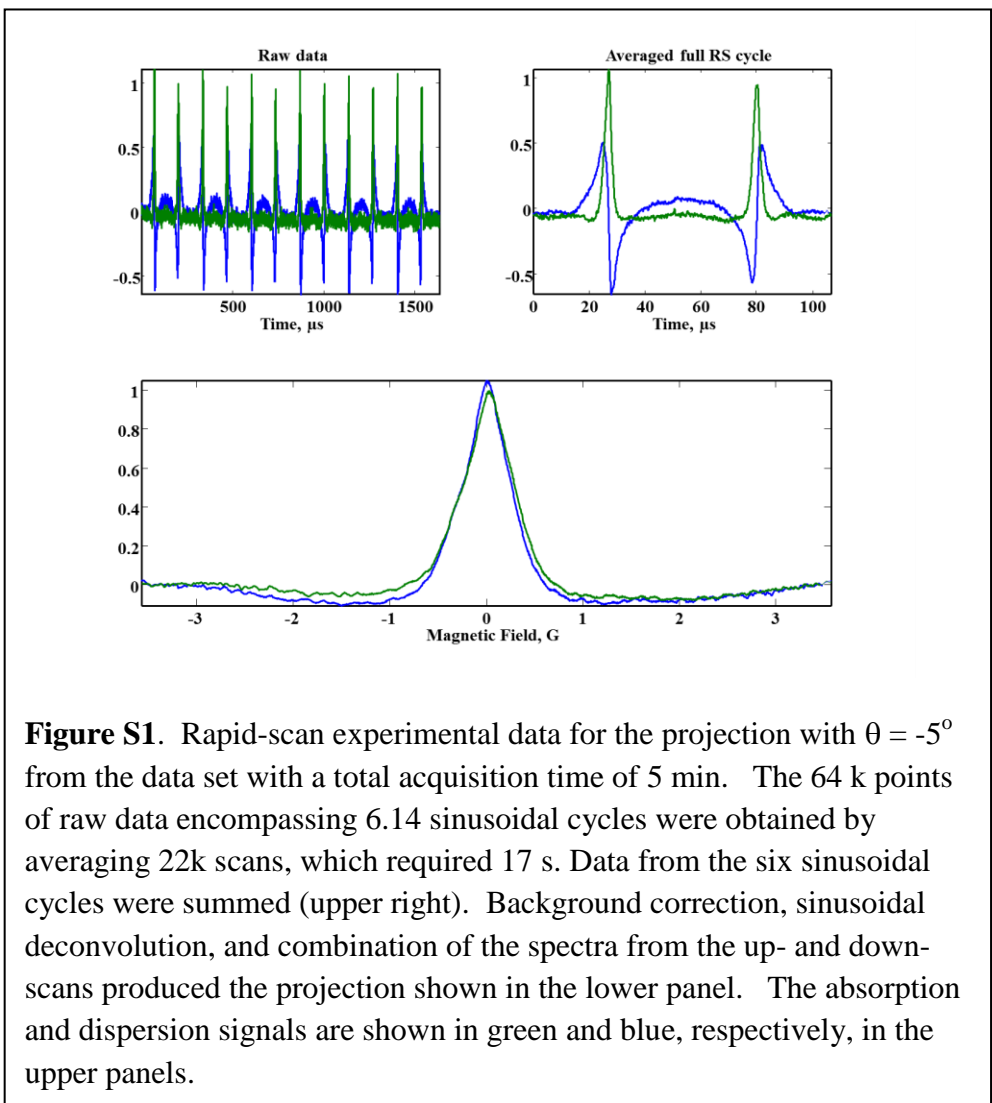


Supplementary Material to Accompany

Imaging of Nitroxides at 250 MHz using Rapid-Scan Electron Paramagnetic Resonance

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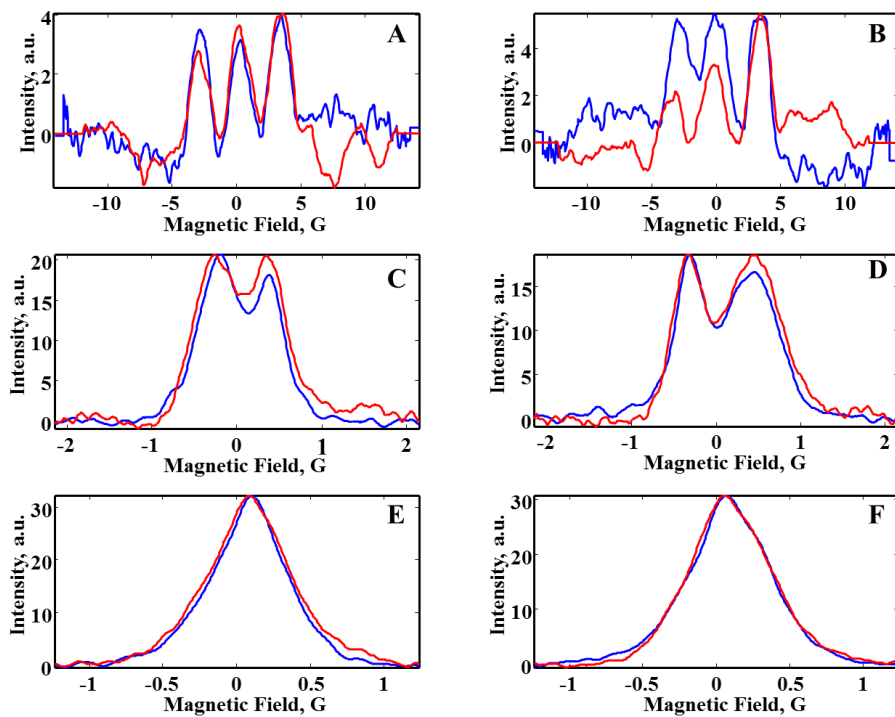


