Dalton Transactions

ARTICLE

Electronic Supporting information for:

Auriferous alkynylselenolatoalkylidynes

Benjamin J. Frogley,[a] Anthony F. Hill*[a] and Chee S. Onn[a]

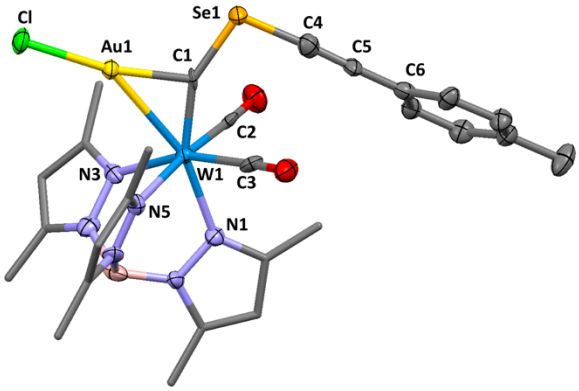


Figure S1. Molecular structure of **3d** in a crystal of **3d**.$(CH_2Cl_2)_{0.5}$ showing 50% thermal probability ellipsoids. Pyrazolyl groups are simplified and hydrogen atoms are not shown for clarity. Selected distances [Å] and angles [°]: W1–C1 1.902(13), W1–Au1 2.8174(7), C1–Au1 1.990(11), Au1–Cl1 2.278(3), C1–Se1 1.890(12), Se1–C4 1.858(15), C4–C5 1.186(19), C5–C21 1.425(19), W1–C1–Se1 151.4(7), W1–C1–Au1 92.7(5), C1–Se1–C4 99.3(6), Se1–C4–C5 176.9(13).

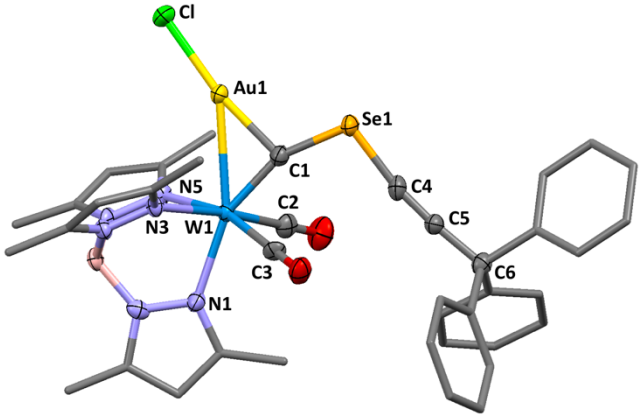
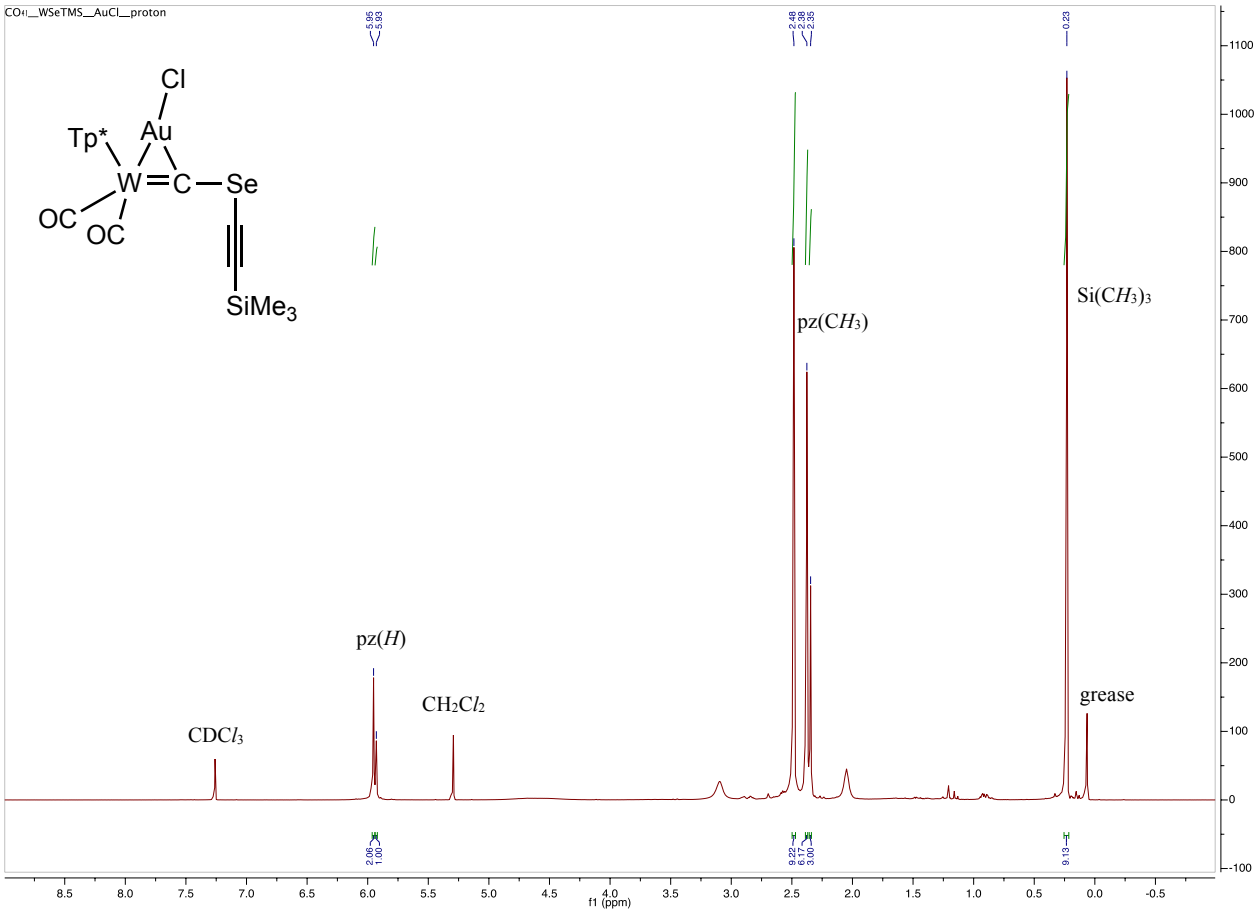
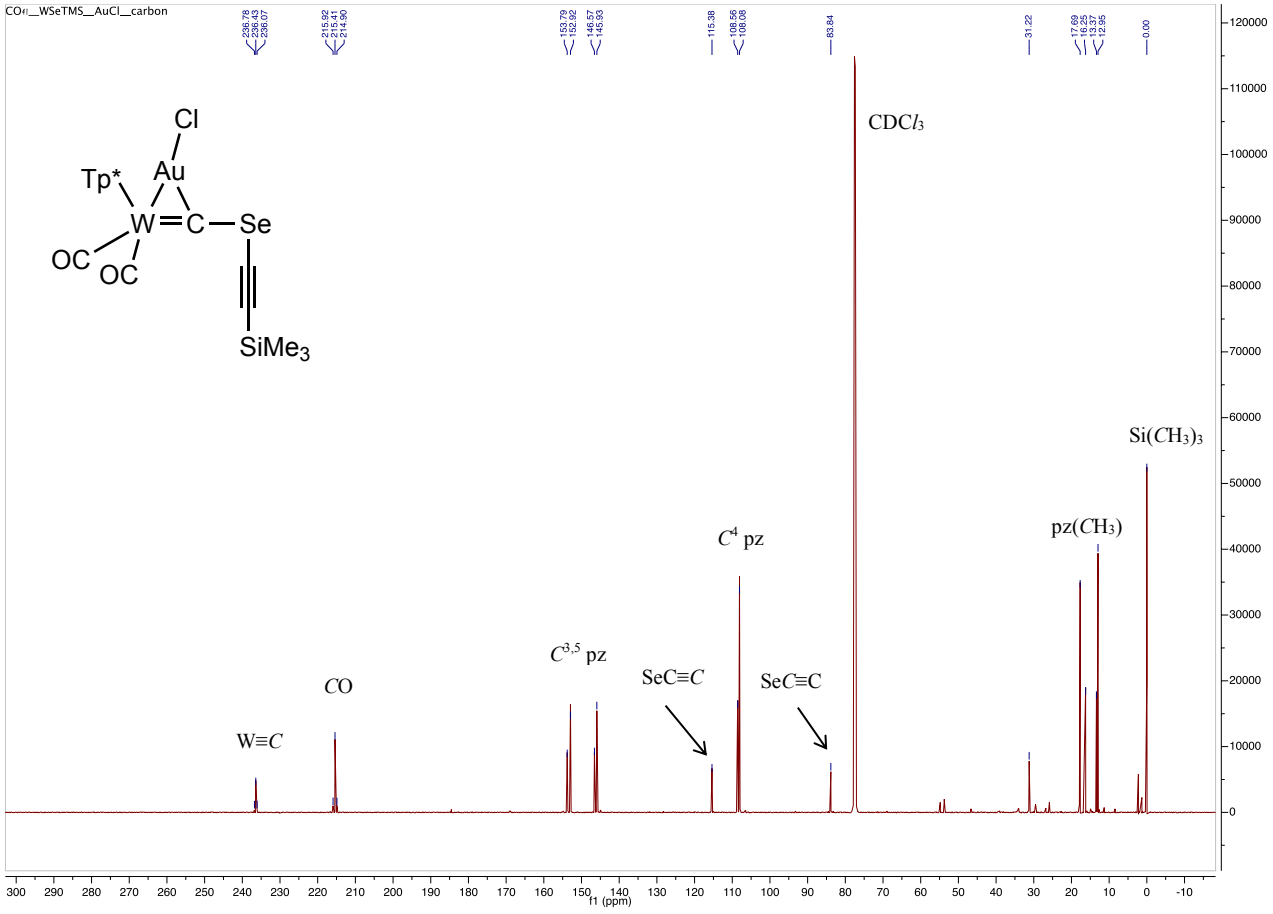


