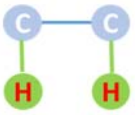
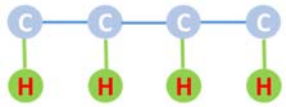
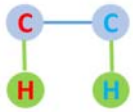
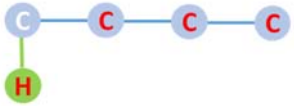
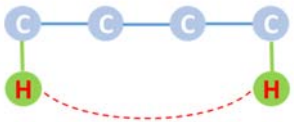
Basic *1-D* NMR Experiments

Method	Information	Parameter Set	Pulse Sequence
^{1}H	*δ_{1H}, J_{HH}*	**PROTON**	*zg30*
	homo-nuclear decoupling	**1d_1H_homoDec**	*zghd.2*
^{1}H + Solvent Suppression	*solvent suppression using excitation sculpting*	**ZGESGP**	*zgesgp*
	solvent suppression using pre-saturation with complex pulses	**ZGCPPR**	*zgcppr*
	multi-solvent suppression using pre-saturation	**LC1D12GP**	*lc1gppnf2*
^{13}C + ^{1}H decoupling	*δ_{13C}, ^{1}H decoupled (NOE effect, integration not possible)*	**C13CPD**	*zgpg30*
	δ_{13C}, ^{1}H decoupled (fast relaxation, short d_1 needed)	**1d_13C_UDEFT**	*udeft*
	δ_{13C}, ^{1}H decoupled (no NOE effect, integration possible)	**C13IG**	*zgig30*
^{13}C + CH_n test	*δ_{13C}, select CH, CH_2, CH_3 signals only (all up)*	**C13DEPT45**	*dept45*
	δ_{13C}, select CH signals only	**C13DEPT90**	*dept90*
	δ_{13C}, select CH, CH_2, CH_3 signals only (CH_2 down)	**C13DEPT135**	*dept135*
	δ_{13C}, all ^{13}C signals (CH, CH_3 up; C, CH_2 down)	**1d_13C_DEPTq**	*deptqgpsp*

Basic *2-D* NMR Experiments

Correlation	Information	Method	Parameter Set	Pulse Sequence
	*$^{1}H/^{1}H$ nearest neighbor, via $^{3}J_{HH}$*	**COSY**	**COSYGPSW**	*cosygpppqf*
	$^{1}H/^{1}H$ nearest neighbor, via $^{3}J_{HH}$ (with J information)	**DQF-COSY**	**COSYGPDFPHSW**	*cosygpmfphpp*
	*$^{1}H/^{1}H$ total spin system, via $^{n}J_{HH}$ (n=2,3,4,…)*	**TOCSY**	**MLEVPHSW**	*mlevphpp*
	*$^{1}H/^{13}C$ one-bond correlation, via $^{1}J_{CH}$,* *lower resolution in ^{13}C dimension*	**HSQC** **HMQC**	**HSQCGP** **HMQCPH**	*hsqcetgpsi2* *hmqcph*
	*$^{1}H/^{13}C$ long-range correlation, via $^{n}J_{CH}$ (n=2,3,4)*	**HMBC**	**HMBCLPND**	*hmbclpndqf*
	*$^{1}H/^{1}H$ through space, via D_{HH} (small & large molecules)*	**NOESY**	**NOESYPHSW**	*noesyghphpp*
	$^{1}H/^{1}H$ through space, via D-coupling (medium molecules)	**ROESY**	**ROESYPHSW**	*roesyphpp.2*
N/A	*Diffusion coefficients vs. molecule sizes, using ^{1}H NMR*	**DOSY**	**2d_DOSY**	*stebpgp1s*

NMR Acronyms

COSY	COrrelation SpectroscopY
CPD	Composite Pulse Decoupling
DEPT	Distortionless Enhancement by Polarization Transfer
DEPTQ	DEPT with retention of Quaternaries
DOSY	Diffusion Ordered SpectroscopY
DQF	Double Quantum Filter
HMBC	Heteronuclear Multiple-Bond Correlation
HMQC	Heteronuclear Multiple-Quantum Correlation
HSQC	Heteronuclear Single-Quantum Correlation
NOESY	Nuclear Overhauser Effect SpectroscopY
ROESY	Rotating-frame NOE SpectroscopY
TOCSY	TOtal Correlation SpectroscopY
UDEFT	Uniform Driven Equilibrium Fourier Transform