

**Supplementary material for “Hyperfine couplings between
paramagnetic moment and nuclei in the metallic phase of low
silica X zeolite loaded with potassium”**

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TABLE I. Fit parameters of the ^{23}Na NMR spectrum of $\text{K}_{9.0}/\text{Na}_4\text{K}_8\text{-LSX}$.

Component	Width (ppm)	Height (a.u.)	Shift (ppm)	Integrated intensity ratio (%)
P ₁	72	13	574	9
P ₂	220	40	857	80
@	60	21	1190	11

Figure 1 shows the ^{23}Na NMR spectrum of $\text{K}_n/\text{Na}_4\text{K}_8\text{-LSX}$ with $n = 9.0$ measured at 25 K. The black and red solid curves are the experimental data. We fit the shift components in the red region with a three-component Gaussian function with an appropriate background. The blue solid curve shows the fit result. Table I lists the fit parameters. The results have two main characteristics: the P₂ component is three or more times broader than the other components, and the integrated intensity of the P₂ component is dominant, accounting for 80% of the total. A discussion is provided in the main paper.

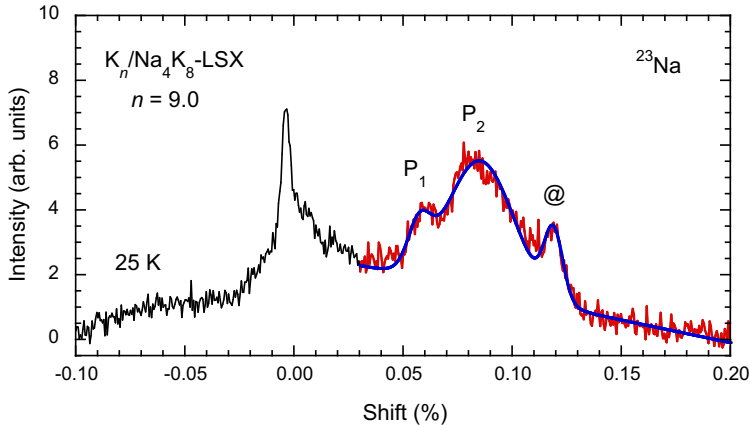


FIG. 1. ^{23}Na NMR spectrum of $\text{K}_n/\text{Na}_4\text{K}_8\text{-LSX}$ with $n = 9.0$ measured at 25 K.

Figure 2 shows the ^{27}Al NMR spectra of $\text{K}_n/\text{Na}_4\text{K}_8\text{-LSX}$ with $n = 9.0$ measured at 4 and 15 K. The gray solid curves are experimental results and the orange dashed curves are fit results. At temperatures lower than 25 K, the spectral tail becomes noticeably wider. By setting such the background with a quite wide Gaussian function, the fit in the four Gaussian components still works as well as in the cases above 25 K. Each component from A to D is also plotted separately.

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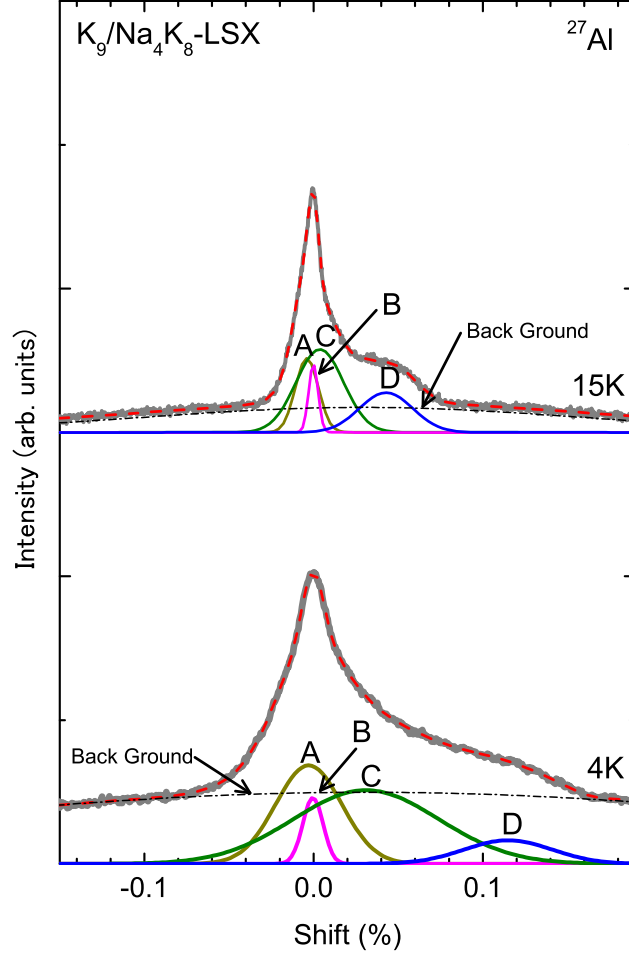