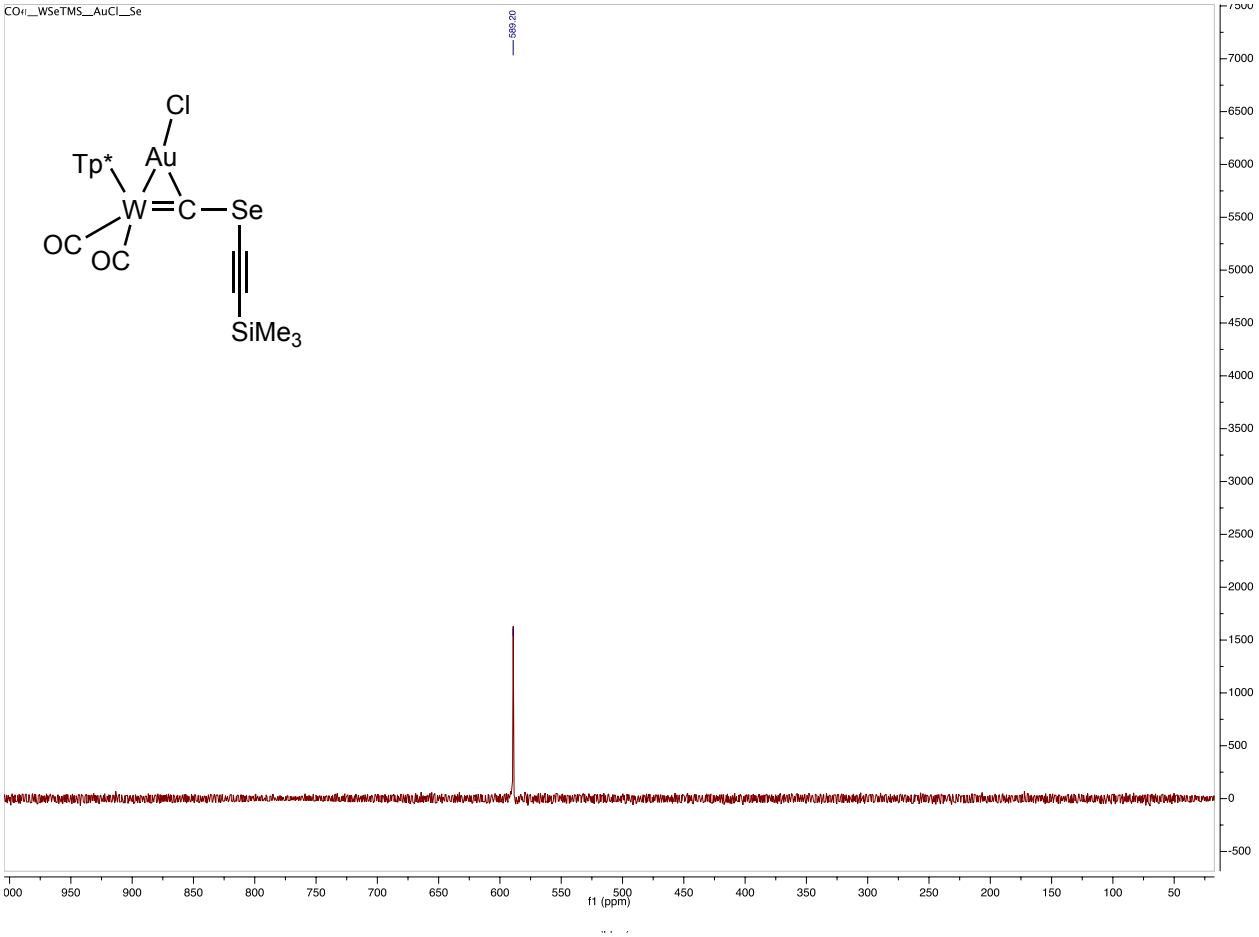
Figure S2. Molecular structure of **3f** showing 50% thermal probability ellipsoids. Pyrazolyl groups and phenyl rings are simplified and hydrogen atoms are not shown for clarity. Selected distances [Å] and angles [°]: W1–C1 1.884(7), W1–Au1 2.7784(4), C1–Au1 2.038(7), Au1–Cl1 2.2776(18), C1–Se1 1.876(7), Se1–C4 1.842(7), C4–C5 1.214(11), C5–C6 1.452(10), W1–C1–Se1 157.1(4), W1–C1–Au1 90.1(3), C1–Au1–Cl1 171.1(2), W1–Au1–Cl1 145.86(5), C1–Se1–C4 102.1(3), Se1–C4–C5 171.2(7), C4–C5–C6 175.1(8).



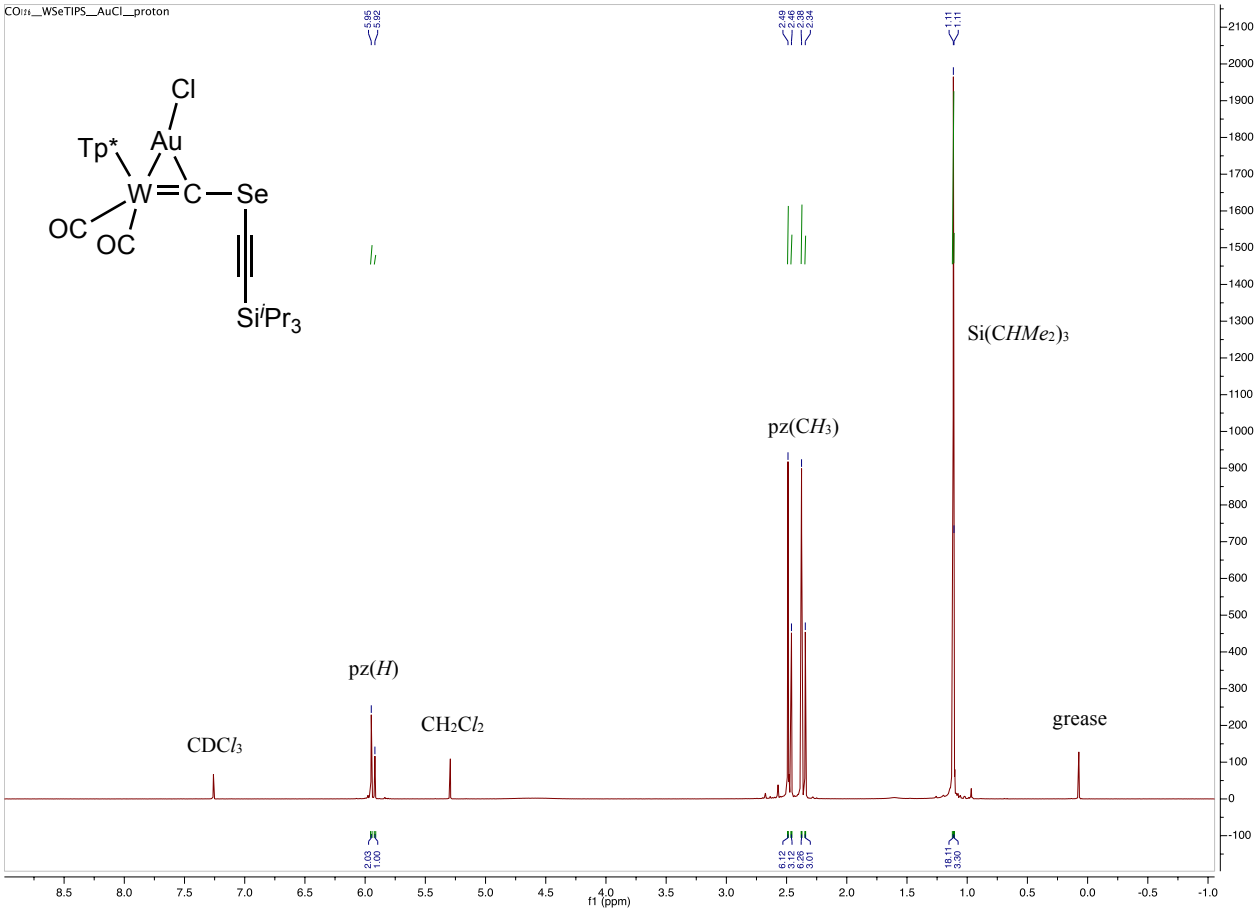
^{1}H NMR SPECTRUM (600 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CSiMe$_3$)(CO)$_2$(Tp*)] (**3a**).



