Supporting Information

On the performance of Spin Diffusion NMR Techniques in Oriented Solids: Prospects for Resonance Assignments and Distance Measurements from Separated Local Field Experiments

Nathaniel J. Traaseth[2], T. Gopinath[2], and Gianluigi Veglia[1,2]*

[1] Department of Chemistry University of Minnesota, Minneapolis, Minnesota 55455

[2] Department of Biochemistry, Molecular Biology, and Biophysics, University of Minnesota, Minneapolis, Minnesota 55455

**Author for correspondence*

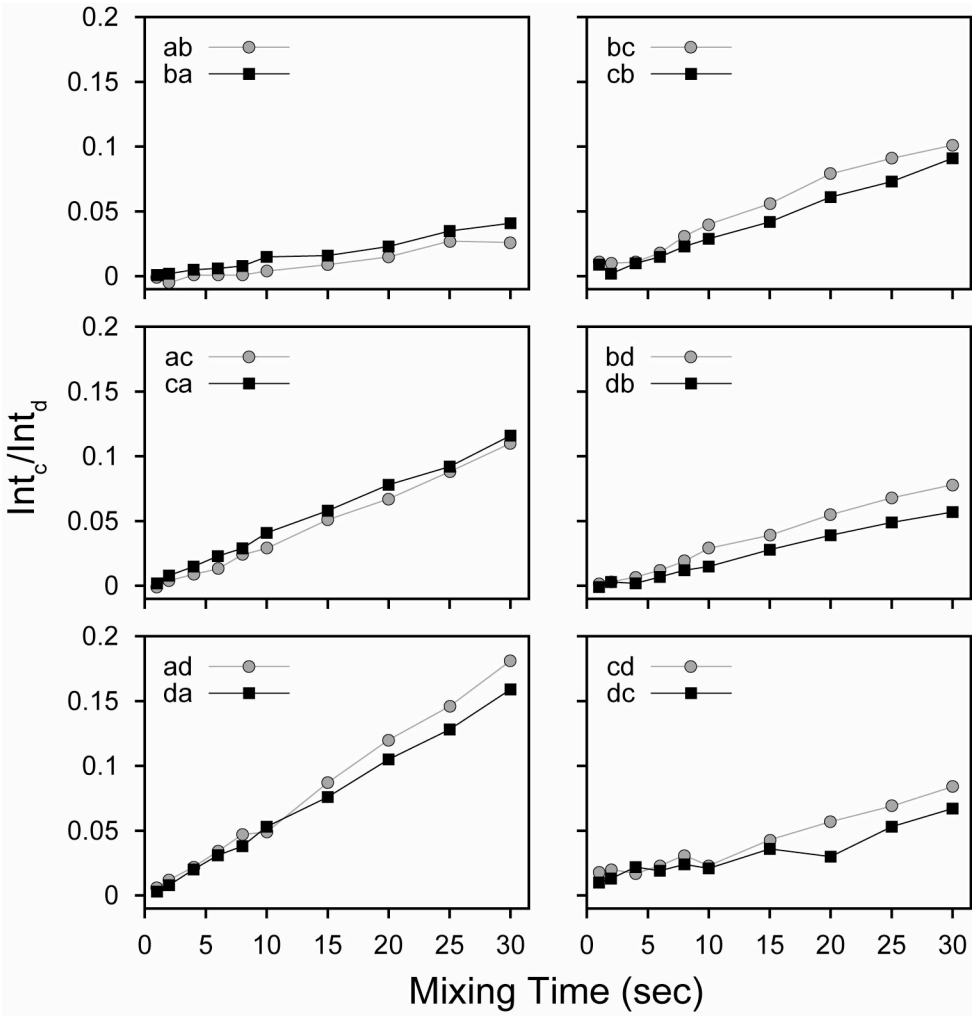
SUPPORTING INFORMATION TABLE I

Homo and heteronuclear dipolar couplings (in Hz) used in the simulation shown in **Figure 13**.

