

Supporting Information

Quantifying millisecond time-scale exchange in proteins by CPMG relaxation dispersion NMR spectroscopy of side-chain carbonyl groups

Alexandar L. Hansen and Lewis E. Kay

Table S1 - Side-chain carbonyl $|\Delta\omega|$ values obtained from fits of relaxation dispersion profiles measured using the scheme of Figure 1 and recorded at 11.7 and 18.8T. 'Sign' indicates the sign of $\Delta\omega$ as determined using the method of Skrynnikov et al. (2002) based on chemical shift changes of carbonyl peak positions in data sets obtained at 11.7 and 18.8 T, 25°C. A value of 0 indicates that the sign could not be determined unambiguously.

Residue	25°C/pH 6.6/D ₂ O		10°C/pH 6.6/H ₂ O		Sign
	$ \Delta\omega $ (ppm)	$ \Delta\omega $ error (ppm)	$ \Delta\omega $ (ppm)	$ \Delta\omega $ error (ppm)	
02C δ	0.235	0.008	0.217	0.029	0
05C γ	0.184	0.018	0.228	0.047	0
09C γ	0.264	0.028	0.325	0.046	0
12C δ	0.280	0.008	0.265	0.038	0
14C δ	0.392	0.015	0.495	0.117	-1
17C δ	0.173	0.014	0.183	0.030	0
21C δ	0.499	0.006	0.472	0.032	+1
23C δ	0.241	0.012	0.299	0.034	0
25C δ	1.884	0.055	1.680	0.504	+1
26C γ	0.777	0.015	0.957	0.124	+1
31C γ	0.283	0.019	0.362	0.044	0
32C γ	0.286	0.011	0.225	0.027	0
35C γ	0.490	0.013	0.745	0.026	+1
39C δ	0.155	0.013	0.119	0.037	0
46C δ	2.056	0.055	2.120	0.127	-1
49C γ	0.569	0.033	0.547	0.093	0
52C γ	0.942	0.038	1.157	0.154	+1
59C γ	0.192	0.023	0.250	0.030	0
60C γ	0.254	0.020	0.234	0.041	0
62C γ	0.603	0.012	0.911	0.039	+1
63C γ	0.175	0.028	0.204	0.034	0
66C δ	0.216	0.009	0.163	0.038	0
71C δ	0.789	0.011	0.869	0.041	+1
74C δ	0.176	0.013	0.101	0.038	0
79C γ	0.340	0.029	0.168	0.124	+1
86C δ	0.138	0.012	0.157	0.029	0

Skrynnikov, N. R., Dahlquist, F. W., & Kay, L. E. (2002) Reconstructing NMR spectra of "invisible" excited protein states using HSQC and HMQC experiments. J. Am. Chem. Soc. 124, 12352-12360.

Pulse sequence code

```
/* Asp_Glu_exchange_cpmg_800_lek_v2.c
```

This pulse sequence will allow one to perform the following experiment:

2D C13,1H correlation map to observe exchange with variable CPMG spacing
exchange is quantified in the COO- positions of Asp and Glu

Uses two channels:

- 1) 1H - 4.73 ppm or methyl region
- 2) 13C - 38.5 ppm (center of Cb (asp) and Cg (glu) region)/ 181 ppm

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

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

Must set phase = 1,2 for States-TPPI acquisition in t1 [13C].

Carbon Pulses:

Sit at 38.5 ppm with the carrier.

pw90: delta/sq(15) pulse (90o) with null at 180 ppm

pw180: delta/sq(3) pulse (180o) with null at 180 ppm

pw_reb: reburp centered at 180 ppm

pwreb_cp: cpmg pulse using DFH shape (similar to reburp).

delta = 181 - 38.5 ppm (in Hz)
= 17919 @ 500
= 21503 @ 600
= 25087 @ 700
= 28671 @ 800
= 34047 @ 950

Water Pulses:

tpwrs1, pw_s1, shp_s1: Eburp1

tpwrs11, pw_s11, shp_s11: sel3

tpwrs12, pw_s12, shp_s12: sel4

Written by L.E.Kay on Jan. 17, 2011

In Alex's protein most upfield E-Cg is 33.6 (2nd 33.9) and downfield Cb is 31.4

Expts we have done shows that adiabatic decoupling using a bandwidth of between
3-5 ppm can come to about 3.5 ppm from the start of the
regions of interest (that we do not want to hit) with only a few % loss.

By 4 ppm separation between decoupling region and
the region it is perfect. Decouple from 26 to 30.5

Decouple from 26 to 30.5 (Glu Cb) and from 50 to 60 (Asp Ca)

Jan 24, LEK added Asp_flg that allows 'refocusing' of the 3-bond coupling effects
(COO- - CO)

d_cb, pw_cb, sh_cb set to delta1/sq(3) where delta1 = 40 - 180 ppm in Hz (-140 ppm)

d_ca, pw_ca, sh_ca set to reburp centered at 55 ppm (1.5 ms pulse at 800)

CO carrier at 181 ppm; set at 38.5 ppm

Modified by L.E.Kay on Jan. 25, 2011 to include a selective Cb pulse in the first inept

set selCB_flg == 'y', use sh_cb sel, d_cb sel, pw_cb sel; use a 1.5 ms pulse at 800 -
has a bandwidth of 10 ppm

Modified by L.E.Kay on Jan. 25, 2011 to refocus CO-CB before CPMG

ALH noticed artifacts originating from signals that are not adequately suppressed.

This is remedied using larger bandwidth, synchronous decoupling.

Modified by L.E.Kay on Feb. 9, 2011 to add purge element at the end.

```

        Use dmm = cccp, dseq = garp1 or waltz16 (use garp1 for best results)

*/

#include <standard.h>

static int  phi1[2] = {0,2},
            phi2[4] = {0,0,2,2},
            phi3[8] = {1,1,1,1,3,3,3,3},
            phi4[2] = {1,3},
            phi14[2] = {0,2},
            rec[8]  = {0,2,2,0,2,0,0,2};

static double d2_init=0.0;

pulsesequance()
{
/* DECLARE VARIABLES */

char      fsat[MAXSTR],
          fscuba[MAXSTR],
          fl180[MAXSTR], /* Flag to start t1 @ halfdwell */
          shp_sl[MAXSTR],
          shp_sl1[MAXSTR],
          shp_sl2[MAXSTR],
          sh_reb[MAXSTR],
          sh_cl80[MAXSTR],
          cdec[MAXSTR],
          sh_cpmg[MAXSTR],
          sh_cb[MAXSTR],
          sh_ca[MAXSTR],
          Asp_flg[MAXSTR],
          selCB_flg[MAXSTR],
          sh_cbssel[MAXSTR];

int        phase,
          t1_counter; /* used for states tppi in t1 */

double      tau1, /* t1 delay */
          taua, /* set to approx. 1/4JCH */
          taub, /* set to exactly 1/4JCBCO about 9 ms */
          tsatpwr, /* low level 1H trans.power for presat */
          dhpwr, /* power level for high power 13C pulses on dec1 */
          sw1, /* sweep width in f1 */
          d_c90, /* power level for delta/sq(15) */
          pwc90,
          d_cl80, /* power level for delta/sq(3) */
          pwc180,
          d_reb,
          pwc_reb,
          dpwr_cdec,
          dpwr_cp, /* power level for 13C CPMG */
          phase_cpmg,
          pwreb_cp,
          phases1,
          phases11,
          ncyc_cp, /* number of CPMG cycles */
          time_T2, /* total time for CPMG trains */
          tau_cpmg,
          pwn,
          dhpwr2,
          tpwrs1,
          pw_sl,
          tpwrs11,
          pw_sl1,

```

```

        tpwrs12,
        pw_sl2,

        dof,
        dofco,

        dresc,
        dmfc,

        time_eq,

        /* parameters for purge element for Asp/Asn */

        d_cb,
        pwc_cb,

        d_cbasel,
        pwc_cbasel,

        d_ca,
        pwc_ca,

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

        gzlv10,
        gzlv11,
        gzlv12,
        gzlv13,
        gzlv14,
        gzlv15,
        gzlv16,
        gzlv17,
        gzlv18,
        gzlv19;

/* LOAD VARIABLES */

getstr("fsat",fsat);
getstr("f1180",f1180);
getstr("fscuba",fscuba);

getstr("shp_sl",shp_sl);
getstr("shp_sl1",shp_sl1);
getstr("shp_sl2",shp_sl2);

getstr("sh_reb",sh_reb);
getstr("sh_c180",sh_c180);
getstr("cdec",cdec);
getstr("sh_cpmg",sh_cpmg);

getstr("sh_cb",sh_cb);
getstr("sh_ca",sh_ca);

getstr("Asp_flg",Asp_flg);

getstr("sh_cbasel",sh_cbasel);
getstr("selCB_flg",selCB_flg);

taua  = getval("taua");
taub  = getval("taub");
tpwr  = getval("tpwr");
tsatpwr = getval("tsatpwr");
dhpwr = getval("dhpwr");
dpwr  = getval("dpwr");

```

```

phase = (int) ( getval("phase") + 0.5);
sw1 = getval("sw1");

d_c90 = getval("d_c90");
pwc90 = getval("pwc90");
d_c180 = getval("d_c180");
pwc180 = getval("pwc180");
d_reb = getval("d_reb");
pwc_reb = getval("pwc_reb");

dpwr_cdec = getval("dpwr_cdec");

dpwr_cp = getval("dpwr_cp");
ncyc_cp = getval("ncyc_cp");
time_T2 = getval("time_T2");

pwn = getval("pwn");
dhpwr2 = getval("dhpwr2");

tpwrs1 = getval("tpwrs1");
pw_sl = getval("pw_sl");
tpwrs11 = getval("tpwrs11");
pw_sl1 = getval("pw_sl1");
tpwrs12 = getval("tpwrs12");
pw_sl2 = getval("pw_sl2");

phase_cpmg = getval("phase_cpmg");
pwreb_cp = getval("pwreb_cp");

time_eq = getval("time_eq");

dof = getval("dof");
dofco = getval("dofco");

dresc = getval("dresc");
dmf_c = getval("dmf_c");

phases1 = getval("phases1");
phases11 = getval("phases11");

d_cb = getval("d_cb");
pwc_cb = getval("pwc_cb");

d_cbse1 = getval("d_cbse1");
pwc_cbse1 = getval("pwc_cbse1");

d_ca = getval("d_ca");
pwc_ca = getval("pwc_ca");

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");

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");

/* LOAD PHASE TABLE */

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```

settable(t1,2,phi1);
settable(t2,4,phi2);
settable(t3,8,phi3);
settable(t4,2,phi4);
settable(t14,2,phi14);
settable(t5,8,rec);

/* CHECK VALIDITY OF PARAMETER RANGES */

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

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

if((dmm[D] != 'p' ))
{
    printf("WARNING! Use synchronous decoupling! See sequence notes\n");
    abort(1);
}

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

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

if(dpwr_cp > 60)
{
    printf("don't fry the probe, dpwr_cp too large: < 61!\n");
    abort(1);
}

if( dpwr2 > -16 )
{
    printf("don't fry the probe, DPWR2 too large!\n");
    abort(1);
}

if( pw > 200.0e-6 )
{
    printf("dont fry the probe, pw too high !\n");
    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 \n");
    abort(1);
}

if(ncyc_cp > 80) {
    printf("ncyc_cp is too large; must be less than 81\n");
    abort(1);
}

if(ncyc_cp > 40 && d1 < 2) {