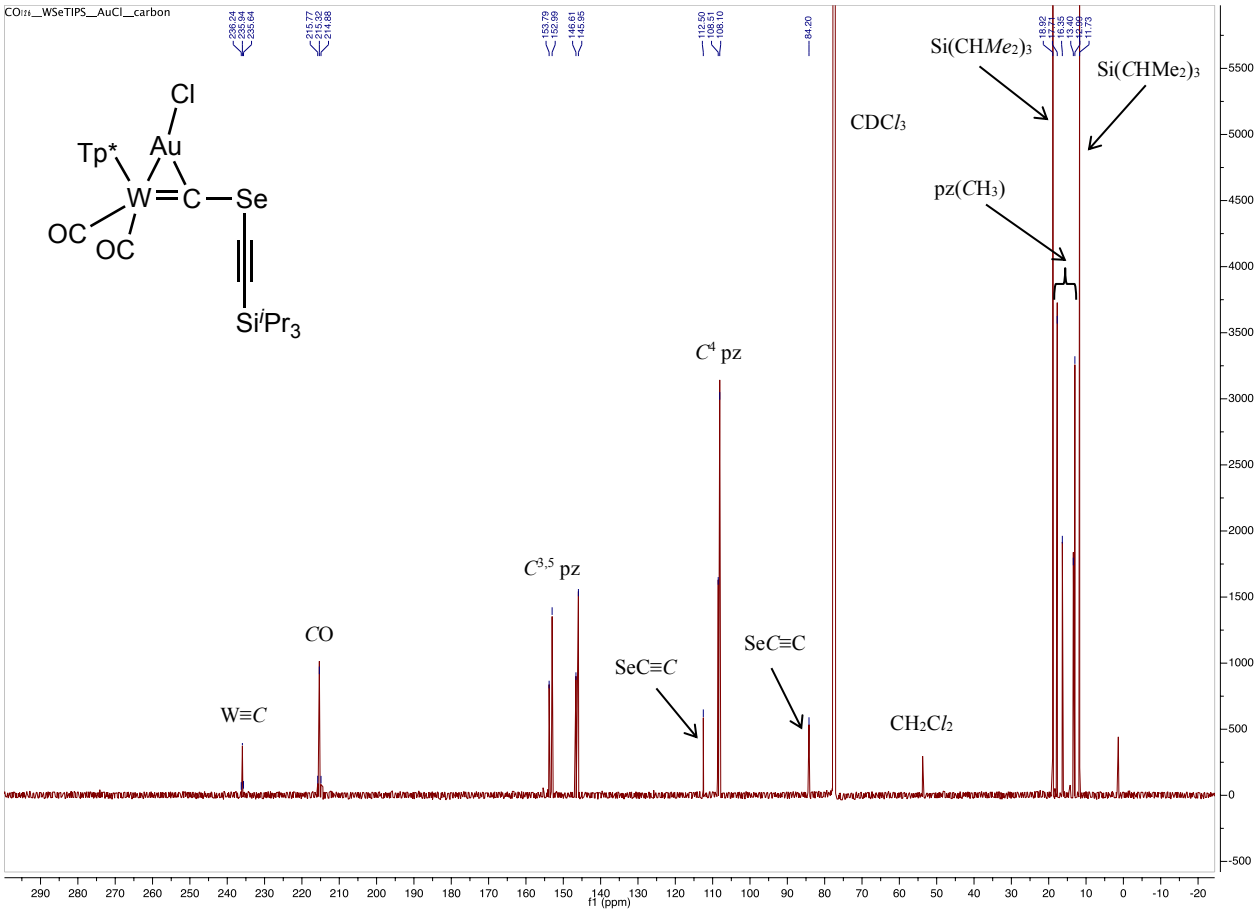
$^{13}C\{^{1}H\}$ NMR SPECTRUM (151 MHz, $CDCl_3$, 25˚C, δ) of [WAuCl(μ-CSeC≡CSiMe$_3$)(CO)$_2$(Tp*)] (**3a**).



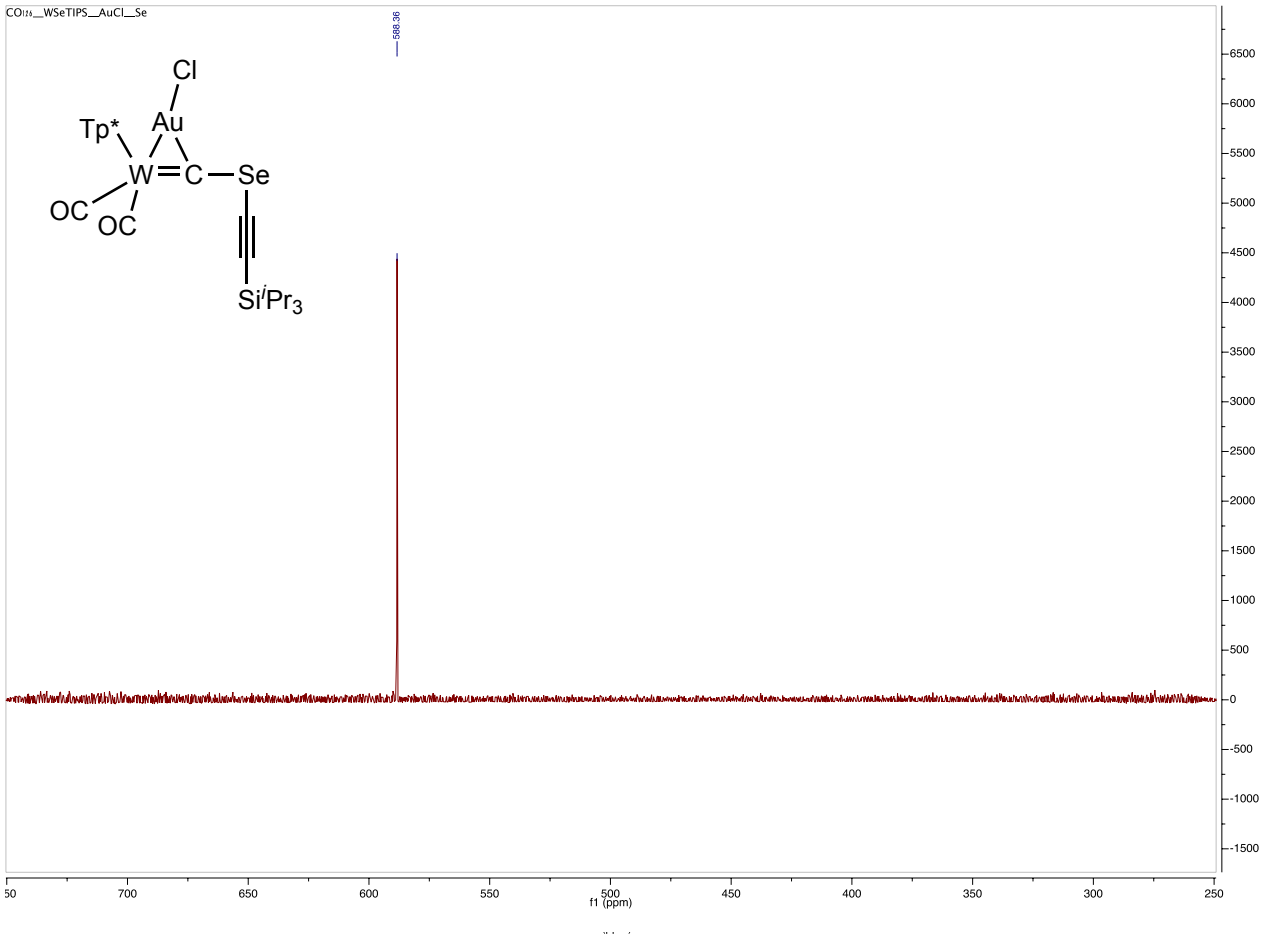
$^{77}Se\{^{1}H\}$ NMR SPECTRUM (76 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CSiMe$_3$)(CO)$_2$(Tp*)] (**3a**).



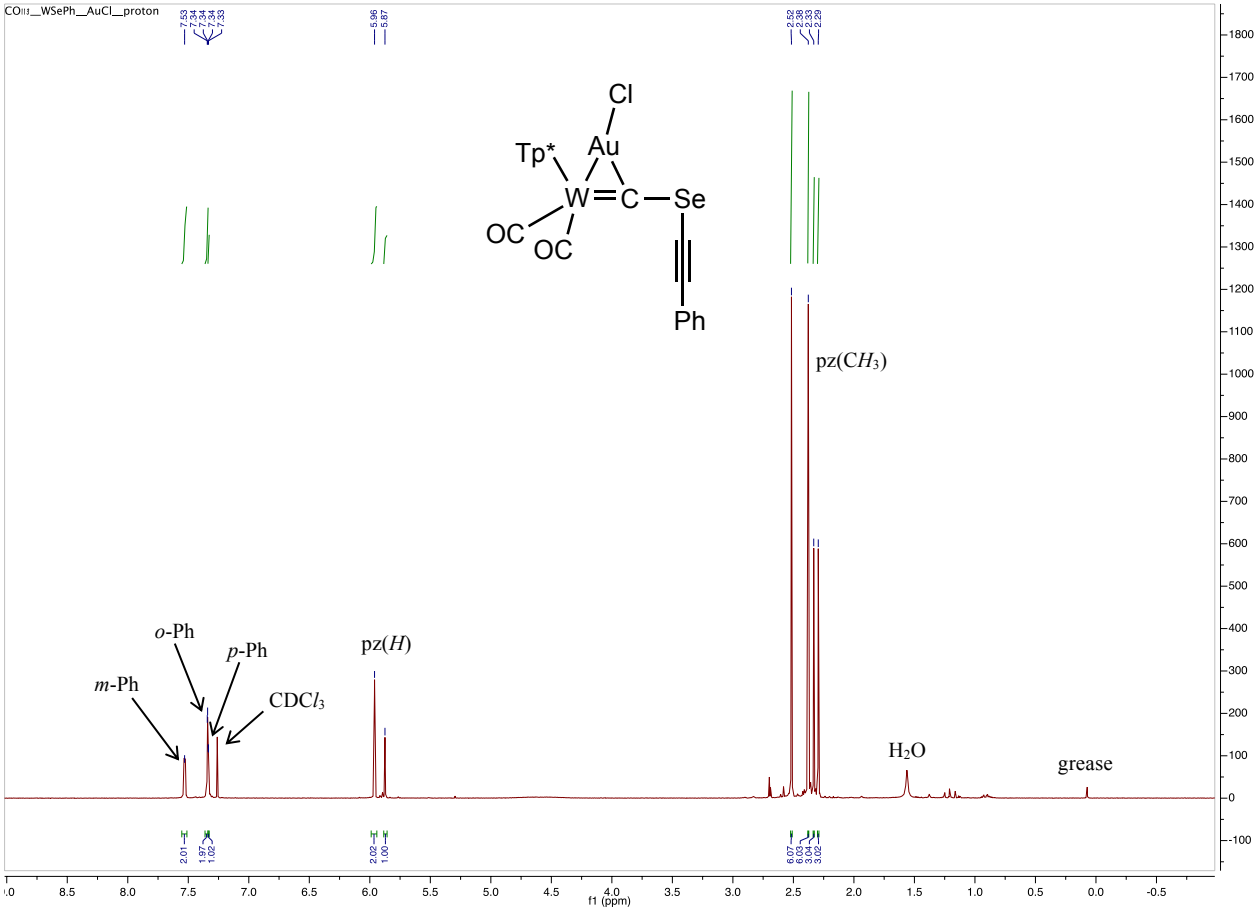
^{1}H NMR SPECTRUM (700 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CSi^{i}Pr$_3$)(CO)$_2$(Tp*)] (**3b**).



