

Supporting Information

Enabling LIFDI-MS measurements of highly air sensitive organometallic compounds: A combined MS/glovebox technique

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LIFDI spectra details of the reaction: $[(\text{Cp})_2\text{TiCl}_2] + \text{Zn}$

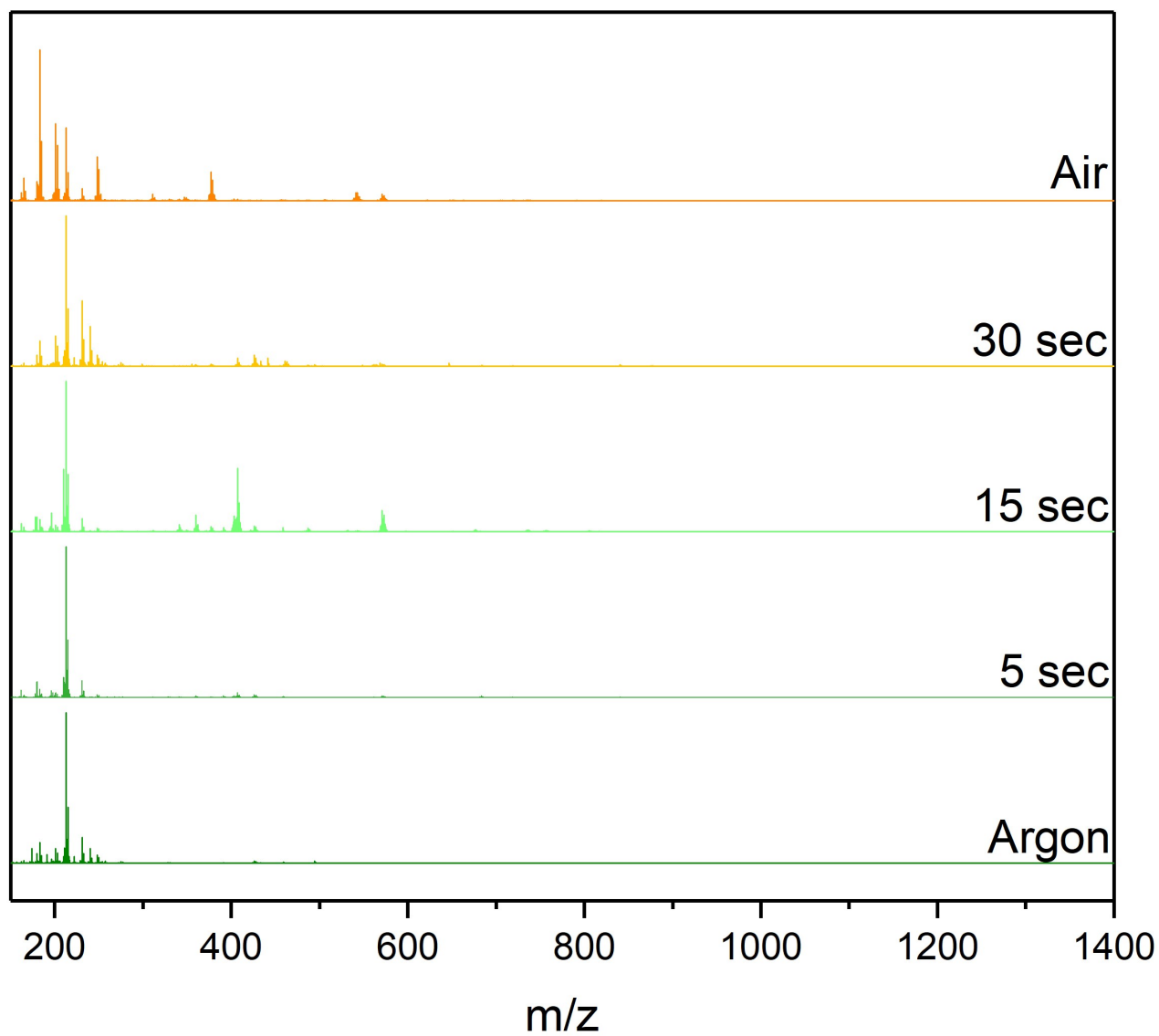


Figure S1: Full range LIFDI mass spectrum of $[(\text{Cp})_2\text{TiCl}_2] + \text{Zn}$.

