SUPPLEMENTARY INFORMATION TO

EPR, ENDOR AND HYSCORE STUDY OF X-RAY INDUCED CENTRES IN K_2YF_5 THERMOLUMINESCENT PHOSPHORS

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Cross peak linking the triple-quantum (tq) frequencies in the ^{39}K HYSCORE experiment

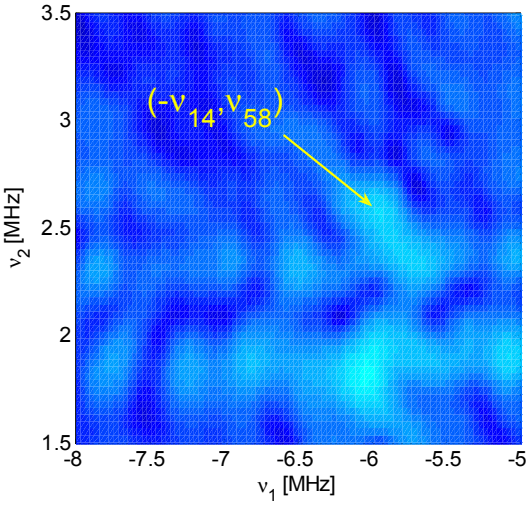

Fig. S1 [-8 - -5, 1.5 – 3.5] MHz region from the experimental HYSCORE spectrum of K_2YF_5:Ce (0.1%). Magnetic field B_0=343.95 mT along the *a*-axis corresponds to the C1 centre EPR line position. The cross peak between the tq frequencies ($-\nu_{58}$, ν_{14}) of the type-I ^{39}K interaction is shown.

^{19}F HYSCORE

As mentioned in the main text, the weak 19F modulations are largely surppressed by the strong ^{39}K modulations in the HYSCORE spectrum. As a consequence, only weak 19F cross peaks are observed in the area where we expect contributions for interactions 2, 3.1 and 3.2. The ^{19}F signals due to interaction 1 (hyperfine splitting in this observer position ~12 MHz) are not observed.

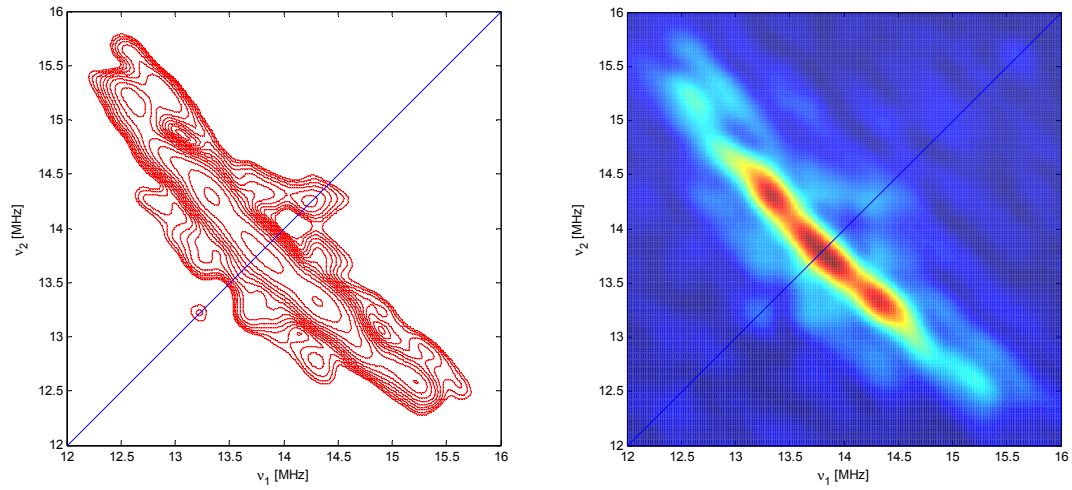

Fig S2. ^{19}F HYSCORE spectrum of K_2YF_5:Ce (0.1%). Magnetic field B=343.95 mT along the *a*-axis corresponds to the C1 centre EPR line position.