pwc_reb");

dhpwr2 = getval("dhpwr2");
```

```
pwn = getval("pwn");


tpwrmess = getval("tpwrmess");
dly_pg1 = getval("dly_pg1");


tof_me = getval("tof_me");


dpwr_cb = getval("dpwr_cb");
dmf_cb = getval("dmf_cb");
dres_cb = getval("dres_cb");


gt0 = getval("gt0");
gt1 = getval("gt1");
gt2 = getval("gt2");
gt3 = getval("gt3");
gt4 = getval("gt4");
gt5 = getval("gt5");
gt6 = getval("gt6");
gt7 = getval("gt7");
gt8 = getval("gt8");
gt9 = getval("gt9");
gt10 = getval("gt10");


gzlvl0 = getval("gzlvl0");
gzlvl1 = getval("gzlvl1");
gzlvl2 = getval("gzlvl2");
gzlvl3 = getval("gzlvl3");
gzlvl4 = getval("gzlvl4");
gzlvl5 = getval("gzlvl5");
gzlvl6 = getval("gzlvl6");
```

```
  gzlvl7 = getval("gzlvl7");
  gzlvl8 = getval("gzlvl8");
  gzlvl9 = getval("gzlvl9");
  gzlvl10 = getval("gzlvl10");

/* LOAD PHASE TABLE */

  settable(t1,2,phi1);
  settable(t2,4,phi2);
  settable(t9,4,rec);

/* CHECK VALIDITY OF PARAMETER RANGES */

    if((dm[A] == 'y' || dm[B] == 'y' || dm[C] == 'y' ))
    {
        printf("incorrect dec1 decoupler flags!  ");
        abort(1);
    }

    if((dm2[A] == 'y' || dm2[B] == 'y' || dm2[C] == 'y'))
    {
        printf("incorrect dec2 decoupler flags!  ");
        abort(1);
    }

    if( tsatpwr > 6 )
    {
        printf("TSATPWR too large !!!  ");
        abort(1);
```

```
    }

    if( dpwr > 48 )
    {
        printf("don't fry the probe, DPWR too large!  ");
        abort(1);
    }

    if( d_reb > 54 )
    {
        printf("don't fry the probe, d_reb too large!  ");
        abort(1);
    }

    if( dpwr2 > 49 )
    {
        printf("don't fry the probe, DPWR2 too large!  ");
        abort(1);
    }

    if(gt0 > 3e-3 || gt1 > 3e-3  || gt2 > 3e-3 || gt3 > 3e-3 ||
        gt4 > 3e-3 || gt5 > 3e-3 || gt6 > 3e-3 ||
        gt7 > 3e-3 || gt8 > 3e-3 || gt9 > 3e-3)
    {
        printf("gradients on for too long. Must be < 3e-3 \n");
        abort(1);
    }

/*  Phase incrementation for hypercomplex 2D data */
```

```
    if (phase2 == 2)
      tsadd(t2,1,4);

    if (phase == 2)
      tsadd(t1,1,4);

/* Calculate modifications to phases for States-TPPI acquisition          */

   if( ix == 1) d2_init = d2 ;
   t1_counter = (int) ( (d2-d2_init)*sw1 + 0.5 );
   if(t1_counter % 2) {
      tsadd(t1,2,4);
      tsadd(t9,2,4);
    }

   if( ix == 1) d3_init = d3 ;
   t2_counter = (int) ( (d3-d3_init)*sw2 + 0.5 );
   if(t2_counter % 2) {
      tsadd(t2,2,4);
      tsadd(t9,2,4);
    }

/*  Set up f2180  tau2 = t2               */

    tau2 = d3;


    if(f2180[A] == 'y') {
        tau2 += ( 1.0 / (2.0*sw2) );
```

```
    }

    tau2 = tau2 - 4.0/PI*pwc - 4.0*pw - POWER_DELAY - 2.0e-6
            - PRG_START_DELAY - PRG_STOP_DELAY - POWER_DELAY - 4.0e-6;

    if(tau2 < 0.4e-6) tau2 = 0.4e-6;
    tau2 = tau2/2.0;

/*  Set up f1180  tau1 = t1                */

    tau1 = d2;
    if(f1180[A] == 'y') {
        tau1 += ( 1.0 / (2.0*sw1) );
    }

    tau1 = tau1 - 4.0/PI*pwc - 4.0*pw - POWER_DELAY - 2.0e-6
            - PRG_START_DELAY - PRG_STOP_DELAY - POWER_DELAY - 4.0e-6;

    if(tau1 < 0.4e-6) tau1 = 0.4e-6;
    tau1 = tau1/2.0;

/* BEGIN ACTUAL PULSE SEQUENCE */

status(A);
   offset(dof,DODEV);
   rlpower(tsatpwr,TODEV);     /* Set transmitter power for 1H presaturation */
   rlpower(dhpwr,DODEV);       /* Set Dec1 power for hard 13C pulses         */
   rlpower(dhpwr2,DO2DEV);     /* Set Dec2 power for 15N pulses       */

/* Presaturation Period */
```

```
status(B);

   if (mess_flg[A] == 'y') {

      rlpower(tpwrmess,TODEV);
      txphase(zero);
      rgpulse(dly_pg1,zero,2.0e-6,2.0e-6);
      txphase(one);
      rgpulse(dly_pg1/1.62,one,2.0e-6,2.0e-6);

      delay(4.0e-6);
      rgradient('z',gzlvl0);
      delay(gt0);
      rgradient('z',0.0);
      delay(250.0e-6);

      rlpower(tsatpwr,TODEV);
   }

   if (fsat[0] == 'y')
   {
        delay(2.0e-5);
        rgpulse(d1,zero,2.0e-6,2.0e-6); /* presat */
        rlpower(tpwr,TODEV);    /* Set transmitter power for hard 1H pulses */
        delay(2.0e-5);
        if(fscuba[0] == 'y')
        {
                delay(2.2e-2);
```

```
                rgpulse(pw,zero,2.0e-6,0.0);
                rgpulse(2*pw,one,2.0e-6,0.0);
                rgpulse(pw,zero,2.0e-6,0.0);
                delay(2.2e-2);
        }
    }
    else
    {
     delay(d1);
    }

    rlpower(tpwr,TODEV);          /* Set transmitter power for hard 1H pulses */
    txphase(zero);
    dec2phase(zero);
    decphase(zero);
    delay(1.0e-5);

/* Begin Pulses */

status(C);

    obsoffset(tof_me);

    rcvroff();
    delay(20.0e-6);

/* first ensure that magnetization does infact start on H and not C */

    decrgpulse(pwc,zero,2.0e-6,2.0e-6);
```

```
   delay(2.0e-6);
   rgradient('z',gzlvl1);
   delay(gt1);
   rgradient('z',0.0);
   delay(250.0e-6);

   decpower(d_reb);   /* set power for reburp during inept */
   delay(4e-6);

/* this is the real start */

   rgpulse(pw,zero,0.0,0.0);                    /* 90 deg 1H pulse */

   delay(2.0e-6);
   rgradient('z',gzlvl2);
   delay(gt2);
   rgradient('z',0.0);
   delay(100.0e-6);

   delay(taua - gt2 - 102.0e-6 - WFG2_START_DELAY - 0.5*pwc_reb);    /* taua <=
    1/4JCH */

   simshaped_pulse("hard",sh_reb,2.0*pw,pwc_reb,zero,zero,0.0,0.0);

   txphase(one); decphase(t1);
   decpower(dhpwr);

   delay(2.0e-6);
   rgradient('z',gzlvl2);
   delay(gt2);
```

```
rgradient('z',0.0);
delay(100.0e-6);

delay(taua - gt2 - 102.0e-6 - 0.5*pwc_reb - WFG2_STOP_DELAY - POWER_DELAY);

rgpulse(pw,one,0.0,0.0);
txphase(zero);

delay(2.0e-6);
rgradient('z',gzlvl3);
delay(gt3);
rgradient('z',0.0);
delay(200.0e-6);

decrgpulse(pwc,t1,0.0,0.0);
decphase(zero);

if(c180_flga[A] == 'n') {

/* Cb decoupling on */
decpower(dpwr_cb);
decprgon(cbdec,1.0/dmf_cb,dres_cb);
decon();
/* Cb decoupling on */

delay(tau1);

rgpulse(pw,zero,0.0,0.0);
rgpulse(2.0*pw,one,0.0,0.0);
```

```
rgpulse(pw,zero,0.0,0.0);

delay(tau1);

