

Supporting Information

NiAl_xFe_{2-x}O₄ mixed oxide catalysts for methane reforming with CO₂: effect of Al vs Fe contents and precursor salts

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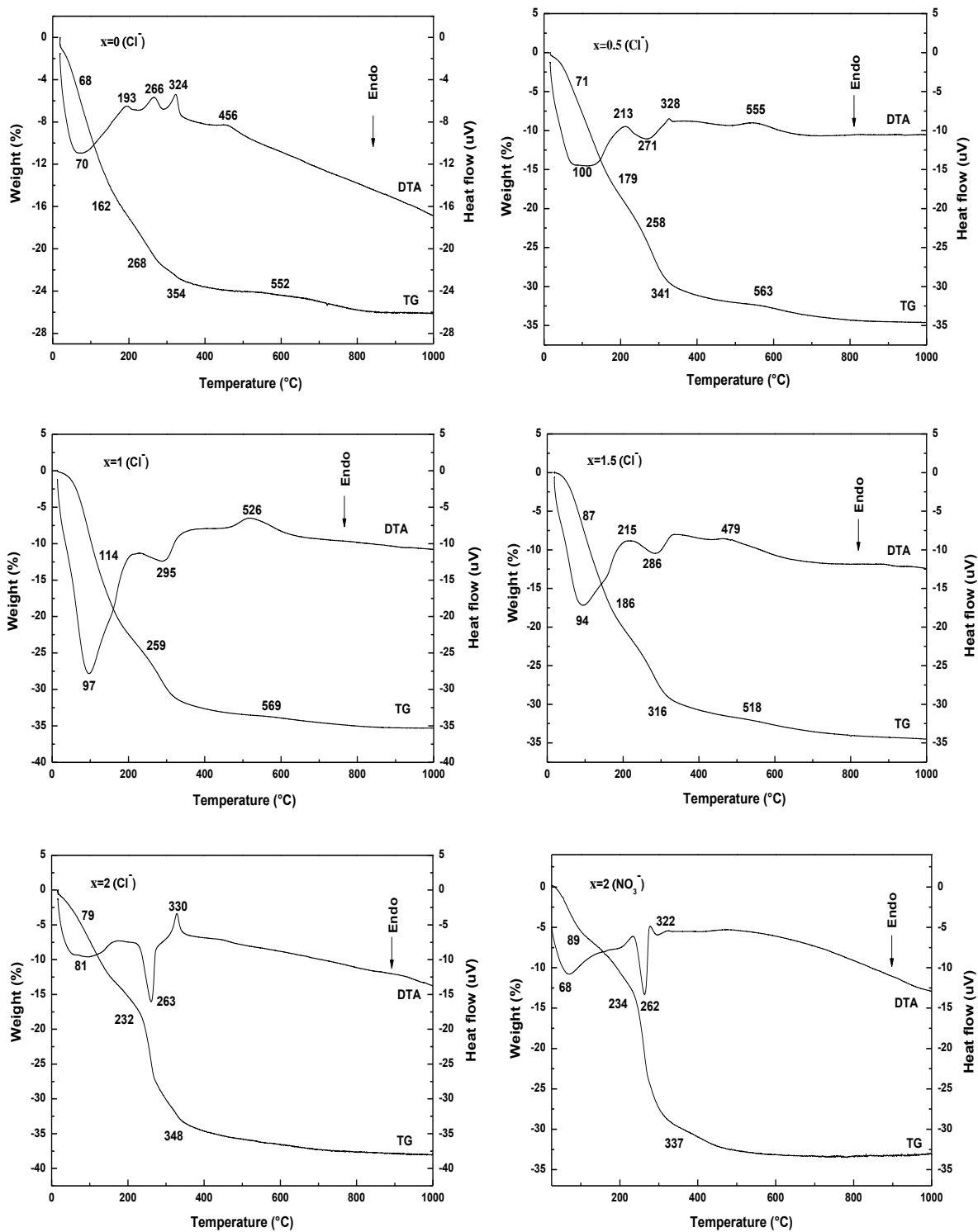


Figure 1S. Thermal analyses (TG-DTA) in air of precursors issued from chloride and nitrate salts.

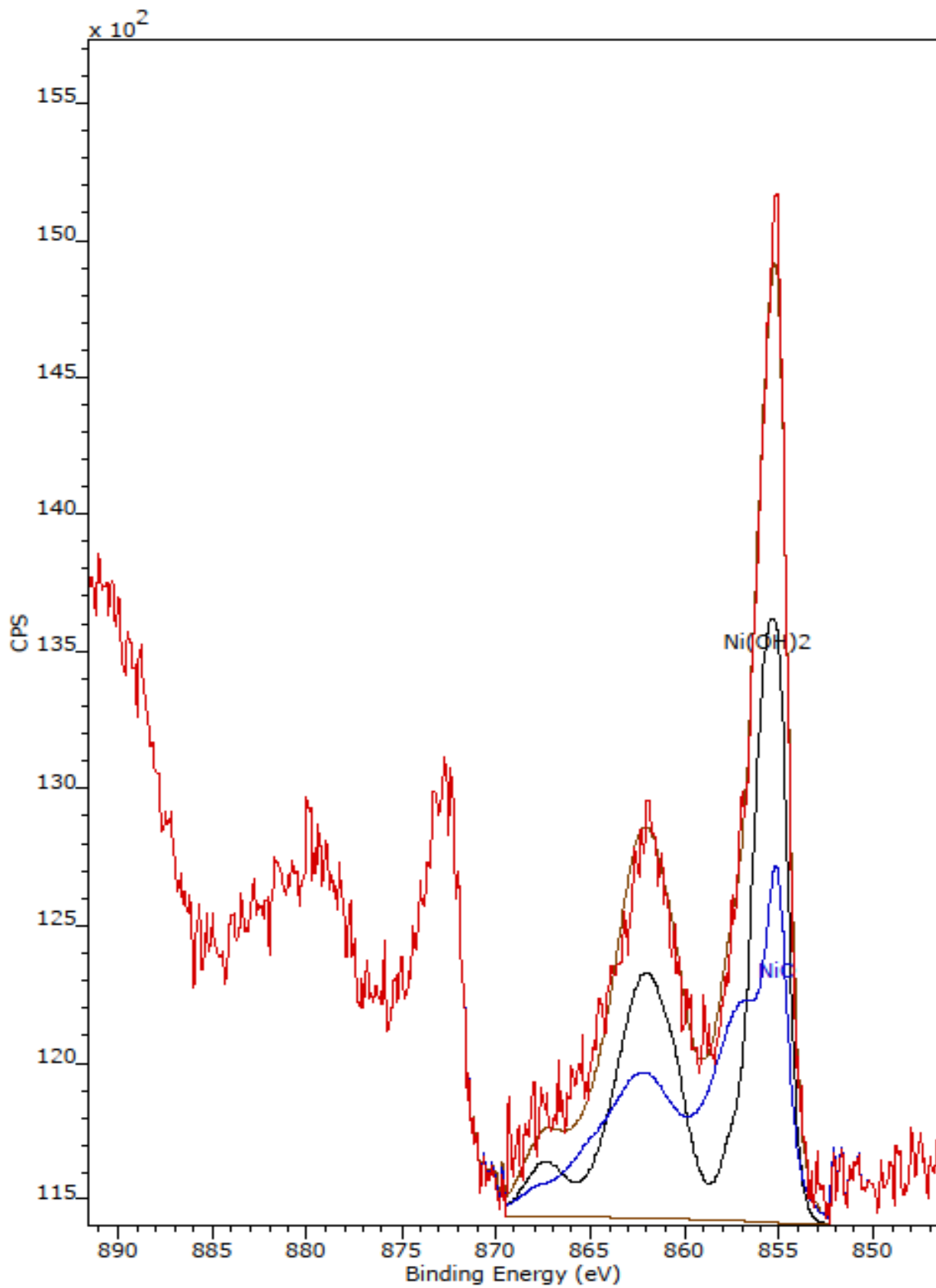


Figure 2S. XPS spectra of Ni_{2p_{3/2}} species of NiAl_xFe_{2-x}O₄ (x=0) from chloride salts.

