Electronic Supplementary Information

Alkali metal salts of ditopic carbanionic carbenes as reagents for the synthesis of novel complexes of group 12 and 14 metals

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CONTENTS

1. NMR data

Table S1. Comparison of ^{1}H and $^{13}C\{^{1}H\}$ NMR data for **KIPr** and compounds **1**−**4**.

^{1}H NMR data (ppm)	**KIPr**	**1**	**2**	**3**	**4**
$C_6\underline{\mathbf{H}}_3\{CH(CH_3)\}_2$	7.13 (1H)	7.21 (1H)	7.21 (1H)	7.20 (1H)	7.21 (1H)
	7.09 (2H)	7.13 (2H)	7.14 (3H)	7.14 (2H)	7.14 (2H)
	7.05 (3H)	7.11 (3H)	7.10 (2H)	7.11 (3H)	7.11 (3H)
NCC**H**N	6.07 (1H)	6.92 (1H)	7.01 (1H)	6.83 (1H)	7.00 (1H)
$C_6H_3\{C\underline{\mathbf{H}}(CH_3)\}_2$	3.28 (2H)	3.23 (2H)	3.26 (2H)	3.48 (2H)	3.19 (2H)
	3.04 (2H)	3.03 (2H)	3.06 (2H)	3.08 (2H)	3.06 (2H)
$C_6H_3\{CH(C\underline{\mathbf{H}}_3)\}_2$	1.12 (6H)	1.28 (6H)	1.30 (6H)	1.32 (6H)	1.30 (6H)
	1.10 (6H)	1.16 (6H)	1.17 (6H)	1.16 (6H)	1.17 (6H)
	1.08 (12H)	1.10 (12H)	1.10 (6H)	1.12 (6H)	1.11 (12H)
			1.09 (6H)	1.06 (6H)	
$N\{Si(C\underline{\mathbf{H}}_3)_3\}_2$	N.A.	−0.08 (36H)	0.04 (36H)	0.03 (36H)	0.12 (36H)
^{13}C NMR data (ppm)					
$\underline{\mathbf{C}}N_2$	215.1	219.9	218.7	219.7	216.1
N**C**CHN	176.3	152.6	163.2	157.1	143.4
$\underline{\mathbf{C}}_6H_3\{CH(CH_3)\}_2$	149.5	147.5	147.5	147.5	147.6
	143.8	146.6	147.1	147.1	147.2
	147.2	142.0	143.7	142.9	127.9
	146.8	133.2	141.7	142.0	127.6
	126.5	127.8	130.4	128.3	123.4
	125.7	126.9	127.8	127.8	123.3
	123.0	123.4	123.4	123.3	
	122.7	123.3	123.2	123.2	
NC**C**HN	126.8	145.4	127.3	127.0	135.4
$C_6H_3\{\underline{\mathbf{C}}H(CH_3)\}_2$	28.7	29.1	29.5	29.9	29.1
	28.6	28.7	28.6	28.7	28.6
$C_6H_3\{CH(\underline{\mathbf{C}}H_3)\}_2$	25.5	27.1	27.3	27.8	26.9
	25.4	25.2	25.5	25.5	25.6
	24.5	24.7	24.8	24.6	24.8
	24.0	23.5	23.3	22.8	24.1
$N\{Si(\underline{\mathbf{C}}H_3)_3\}_2$		7.1	7.6	7.5	7.8

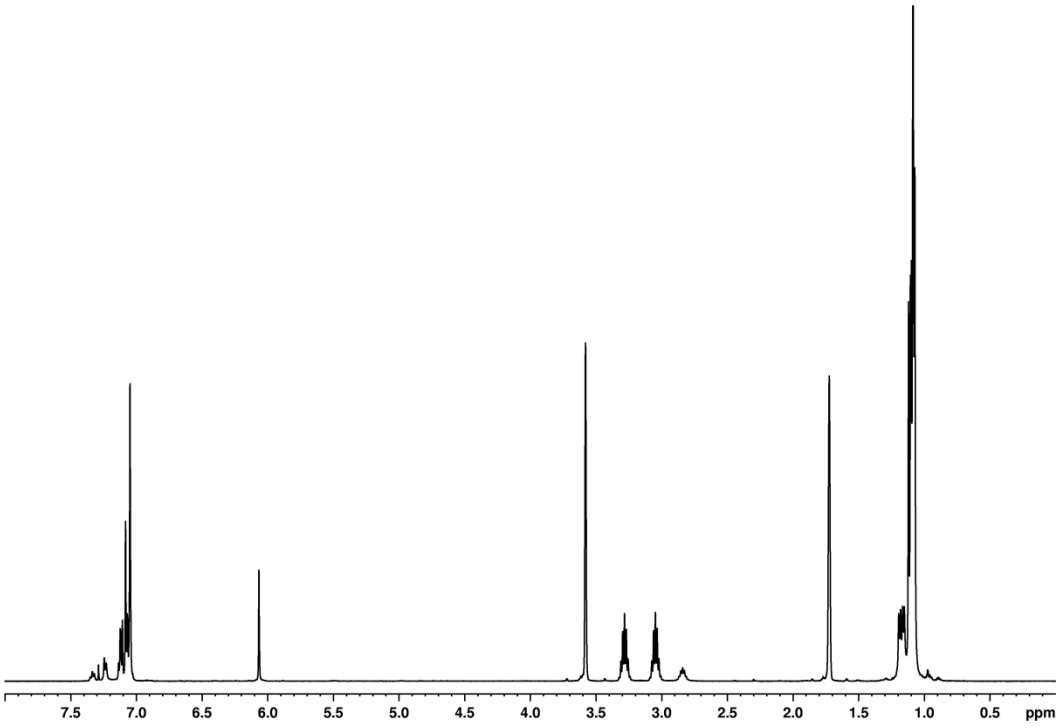

Figure S1. ^{1}H NMR spectrum of **KIPr** in d_8-THF.

