Supplementary Material (ESI) for Chemical Communications

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Reactions of (-)-Sparteine with Alkali Metal Bis(trimethylsilyl)amide Complexes: Conventional Meets the Unconventional

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Electronic Supporting Information

Key bond lengths (Å) and angles (°) for **1**: Li1-N1 1.910(5); Li1-N2 2.048(5); Li1-N3 2.047(5); N1-Li1-N2 127.2(3); N1-L1-N3 139.1(3); N2-Li1-N3 89.9(2).

Key bond lengths (Å) and angles (°) for **3**: Na1-N1 2.393(4); Na1-N3 2.399(2); Na1-N2 2.458(4); Na2-O1 2.324(5); Na2-O1* 2.345(5); Na2-N5 2.393(3); Na2-N4 2.393(4); Na3-O1 2.310(5); Na3-O1* 2.365(5); Na3-N6 2.394(3); Na3-N5 2.412(3); N1-Na1-N3 130.9(2); N1-Na1-N2 74.9(2); N3-Na1-N2 148.4(2); N5-Na2-N4 170.0(1); N6-Na3-N5 171.9(1). Where * = -x, y, 2-z.

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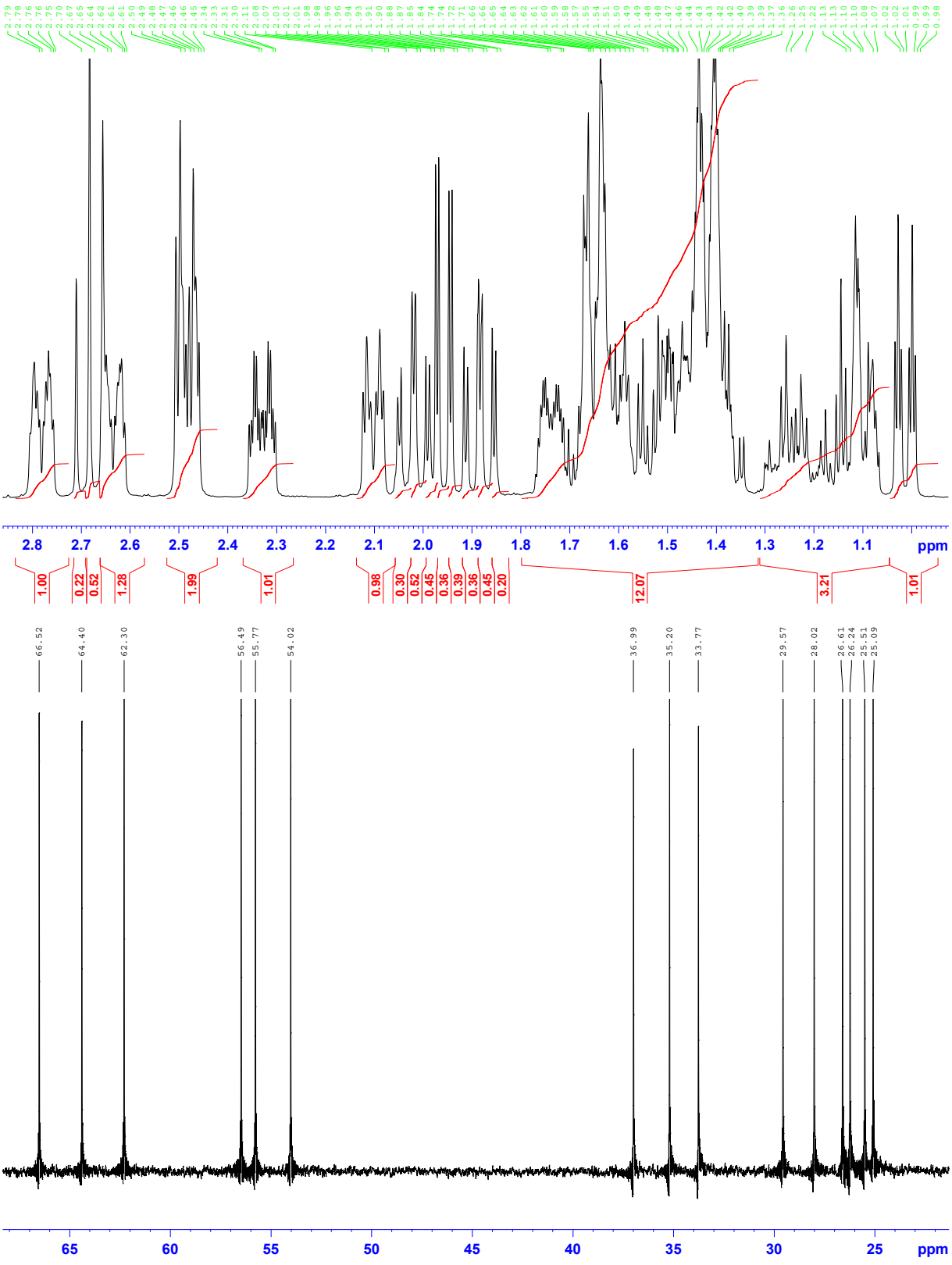

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Fig. S1 ^{1}H (400.13 MHz) and ^{13}C (100.62MHz) NMR spectra of (-)-sparteine in C_6D_6 solution at 300K.