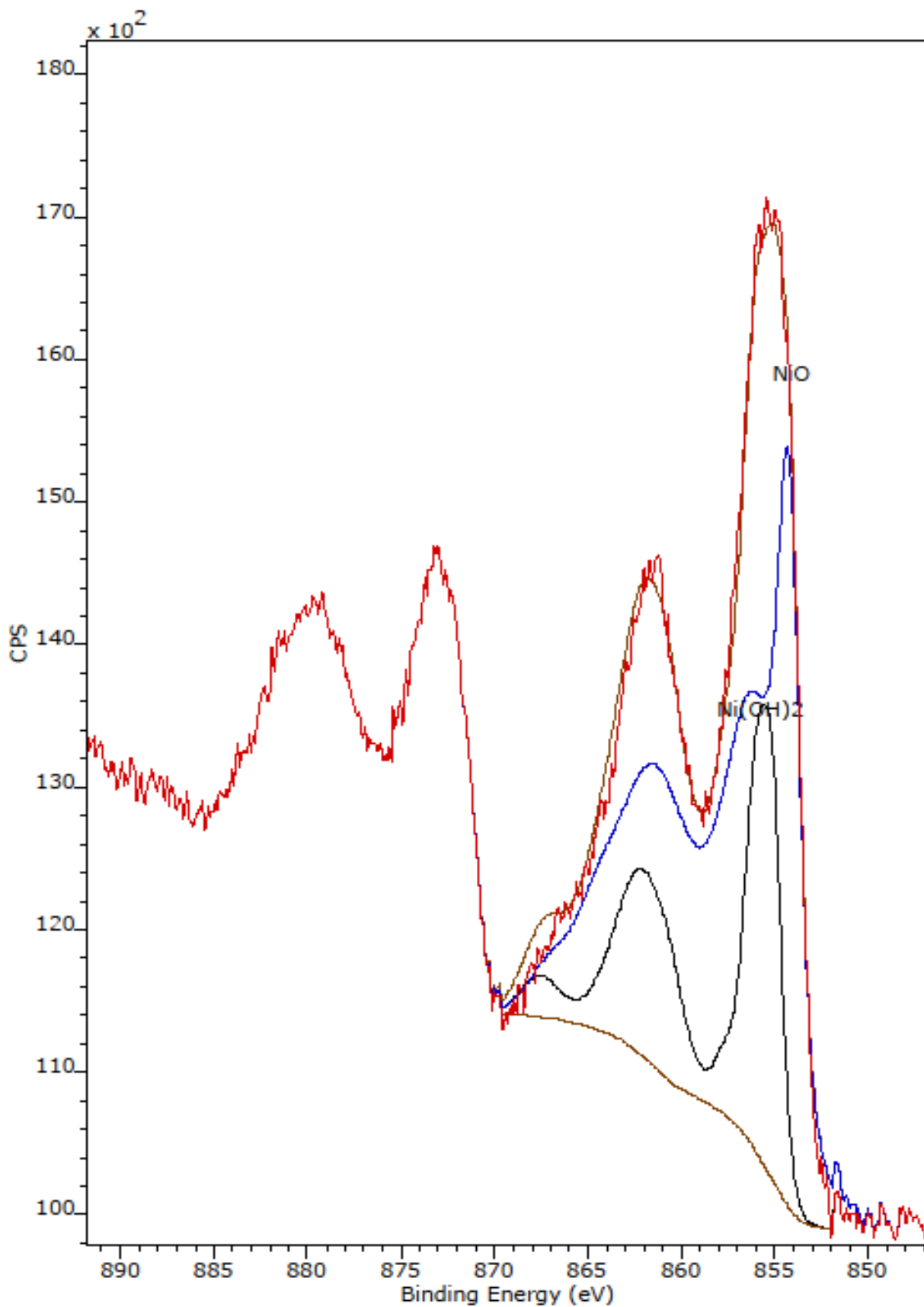


Figure 3S. XPS spectra of Ni_{2p_{3/2}} species of NiAl_xFe_{2-x}O₄ (x=0.5) from chloride salts.

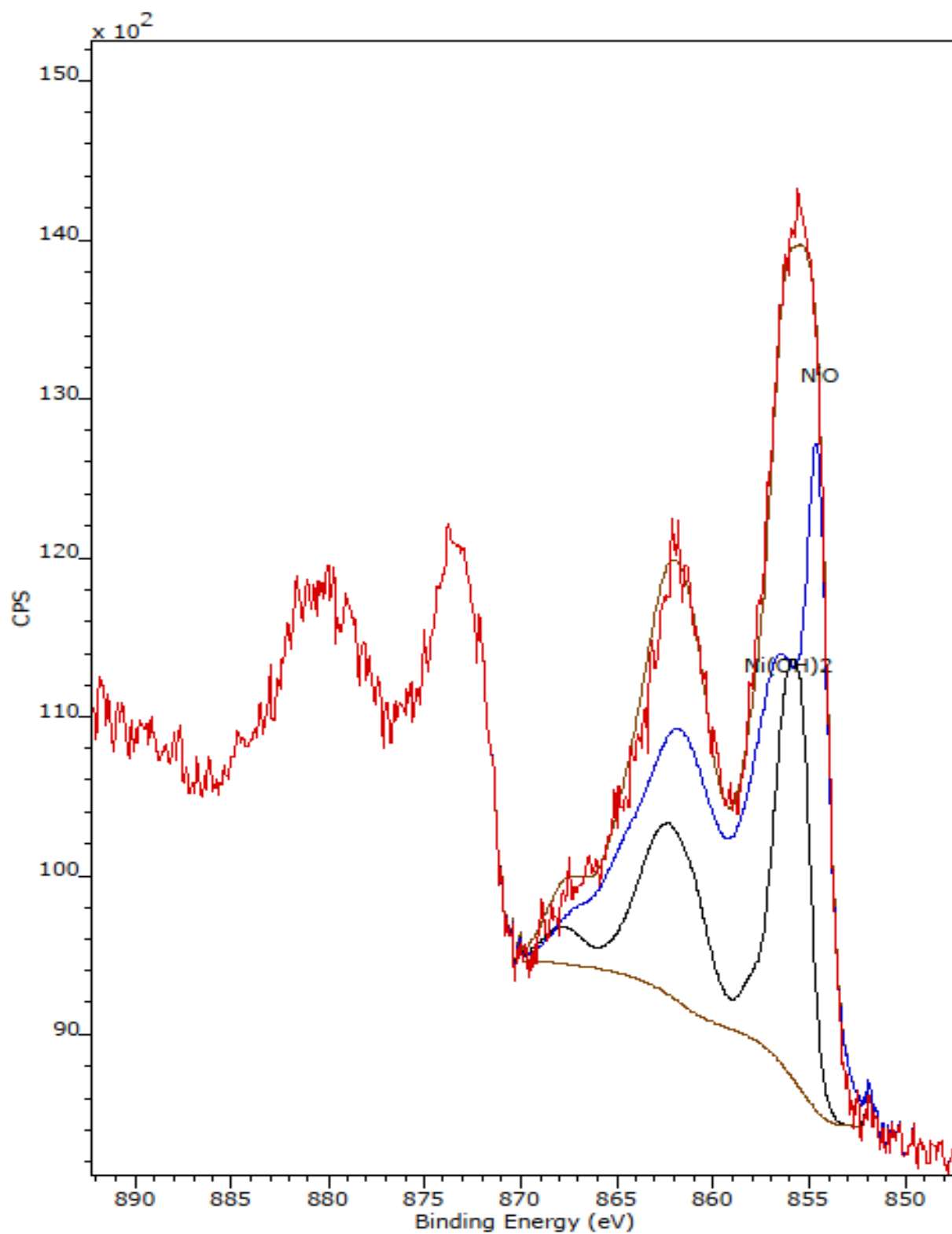


Figure 4S. XPS spectra of Ni_{2p3/2} species of NiAl_xFe_{2-x}O₄ (x=1) from chloride salts.

