Supplementary Information

Gd$^{3+}$ Spin Labeling for Distance Measurements by Pulse EPR Spectroscopy

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Figure S1. Comparison of the size of the MTSSL and DOTA tags
Figure S2. The individual $V_i$ (top), $\lambda_i$ (center) and the product $\lambda_i V_i$ (bottom) along with their sum, yielding $\lambda V$ and $\lambda V$ calculated according to Eqs. 10 and 11 for spectrometer frequency of 34 GHz, $D_G=1500$ MHz and $t_p=15$ ns, $t_o=20,40,40$ ns for the following cases: (a) Pump pulses on the central transition and observer pulses 75 MHz higher and (b) Observer pulses on the central transition and pump pulses 75 MHz higher. Color codes: $|1/2>\rightarrow|1/2>$ - blue, $|-3/2>\rightarrow|-1/2>$ and $|1/2>\rightarrow|3/2>$ - light blue, $|-5/2>\rightarrow|-3/2>$ and $|3/2>\rightarrow|5/2>$ - red, $|-7/2>\rightarrow|-5/2>$ and $|5/2>\rightarrow|7/2>$ - green, sum – purple.