Supporting information for

"A novel class of nickel(II) complexes containing selenium-based bidentate ligands applied in ethylene oligomerization"

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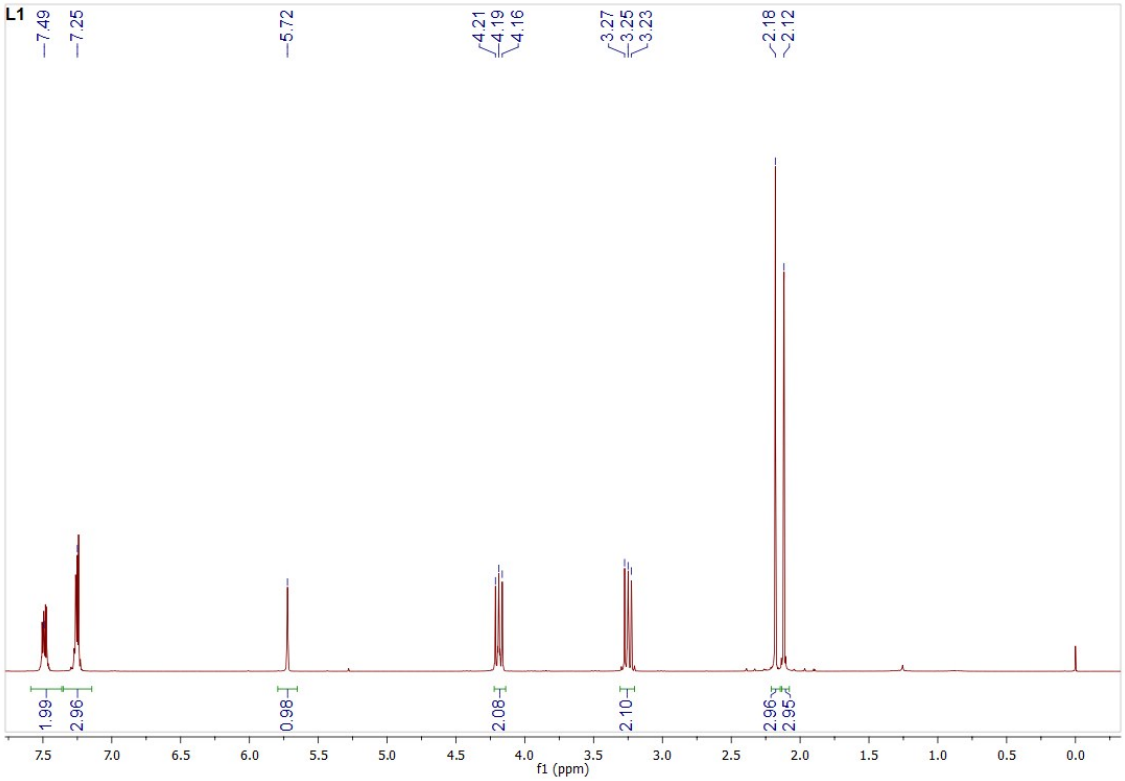

Figure S1. ^{1}H NMR spectrum (400 MHz, $CDCl_3$, 298 K) of **L1**.

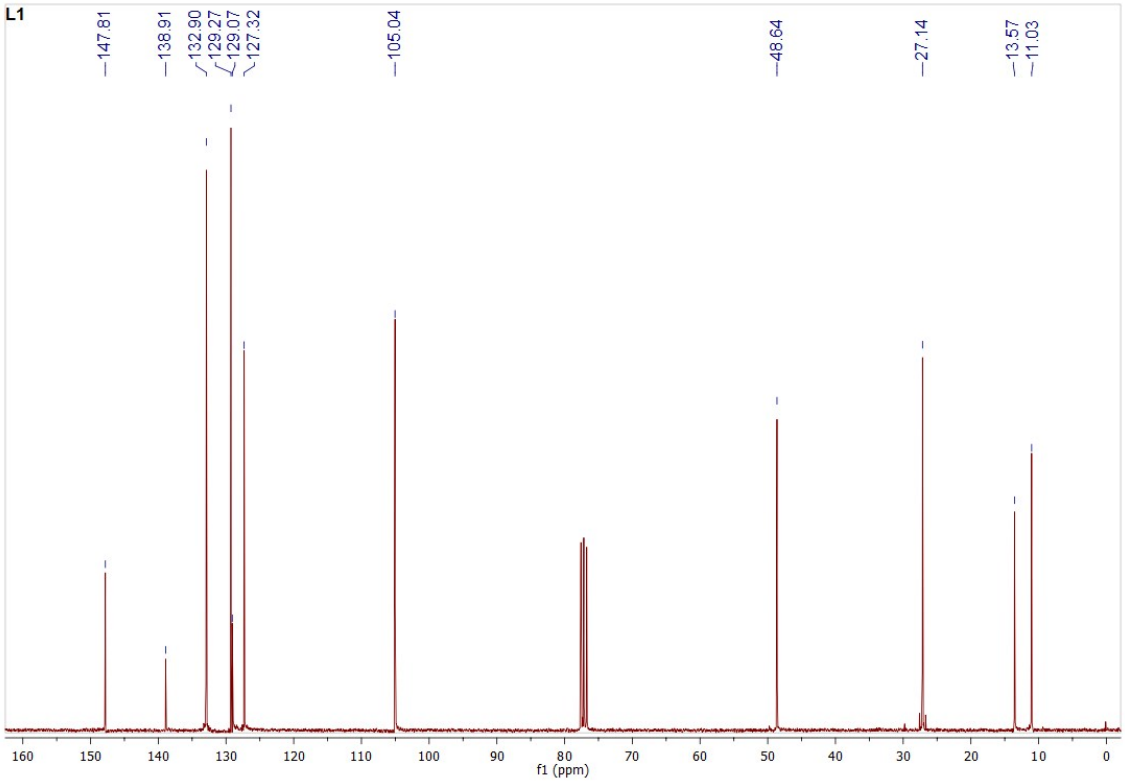

Figure S2. ^{13}C NMR spectrum (100 MHz, $CDCl_3$, 298 K) of **L1**.