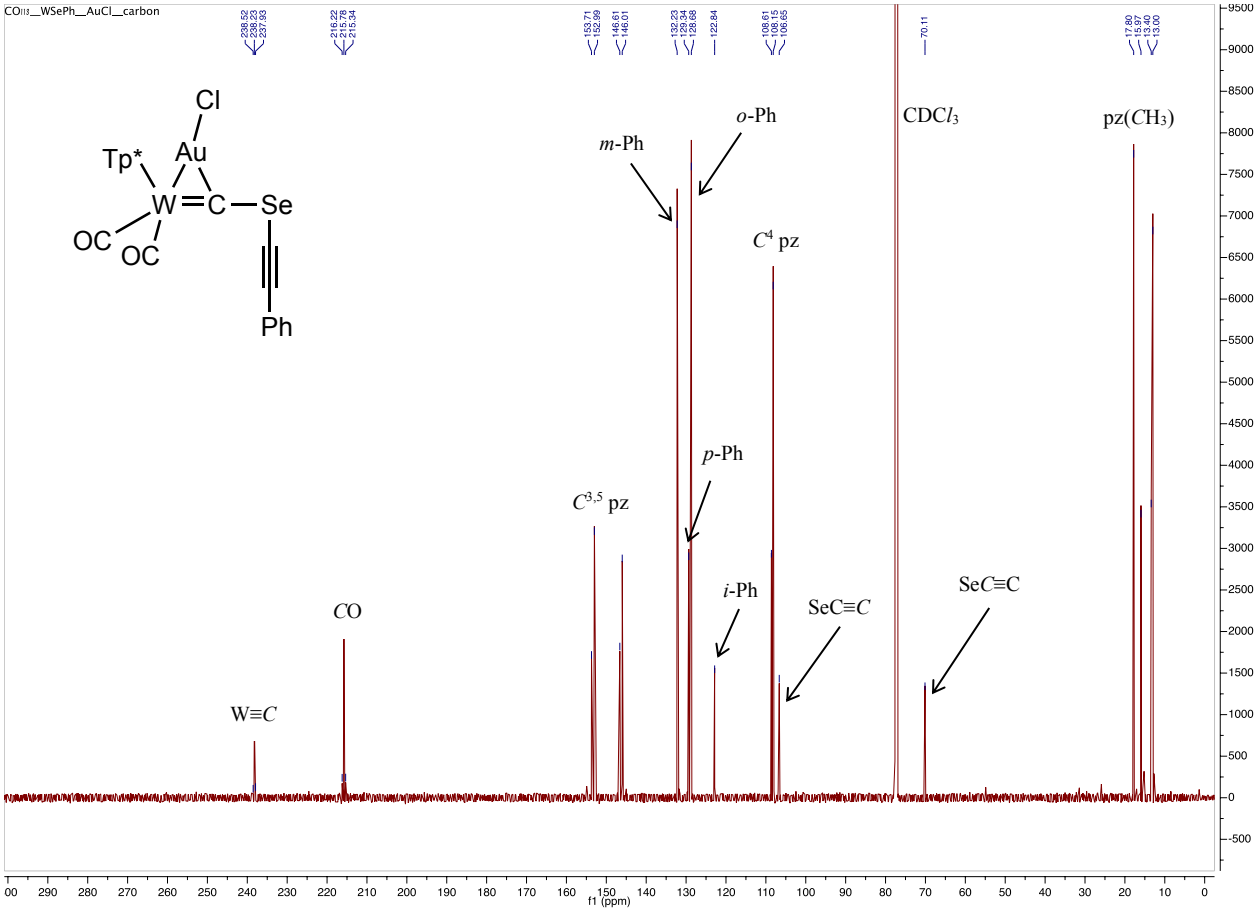
$^{13}C\{^1H\}$ NMR SPECTRUM (176 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CSi^{i}Pr$_3$)(CO)$_2$(Tp*)] (**3b**).



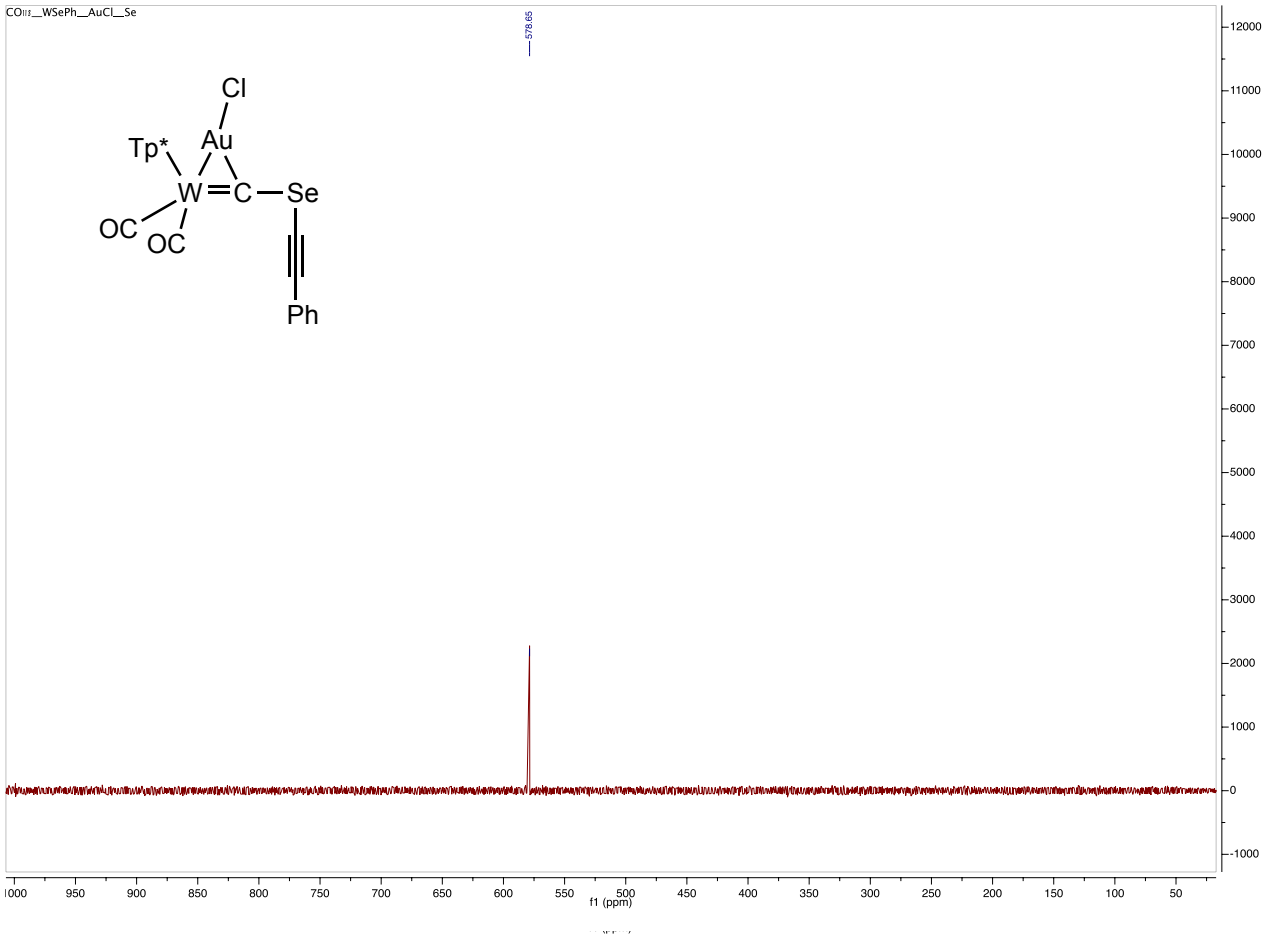
^{77}Se{^{1}H} NMR SPECTRUM (76 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CSi^{i}Pr$_3$)(CO)$_2$(Tp*)] (**3b**).



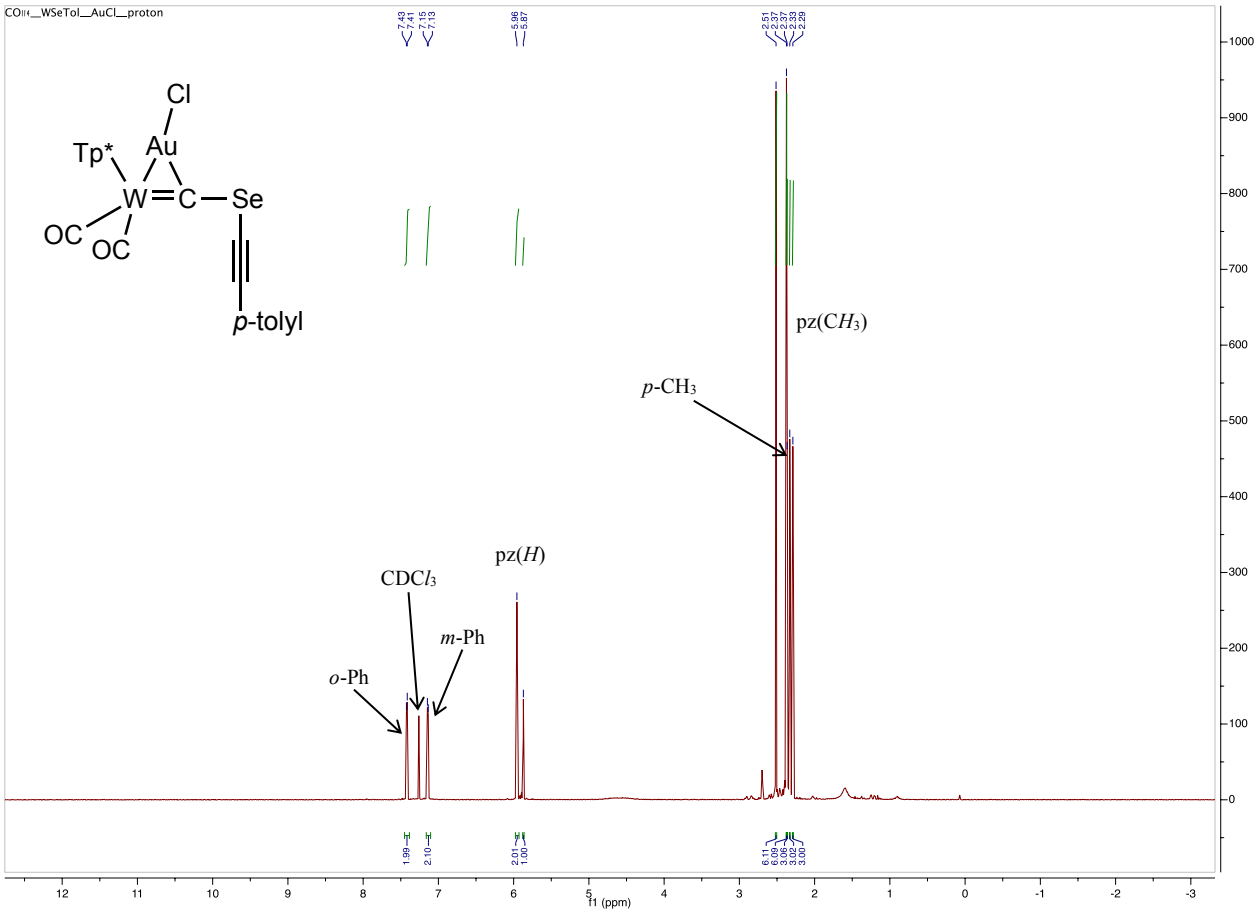
^{1}H NMR SPECTRUM (700 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CPh)$(CO)_2$(Tp*)] (**3c**).