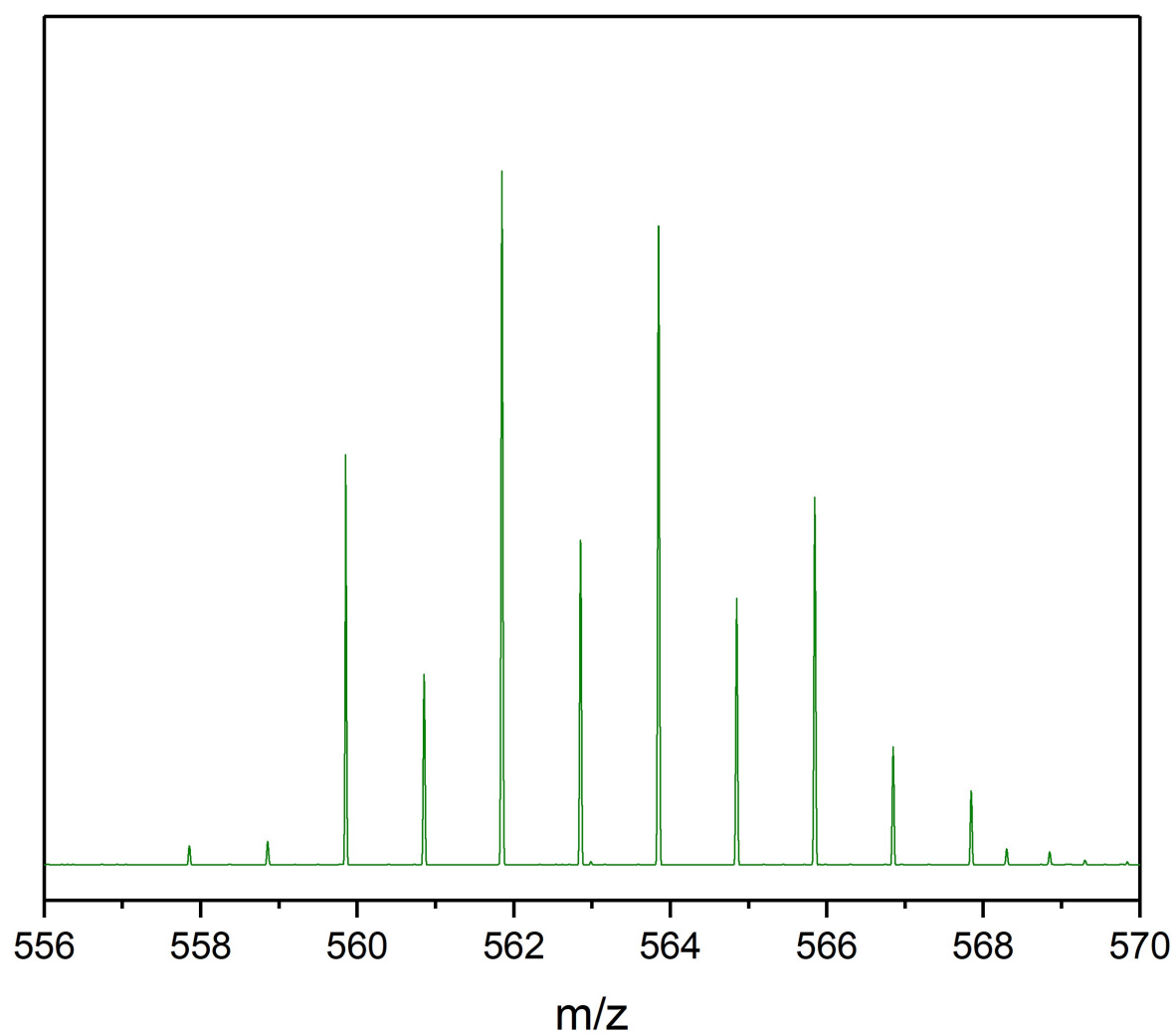


Figure S2: Molecular ion peak of $[(\text{Cp})_2\text{TiCl})_2\text{ZnCl}_2]^+$. The spectrum was recorded under inert conditions.

