

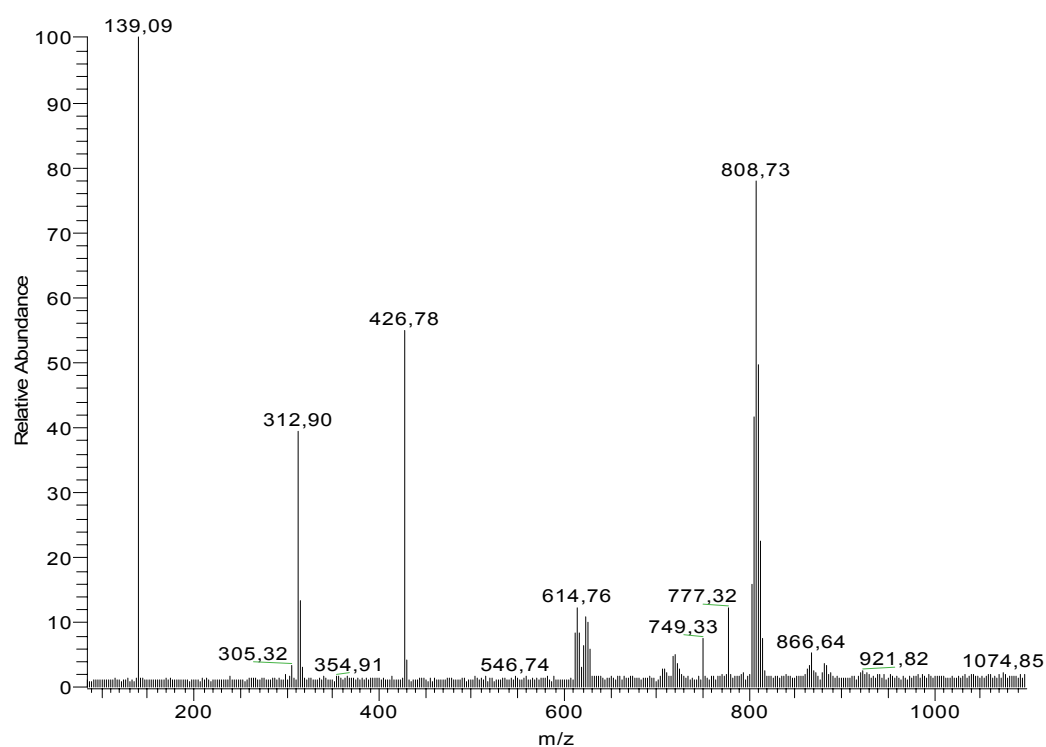
Electronic Supplementary Information

Synthesis and Characterisation of Ionic Liquids based on 1-butyl-3-methylimidazolium chloride and MCl_4 , $M = Hf$ and Zr

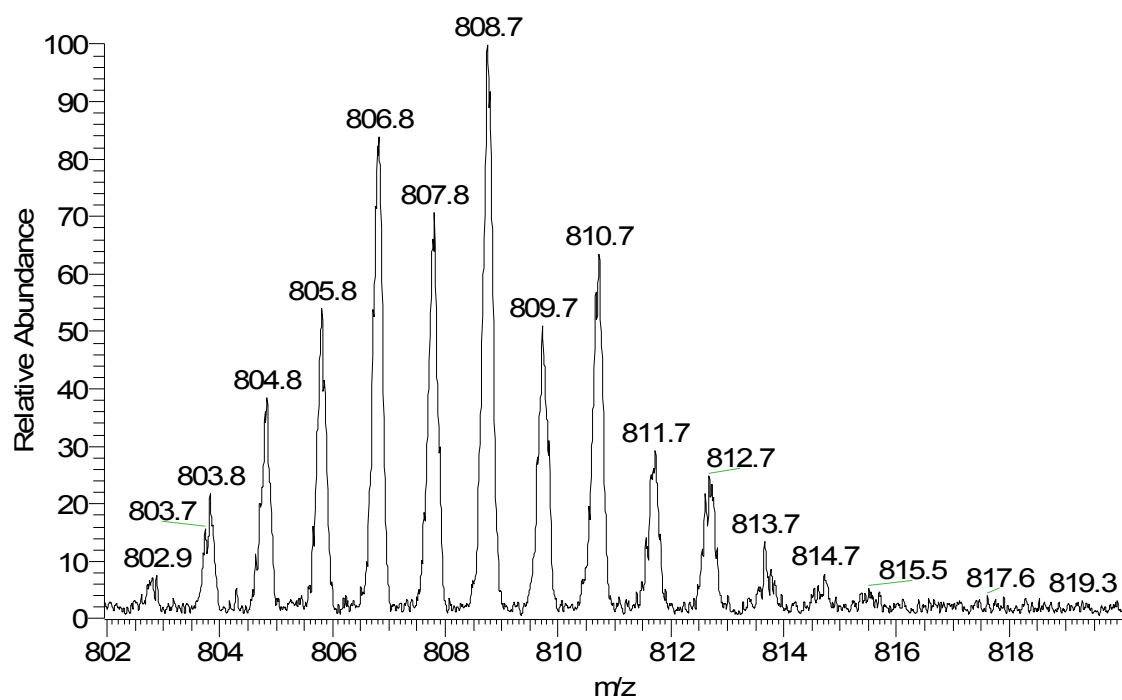
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Yves Chauvin^a, Marcelle Gaune-Escard^c, Catherine Bessada^f, Anne-Laure Rollet^{f,g}