```

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        printf("increase the value of d1\n");
        abort(1);
    }

    if(time_T2 > .040) {
        printf("time_T2 is too large; must be less than 40 ms\n");
        abort(1);
    }

    if(ncyc_cp > 0) {
        tau_cpmg = time_T2/(4.0*ncyc_cp) - 0.5*pwreb_cp;
        if(ix==1)
            printf("nuCPMG for curent experiment is (Hz): %5.3f\n",1/(4.0*(tau_cpmg+0.5*pwreb_cp)));
    }
    else {
        tau_cpmg = time_T2/(4.0) - 0.5*pwreb_cp;
        if(ix==1)
            printf("nuCPMG for curent experiment is (Hz): not applicable\n");
    }

    if(tau_cpmg - (2.0/PI)*pwc90 - SAPS_DELAY - WFG_START_DELAY < 5.0e-6) {
        printf("tau_cpmg is too small; decrease ncyc_cp\n");
        abort(1);
    }

    if(tpwrs1 > 30) {
        printf("tpwrs1 is too high; < 31\n");
        abort(1);
    }

    if(tpwrs11 > 25) {
        printf("tpwrs11 is too high; < 26\n");
        abort(1);
    }

    if(tpwrs12 > 25) {
        printf("tpwrs12 is too high; < 26\n");
        abort(1);
    }

    if(pw_sl > 8e-3) {
        printf("pw_sl is too long; < 8 ms \n");
        abort(1);
    }

    if(pw_sl1 > 2e-3) {
        printf("pw_sl1 is too long; < 2 ms \n");
        abort(1);
    }

    if(pw_sl2 > 2e-3) {
        printf("pw_sl2 is too long; < 2 ms \n");
        abort(1);
    }

    if(pwreb_cp > 500e-6) {
        printf("pwreb_cp may be too long; < 500 us\n");
        abort(1);
    }

    if(d_cb > 59) {
        printf("d_cb is too large; < 60\n");
        abort(1);
    }

    if(d_ca > 51) {
        printf("d_ca is too large; < 51\n");
        abort(1);
    }

    if(d_cbsel > 51) {
        printf("d_cbsel is too large; < 51\n");
        abort(1);
    }

```

```

}

if(pwc_ca < 1000e-6) {
    printf("pwc_ca should be between 1-2 ms\n");
    abort(1);
}

if(pwc_cbset < 1000e-6) {
    printf("pwc_cbset should be between 1-2 ms\n");
    abort(1);
}

/* Phase incrementation for hypercomplex 2D data */

if (phase == 2)
    tsadd(t2,1,4);

/* Set up f1180 taul = t1 */

taul = d2;

if(pwc180 > 2.0*pwn) {
    taul = taul - (4.0/PI*pwc90 + POWER_DELAY + 4.0e-6 + WFG3_START_DELAY + pwc180
        + WFG3_STOP_DELAY + POWER_DELAY + 2.0e-6);
}

else {
    taul = taul - (4.0/PI*pwc90 + POWER_DELAY + 4.0e-6 + WFG3_START_DELAY + 2.0*pwn
        + WFG3_STOP_DELAY + POWER_DELAY + 2.0e-6);
}

if(f1180[A] == 'y') {
    taul += ( 1.0 / (2.0*sw1));
    if(taul < 0.4e-6) taul = 0.4e-6;
}

    taul = taul/2.0;

if(taul < 0.2e-6) {
    printf("taul is negative; decrease sw1\n");
    taul = 0.2e-6;
}

/* 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(t2,2,4);
    tsadd(t5,2,4);
}

/* BEGIN ACTUAL PULSE SEQUENCE */

status(A);

    rlpower(tsatpwr,TODEV);      /* Set transmitter power for 1H presaturation */
    rlpower(dhpwr,DODEV);       /* Set Dec1 power for 13C high power pulses */
    rlpower(dhpwr2,D02DEV);     /* Set Dec2 power for 15N high power pulses */

/* Presaturation Period */

status(B);

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

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        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);
    decoffset(dof);

    /* Turn receiver off */
    rcvroff();

    decpower(d_c90);
    decrgpulse(pwc90,zero,10.0e-6,0.0);

    delay(2.0e-6);
    rgradient('z',gzlv10);
    delay(gt0);
    rgradient('z',0.0);
    delay(250.0e-6);

    if(selCB_flg[A] == 'y')
        decpower(d_cbse1);
    else
        decpower(d_c180);

    obspower(tpwrs1);
    shaped_pulse(shp_sl,pw_sl,three,4.0e-6,0.0);
    obspower(tpwr);

    rgpulse(pw,zero,4.0e-6,0.0);

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

        delay(2.0e-6);
        rgradient('z',gzlv11);
        delay(gt1);
        rgradient('z',0.0);
        delay(250.0e-6);

        delay(taua - gt1 - 252.0e-6);

        simpulse(2.0*pw,pwc180,zero,zero,0.0,0.0);
        txphase(one);

        delay(2.0e-6);
        rgradient('z',gzlv11);
        delay(gt1);
        rgradient('z',0.0);
        delay(250.0e-6);

        delay(taua - gt1 - 252.0e-6);

    }

else {

```

```

delay(2.0e-6);
rgradient('z',gzlv11);
delay(gt1);
rgradient('z',0.0);
delay(150.0e-6);

delay(taua - gt1 - 152.0e-6 - WFG2_START_DELAY - 0.5*pwd_cbsel);

simshaped_pulse("hard",sh_cbsel,2.0*pwd,pwd_cbsel,zero,zero,0.0,0.0);
txphase(one);

delay(2.0e-6);
rgradient('z',gzlv11);
delay(gt1);
rgradient('z',0.0);
delay(150.0e-6);

delay(taua - gt1 - 152.0e-6 - 0.5*pwd_cbsel - WFG2_STOP_DELAY);
}

rgpulse(pwd,one,0.0,0.0);

delay(2.0e-6);
rgradient('z',gzlv12);
delay(gt2);
rgradient('z',0.0);
delay(250.0e-6);

decpower(d_c90);
decrpulse(pwd90,t1,2.0e-6,0.0);

/* BS pulse */
decpower(d_reb);
decshaped_pulse(sh_reb,pwd_reb,zero,4.0e-6,0.0);
/* BS pulse */
decphase(zero);

/* turn on carbon decoupling */
decpower(dpwr_cdec);
decprgon(cdec,1.0/dmf_c,dresc);
decon();
/* turn on carbon decoupling */

delay(taub - POWER_DELAY - 4.0e-6 - WFG_START_DELAY - pwd_reb
      - WFG_STOP_DELAY - POWER_DELAY - PRG_START_DELAY
      - PRG_STOP_DELAY - POWER_DELAY - 4.0e-6);

/* turn off carbon decoupling */
decoff();
decprgoff();
/* turn off carbon decoupling */

initval(1.0,v6);
decstepsize(phases1);
dcplrphase(v6);

decpower(d_c180);
decrpulse(pwd180,zero,4.0e-6,0.0);
dcplrphase(zero);

decpower(d_reb);
decshaped_pulse(sh_reb,pwd_reb,zero,4.0e-6,0.0);

decphase(zero);
/* turn on carbon decoupling */
decpower(dpwr_cdec);
decprgon(cdec,1.0/dmf_c,dresc);
decon();
/* turn on carbon decoupling */

delay(taub - POWER_DELAY - 4.0e-6 - WFG_START_DELAY - pwd_reb

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```

- WFG_STOP_DELAY - POWER_DELAY - PRG_START_DELAY
- PRG_STOP_DELAY - POWER_DELAY - 4.0e-6);

/* turn off carbon decoupling */
decoff();
decprgoff();
/* turn off carbon decoupling */

decpower(d_c90);
decrpulse(pwc90,one,4.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlvl3);
delay(gt3);
rgradient('z',0.0);
delay(250.0e-6);

decoffset(dofco); /* now refocus CO-CB because having Cb around causes problems */

decrpulse(pwc90,zero,4.0e-6,0.0);
decpower(d_c180);

delay(2.0e-6);
rgradient('z',gzlvl3);
delay(gt3/2.0);
rgradient('z',0.0);
delay(150.0e-6);

initval(1.0,v8);
decstepsize(phases11);
dcplrphase(v8);

delay(1.0/(4.0*51) - gt3/2.0 - 152.0e-6 - 2.0*GRADIENT_DELAY
- WFG_START_DELAY - pwc180 - WFG_STOP_DELAY - 2.0e-6);

decshaped_pulse(sh_c180,pwc180,zero,0.0,0.0);
dcplrphase(zero);

decrpulse(pwc180,zero,2.0e-6,0.0);

delay(1.0/(4.0*51) - gt3/2.0 - 152.0e-6 - 2.0*GRADIENT_DELAY
- 2.0e-6 - WFG_START_DELAY - pwc180 - WFG_STOP_DELAY
- POWER_DELAY - 2.0e-6);

delay(2.0e-6);
rgradient('z',gzlvl3);
delay(gt3/2.0);
rgradient('z',0.0);
delay(150.0e-6);

decshaped_pulse(sh_c180,pwc180,zero,2.0e-6,0.0);
decpower(d_c90);
decrpulse(pwc90,one,2.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlvl4);
delay(gt4/2.0);
rgradient('z',0.0);
delay(250.0e-6);

decpower(d_c90);
decrpulse(pwc90,t2,4.0e-6,0.0);

delay(tau1);

decpower(d_c180);
sim3shaped_pulse("hard",sh_c180,"hard",2.0*pw,pwc180,2.0*pwn,zero,zero,zero,4.0e-6,0.0);
decpower(d_c90);

delay(tau1);

decrpulse(pwc90,zero,2.0e-6,0.0);

```

```

delay(2.0e-6);
rgradient('z',gzlv14);
delay(gt4);
rgradient('z',0.0);
delay(250.0e-6);

delay(time_eq);

decpower(d_c90);
decrgpulse(pwc90,t3,4.0e-6,0.0);
decphase(zero);

decpower(dpwr_cp);

initval(1.0,v7);
decstepsize(phase_cpmg);
dcplrphase(v7);

/* start of the CPMG period 1 */

if(Asp_flg[A] == 'n') {
if(ncyc_cp > 0) {

    delay(tau_cpmg - (2.0/PI)*pwc90 - POWER_DELAY - SAPS_DELAY - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - WFG_STOP_DELAY);

}

if(ncyc_cp > 1) {
    initval(ncyc_cp-1,v4);
    loop(v4,v5);
    delay(tau_cpmg - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - WFG_STOP_DELAY);
    endloop(v5);
}

    decshaped_pulse(sh_cpmg,pwreb_cp,t4,2.0e-6+WFG_STOP_DELAY,2.0e-6+WFG_START_DELAY);

if(ncyc_cp > 1) {
    initval(ncyc_cp-1,v4);
    loop(v4,v5);
    delay(tau_cpmg - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - WFG_STOP_DELAY);
    endloop(v5);
}

if(ncyc_cp > 0) {

    delay(tau_cpmg - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - (2.0/PI)*pwc90 - 2.0e-6 - WFG_STOP_DELAY - POWER_DELAY - SAPS_DELAY);

}

} /* end of Asp_flg == 'n' */

else { /* for the case of looking at Asp */

if(ncyc_cp == 1) {

    delay(tau_cpmg - (2.0/PI)*pwc90 - POWER_DELAY - SAPS_DELAY - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - WFG_STOP_DELAY - (2.0/PI)*pwc90 - POWER_DELAY - 2.0e-6 - SAPS_DELAY);

}

if(ncyc_cp > 1) {

```

```

    delay(tau_cpmg - (2.0/PI)*pwc90 - POWER_DELAY - SAPS_DELAY - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - WFG_STOP_DELAY);

}

if(ncyc_cp > 2) {
    initval(ncyc_cp-2,v4);
    loop(v4,v5);
        delay(tau_cpmg - WFG_START_DELAY);
        decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
        delay(tau_cpmg - WFG_STOP_DELAY);
    endloop(v5);
}

if(ncyc_cp > 1) {
    delay(tau_cpmg - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - WFG_STOP_DELAY - (2.0/PI)*pwc90 - POWER_DELAY - 2.0e-6 - SAPS_DELAY);
}

/* refocus J evolution */

decpower(d_c90);
dcplrphase(zero);
decrpulse(pwc90,one,2.0e-6,0.0);