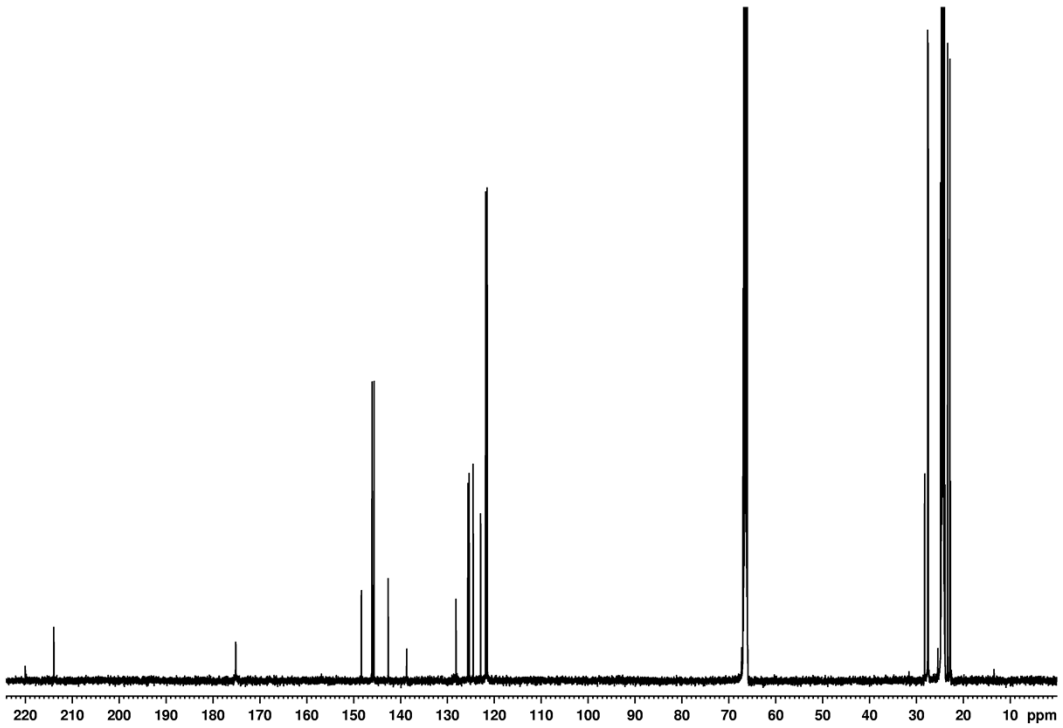

Figure S2. ^{13}C NMR spectrum of **KIPr** in d_8-THF.

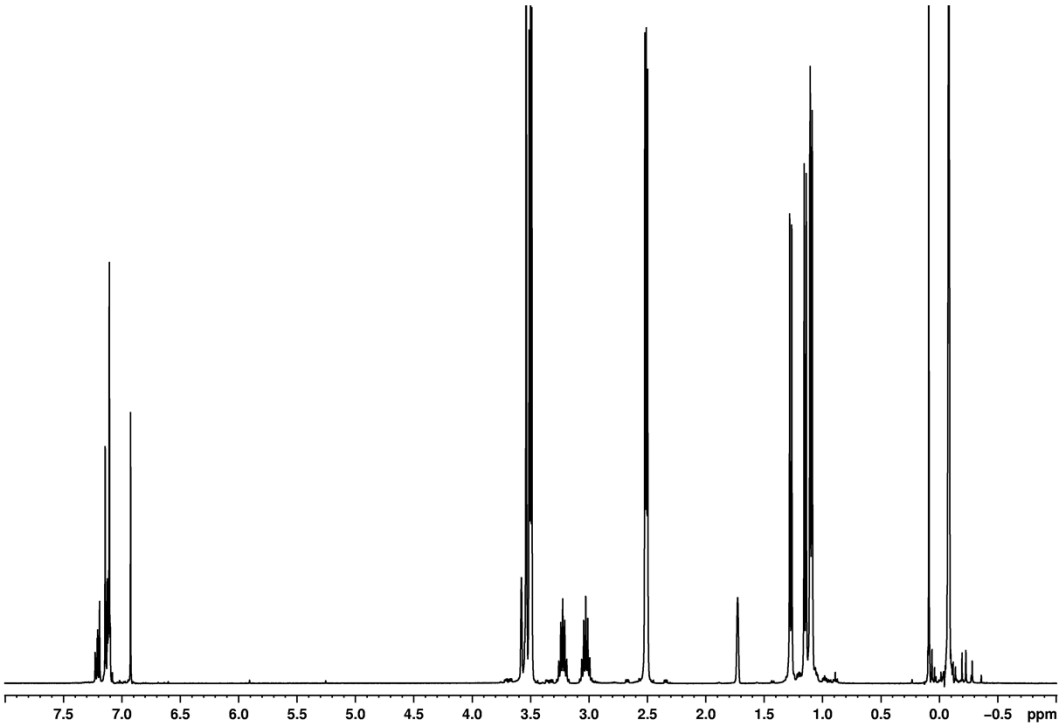

Figure S3. ^{1}H NMR spectrum of [K(2,2,2-crypt)][**1**] in d_8-THF.

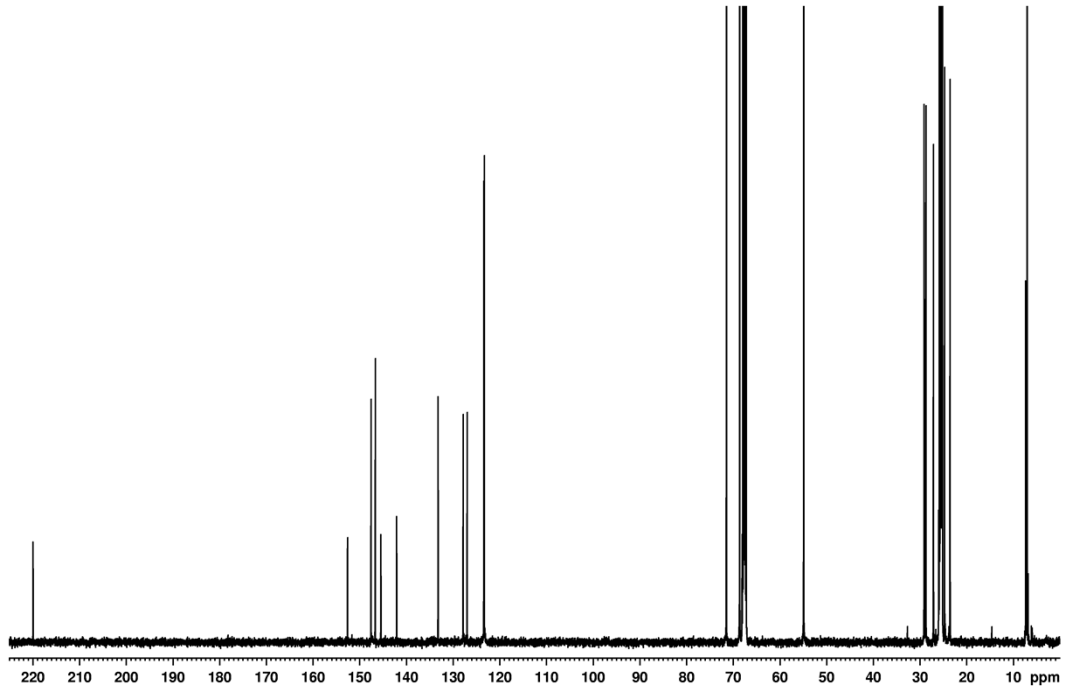

Figure S4. ^{13}C NMR spectrum of [K(2,2,2-crypt)][**1**] in d_8-THF.