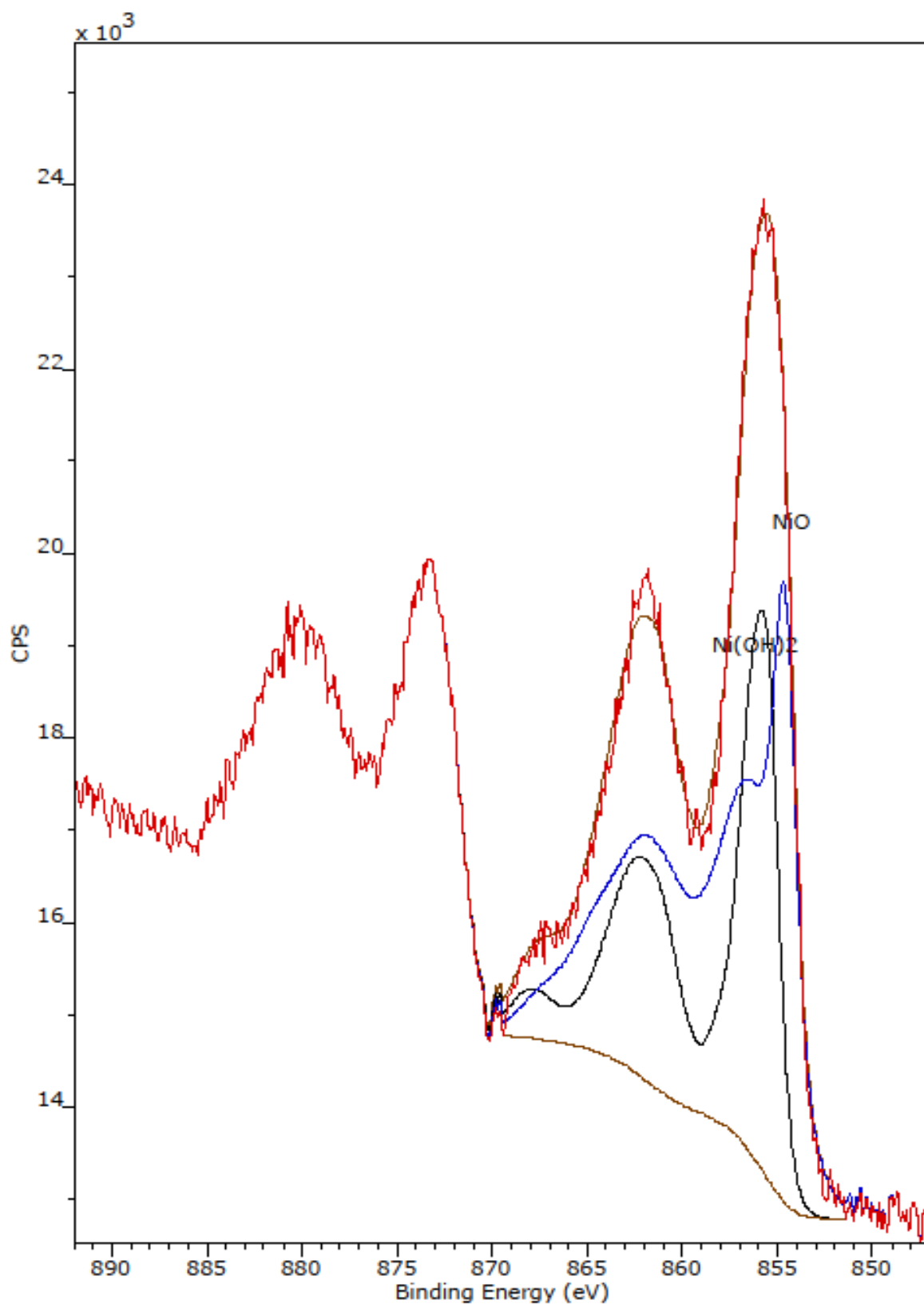


Figure 5S. XPS spectra of Ni_{2p_{3/2}} species of NiAl_xFe_{2-x}O₄ (x=1.5) from chloride salts.

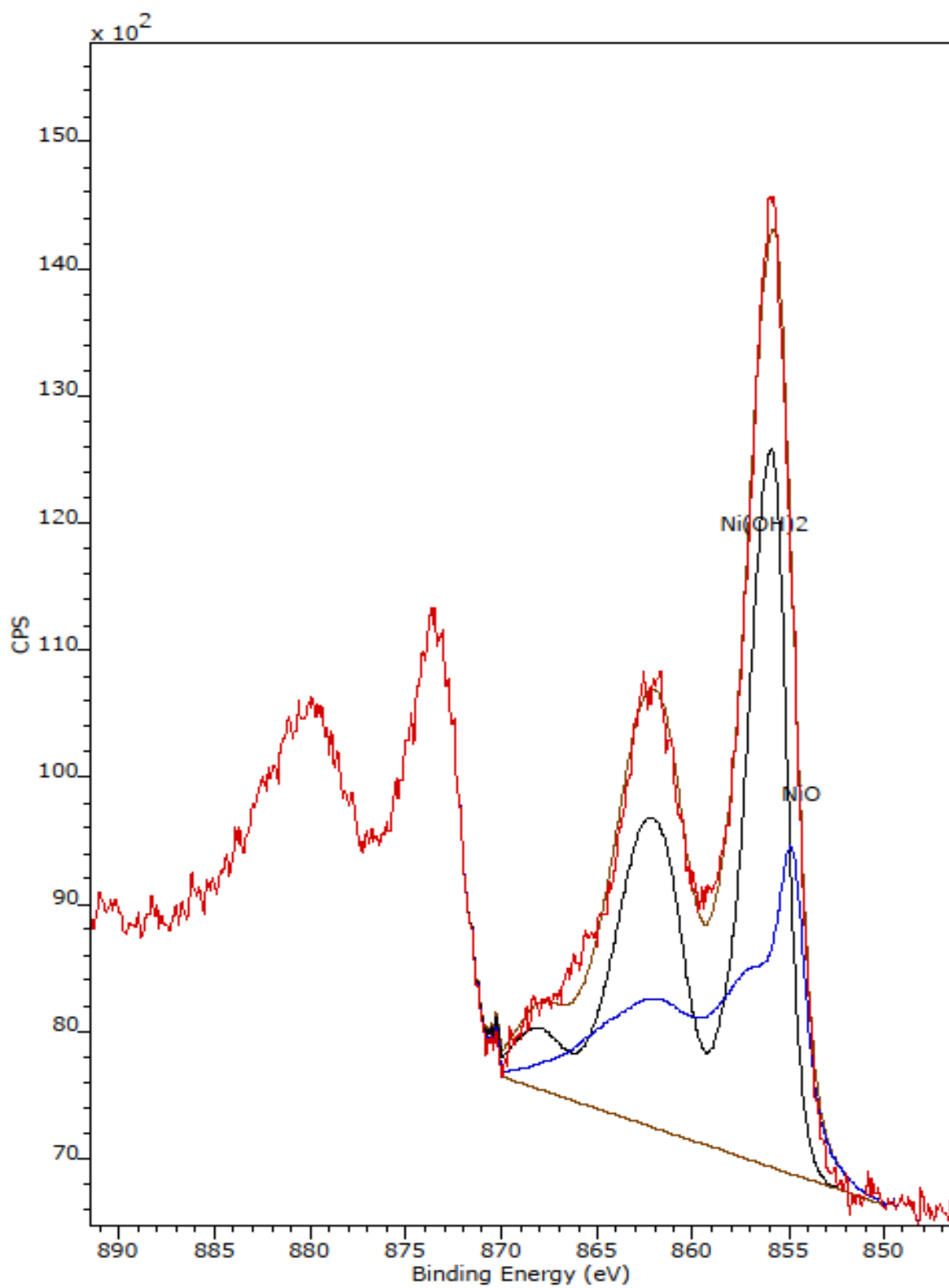


Figure 6S. XPS spectra of Ni_{2p_{3/2}} species of NiAl_xFe_{2-x}O₄ (x=2) from chloride salts.

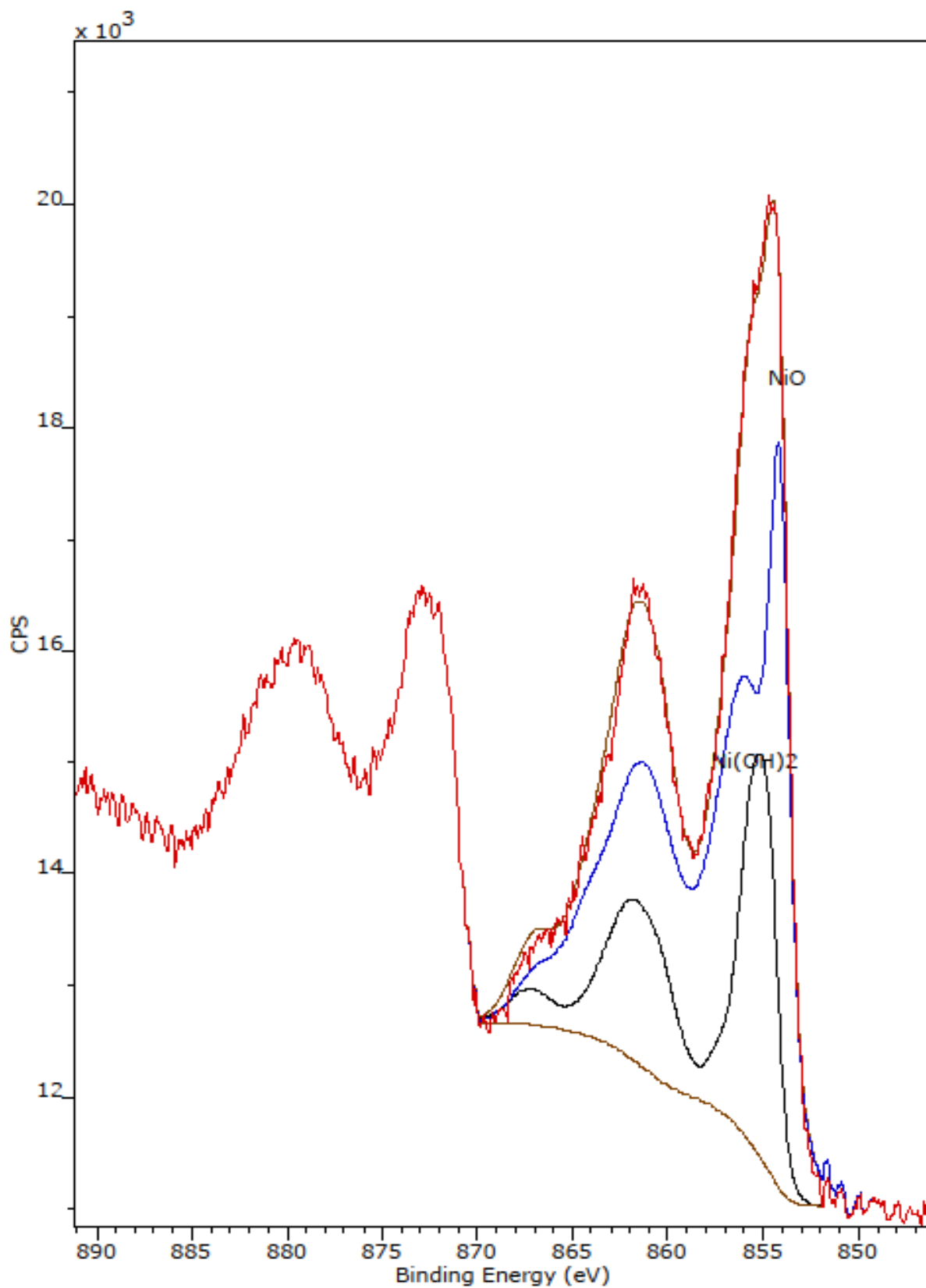


Figure 7S. XPS spectra of Ni_{2p_{3/2}} species of NiAl_xFe_{2-x}O₄ (x=1) from nitrate salts.