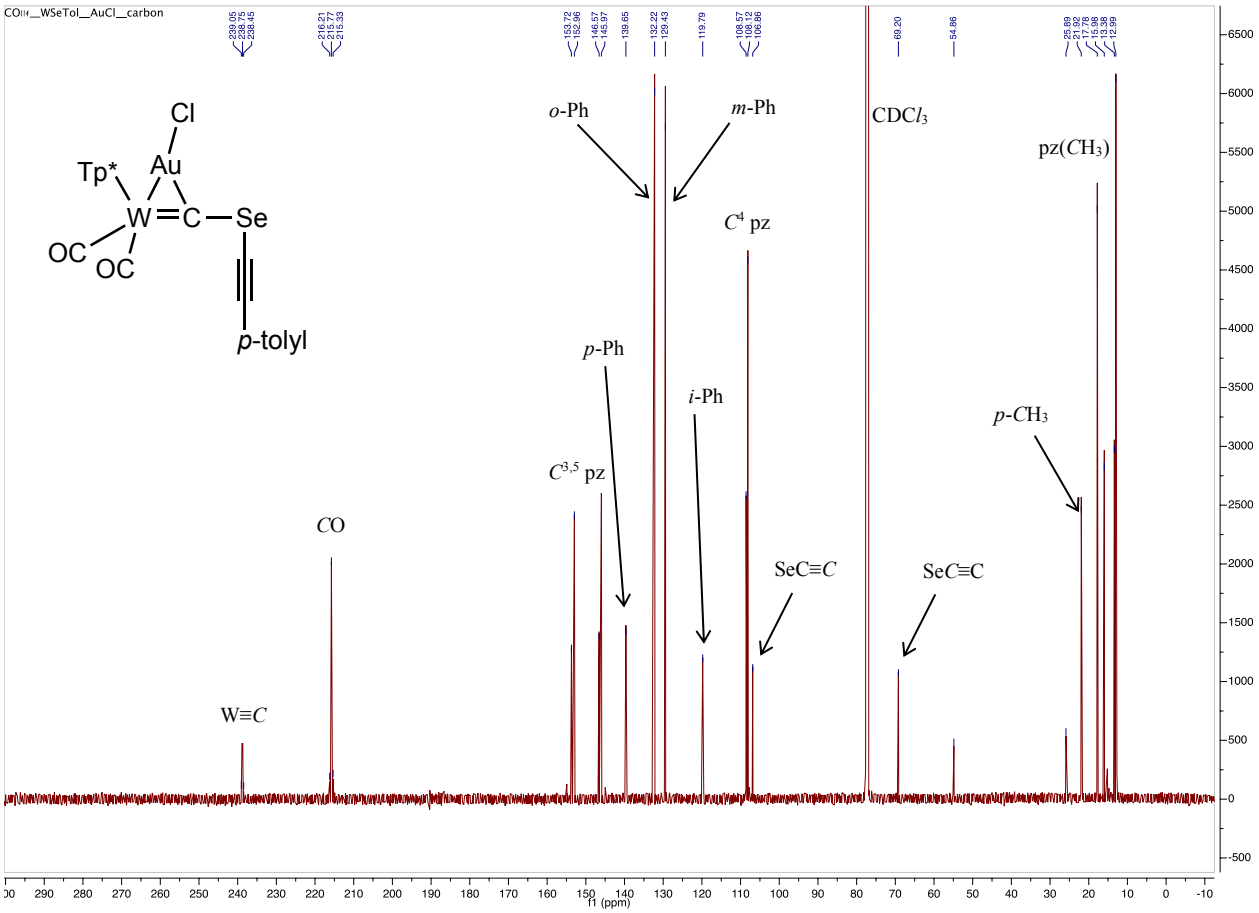
$^{13}C\{^{1}H\}$ NMR SPECTRUM (176 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CPh)$(CO)_2$(Tp*)] (**3c**).



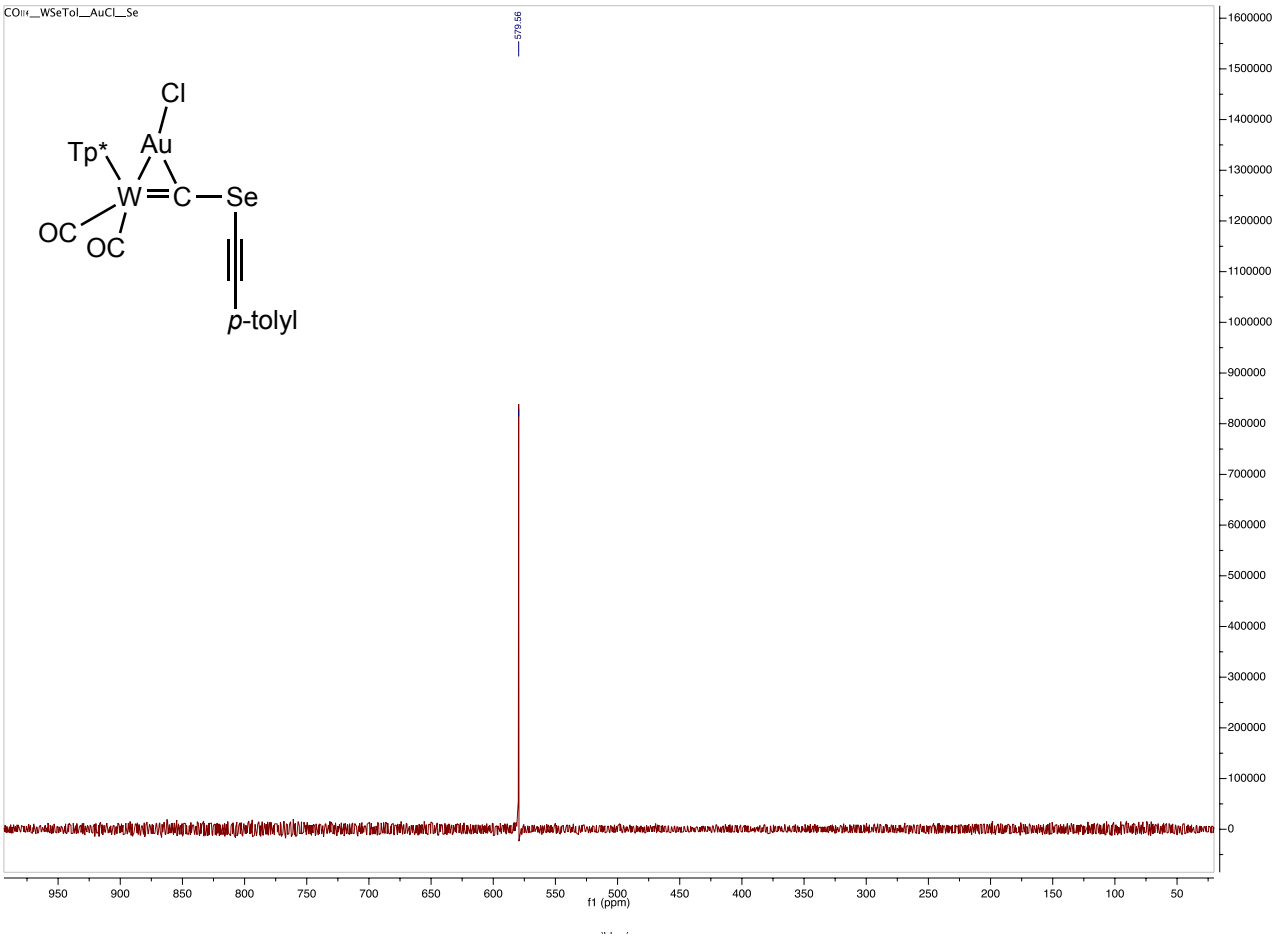
$^{77}Se\{^{1}H\}$ NMR SPECTRUM (76 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CPh)$(CO)_2$(Tp*)] (**3c**).