/* BS pulse on CB */
decpower(d_cb);
decshaped_pulse(sh_cb,pwc_cb,zero,2.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlv18);
delay(gt8);
rgradient('z',0.0);
delay(250.0e-6);

delay(1.0/(4.0*51) - (2.0/PI)*pwc90 - POWER_DELAY - 2.0e-6 - WFG_START_DELAY
    - pwc_cb - WFG_STOP_DELAY
    - gt8 - 252.0e-6 - 2.0*GRADIENT_DELAY
    - POWER_DELAY - 2.0e-6 - WFG_START_DELAY - 0.5*pwc_ca);

decpower(d_ca);
decshaped_pulse(sh_ca,pwc_ca,zero,2.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlv18);
delay(gt8);
rgradient('z',0.0);
delay(250.0e-6);

delay(1.0/(4.0*51) - 0.5*pwc_ca - WFG_STOP_DELAY
    - gt8 - 252.0e-6 - 2.0*GRADIENT_DELAY
    - SAPS_DELAY - 2.0e-6 - POWER_DELAY - WFG_START_DELAY);

initval(1.0,v7);
decstepsize(phase_cpmg);
dcplrphase(v7);

decpower(dpwr_cp);
decshaped_pulse(sh_cpmg,pwreb_cp,t14,2.0e-6,2.0e-6);
dcplrphase(zero);

decpower(d_cb);
decshaped_pulse(sh_cb,pwc_cb,zero,2.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlv19);
delay(gt9);
rgradient('z',0.0);
delay(250.0e-6);

delay(1.0/(4.0*51) - 2.0e-6 - WFG_STOP_DELAY

```

```

- SAPS_DELAY
- POWER_DELAY - WFG_START_DELAY - 2.0e-6
- pwc_cb - WFG_STOP_DELAY
- gt9 - 252.0e-6 - 2.0*GRADIENT_DELAY
- POWER_DELAY - 2.0e-6 - WFG_START_DELAY - 0.5*pwc_ca);

decpower(d_ca);
decshaped_pulse(sh_ca,pwc_ca,zero,2.0e-6,0.0);
decpower(d_c90);

delay(2.0e-6);
rgradient('z',gzlvl9);
delay(gt9);
rgradient('z',0.0);
delay(250.0e-6);

delay(1.0/(4.0*51) - 0.5*pwc_ca - WFG_STOP_DELAY - POWER_DELAY - 2.0e-6
- gt9 - 252.0e-6 - 2.0*GRADIENT_DELAY
- (2.0/PI)*pwc90);

decrpulse(pwc90,three,2.0e-6,0.0);

/* end of J-refocussing element */

decpower(dpwr_cp);
initval(1.0,v7);
decstepsize(phase_cpmg);
dcplrphase(v7);

if(ncyc_cp == 1) {

    delay(tau_cpmg - (2.0/PI)*pwc90 - POWER_DELAY - SAPS_DELAY - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - WFG_STOP_DELAY - (2.0/PI)*pwc90 - POWER_DELAY - 2.0e-6 - SAPS_DELAY);

}

if(ncyc_cp > 1) {

    delay(tau_cpmg - (2.0/PI)*pwc90 - POWER_DELAY - SAPS_DELAY - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - WFG_STOP_DELAY);

}

if(ncyc_cp > 2) {
    initval(ncyc_cp-2,v4);
    loop(v4,v5);
        delay(tau_cpmg - WFG_START_DELAY);
        decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
        delay(tau_cpmg - WFG_STOP_DELAY);
    endloop(v5);
}

if(ncyc_cp > 1) {
    delay(tau_cpmg - WFG_START_DELAY);
    decshaped_pulse(sh_cpmg,pwreb_cp,zero,0.0,0.0);
    delay(tau_cpmg - WFG_STOP_DELAY - (2.0/PI)*pwc90 - POWER_DELAY - 2.0e-6 - SAPS_DELAY);
}

} /* end of Asp_flg == 'y' */

decpower(d_c90);
dcplrphase(zero);

decrpulse(pwc90,one,2.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlvl5);
delay(gt5);
rgradient('z',0.0);
delay(150.0e-6);

```

```

decrpulse(pwc90,zero,4.0e-6,0.0);
decpower(d_c180);
decshaped_pulse(sh_c180,pwc180,zero,2.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlv15);
delay(gt5/2.0);
rgradient('z',0.0);
delay(150.0e-6);

initval(1.0,v8);
decstepsize(phases11);
dcplrphase(v8);

delay(1.0/(4.0*51)
- POWER_DELAY - 2.0e-6 - WFG_START_DELAY - pwc180 - WFG_STOP_DELAY
- gt5/2.0 - 152.0e-6 - 2.0*GRADIENT_DELAY);

decrpulse(pwc180,zero,0.0,0.0);
dcplrphase(zero);

decshaped_pulse(sh_c180,pwc180,zero,2.0e-6,0.0);

delay(1.0/(4.0*51) - gt5/2.0 - 152.0e-6 - 2.0*GRADIENT_DELAY
- 2.0e-6 - WFG_START_DELAY - pwc180 - WFG_STOP_DELAY
- POWER_DELAY - 2.0e-6);

delay(2.0e-6);
rgradient('z',gzlv15);
delay(gt5/2.0);
rgradient('z',0.0);
delay(150.0e-6);

decpower(d_c90);
decrpulse(pwc90,one,2.0e-6,0.0);

decoffset(dof); /* carrier back to 38 ppm */

delay(2.0e-6);
rgradient('z',gzlv15);
delay(gt5/2.0);
rgradient('z',0.0);
delay(150.0e-6);

decpower(d_c90);
decrpulse(pwc90,zero,5.0e-6,0.0);
decphase(zero);

/* turn on carbon decoupling */
decpower(dpwr_cdec);
decprgon(cdec,1.0/dmf_c,dresc);
decon();
/* turn on carbon decoupling */

delay(taub - POWER_DELAY
- PRG_START_DELAY - PRG_STOP_DELAY - POWER_DELAY - 4.0e-6 - WFG_START_DELAY
- pwc_reb
- WFG_STOP_DELAY - POWER_DELAY - 4.0e-6);

/* turn off carbon decoupling */
decoff();
decprgoff();
/* turn off carbon decoupling */

decpower(d_reb);
decshaped_pulse(sh_reb,pwc_reb,zero,4.0e-6,0.0);

initval(1.0,v6);
decstepsize(phases1);
dcplrphase(v6);

decpower(d_c180);
decrpulse(pwc180,zero,4.0e-6,0.0);

```

```

dcplrphase(zero);

decphase(zero);
/* turn on carbon decoupling */
decpower(dpwr_cdec);
decprgon(cdec,1.0/dmf_c,dresc);
decon();
/* turn on carbon decoupling */

delay(taub
      - POWER_DELAY - PRG_START_DELAY
      - PRG_STOP_DELAY - POWER_DELAY - 4.0e-6 - WFG_START_DELAY - pwc_reb
      - WFG_STOP_DELAY - POWER_DELAY - 4.0e-6);

/* turn off carbon decoupling */
decoff();
decprgoff();
/* turn off carbon decoupling */

/* BS */
decpower(d_reb);
decshaped_pulse(sh_reb,pwc_reb,zero,4.0e-6,0.0);
/* BS */

decpower(d_c90);
decrpulse(pwc90,one,4.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlvl6);
delay(gt6);
rgradient('z',0.0);
delay(150.0e-6);

obspower(tpwrs1);
shaped_pulse(shp_sl,pw_sl,two,4.0e-6,0.0);
obspower(tpwr);

rgpulse(pw,zero,4.0e-6,0.0);

delay(2.0e-6);
rgradient('z',gzlvl7);
delay(gt7);
rgradient('z',0.0);
delay(100.0e-6);

delay(taua - gt7 - 102.0e-6
      - POWER_DELAY - 2.0e-6 - WFG_START_DELAY
      - pw_sl2 - WFG_STOP_DELAY - POWER_DELAY
      - POWER_DELAY
      - 2.0e-6);

obspower(tpwrs12);
shaped_pulse(shp_sl2,pw_sl2,two,2.0e-6,0.0);

obspower(tpwr);
decpower(d_c180);
simpulse(2.0*pw,pwc180,zero,zero,2.0e-6,0.0);

obspower(tpwrs11);
shaped_pulse(shp_sl1,pw_sl1,two,2.0e-6,0.0);

obspower(tpwr);

delay(2.0e-6);
rgradient('z',gzlvl7);
delay(gt7);
rgradient('z',0.0);
delay(100.0e-6);

delay(taua - POWER_DELAY - 2.0e-6 - WFG_START_DELAY
      - pw_sl1 - WFG_STOP_DELAY - POWER_DELAY
      - gt7 - 102.0e-6
      - 2.0*pwc180/2.0 - 2.0e-6

```

```

- 2.0*POWER_DELAY);

decrgpulse(pwc180/2.0,zero,0.0,0.0);
decrgpulse(pwc180/2.0,t1,2.0e-6,0.0);

rlpower(dpwr,DODEV); /* Set power for decoupling */
rlpower(dpwr2,DO2DEV); /* Set power for decoupling */

/* BEGIN ACQUISITION */

status(D);
setreceiver(t5);

}

```

Pulse Parameters

Side-chain parameters

procp

```

io 1 1 500 -500 0.1 4 1 1 1 64
1 10
0
dpwr_cdec 1 1 9 9 9 2 1 8192 1 64
1 30
0
dfrq 5 1 1000000000 -1000000000 0 2 1 8 1 64
1 201.0957854
0
crf 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
axisf 4 2 4 0 0 4 1 0 1 64
1 "s"
4 "m" "n" "s" "u"
array 2 2 256 0 0 2 1 1 1 64
1 "ncyc_cp,phase"
0
alfa 6 1 8192 -8192 1e-07 2 1 8194 1 64
1 6.6
0
acqstatus 7 1 32767 0 0 2 1 0 1 64
2 101 7
0
acqcycles 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 3800
0
Asp_flg 2 2 8 0 0 2 1 0 1 64
1 "n"
0
acqdim 7 1 1000000000 -1000000000 0 2 1 0 1 64
1 2
0
aig 2 2 2 0 0 4 1 1 1 64
1 "ai"
2 "nm" "ai"
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,mixn
oe:3,mixshift:3,mixmlev:3,trim:3,jxh:1;1:FLAGS:fscuba,fmlev,fnoesy,dp,hs;2:2D
DISPLAY:sp1:1,wpl:1,sc2:0,wc2:0,rfl1:1,rfp1:1;2:DEC.
VT:dn:2,dof:1,dm,dmm,dmf,dpwr(dpwr):0,pwxlv1:0,pwx:1,dlp(dlp):0,homo,temp(temp):1,satflg,satdly:3,satf
rq:1,satpwr:0;2:PROCESSING:cf(nf):0,lb(lb):2,sb(sb):3,sbs(sb):3,gf(gf):3,gfs(gf):3,awc(awc):3,lsfid(ls
fid):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,procl,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
alock 2 2 8 0 0 2 1 0 1 64
1 "n"
5 "a" "n" "s" "u" "y"
at 1 1 14 14 14 2 1 8203 1 64
1 0.0639936000001
0
arrayelemts 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 3
0
arraydim 7 1 32768 1 1 2 1 5 1 64
1 3800
0
awc1 1 1 1 -1 0.001 3 1 1 0 64
1 0
0
awc 1 1 1 -1 0.001 3 1 1 0 64
1 0
0
axis 4 2 4 0 0 4 1 0 1 64
1 "h"
11 "c" "d" "1" "2" "3" "h" "k" "m" "n" "p" "u"
cp 2 2 1 0 0 2 1 0 1 64
1 "y"
2 "y" "n"
celem 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 3800
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 32
0
cdec 2 2 8 0 0 2 1 0 1 64
1 "alh_cacb_dec"
0
cofrq 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 10800
0
cf 7 1 32767 0 1 3 1 1 0 64
1 1
0
console 2 2 8 0 0 2 1 0 1 64
1 "inova"
0
cr1 1 1 1000000000 -1000000000 0 4 1 3 1 64
1 -613.603499887
0
cr 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 -2250.06048305
0
dco90pwr 7 1 32767 0 0 2 1 0 1 64
1 52
0
d_c90 1 1 9 9 9 2 1 8192 1 64
1 52
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 8
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 2
0
d_c180 1 1 9 9 9 2 1 8192 1 64
1 59
0

```