Electrospray Ionisation Spectra

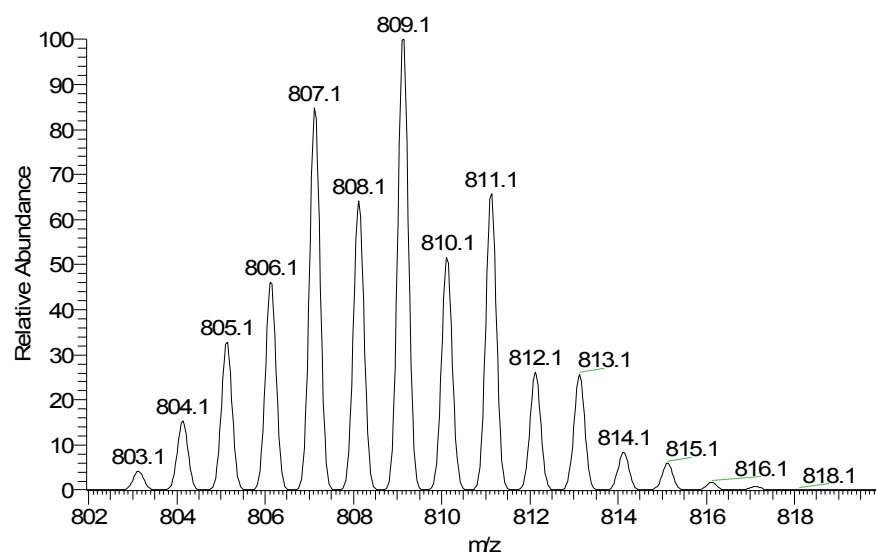
Figure 3



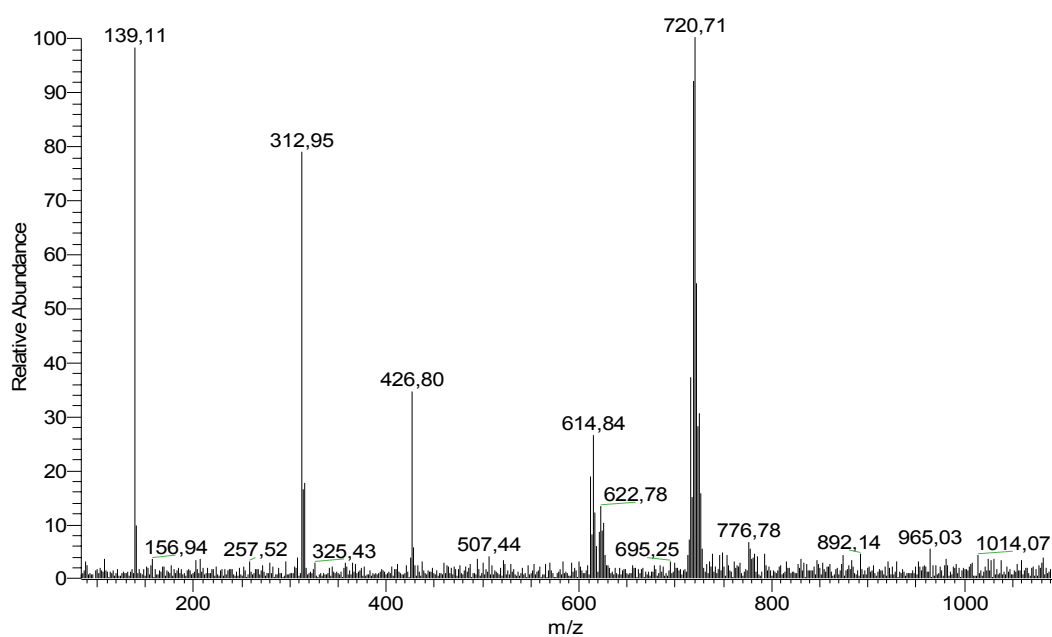