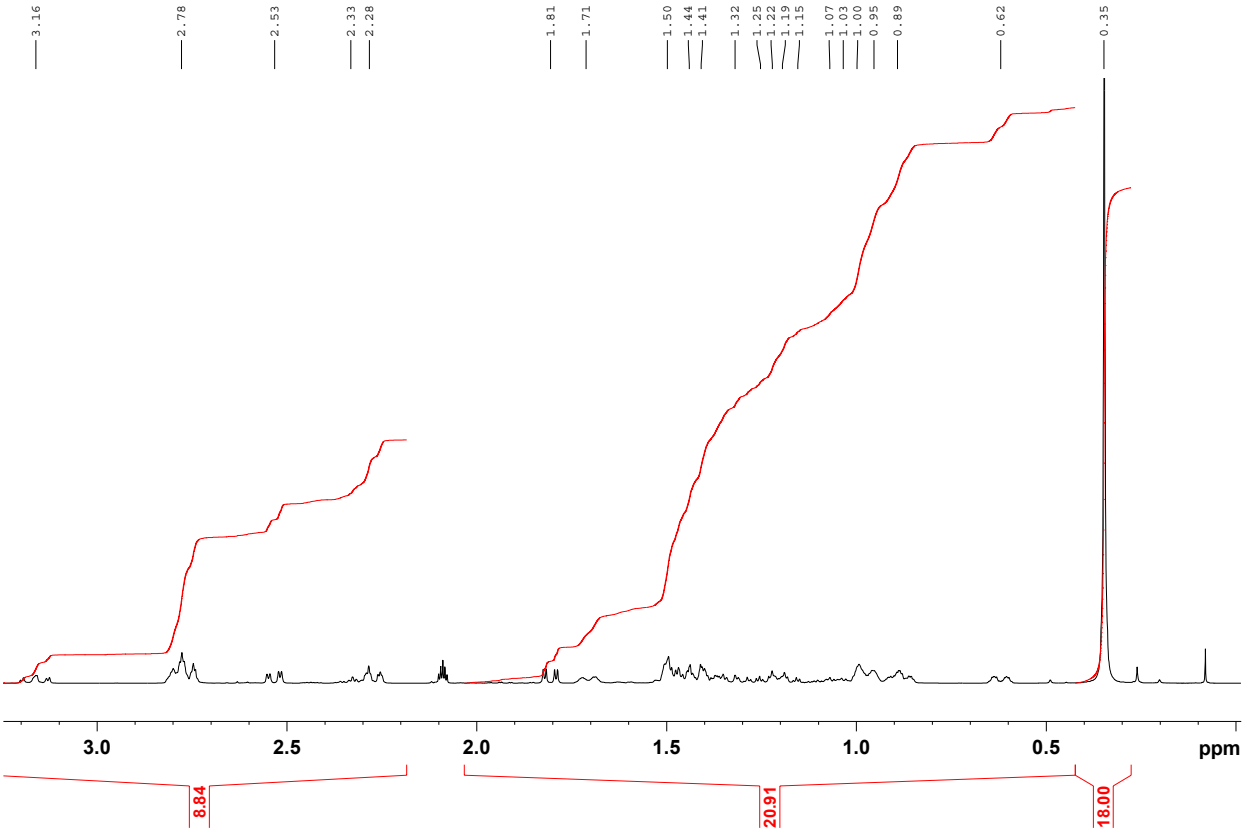

Fig. S2 ^{1}H (400.13 MHz) NMR spectrum of **1** in $C_6D_5CD_3$ solution at 300K.

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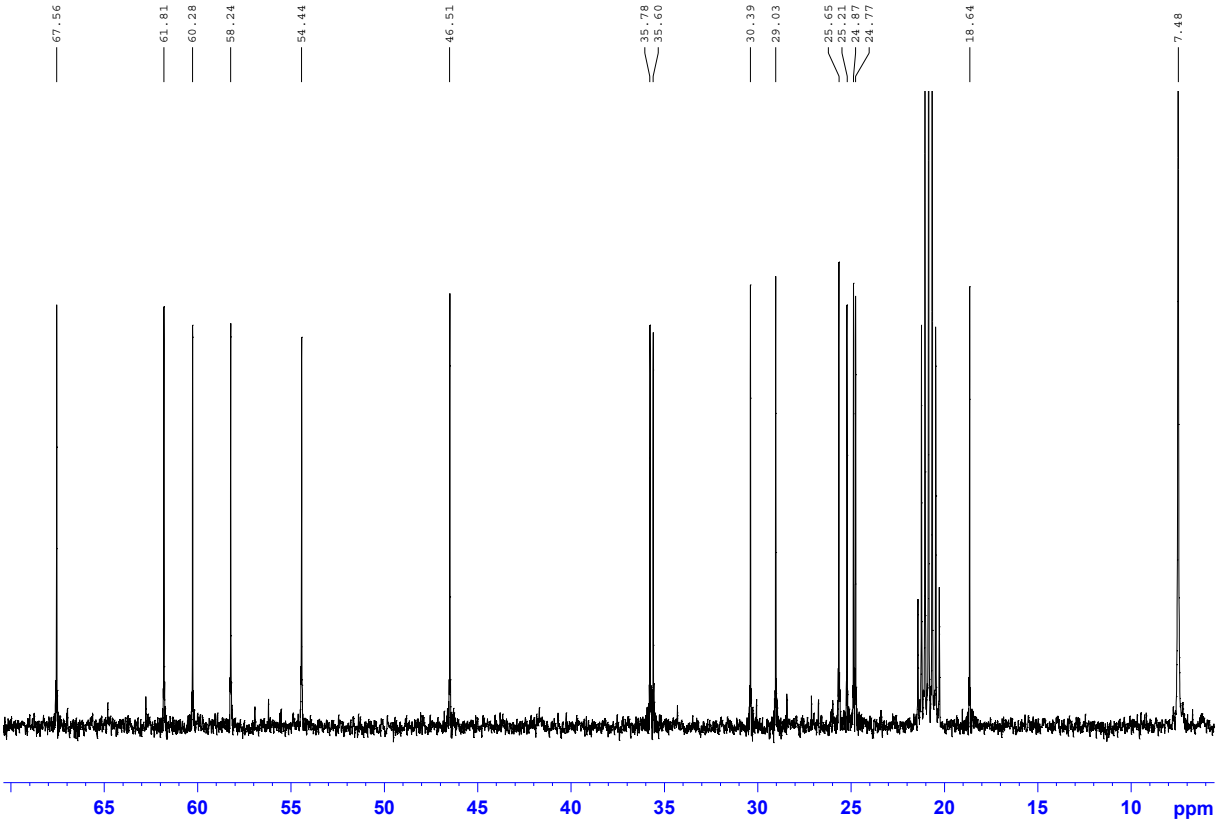

Fig. S3 ^{13}C (100.62 MHz) NMR spectrum of **1** in $C_6D_5CD_3$ solution at 300K.