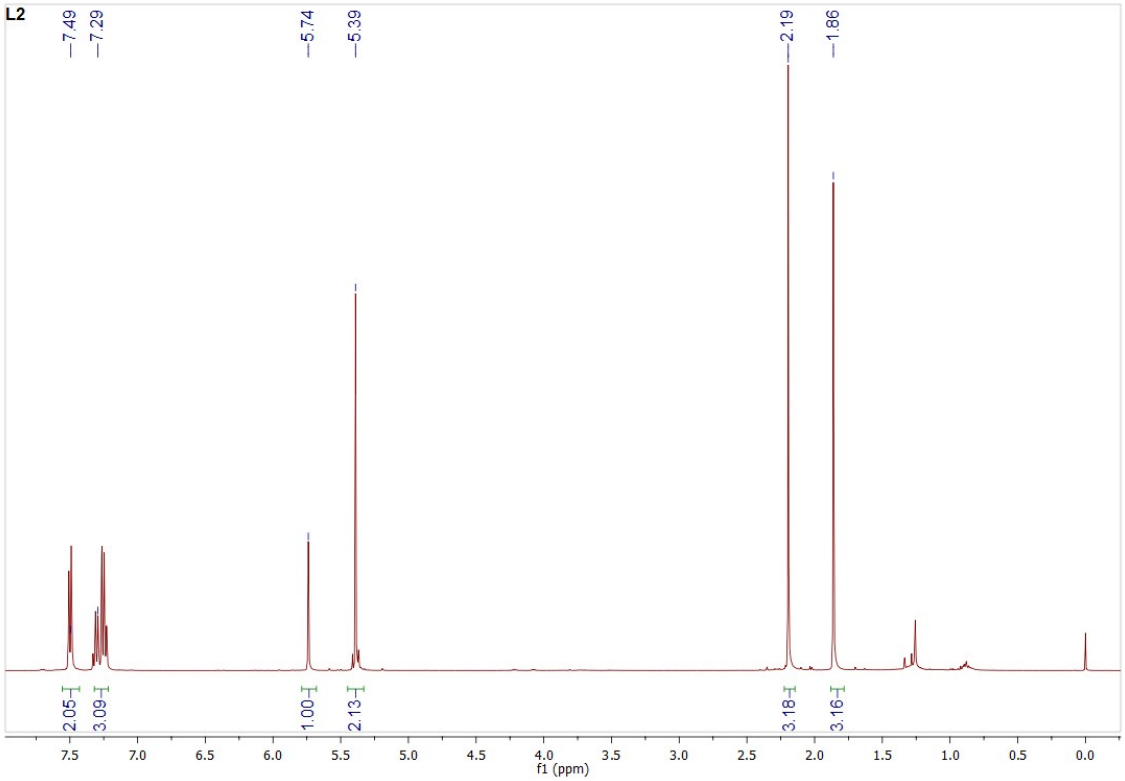

Figure S3. ^{1}H NMR spectrum (400 MHz, $CDCl_3$, 298 K) of **L2**.

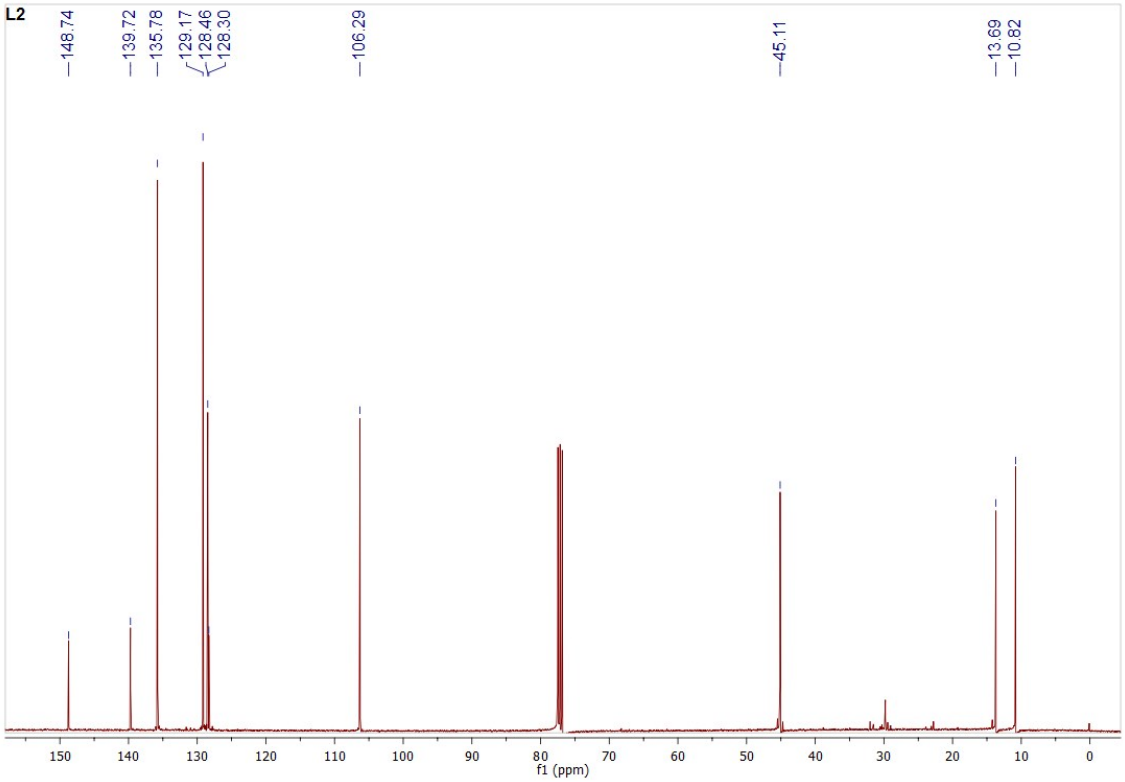

Figure S4. ^{13}C NMR spectrum (100 MHz, $CDCl_3$, 298 K) of **L2**.