```

d_reb 1 1 9 9 9 2 1 8192 1 64
1 60
0
d_cb 1 1 9 9 9 2 1 8192 1 64
1 59
0
d_ca 1 1 9 9 9 2 1 8192 1 64
1 48
0
d_cbsel 1 1 9 9 9 2 1 8192 1 64
1 48
0
dcapwr 7 1 77 0 1 2 1 0 1 64
1 64
0
date 2 2 9 0 0 2 1 1 1 64
1 "Jan 28 2011"
0
dcg 2 2 3 0 0 4 1 1 1 64
1 ""
2 "dc" "cdc"
deltaf 1 1 100 0 0 4 1 0 1 64
1 0.00296542986425
0
decfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 -3000
0
dcodpwr 7 1 61 0 0 2 1 0 1 64
1 57
0
deltaone 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 0
0
deltafrq 5 1 1000000000 -10000000000 0 2 1 0 1 64
1 -19000
0
dmm2 2 2 8 0 0 2 1 0 1 64
1 "cccc"
0
dhpwr2 1 1 18 18 18 2 1 8192 1 64
1 61
0
dhipwr 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 63
0
dgl 2 2 1023 0 0 4 1 6 1 64
1
"1:DISPLAY:sp:1,wp:1,vs:0;1:REFERENCE:rfl:1,rfp:1,cr:1,delta:1;1:PHASE:lp:1,rp:1,rp1(ni):1,lp1(ni):1;2
:CHART:sc:0,wc:0,hzmm:2,vp:0,axis,pltmod,,th:0,,ho:2,vo:2,,rplot,trace:2;3(ni):2D:sp1:1,wp1:1,sc2:0,wc
2:0,rfl1:1,rfp1:1;3:FLAGS:aig*,dcg*,dmg*;3:FID:sf:3,wf:3,vf:0;4:INTEGRAL:intmod,is:2,ins:3,io:0,,lvl:3
,tl:3;"
0
dfrq3 1 1 1000000000 0 0 2 1 9 1 64
1 0
0
dfrq2 1 1 1000000000 0 0 2 1 9 1 64
1 81.0441127
0
dg 2 2 1023 0 0 4 1 6 1 64
1
"1:SAMPLE:date,,;1:2D
ACQUISITION:sw:1,sw1:1,ni:0,phase:0,np:0,ss:0,nt:0,at:3;2:SPECIAL:gain,temp:1,ncyc_cp:0,seqfil,time_T2
,phase_cpmg:1,phasesl:1,phasesl1:1;2:DELAYS:taua:5,taub:5,time_eq:5,d1:3,d2:6,tin,vtwait;3:CHANNEL
1:sfrq:3,tn,tof:1,tpwr:0,tpwrs1:0,tpwrs11:0,tpwrs12:0,tsatpwr:0,pw:2,pw_sl:1,shp_sl,pw_sl1:1,shp_sl1,p
w_sl2:1,shp_sl2,alfa:1;3:FLAGS:fsat,fscuba,f1180,Asp_flg,selCB_flg;4:CHANNEL
3:dfrq2:3,dn2,dof2:1,pwn:1,dhpwr2:0,dpwr2:0,dm2,dmm2,dmf2,dseq2,dres2;"
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
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
dg2 2 2 1023 0 0 4 1 7 1 64
1
2:dfrq:3,dn,dof:1,dofco:1,dhpwr:0,d_c90:0,pwc90:1,d_c180:0,pwc180:1,d_reb:0,pwc_reb:1,sh_reb,dpwr_cdec
:0,cdec,dresc:0,dmf_c:0,sh_c180,dpwr_cp:0,sh_cpmg,pwreb_cp:1,d_ca:0,pwc_ca:1,sh_ca,d_cb:0,pwc_cb:1,sh_
cb,d_cbse1:0,pwc_cbse1:1,sh_cbse1,dpwr:0,dseq,dm,dmm,dres,dmf;2:GRADIENTS:gt0:4,gzlv10:0,gt1:4,gzlv11:
0,gt2:4,gzlv12:0,gt3:4,gzlv13:0,gt4:4,gzlv14:0,gt5:5,gzlv15:0,gt6:4,gzlv16:0,gt7:4,gzlv17:0,gt8:4,gzlv
18:0,gt9:4,gzlv19:0;"
0
dh2pwr 7 1 77 0 1 2 1 0 1 64
1 0
0
dhp 1 1 9 9 9 2 1 8192 0 64
1 40
0
dhpwr 1 1 9 9 9 2 1 8192 1 64
1 -16
0
dmf 7 1 11 11 11 2 1 8194 1 64
1 9174
0
dm2 2 2 8 0 0 2 1 0 1 64
1 "nnnn"
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
dm 4 2 4 0 0 2 1 0 1 64
1 "nnny"
4 "a" "n" "s" "y"
dm3 4 2 4 0 0 2 1 0 1 64
1 "n"
4 "a" "n" "s" "y"
dmf_c 1 1 2000000 1 1 2 1 0 1 64
1 25000
0
dmf2 7 1 100000 1 0 2 1 2 1 64
1 3759
0
dmf3 7 1 2000000 1 0 2 1 2 1 64
1 7092
0
dmg1 2 2 8 0 0 4 1 0 1 64
1 ""
4 "" "av1" "ph1" "pwr1"
dmg 2 2 2 0 0 4 1 3 1 64
1 "ph"
0
dmm 4 2 4 0 0 2 1 0 1 64
1 "cccw"
9 "c" "f" "g" "m" "p" "r" "u" "w" "x"
dof3 5 1 20 20 20 2 1 8202 1 64
1 0
0
dn3 2 2 8 0 0 2 1 8 1 64
1 ""
0
dn 2 2 4 0 0 2 1 8 1 64
1 "C13"
0
dmm3 4 2 4 0 0 2 1 0 1 64
1 "c"
9 "c" "f" "g" "m" "p" "r" "u" "w" "x"
dn2 2 2 8 0 0 2 1 8 1 64
1 "N15"
0
dof 5 1 8 8 8 2 1 8202 1 64
1 -10836.6862074
0

```

```

dod 3 1 14 14 14 2 1 8194 1 64
1 0.00999999977648
0
dof2 5 1 16 16 16 2 1 8202 1 64
1 2418.9
0
dpwr 7 1 9 9 9 2 1 8194 1 64
1 42
0
dotflag 2 2 8 0 0 4 1 0 1 64
1 "n"
2 "n" "y"
dofco 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 17718.9153194
0
dp 2 2 1 0 0 2 1 0 1 64
1 "y"
2 "y" "n"
dpwr3 7 1 21 21 21 2 1 8194 1 64
1 1
0
dpwr2 7 1 18 18 18 2 1 8194 1 64
1 -16
0
gt8 3 1 14 14 14 2 1 8192 1 64
1 0.0003
0
fmlev 4 2 4 0 0 2 1 0 1 64
1 "n"
0
fad1 2 2 8 0 0 2 1 0 1 64
1 "y"
0
dseq2 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
dpwrf 7 1 4095 0 1 2 1 2 0 64
1 4095
0
dpwr_cp 1 1 9 9 9 2 1 8192 1 64
1 60
0
dres 7 1 360 1 0 2 1 0 1 64
1 90
0
dresc 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 1
0
dseq 2 2 8 0 0 2 1 0 1 64
1 "waltz16"
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
dseq3 2 2 8 0 0 2 1 0 1 64
1 ""
0
exppath 2 2 8 0 0 2 1 0 1 64
1 "/usr2/guestkay/vnmrsys/exp11/acqfil"
0
flcoef 2 2 8 0 0 3 1 1 1 64
1 ""
0
file 2 2 6 0 0 2 1 3 1 64

```

```

1 "exp"
0
fad2 2 2 8 0 0 2 1 0 1 64
1 "n"
0
fb 7 1 6 6 6 2 1 8203 0 64
1 7000
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
flag3d 2 2 8 0 0 2 1 0 1 64
1 "y"
0
gfl 1 1 100000 0 0 3 1 1 1 64
1 0.0050210384652
0
fscuba 4 2 4 0 0 2 1 0 1 64
1 "n"
0
fnoesy 4 2 4 0 0 2 1 0 1 64
1 "n"
0
fnl 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
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
fsat 2 2 8 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
gain 1 1 60 0 2 2 1 0 1 64
1 26
0
gt2 3 1 14 14 14 2 1 8192 1 64
1 0.001
0
gt0 3 1 32768 -32768 -1 2 1 8192 1 64
1 0.0005
0
gfs1 1 1 1000 -1000 0.001 3 1 1 0 64
1 0
0
gfs 1 1 1000 -1000 0.001 3 1 1 1 64
1 0.003
0
gt1 3 1 14 14 14 2 1 8192 1 64
1 0.00025
0
gt5 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 0.0007
0
gt3 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 0.0002

```

```

0
gt6 3 1 14 14 14 2 1 8192 1 64
1 0.0003
0
homo3 4 2 4 0 0 2 1 0 1 64
1 "n"
2 "n" "y"
gzlv16 1 1 32768 -32768 1 2 1 0 1 64
1 14000
0
gzlv12 1 1 32768 -32768 1 2 1 0 1 64
1 25000
0
gzlv10 1 1 32768 -32768 1 2 1 0 1 64
1 4000
0
gt9 3 1 14 14 14 2 1 8192 1 64
1 0.0004
0
gzlv11 1 1 32768 -32768 1 2 1 0 1 64
1 5000
0
gzlv14 1 1 32768 -32768 1 2 1 0 1 64
1 10000
0
gzlv13 1 1 32768 -32768 1 2 1 0 1 64
1 8000
0
gzlv15 1 1 32768 -32768 1 2 1 0 1 64
1 6000
0
ho 1 1 500 -500 0 4 1 1 1 64
1 -85.8333333333
0
gzlv18 1 1 32768 -32768 1 2 1 0 1 64
1 3000
0
gzlv17 1 1 32768 -32768 1 2 1 0 1 64
1 12000
0
gzlv19 1 1 32768 -32768 1 2 1 0 1 64
1 6500
0
homo2 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"
ins2 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 100
0
hzmm 1 1 1000000000 -10000000000 0 4 1 11 1 64
1 24.4946369637
0
hscuba 3 1 14 14 14 2 1 8192 1 64
1 0.03
0
hs 4 2 4 0 0 2 1 0 1 64
1 "nnyn"
2 "n" "y"
hst 3 1 0.02 0 2.5e-08 2 1 2 1 64
1 0.01
0
in 4 2 1 0 0 2 1 0 1 64
1 "n"
3 "n" "w" "y"
il 2 2 1 0 0 2 1 0 1 64
1 "n"
2 "y" "n"
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
ins2ref 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
pwreb_cp 6 1 13 13 13 2 1 8192 1 64
1 384
0
nt 7 1 1000000000 1 1 2 1 2 1 64
1 8
0
mcy 7 1 32767 0 0 2 1 0 1 64
1 1
0
load 2 2 4 0 0 2 1 3 1 64
1 "n"
2 "y" "n"
lb 1 1 100000 -100000 0 3 1 1 0 64
1 30
0
jnh 1 1 10000 80 0 2 1 1024 1 64
1 106
0
is 1 1 1000000000 1e-06 0 4 1 3 1 64
1 4000
0
jcc 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 75
0
jxh 7 1 32767 0 0 2 1 0 1 64
1 105
0
jxh2 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 94
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
lcpeak_ 7 1 32767 0 0 2 1 0 1 64
1 0
0
lb1 1 1 100000 -100000 0 3 1 1 0 64
1 0.318309992552
0
liamp 1 1 1000000000 0 0 4 1 0 0 64
4 0 0 0 0.577882409096
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
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 -5.1969997027e-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
lpl 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
lockphase_ 1 1 360 0 1 2 1 16 1 64
1 335
0
lockfreq_ 5 1 160 0 1e-07 2 1 9 1 64
1 122.7618
0
loc_ 7 1 12 12 12 2 1 8201 0 64
1 0
0
lockgain_ 1 1 48 0 1 2 1 16 1 64
1 40
0
lp 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
lockpower_ 1 1 68 0 1 2 1 16 1 64

```