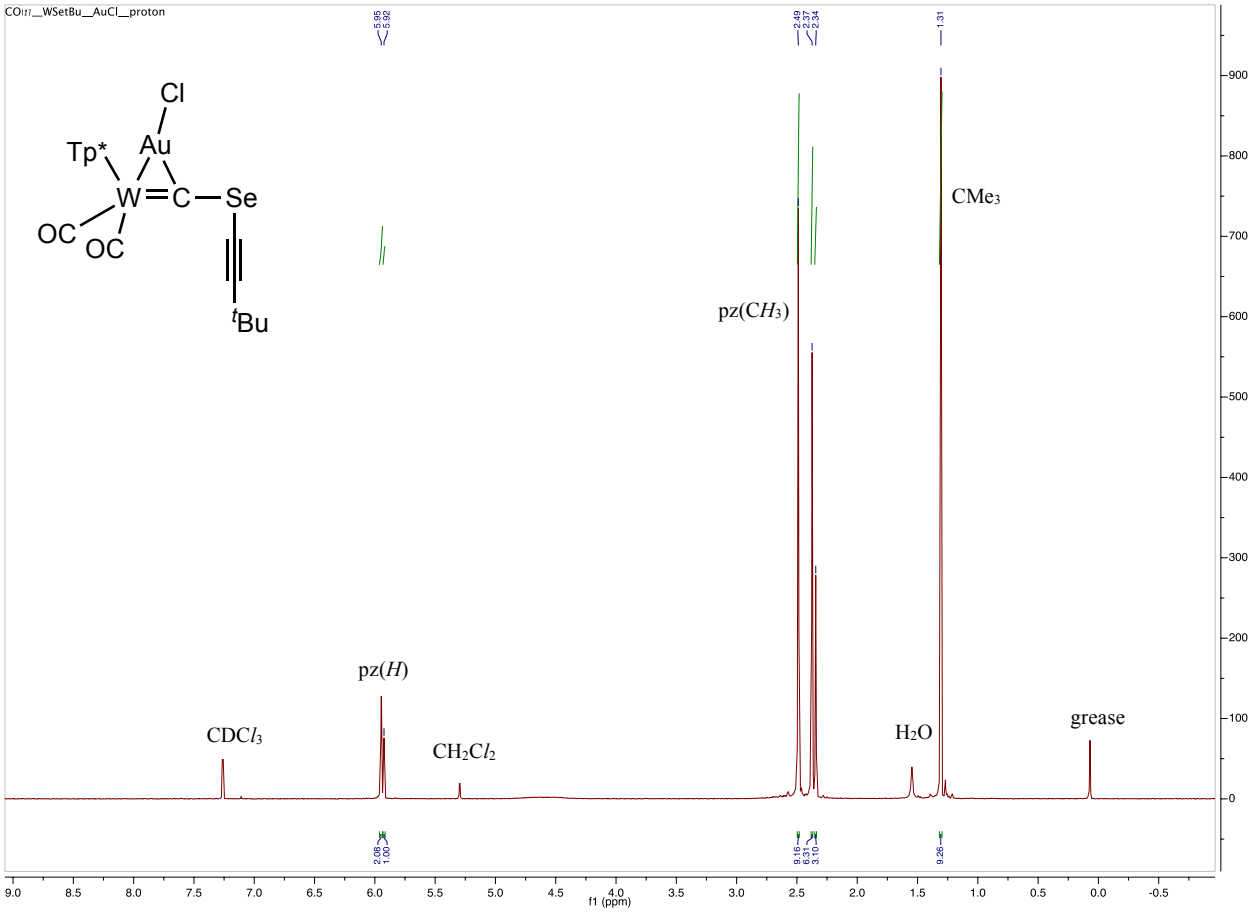
^{1}H NMR SPECTRUM (700 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡C*p*-tol)$(CO)_2$(Tp*)] (**3d**).



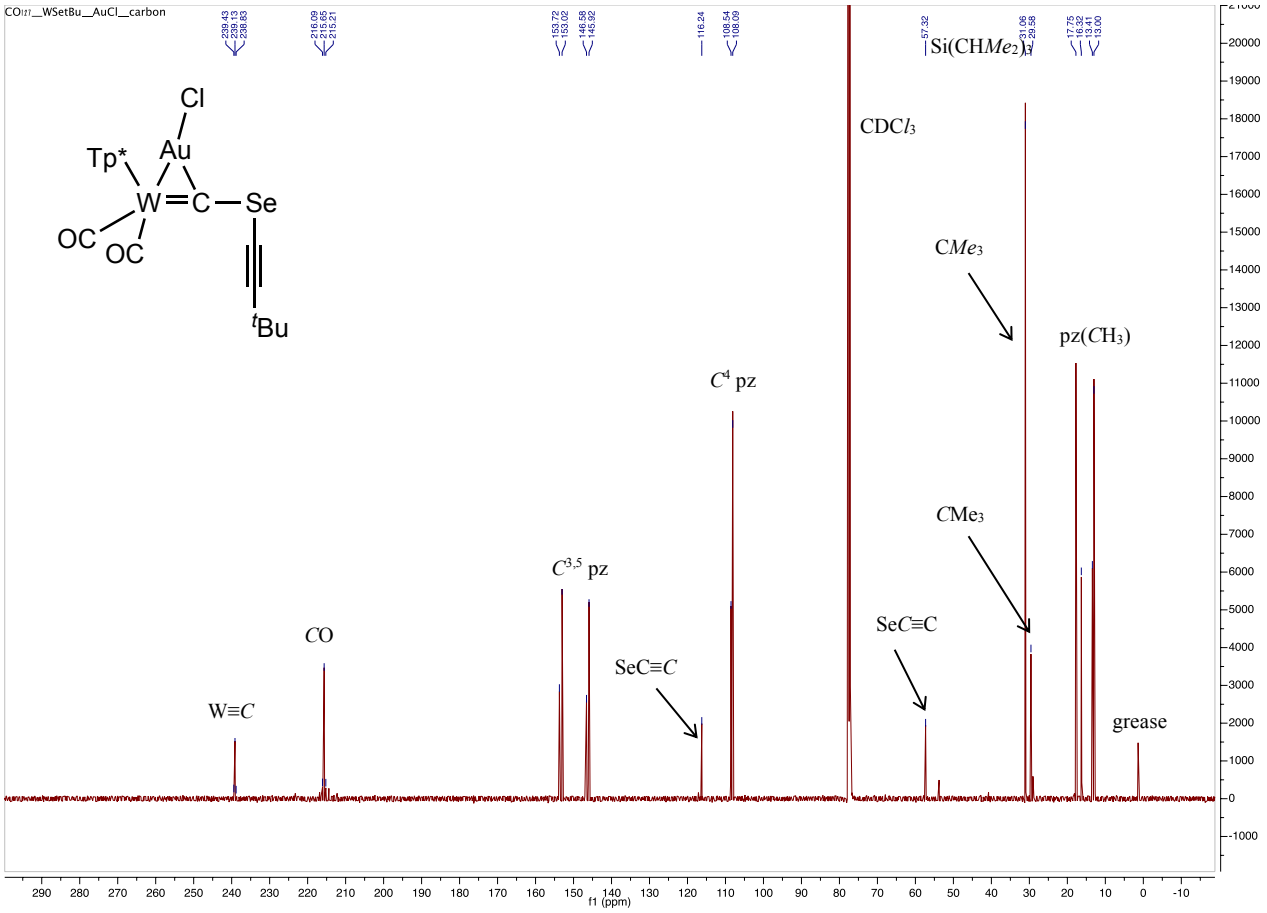
$^{13}C\{^{1}H\}$ NMR SPECTRUM (176 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡C*p*-tol)$(CO)_2$(Tp*)] (**3d**).



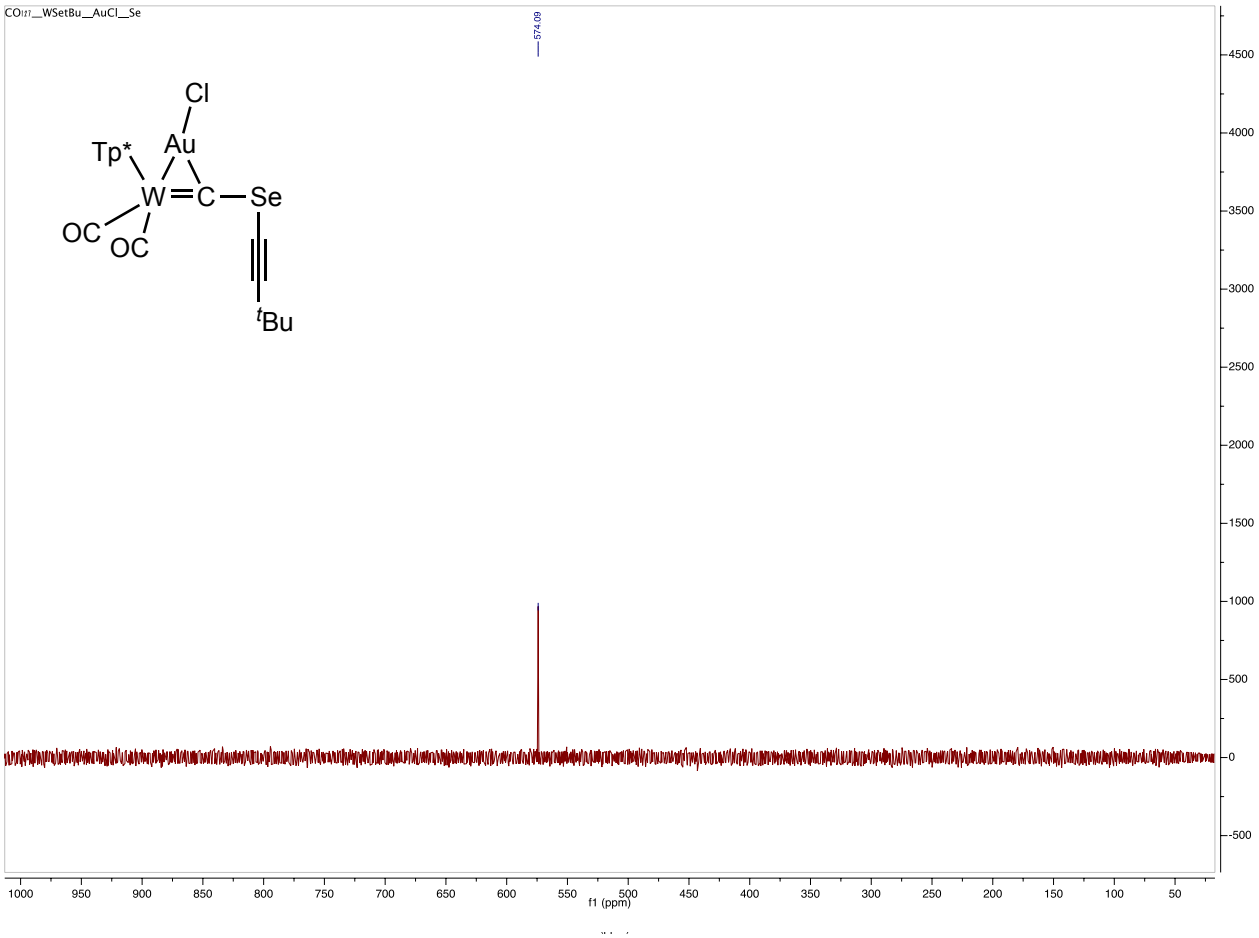
$^{77}Se\{^{1}H\}$ NMR SPECTRUM (76 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡C*p*-tol)$(CO)_2$(Tp*)] (**3d**).