/* Cb decoupling off */
decoff();
decprgoff();
/* Cb decoupling off */

decpower(dhpwr);

}

decrgpulse(pwc,zero,4.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlvl4);
delay(gt4);
rgradient('z',0.0);
delay(200.0e-6);

decpower(d_reb);   /* set power for reburp during inept */

rgpulse(pw,zero,0.0,0.0);

delay(2.0e-6);
rgradient('z',gzlvl5);
delay(gt5);
rgradient('z',0.0);
delay(100.0e-6);
```

```
delay(taua - gt5 - 102.0e-6 - WFG2_START_DELAY - 0.5*pwc_reb);    /* taua <=
 1/4JCH */


simshaped_pulse("hard",sh_reb,2.0*pw,pwc_reb,zero,zero,0.0,0.0);


txphase(one);

decpower(dhpwr);


delay(2.0e-6);

rgradient('z',gzlvl5);

delay(gt5);

rgradient('z',0.0);

delay(100.0e-6);


delay(taua - gt5 - 102.0e-6 - 0.5*pwc_reb - WFG2_STOP_DELAY - POWER_DELAY);


rgpulse(pw,one,0.0,0.0);

txphase(zero);


delay(mix - gt6 - 352.0e-6);

decrgpulse(pwc,zero,0.0,0.0);


delay(2.0e-6);

rgradient('z',gzlvl6);

delay(gt6);

rgradient('z',0.0);

delay(350.0e-6);


decpower(d_reb); /* set power level for reburp */
```

```
rgpulse(pw,zero,0.0,0.0);                    /* 90 deg 1H pulse */


delay(2.0e-6);

rgradient('z',gzlvl7);

delay(gt7);

rgradient('z',0.0);

delay(100.0e-6);


delay(taua - gt7 - 102.0e-6 - WFG2_START_DELAY - 0.5*pwc_reb);    /* taua <=
 1/4JCH */


simshaped_pulse("hard",sh_reb,2.0*pw,pwc_reb,zero,zero,0.0,0.0);


txphase(one); decphase(t2);

decpower(dhpwr);


delay(2.0e-6);

rgradient('z',gzlvl7);

delay(gt7);

rgradient('z',0.0);

delay(100.0e-6);


delay(taua - gt7 - 102.0e-6 - 0.5*pwc_reb - WFG2_STOP_DELAY - POWER_DELAY);


rgpulse(pw,one,0.0,0.0);

txphase(zero);


delay(2.0e-6);

rgradient('z',gzlvl8);
```

```
delay(gt8);
rgradient('z',0.0);
delay(200.0e-6);

decrgpulse(pwc,t2,2.0e-6,0.0);
decphase(zero);

if(c180_flgb[A] == 'n') {

/* Cb decoupling on */
decpower(dpwr_cb);
decprgon(cbdec,1.0/dmf_cb,dres_cb);
decon();
/* Cb decoupling on */

delay(tau2);

rgpulse(pw,zero,0.0,0.0);
rgpulse(2.0*pw,one,0.0,0.0);
rgpulse(pw,zero,0.0,0.0);

delay(tau2);

/* Cb decoupling off */
decoff();
decprgoff();
/* Cb decoupling off */

decpower(dhpwr);
```

```
}

decrgpulse(pwc,zero,4.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlvl9);
delay(gt9);
rgradient('z',0.0);
delay(200.0e-6);

decpower(d_reb);   /* set power for reburp during inept */

rgpulse(pw,zero,0.0,0.0);

delay(2.0e-6);
rgradient('z',gzlvl10);
delay(gt10);
rgradient('z',0.0);
delay(100.0e-6);

delay(taua - gt10 - 102.0e-6 - WFG2_START_DELAY - 0.5*pwc_reb);    /* taua <=
 1/4JCH */

simshaped_pulse("hard",sh_reb,2.0*pw,pwc_reb,zero,zero,0.0,0.0);

delay(2.0e-6);
rgradient('z',gzlvl10);
delay(gt10);
rgradient('z',0.0);
```

```
   delay(100.0e-6);

   delay(taua - gt10 - 102.0e-6 - 0.5*pwc_reb - WFG2_STOP_DELAY - 2.0*POWER_DELAY);

   decpower(dpwr);  /* Set power for decoupling */
   dec2power(dpwr2);  /* Set power for decoupling */

   rgpulse(pw,zero,0.0,rof2);

/* BEGIN ACQUISITION */

status(D);
setreceiver(t9);

}
```

Varian procpar file:

```
gzlvl8 1 1 32768 -32768 1 2 1 0 1 64
1 7000
0
dn2 2 2 8 0 0 2 1 8 1 64
1 "N15"
0
dco90pwr 7 1 32767 0 0 2 1 0 1 64
1 52
0
cf 7 1 32767 0 1 3 1 1 0 64
1 1
0
awc1 1 1 1 -1 0.001 3 1 1 0 64
```

```
1 0

0

array 2 2 256 0 0 2 1 1 1 64

1 "phase2,phase"

0

alock 2 2 8 0 0 2 1 0 1 64

1 "n"

5 "a" "n" "s" "u" "y"

aig 2 2 2 0 0 4 1 1 1 64

1 "ai"

2 "nm" "ai"

acqdim 7 1 1000000000 -1000000000 0 2 1 0 1 64

1 3

0

acqcycles 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64

1 4096

0

acqstatus 7 1 32767 0 0 2 1 0 1 64

2 17 1

0

alfa 6 1 8190 -8190 0.0125 2 1 2 1 64

1 4.8125

0

ap 2 2 1023 0 0 4 1 6 1 64

1                                                    "1:SAMPLE:date,solvent,file;1:3D
    ACQUISITION:sw:1,sw1:1,sw2:1,ni:0,ni2:0,phase:0,phase2:0,at:3,np:0,ss:0,nt:0,ct
    :0;1:CHANNEL
    1:sfrq:3,tn,tof:1,tpwr:0,mlevpwr:0,tsatpwr:0,pw:1,pwmlev:1;1:CHANNEL
    2:dfrq:3,dn,dof:1,dpwr:0,dlowpwr:0,pwx1:1,dm,dmm,dmf:0,dseq,homo;2:DELAYS:d1:3,
    d2:3,d3:3,hscuba:3,mixnoe:3,mixshift:3,mixmlev:3,trim:3,jxh:1;1:FLAGS:fscuba,fm
    lev,fnoesy,dp,hs;2:2D   DISPLAY:sp1:1,wp1:1,sc2:0,wc2:0,rfl1:1,rfp1:1;2:DEC.   &
    VT:dn:2,dof:1,dm,dmm,dmf,dpwr(dpwr):0,pwxlvl:0,pwx:1,dlp(dlp):0,homo,temp(temp)
    :1,satflg,satdly:3,satfrq:1,satpwr:0;2:PROCESSING:cf(nf):0,lb(lb):2,sb(sb):3,sb
    s(sb):3,gf(gf):3,gfs(gf):3,awc(awc):3,lsfid(lsfid):0,phfid(phfid):1,wtfile,proc
    ,fn:0,math,,werr,wexp,wbs,wnt;2(ni):2D
```

