Bruker Pulse Program Two-Character Code Definitions

For Bruker pulse programs the first characters (usually 4, but at a maximum 6) specify the type of experiment, e.g. **DEPT**, **COSY**, **NOESY** etc. Further properties of the pulse program are indicated by a two-character code, which is added to the name in alphabetical order. For 2-D experiments the default version is "absolute value" and "without dummy scans". H- or X-decoupling is assumed to be default for heteronuclear experiments, but not for homonuclear ones (with the exception of **inad**). In case of redundant information some two-character codes may be omitted.

The two-character codes used are the following:

- **bi**: with **bird** pulse for homonuclear J-decoupling
- **bp**: **bipolar** gradients
- **cp**: with **composite** pulse
- **ct**: constant time
- **cw**: decoupling using **cw** command
- **dc**: decoupling using **cpd** command
- **df**: double quantum **filter**
- **di**: with **DIPS1** mixing sequence
- **dh**: homonuclear decoupling in indirect dimension
- **dw**: decoupling using **cpd** command only during wet sequence
- **dq**: double quantum coherence
- **ea**: phase sensitive using **Echo/Anti-echo** method
- **ed**: with multiplicity editing
- **et**: phase sensitive using **Echo/Anti-echo-TPPI** method
- **fb**: using f2 - and f3 - channel
- **fd**: using f1 - and f3 - channel (for presaturation)
- **fr**: with presaturation using a **frequency** list
- **ft**: using f1 -, f2 - and f3 - channel (for presaturation)
- **fh**: F-19 observe with H-1 decoupling
- **fp**: a **flip-back** pulse
- **fl**: for F-19 decoupler
- **f2**: using f2 - channel (for presaturation)
- **f3**: using f3 - instead of f2 - channel
- **f4**: using f4 - instead of f2 - channel
- **gd**: gated decoupling using **cpd** command
- **ge**: gradient echo experiment
- **gp**: coherence selection using gradients with ":gp" synthax
- **gr**: coherence selection using **gradients**
- **gs**: coherence selection using shaped gradients
- **hc**: homodecoupling of a region using a cpd-sequence
- **hd**: homodecoupling
- **hf**: H-1 observe with F-19 decoupling
- **hs**: with **homospoil** pulse
- **ig**: inverse gated
- **ii**: using inverse (invi/HSQC) sequence
- **im**: with incremented mixing time
- **i4**: inverse (inv4/HMQC) sequence
- **jd**: homonuclear J-decoupled
- **jr**: with jump-return pulse
- **lp**: with low-pass J-filter
- **lq**: with Q-switching (low Q)
- **lr**: for long-range couplings
- **mf**: **multiple** quantum filter
ml with MLEV mixing sequence
nd no decoupling
no with NOESY mixing sequence
pc with presaturation and composite pulse
pg power-gated
pl preparing a frequency list
pn with presaturation using a 1-D NOESY sequence
pr with presaturation
ps with presaturation using a shaped pulse
qn for QNP-operation
qs phase sensitive using qseq-mode
rd refocused
rl with relay transfer
rs with radiation damping suppression using gradients
ru using radiation damping compensation unit
rv with random variation
r2 with 2 step relay transfer
r3 with 3 step relay transfer
se spin echo experiment
sh phase sensitive using States et al. method
si sensitivity improved
sm simultaneous evolution of X and Y chemical shift
sp a shaped pulse
st phase sensitive using States-TPPI method
sy symmetric sequence
tf triple quantum filter
tp phase sensitive using TPPI
tr using TROSY sequence
ul using a frequency list
us updating shapes
wg watergate using a soft-hard-soft sequence
w5 watergate using W5 pulse
xf x-filter experiments
x1 x-filter in F1
x2 x-filter in F2
zf with z-filter
zq zero quantum coherence
1d 1-D version
1s using 1 spoil gradients
11 using 1-1 pulse
19 using 3-9-19 pulse
2h using 2H lockswitch unit
2s using 2 spoil gradients
3d 3-D sequence
3s using 3 spoil gradients
30 using a 30 degree flip angle
45 using a 45 degree flip angle
90 using a 90 degree flip angle
135 using a 135 degree flip angle

A phase-sensitive (TPPI) NOESY experiment with presaturation would then be: \textbf{noesy + pr + tp} = \textbf{noesyprtp}.