Supporting Information for

Characterization of Non-Innocent Metal Complexes Using Solid-State NMR Spectroscopy: *o*-Dioxolene Vanadium Complexes

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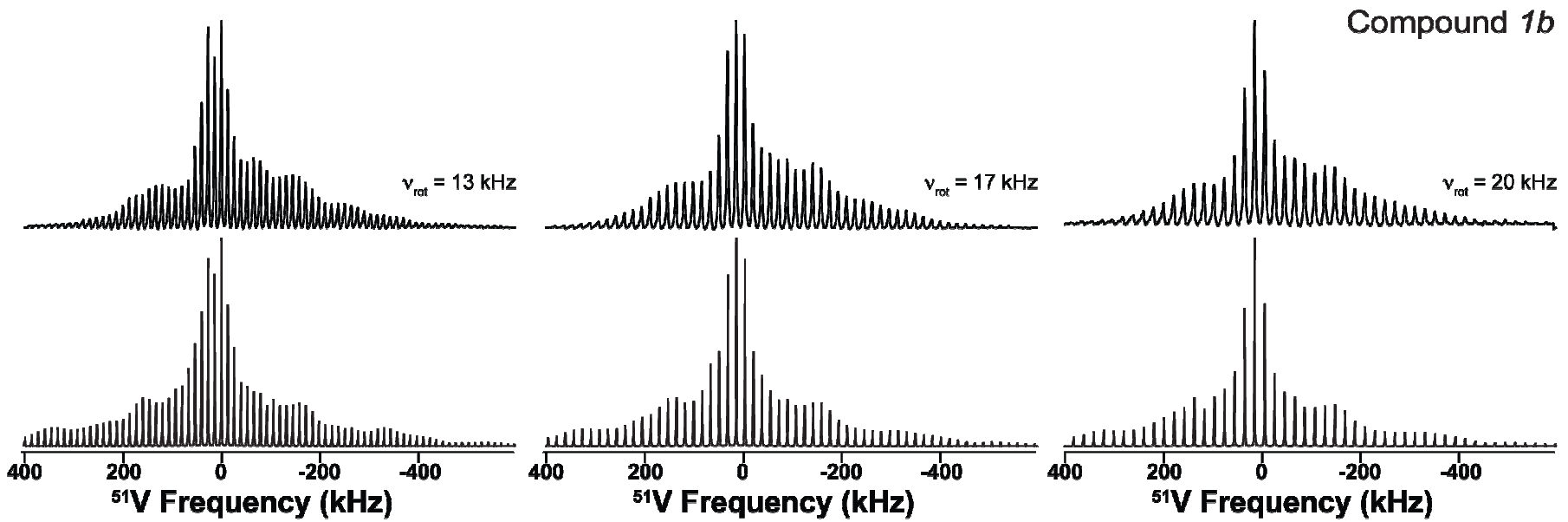

Figure S1. ^{51}V experimental (top) and simulated (bottom) 9.4 T solid-state NMR spectra of the vanadium(V)-*o*-dioxolene compound $V^{V}O$(hshed)(DTBCat)- **1b,** acquired with MAS frequencies of 13 kHz (left), 17 kHz (middle) and 20 kHz (right). 8192 scans were accumulated for each spectrum, and the pulse delay was 1.0 s. The spectra were simulated using the parameters listed in Table 1.