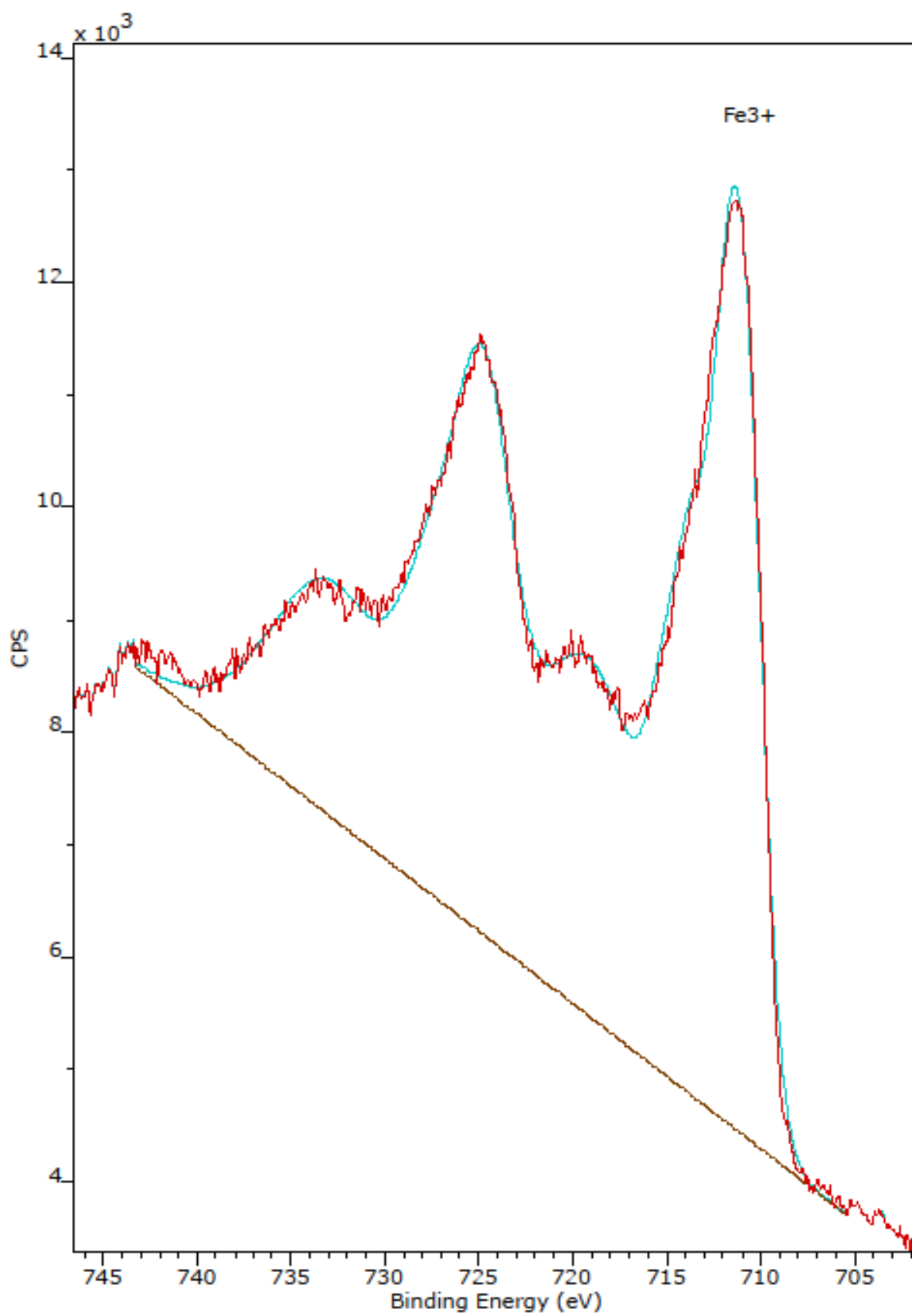


Figure 8S. XPS spectra of Fe 2p_{3/2} species of NiAl_xFe_{2-x}O₄ (x=0) from chloride salts.

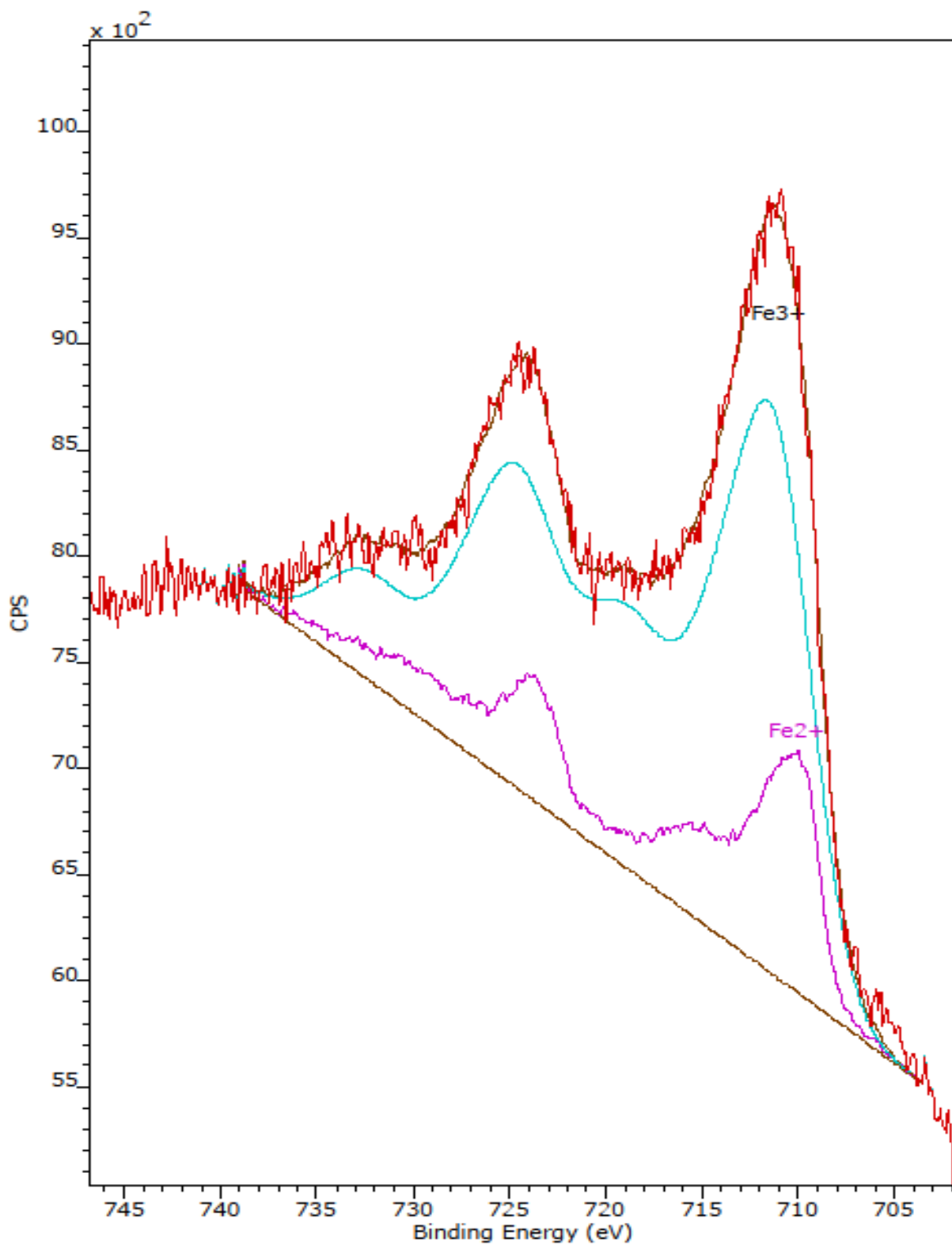


Figure 9S. XPS spectra of Fe 2p_{3/2} species of NiAl_xFe_{2-x}O₄ (x=0.5) from chloride salts.