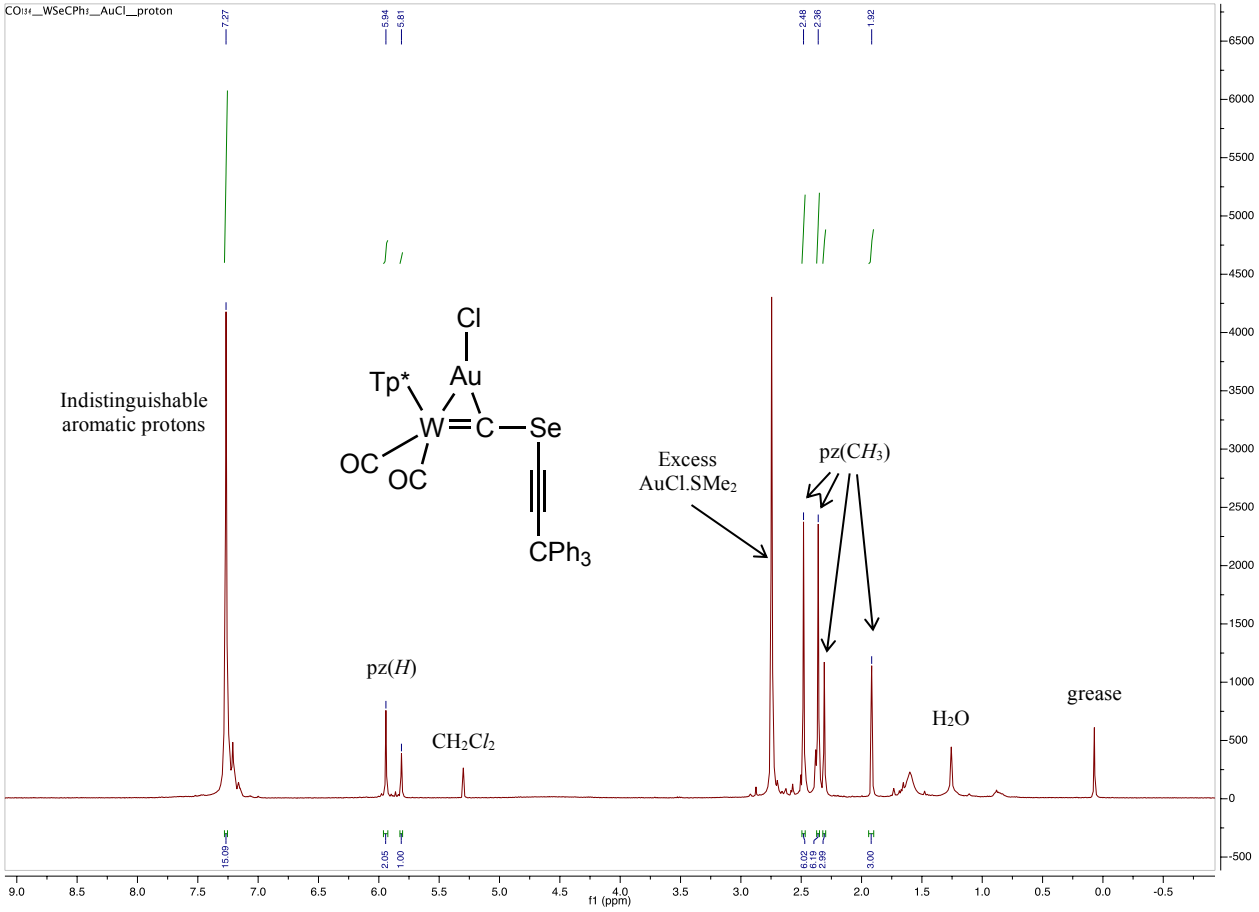
^{1}H NMR SPECTRUM (700 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡C′Bu)$(CO)_2$(Tp*)] (**3e**).



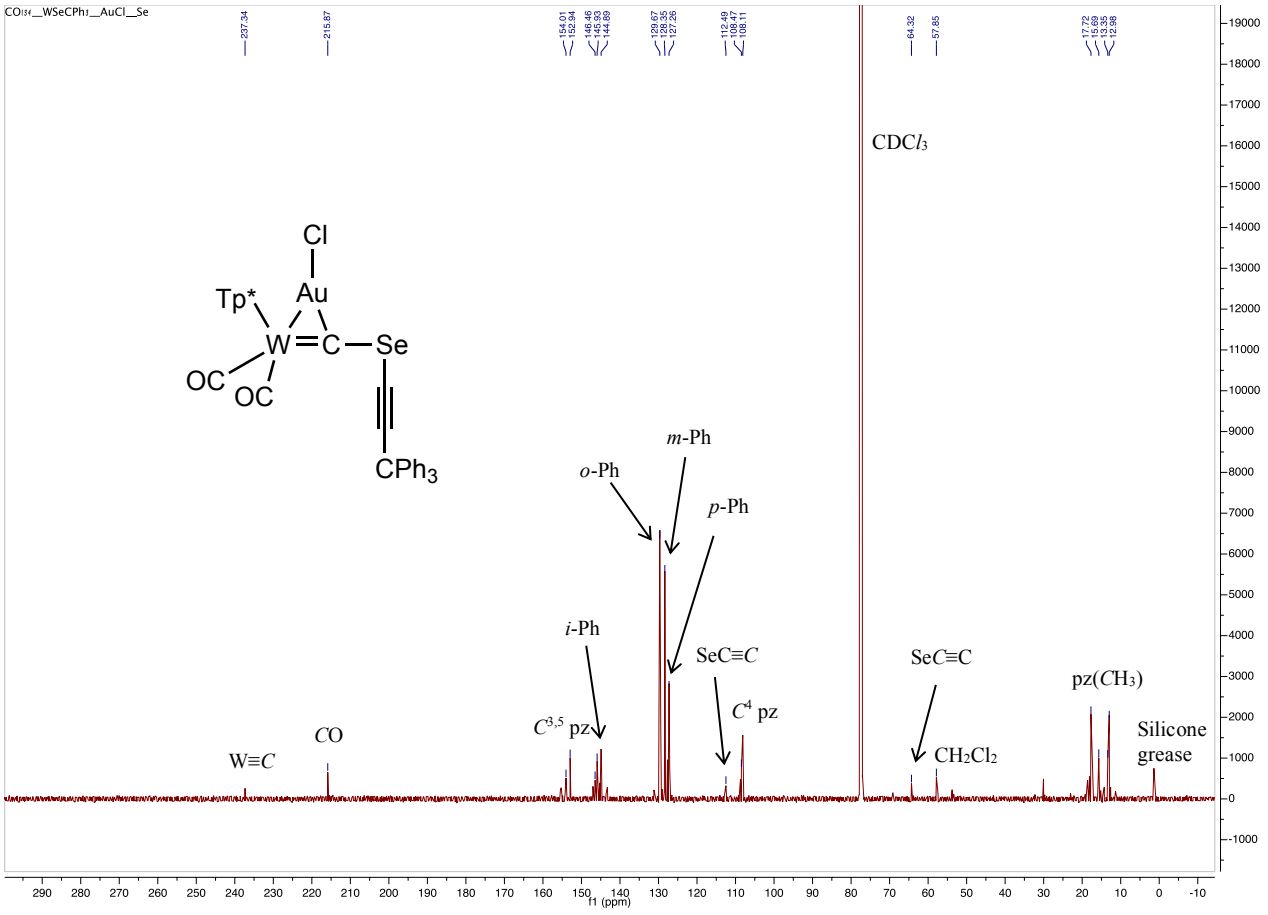
$^{13}C\{^{1}H\}$ NMR SPECTRUM (176 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡C^{t}Bu)(CO)$_2$(Tp*)] (**3e**).