```

1 25
0
lsfrq1 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
0
lsfid1 7 1 64000 -64000 1 3 1 0 0 64
1 0
0
lsfid 7 1 64000 -64000 1 3 1 0 0 64
1 0
0
lsfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
0
macro 2 2 6 0 0 4 1 3 1 64
1 ""
0
lvl 1 1 10000000000 -10000000000 0 4 1 1 1 64
1 -0.0746656657213
0
math 2 2 1 0 0 3 1 3 1 64
1 "f"
3 "d" "f" "i"
mlevpwr 7 1 32767 0 0 2 1 0 1 64
1 50
0
mixnoe 3 1 14 14 14 2 1 8192 1 64
1 0.14
0
mixmlev 3 1 14 14 14 2 1 8192 1 64
1 0.02
0
method 2 2 6 0 0 2 1 3 1 64
1 "/vnmr/shimmethode/z1z2"
0
mixshift 3 1 14 14 14 2 1 8192 1 64
1 0
0
ncyc_cp 1 1 80 0 1 2 1 0 1 64
19 0 45 1 40 2 35 3 30 4 26 6 22 8 18 10 14 2 40 14
0
n2 2 2 6 0 0 4 1 3 1 64
1 ""
0
n1 2 2 6 0 0 4 1 3 1 64
1 ""
0
n3 2 2 6 0 0 4 1 3 1 64
1 ""
0
notebook 2 2 8 0 0 2 1 0 1 64
1 ""
0
ni 7 1 32767 0 0 2 1 0 1 64
1 100
0
np 7 1 524288 32 2 2 1 11 1 64
1 1536
0
priority 7 1 32768 0 1 2 1 0 1 64
1 5
0
phfid 1 1 3600 -3600 0.1 3 1 0 0 64
1 0
0
page 2 2 8 0 0 2 1 0 1 64
1 ""
0
oslsfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 1 0 64
1 0
0
osfb 1 1 100000 0 0 2 1 1 0 64
1 0

```

```

0
oscoef 7 1 49999 3 2 2 1 1 0 64
1 31
0
osfilt 2 2 8 0 0 2 1 0 1 64
1 "a"
5 "a" "A" "b" "B" ""
p1 6 1 13 13 13 2 1 8194 1 64
1 0
0
oversamp 7 1 68 0 1 2 1 9 1 64
1 33
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
phasesl 1 1 360 0 0.5 2 1 0 1 64
1 357.5
0
phase_cpmg 1 1 360 0 0.5 2 1 0 1 64
1 359
0
phasesl1 1 1 360 0 0.5 2 1 0 1 64
1 359.5
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
phfid1 1 1 3600 -3600 0.1 3 1 0 0 64
1 0
0
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
pwc180 6 1 13 13 13 2 1 8192 1 64
1 32.2
0
pw90 6 1 13 13 13 2 1 8194 1 64
1 8.2
0
proc1 2 2 10 0 0 3 2 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
pslabel 2 2 8 0 0 2 1 11 1 64
1 "Asp_Glu_exchange_cpmg_800_lek_v2"
0
procdim 7 1 1000000000 -1000000000 0 3 1 0 1 64
1 0
0

```

```

pw 6 1 13 13 13 2 1 8194 1 64
1 6.7
0
pw_sl1 6 1 13 13 13 2 1 8192 1 64
1 0
0
pw_sl 6 1 13 13 13 2 1 8192 1 64
1 0
0
pw_sl2 6 1 13 13 13 2 1 8192 1 64
1 0
0
pwc_reb 6 1 13 13 13 2 1 8192 1 64
1 384
0
pwc_cb 6 1 13 13 13 2 1 8192 1 64
1 32.2
0
pwc_ca 6 1 13 13 13 2 1 8192 1 64
1 1504
0
pwc90 6 1 13 13 13 2 1 8192 1 64
1 33.6
0
pwc_cbse1 6 1 13 13 13 2 1 8192 1 64
1 1504
0
pwco_sh 2 2 8 0 0 2 1 0 1 64
1 "herm180_17p6_750"
0
pwco180 6 1 13 13 13 2 1 8192 1 64
1 254
0
pwca 6 1 13 13 13 2 1 8192 1 64
1 50
0
pwn 6 1 13 13 13 2 1 8192 1 64
1 38.5
0
pwcod 6 1 13 13 13 2 1 8192 1 64
1 234
0
pwn15 6 1 200 0 0.025 2 1 1024 1 64
1 36.5
0
tpwrf 7 1 4095 0 1 2 1 2 0 64
1 4095
0
spin 1 1 32000000 0 0.1 2 1 0 0 64
1 0
0
satflg 2 2 8 0 0 2 1 0 1 64
1 "y"
0
reffrq1 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 598.9527892
0
r3 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 99.3962666667
0
r1 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 480
0
pwx2 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
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 0.0013333
0
r6 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0
0
r4 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0.0182848
0
r5 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0.032
0
ref 5 1 1000000000 -1000000000 0 3 1 0 1 64
1 0
0
r7 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0
0
reffrq 1 1 9.9999984307e+17 -9.9999984307e+17 0 4 1 0 1 64
1 799.719884454
0
rfp 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 0
0
refsource1 2 2 8 0 0 4 1 0 1 64
1 "sfrq"
0
refpos1 1 1 9.9999984307e+17 -9.9999984307e+17 0 4 1 0 0 64
1 0
0
refpos 1 1 9.9999984307e+17 -9.9999984307e+17 0 4 1 0 1 64
1 0
0
rfl 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 8428.75405952
0
rfband 4 2 4 0 0 2 1 0 1 64
1 "cccc"
3 "c" "h" "l"
rfl1 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 6565.28671875
0
rp 1 1 3600 -3600 0.1 4 1 3 1 64
1 -141.219110787
0
rof1 6 1 13 13 13 2 1 8194 1 64
1 0
0
rfp1 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 4342.68017578
0
rof2 6 1 13 13 13 2 1 8194 1 64
1 2
0
sample 2 2 8 0 0 2 1 0 1 64
1 "lysh2o"
0
rpl 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
samplename 2 2 8 0 0 2 1 0 1 64
1 ""
0
sh_c180 2 2 8 0 0 2 1 0 1 64
1 "alh_hard-142p"
0
sc 1 1 1 1 1 4 1 8195 1 64
1 171.666666667
0
sb 1 1 1000 -1000 0.001 3 1 0 1 64
1 0.140572652221
0
satpwr 1 1 9.9999984307e+17 -9.9999984307e+17 0 2 1 0 1 64
1 12

```

```

0
satfrq 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 -9970
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
sbs 1 1 1000 -1000 0.001 3 1 1 1 64
1 -0.0195756480098
0
sb1 1 1 1000 -1000 0.001 3 1 1 1 64
1 0.0154493479058
0
sbs1 1 1 1000 -1000 0.001 3 1 1 1 64
1 -0.00463480316103
0
seqfil 2 2 8 0 0 2 1 11 1 64
1 "Asp_Glu_exchange_cpmg_800_lek_v2"
0
scf 1 1 1 0 0 2 1 0 1 64
1 0.45
0
sc2 1 1 3 3 3 4 1 8195 1 64
1 0
0
selCB_flg 2 2 8 0 0 2 1 0 1 64
1 "y"
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
sfrq 1 1 1000000000 0 0 2 1 11 1 64
1 799.7174563
0
shims 2 2 8 0 0 2 1 0 1 64
1 ""
0
sh_cpmg 2 2 8 0 0 2 1 0 1 64
1 "alh_DFHreb_on"
0
sh_cb 2 2 8 0 0 2 1 0 1 64
1 "alh_hard-140p"
0
sh_ca 2 2 8 0 0 2 1 0 1 64
1 "alh_reb-125p"
0
sh_cbssel 2 2 8 0 0 2 1 0 1 64
1 "alh_reb_on"
0
shape 2 2 8 0 0 2 1 0 1 64
1 "herm180_trc"
0
sh_reb 2 2 8 0 0 2 1 0 1 64
1 "alh_DFHreb+143p"
0
shc_sel 2 2 8 0 0 2 1 0 1 64

```

```

1 "rebsel_-lp5"
0
sn 1 1 1e+18 -1e+18 0 3 1 1 1 64
1 0
0
shp_sll 2 2 8 0 0 2 1 0 1 64
1 "hard"
0
shp_sl 2 2 8 0 0 2 1 0 1 64
1 "eburp1"
0
shp_sl2 2 2 8 0 0 2 1 0 1 64
1 "hard"
0
sp 1 1 1000000000 -1000000000 0 4 1 3 1 64
1 -8422.89409852
0
solvent 2 2 6 0 0 2 1 11 1 64
1 "d2o"
0
spl 1 1 1000000000 -1000000000 0 4 1 3 1 64
1 -2222.60654297
0
time_T2 3 1 14 14 14 2 1 8192 1 64
1 0.04
0
swl 1 1 5000000 1 -2.5e-08 2 1 0 1 64
1 1899.96675058
0
ssntaps 7 1 2500 0 1 3 1 0 1 64
1 121
0
ssfilter 1 1 50000 10 0.1 3 1 0 0 64
1 10
0
ss 7 1 32767 -32768 0 2 1 0 1 64
1 64
0
sslsfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
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 12001.20012
0
taum 3 1 14 14 14 2 1 8192 1 64
1 0.0007838
0
taub 3 1 14 14 14 2 1 8192 1 64
1 0.0049
0
taua 3 1 14 14 14 2 1 8192 1 64
1 0.00185185
0
th 1 1 1000000000 0 0 4 1 1 1 64
1 72.3511886597
0
temp 1 1 200 -150 0.1 2 1 8 1 64
1 25
0
th2d 1 1 1 1e-18 0 4 1 17 1 64
1 0.8
0
time_submitted_local 2 2 8 0 0 2 1 0 1 64
1 "20110128T212713X09PM%"
0
time_processed 2 2 8 0 0 3 1 0 1 64
1 ""

```

```

0
time_eq 3 1 14 14 14 2 1 8192 1 64
1 0.003
0
time_complete 2 2 8 0 0 2 1 0 1 64
1 "20110129T155738"
0
time_plotted 2 2 8 0 0 3 1 0 1 64
1 ""
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 "20110128T212743"
0
time_submitted 2 2 8 0 0 2 1 0 1 64
1 "20110128T212713"
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_svfdte 2 2 8 0 0 2 1 0 1 64
1 "20110128T212713"
0
tlt 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 -0.00652450125926
0
tof 5 1 7 7 7 2 1 8202 1 64
1 -2250
0
tnsat 4 2 4 0 0 2 1 0 1 64
1 "y"
0
tpwr 7 1 17 17 17 2 1 8194 1 64
1 63
0
yl 7 1 19 19 19 2 1 8192 1 64
1 1272
0
wfl 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0.2694784
0
vrack_ 7 1 5 1 0 2 1 0 1 64
1 1
0
vf 1 1 1000000000 0 0 4 1 3 1 64
1 313.9370407
0
tpwrs12 1 1 17 17 17 2 1 8192 1 64
1 -16
0
tpwrs11 1 1 17 17 17 2 1 8192 1 64
1 -16
0
tpwrs1 1 1 17 17 17 2 1 8192 1 64
1 -16
0
trim 3 1 14 14 14 2 1 8192 1 64
1 0.0005
0
trace 2 2 2 0 0 4 1 3 1 64
1 "f1"
2 "f1" "f2"
tsatpwr 1 1 17 17 17 2 1 8192 1 64
1 -16
0
vpf 1 1 500 -500 0 4 1 0 1 64
1 0
0

```