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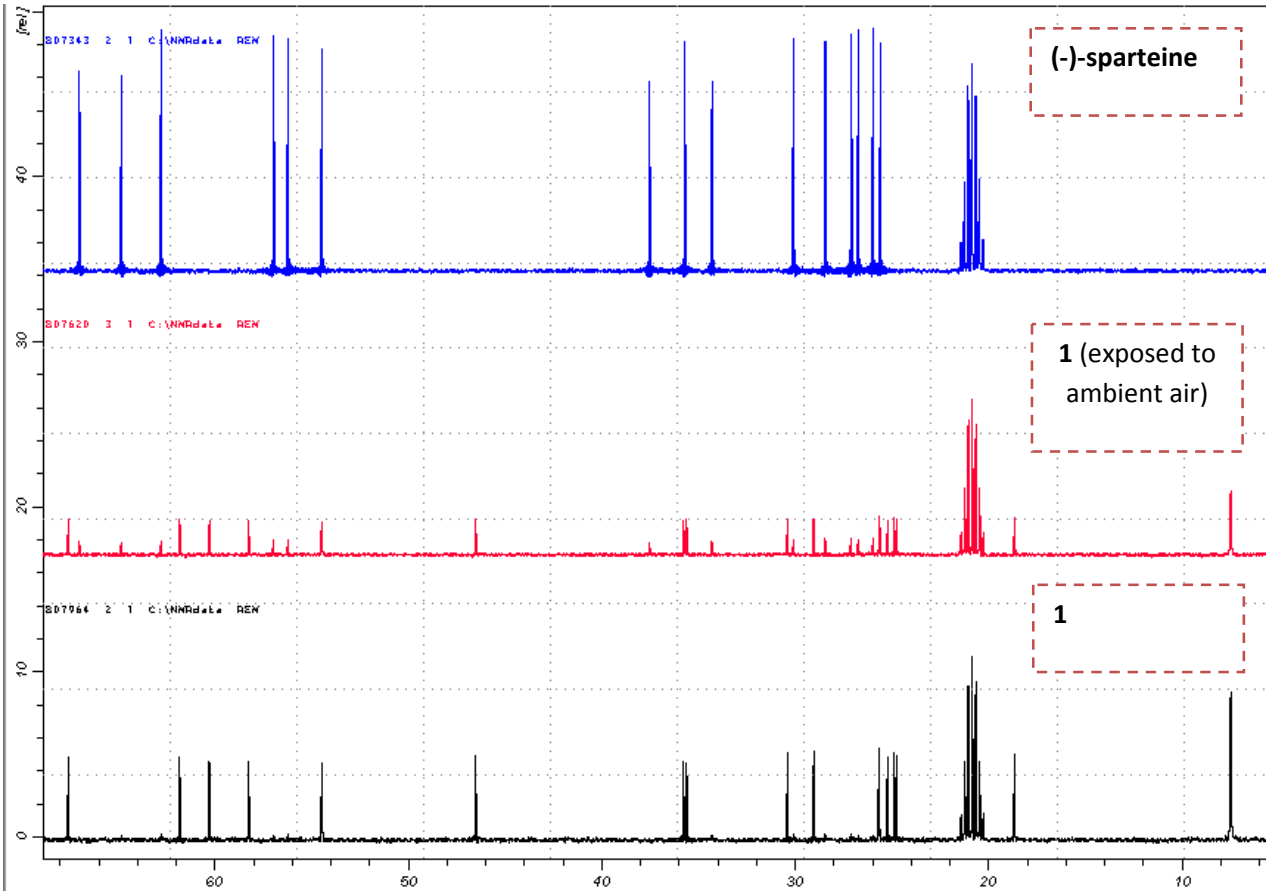

Fig. S4 Comparison of ^{13}C (100.62 MHz) NMR spectra (-)-sparteine, exposed sample of **1,** and **1** in $C_6D_5CD_3$ solution at 300K. Note the generation of free (-)-sparteine in the red spectrum (see Fig. S5).