Full spectrum - $[C_1C_4Im]_2HfCl_6$



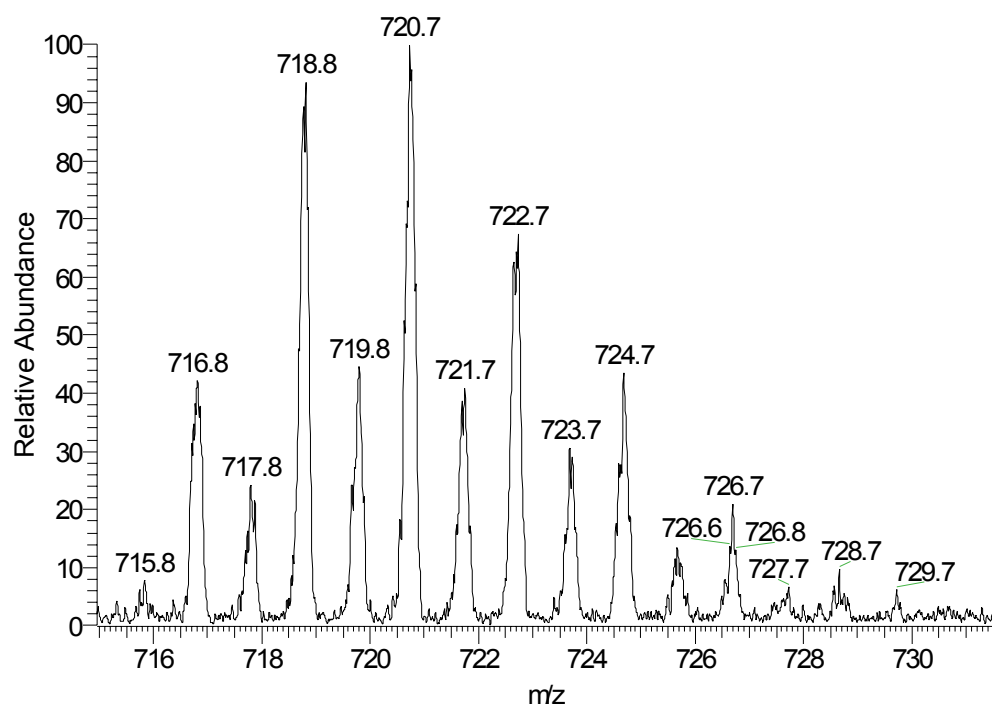
Zoom on $[(C_1C_4Im)_3HfCl_6]^+$ region showing isotopic peaks