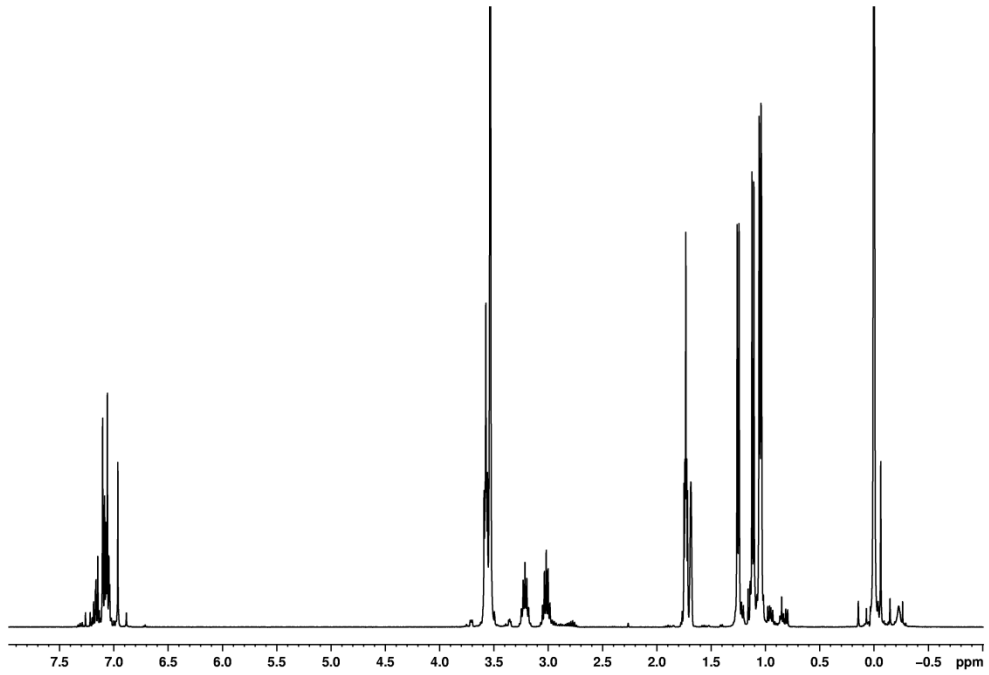

Figure S5. ^{1}H NMR spectrum of [K(18-crown-6)][**2**] in d_8-THF.

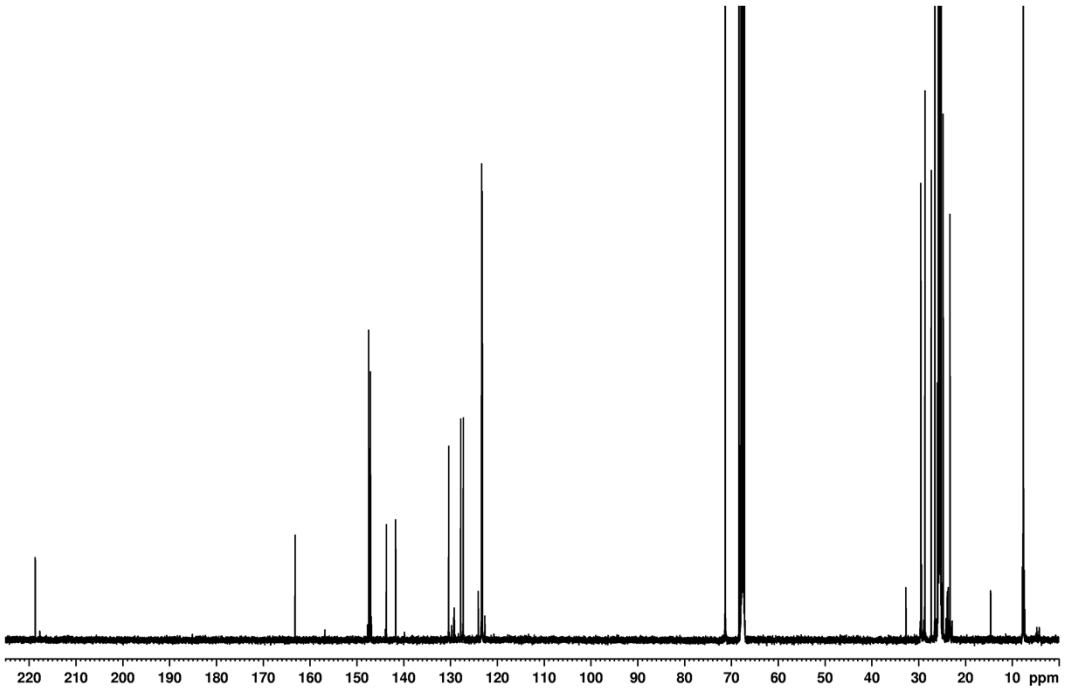

Figure S6. ^{13}C NMR spectrum of [K(18-crown-6)][**2**] in d_8-THF.

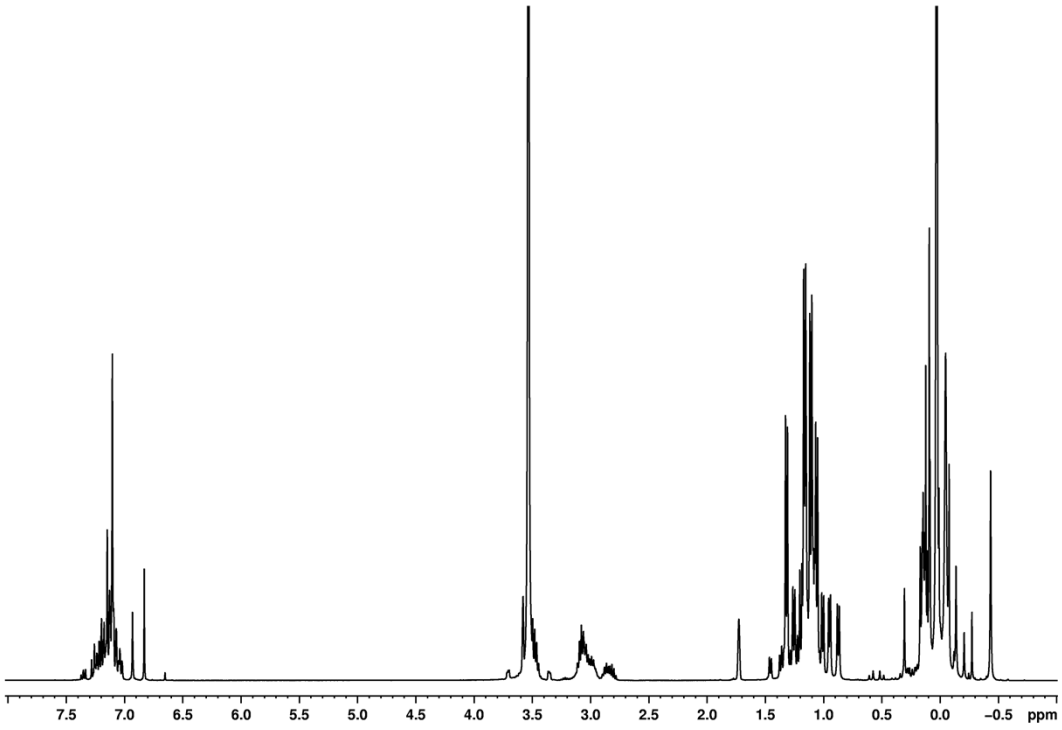

Figure S7. ^{1}H NMR spectrum of [K(18-crown-6)][**3**] in d_8-THF.