Figure S2. Comparison of projections obtained by rapid scan with a 29 s total acquisition time (blue) and CW with a total of 5 min acquisition time (red) for the phantom shown in Fig. 5D at (A) $\theta = -85^\circ$, (B) $\theta = 85^\circ$, (C) $\theta = -55^\circ$, (D) $\theta = 55^\circ$, (E) $\theta = -5^\circ$, and (F) $\theta = 5^\circ$.

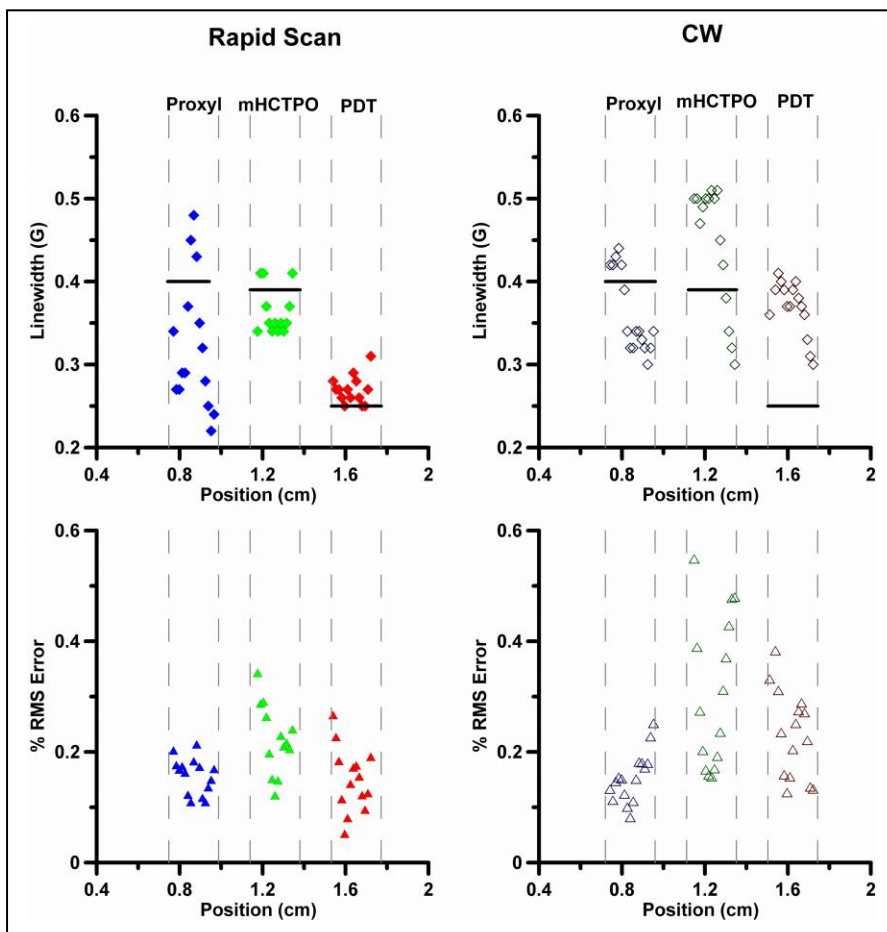


Figure S3. Comparison of linewidths obtained from an image obtained by rapid scan with 29 s total acquisition time and CW with 5 min total acquisition time. Linewidths for ^{15}N -Proxyl (\blacklozenge, \diamond), ^{15}N -mHCTPO (\blacklozenge, \lozenge) and ^{15}N -PDT (\blacklozenge, \lozenge) calculated by fitting spectral slices through the images and the corresponding percent RMS fitting errors for ^{15}N -Proxyl ($\blacktriangle, \triangle$), ^{15}N -mHCTPO ($\blacktriangle, \triangle$) and ^{15}N -PDT ($\blacktriangle, \triangle$). Closed symbols designate rapid scan and open symbols designate CW. The dashed lines mark the locations of tube walls. The black horizontal lines indicate the linewidths calculated from spectra of the tubes measured individually.