Atom	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	N2
N1	-913.8	127.2	298.1	-149	-5544.2	-38.7	-31.0	-107.0	-90.7	-29.6	3.2
H1		-2290.5	-1002.9	-2182.1	4034.6	1087.7	508.6	1426.8	3580.8	380.4	-60.7
H2			-2108.1	395.9	-309.8	474.2	137.4	172.4	513.7	214.5	-38.1
H3				7126.0	-39.1	374.6	212.0	999.8	340.0	670.8	-64.9
H4					1579.2	1523.2	463.4	1823.6	344.4	1891.6	-270.6
H5						275.2	209.4	703.8	521.4	262.8	-27.4
H6							-3159.1	1250.4	6265.5	-2268.0	652.5
H7								2986.4	1524.9	-996.0	125.3
H8									-3950.5	885.8	-113.0
H9										-725.4	78.6
H10											4525.7

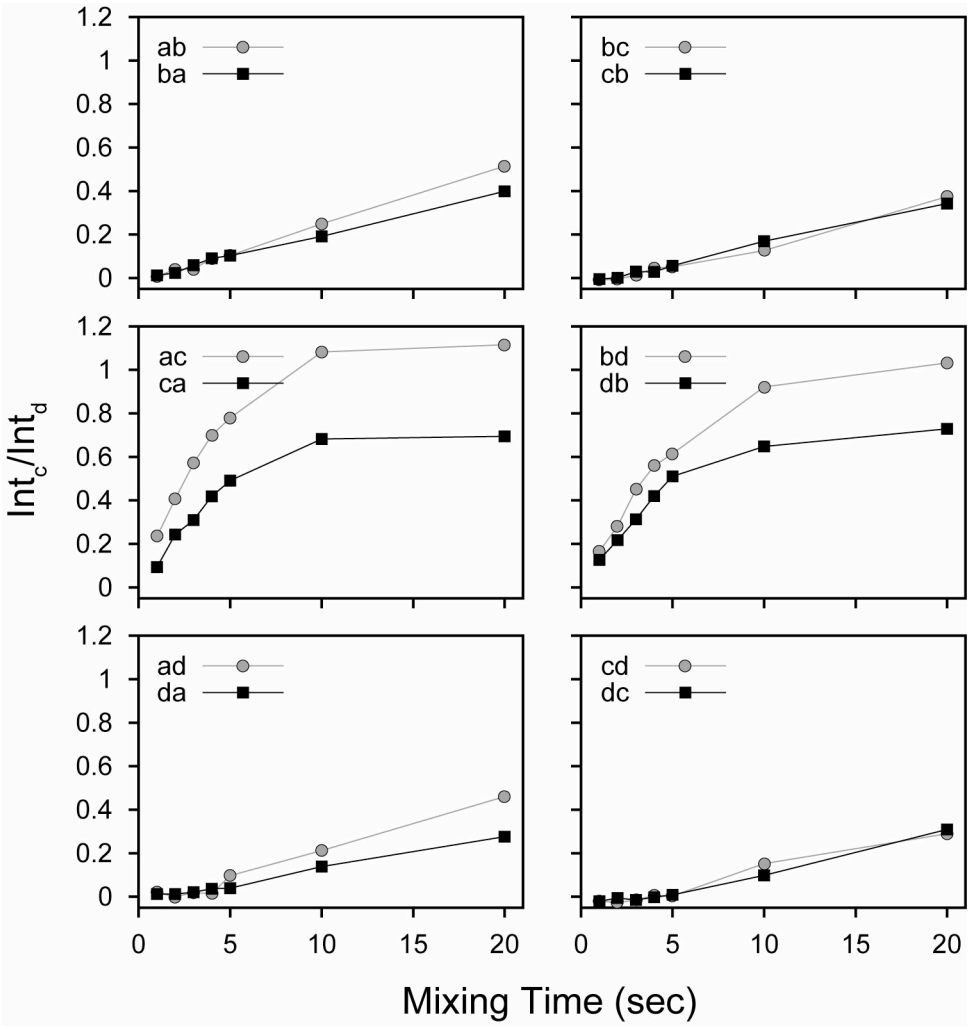
SUPPORTING INFORMATION FIGURE 1

PDSD experiments on the NAL single crystal. All 12 cross-peaks are shown from the spectra as expressed as the cross-peak intensity (Int_c) divided by diagonal peak intensities (Int_d). Note that the maximum value along the y-axis is 0.2, corresponding to a 20% transfer efficiency.



