

Materials List for:

Measuring the Spin-Lattice Relaxation Magnetic Field Dependence of Hyperpolarized [1-¹³C]pyruvate

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Materials

Name	Company	Catalog Number	Comments
[1- ¹³ C]Pyruvic Acid	Sigma-Aldrich, St. Louis, MO, USA	677175	
10mm NMR Tube	Norell, Inc., Morganton NC, USA	1001-8	
De-ionized water			
Ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA)	Sigma-Aldrich, St. Louis, MO, USA	E5134	
HyperSense Dynamic Nuclear Polarizer	Oxford Instruments, Abingdon, UK		Includes the following: "DNP-NMR Polarizer" software used to control and monitor the whole DNP polarizer; "RINMR" used to monitor the solid state polarization levels; "HyperTerminal" used to communicate the DNP software with the RINMR software that monitors the solid state polarization level. Also includes the MQC bench top spectrometer to monitor the liquid state polarization in conjunction with it own RINMR software
MATLAB R2017b	MathWorks, Natick, MA		Include scripts for non-linear fitting of magnetization decay over time and T1 NMRD analysis of hyperpolarized pyruvic acid.
OX063 Triarylmethyl radical	Oxford Instruments, Abingdon, UK		
pH meter - SympHony	VWR International, Mississauga, ON., Canada	SB70P	
ProHance	Bracco Diagnostics Inc.		Gadoteridol, Gd-HP-DO3A
Pure Ethanol (100% pure)	Commercial Alcohols, Toronto, ON, Canada	P016EAAN	
Shim Coil			Developed in-house
Sodium Chloride	Sigma-Aldrich, St. Louis, MO, USA	S7653	
Sodium Hydroxide	Sigma-Aldrich, St. Louis, MO, USA	S8045	
SpinMaster FFC2000 1T C/DC	Stelar s.r.l., Mede (PV) Italy		Includes the software "AcqNMR" that is used to set experimental parameters, monitor the tuning and matching of the RF coil, loading different pulse sequences, calibrate flip angle, data acquisition and curve fitting, among other functions. Also includes a depth

			gauge, some weights and a depth stopper.
Trizma Pre-Set Crystals (pH 7.6)	Sigma-Aldrich, St. Louis, MO, USA	T7943	