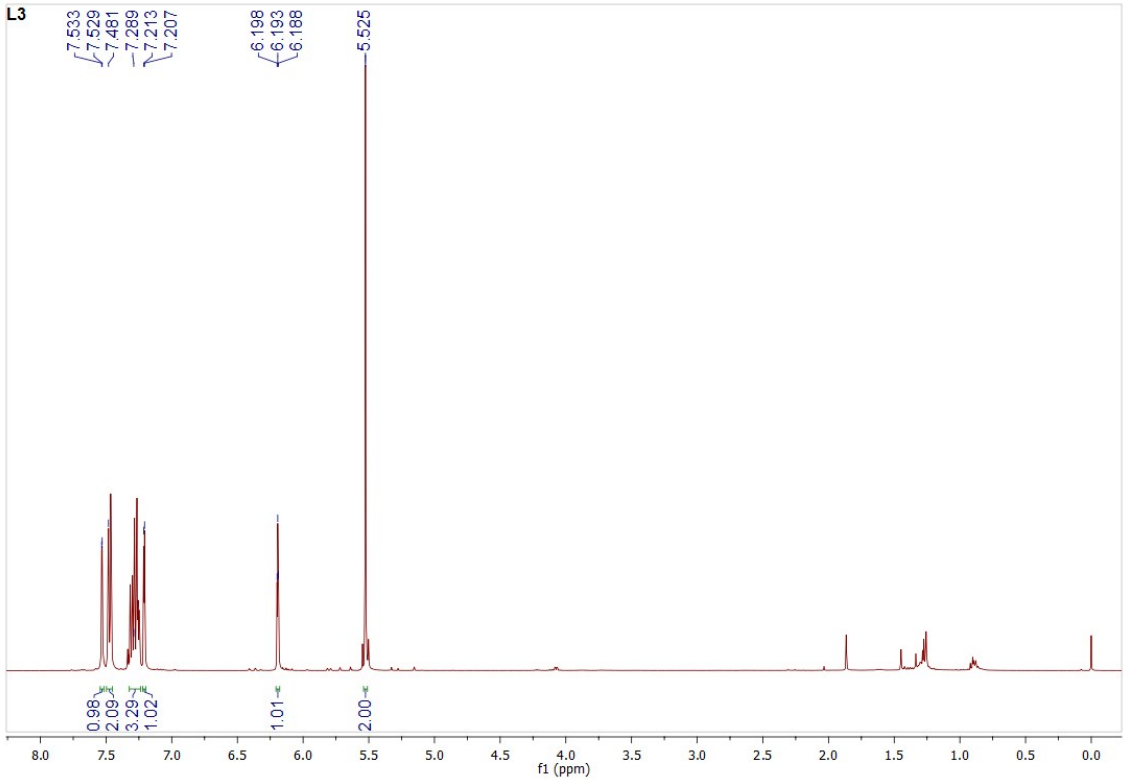

Figure S5. ^{1}H NMR spectrum (400 MHz, $CDCl_3$, 298 K) of **L3**.

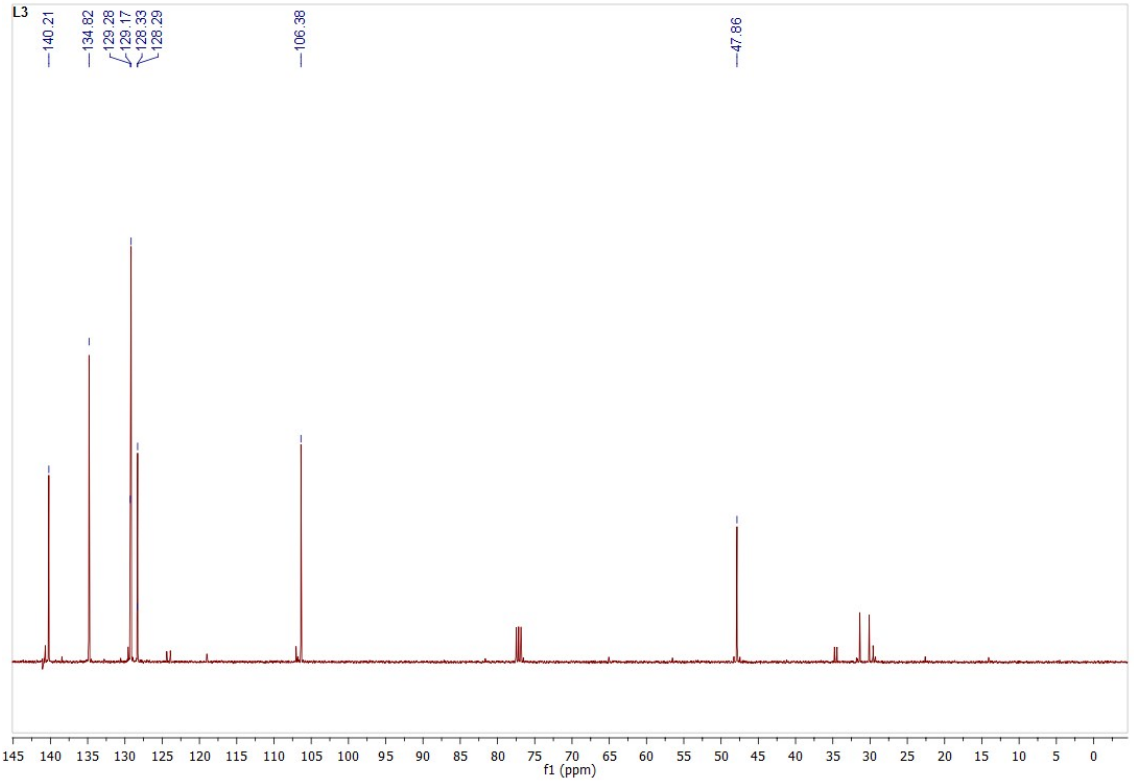

Figure S6. ^{13}C NMR spectrum (100 MHz, $CDCl_3$, 298 K) of **L3**.