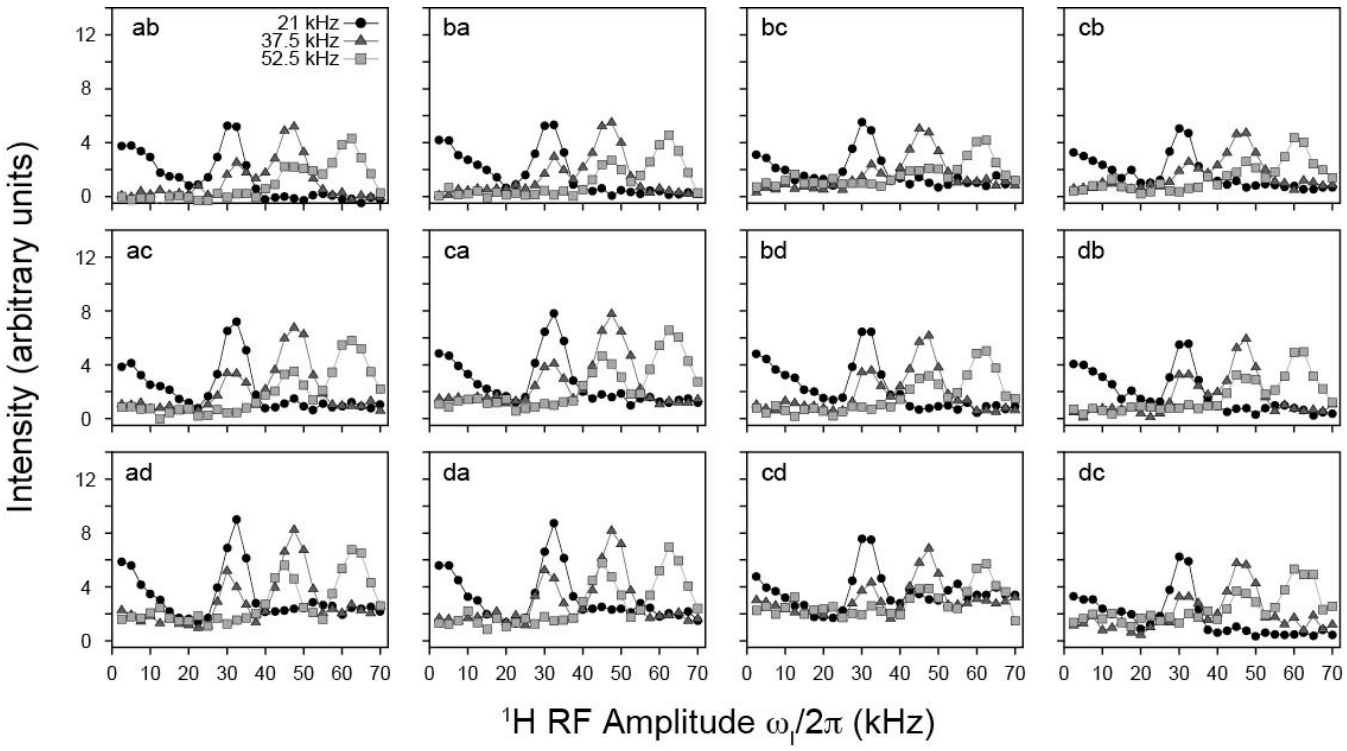
SUPPORTING INFORMATION FIGURE 2

PDSD experiments on the NAVL single crystal. All 12 cross-peaks are shown from the spectra as expressed as the cross-peak intensity (Int_c) divided by diagonal peak intensities (Int_d).