```
    PROCESSING:lb1(lb1):2,sb1(sb1):3,sbs1(sb1):3,gf1(gf1):3,gfs1(gf1):3,awc1(awc1):
    3,wtfile1,proc1,fn1:0;2:DISPLAY:sp:1,wp:1,vs:0,sc:0,wc:0,hzmm:2,is:2,rfl:1,rfp:
    1,th:0,ins:3,aig*,dcg*,dmg*;"

0

ampmode 2 2 8 0 0 2 1 0 1 64

1 "dddp"

0

arrayelemts 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64

1 4

0

arraydim 7 1 32768 1 1 2 1 5 1 64

1 4096

0

at 1 1 14 14 14 2 1 8203 1 64

1 0.0640192500001

0

awc 1 1 1 -1 0.001 3 1 1 0 64

1 0

0

c180_flga 2 2 8 0 0 2 1 0 1 64

1 "n"

0

axisf 4 2 4 0 0 4 1 0 1 64

1 "s"

4 "m" "n" "s" "u"

axis 4 2 4 0 0 4 1 0 1 64

1 "p"

11 "c" "d" "1" "2" "3" "h" "k" "m" "n" "p" "u"

awc2 1 1 1 -1 0.001 3 1 1 0 64

1 0

0
```

```
c13_de 3 1 14 14 14 2 1 8192 1 64
1 0.001
0
bs 7 1 32767 0 1 2 1 0 0 64
1 16
0
cbdec 2 2 8 0 0 2 1 0 1 64
1 "cb_ad"
0
c180_flgb 2 2 8 0 0 2 1 0 1 64
1 "n"
0
celem 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 0
0
d4 3 1 14 14 14 2 1 8194 1 64
1 0
0
cr2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
console 2 2 8 0 0 2 1 0 1 64
1 "inova"
0
cofrq 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 10800
0
cr 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 -49645.2679535
```

```
0
cp 2 2 1 0 0 2 1 0 1 64
1 "y"
2 "y" "n"
cr1 1 1 1000000000 -1000000000 0 4 1 3 1 64
1 -613.603499887
0
cutoff 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 0 64
1 200
0
ct 7 1 1000000000 0 1 2 1 6 1 64
1 0
0
crf 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
d2 3 1 14 14 14 2 1 8194 1 64
1 0
0
d1 3 1 14 14 14 2 1 8194 1 64
1 1
0
d3 3 1 14 14 14 2 1 8194 1 64
1 0
0
date 2 2 9 0 0 2 1 1 1 64
1 "Jul 23 2010"
0
d_reb 1 1 9 9 9 2 1 8192 1 64
1 45
```

```
0

d_ibca 1 1 9 9 9 2 1 8192 1 64

1 46

0

dcg 2 2 3 0 0 4 1 1 1 64

1 ""

2 "dc" "cdc"

dcapwr 7 1 77 0 1 2 1 0 1 64

1 64

0

dm 4 2 4 0 0 2 1 0 1 64

1 "nnny"

4 "a" "n" "s" "y"

dg 2 2 1023 0 0 4 1 6 1 64

1                                                                    "1:SAMPLE:date;1:3D
    ACQUISITION:sw:1,sw1:1,sw2:1,ni:0,ni2:0,phase:0,phase2:0,np:0,ss:0,nt:0,at:3;2:
    SPECIAL:gain,temp:1,seqfil;2:DELAYS:taua:5,mix:5,d1:3,d2:6,d3:6,dly_pg1:6,tin,v
    twait;3:CHANNEL
    1:sfrq:3,tn,tof:1,tof_me:1,tpwr:0,tsatpwr:0,tpwrmess:0,pw:2,alfa:1;3:FLAGS:fsat
    ,fscuba,f1180,f2180,mess_flg,c180_flga,c180_flgb;4:CHANNEL
    3:dfrq2:3,dn2,dof2:1,dhpwr2:0,dpwr2:0,pwn:1,dm2,dmm2,dmf2,dseq2,dres2;"

0

deltaone 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64

1 0

0

decfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64

1 -3000

0

ddseq 2 2 8 0 0 2 1 0 1 64

1 "waltz16"

0

dcodpwr 7 1 61 0 0 2 1 0 1 64
```

```
1 57

0

deltaf 1 1 100 0 0 4 1 0 1 64

1 0.00296542986425

0

delta2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64

1 0

0

deltafrq 5 1 1000000000 -1000000000 0 2 1 0 1 64

1 -19000

0

dfrq2 1 1 1000000000 0 0 2 1 9 1 64

1 81.043365

0

dfrq 5 1 1000000000 -1000000000 0 2 1 8 1 64

1 201.0911602

0

dfrq3 1 1 1000000000 0 0 2 1 9 1 64

1 122.7635575

0

dhipwr 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64

1 63

0

dgs 2 2 1023 0 0 4 1 6 1 64

5 "1:AXIAL SHIMS:z1:0,z2:0,z3:0,z4:0,z5:0,z6:0;"

"2:NON                                                                    AXIAL
    SHIMS:x1:0,y1:0,xz:0,yz:0,xy:0,x2y2:0,x3:0,y3:0,xz2:0,yz2:0,zxy:0,zx2y2:0,z3x:0
    ,z3y:0,z2x2y2:0,z2xy:0;"

"3:NON                                                                    AXIAL
    SHIMS:zx3:0,zy3:0,x4:0,y4:0,z4x:0,z4y:0,z3x2y2:0,z3xy:0,,z4x2y2:0,z4xy:0,z5x:0,
    z5y:0;"

"4:AUTOMATION:method,wshim,load,,spin:0,gain:0,alock,loc:0;"
```

```
"4:SPECIAL:temp;"

0

dg1 2 2 8 0 0 4 1 0 1 64

1
    "1:DISPLAY:sp:1,wp:1,sp1(ni):1,wp1(ni):1,sp2(ni2):1,wp2(ni2):1;1:FID:sf:3,wf:3,
    vf:0;1:FLAGS:aig*,dcg*,pmode*(ni),dmg*,dmg1*(ni),dmg2*(ni2);2:REFERENCING:rfl:1
    ,rfp:1,cr:1,delta:1,,rfl1(ni):1,rfp1(ni):1,cr1(ni):1,delta1(ni):1,,rfl2(ni2):1,
    rfp2(ni2):1,cr2(ni2):1,delta2(ni2):1;3:CHART:sc:0,wc:0,sc2(ni):0,wc2(ni):0,,hzm
    m:2,vs:1,vp:1,th:1,ho:2,vo:2,axis,,pltmod,rplot;4(ni):DIMENSIONS:trace,plane(ni
    2);4:INTEGRAL:intmod,is:2,ins:3,io:0,,lvl:3,tlt:3;4(ni2):3D
    OPTIONS:fiddc3d,specdc3d,ptspec3d,ntype3d,ss3d;"

0

dg2 2 2 1023 0 0 4 1 7 1 64

1                                                                    "1:CHANNEL
    2:dfrq:3,dn,dof:1,dhpwr:0,dpwr:0,d_reb:0,pwc:1,pwc_reb:1,dseq,dm,dmm,dres,dress
    ed,dmf,sh_reb,cbdec,dpwr_cb:0,dmf_cb:0,dres_cb:0;2:GRADIENTS:gt0:4,gzlvl0:0,gt1
    :4,gzlvl1:0,gt2:4,gzlvl2:0,gt3:4,gzlvl3:0,gt4:5,gzlvl4:0,gt5:4,gzlvl5:0,gt6:4,g
    zlvl6:0,gt7:4,gzlvl7:0,gt8:4,gzlvl8:0,gt9:4,gzlvl9:0,gt10:4,gzlvl10:0;3:CHANNEL
    4:dfrq3:3,dn3,dof3:1,dpwr3:0,dpwr3_D:0,pwd:1,pwd1:1,ddseq,dm3,dseq3,dres3:0,amp
    mode;"