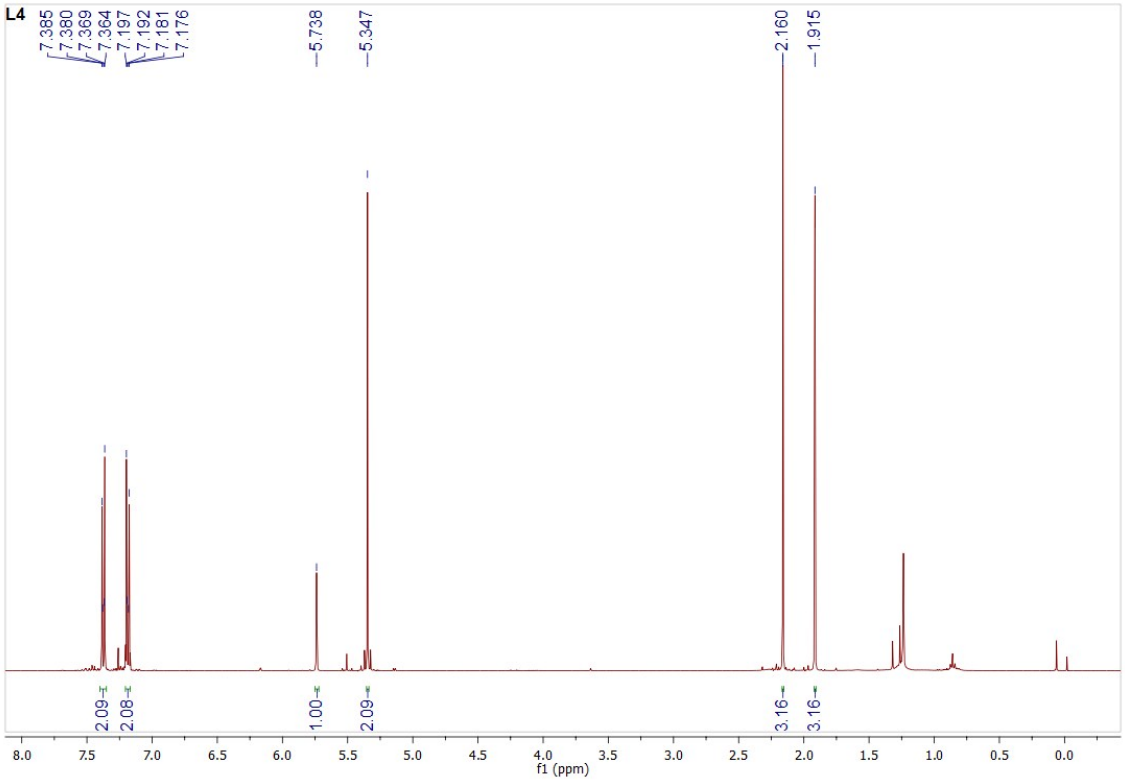

Figure S7. ^{1}H NMR spectrum (400 MHz, $CDCl_3$, 298 K) of **L4**.

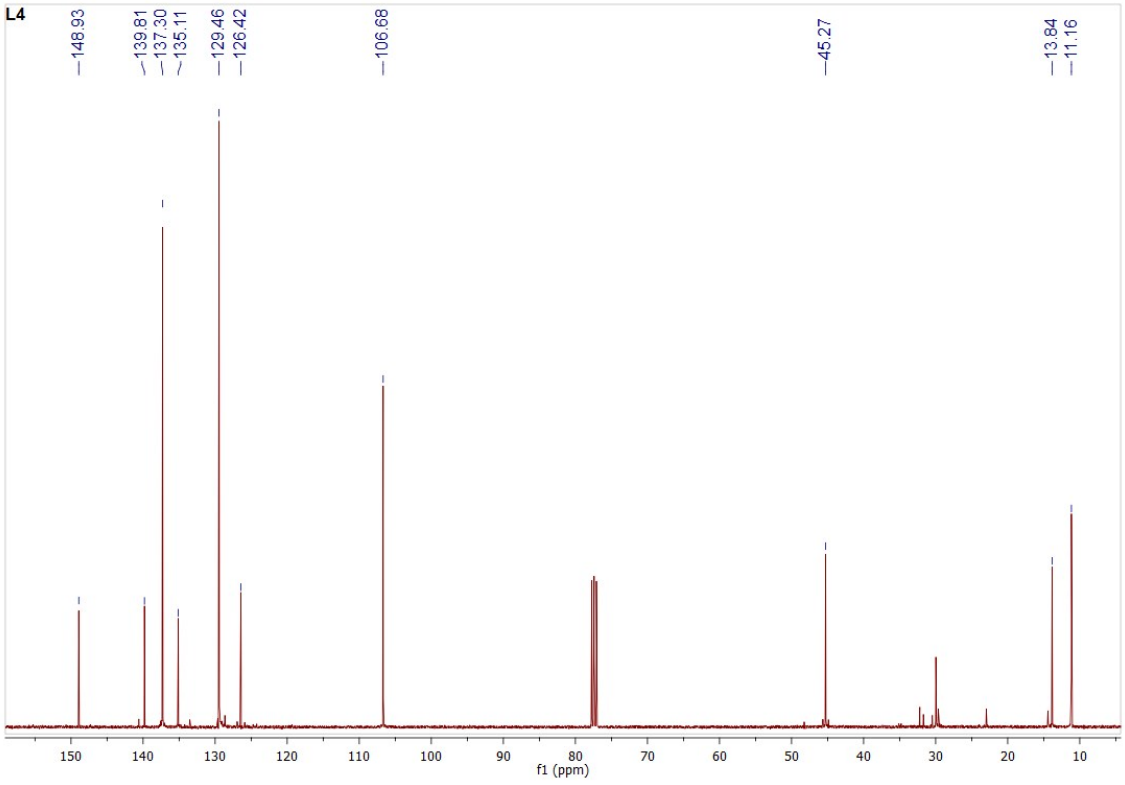

Figure S8. ^{13}C NMR spectrum (100 MHz, $CDCl_3$, 298 K) of **L4**.