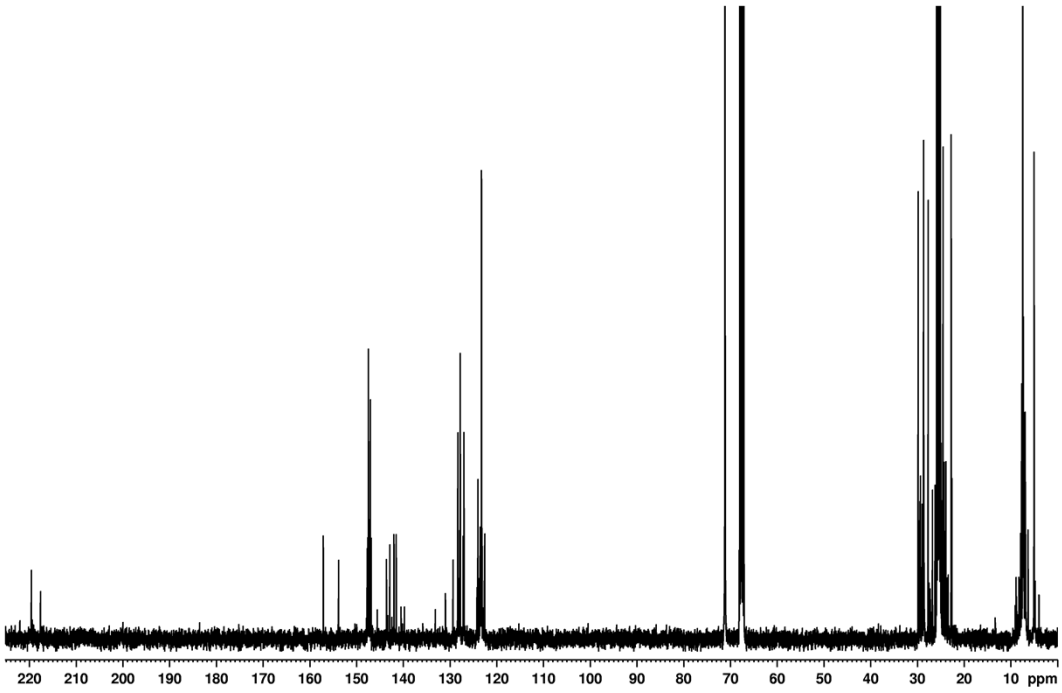

Figure S8. ^{13}C NMR spectrum of [K(18-crown-6)][**3**] in d_8-THF.

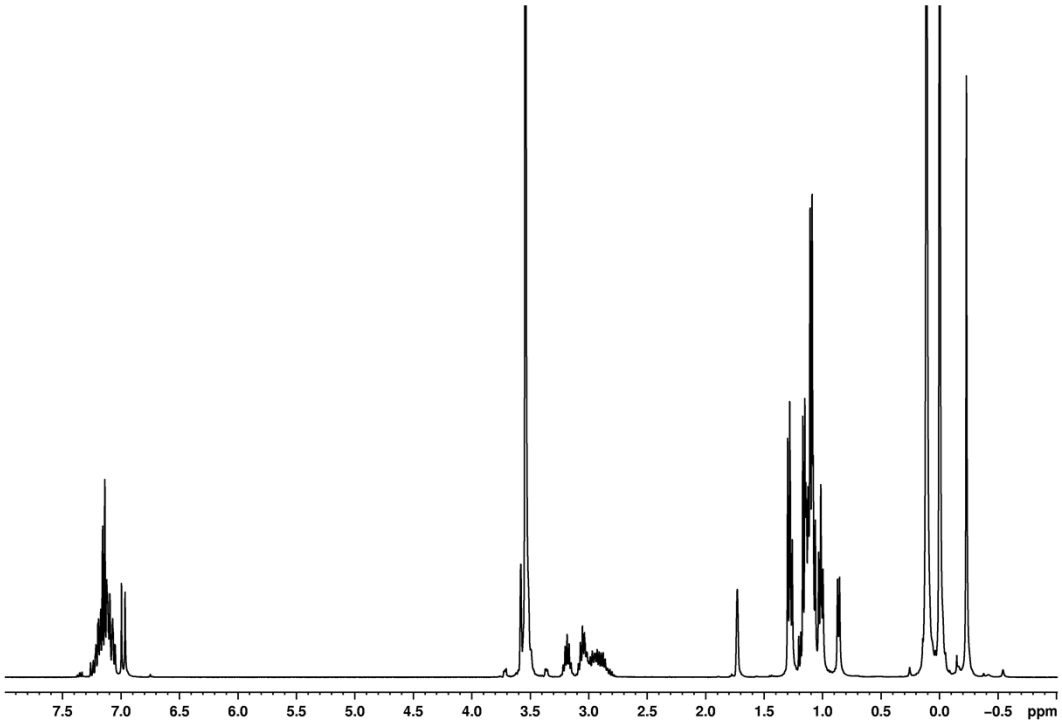

Figure S9. ^{1}H NMR spectrum of [K(18-crown-6)][**4**] in d_8-THF.