0

dh2pwr 7 1 77 0 1 2 1 0 1 64

1 0

0

dhpwr2 1 1 18 18 18 2 1 8192 1 64

1 -16

0

dhpwr 1 1 9 9 9 2 1 8192 1 64

1 61

0

dhp 1 1 9 9 9 2 1 8192 0 64

1 40

0

dlp 7 1 10 10 10 2 1 8194 0 64

1 10

0
```

```
dlowpwr 7 1 32767 0 0 2 1 0 1 64
1 46
0
dly_pg1 3 1 14 14 14 2 1 8192 1 64
1 0.005
0
dmg1 2 2 8 0 0 4 1 0 1 64
1 ""
4 "" "av1" "ph1" "pwr1"
dmf2 7 1 100000 1 0 2 1 2 1 64
1 3690
0
dm3 4 2 4 0 0 2 1 0 1 64
1 "nnnn"
4 "a" "n" "s" "y"
dm2 2 2 8 0 0 2 1 0 1 64
1 "nnnn"
0
dmf 7 1 11 11 11 2 1 8194 1 64
1 7299
0
dmf_cb 1 1 11 11 11 2 1 8192 1 64
1 25000
0
dmf3 7 1 2000000 1 0 2 1 2 1 64
1 7092
0
dmg 2 2 2 0 0 4 1 3 1 64
1 "ph"
```

```
0
dmm3 4 2 4 0 0 2 1 0 1 64
1 "c"
9 "c" "f" "g" "m" "p" "r" "u" "w" "x"
dmm2 2 2 8 0 0 2 1 0 1 64
1 "cccp"
0
dmm 4 2 4 0 0 2 1 0 1 64
1 "cccp"
9 "c" "f" "g" "m" "p" "r" "u" "w" "x"
dn 2 2 4 0 0 2 1 8 1 64
1 "C13"
0
fsat 2 2 8 0 0 2 1 0 1 64
1 "n"
0
dseq3 2 2 8 0 0 2 1 0 1 64
1 "waltz16"
0
dres2 7 1 360 1 0 2 1 0 1 64
1 90
0
dpwr 7 1 9 9 9 2 1 8194 1 64
1 40
0
dof2 5 1 16 16 16 2 1 8202 1 64
1 1671.2
0
dod 3 1 14 14 14 2 1 8194 1 64
1 0.00999999977648
```

```
0
dn3 2 2 8 0 0 2 1 8 1 64
1 "H2"
0
dof 5 1 8 8 8 2 1 8202 1 64
1 -15461.8390882
0
dotflag 2 2 8 0 0 4 1 0 1 64
1 "n"
2 "n" "y"
dof3 5 1 20 20 20 2 1 8202 1 64
1 1717
0
dp 2 2 1 0 0 2 1 0 1 64
1 "y"
2 "y" "n"
dpwr3_D 1 1 21 21 21 2 1 8192 1 64
1 -16
0
dpwr3 7 1 21 21 21 2 1 8194 1 64
1 -16
0
dpwr2 7 1 18 18 18 2 1 8194 1 64
1 -16
0
dpwrf 7 1 4095 0 1 2 1 2 0 64
1 4095
0
dpwr_cb 1 1 9 9 9 2 1 8192 1 64
```

```
1 33
0
dres 7 1 360 1 0 2 1 0 1 64
1 90
0
dseq 2 2 8 0 0 2 1 0 1 64
1 "waltz16"
0
dres_cb 7 1 360 1 0 2 1 0 1 64
1 9
0
dres3 7 1 360 1 0 2 1 0 1 64
1 90
0
dressed 7 1 360 1 0 2 1 0 1 64
1 2
0
dseq2 2 2 8 0 0 2 1 0 1 64
1 "waltz16"
0
fiddc3d 4 2 4 0 0 3 1 0 1 64
1 "nnn"
0
fad1 2 2 8 0 0 2 1 0 1 64
1 "y"
0
f1180 2 2 8 0 0 2 1 0 1 64
1 "y"
0
exp3D 2 2 8 0 0 2 1 0 1 64
```

```
1 "n"
0
exppath 2 2 8 0 0 2 1 0 1 64
1 "/usr2/guestkay/vnmrsys/exp15/acqfil"
0
f2180 2 2 8 0 0 2 1 0 1 64
1 "y"
0
f1coef 2 2 8 0 0 3 1 1 1 64
1 ""
0
f2coef 2 2 8 0 0 3 1 1 1 64
1 ""
0
fb 7 1 6 6 6 2 1 8203 0 64
1 7000
0
fad2 2 2 8 0 0 2 1 0 1 64
1 "n"
0
fmlev 4 2 4 0 0 2 1 0 1 64
1 "n"
0
filtfile 2 2 8 0 0 2 1 0 1 64
1 ""
0
filter 7 1 1000000000 0 1 2 1 2 1 64
1 54.0999984741
0
```

```
file 2 2 6 0 0 2 1 3 1 64
1 "exp"
0
flag3d 2 2 8 0 0 2 1 0 1 64
1 "y"
0
fnoesy 4 2 4 0 0 2 1 0 1 64
1 "n"
0
fn1 7 1 524288 64 -2 3 1 1 1 64
1 1024
0
fn 7 1 524288 64 -2 3 1 1 1 64
1 4096
0
fn2 7 1 524288 64 -2 3 1 1 0 64
1 0
0
fpmult1 1 1 1000000000 0 0 3 1 0 0 64
1 0
0
fpmult 1 1 1000000000 0 0 3 1 0 0 64
1 1
0
fpmult2 1 1 1000000000 0 0 3 1 0 0 64
1 0
0
gt5 3 1 14 14 14 2 1 8192 1 64
1 0.00075
0
```

```
gfs2 1 1 1000 -1000 0.001 3 1 1 0 64
1 0
0
gf1 1 1 100000 0 0 3 1 1 1 64
1 0.0050210384652
0
gain 1 1 60 0 2 2 1 0 1 64
1 28
0
fscuba 4 2 4 0 0 2 1 0 1 64
1 "n"
0
gf 1 1 100000 0 0 3 1 1 1 64
1 0.0171710532159
0
gfs 1 1 1000 -1000 0.001 3 1 1 1 64
1 0.003
0
gf2 1 1 100000 0 0 3 1 1 0 64
1 0
0
gfs1 1 1 1000 -1000 0.001 3 1 1 0 64
1 0
0
gt2 3 1 14 14 14 2 1 8192 1 64
1 0.0004
0
gt1 3 1 14 14 14 2 1 8192 1 64
1 0.0005
```

```
0
gt0 3 1 32768 -32768 -1 2 1 8192 1 64
1 0.0005
0
gt10 3 1 14 14 14 2 1 8192 1 64
1 0.0004
0
gt4 3 1 14 14 14 2 1 8192 1 64
1 0.0004
0
gt3 3 1 14 14 14 2 1 8192 1 64
1 0.001
0
gzlvl2 1 1 32768 -32768 1 2 1 0 1 64
1 5000
0
gt9 3 1 14 14 14 2 1 8192 1 64
1 0.0005
0
gt7 3 1 14 14 14 2 1 8192 1 64
1 0.0003
0
gt6 3 1 14 14 14 2 1 8192 1 64
1 0.0005
0
gt8 3 1 14 14 14 2 1 8192 1 64
1 0.0002
0
gzlvl1 1 1 32768 -32768 1 2 1 0 1 64
1 10000
```

