# Selective HMBC on AVIIIHD400, AVII600 and AVIIIHD800 in ICONNMR

A selective version of HMBC that gives narrow peaks in the F1 dimension = Carbon dimension is now added in iconnmr on three instruments. The ordinary HMBC experiment is giving very elongated peaks in the F1 dimension (the vertical dimension) which makes it hard to assign a 2D peak to a specific 13C signal if the 13C signals are close in the 1D experiment. The experiment is tested on the 800, but not yet on the 600 and 400. The experiment does not exist on other than these three instruments. The experiment is exceedingly faster that the 13C detected COLOC experiment which is an alternative.

The experiment is set up with 10 ppm width on the carbon axis centered at 172 ppm. This can be changed and if you do not intuitively understand how to do this please ask for help the first time. You cannot enlarge the 10 ppm window.
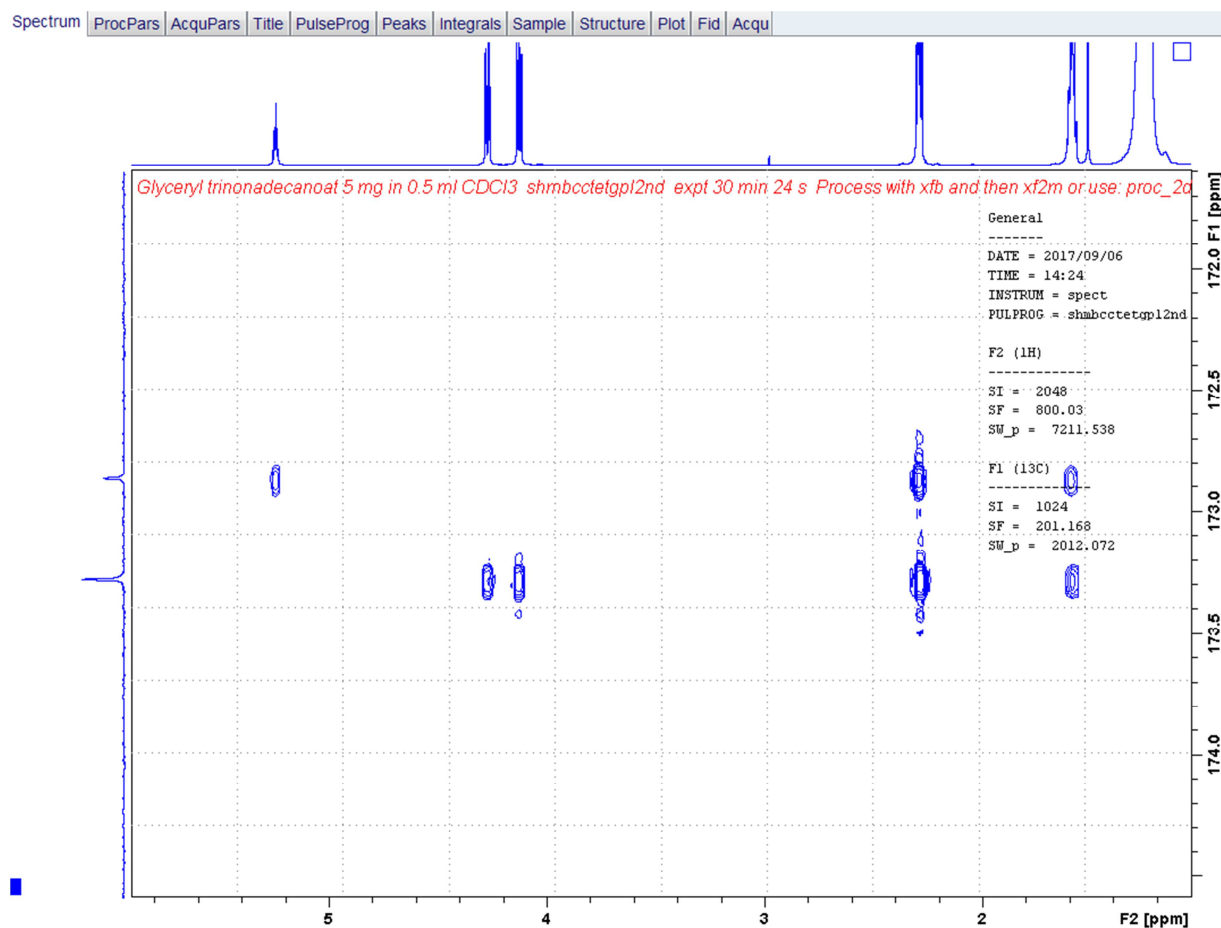
You must give two processing commands in Topspin. xfb followed by xf2m. What to do in MestreNova is unknown.

The experiment was run on this compound:

$$CH_3(CH_2)_9CH_2 \quad O \quad O \quad CH_2(CH_2)_9CH_3$$

$$CH_3(CH_2)_9CH_2 \quad O$$
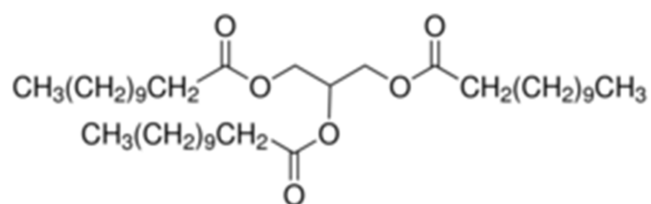
The setup looks like this on the 800.

D:\uio\AVIIIHD80(▾	Sep08-2017	▾	10	CDCl3	chloroform-d ▾	N PROTON	1H experiment	▾	★	☀	≡			
D:\uio\AVIIIHD80(▾	Sep08-2017	▾	11	CDCl3	chloroform-d ▾	C SHMBCCTETGPL2ND	selective HME ▾	★	☀	≡			
D:\uio\AVIIIHD80(▾	Sep08-2017	▾	10										

The setup looks like this on the 600.

	2	Available									
		Available	D:\uio\AVII600-04 ▾	Sep08-2017-tnmr ▾	10	CDCl3	chloroform-d	▾	N PROTON	1H experiment 16 scans	▾
		Available	D:\uio\AVII600-04 ▾	Sep08-2017-tnmr ▾	11	CDCl3	chloroform-d	▾	C SHMBCCTETGPL2ND	Selective HMBC for carbonyl region	▾
		F2	D:\uio\AVII600-04 ▾	Sep08-2017-tnmr ▾	10						

The setup looks like this on the 400.

	2 Available									
	Available	D:\uio\AVIII400-17 ▾	Sep08-2017	▾	10	CDCl3	chloroform-d	▾	N PROTON	1H experiment	▾
	Available	D:\uio\AVIII400-17 ▾	Sep08-2017	▾	11	CDCl3	chloroform-d	▾	N SHMBCCTETGPL2ND		▾
	F2	D:\uio\AVIII400-17 ▾	Sep08-2017	▾	10						
	Available									

NS = 4 is standard on all three instruments. If you have a weak sample please use more (8 or 16).