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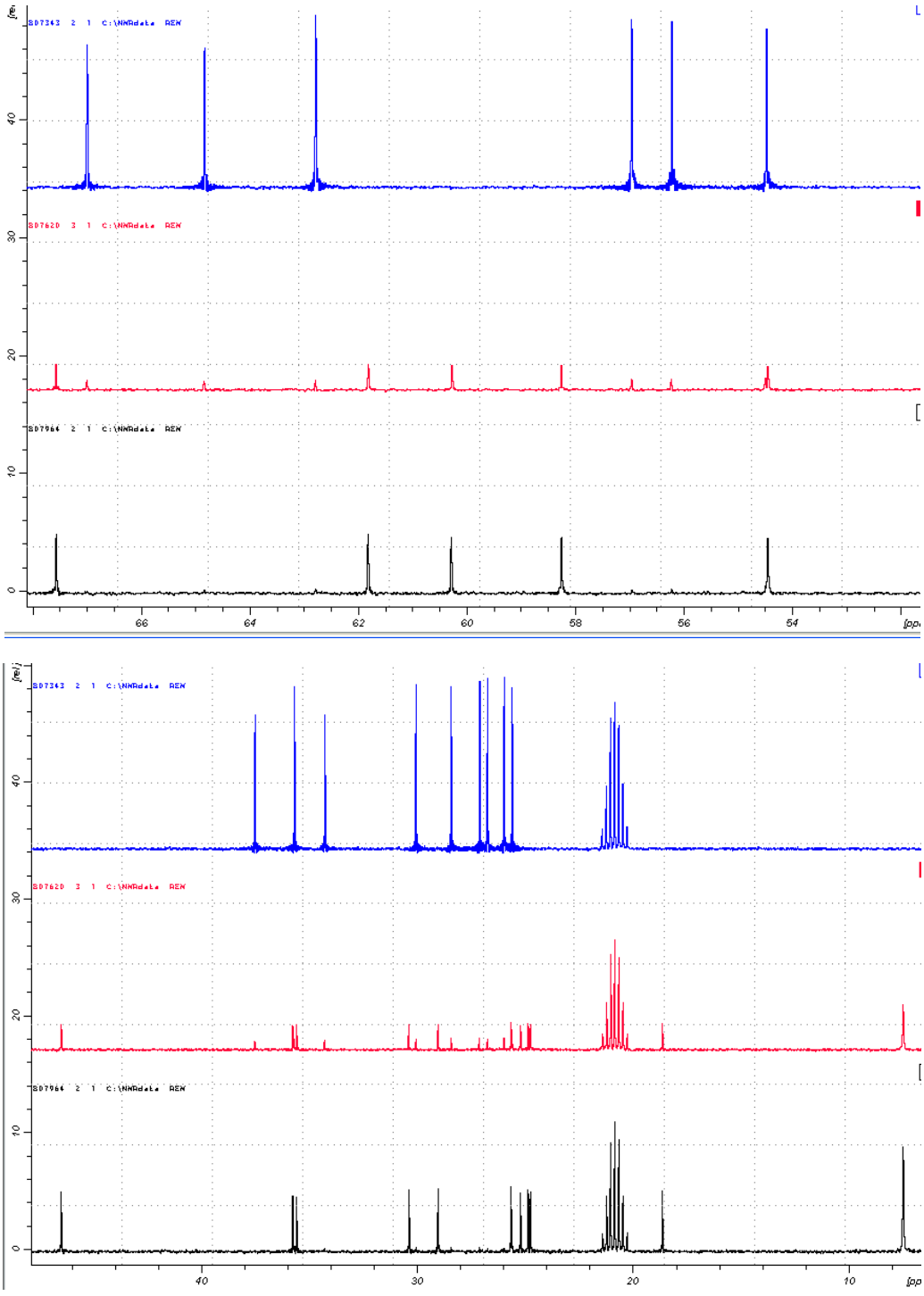

Fig. S5 Expansion of Fig S4.

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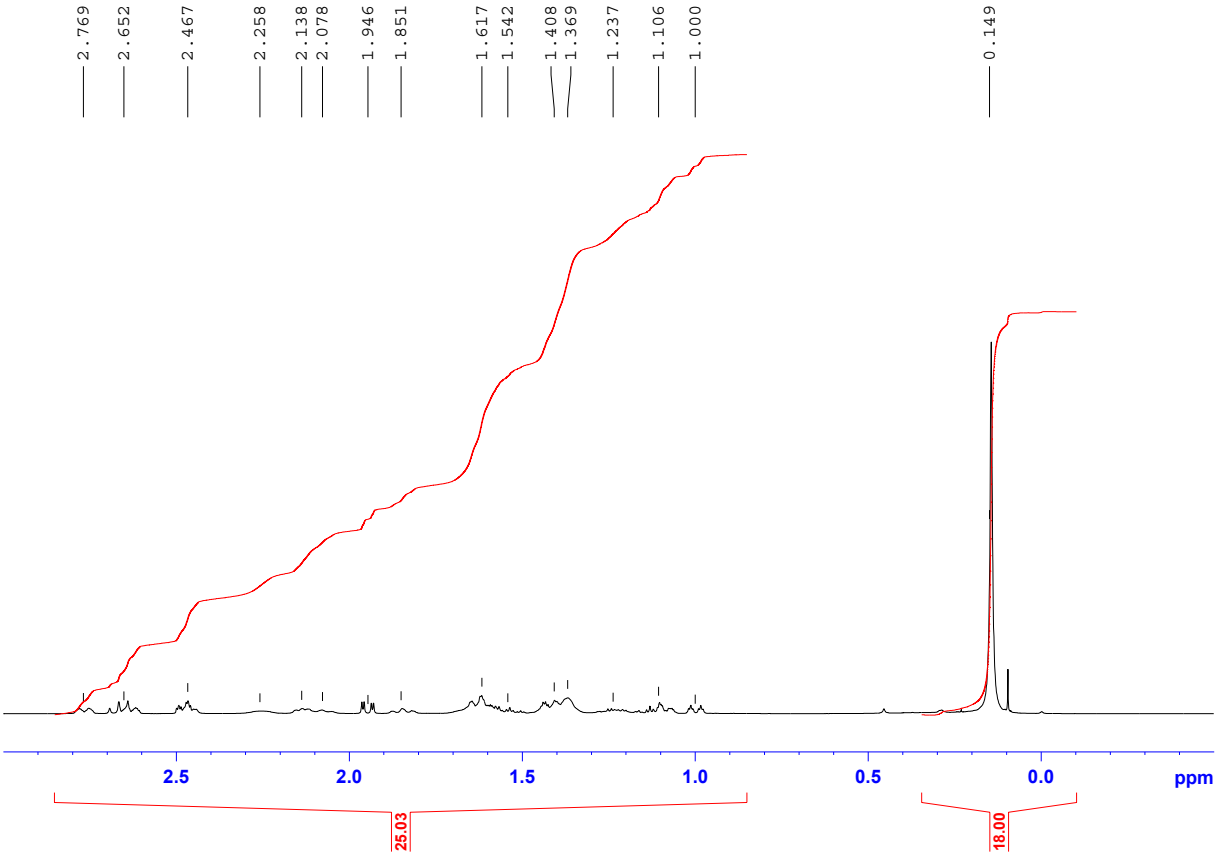

Fig. S6 ^{1}H (400.13 MHz) NMR spectrum of **2** in C_6D_6 solution at 300K.

