Low-Temperature Properties of the Candidate Quantum Spin Liquid in $EtMe_3Sb[Pd(dmit)_2]_2$ as Revealed by NMR.

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In recent years, the two-dimensional spin-$1/2$ triangular lattice of the organic salt $EtMe_3Sb[Pd(dmit)_2]_2$ has emerged as a candidate for the realization of a quantum spin liquid. Furthermore, thermal conductivity and nuclear magnetic resonance (NMR) experiments unveiled the presence of a low-temperature instability in the spin liquid state, the opening of a spin gap. We performed a detailed ^{13}C NMR study on this material at low temperatures (< 1.5 K) and for a wide range of external magnetic field values. In finite fields, a clear break in the temperature derivative of the spin lattice relaxation is observed at a temperature $T_m(H)$, with $T_m \to 0$ in the limit that $H \to 0$. We discuss these results in the context of possible instabilities, and existing thermodynamic data.