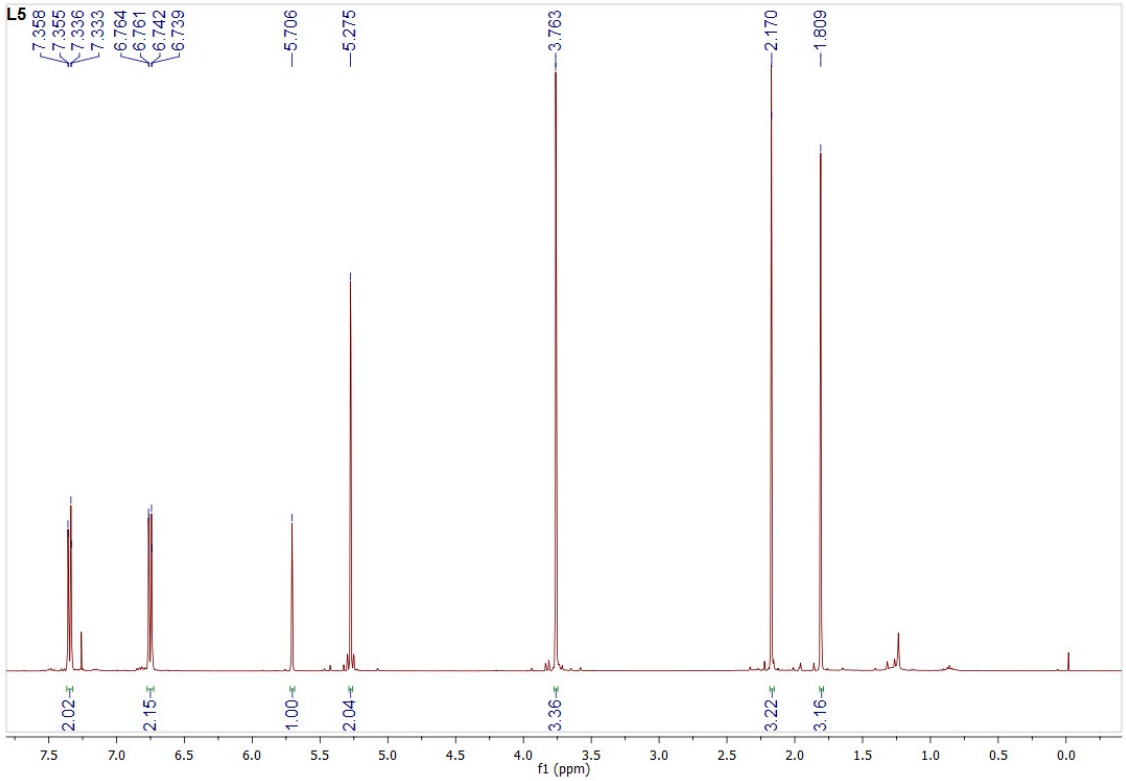

Figure S9. ^{1}H NMR spectrum (400 MHz, $CDCl_3$, 298 K) of **L5**.

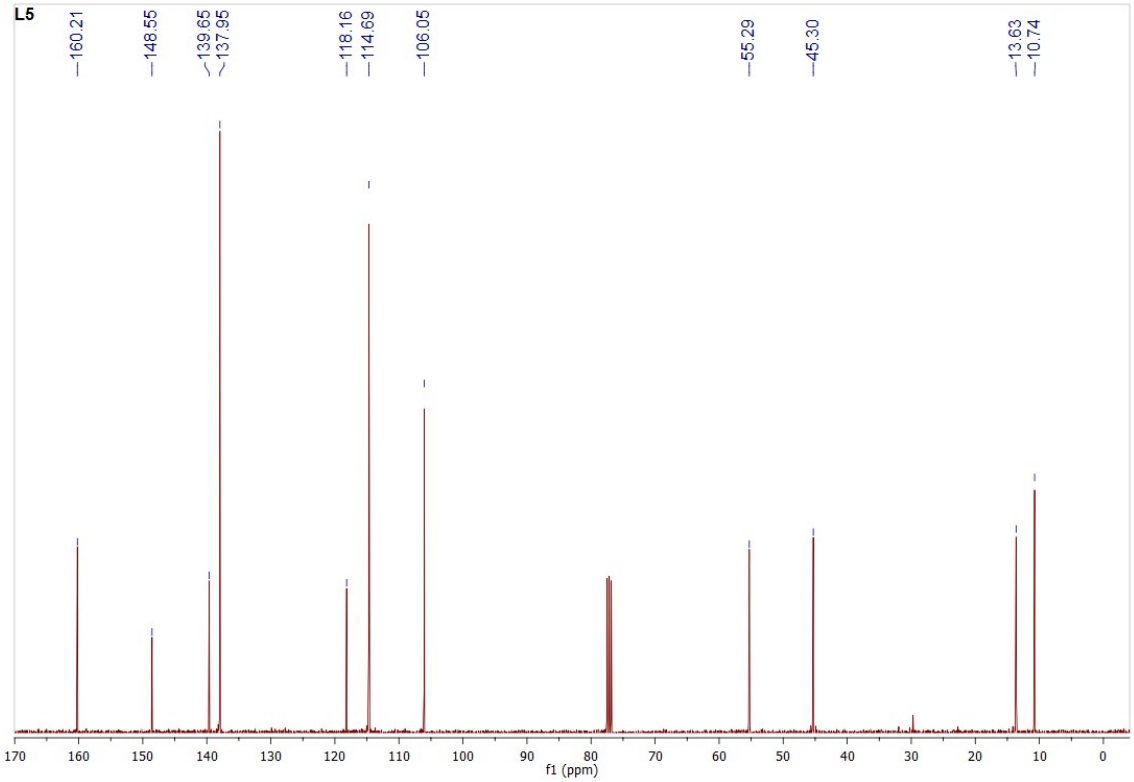

Figure S10. ^{13}C NMR spectrum (100 MHz, $CDCl_3$, 298 K) of **L5**.