FIG. 2. ^{27}Al NMR spectra of $\text{K}_{9.0}/\text{Na}_4\text{K}_8\text{-LSX}$ measured at 4 and 15 K.

Figure 3 shows K - χ plot of ^{27}Al NMR for $\text{K}_{9.0}/\text{Na}_4\text{K}_8\text{-LSX}$ with the full temperature range. The linear line in the figure is drawn with least square fitting. The shift of the D component is well scaled with the susceptibility down to 4 K.

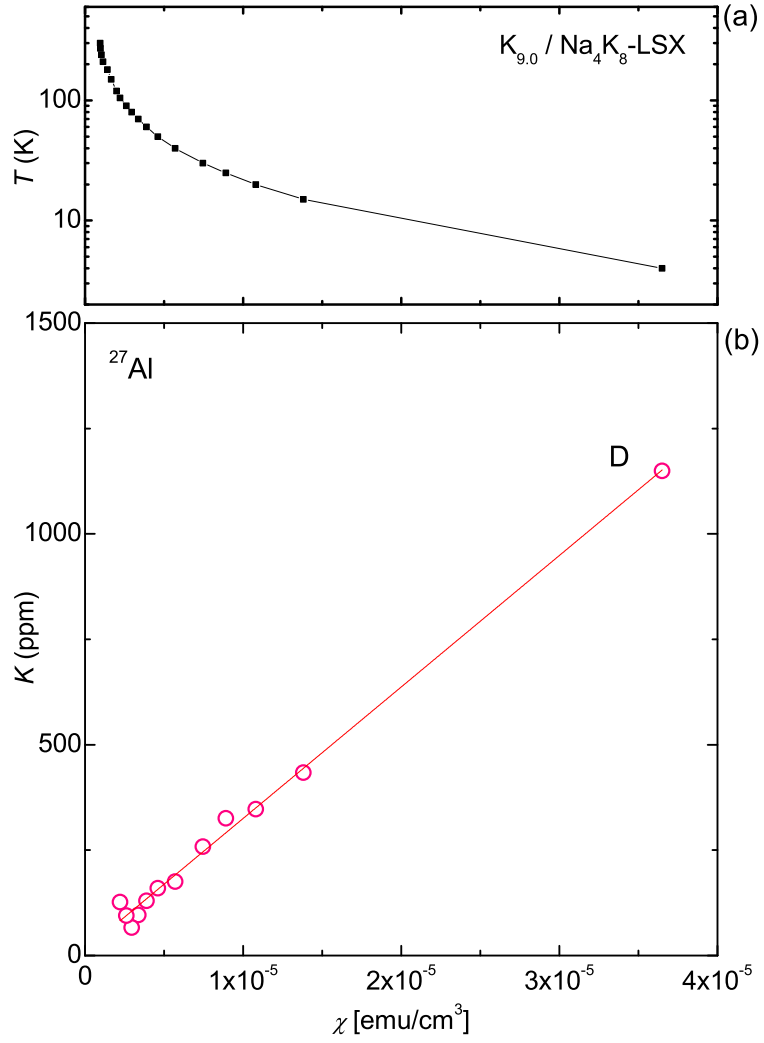


FIG. 3. K - χ plot of ^{27}Al NMR for $\text{K}_{9.0}/\text{Na}_4\text{K}_8$ -LSX with the full temperature range. (a) Temperature versus susceptibility. (b) Shift of D component versus susceptibility. The linear line in the figure is drawn with least square fitting.