```

vo 1 1 500 -500 0 4 1 1 1 64
1 0
0
vloc_ 2 2 8 0 0 2 1 8 1 64
1 "A0"
0
vp 7 1 500 -500 0.1 4 1 3 1 64
1 0
0
vproto_ 2 2 8 0 0 2 1 0 1 64
1 ""
0
vpfi 1 1 500 -500 0 4 1 0 1 64
1 0
0
wbs 2 2 6 0 0 3 1 3 1 64
1 ""
0
vtc 1 1 255 0 1 2 1 2 1 64
1 0
0
vs2d 1 1 1000000000 1e-06 0 4 1 3 1 64
1 183855.199333
0
vs 1 1 1000000000 1e-06 0 4 1 3 1 64
1 129396.740126
0
vsproj 1 1 1000000000 1e-06 0 4 1 3 1 64
1 183855.199333
0
vzone_ 7 1 15 1 0 2 1 0 1 64
1 1
0
vtwait 3 1 14 14 14 2 1 8194 1 64
1 180
0
werr 2 2 6 0 0 3 1 3 1 64
1 ""
0
wc2 1 1 4 4 4 4 1 8195 1 64
1 155
0
wc 1 1 2 2 2 4 1 8203 1 64
1 78.3333333333
0
wdone 2 2 8 0 0 3 1 0 1 64
1 "acqdone"
0
wf 1 1 8190 0 1e-07 4 1 3 1 64
1 0.0639936
0
wexp 2 2 6 0 0 3 1 3 1 64
1 "svf('/usr2/guestkay/fids/alh_m8t25n02p135x1') "
0
x2y2 7 1 19 19 19 2 1 8192 1 64
1 3749
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"
wp 1 1 5000000 0 0 4 1 11 1 64
1 11995.340159
0
wnt 2 2 6 0 0 3 1 3 1 64
1 ""
0
wpl 1 1 100000 0 0 4 1 3 1 64
1 1899.96675058
0
wtfile1 2 2 15 0 0 3 2 1 1 64
1 ""
0
wtfile 2 2 15 0 0 3 1 1 1 64

```

```

1 ""
0
x1 7 1 19 19 19 2 1 8192 1 64
1 -8454
0
xy 7 1 19 19 19 2 1 8192 1 64
1 2534
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
xdiag 1 1 1e+18 0 0 4 1 17 1 64
1 0
0
xz2 7 1 19 19 19 2 1 8192 1 64
1 -3233
0
xz 7 1 19 19 19 2 1 8192 1 64
1 1876
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 -2353
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 1813
0
z1 7 1 19 19 19 2 1 8192 1 64
1 -2761
0
z0_ 1 1 19 19 19 2 1 8208 1 64
1 -22582
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 1151
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 -25773

```

```

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 -21333
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

```

Backbone parameters

procpar

```

jnh 1 1 10000 80 0 2 1 1024 1 64
1 106
0
dpwr3 7 1 21 21 21 2 1 8194 1 64

```

```

1 1
0
dfrq2 1 1 1000000000 0 0 2 1 9 1 64
1 81.0441127
0
crf 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
axisf 4 2 4 0 0 4 1 0 1 64
1 "s"
4 "m" "n" "s" "u"
array 2 2 256 0 0 2 1 1 1 64
1 "ncyc_cp,phase"
0
alfa 6 1 8192 -8192 1e-07 2 1 8194 1 64
1 6.6
0
acqstatus 7 1 32767 0 0 2 1 0 1 64
2 101 7
0
acqcycles 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 4200
0
Asp_flg 2 2 8 0 0 2 1 0 1 64
1 "n"
0
acqdim 7 1 1000000000 -1000000000 0 2 1 0 1 64
1 2
0
aig 2 2 2 0 0 4 1 1 1 64
1 "ai"
2 "nm" "ai"
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,mixn
oe:3,mixshift:3,mixmlev:3,trim:3,jxh:1;1:FLAGS:fscuba,fmlev,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,pwx1vl:0,pwx:1,dlp(dlp):0,homo,temp(temp):1,satflg,satdly:3,satf
rq:1,satpwr:0;2:PROCESSING:cf(nf):0,lb(lb):2,sb(sb):3,sbs(sb):3,gf(gf):3,gfs(gf):3,awc(awc):3,lsfid(ls
fid):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
alock 2 2 8 0 0 2 1 0 1 64
1 "n"
5 "a" "n" "s" "u" "y"
at 1 1 14 14 14 2 1 8203 1 64
1 0.0639936000001
0
arrayelemts 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 3
0
arraydim 7 1 32768 1 1 2 1 5 1 64
1 4200
0
awc1 1 1 1 -1 0.001 3 1 1 0 64
1 0
0
awc 1 1 1 -1 0.001 3 1 1 0 64
1 0
0
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"
cp 2 2 1 0 0 2 1 0 1 64
1 "y"
2 "y" "n"
celem 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 4200
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 32
0
cdec 2 2 8 0 0 2 1 0 1 64
1 "alh_cb_dec"
0
cofrq 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 10800
0
cf 7 1 32767 0 1 3 1 1 0 64
1 1
0
console 2 2 8 0 0 2 1 0 1 64
1 "inova"
0
crl 1 1 1000000000 -1000000000 0 4 1 3 1 64
1 -613.603499887
0
cr 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 3964.07436026
0
dco90pwr 7 1 32767 0 0 2 1 0 1 64
1 52
0
d_c90 1 1 9 9 9 2 1 8192 1 64
1 51
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 8
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 2
0
d_c180 1 1 9 9 9 2 1 8192 1 64
1 58
0
d_reb 1 1 9 9 9 2 1 8192 1 64
1 60
0
d_cb 1 1 9 9 9 2 1 8192 1 64
1 -16
0
d_ca 1 1 9 9 9 2 1 8192 1 64
1 -16
0
d_cbse1 1 1 9 9 9 2 1 8192 1 64
1 -16
0
dcapwr 7 1 77 0 1 2 1 0 1 64
1 64
0
date 2 2 9 0 0 2 1 1 1 64
1 "Feb 22 2011"
0
dcg 2 2 3 0 0 4 1 1 1 64
1 ""
2 "dc" "cdc"
deltafrq 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 -19000
0
decfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 -3000
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
dfrq 5 1 1000000000 -1000000000 0 2 1 8 1 64
1 201.0994051
0
deltaone 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 0
0
dmm2 2 2 8 0 0 2 1 0 1 64
1 "cccc"
0
dhpwr2 1 1 18 18 18 2 1 8192 1 64
1 61
0
dhipwr 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 63
0
dgl 2 2 1023 0 0 4 1 6 1 64
1
"1:DISPLAY:sp:1,wp:1,vs:0;1:REFERENCE:rfl:1,rfp:1,cr:1,delta:1;1:PHASE:lp:1,rp:1,rp1(ni):1,lp1(ni):1;2
:CHART:sc:0,wc:0,hzmm:2,vp:0,axis,pltmod,,th:0,,ho:2,vo:2,,rplot,trace:2;3(ni):2D:sp1:1,wp1:1,sc2:0,wc
2:0,rfl1:1,rfp1:1;3:FLAGS:aig*,dcg*,dmg*;3:FID:sf:3,wf:3,vf:0;4:INTEGRAL:intmod,is:2,ins:3,io:0,,lvl:3
,tl:3;"
0
dg 2 2 1023 0 0 4 1 6 1 64
1
"1:SAMPLE:date,,;1:2D
ACQUISITION:sw:1,swl:1,ni:0,phase:0,np:0,ss:0,nt:0,at:3;2:SPECIAL:gain,temp:1,ncyc_cp:0,seqfil,time_T2
,phase_cpmg:1,phasesl:1,phasesl1:1;2:DELAYS:taua:5,taub:5,time_eq:5,d1:3,d2:6,tin,vtwait;3:CHANNEL
1:sfrq:3,tn,tof:1,tpwr:0,tpwrs1:0,tpwrs11:0,tpwrs12:0,tsatpwr:0,pw:2,pw_sl:1,shp_sl,pw_sl1:1,shp_sl1,p
w_sl2:1,shp_sl2,alfa:1;3:FLAGS:fsat,fscuba,f1180,Asp_flg,selCB_flg;4:CHANNEL
3:dfrq2:3,dn2,dof2:1,pwn:1,dhpwr2:0,dpwr2:0,dm2,dmm2,dmf2,dseq2,dres2;"
0
dfrq3 1 1 1000000000 0 0 2 1 9 1 64
1 0
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
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
dg2 2 2 1023 0 0 4 1 7 1 64
1
"1:CHANNEL
2:dfrq:3,dn,dof:1,dofco:1,dhpwr:0,d_c90:0,pwc90:1,d_c180:0,pwc180:1,d_reb:0,pwc_reb:1,sh_reb,dpwr_cdec
:0,cdec,dresc:0,dmf_c:0,sh_c180,dpwr_cp:0,sh_cpmg,pwreb_cp:1,d_ca:0,pwc_ca:1,sh_ca,d_cb:0,pwc_cb:1,sh
cb,d_cbsel:0,pwc_cbsel:1,sh_cbsel,dpwr:0,dseq,dm,dmm,dres,dmf;2:GRADIENTS:gt0:4,gzlv1:0,gt1:4,gzlv11:
0,gt2:4,gzlv12:0,gt3:4,gzlv13:0,gt4:4,gzlv14:0,gt5:5,gzlv15:0,gt6:4,gzlv16:0,gt7:4,gzlv17:0,gt8:4,gzlv
18:0,gt9:4,gzlv19:0;"
0
dh2pwr 7 1 77 0 1 2 1 0 1 64
1 0
0
dhpwr 1 1 9 9 9 2 1 8192 1 64
1 -16
0
dhp 1 1 9 9 9 2 1 8192 0 64
1 40
0
dmf 7 1 11 11 11 2 1 8194 1 64
1 9259
0
dm2 2 2 8 0 0 2 1 0 1 64
1 "nnnn"
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
dm 4 2 4 0 0 2 1 0 1 64
1 "nnny"
4 "a" "n" "s" "y"
dm3 4 2 4 0 0 2 1 0 1 64
1 "n"
4 "a" "n" "s" "y"
dmf_c 1 1 2000000 1 1 2 1 0 1 64
1 25000
0
dmf3 7 1 2000000 1 0 2 1 2 1 64
1 7092
0
dmf2 7 1 100000 1 0 2 1 2 1 64
1 3759
0
dmg1 2 2 8 0 0 4 1 0 1 64
1 ""
4 "" "avl" "ph1" "pwr1"
dmg 2 2 2 0 0 4 1 3 1 64
1 "ph"
0
dmn 4 2 4 0 0 2 1 0 1 64
1 "cccp"
9 "c" "f" "g" "m" "p" "r" "u" "w" "x"
dof3 5 1 20 20 20 2 1 8202 1 64
1 0
0
dn3 2 2 8 0 0 2 1 8 1 64
1 ""
0
dn 2 2 4 0 0 2 1 8 1 64
1 "C13"
0
dmn3 4 2 4 0 0 2 1 0 1 64
1 "c"
9 "c" "f" "g" "m" "p" "r" "u" "w" "x"
dn2 2 2 8 0 0 2 1 8 1 64
1 "N15"
0
dof 5 1 8 8 8 2 1 8202 1 64
1 -7217
0
dod 3 1 14 14 14 2 1 8194 1 64
1 0.009999999977648
0
dof2 5 1 16 16 16 2 1 8202 1 64
1 2418.9
0
dpwr 7 1 9 9 9 2 1 8194 1 64
1 42
0
dotflag 2 2 8 0 0 4 1 0 1 64
1 "n"
2 "n" "y"
dofco 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 16915
0
dp 2 2 1 0 0 2 1 0 1 64
1 "y"
2 "y" "n"
dpwr2 7 1 18 18 18 2 1 8194 1 64
1 -16
0
gzlv10 1 1 32768 -32768 1 2 1 0 1 64
1 4000
0
flag3d 2 2 8 0 0 2 1 0 1 64
1 "y"
0
fl180 2 2 8 0 0 2 1 0 1 64
1 "y"

```