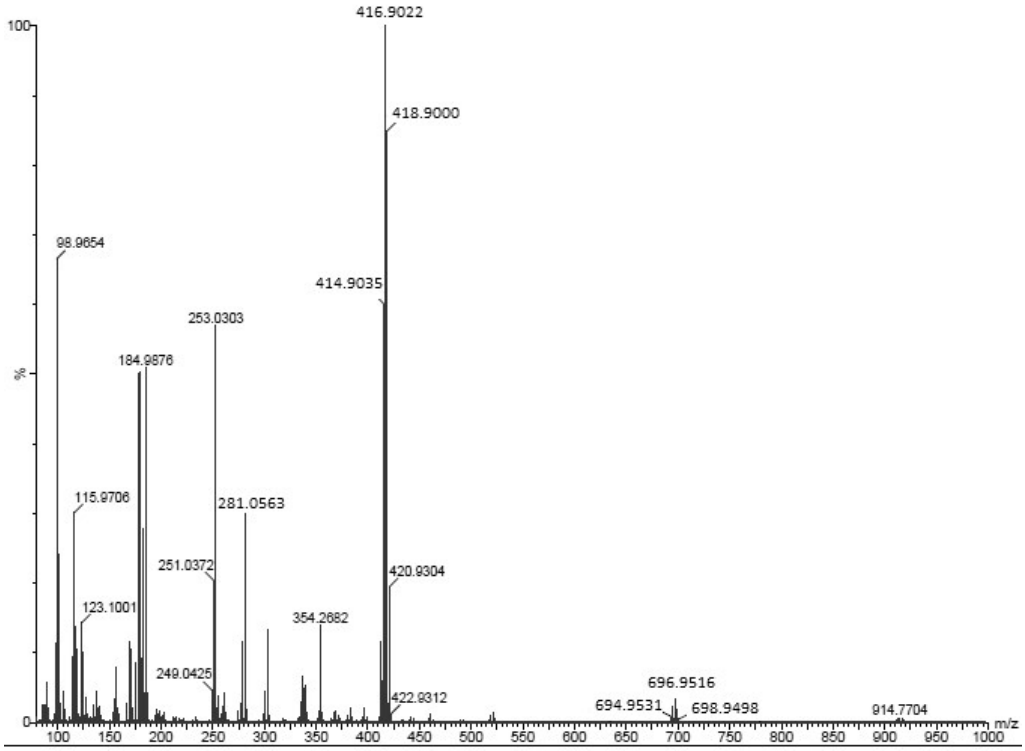

Figure S11. ESI-HRMS(+) for the complex **Ni1**.

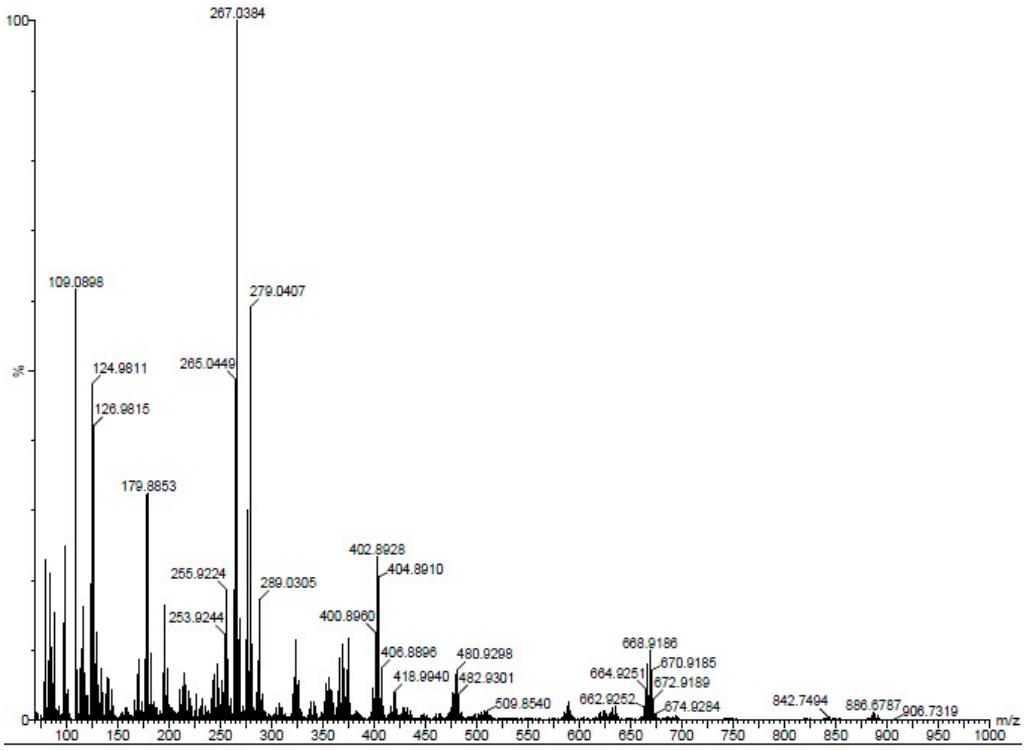

Figure S12. ESI-HRMS(+) for the complex **Ni2**.