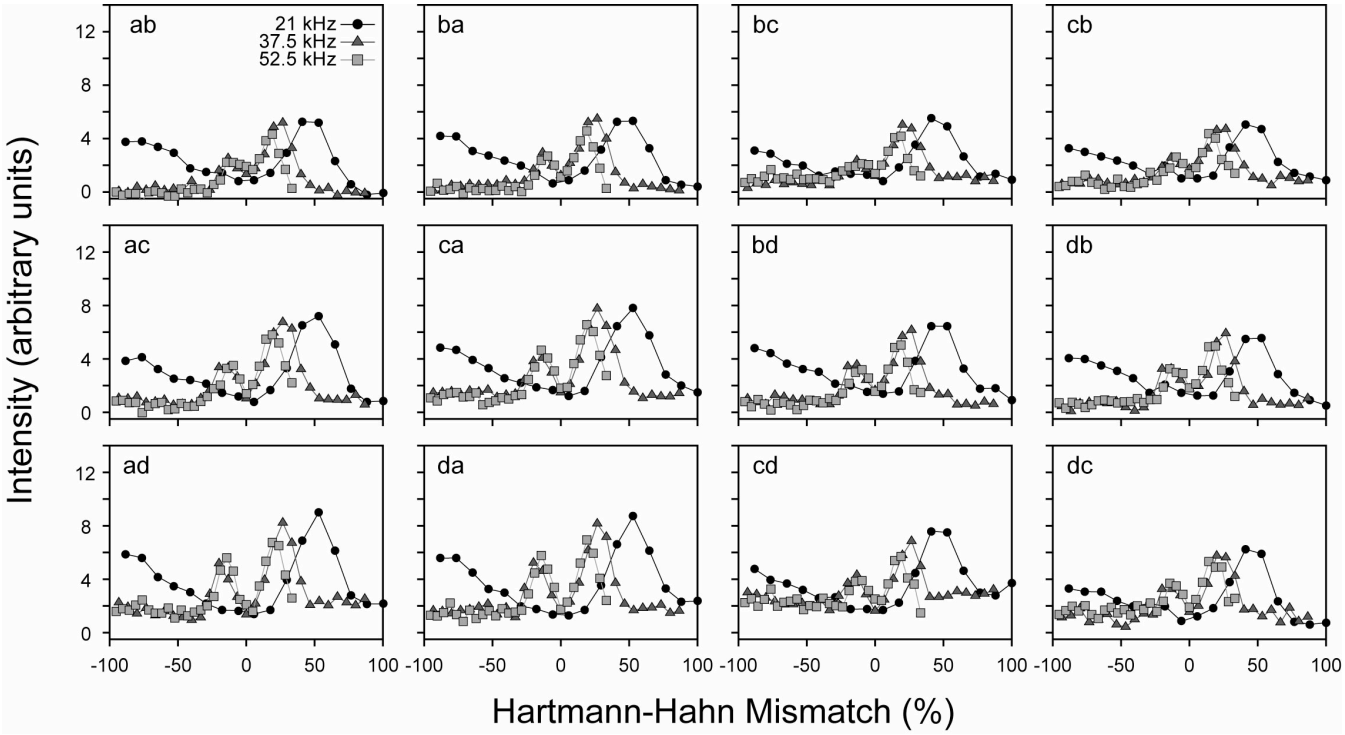
SUPPORTING INFORMATION FIGURE 3

PMPT experiments on the NAL single crystal. The ^{1}H RF amplitude was varied between 0-70 kHz for three different ^{15}N spinlocks (21, 37.5, and 52.5 kHz). The mixing time was fixed at 10 msec for all points. Cross-peak intensities are plotted in arbitrary units. The dip in the curves is due to the Hartmann-Hahn match.