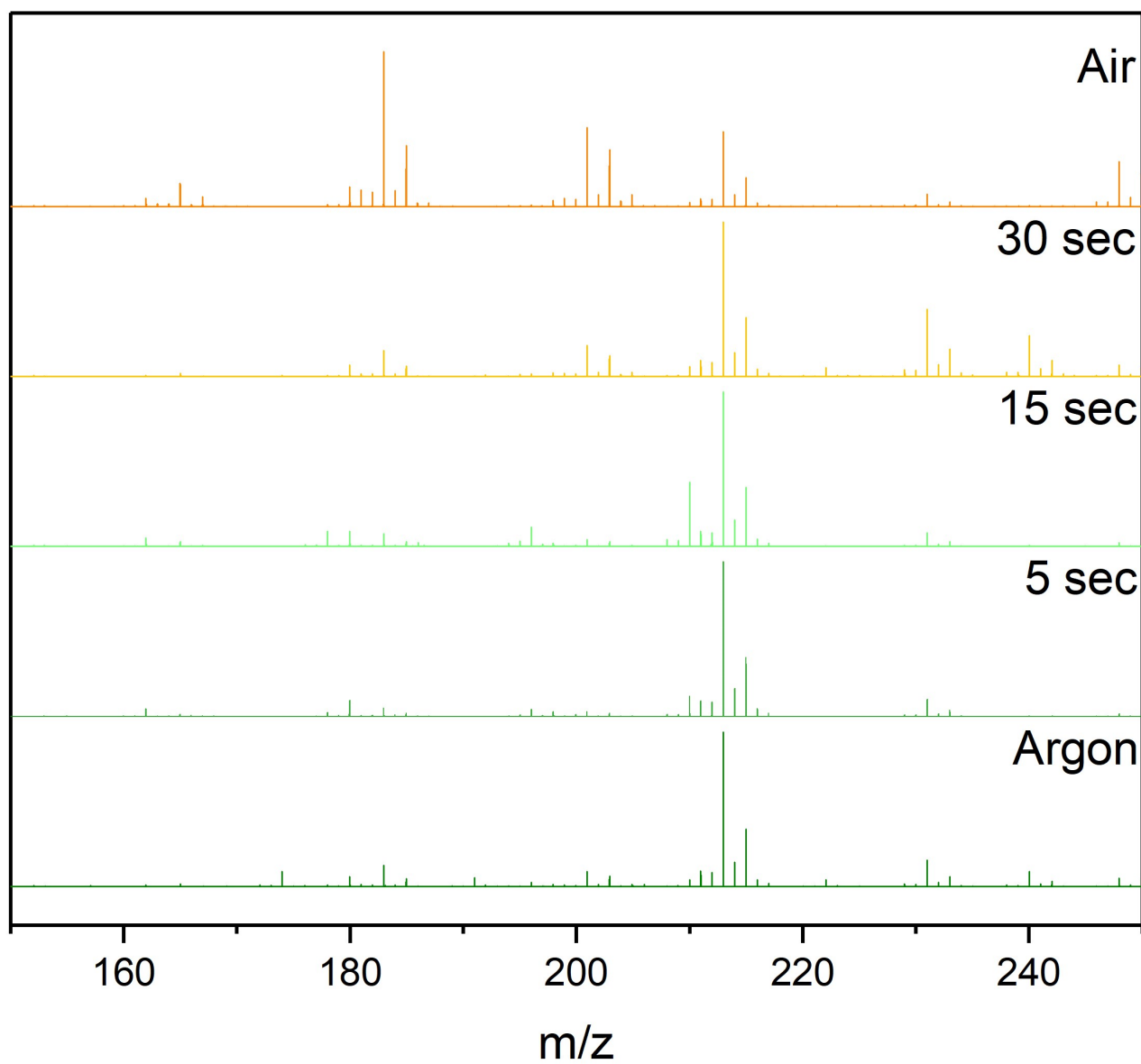


Figure S3: LIFDI mass spectrum of $[(Cp)_2TiCl_2] + Zn$, zoomed into m/z range of 150 – 250. Major peaks in increasing m/z order: 182.9680 $[(Cp)TiCl(OH)(OH_2)]^+$, 200.9354 $[(Cp)TiCl_2(OH_2)]^+$, 212.9936 $[(Cp)_2TiCl]^+$, 231.0054 $[(Cp)_2TiCl(OH_2)]^+$, 247.9632 $[(Cp)_2TiCl_2]^+$.

