Supplementary Information

Study of electron spectral diffusion process under DNP conditions by ELDOR spectroscopy focusing on the ^{14}N Solid Effect

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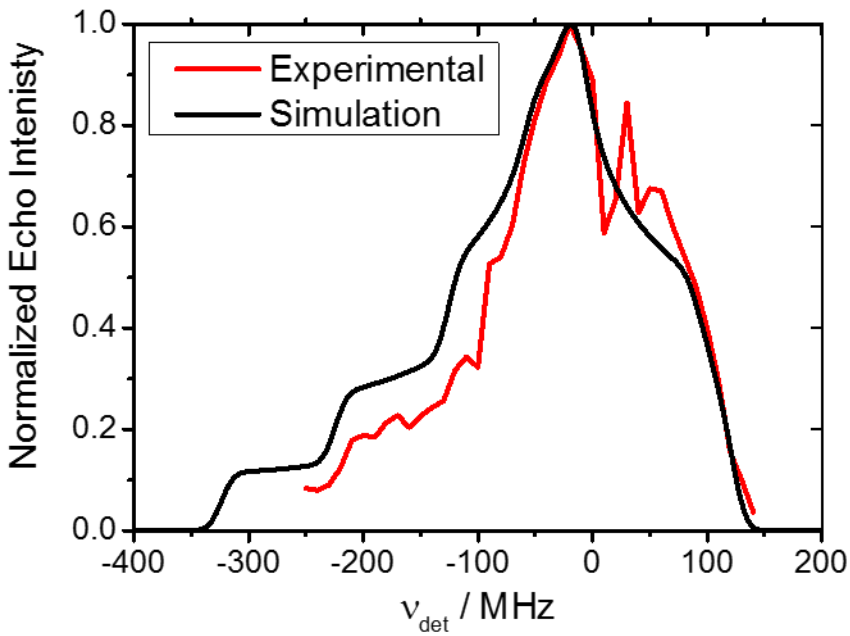

Figure S1. The frequency swept EPR spectrum (red) recorded for B=3379 mT as a function of the detection frequency, and the simulated spectrum (black).

Table S1: Assignments of the different transition frequencies (in MHz) for an orientation contributing to the measurements shown in Fig 3A ($\theta \approx 110, \varphi \approx 300$). The three columns are for the three pairs of allowed transitions. In cases where the splitting of the pair is a result of the proton hyperfine the transition energy of the pair is assumed to be the same. A schematic energy level diagram is shown in Figure S2 showing the ordering of the different energy levels. The numbering of the levels is from top to bottom.

transitions	$\Delta\nu_{\text{det}} = -250$ MHz	$\Delta\nu_a = -160$ MHz	$\Delta\nu_a = -70$ MHz
Allowed (red)	(3-7);(6-10): **-251**	(2-8);(5-11): **-161**	(1-9);(4-12): **-71**
^{1}H-forbidden: (blue)	(6-7) : **-395** (3-10) : **-107**	(5-8) : **-305** (2-11) : **17**	(4-9) : **-215** (1-12) : **72**
^{14}N-forbidden: (green)	(3-8);(6-11): **-213** (2-7);(5-10): **-198**	(2-9);(5-12): **-128** (2,7);(5-10): **-198** (1-8);(4-11): **-104** (3-8);(6-11): **-213**	(1-8);(4-11): **-104** (2-9);(5-12): **-128**
^{1}H-^{14}N-forbidden: (purple)	(6-8) :**-357** (5-7) : **-325** (3-11) : **-69** (2-10) : **-55**	(4-8) : **-248** (6-8) : **-357** (5-9) : **-273** (5-7) : **-325** (1-11) : **40** (3-11) : **-69** (2-10) : **-55** (2-12) : **15**	(4-8) : **-248** (5-9) : **-273** (1-11) : **40** (2-12) : **15**

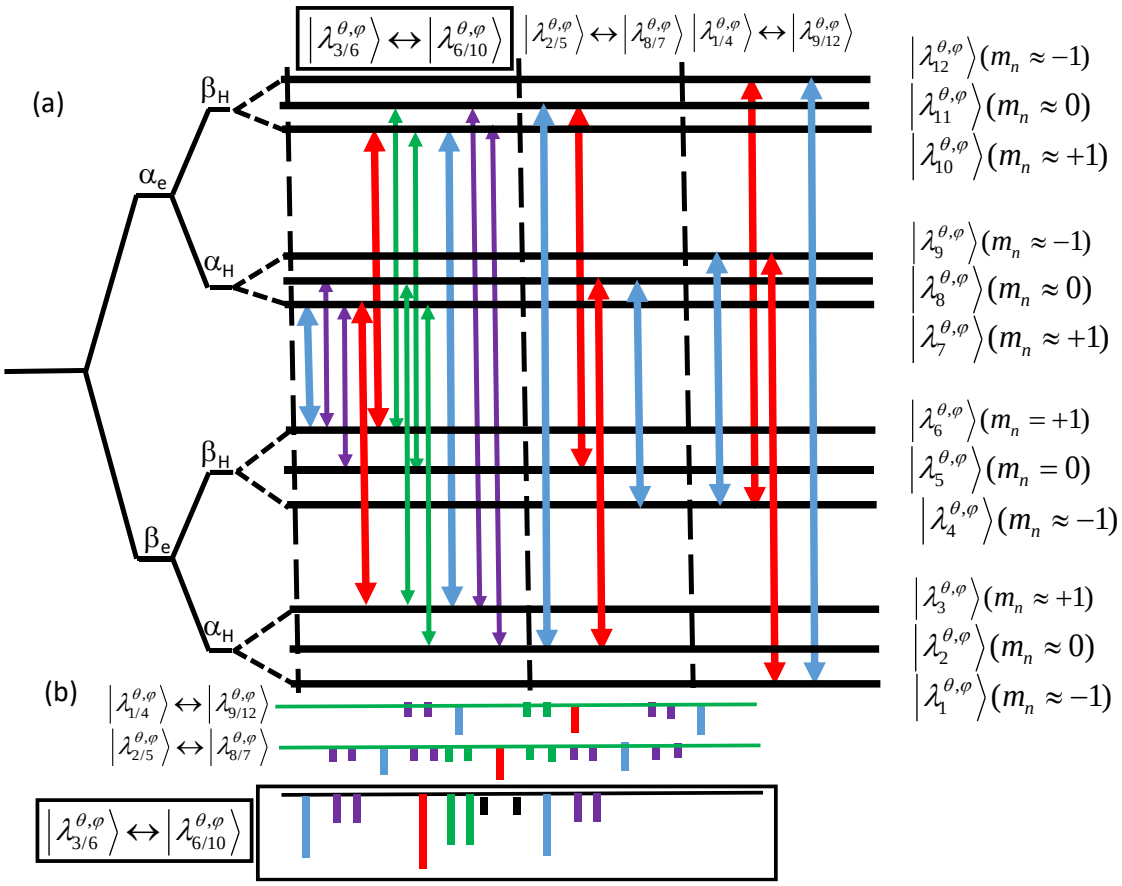

Figure S2: (a) Energy level diagram for the system described in Table S1 (b) A schematic presentation of the ELDOR spectrum following the color coding of the arrows.