```
0
gzlvl0 1 1 32768 -32768 1 2 1 0 1 64
1 8000
0
gzlvl10 1 1 32768 -32768 1 2 1 0 1 64
1 12000
0
gzlvl5 1 1 32768 -32768 1 2 1 0 1 64
1 15000
0
gzlvl4 1 1 32768 -32768 1 2 1 0 1 64
1 -18000
0
gzlvl3 1 1 32768 -32768 1 2 1 0 1 64
1 -15000
0
gzlvl6 1 1 32768 -32768 1 2 1 0 1 64
1 6000
0
gzlvl7 1 1 32768 -32768 1 2 1 0 1 64
1 8000
0
satfrq 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 -9970
0
phfid1 1 1 3600 -3600 0.1 3 1 0 0 64
1 0
0
lp 1 1 3600 -3600 0.1 4 1 3 1 64
```

```
1 0
0
lb2 1 1 100000 -100000 0 3 1 1 0 64
1 0
0
in 4 2 1 0 0 2 1 0 1 64
1 "n"
3 "n" "w" "y"
homo3 4 2 4 0 0 2 1 0 1 64
1 "n"
2 "n" "y"
homo 2 2 8 0 0 2 1 0 1 64
1 "n"
2 "n" "y"
ho 1 1 500 -500 0 4 1 1 1 64
1 -132.5
0
gzlvl9 1 1 32768 -32768 1 2 1 0 1 64
1 10000
0
homo2 4 2 4 0 0 2 1 0 1 64
1 "n"
2 "n" "y"
hst 3 1 0.02 0 2.5e-08 2 1 2 1 64
1 0.01
0
hs 4 2 4 0 0 2 1 0 1 64
1 "nnyn"
2 "n" "y"
hscuba 3 1 14 14 14 2 1 8192 1 64
```

```
1 0.03
0
hzmm 1 1 1000000000 -1000000000 0 4 1 11 1 64
1 6.63085360808
0
il 2 2 1 0 0 2 1 0 1 64
1 "n"
2 "y" "n"
io 1 1 500 -500 0.1 4 1 1 1 64
1 10
0
ins2ref 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 0 64
1 1
0
ins2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 100
0
ins 3 1 8190 0 1e-07 4 1 3 1 64
1 100
0
intmod 2 2 8 0 0 4 1 0 1 64
1 "off"
3 "off" "partial" "full"
insref 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 0 64
1 1
0
investigator 2 2 8 0 0 2 1 0 1 64
1 ""
0
```

```
jxh 7 1 32767 0 0 2 1 0 1 64

1 105

0

jcc 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64

1 75

0

is 1 1 1000000000 1e-06 0 4 1 3 1 64

1 4000

0

jnh 1 1 10000 80 0 2 1 1024 1 64

1 106

0

lb 1 1 100000 -100000 0 3 1 1 0 64

1 30

0

jxh2 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64

1 94

0

lb1 1 1 100000 -100000 0 3 1 1 0 64

1 0.318309992552

0

load 2 2 4 0 0 2 1 3 1 64

1 "n"

2 "y" "n"

llamp 1 1 1000000000 0 0 4 1 0 0 64

200  -4.59109323856e-05  -5.19088607689e-05  -4.7053432354e-05  -5.81574313401e-05  -
    5.19840832567e-05  -5.55371480004e-05  -4.04213315051e-05  -4.98456283822e-05  -
    5.58155443287e-05  -5.04925847054e-05  -4.31948683399e-05  -5.39735883649e-05  -
    5.19470995641e-05  -5.55918377358e-05  -4.98082154081e-05  -5.87051399634e-05  -
    4.52509520983e-05  -6.75681585562e-05  4.89473904963e-07  -5.19699970027e-05  -
    2.94218007184e-05  -3.88147345802e-05  -2.91328706226e-05  -6.29609421594e-05  -
    5.00809728692e-05  -6.77146163071e-05  -6.38160126982e-05  -7.09096857463e-05  -
    3.34689066221e-05  -6.18180274614e-05  -3.68875116692e-05  -4.17151532019e-05  -
    2.72881752608e-05   -3.60187077604e-05   2.59389489656e-05   -4.47384954896e-05
```

```
    2.03496692848e-05    -1.918851558e-05    -5.74051318836e-06    -6.3626881456e-05
    9.63949132711e-05    5.21112997376e-05    0.000190337683307    0.000276441918686
    9.71672634478e-05    0.000668614346068    0.000352685165126    0.000403929530876
    0.000406486156862    0.000400811026338    0.00051202083705    5.90048330196e-05
    0.000125369871967    5.6045675592e-05    0.000195721484488    0.000586495501921
    0.000226417760132    0.00118924141861    0.000177095877007    0.000210481593967
    9.40851459745e-05    5.80478408665e-05    0.000169042716152    0.000324096297845
    0.000175537803443    0.000141080963658    3.5752873373e-05    0.00100575061515
    0.000578368606512    0.000165094563272    0.000141279699164    0.000137800598168
    8.40379016154e-06   1.12530606202e-05   -3.27895440932e-06   3.0927509215e-05   -
    1.70599105331e-05  -8.41210021463e-06  -1.44544383147e-05  -2.41435354837e-05  -
    1.77835827344e-05  -2.28232893278e-05  -5.13579152539e-06  -2.46367108048e-05  -
    2.05777068913e-05  -3.80415003747e-05  -1.38831801451e-05  -2.98057329928e-05  -
    2.04013631446e-05  -2.93233988486e-05  -2.68420353677e-05  -3.13568452839e-05  -
    2.31144804275e-05  -4.10964639741e-05  -3.03998640447e-05  -3.85603998438e-05  -
    3.66430067515e-05  -4.40820549557e-05  -2.92319782602e-05  -5.42339148524e-05  -
    3.18336860801e-05  -4.89078920509e-05  -3.16614787153e-05  -4.64371987619e-05  -
    3.45756561728e-05  -4.65295161121e-05  -4.06016370107e-05  -4.03111916967e-05  -
    4.8075151426e-05  -4.44860561402e-05  -5.76606944378e-05  -4.60191586171e-05  -
    7.60144830565e-05  -7.12518813089e-05  -5.99354461883e-05  -7.51645711716e-05  -
    3.52802089765e-05  -7.59675676818e-05  -0.000122908910271  -8.37808620417e-05  -
    0.000199748479645   -0.000225498559303   -0.000299852254102   -0.00137971213553
    0.00225383625366    0.000222106522415    0.000117715862871    7.32263506507e-05
    6.25418979325e-05    6.92917164997e-05    4.037241888e-05    5.92764699832e-05
    2.83369299723e-05    5.82145476073e-05    4.53001048299e-05    5.0560112868e-05
    4.75559500046e-05    5.91506395722e-05    2.9575339795e-05    3.60823432857e-05
    4.28182902397e-05    9.47616263147e-06    2.82924866042e-05    1.44651085066e-05
    1.84351465577e-05    2.99323119179e-06    2.02673272724e-05    1.38856275953e-05
    2.39230357693e-05    1.01590594568e-05    7.77770492277e-06    1.63948388945e-05
    3.4671497815e-06    9.79331070994e-06    -2.66348092737e-06    8.34015736473e-06
    1.37623737828e-06   7.18825594959e-06   -1.72181694325e-06   2.76931655208e-06   -
    9.34515810513e-06    1.97041913452e-06    -1.55771431309e-06    2.83783629129e-06
    7.09729692971e-06    -3.37294500241e-06    8.42990687033e-07    -1.31613546728e-06
    2.85011287815e-06    1.95264601643e-06    -2.35224979406e-06    5.34264290764e-06
    5.38853953458e-07    3.03897081722e-06    -1.1234566955e-05    4.07221705245e-07
    2.5734088922e-05   1.53106557264e-05   5.71191558265e-05   -1.89281618077e-05   -
    1.01514087874e-05   -1.1526902199e-05   1.56137411977e-06   -9.10408743948e-06   -
    1.6485046217e-06   -1.38697050716e-05   -1.64660582413e-06   -1.30044963953e-05   -
    9.72137331701e-06   -1.18258340081e-05   -1.10163100544e-05   -2.02856863325e-05   -
    1.28133751787e-06   -1.83538886631e-05   -3.99468035539e-06   -1.01575587905e-05   -
    9.91281649476e-06 -1.19286560221e-05 -8.64937078404e-07 -1.60061954375e-05