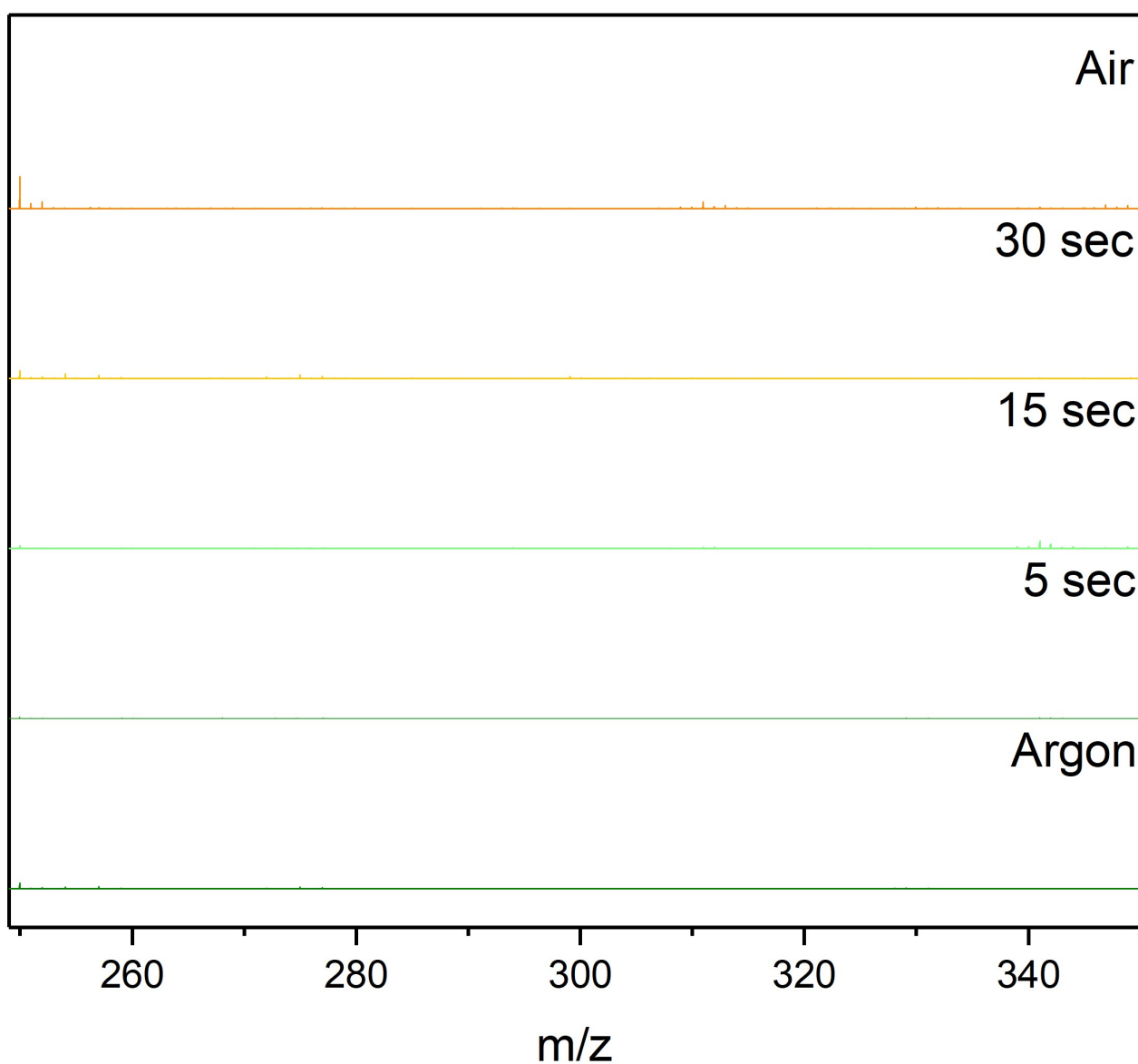


Figure S4: LIFDI mass spectrum of $[(Cp)_2TiCl_2] + Zn$, zoomed into m/z range of 250 – 350.

