Divalent and Trivalent Gas-Phase Coordination Complexes of Californium: Evaluating the Stability of Cf(II)

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Figure S1. ESI mass spectra of the Cf\(^{3+}/\)Cm\(^{3+}\) (top) and Sm\(^{3+}\) (bottom) solutions (L = CH\(_3\)SO\(_2\)). As discussed in the experimental section, sodium clusters were particularly abundant for the Cf\(^{3+}/\)Cm\(^{3+}\) solution due to the necessity to add a large excess of NaCH\(_3\)SO\(_2\).
Figure S2. CID mass spectra of m/z values corresponding to the three ML4⁻ (M = Cf, Sm, Cm; L = CH₃SO₂). The CID products reveal particularly substantial isobaric contamination at the mass corresponding to CmL₄⁻. The identity of this as a sodium cluster is confirmed by loss of NaL upon CID. In Figure 2 the spectra do not extend down to the m/z values of the impurity products, to emphasize there the chemistry of interest. The intensity of the truncated Na₄L₃³⁵Cl(CH₃SO₂)⁻ peak in the bottom spectrum is ~500.