0

liamp 1 1 1000000000 0 0 4 1 0 0 64

4 0 0 0 0.577882409096

0

lcpeak_ 7 1 32767 0 0 2 1 0 1 64

1 0

0

lifrq 1 1 1000000000 -1000000000 0 4 1 0 1 64

7 4184.7535823 3445.32962737 3445.32962737 2811.537666 2811.537666 2072.11371107 0
```

```
0

llfrq 1 1 1000000000 -1000000000 0 4 1 0 0 64

200   6387.48778104   6368.71945259   6356.20723363   6324.92668622   6312.41446725
    6299.90224829    6287.39002933    6268.62170088    6243.59726295    6231.08504399
    6206.06060606    6168.52394917    6156.01173021    6143.49951124    6130.98729228
    6112.21896383    6074.68230694    6049.65786901    6005.86510264    5974.58455523
    5955.81622678    5943.30400782    5924.53567937    5899.51124145    5880.742913
    5849.46236559    5836.95014663    5824.43792766    5805.66959922    5786.90127077
    5768.13294233    5755.62072336    5736.85239492    5724.34017595    5705.57184751
    5668.03519062    5643.01075269    5624.24242424    5611.73020528    5592.96187683
    5542.91300098    5524.14467253    5480.35190616    5430.3030303    5380.25415445
    5348.97360704    5311.43695015    5286.41251222    5261.38807429    5230.10752688
    5192.57086999    5142.52199413    5123.75366569    5104.98533724    5061.19257087
    4992.37536657    4911.0459433    4854.74095797    4792.17986315    4742.13098729
    4710.85043988    4692.08211144    4673.31378299    4617.00879765    4560.70381232
    4498.1427175    4473.11827957    4429.3255132    4391.7888563    4366.76441838
    4347.99608993    4316.71554252    4279.17888563    4266.66666667    4254.1544477
    4235.38611926    4185.3372434    4160.31280547    4135.28836755    4110.26392962
    4097.75171065    4085.23949169    4072.72727273    4053.95894428    4041.44672532
    4028.93450635    4010.16617791    3997.65395894    3978.8856305    3953.86119257
    3941.34897361    3928.83675464    3916.32453568    3897.55620723    3885.04398827
    3866.27565982    3853.76344086    3834.99511241    3809.97067449    3772.4340176
    3753.66568915    3741.15347019    3728.64125122    3716.12903226    3703.61681329
    3684.84848485    3672.33626588    3653.56793744    3634.79960899    3622.28739003
    3591.00684262    3572.23851417    3497.16520039    3472.14076246    3459.6285435
    3447.11632454    3428.34799609    3409.57966764    3365.78690127    3334.50635386
    3284.45747801    3259.43304008    3234.40860215    3203.12805474    3178.10361681
    3096.77419355    3021.70087977    2996.67644184    2984.16422287    2971.65200391
    2959.13978495    2940.3714565    2927.85923754    2896.57869013    2859.04203324
    2846.52981427    2834.01759531    2815.24926686    2783.96871945    2765.20039101
    2746.43206256    2727.66373412    2696.38318671    2671.35874878    2652.59042033
    2633.82209189    2615.05376344    2602.54154448    2590.02932551    2571.26099707
    2546.23655914    2521.21212121    2508.69990225    2496.18768328    2477.41935484
    2464.90713587    2452.39491691    2433.62658847    2402.34604106    2389.83382209
    2377.32160313    2339.78494624    2327.27272727    2314.76050831    2289.73607038
    2277.22385142    2264.71163245    2252.19941349    2233.43108504    2220.91886608
    2202.15053763    2189.63831867    2170.86999022    2158.35777126    2127.07722385
    2114.56500489    2083.28445748    2070.77223851    2045.74780059    1995.69892473
    1983.18670577    1970.6744868    1945.65004888    1926.88172043    1908.11339198
    1883.08895406    1864.32062561    1845.55229717    1826.78396872    1814.27174976
    1801.75953079    1776.73509286    1745.45454545    1707.91788856    1689.14956012
    1670.38123167 1657.86901271 1639.10068426 1614.07624633 1576.53958944

0

lockgain_ 1 1 48 0 1 2 1 16 1 64

1 23

0

loc_ 7 1 12 12 12 2 1 8201 0 64

1 0

0
```

```
lockfreq_ 5 1 160 0 1e-07 2 1 9 1 64
1 122.7618
0
lockpower_ 1 1 68 0 1 2 1 16 1 64
1 48
0
lockphase_ 1 1 360 0 1 2 1 16 1 64
1 344
0
n1 2 2 6 0 0 4 1 3 1 64
1 ""
0
method 2 2 6 0 0 2 1 3 1 64
1 "/vnmr/shimmethods/z1z2"
0
lsfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
0
lsfid 7 1 64000 -64000 1 3 1 0 0 64
1 0
0
lp2 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
lp1 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
lsfid2 7 1 64000 -64000 1 3 1 0 0 64
1 0
```

```
0
lsfid1 7 1 64000 -64000 1 3 1 0 0 64
1 0
0
macro 2 2 6 0 0 4 1 3 1 64
1 ""
0
lsfrq2 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
0
lsfrq1 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
0
lvl 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 0.00129447644839
0
mcyc 7 1 32767 0 0 2 1 0 1 64
1 1
0
math 2 2 1 0 0 3 1 3 1 64
1 "f"
3 "d" "f" "i"
mess_flg 2 2 8 0 0 2 1 0 1 64
1 "n"
0
mixshift 3 1 14 14 14 2 1 8192 1 64
1 0
0
mixmlev 3 1 14 14 14 2 1 8192 1 64
1 0.02
```

```
0
mix 3 1 14 14 14 2 1 8192 1 64
1 0.075
0
mixnoe 3 1 14 14 14 2 1 8192 1 64
1 0.14
0
mlevpwr 7 1 32767 0 0 2 1 0 1 64
1 50
0
osfilt 2 2 8 0 0 2 1 0 1 64
1 "a"
5 "a" "A" "b" "B" ""
nt 7 1 1000000000 1 1 2 1 2 1 64
1 48
0
ni2 7 1 32767 0 1 2 1 0 1 64
1 32
0
n3 2 2 6 0 0 4 1 3 1 64
1 ""
0
n2 2 2 6 0 0 4 1 3 1 64
1 ""
0
ni 7 1 32767 0 0 2 1 0 1 64
1 32
0
np 7 1 524288 32 2 2 1 11 1 64
```

```
1 1538
0
notebook 2 2 8 0 0 2 1 0 1 64
1 ""
0
oscoef 7 1 49999 3 2 2 1 1 0 64
1 31
0
ntype3d 4 2 4 0 0 3 1 0 1 64
1 "nn"
0
osfb 1 1 100000 0 0 2 1 1 0 64
1 0
0
page 2 2 8 0 0 2 1 0 1 64
1 ""
0
oversamp 7 1 68 0 1 2 1 9 1 64
1 20
0
oslsfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 1 0 64
1 0
0
p1 6 1 13 13 13 2 1 8194 1 64
1 0
0
pad 3 1 14 14 14 2 1 8194 1 64
1 0
0
phase 7 1 4 0 1 2 1 0 1 64
```