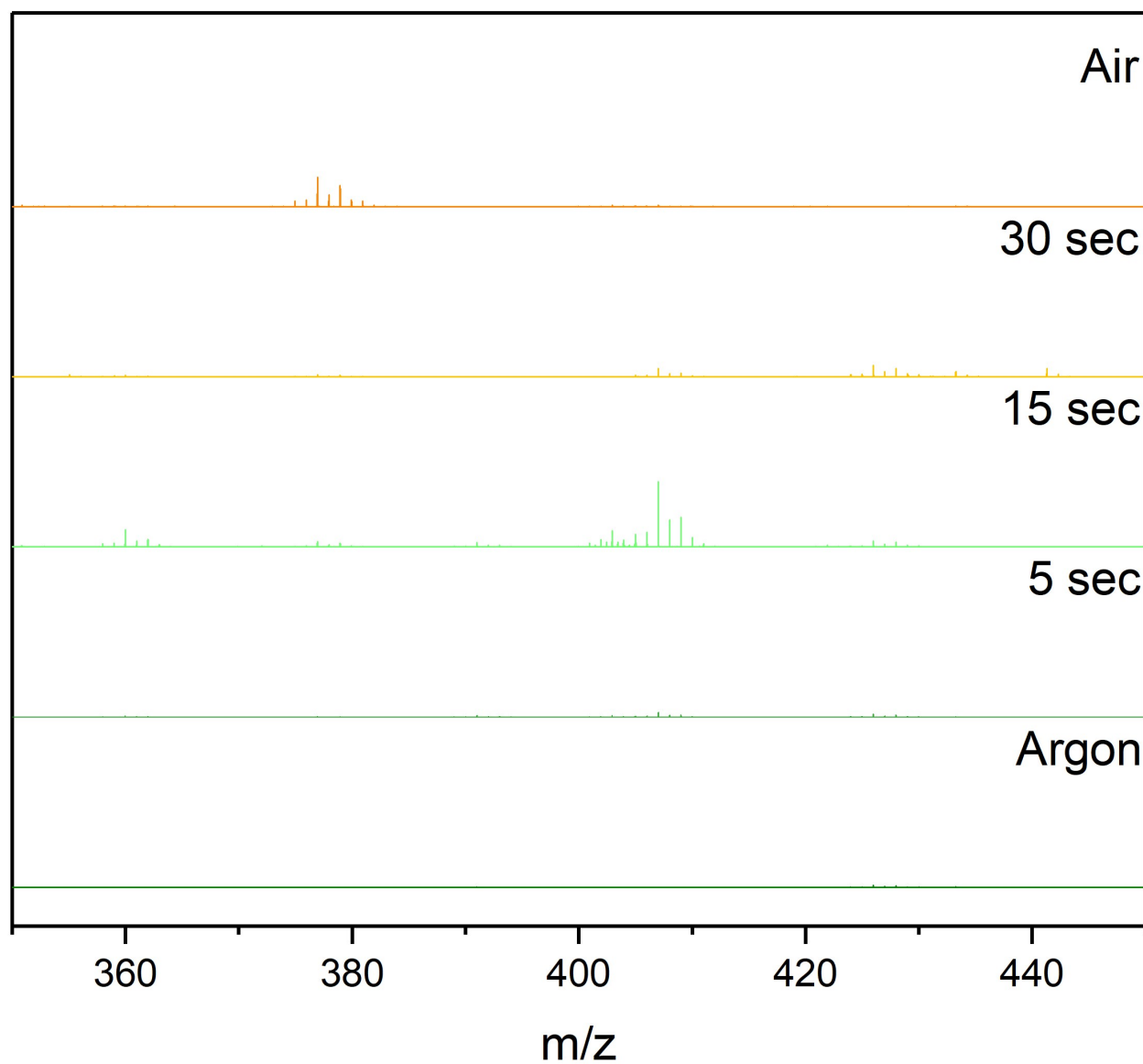


Figure S5: LIFDI mass spectrum of $[(Cp)_2TiCl_2] + Zn$, zoomed into m/z range of 350 - 450. Major peaks in increasing m/z order: 376.9465 $[(Cp)_3Ti_2Cl_2O]^+$, 407.0148 $[(Cp)_4Ti_2ClO]^+$.