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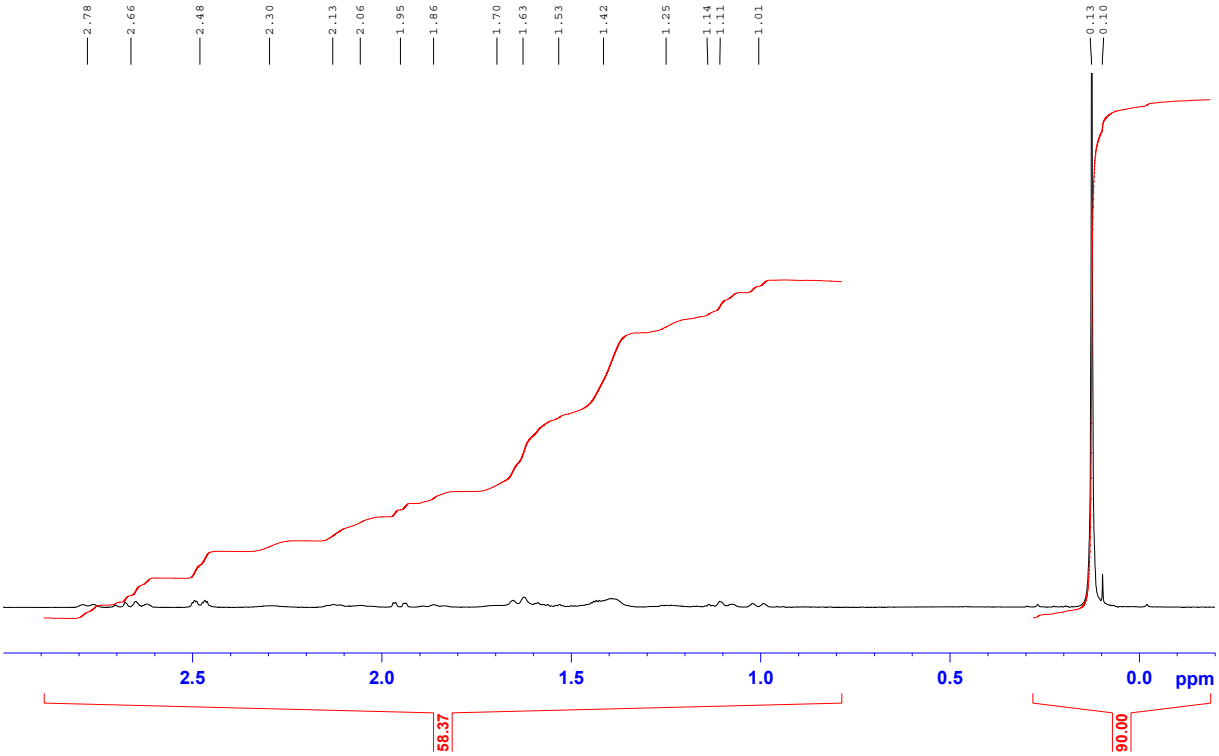

Fig. S7 ^{1}H (400.13 MHz) NMR spectrum of **3** in C_6D_6 solution at 300K.

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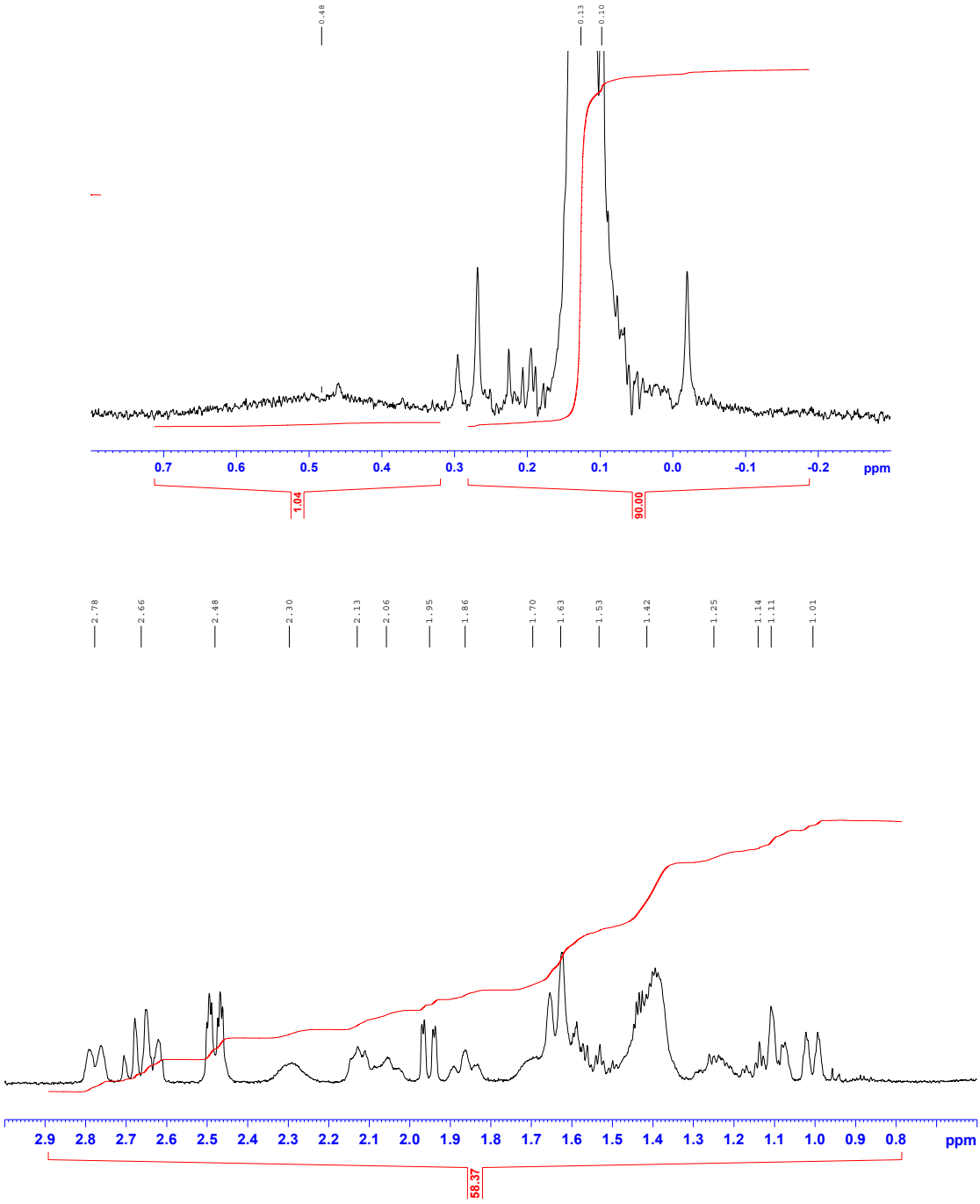

