;only for topspin 1.3 version  
;mfa\_cosy-tocsy(DIPSI)-relay  
;2D homonuclear shift correlation  
;using gradient pulses for selection  
  
#include <Avance.incl>  
#include <Grad.incl>  
#include <Delay.incl>  
  
  
"p7=p6\*2"  
"d13=4u"  
  
"d0=in0/2-p1\*2/3.1416-4u"  
"FACTOR1=(d9/(p6\*115.112))/2+0.5"  
"l1=FACTOR1\*2"  
  
  
1 ze  
2 d1  
3 50u  
  p1 ph1  
  d0  
  d13 UNBLKGRAD  
  p16:gp1  
  d16  
  p1 ph2  
  d13  
  p16:gp1  
  d16   
  goscnp ph31  
  d13 wr #1   
  
  p1 ph2  
  p16:gp3  
  d16  
  4u pl10:f1  
    
                        ;begin DIPSI2  
4 p6\*3.556 ph23  
  p6\*4.556 ph25  
  p6\*3.222 ph23  
  p6\*3.167 ph25  
  p6\*0.333 ph23  
  p6\*2.722 ph25  
  p6\*4.167 ph23  
  p6\*2.944 ph25  
  p6\*4.111 ph23  
    
  p6\*3.556 ph25  
  p6\*4.556 ph23  
  p6\*3.222 ph25  
  p6\*3.167 ph23  
  p6\*0.333 ph25  
  p6\*2.722 ph23  
  p6\*4.167 ph25  
  p6\*2.944 ph23  
  p6\*4.111 ph25  
  
  p6\*3.556 ph25  
  p6\*4.556 ph23  
  p6\*3.222 ph25  
  p6\*3.167 ph23  
  p6\*0.333 ph25  
  p6\*2.722 ph23  
  p6\*4.167 ph25  
  p6\*2.944 ph23  
  p6\*4.111 ph25  
  
  p6\*3.556 ph23  
  p6\*4.556 ph25  
  p6\*3.222 ph23  
  p6\*3.167 ph25  
  p6\*0.333 ph23  
  p6\*2.722 ph25  
  p6\*4.167 ph23  
  p6\*2.944 ph25  
  p6\*4.111 ph23  
  lo to 4 times l1  
                        ;end DIPSI2  
  d12 pl1:f1  
  p1 ph2  
  
  d13  
  p16:gp2  
  d16 BLKGRAD  
  goscnp ph31  
  d1 wr #2  
  lo to 3 times 2  
  30u if #1  
  30u if #2  
  30u id0  
  lo to 3 times td1  
exit  
  
  
ph1=0 2   
ph2=0  
ph23=3  
ph25=1  
ph31=0 2   
  
  
;pl1 : f1 channel - power level for pulse (default)  
;pl10: f1 channel - power level for TOCSY-spinlock  
;p1 : f1 channel -  90 degree high power pulse  
;p5 : f1 channel -  60 degree low power pulse  
;p6 : f1 channel -  90 degree low power pulse  
;p7 : f1 channel - 180 degree low power pulse  
;p17: f1 channel - trim pulse                        [2.5 msec]  
;d0 : incremented delay (2D)  
;d1 : relaxation delay; 1-5 \* T1  
;d9 : TOCSY mixing time  
;d12: delay for power switching                      [20 usec]  
;l1: loop for MLEV cycle: (((p6\*64) + p5) \* l1) + (p17\*2) = mixing time  
;in0: 1/(1 \* SW) = 2 \* DW  
;nd0: 1  
;NS: 8 \* n  
;DS: 16  
;td1: number of experiments  
;FnMODE: States-TPPI, TPPI, States or QSEQ