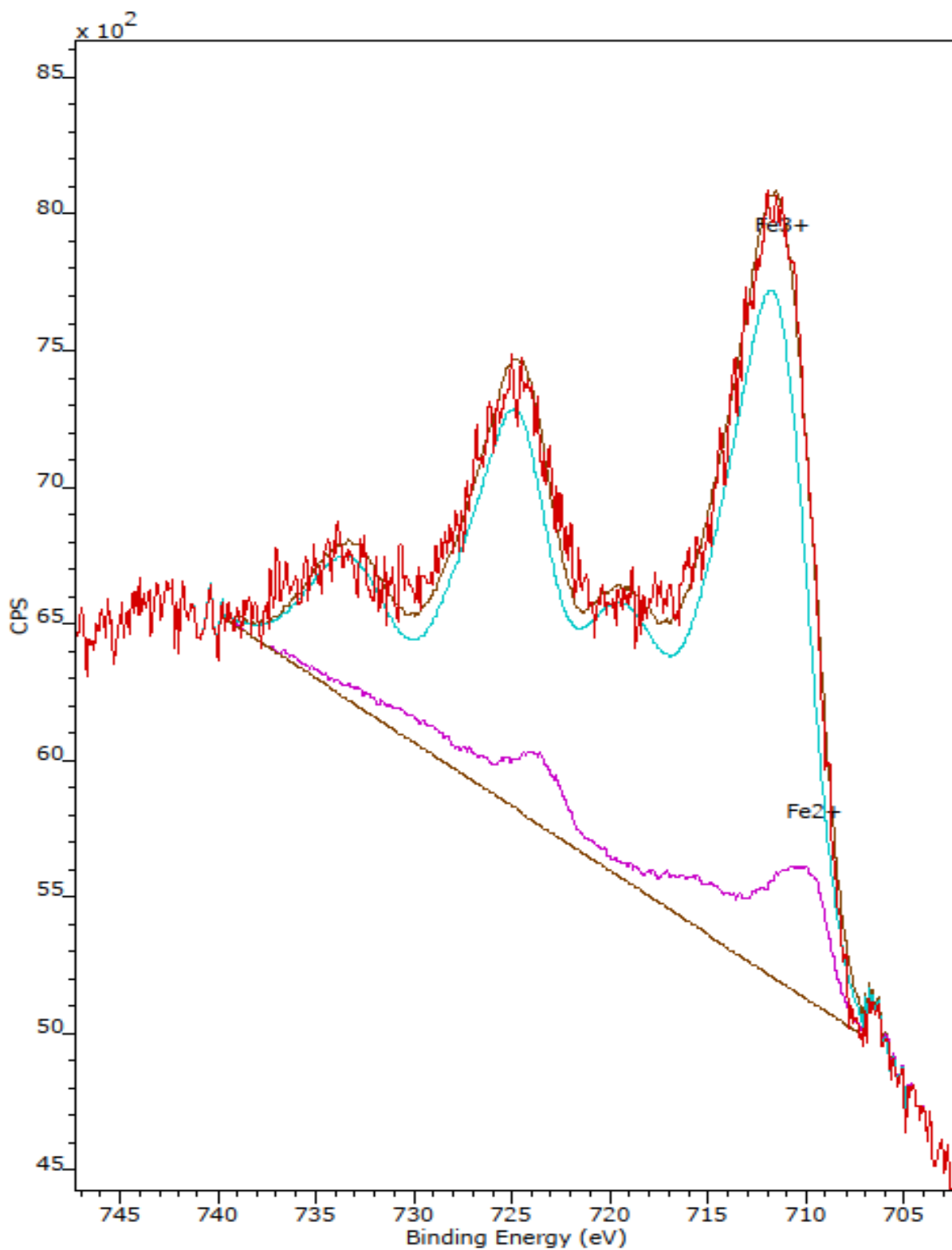


Figure 10S. XPS spectra of Fe 2p_{3/2} species of NiAl_xFe_{2-x}O₄ (x=1) from chloride salts.

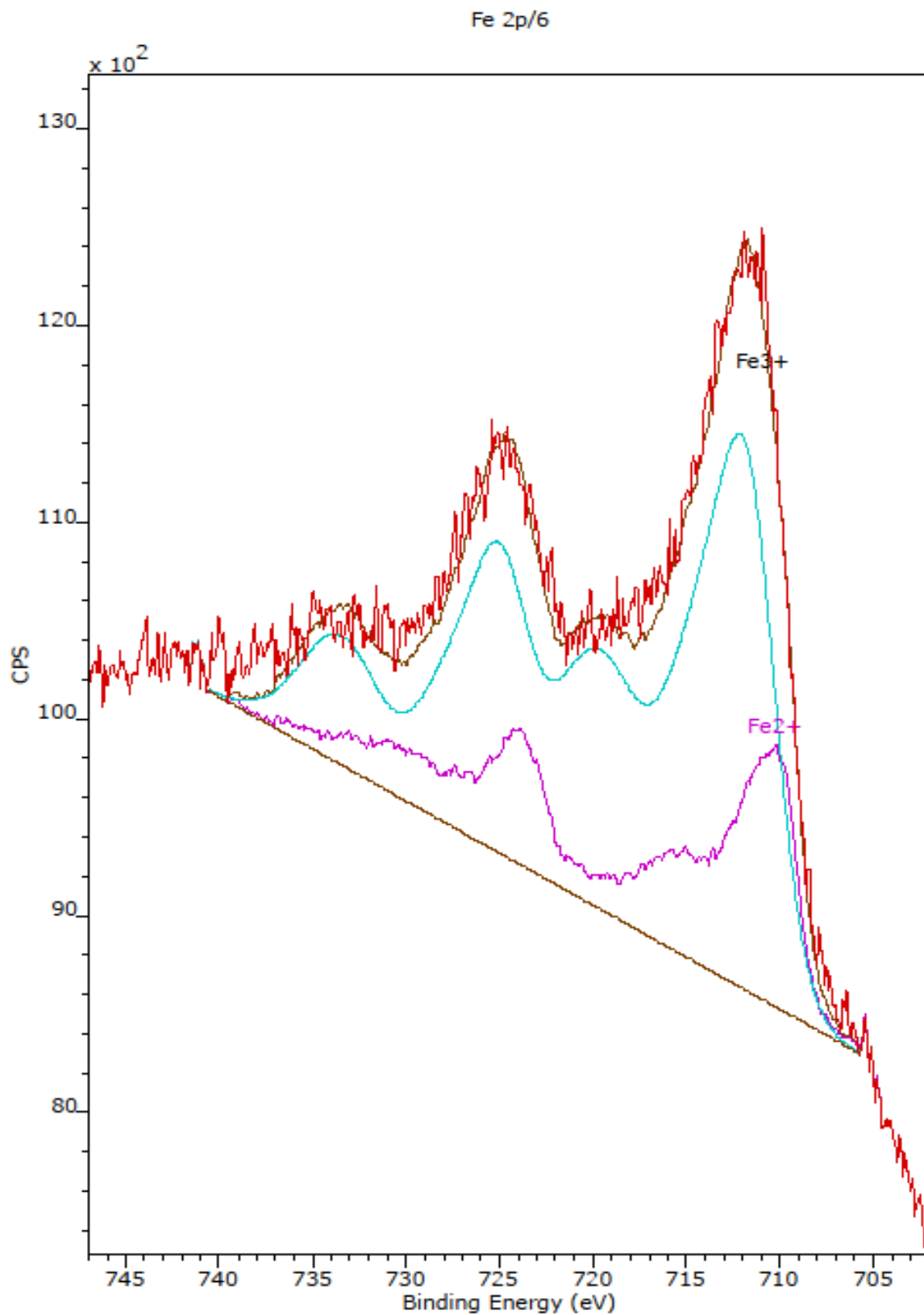


Figure 11S. XPS spectra of Fe 2p_{3/2} species of NiAl_xFe_{2-x}O₄ (x=1.5) from chloride salts.