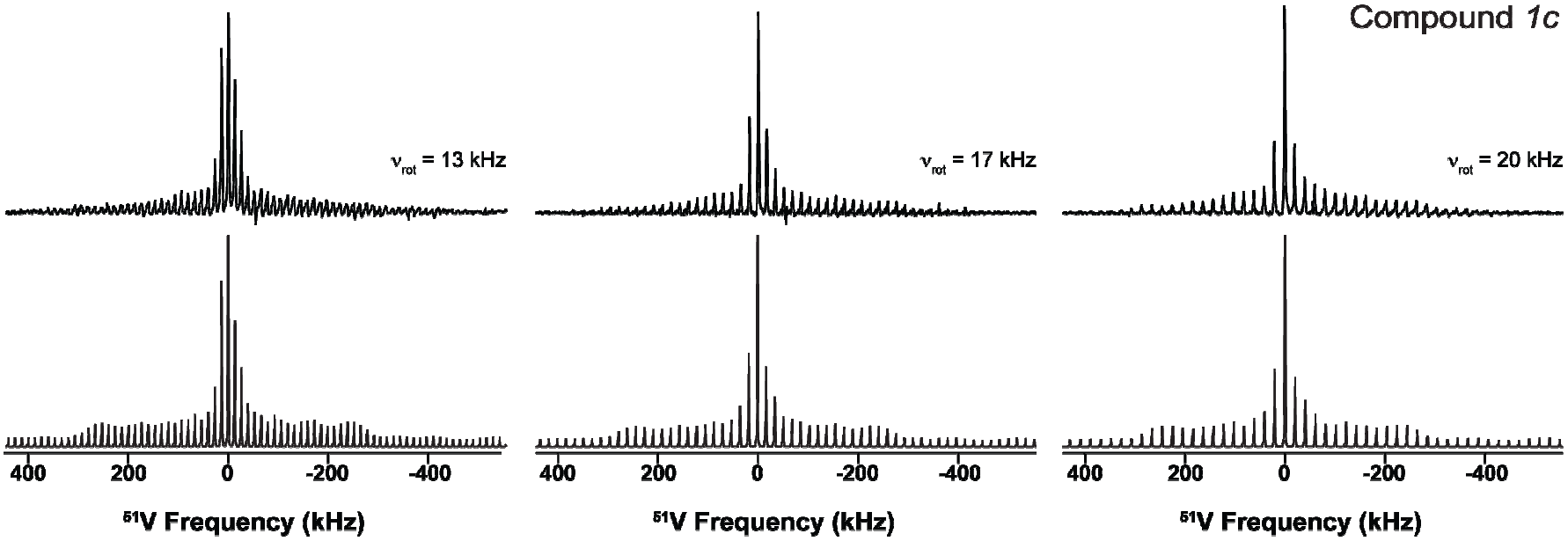

Figure S2. ^{51}V experimental (top) and simulated (bottom) 9.4 T solid-state NMR spectra of the vanadium(V)-*o*-dioxolene compound $V^{V}O$(hshed)(TBCat) - **1c**acquired with MAS frequencies of 13 kHz (left), 17 kHz (middle) and 20 kHz (right). 8192 scans were accumulated for each spectrum, and the pulse delay was 1.0 s. The spectra were simulated using the parameters listed in Table 1.

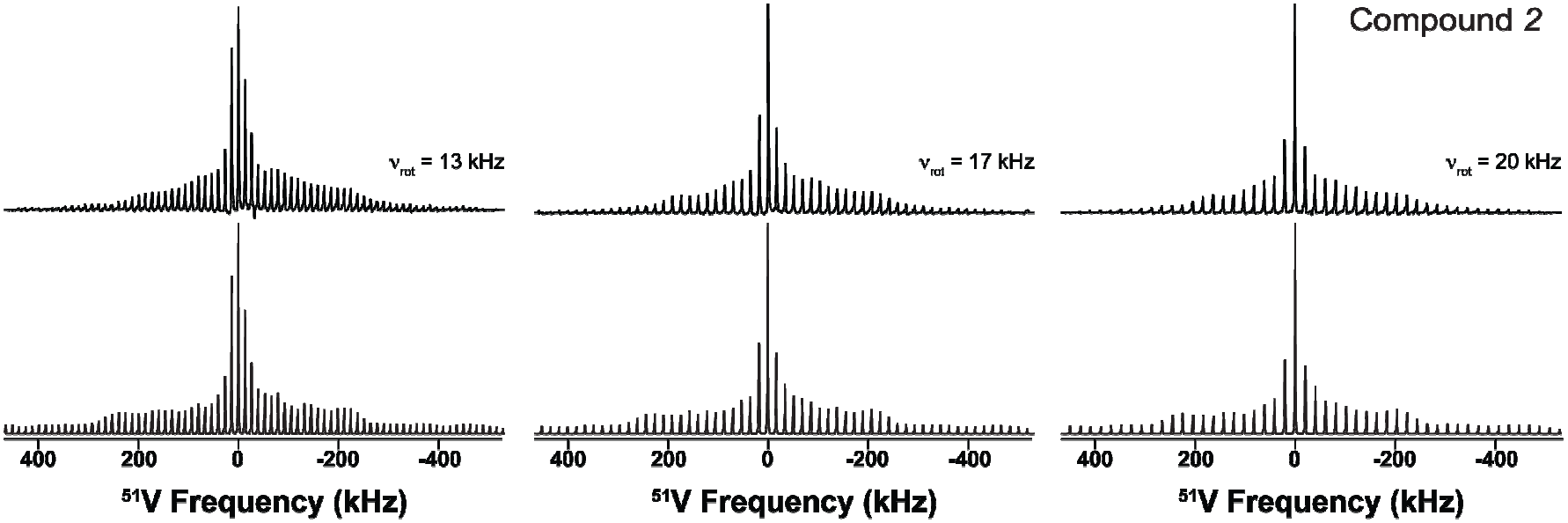

Figure S3. ^{51}V experimental (top) and simulated (bottom) 9.4 T solid-state NMR spectra of the vanadium(V)-*o*-dioxolene compound VO(acac)(TCCat) -**2**acquired with MAS frequencies of 13 kHz (left), 17 kHz (middle) and 20 kHz (right). 8192 scans were accumulated for each spectrum, and the pulse delay was 1.0 s. The spectra were simulated using the parameters listed in Table 1.