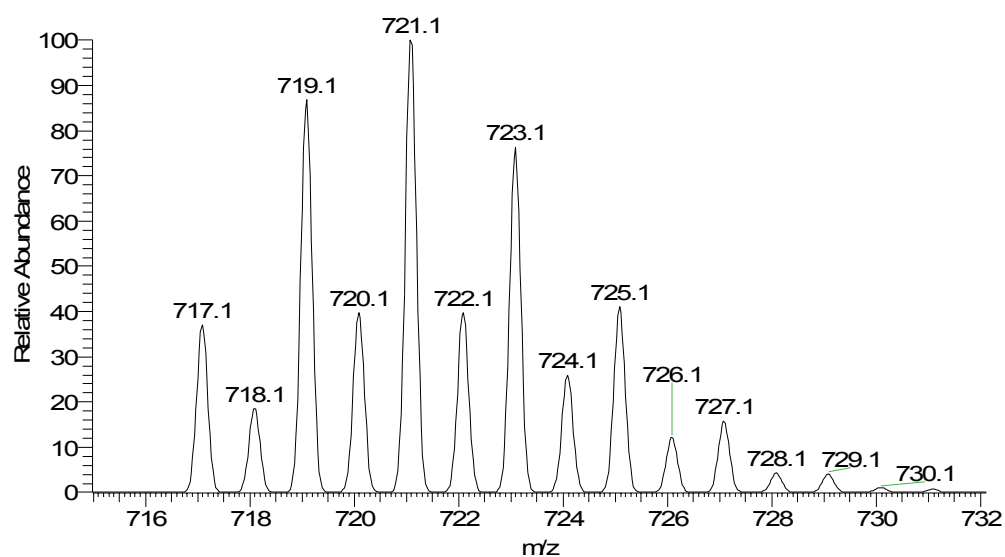
Theoretical simulation of $[C_1C_4Im_3HfCl_6]^+$ isotopic peaks for comparison



Full spectrum - $[\text{C}_1\text{C}_4\text{Im}]_2\text{ZrCl}_6$

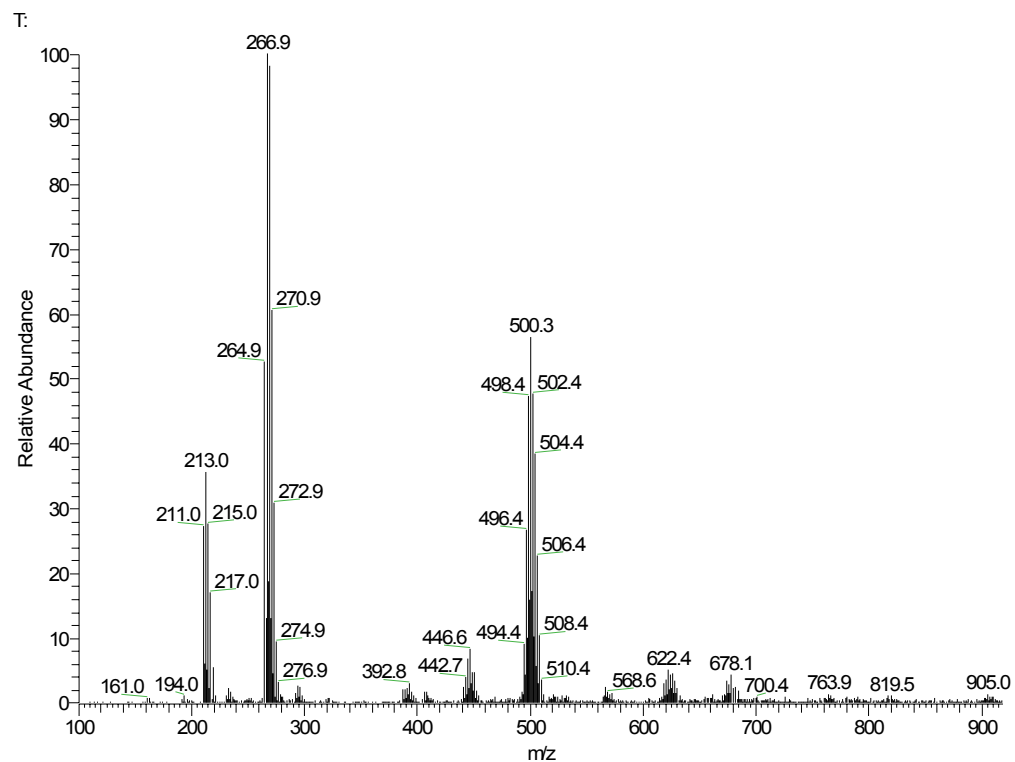


Zoom on $[(\text{C}_1\text{C}_4\text{Im})_3\text{ZrCl}_6]^+$ region showing isotopic peaks