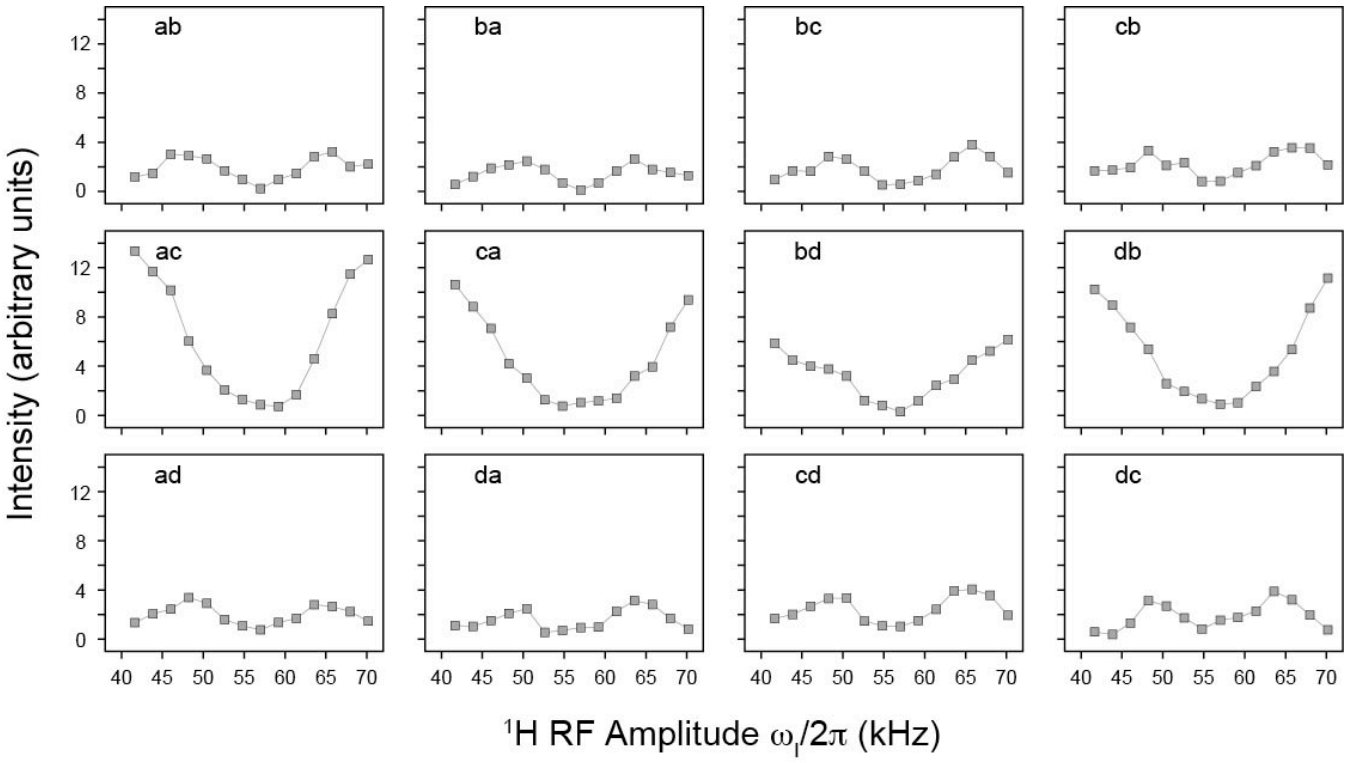
SUPPORTING INFORMATION FIGURE 4

Same as **Supporting Information Figure 3**, except that the ^{1}H RF amplitude is plotted in units of percentage mismatch from that of the ^{15}N RF amplitude.



SUPPORTING INFORMATION FIGURE 5

PMPT experiments on the NAVL single crystal. The ^{1}H RF amplitude was varied for a ^{15}N spinlock of 57.5 kHz. The mixing time was fixed at 10 msec for all points. Cross-peak intensities are plotted in arbitrary units. The dip in the curves is due to the Hartmann-Hahn match.



SUPPORTING INFORMATION FIGURE 6

Same as **Supporting Information Figure 5**, except that the ^{1}H field is plotted in units of percentage mismatch from that of the ^{15}N RF amplitude (57.5 kHz).