```
2 1 2
0
parversion 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 4 1 64
1 5.1
0
parstyle_ 2 2 8 0 0 4 1 0 1 64
1 "ppa"
0
path3d 2 2 8 0 0 4 1 0 1 64
1 "/home/guest/vnmrsys/exp8/datadir3d"
0
phfid 1 1 3600 -3600 0.1 3 1 0 0 64
1 0
0
phase2 7 1 4 0 1 2 1 0 1 64
2 1 2
0
r3 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 99.3962666667
0
pw 6 1 13 13 13 2 1 8194 1 64
1 7.55
0
priority 7 1 32768 0 1 2 1 0 1 64
1 5
0
pltmod 2 2 8 0 0 4 1 0 1 64
1 "off"
5 "off" "fixed" "full" "variable" "user"
```

```
pkpick_ 2 2 8 0 0 4 1 0 1 64
1 ""
0
phfid2 1 1 3600 -3600 0.1 3 1 0 0 64
1 0
0
plane 2 2 8 0 0 4 1 0 1 64
1 "f1f3"
6 "f1f3" "f3f1" "f2f3" "f3f2" "f1f2" "f2f1"
preacq 6 1 13 13 13 2 1 8192 0 64
1 0
0
pmode 2 2 8 0 0 3 1 0 1 64
1 "partial"
0
presat 3 1 14 14 14 2 1 8192 1 64
1 1.5
0
proc2 2 2 8 0 0 3 1 1 1 64
1 "ft"
0
proc 2 2 10 0 0 3 1 1 1 64
1 "ft"
0
probe_ 2 2 8 0 0 2 1 8 1 64
1 ""
0
proc1 2 2 10 0 0 3 2 1 1 64
1 "ft"
0
```

```
pslabel 2 2 8 0 0 2 1 11 1 64
1 "Ile_cg2_cd1_noesy_800_lek"
0
procdim 7 1 1000000000 -1000000000 0 3 1 0 1 64
1 0
0
ptspec3d 4 2 4 0 0 3 1 0 1 64
1 "nnn"
0
pwd1 6 1 13 13 13 2 1 8192 1 64
1 0
0
pwco_sh 2 2 8 0 0 2 1 0 1 64
1 "herm180_17p6_750"
0
pwc 6 1 13 13 13 2 1 8192 1 64
1 12.8
0
pw90 6 1 13 13 13 2 1 8194 1 64
1 8.2
0
pwc_reb 6 1 13 13 13 2 1 8192 1 64
1 1850
0
pwd 6 1 13 13 13 2 1 8192 1 64
1 0
0
pwcod 6 1 13 13 13 2 1 8192 1 64
1 234
```

```
0
pwx2 6 1 13 13 13 2 1 8192 1 64
1 0
0
pwn15 6 1 200 0 0.025 2 1 1024 1 64
1 36.5
0
pwn 6 1 13 13 13 2 1 8192 1 64
1 0
0
pwx1 6 1 13 13 13 2 1 8192 1 64
1 36
0
r1 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0.0013333
0
pxcodec 6 1 13 13 13 2 1 8192 1 64
1 0
0
r2 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 182.142857143
0
rfl 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 49676.2000596
0
reffrq1 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 499.6974483
0
r7 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0
```

```
0
r5 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0.032
0
r4 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0.0182848
0
r6 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0
0
reffrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 799.7630899
0
ref 5 1 1000000000 -1000000000 0 3 1 0 1 64
1 0
0
refpos2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 0 64
1 0
0
refpos 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
reffrq2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 499.6974483
0
refpos1 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 0 64
1 0
0
refsource2 2 2 8 0 0 4 1 0 1 64
```

```
1 "sfrq"
0
refsource1 2 2 8 0 0 4 1 0 1 64
1 "sfrq"
0
rfband 4 2 4 0 0 2 1 0 1 64
1 "cccc"
3 "c" "h" "l"
rp 1 1 3600 -3600 0.1 4 1 3 1 64
1 -134.454676097
0
rfp1 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 4342.68017578
0
rfl2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
rfl1 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 6565.28671875
0
rfp 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 0
0
rof1 6 1 13 13 13 2 1 8194 1 64
1 0
0
rfp2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
rof2 6 1 13 13 13 2 1 8194 1 64
```

```
1 1
0
samplename 2 2 8 0 0 2 1 0 1 64
1 ""
0
rp2 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
rp1 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
sample 2 2 8 0 0 2 1 0 1 64
1 "lysh2o"
0
satflg 2 2 8 0 0 2 1 0 1 64
1 "y"
0
tpwr 7 1 17 17 17 2 1 8194 1 64
1 63
0
sp2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
seqfil 2 2 8 0 0 2 1 11 1 64
1 "Ile_cg2_cd1_noesy_800_lek"
0
sb2 1 1 1000 -1000 0.001 3 1 1 0 64
1 0
0
```

```
sb 1 1 1000 -1000 0.001 3 1 0 0 64
1 0.140572652221
0
saveglobal_ 2 2 8 0 0 3 1 0 1 64
15 "probe"
"lcpeak"
"loc"
"lockpower"
"lockgain"
"lockphase"
"lockfreq"
"z0"
"lkof"
"vloc"
"vrack"
"vzone"
"vproto"
"pkpick"
"parstyle"
0
satpwr 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 12
0
sb1 1 1 1000 -1000 0.001 3 1 1 1 64
1 0.0154493479058
0
sc 1 1 1 1 1 4 1 8195 1 64
1 0
0
sbs1 1 1 1000 -1000 0.001 3 1 1 1 64
```

```
1 -0.00463480316103
0
sbs 1 1 1000 -1000 0.001 3 1 1 0 64
1 -0.0195756480098
0
sbs2 1 1 1000 -1000 0.001 3 1 1 0 64
1 0
0
sc2 1 1 3 3 3 4 1 8195 1 64
1 0
0
scf 1 1 1 0 0 2 1 0 1 64
1 0.45
0
shims 2 2 8 0 0 2 1 0 1 64
1 ""
0
sfrq 1 1 1000000000 0 0 2 1 11 1 64
1 799.7194143
0
sf1 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
sf 1 1 8190 0 1e-07 4 1 3 1 64
1 0
0
sf2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
```

```
sh_reb 2 2 8 0 0 2 1 0 1 64
1 "reb_on"
0
shape 2 2 8 0 0 2 1 0 1 64
1 "herm180_trc"
0
sp 1 1 1000000000 -1000000000 0 4 1 3 1 64
1 -49670.3348194
0
solvent 2 2 6 0 0 2 1 11 1 64
1 "d2o"
0
sn 1 1 1e+18 -1e+18 0 3 1 1 1 64
1 0
0
sp1 1 1 1000000000 -1000000000 0 4 1 3 1 64
1 -2222.60654297
0
temp 1 1 200 -150 0.1 2 1 8 1 64
1 50
0
ssntaps 7 1 2500 0 1 3 1 0 0 64
1 121
0
ss3d 2 2 8 0 0 3 1 0 1 64
1 ""
3 "" "lfs" "zfs"
spin 1 1 32000000 0 0.1 2 1 0 0 64
1 0
0
```

```
specdc3d 4 2 4 0 0 3 1 0 1 64
1 "nnn"
0
ss 7 1 32767 -32768 0 2 1 0 1 64
1 16
0
ssfilter 1 1 50000 10 0.1 3 1 0 1 64
1 50
0
sslsfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
0
sw1 1 1 5000000 1 -2.5e-08 2 1 0 1 64
1 2000
0
sspul 2 2 8 0 0 2 1 0 1 64
1 "n"
0
ssorder 7 1 20 1 1 3 1 0 0 64
1 7
0
sw 1 1 5 5 5 2 1 8203 1 64
1 12012.012012
0
taua 3 1 14 14 14 2 1 8192 1 64
1 0.0018
0
sw2 1 1 5000000 1 -1.25e-08 2 1 0 1 64
1 2000
```