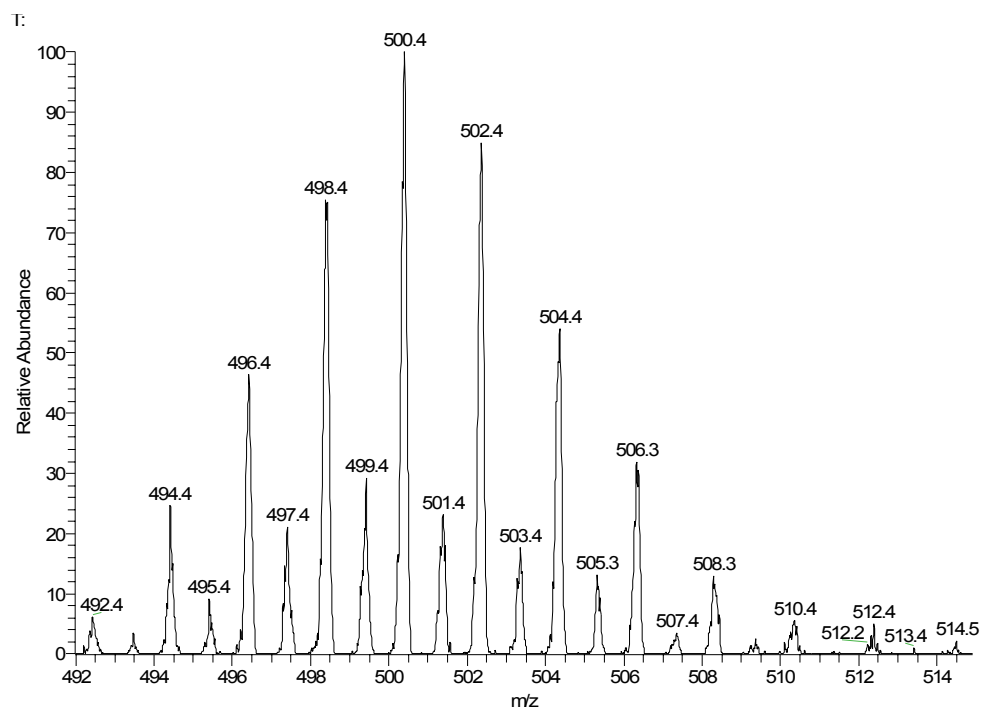


Theoretical simulation of $[C_1C_4Im_3ZrCl_6]^+$ isotopic peaks for comparison

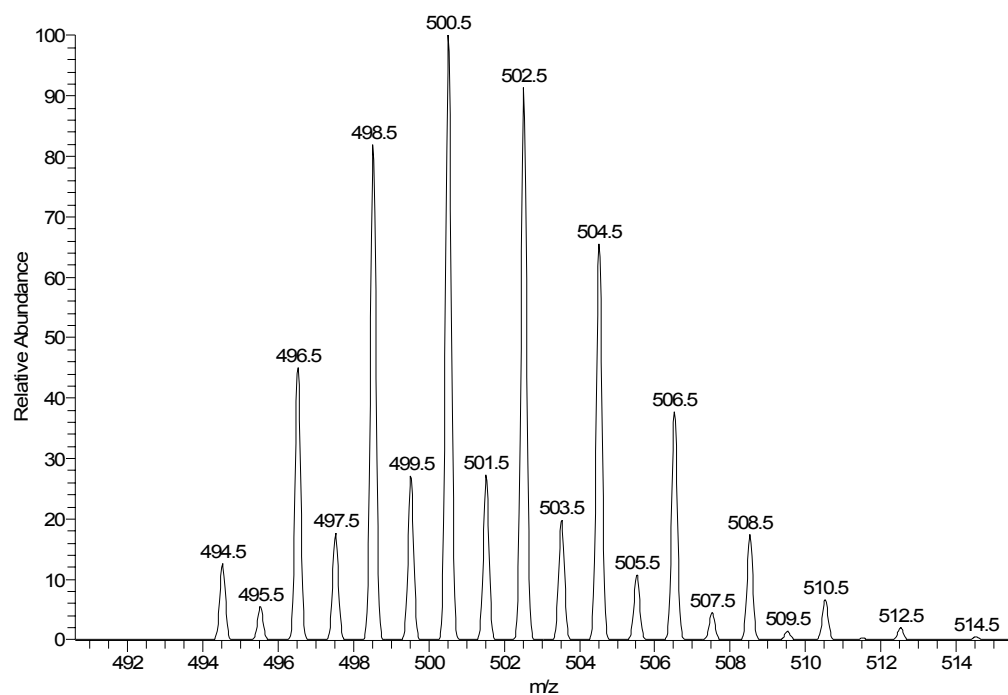
Figure 5



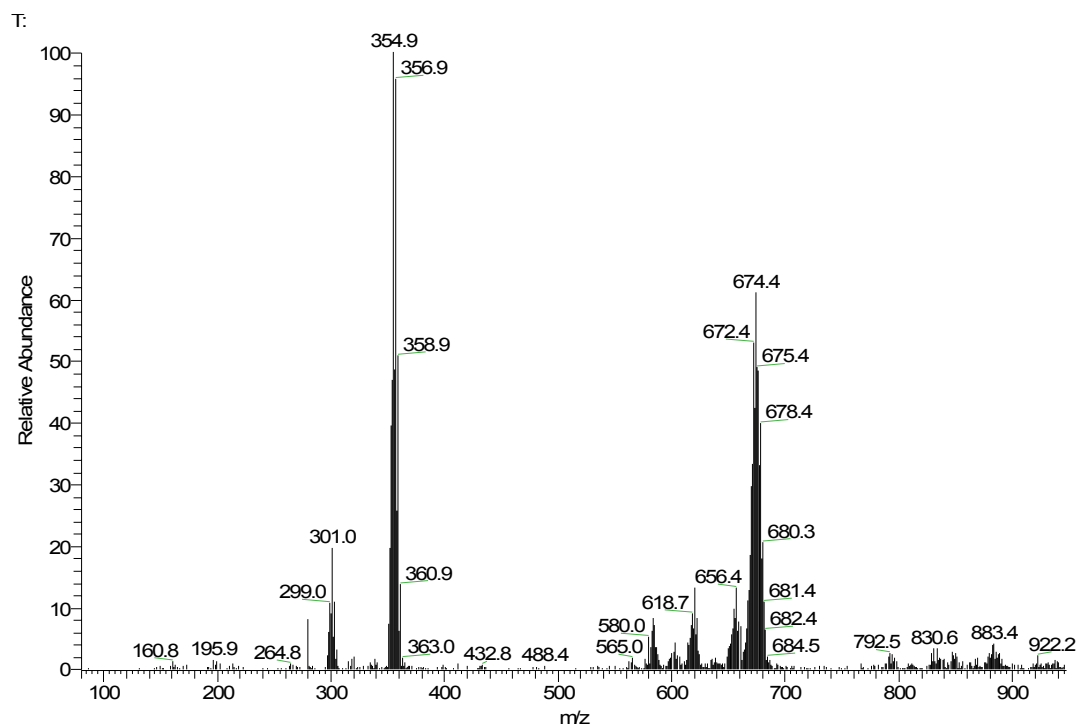