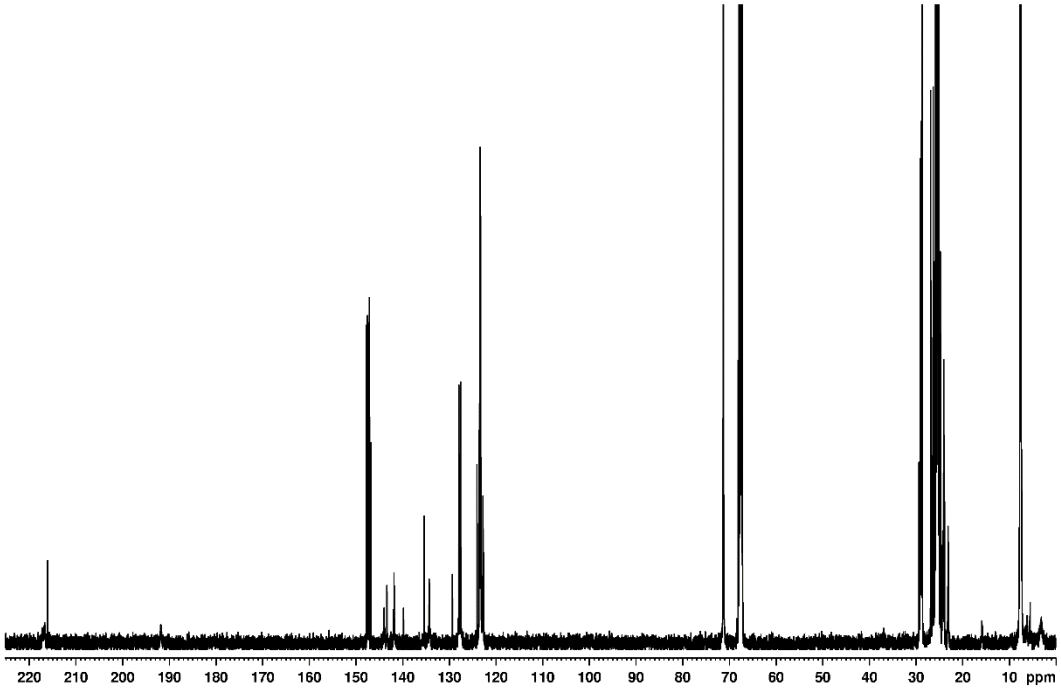

Figure S10. ^{13}C NMR spectrum of [K(18-crown-6)][**4**] in d_8-THF.

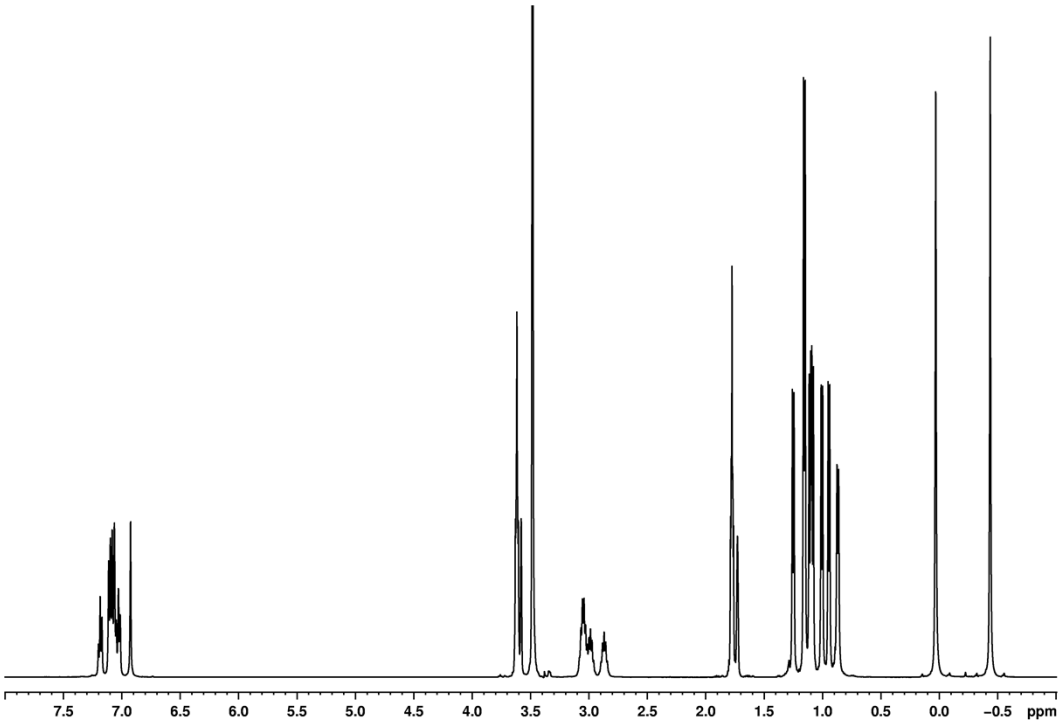

Figure S11. ^{1}H NMR spectrum of [K(18-crown-6)][**5**] in d_8-THF.

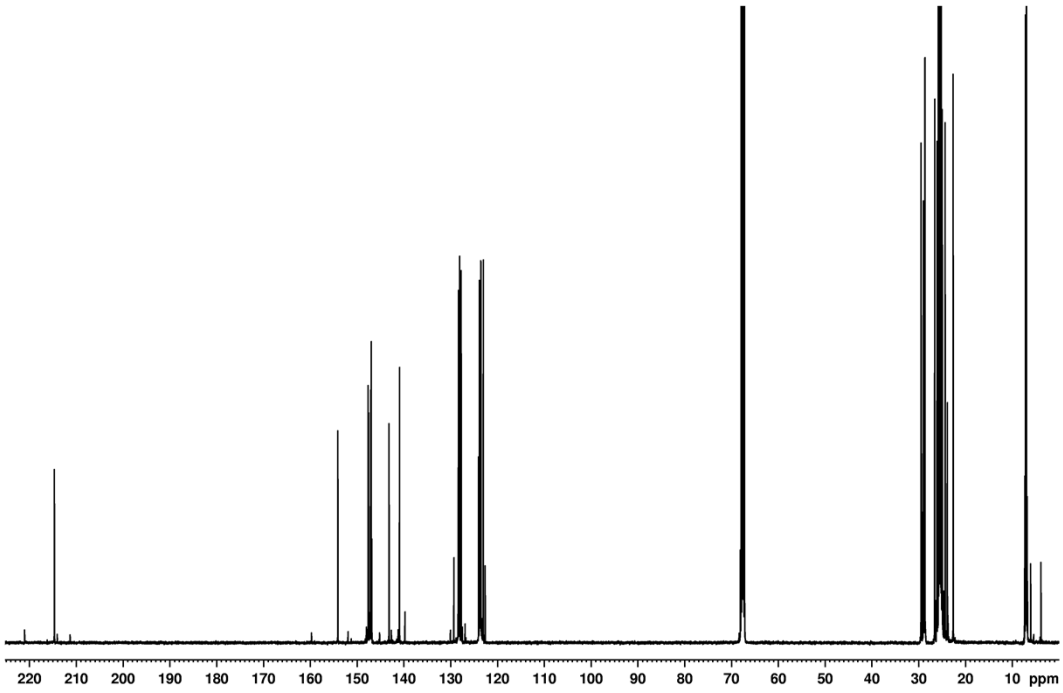

Figure S12. ^{13}C NMR spectrum of [K(18-crown-6)][**5**] in d_8-THF.