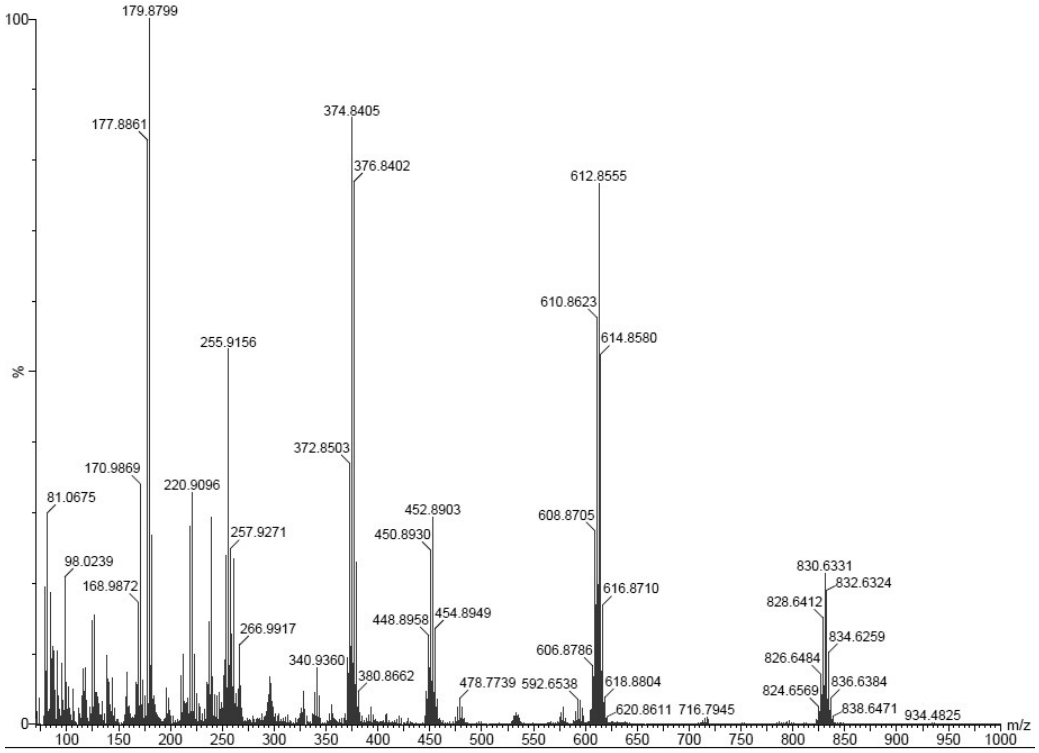

Figure S13. ESI-HRMS(+) for the complex **Ni3**.

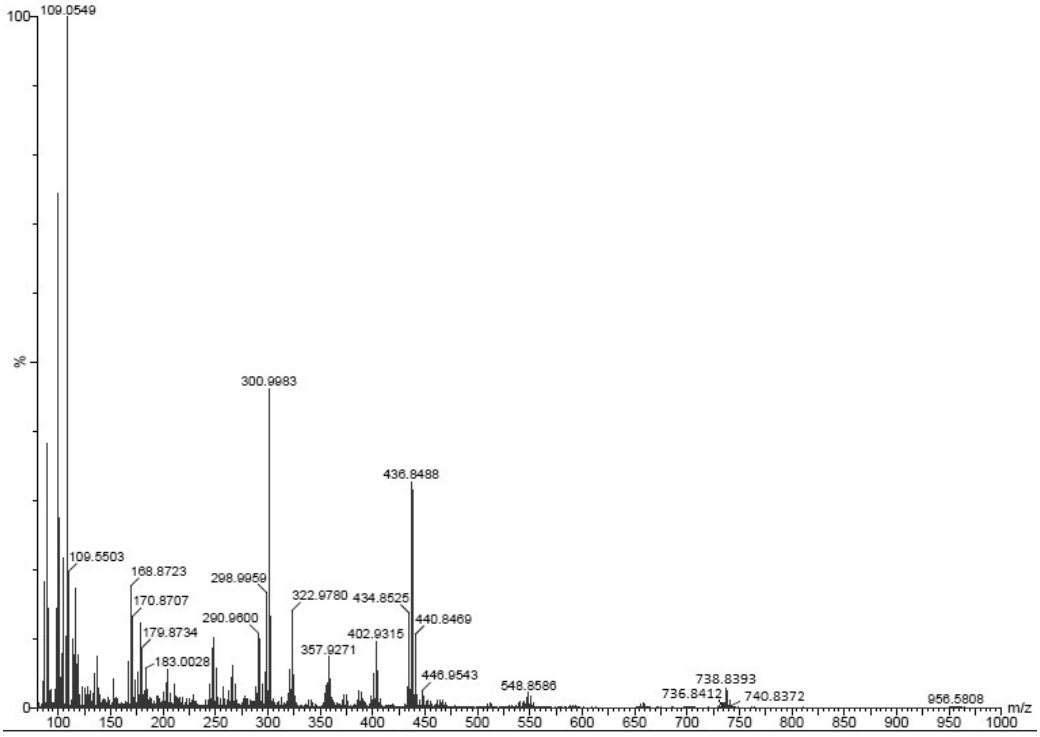

Figure S14. ESI-HRMS(+) for the complex **Ni4**.