Full ESI- mass spectra of R = 0.67, Hf



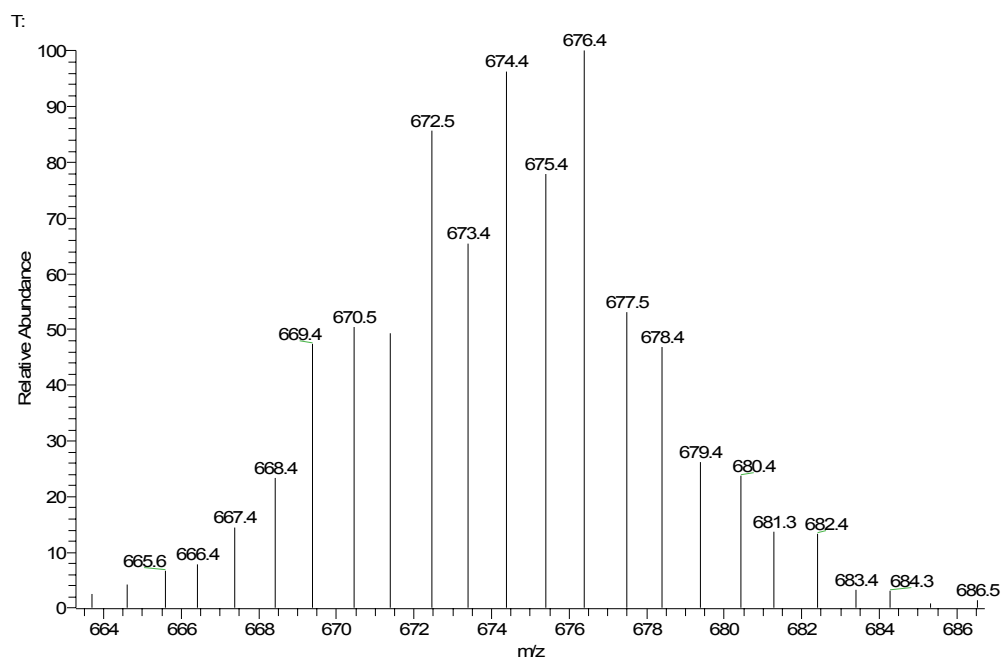
Zoom on $[\text{Hf}_2\text{Cl}_9]^-$ region showing isotopic peaks



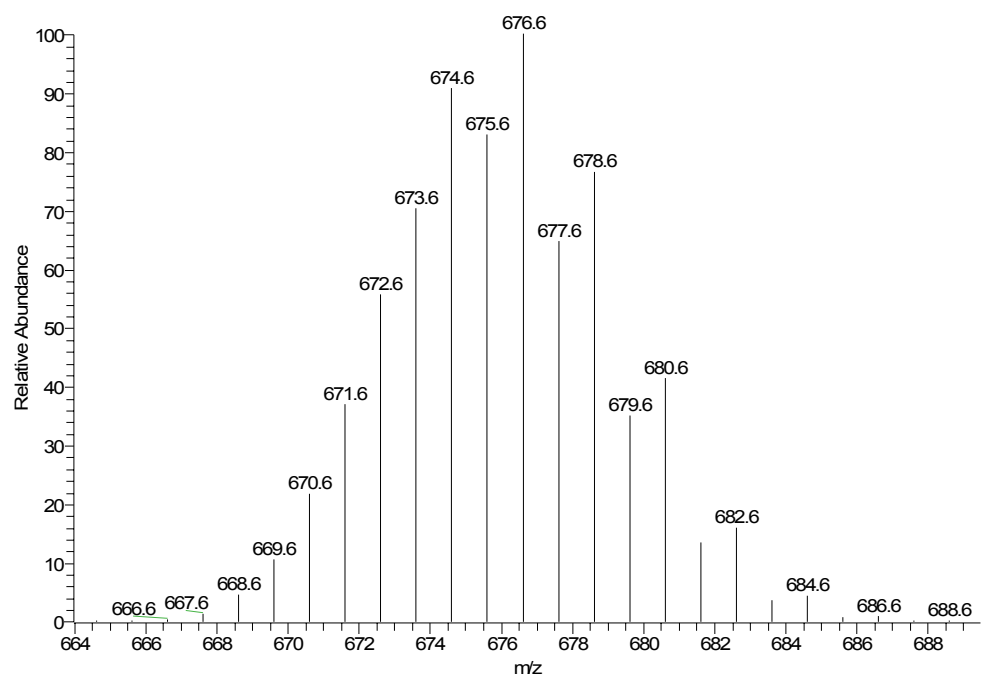
Theoretical simulation of $[\text{Hf}_2\text{Cl}_9]^-$ isotopic peaks for comparison



Full ESI- mass spectra of R = 0.67, Zr



Zoom on $[\text{Zr}_2\text{Cl}_9]^-$ region showing isotopic peaks



Theoretical simulation of $[Zr_2Cl_9]^-$ isotopic peaks for comparison