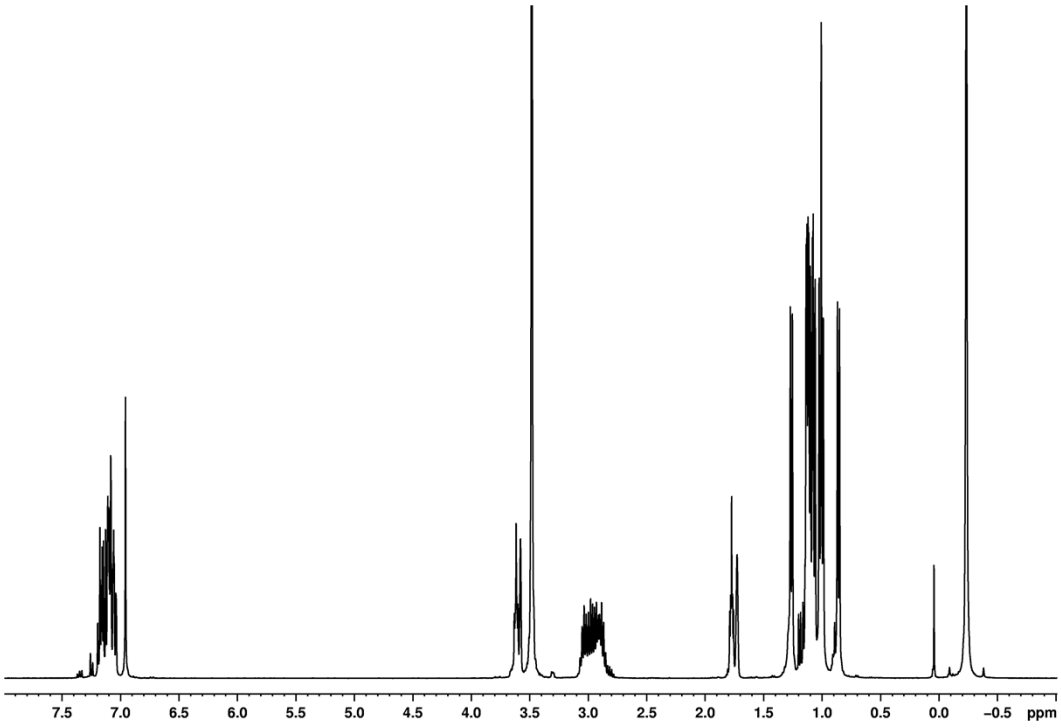

Figure S11. ^{1}H NMR spectrum of [K(18-crown-6)][**6**] in d_8-THF.

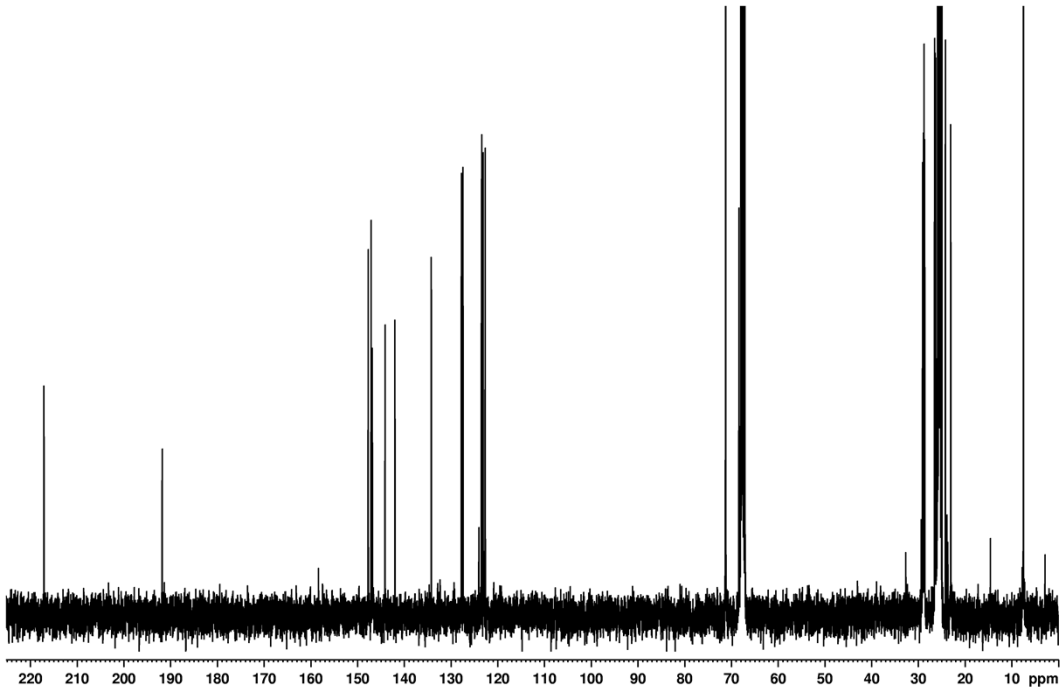

Figure S12. ^{13}C NMR spectrum of [K(18-crown-6)][**6**] in d_8-THF.

2. ESI-MS data

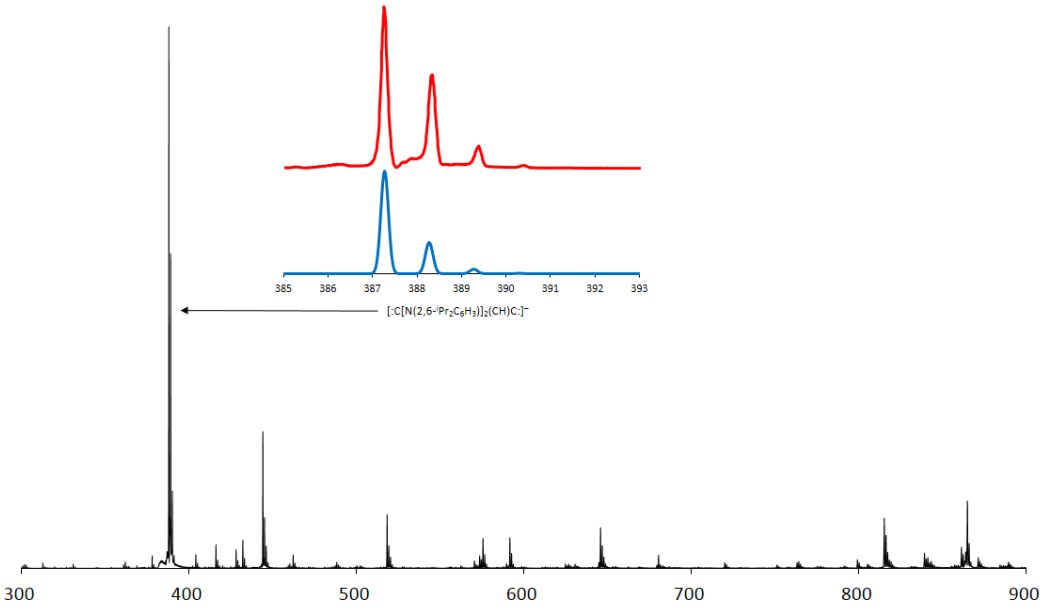

Figure S13. Negative ion-mode ESI-MS spectrum for **KIPr** run in THF. Experimental (red) and calculated (blue) isotopic distributions pictured in the inset.