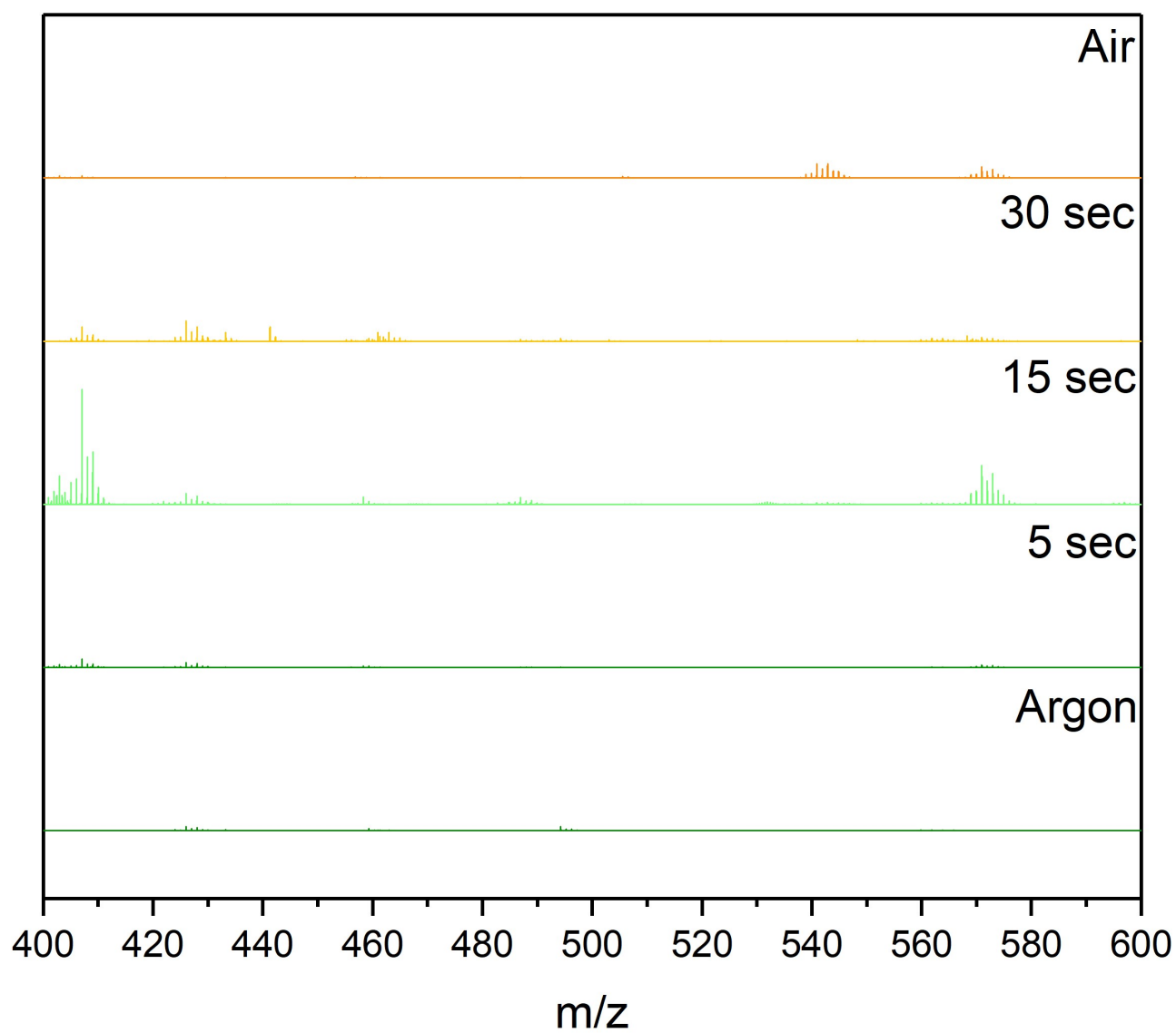


Figure S6: LIFDI mass spectrum of $[(Cp)_2TiCl_2] + Zn$, zoomed into m/z range of 400 - 600. Major peaks in increasing m/z order: 542.8914 $[(Cp)_4Ti_3ClO_2]^+$, 570.9646 $[(Cp)_5Ti_3Cl_2O_2]^+$.