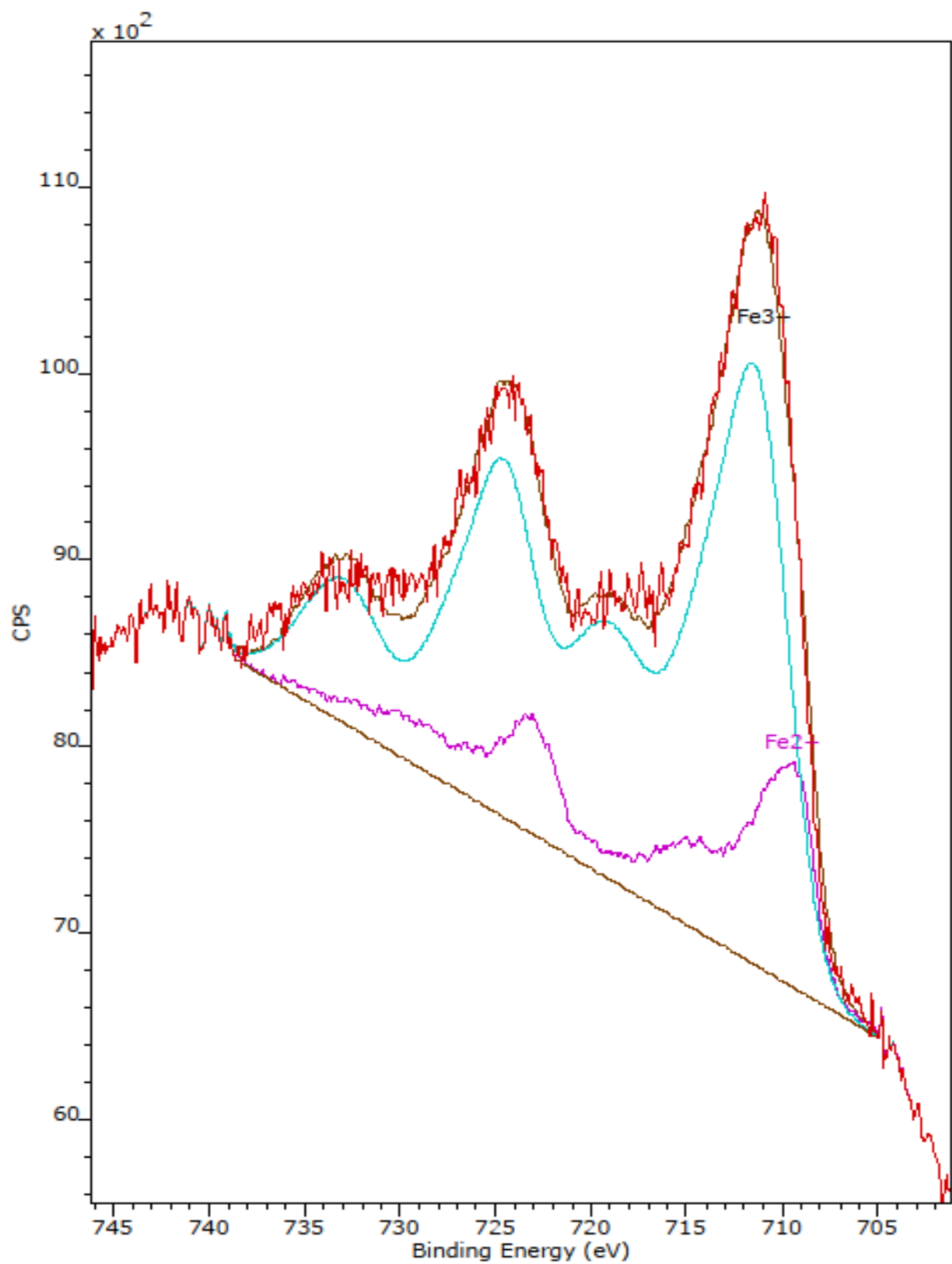


Figure 12S. XPS spectra of Fe 2p_{3/2} species of NiAl_xFe_{2-x}O₄ (x=1) from nitrate salts.

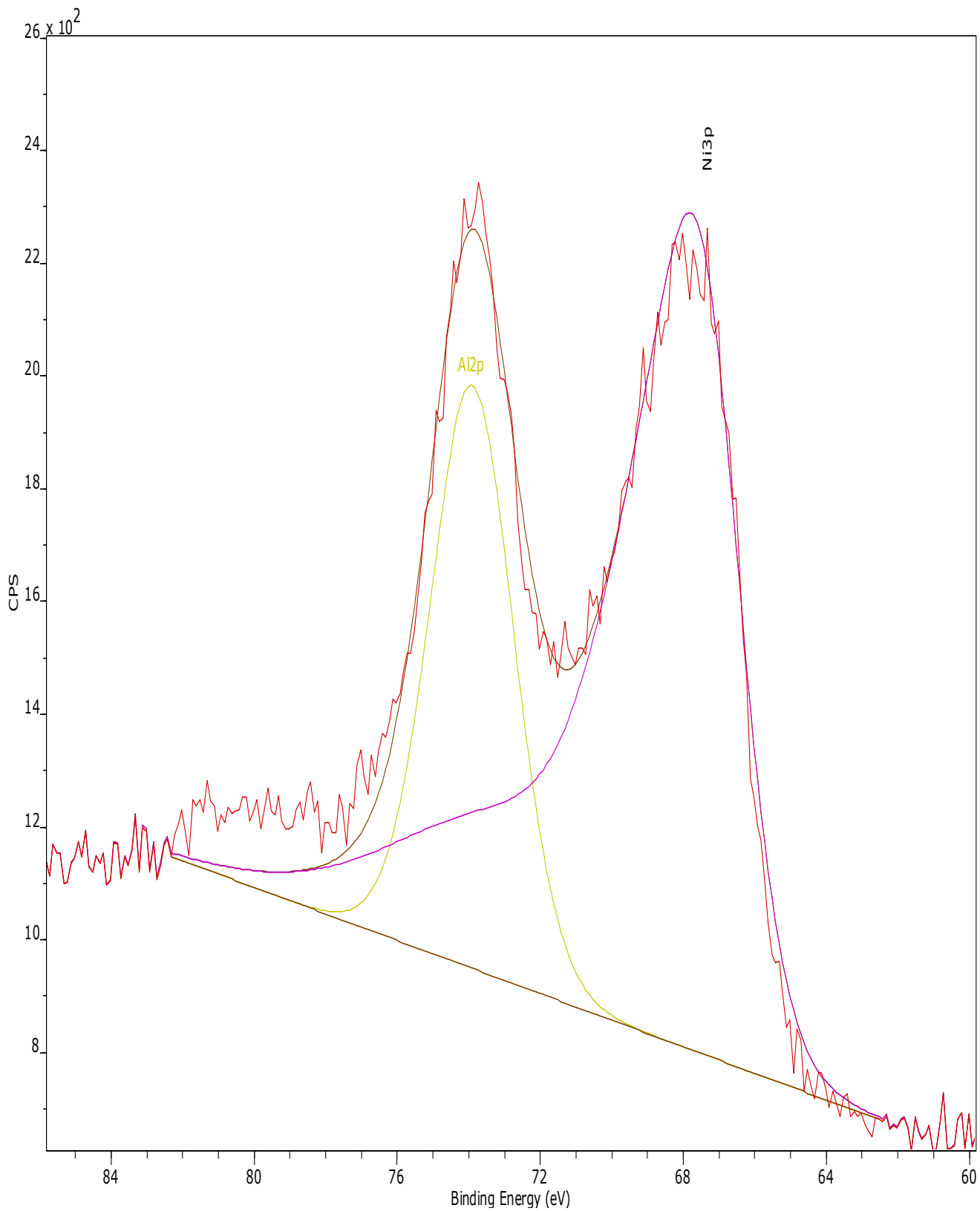


Figure 13S. XPS spectra of Al_{2p} species of NiAl_xFe_{2-x}O₄ (x = 0.5) from chloride salt.