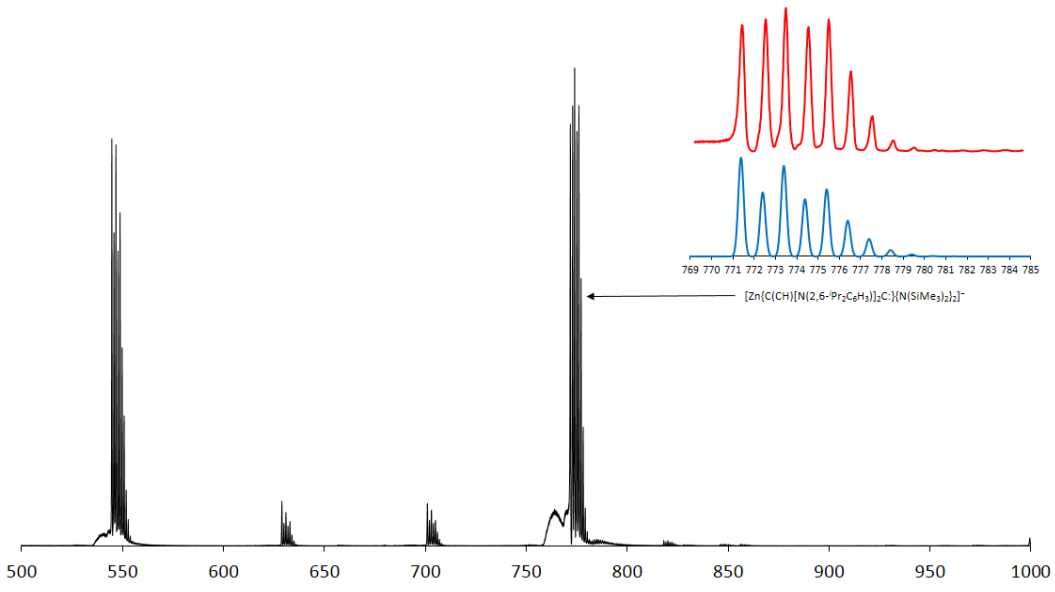

Figure S14. Negative ion-mode ESI-MS spectrum for [K(2,2,2-crypt)][**1**] run in THF. Experimental (red) and calculated (blue) isotopic distributions pictured in the insets.

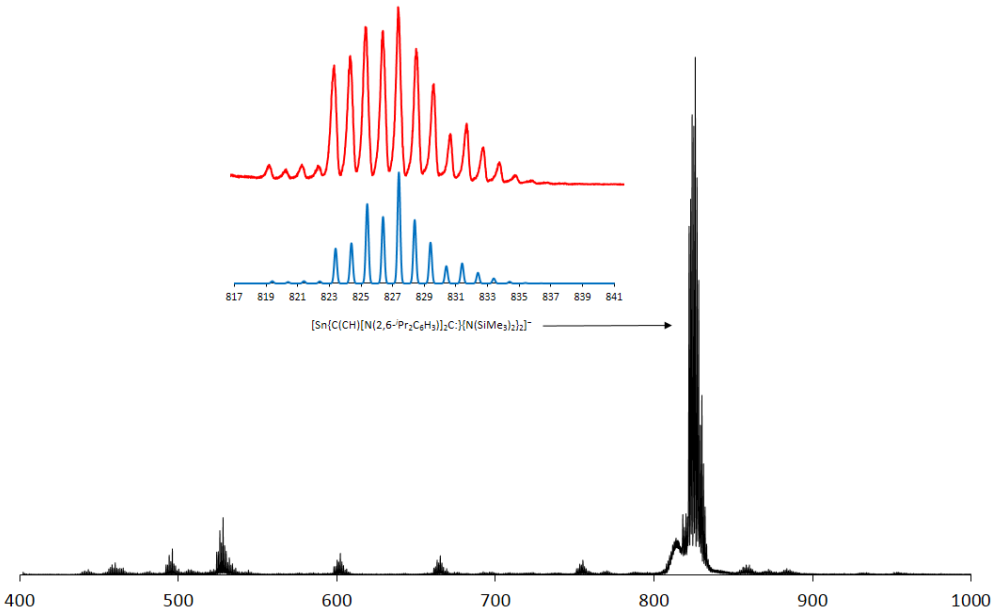

Figure S15. Negative ion-mode ESI-MS spectrum for [K(18-crown-6)][**2**] run in THF. Experimental (red) and calculated (blue) isotopic distributions pictured in the inset.

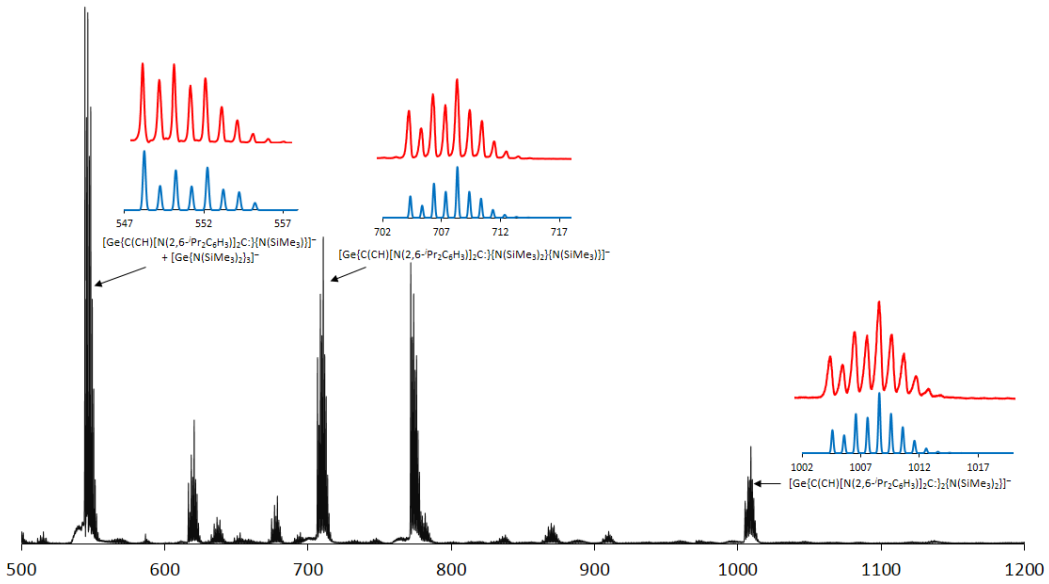

Figure S16. Negative ion-mode ESI-MS spectrum for [K(18-crown-6)][**3**] run in THF. Experimental (red) and calculated (blue) isotopic distributions pictured in the insets.