```

0
dres3 7 1 360 1 0 2 1 0 1 64
1 1
0
dpwrf 7 1 4095 0 1 2 1 2 0 64
1 4095
0
dpwr_cdec 1 1 9 9 9 2 1 8192 1 64
1 29
0
dpwr_cp 1 1 9 9 9 2 1 8192 1 64
1 60
0
dres 7 1 360 1 0 2 1 0 1 64
1 1
0
dres2 7 1 360 1 0 2 1 0 1 64
1 90
0
dseq2 2 2 8 0 0 2 1 0 1 64
1 "waltz16"
0
dresc 7 1 360 1 0 2 1 0 1 64
1 9
0
dseq 2 2 8 0 0 2 1 0 1 64
1 "garpl"
0
exp3D 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 ""
0
exppath 2 2 8 0 0 2 1 0 1 64
1 "/usr2/guestkay/vnmrsys/exp11/acqfil"
0
fb 7 1 6 6 6 2 1 8203 0 64
1 7000
0
fad1 2 2 8 0 0 2 1 0 1 64
1 "y"
0
flcoef 2 2 8 0 0 3 1 1 1 64
1 ""
0
fad2 2 2 8 0 0 2 1 0 1 64
1 "n"
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
filtfile 2 2 8 0 0 2 1 0 1 64
1 ""
0
gf 1 1 100000 0 0 3 1 1 1 64
1 0.0171710532159
0
fpmult1 1 1 1000000000 0 0 3 1 0 0 64
1 0
0
fnoesy 4 2 4 0 0 2 1 0 1 64
1 "n"
0
fn 7 1 524288 64 -2 3 1 1 1 64
1 8192
0
fmlev 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
fpmult 1 1 1000000000 0 0 3 1 0 0 64
1 1
0
fscuba 4 2 4 0 0 2 1 0 1 64
1 "n"
0
fsat 2 2 8 0 0 2 1 0 1 64
1 "n"
0
gain 1 1 60 0 2 2 1 0 1 64
1 26
0
gt2 3 1 14 14 14 2 1 8192 1 64
1 0.001
0
gt0 3 1 32768 -32768 -1 2 1 8192 1 64
1 0.0005
0
gfs 1 1 1000 -1000 0.001 3 1 1 1 64
1 0.003
0
gfl 1 1 100000 0 0 3 1 1 1 64
1 0.0050210384652
0
gfs1 1 1 1000 -1000 0.001 3 1 1 0 64
1 0
0
gt1 3 1 14 14 14 2 1 8192 1 64
1 0.00025
0
gt6 3 1 14 14 14 2 1 8192 1 64
1 0.0003
0
gt4 3 1 14 14 14 2 1 8192 1 64
1 0.0007
0
gt3 3 1 14 14 14 2 1 8192 1 64
1 0.0005
0
gt5 3 1 14 14 14 2 1 8192 1 64
1 0.0004
0
gt8 3 1 14 14 14 2 1 8192 1 64
1 0.0003
0
gt7 3 1 14 14 14 2 1 8192 1 64
1 0.0002
0
gt9 3 1 14 14 14 2 1 8192 1 64
1 0.0004
0
hscuba 3 1 14 14 14 2 1 8192 1 64
1 0.03
0
gzlv18 1 1 32768 -32768 1 2 1 0 1 64
1 3000
0
gzlv14 1 1 32768 -32768 1 2 1 0 1 64
1 10000
0
gzlv12 1 1 32768 -32768 1 2 1 0 1 64
1 25000
0
gzlv11 1 1 32768 -32768 1 2 1 0 1 64
1 5000
0
gzlv13 1 1 32768 -32768 1 2 1 0 1 64
1 8000
0
gzlv16 1 1 32768 -32768 1 2 1 0 1 64

```

```

1 14000
0
gzlv15 1 1 32768 -32768 1 2 1 0 1 64
1 6000
0
gzlv17 1 1 32768 -32768 1 2 1 0 1 64
1 12000
0
homo2 4 2 4 0 0 2 1 0 1 64
1 "n"
2 "n" "y"
ho 1 1 500 -500 0 4 1 1 1 64
1 -63.75
0
gzlv19 1 1 32768 -32768 1 2 1 0 1 64
1 6500
0
homo 2 2 8 0 0 2 1 0 1 64
1 "n"
2 "n" "y"
hs 4 2 4 0 0 2 1 0 1 64
1 "nnyn"
2 "n" "y"
homo3 4 2 4 0 0 2 1 0 1 64
1 "n"
2 "n" "y"
insref 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 0 64
1 1
0
in 4 2 1 0 0 2 1 0 1 64
1 "n"
3 "n" "w" "y"
hzmm 1 1 1000000000 -1000000000 0 4 1 11 1 64
1 9.10637938793
0
hst 3 1 0.02 0 2.5e-08 2 1 2 1 64
1 0.01
0
il 2 2 1 0 0 2 1 0 1 64
1 "n"
2 "y" "n"
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
ins2ref 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 0 64
1 1
0
io 1 1 500 -500 0.1 4 1 1 1 64
1 10
0
investigator 2 2 8 0 0 2 1 0 1 64
1 ""
0
intmod 2 2 8 0 0 4 1 0 1 64
1 "off"
3 "off" "partial" "full"
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
rl 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 480
0
osfilt 2 2 8 0 0 2 1 0 1 64
1 "a"
5 "a" "A" "b" "B" ""
mixnoe 3 1 14 14 14 2 1 8192 1 64
1 0.14

```

```

0
lockgain_ 1 1 48 0 1 2 1 16 1 64
1 21
0
liamp 1 1 1000000000 0 0 4 1 0 0 64
4 0 0 0 0.577882409096
0
lbi 1 1 100000 -100000 0 3 1 1 0 64
1 0.318309992552
0
jxh2 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 94
0
jxh 7 1 32767 0 0 2 1 0 1 64
1 105
0
lb 1 1 100000 -100000 0 3 1 1 0 64
1 30
0
lcpeak_ 7 1 32767 0 0 2 1 0 1 64
1 0
0
lfrq 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
lfrq 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
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
loc_ 7 1 12 12 12 2 1 8201 0 64
1 0
0
load 2 2 4 0 0 2 1 3 1 64
1 "n"
2 "y" "n"
lockfreq_ 5 1 160 0 1e-07 2 1 9 1 64
1 122.7618
0
lsfrq1 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
0
lp1 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
lockpower_ 1 1 68 0 1 2 1 16 1 64
1 46
0
lockphase_ 1 1 360 0 1 2 1 16 1 64
1 333
0
lp 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
lsfid1 7 1 64000 -64000 1 3 1 0 0 64
1 0
0
lsfid 7 1 64000 -64000 1 3 1 0 0 64
1 0
0
lsfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
0
mcyc 7 1 32767 0 0 2 1 0 1 64
1 1
0
macro 2 2 6 0 0 4 1 3 1 64
1 ""
0
lvl 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 -0.100524524544
0
math 2 2 1 0 0 3 1 3 1 64
1 "f"
3 "d" "f" "i"
mixmlev 3 1 14 14 14 2 1 8192 1 64
1 0.02
0

```

```

method 2 2 6 0 0 2 1 3 1 64
1 "/vnmr/shimmethods/z1z2"
0
ncyc_cp 1 1 80 0 1 2 1 0 1 64
21 0 32 1 28 2 24 3 20 4 18 5 16 6 14 7 12 8 10 2 28 10
0
n2 2 2 6 0 0 4 1 3 1 64
1 ""
0
mlevpwr 7 1 32767 0 0 2 1 0 1 64
1 50
0
mixshift 3 1 14 14 14 2 1 8192 1 64
1 0
0
n1 2 2 6 0 0 4 1 3 1 64
1 ""
0
n3 2 2 6 0 0 4 1 3 1 64
1 ""
0
nt 7 1 1000000000 1 1 2 1 2 1 64
1 8
0
notebook 2 2 8 0 0 2 1 0 1 64
1 ""
0
ni 7 1 32767 0 0 2 1 0 1 64
1 100
0
np 7 1 524288 32 2 2 1 11 1 64
1 1536
0
oscoef 7 1 49999 3 2 2 1 1 0 64
1 31
0
osfb 1 1 100000 0 0 2 1 1 0 64
1 0
0
proc1 2 2 10 0 0 3 2 1 1 64
1 "ft"
0
pltmod 2 2 8 0 0 4 1 0 1 64
1 "off"
5 "off" "fixed" "full" "variable" "user"
phase 7 1 4 0 1 2 1 0 1 64
2 1 2
0
pad 3 1 14 14 14 2 1 8194 1 64
1 0
0
oversamp 7 1 68 0 1 2 1 9 1 64
1 33
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
parstyle_ 2 2 8 0 0 4 1 0 1 64
1 "ppa"
0
page 2 2 8 0 0 2 1 0 1 64
1 ""
0
parversion 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 4 1 64
1 5.1
0
phases11 1 1 360 0 0.5 2 1 0 1 64
1 358.5
0
phases1 1 1 360 0 0.5 2 1 0 1 64

```

```

1 358.5
0
phase_cpmg 1 1 360 0 0.5 2 1 0 1 64
1 358.5
0
phfid1 1 1 3600 -3600 0.1 3 1 0 0 64
1 0
0
phfid 1 1 3600 -3600 0.1 3 1 0 0 64
1 0
0
pkpick_ 2 2 8 0 0 4 1 0 1 64
1 ""
0
priority 7 1 32768 0 1 2 1 0 1 64
1 5
0
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
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
pwc_cbset 6 1 13 13 13 2 1 8192 1 64
1 1500
0
pwc180 6 1 13 13 13 2 1 8192 1 64
1 35
0
pw90 6 1 13 13 13 2 1 8194 1 64
1 8.2
0
pslabel 2 2 8 0 0 2 1 11 1 64
1 "Asp_Glu_exchange_cpmg_800_lek_v2"
0
procdim 7 1 1000000000 -1000000000 0 3 1 0 1 64
1 1
0
pw 6 1 13 13 13 2 1 8194 1 64
1 6.65
0
pw_sl1 6 1 13 13 13 2 1 8192 1 64
1 0
0
pw_sl 6 1 13 13 13 2 1 8192 1 64
1 0
0
pw_sl2 6 1 13 13 13 2 1 8192 1 64
1 0
0
pwc_ca 6 1 13 13 13 2 1 8192 1 64
1 1500
0
pwc90 6 1 13 13 13 2 1 8192 1 64
1 38.0625
0
pwc_cb 6 1 13 13 13 2 1 8192 1 64
1 0
0
pwn 6 1 13 13 13 2 1 8192 1 64
1 38.5
0
pwco_sh 2 2 8 0 0 2 1 0 1 64
1 "herm180_17p6_750"

```

```

0
pwca 6 1 13 13 13 2 1 8192 1 64
1 50
0
pwc_reb 6 1 13 13 13 2 1 8192 1 64
1 384
0
pwcol180 6 1 13 13 13 2 1 8192 1 64
1 254
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
pwreb_cp 6 1 13 13 13 2 1 8192 1 64
1 384
0
pwn15 6 1 200 0 0.025 2 1 1024 1 64
1 36.5
0
pwx1 6 1 13 13 13 2 1 8192 1 64
1 36
0
pxcodec 6 1 13 13 13 2 1 8192 1 64
1 0
0
tpwrf 7 1 4095 0 1 2 1 2 0 64
1 4095
0
ssfilter 1 1 50000 10 0.1 3 1 0 0 64
1 10
0
satpwr 1 1 9.99999984307e+17 -9.99999984307e+17 0 2 1 0 1 64
1 12
0
refpos1 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 0 64
1 0
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
r3 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 99.3962666667
0
r2 1 1 1e+18 -1e+18 0 4 1 1 1 64
1 0.0013333
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
reffrq1 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 598.9527892
0
ref 5 1 1000000000 -1000000000 0 3 1 0 1 64
1 0
0
reffrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 799.715703824
0
refpos 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0
0
rof1 6 1 13 13 13 2 1 8194 1 64
1 0
0

```