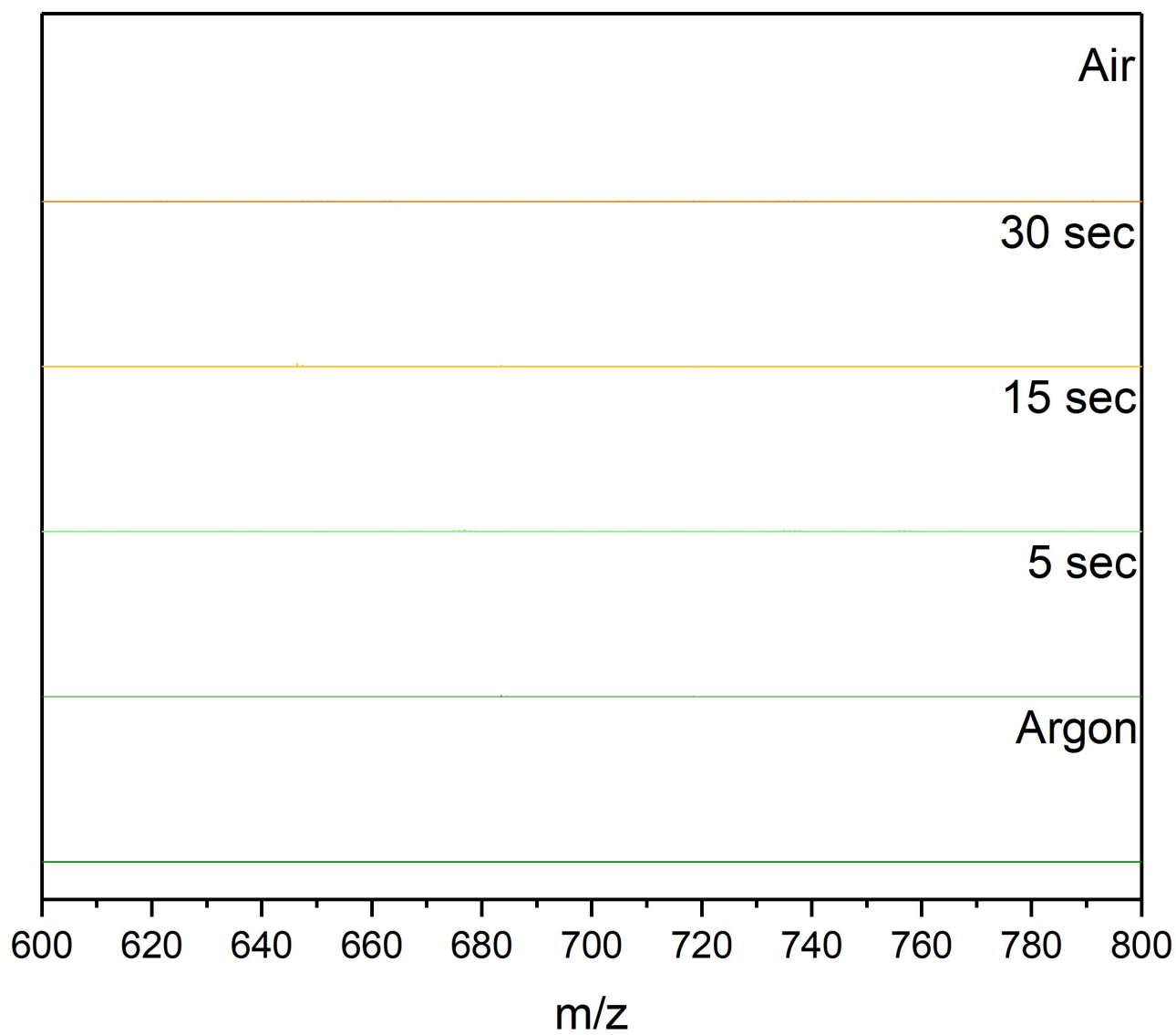


Figure 7: LIFDI mass spectrum of $[(Cp)_2TiCl_2] + Zn$, zoomed into m/z range of 600 - 800.