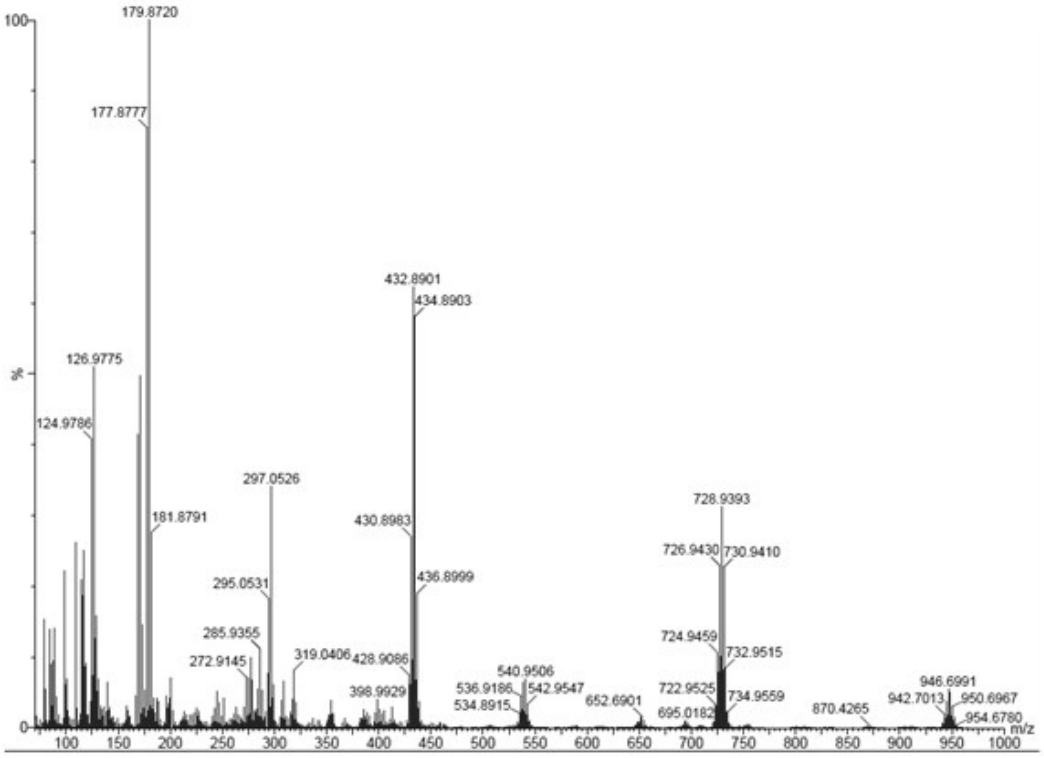

Figure S15. ESI-HRMS(+) for the complex **Ni5**.

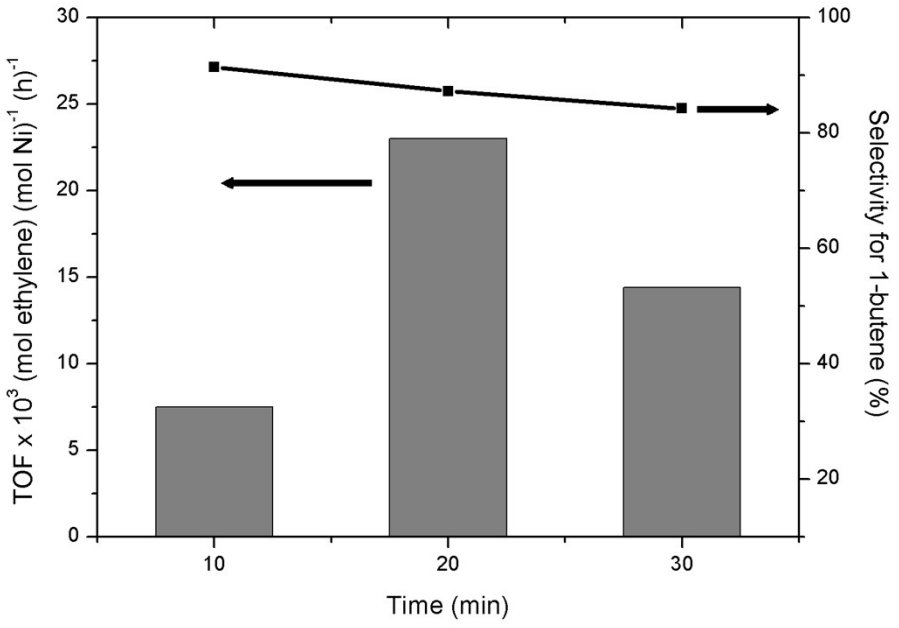

Figure S16. Influence of time on TOF and selectivity for 1-butene (6.5 μmol of **Ni2**, [Al]/[Ni] = 400, T = 30 °C).

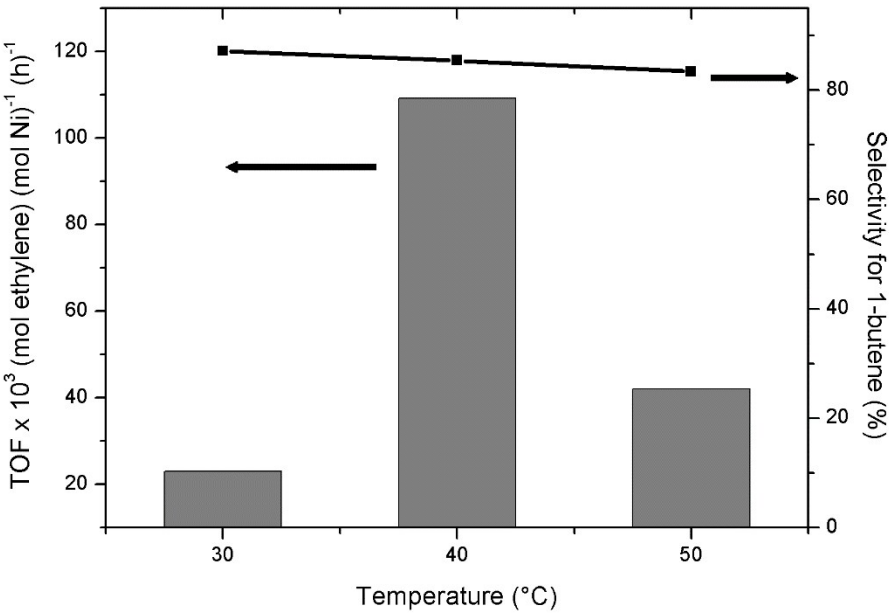

Figure S17. Influence of temperature on TOF and selectivity for 1-butene (6.5 μmol of **Ni2**, [Al]/[Ni] = 400, time = 20 min).