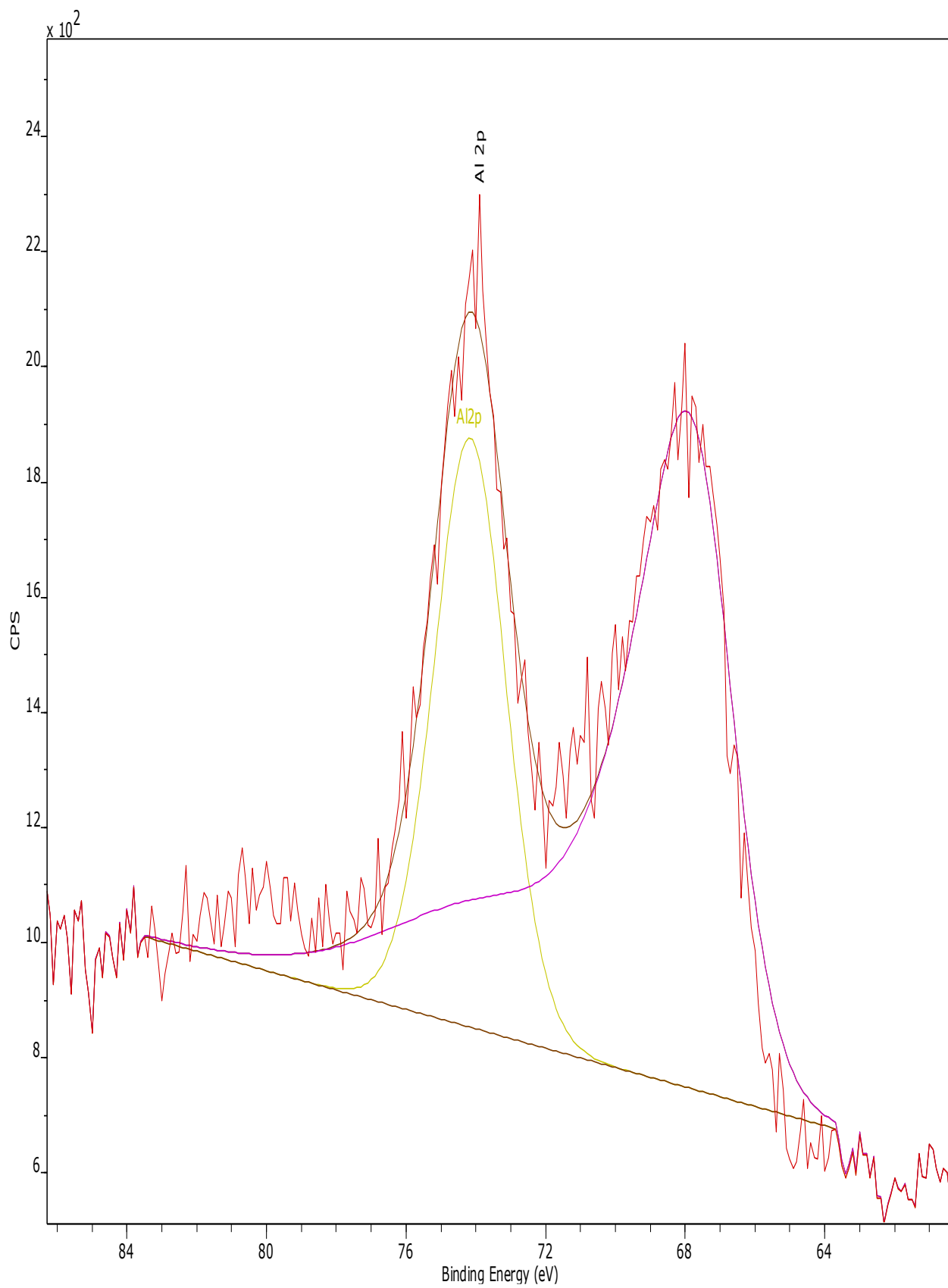


Figure 14S. XPS spectra of Al2p species of NiAl_xFe_{2-x}O₄ (x= 1) from chloride salt.

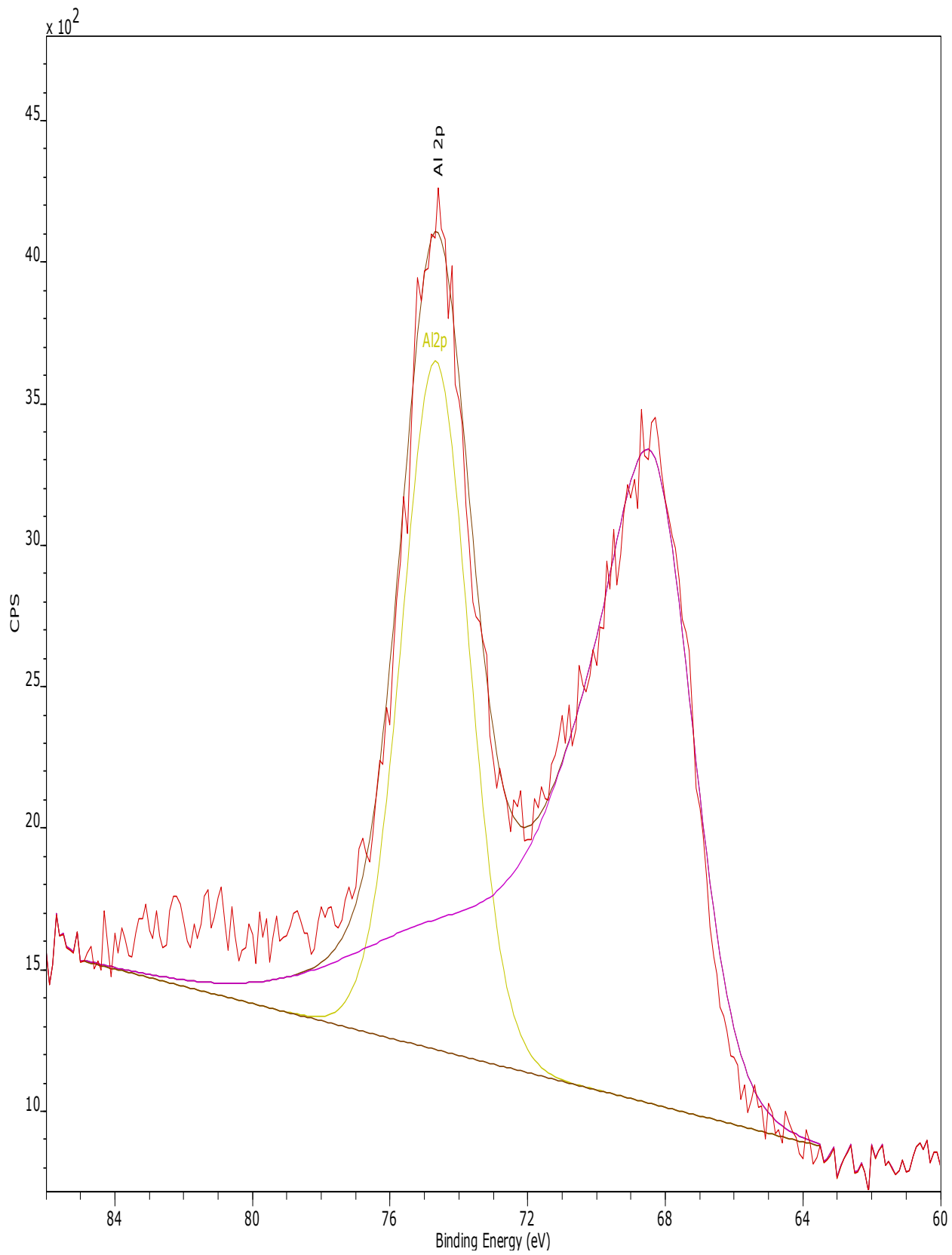


Figure 15S. XPS spectra of Al_{2p} species of NiAl_xFe_{2-x}O₄ (x = 1.5) from chloride salt.

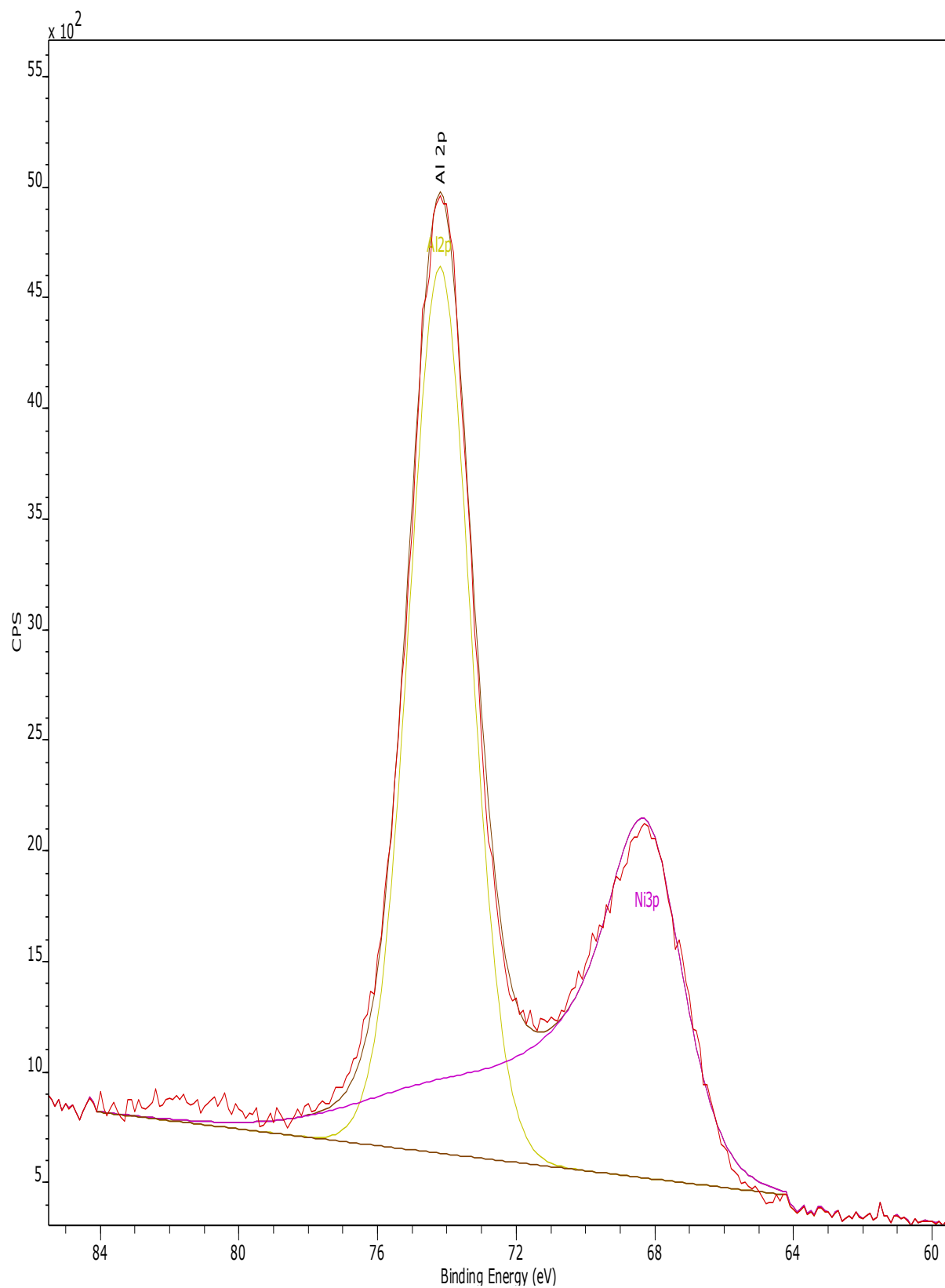


Figure 16S. XPS spectra of Al_{2p} species of NiAl_xFe_{2-x}O₄ (x= 2) from chloride salt.