Full range spectra of [CuMes] + AlCp*

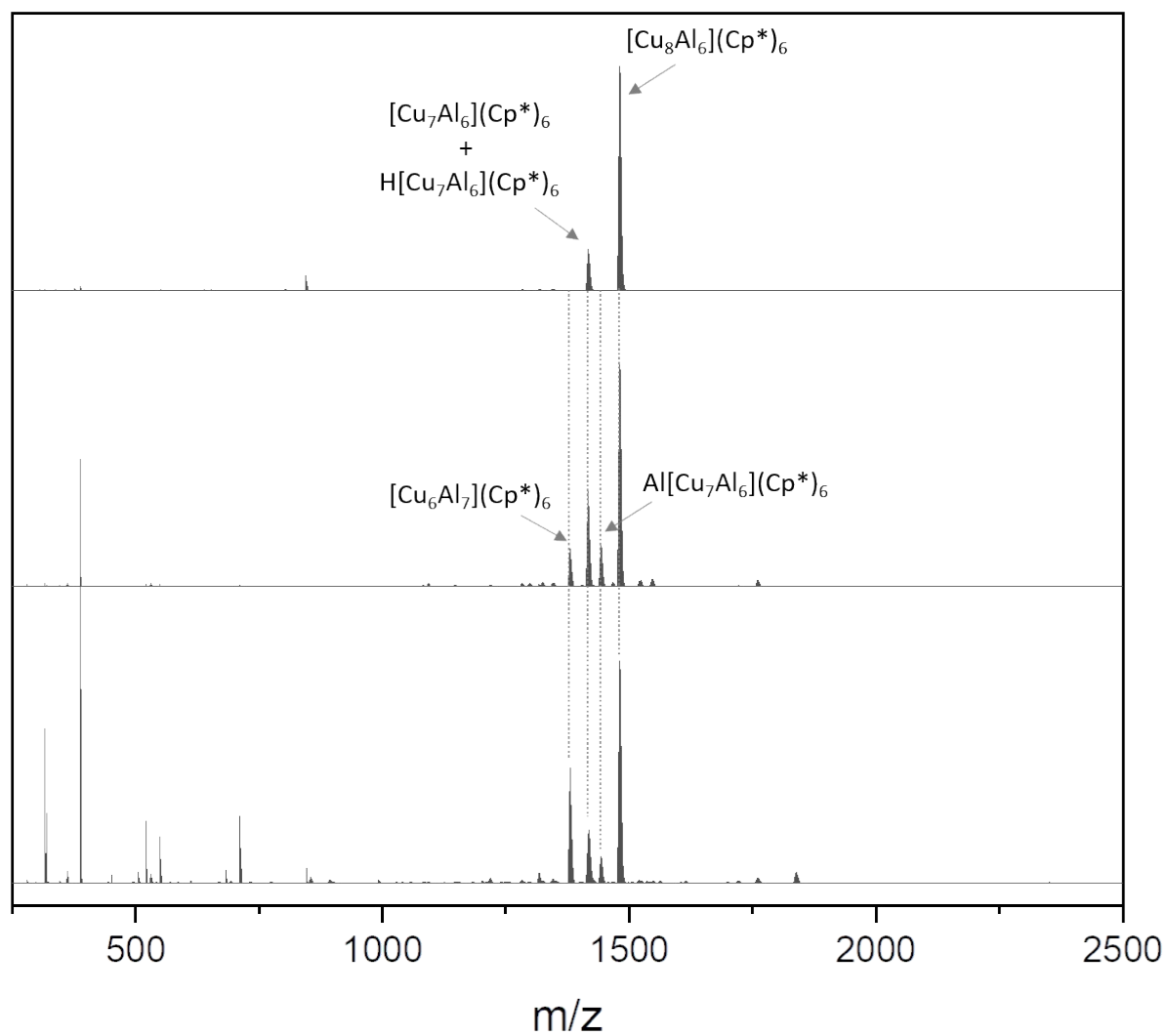


Figure 8: Full range LIFDI mass spectrum with peak labels of [CuMes] + 3.6 eq. of AlCp*.