;only for topspin 1.3 version

;mf\_hmbc\_cosy  
;2D H-1/X correlation via heteronuclear zero and double quantum coherence  
;optimized on long range couplings  
;with low-pass J-filter to suppress one-bond correlations  
;no decoupling during acquisition  
;using gradient pulses for selection  
  
  
#include <Avance.incl>  
#include <Grad.incl>  
#include <Delay.incl>  
  
    
"p2=p1\*2"  
"d0=3u"  
"d13=3u"  
"d2=1s/(cnst4\*2)"  
"d6=1s/(cnst13\*2)"  
"DELTA1=50u+p16+d16+4u"  
  
  
1 ze   
2 d1   
3 p1 ph1  
   
  d6  
  p3:f2 ph4  
  d0  
  50u UNBLKGRAD  
  p16:gp1  
  d16  
  p2 ph2  
  50u  
  p16:gp2  
  d16   
  d0  
  p3:f2 ph5  
  goscnp ph31  
  50u wr #1  
  p16:gp3  
  d16  
  p1 ph11  
  50u  
  p16:gp3\*-1  
  d16 BLKGRAD   
  gosc ph31  
  d1 wr #2  
  lo to 3 times 2  
  10m if #1  
  10m if #2  
  10m id0  
  lo to 3 times td1  
  exit  
    
    
  
ph1=0   
ph11=1  
ph2=0   
ph3=0   
ph4=0 2  
ph5=0 0 2 2  
ph31=0 2 2 0  
  
  
;pl1 : f1 channel - power level for pulse (default)  
;pl2 : f2 channel - power level for pulse (default)  
;p1 : f1 channel -  90 degree high power pulse  
;p2 : f1 channel - 180 degree high power pulse  
;p3 : f2 channel -  90 degree high power pulse  
;p16: homospoil/gradient pulse  
;d0 : incremented delay (2D)                  [3 usec]  
;d1 : relaxation delay; 1-5 \* T1  
;d2 : 1/(2J)XH  
;d6 : delay for evolution of long range couplings  
;d16: delay for homospoil/gradient recovery  
;cnst2: = J(XH)  
;cnst13: = J(XH) long range  
;in0: 1/(2 \* SW(X)) = DW(X)  
;nd0: 2  
;NS: 2 \* n  
;DS: 16  
;td1: number of experiments  
;FnMODE: QF  
  
  
;use gradient ratio:     gp 1 : gp 2 : gp 3  
;              50 :   30 : 40.1   for C-13  
;              70 :   30 : 50.1   for N-15  
  
;for z-only gradients:  
;gpz1: 50% for C-13, 70% for N-15  
;gpz2: 30%  
;gpz3: 40.1% for C-13, 50.1% for N-15  
  
;use gradient files:     
;gpnam1: SINE.100  
;gpnam2: SINE.100  
;gpnam3: SINE.100  
  
  
  
;$Id: hmbcgplpndqf,v 1.2 2002/07/16 12:41:02 ber Exp $