Fig. S8 Expanded areas of spectrum in Fig S7.

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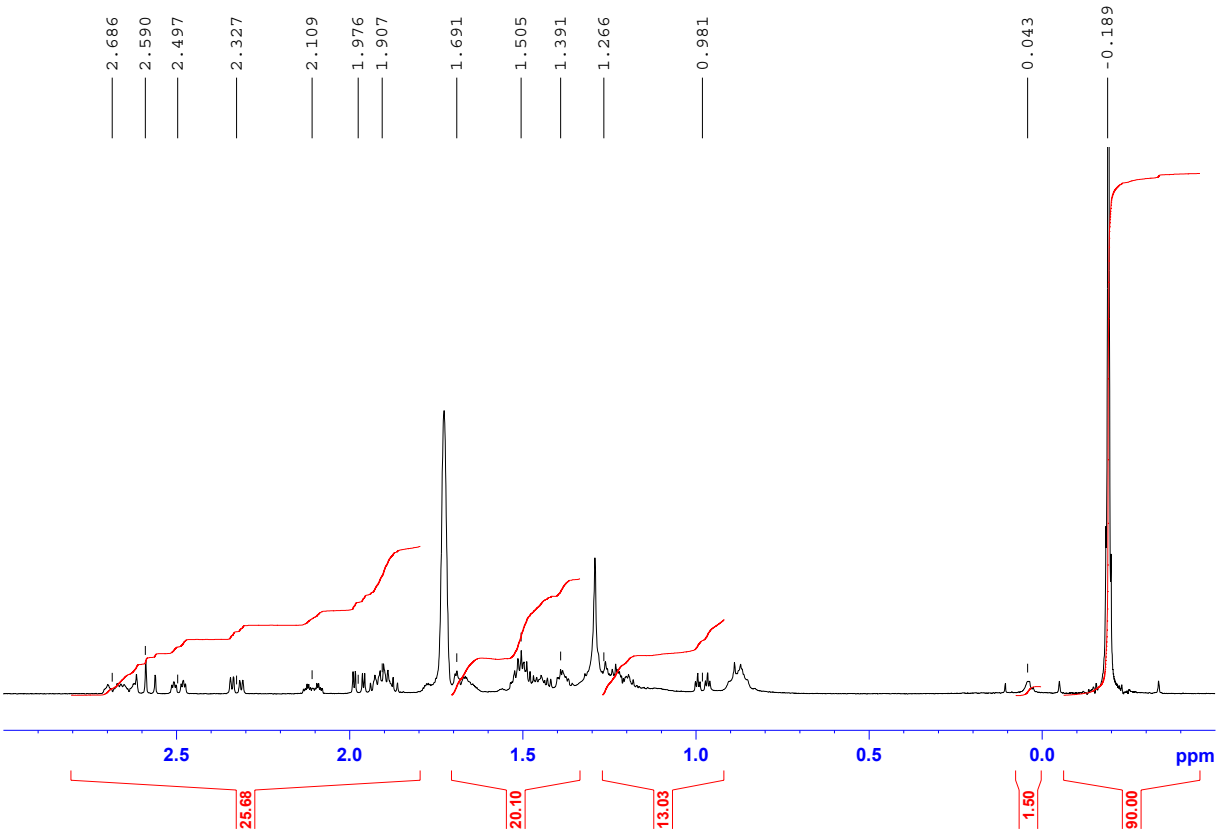

Fig. S9 ^{1}H (400.13 MHz) NMR spectrum of **3** in D_8-THF solution at 300K.

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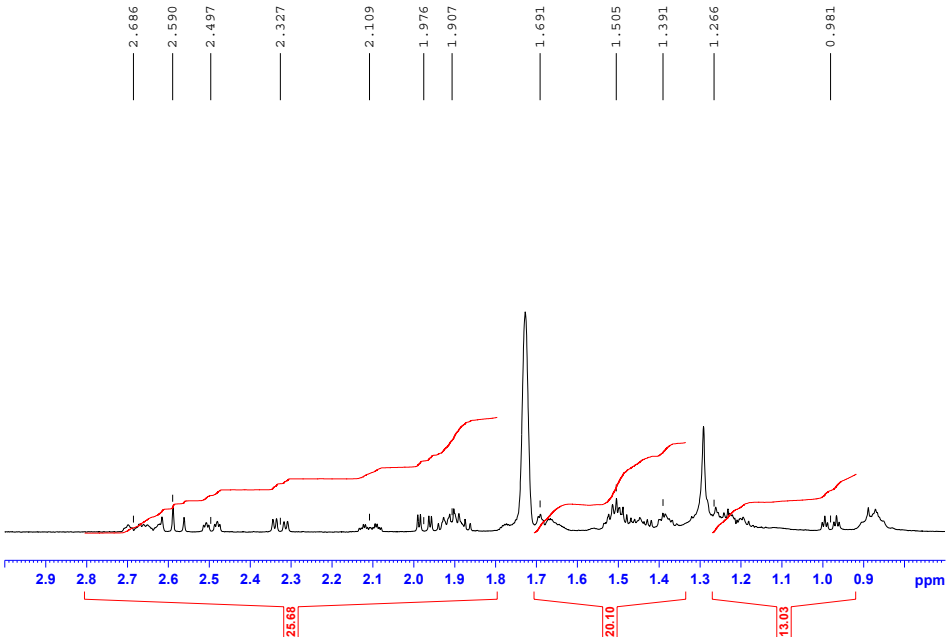