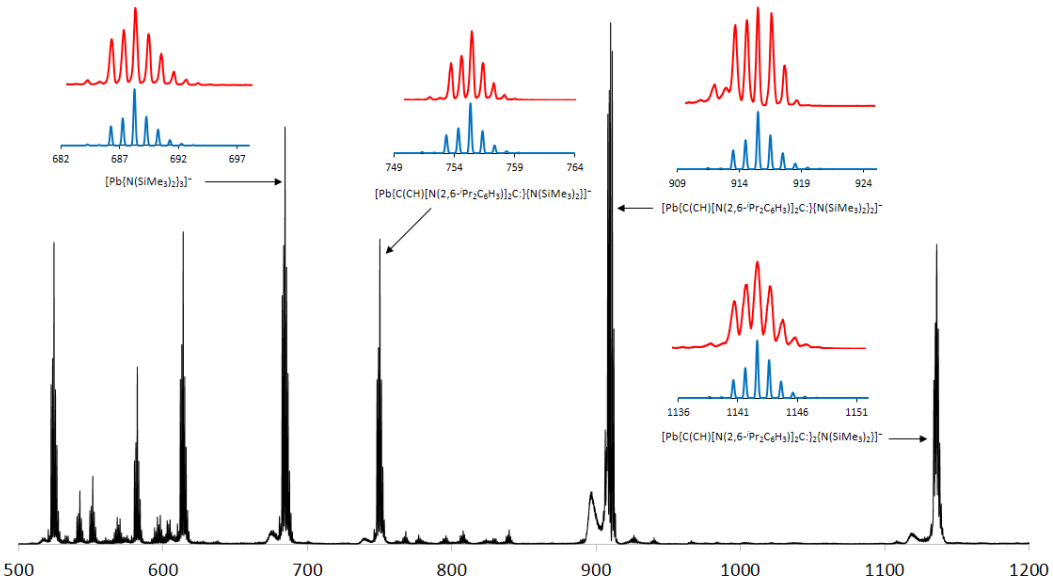

Figure S17. Negative ion-mode ESI-MS spectrum for [K(18-crown-6)][**4**] run in THF. Experimental (red) and calculated (blue) isotopic distributions pictured in the insets.

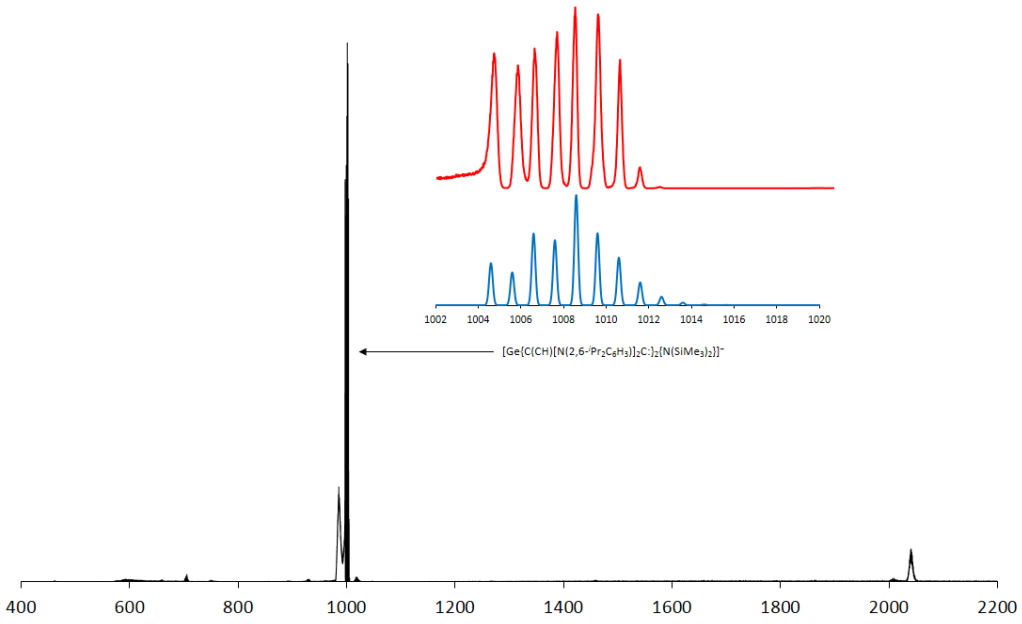

Figure S17. Negative ion-mode ESI-MS spectrum for [K(18-crown-6)][**5**] run in THF. Experimental (red) and calculated (blue) isotopic distributions pictured in the inset.

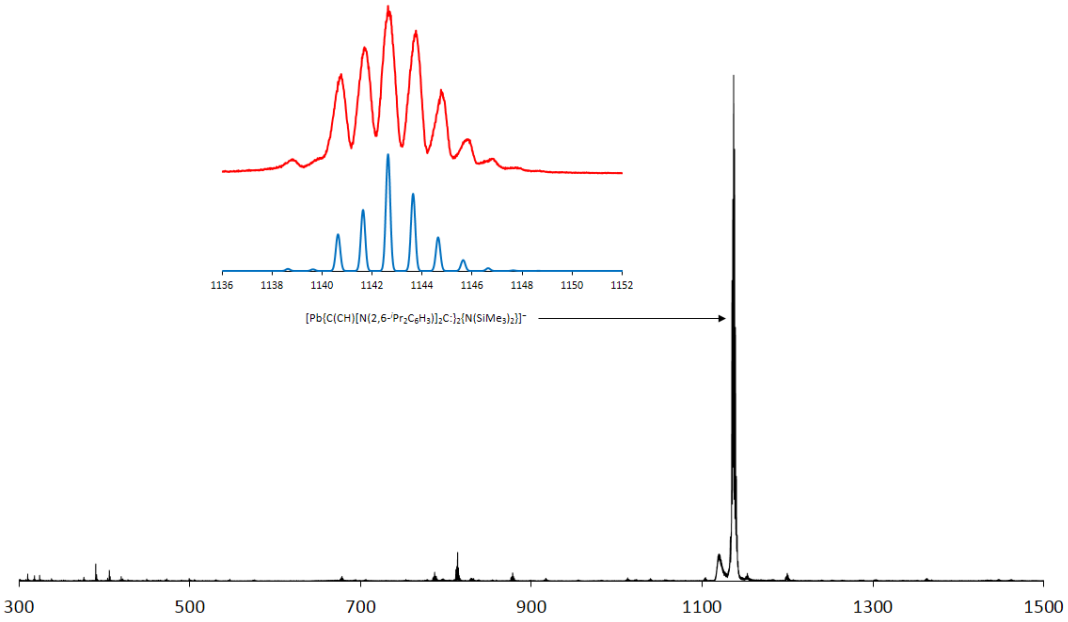

Figure S18. Negative ion-mode ESI-MS spectrum for [K(18-crown-6)][**6**] run in THF. Experimental (red) and calculated (blue) isotopic distributions pictured in the inset.