```
0
time_submitted_local 2 2 8 0 0 2 1 0 1 64
1 "20100723T182415X06PM%#%#"
0
time_processed 2 2 8 0 0 3 1 0 1 64
1 ""
0
th2d 1 1 1 1e-18 0 4 1 17 1 64
1 0.8
0
th 1 1 1000000000 0 0 4 1 1 1 64
1 121.937713623
0
time_complete 2 2 8 0 0 2 1 0 1 64
1 "20100723T182415"
0
time_saved 2 2 8 0 0 2 1 0 1 64
1 ""
0
time_run 2 2 8 0 0 2 1 0 1 64
1 "20100723T182415"
0
time_submitted 2 2 8 0 0 2 1 0 1 64
1 "20100723T182415"
0
tn 2 2 4 0 0 2 1 8 1 64
1 "H1"
0
tin 2 2 1 0 0 2 1 2 1 64
1 "y"
```

```
3 "n" "w" "y"
time_svfdate 2 2 8 0 0 2 1 0 1 64
1 "20100723T182415"
0
tlt 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 -0.00106104693032
0
tof 5 1 7 7 7 2 1 8202 1 64
1 -292
0
tnsat 4 2 4 0 0 2 1 0 1 64
1 "y"
0
tof_me 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 -3594.84118106
0
y1 7 1 19 19 19 2 1 8192 1 64
1 1303
0
wp 1 1 5000000 0 0 4 1 11 1 64
1 11994.4162913
0
vs2d 1 1 1000000000 1e-06 0 4 1 3 1 64
1 3188945.09581
0
vloc_ 2 2 8 0 0 2 1 8 1 64
1 "A0"
0
trim 3 1 14 14 14 2 1 8192 1 64
```

```
1 0.0005
0
tpwrmess 1 1 17 17 17 2 1 8192 1 64
1 53
0
tpwrf 7 1 4095 0 1 2 1 2 0 64
1 4095
0
trace 2 2 2 0 0 4 1 3 1 64
1 "f1"
3 "f1" "f2" "f3"
tsatpwr 1 1 17 17 17 2 1 8192 1 64
1 0
0
vf 1 1 1000000000 0 0 4 1 3 1 64
1 11992.7179577
0
vpfi 1 1 500 -500 0 4 1 0 1 64
1 0
0
vp 7 1 500 -500 0.1 4 1 3 1 64
1 50
0
vo 1 1 500 -500 0 4 1 1 1 64
1 0
0
vpf 1 1 500 -500 0 4 1 0 1 64
1 16.1448614824
0
vrack_ 7 1 5 1 0 2 1 0 1 64
```

```
1 1
0
vproto_ 2 2 8 0 0 2 1 0 1 64
1 ""
0
vs 1 1 1000000000 1e-06 0 4 1 3 1 64
1 454697.639932
0
wc2 1 1 4 4 4 4 1 8195 1 64
1 155
0
vzone_ 7 1 15 1 0 2 1 0 1 64
1 1
0
vtc 1 1 255 0 1 2 1 2 1 64
1 0
0
vsproj 1 1 1000000000 1e-06 0 4 1 3 1 64
1 3188945.09581
0
vtwait 3 1 14 14 14 2 1 8194 1 64
1 180
0
wc 1 1 2 2 2 4 1 8203 1 64
1 250
0
wbs 2 2 6 0 0 3 1 3 1 64
1 ""
0
```

```
wf 1 1 8190 0 1e-07 4 1 3 1 64
1 0.0640769250001
0
werr 2 2 6 0 0 3 1 3 1 64
1 ""
0
wdone 2 2 8 0 0 3 1 0 1 64
1 "acqdone"
0
wexp 2 2 6 0 0 3 1 3 1 64
1 "svf('pcnohmqc1120')"
0
wf2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
wf1 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0.256
0
wnt 2 2 6 0 0 3 1 3 1 64
1 ""
0
x2y2 7 1 19 19 19 2 1 8192 1 64
1 3749
0
wtfile 2 2 15 0 0 3 1 1 1 64
1 ""
0
wp2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 2000
0
```

```
wp1 1 1 100000 0 0 4 1 3 1 64
1 2000
0
wshim 4 2 4 0 0 2 1 1 1 64
1 "n"
15 "e" "f" "g" "n" "s" "0" "1" "2" "3" "4" "5" "6" "7" "8" "9"
wtfile2 2 2 8 0 0 3 1 1 1 64
1 ""
0
wtfile1 2 2 15 0 0 3 2 1 1 64
1 ""
0
x1 7 1 19 19 19 2 1 8192 1 64
1 -8330
0
xdiag 1 1 1e+18 0 0 4 1 17 1 64
1 0
0
x4 7 1 19 19 19 2 1 8192 1 64
1 1615
0
x3 7 1 19 19 19 2 1 8192 1 64
1 -157
0
xz 7 1 19 19 19 2 1 8192 1 64
1 1785
0
xy 7 1 19 19 19 2 1 8192 1 64
1 2534
```

```
0
xz2 7 1 19 19 19 2 1 8192 1 64
1 -3233
0
z3x 7 1 19 19 19 2 1 8192 1 64
1 -722
0
z2 7 1 19 19 19 2 1 8192 1 64
1 -762
0
yz2 7 1 19 19 19 2 1 8192 1 64
1 -731
0
y4 7 1 19 19 19 2 1 8192 1 64
1 3108
0
y3 7 1 19 19 19 2 1 8192 1 64
1 315
0
yz 7 1 19 19 19 2 1 8192 1 64
1 1729
0
z1 7 1 19 19 19 2 1 8192 1 64
1 -95
0
z0_ 1 1 19 19 19 2 1 8208 1 64
1 -12067
0
z1c 7 1 19 19 19 2 1 8192 1 64
1 -1044
```

```
0
z2xy 7 1 19 19 19 2 1 8192 1 64
1 620
0
z2x2y2 7 1 19 19 19 2 1 8192 1 64
1 -4618
0
z2c 7 1 19 19 19 2 1 8192 1 64
1 196
0
z2x3 7 1 19 19 19 2 1 8192 1 64
1 0
0
z3 7 1 19 19 19 2 1 8192 1 64
1 4303
0
z2y3 7 1 19 19 19 2 1 8192 1 64
1 0
0
z3c 7 1 19 19 19 2 1 8192 1 64
1 0
0
z5 7 1 19 19 19 2 1 8192 1 64
1 22639
0
z4x 7 1 19 19 19 2 1 8192 1 64
1 -1450
0
z3y 7 1 19 19 19 2 1 8192 1 64
```

```
1 16138
0
z3x3 7 1 19 19 19 2 1 8192 1 64
1 0
0
z3x2y2 7 1 19 19 19 2 1 8192 1 64
1 5225
0
z3xy 7 1 19 19 19 2 1 8192 1 64
1 -16178
0
z4 7 1 19 19 19 2 1 8192 1 64
1 -11645
0
z3y3 7 1 19 19 19 2 1 8192 1 64
1 0
0
z4c 7 1 19 19 19 2 1 8192 1 64
1 0
0
z4xy 7 1 19 19 19 2 1 8192 1 64
1 -2696
0
z4x2y2 7 1 19 19 19 2 1 8192 1 64
1 -1027
0
z4y 7 1 19 19 19 2 1 8192 1 64
1 -11164
0
z7 7 1 19 19 19 2 1 8192 1 64
```

```
1 0
0
z5y 7 1 19 19 19 2 1 8192 1 64
1 -7429
0
z5x 7 1 19 19 19 2 1 8192 1 64
1 -6555
0
z6 7 1 19 19 19 2 1 8192 1 64
1 -9036
0
zx2y2 7 1 19 19 19 2 1 8192 1 64
1 -2017
0
z8 7 1 19 19 19 2 1 8192 1 64
1 0
0
zxy 7 1 19 19 19 2 1 8192 1 64
1 8060
0
zx3 7 1 19 19 19 2 1 8192 1 64
1 10341
0
zy3 7 1 19 19 19 2 1 8192 1 64
1 824
0
```