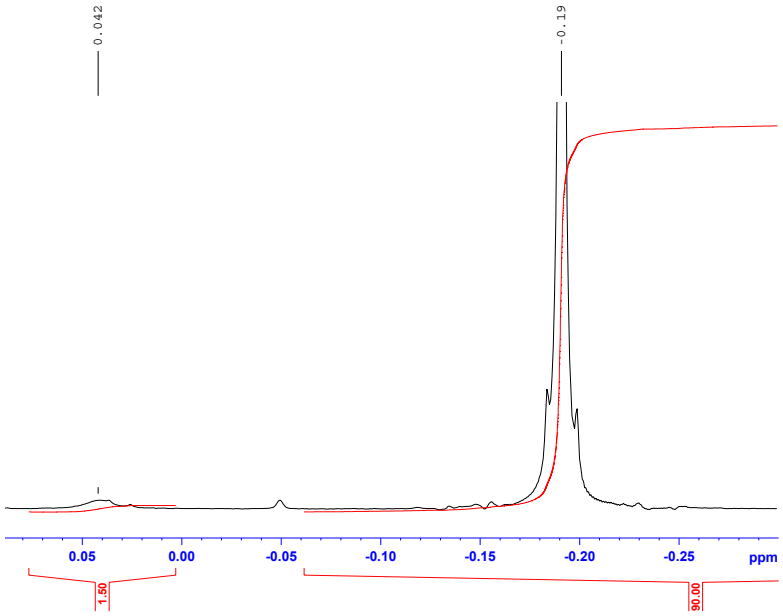

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Fig. S10 Expanded areas of spectrum in Fig S9.

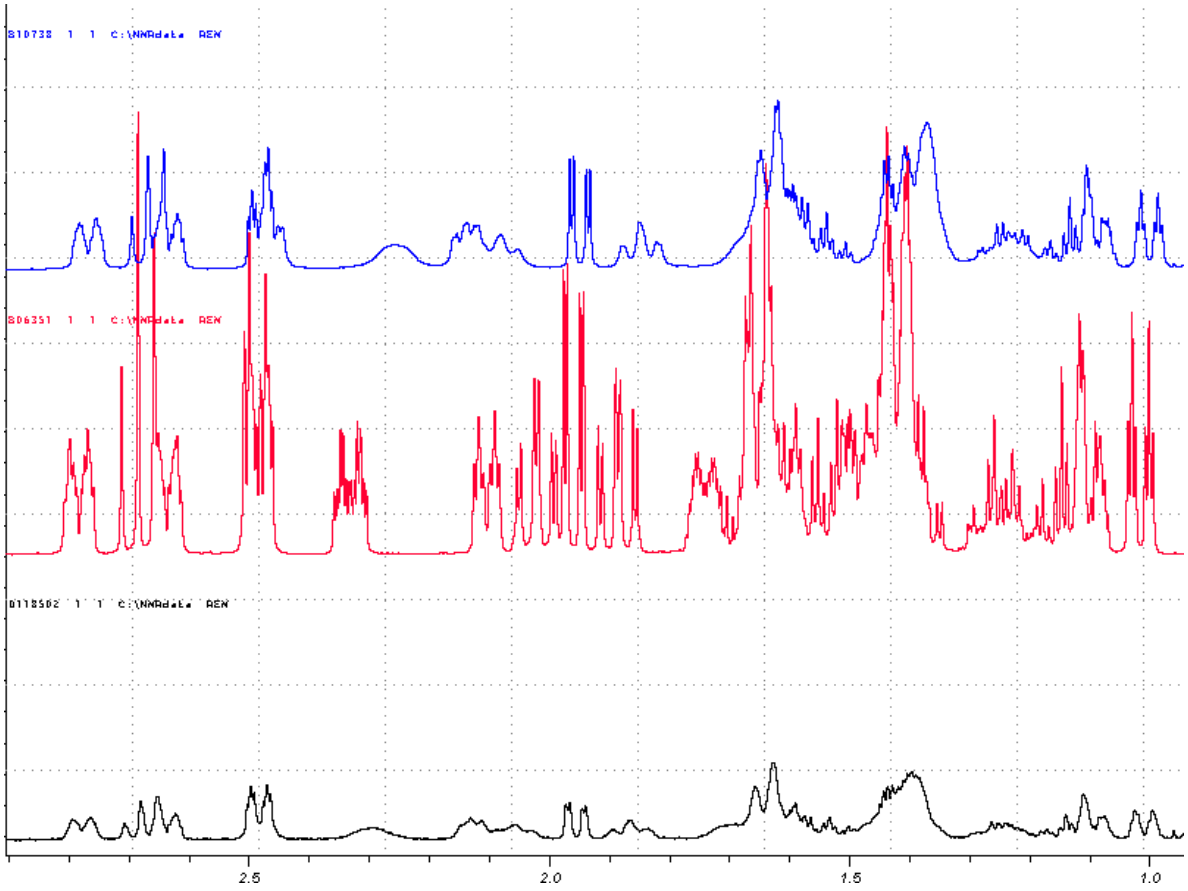

Fig. S11 Comparison of the ^{1}H NMR spectra (400.13 MHz, 300K, C_6D_6) of the "(-)-sparteine" region in **2** (top), (-)-sparteine (middle) and **3** (bottom). Note the broadness of the resonances in **2** and **3**, and the movement of resonances particularly at approximately 2.3, 2.1 and 1.6 ppm.