```

rfl1 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 6565.28671875
0
rfband 4 2 4 0 0 2 1 0 1 64
1 "cccc"
3 "c" "h" "l"
refsource1 2 2 8 0 0 4 1 0 1 64
1 "sfrq"
0
rfl 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 2294.12405961
0
rfp 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 0
0
rfp1 1 1 1000000000 -1000000000 0 4 1 1 1 64
1 4342.68017578
0
sample 2 2 8 0 0 2 1 0 1 64
1 "lysh2o"
0
rp 1 1 3600 -3600 0.1 4 1 3 1 64
1 -145.503295076
0
rof2 6 1 13 13 13 2 1 8194 1 64
1 2
0
rpl 1 1 3600 -3600 0.1 4 1 3 1 64
1 0
0
satflg 2 2 8 0 0 2 1 0 1 64
1 "y"
0
samplename 2 2 8 0 0 2 1 0 1 64
1 ""
0
satfrq 5 1 1000000000 -1000000000 0 2 1 0 1 64
1 -9970
0
sh_cb 2 2 8 0 0 2 1 0 1 64
1 "alh_hardXXX"
0
scf 1 1 1 0 0 2 1 0 1 64
1 0.45
0
sbs 1 1 1000 -1000 0.001 3 1 1 1 64
1 -0.0195756480098
0
sb 1 1 1000 -1000 0.001 3 1 0 1 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
sbl 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
1 191.25

```

```

0
sbs1 1 1 1000 -1000 0.001 3 1 1 1 64
1 -0.00463480316103
0
sc2 1 1 3 3 3 4 1 8195 1 64
1 0
0
sf1 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 "Asp_Glu_exchange_cpmg_800_lek_v2"
0
selCB_flg 2 2 8 0 0 2 1 0 1 64
1 "n"
0
sf 1 1 8190 0 1e-07 4 1 3 1 64
1 0
0
sh_c180 2 2 8 0 0 2 1 0 1 64
1 "alh_hard-120p"
0
sfrq 1 1 1000000000 0 0 2 1 11 1 64
1 799.7194103
0
sh_ca 2 2 8 0 0 2 1 0 1 64
1 "alh_rebXXX"
0
shp_sl1 2 2 8 0 0 2 1 0 1 64
1 "hard"
0
shape 2 2 8 0 0 2 1 0 1 64
1 "herm180_trc"
0
sh_cpmg 2 2 8 0 0 2 1 0 1 64
1 "alh_DFHreb_on"
0
sh_cbse1 2 2 8 0 0 2 1 0 1 64
1 "alh_rebXXX"
0
sh_reb 2 2 8 0 0 2 1 0 1 64
1 "alh_DFHreb+120p"
0
shims 2 2 8 0 0 2 1 0 1 64
1 ""
0
shc_sel 2 2 8 0 0 2 1 0 1 64
1 "rebsel_-lp5"
0
shp_sl 2 2 8 0 0 2 1 0 1 64
1 "eburp1"
0
sp 1 1 1000000000 -1000000000 0 4 1 3 1 64
1 2335.2451273
0
sn 1 1 1e+18 -1e+18 0 3 1 1 1 64
1 0
0
shp_sl2 2 2 8 0 0 2 1 0 1 64
1 "hard"
0
solvent 2 2 6 0 0 2 1 11 1 64
1 "d2o"
0
spin 1 1 32000000 0 0.1 2 1 0 0 64
1 0
0
spl 1 1 1000000000 -1000000000 0 4 1 3 1 64
1 -2222.60654297
0
ss 7 1 32767 -32768 0 2 1 0 1 64
1 64
0

```

```

time_eq 3 1 14 14 14 2 1 8192 1 64
1 0.003
0
taua 3 1 14 14 14 2 1 8192 1 64
1 0.00185185
0
sspul 2 2 8 0 0 2 1 0 1 64
1 "n"
0
ssntaps 7 1 2500 0 1 3 1 0 1 64
1 121
0
sslsfrq 1 1 9.99999984307e+17 -9.99999984307e+17 0 3 1 0 0 64
1 0
0
ssorder 7 1 20 1 1 3 1 0 0 64
1 7
0
swl 1 1 5000000 1 -2.5e-08 2 1 0 1 64
1 2000
0
sw 1 1 5 5 5 2 1 8203 1 64
1 12001.20012
0
th 1 1 1000000000 0 0 4 1 1 1 64
1 140.436676025
0
taum 3 1 14 14 14 2 1 8192 1 64
1 0.0007838
0
taub 3 1 14 14 14 2 1 8192 1 64
1 0.0044
0
temp 1 1 200 -150 0.1 2 1 8 1 64
1 25
0
time_T2 3 1 14 14 14 2 1 8192 1 64
1 0.03
0
th2d 1 1 1 1e-18 0 4 1 17 1 64
1 0.8
0
time_complete 2 2 8 0 0 2 1 0 1 64
1 "20110223T085240"
0
time_submitted_local 2 2 8 0 0 2 1 0 1 64
1 "20110222T123238X12PM%"
0
time_saved 2 2 8 0 0 2 1 0 1 64
1 ""
0
time_processed 2 2 8 0 0 3 1 0 1 64
1 "20110222T123647"
0
time_plotted 2 2 8 0 0 3 1 0 1 64
1 ""
0
time_run 2 2 8 0 0 2 1 0 1 64
1 "20110222T123312"
0
time_submitted 2 2 8 0 0 2 1 0 1 64
1 "20110222T123238"
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_svfdte 2 2 8 0 0 2 1 0 1 64
1 "20110222T123238"
0
tlt 1 1 1000000000 -1000000000 0 4 1 1 1 64

```

```

1 -0.0596139034315
0
tof 5 1 7 7 7 2 1 8202 1 64
1 -296
0
tnsat 4 2 4 0 0 2 1 0 1 64
1 "y"
0
tpwr 7 1 17 17 17 2 1 8194 1 64
1 63
0
y4 7 1 19 19 19 2 1 8192 1 64
1 3108
0
wp 1 1 5000000 0 0 4 1 11 1 64
1 2276.59484698
0
vs 1 1 1000000000 1e-06 0 4 1 3 1 64
1 134093.922133
0
vf 1 1 1000000000 0 0 4 1 3 1 64
1 313.9370407
0
trace 2 2 2 0 0 4 1 3 1 64
1 "f1"
2 "f1" "f2"
tpwrs11 1 1 17 17 17 2 1 8192 1 64
1 -16
0
tpwrs1 1 1 17 17 17 2 1 8192 1 64
1 -16
0
tpwrs12 1 1 17 17 17 2 1 8192 1 64
1 -16
0
tsatpwr 1 1 17 17 17 2 1 8192 1 64
1 -16
0
trim 3 1 14 14 14 2 1 8192 1 64
1 0.0005
0
vpf 1 1 500 -500 0 4 1 0 1 64
1 0
0
vo 1 1 500 -500 0 4 1 1 1 64
1 0
0
vloc_ 2 2 8 0 0 2 1 8 1 64
1 "A0"
0
vp 7 1 500 -500 0.1 4 1 3 1 64
1 50
0
vproto_ 2 2 8 0 0 2 1 0 1 64
1 ""
0
vpfi 1 1 500 -500 0 4 1 0 1 64
1 0
0
vrack_ 7 1 5 1 0 2 1 0 1 64
1 1
0
wc2 1 1 4 4 4 4 1 8195 1 64
1 155
0
vtwait 3 1 14 14 14 2 1 8194 1 64
1 180
0
vsproj 1 1 1000000000 1e-06 0 4 1 3 1 64
1 183855.199333
0
vs2d 1 1 1000000000 1e-06 0 4 1 3 1 64
1 183855.199333

```

```

0
vtc 1 1 255 0 1 2 1 2 1 64
1 0
0
wbs 2 2 6 0 0 3 1 3 1 64
1 ""
0
vzone_ 7 1 15 1 0 2 1 0 1 64
1 1
0
wc 1 1 2 2 2 4 1 8203 1 64
1 58.75
0
wexp 2 2 6 0 0 3 1 3 1 64
1 "svf('/usr2/guestkay/fids/alh_m8t25n03p019x1')"
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
wfl 1 1 9.99999984307e+17 -9.99999984307e+17 0 4 1 0 1 64
1 0.2694784
0
wf 1 1 8190 0 1e-07 4 1 3 1 64
1 0.0639936000001
0
wnt 2 2 6 0 0 3 1 3 1 64
1 ""
0
x4 7 1 19 19 19 2 1 8192 1 64
1 1615
0
wtfile1 2 2 15 0 0 3 2 1 1 64
1 ""
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"
wpl 1 1 100000 0 0 4 1 3 1 64
1 1899.96675058
0
wtfile 2 2 15 0 0 3 1 1 1 64
1 ""
0
x2y2 7 1 19 19 19 2 1 8192 1 64
1 3765
0
x1 7 1 19 19 19 2 1 8192 1 64
1 -8517
0
x3 7 1 19 19 19 2 1 8192 1 64
1 -157
0
xz2 7 1 19 19 19 2 1 8192 1 64
1 -3233
0
xy 7 1 19 19 19 2 1 8192 1 64
1 2550
0
xdiag 1 1 1e+18 0 0 4 1 17 1 64
1 0
0
xz 7 1 19 19 19 2 1 8192 1 64
1 1527
0
y3 7 1 19 19 19 2 1 8192 1 64
1 315
0
y1 7 1 19 19 19 2 1 8192 1 64
1 1286
0

```

```

z3x3 7 1 19 19 19 2 1 8192 1 64
1 0
0
z2x2y2 7 1 19 19 19 2 1 8192 1 64
1 -4618
0
z1 7 1 19 19 19 2 1 8192 1 64
1 -1238
0
yz2 7 1 19 19 19 2 1 8192 1 64
1 -731
0
yz 7 1 19 19 19 2 1 8192 1 64
1 1863
0
z0_ 1 1 19 19 19 2 1 8208 1 64
1 -23789
0
z2 7 1 19 19 19 2 1 8192 1 64
1 -2212
0
z1c 7 1 19 19 19 2 1 8192 1 64
1 -1044
0
z2c 7 1 19 19 19 2 1 8192 1 64
1 196
0
z3 7 1 19 19 19 2 1 8192 1 64
1 3353
0
z2xy 7 1 19 19 19 2 1 8192 1 64
1 620
0
z2x3 7 1 19 19 19 2 1 8192 1 64
1 0
0
z2y3 7 1 19 19 19 2 1 8192 1 64
1 0
0
z3x 7 1 19 19 19 2 1 8192 1 64
1 -722
0
z3c 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
z4xy 7 1 19 19 19 2 1 8192 1 64
1 -2696
0
z4 7 1 19 19 19 2 1 8192 1 64
1 -19970
0
z3y 7 1 19 19 19 2 1 8192 1 64
1 16138
0
z3xy 7 1 19 19 19 2 1 8192 1 64
1 -16178
0
z3y3 7 1 19 19 19 2 1 8192 1 64
1 0
0
z4x 7 1 19 19 19 2 1 8192 1 64
1 -1450
0
z4c 7 1 19 19 19 2 1 8192 1 64
1 0
0
z4x2y2 7 1 19 19 19 2 1 8192 1 64
1 -1027
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
z5 7 1 19 19 19 2 1 8192 1 64
1 -1478
0
z4y 7 1 19 19 19 2 1 8192 1 64
1 -11164
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

```