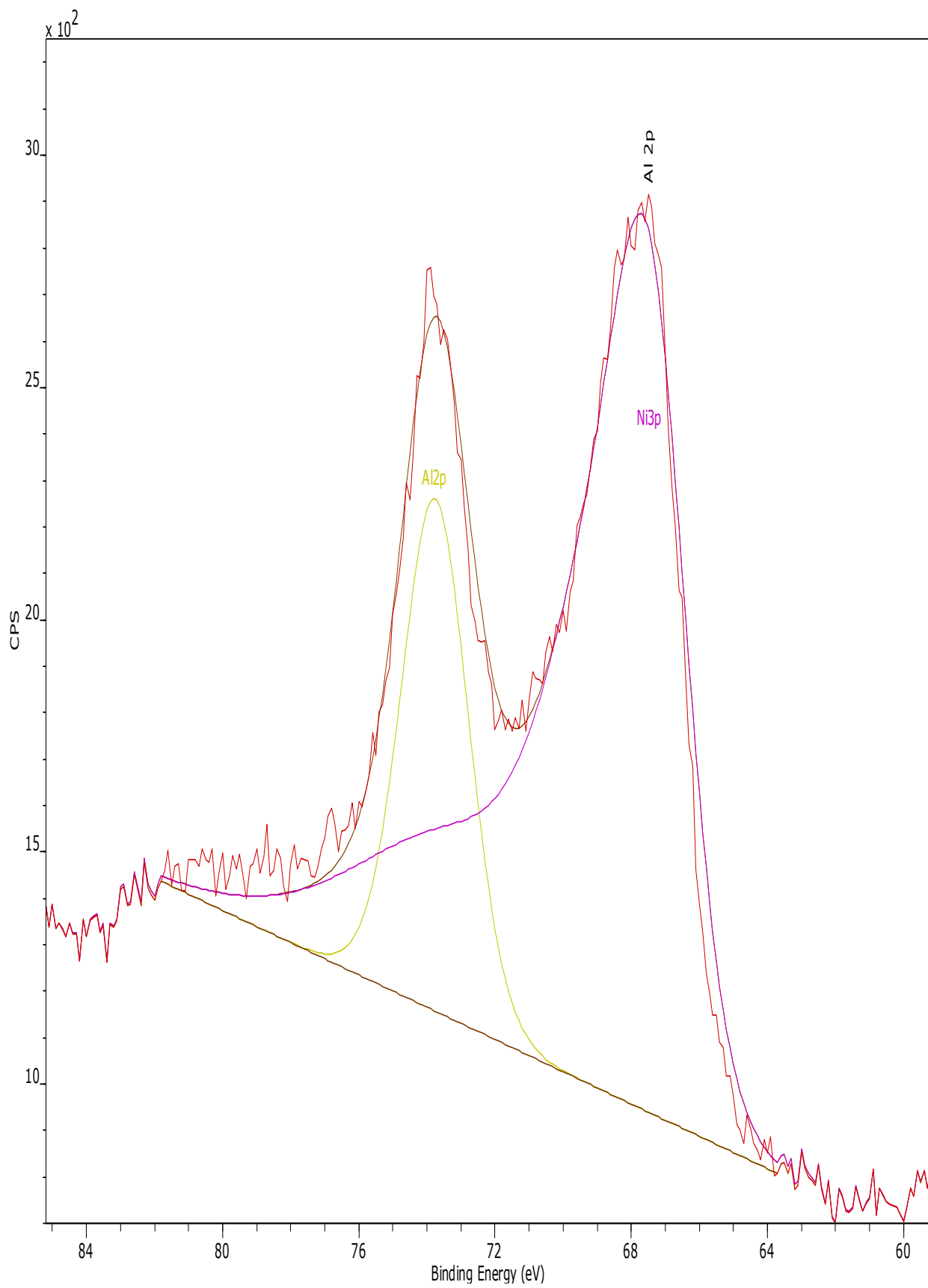


Figure 17S. XPS spectra of Al_{2p} species of NiAl_xFe_{2-x}O₄ (x= 1) from nitrate salt.

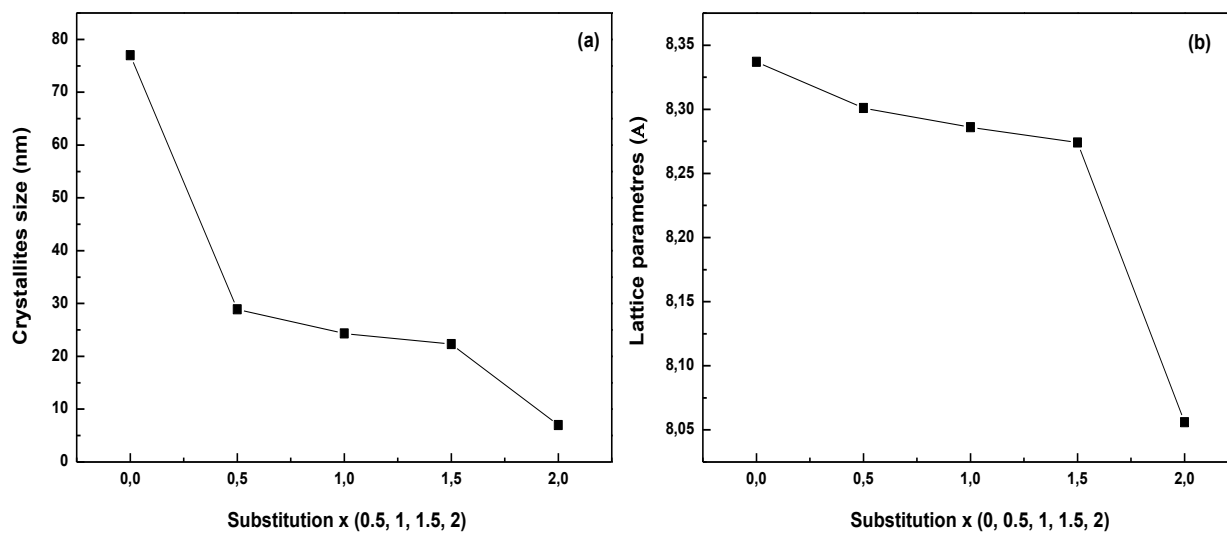


Figure 18S. Crystallite size (C_s , nm) (a) and lattice parameters (a , Å) (b) of $\text{NiAl}_x\text{Fe}_{2-x}\text{O}_4$ spinel catalysts prepared from chloride salts.

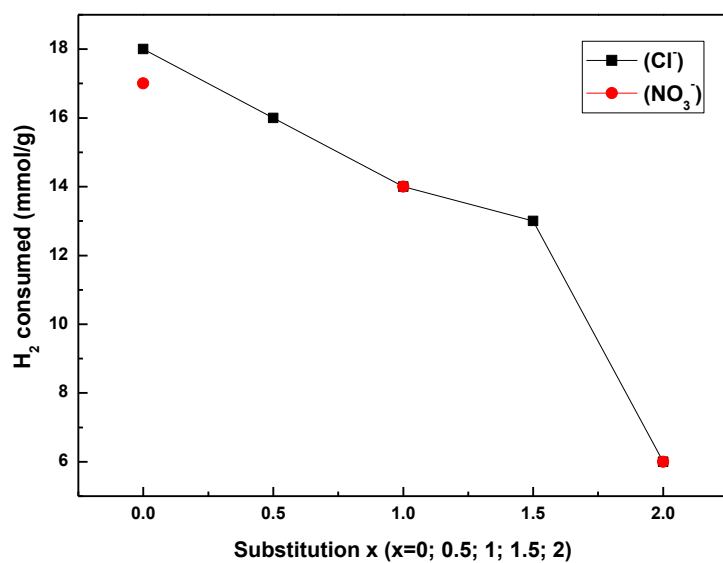


Figure 19S. H_2 consumed of $\text{NiAl}_x\text{Fe}_{2-x}\text{O}_4$ spinel catalysts co-precipitated from nitrate and chloride salts ($0 \leq x \leq 2$).