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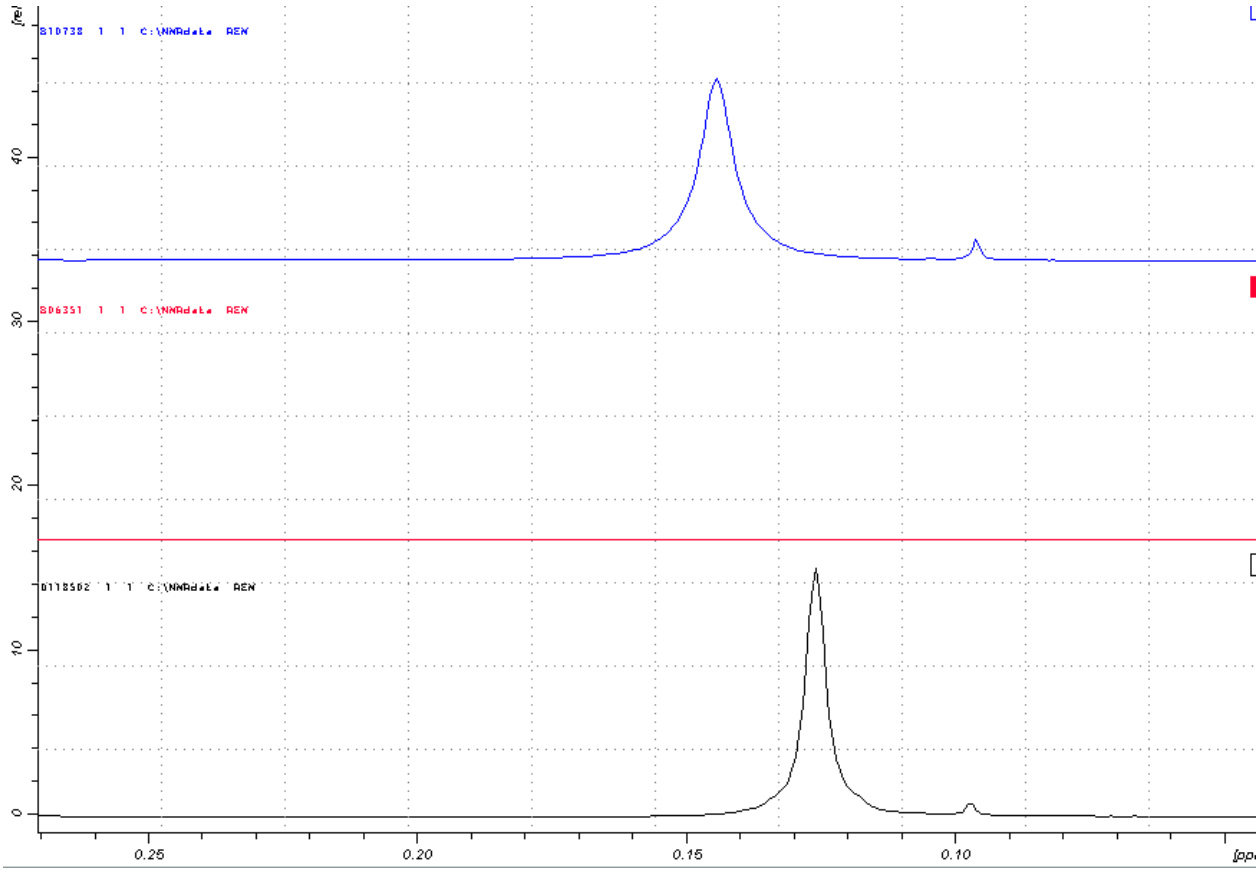

Fig. S12 Comparison of the ^{1}H NMR spectra (400.13 MHz, 300K, C_6D_6) of the HMDS" region in **2** (top), (-)-sparteine (middle) and **3** (bottom). The small resonance at 0.097 is due to HMDSH.

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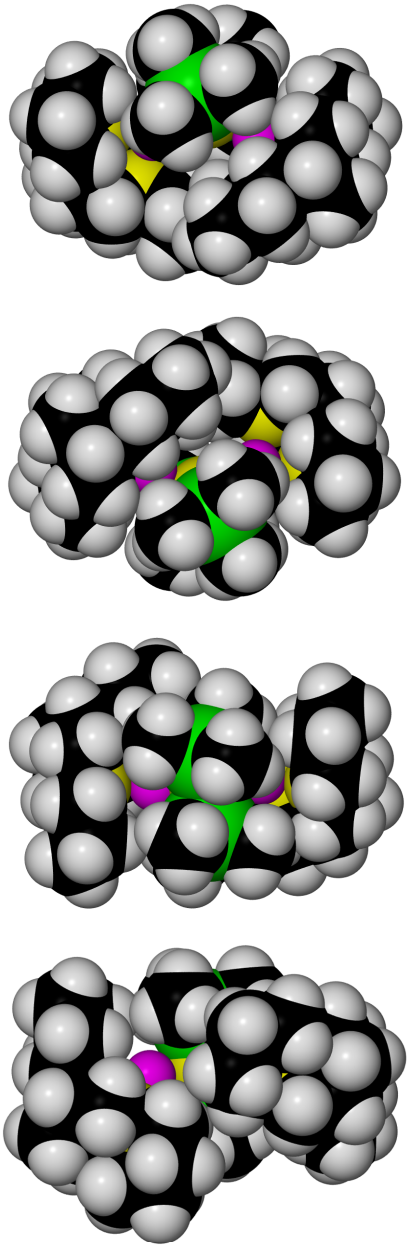

Fig. S13 Space-filling views of cation $\mathbf{3}^{+}$.