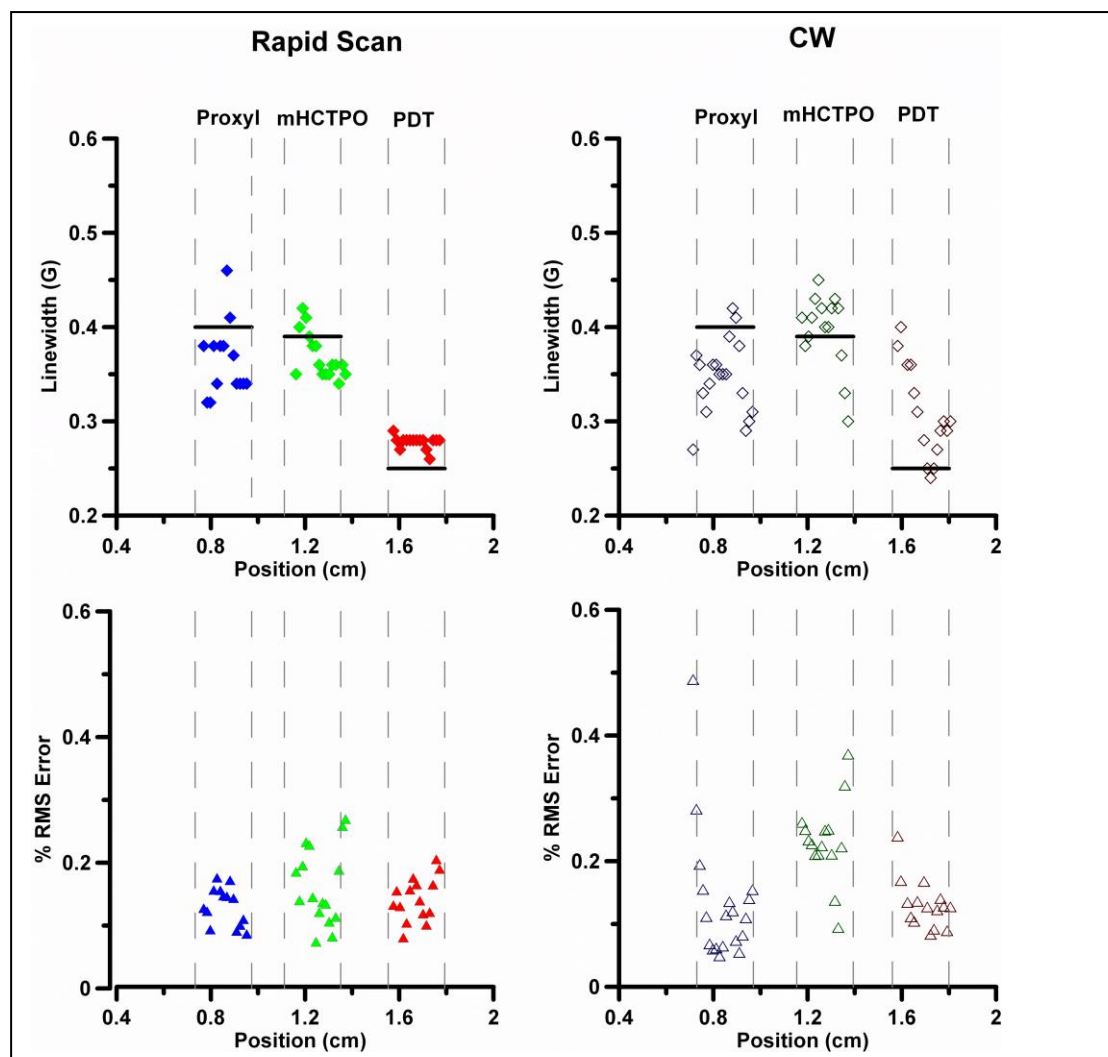


Figure S4. Comparison of linewidths obtained from an image obtained by rapid scan with 5 min total acquisition time and CW with 15 min total acquisition time. Linewidths for ^{15}N -Proxyl (\blacklozenge , \blacklozenge), ^{15}N -mHCTPO (\blacklozenge , \blacklozenge) and ^{15}N -PDT (\blacklozenge , \blacklozenge) calculated by fitting spectral slices through the images and the corresponding percent RMS fitting errors for ^{15}N -Proxyl (\blacktriangle , \blacktriangle), ^{15}N -mHCTPO (\blacktriangle , \blacktriangle) and ^{15}N -PDT (\blacktriangle , \blacktriangle). Closed symbols designate rapid scan and open symbols designate CW. The dashed lines mark the locations of tube walls. The black horizontal lines indicate the linewidths calculated from spectra of the tubes measured individually.