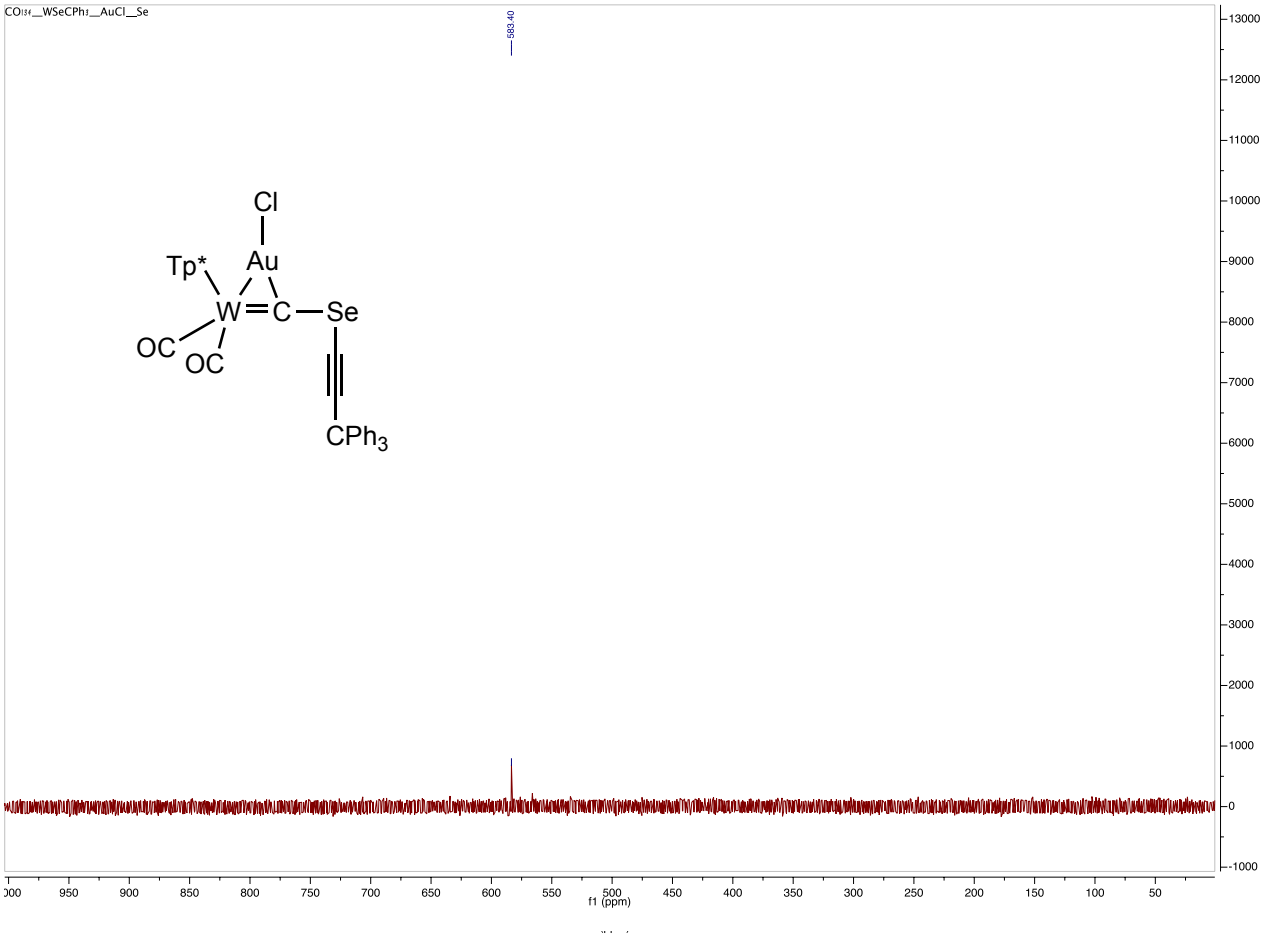
$^{77}Se\{^{1}H\}$ NMR SPECTRUM (76 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡C^{t}Bu)$(CO)_2$(Tp*)] (**3e**).



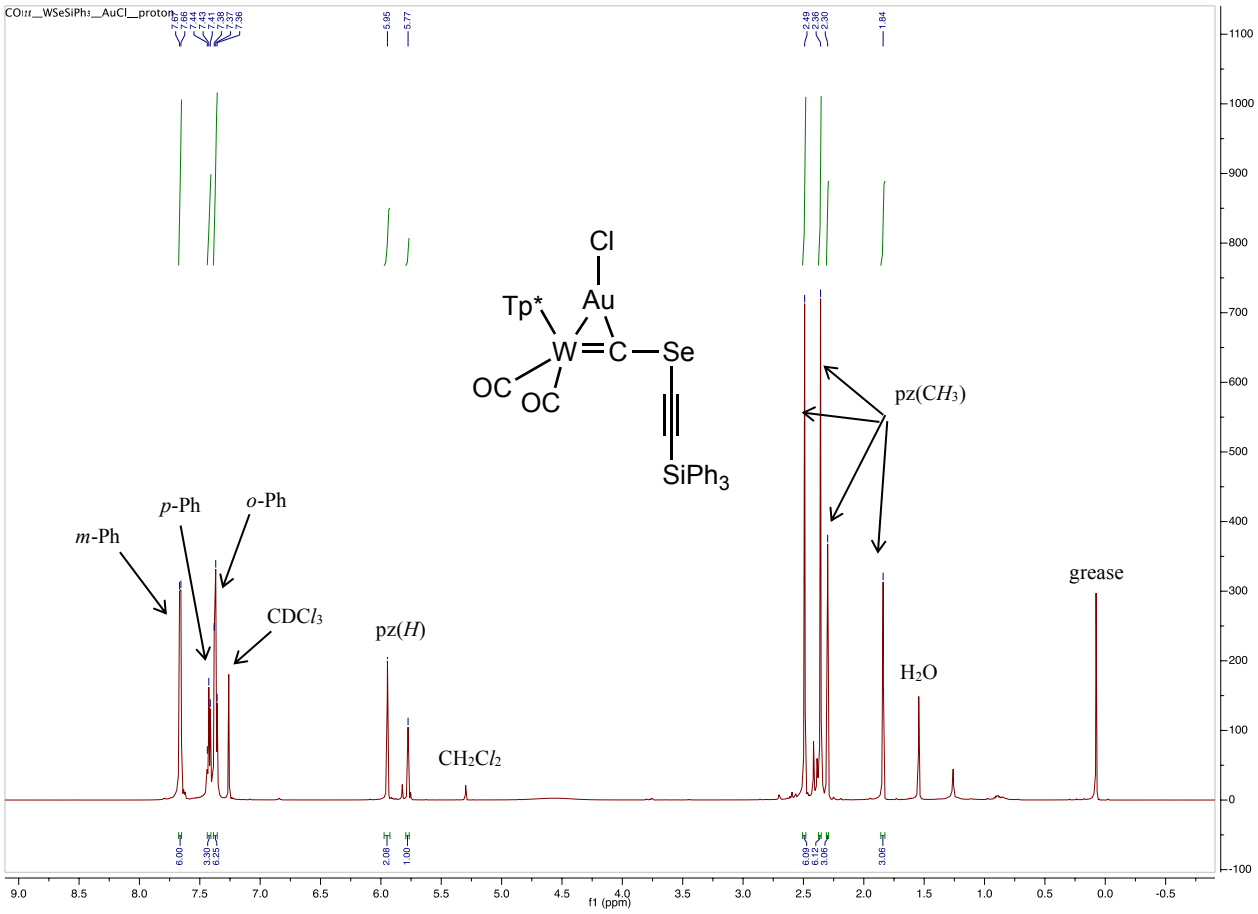
^{1}H NMR SPECTRUM (400 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡$CCPh_3$)$(CO)_2$(Tp*)] (**3f**).



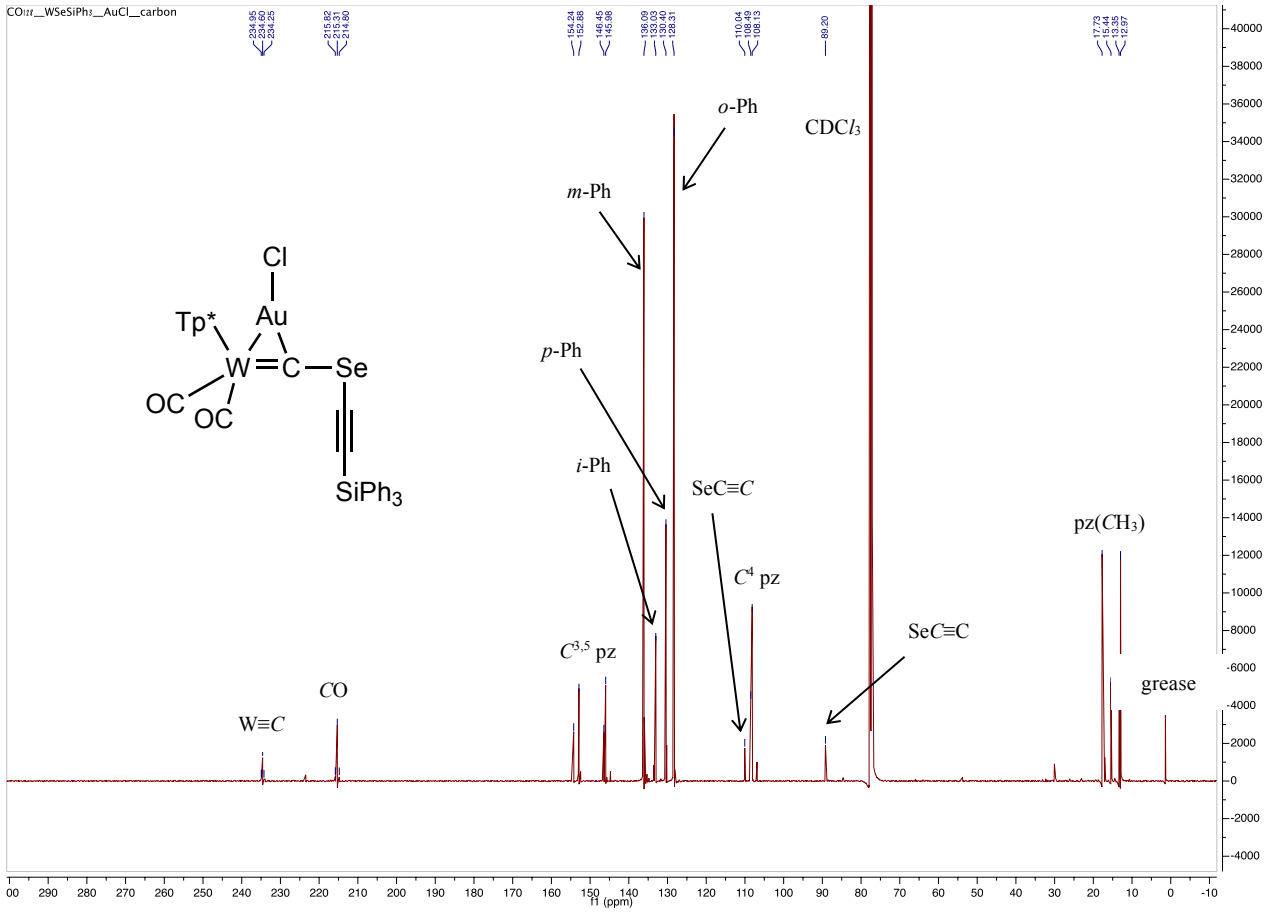
$^{13}C\{^{1}H\}$ NMR SPECTRUM (176 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡$CCPh_3$)$(CO)_2$(Tp*)] (**3f**).



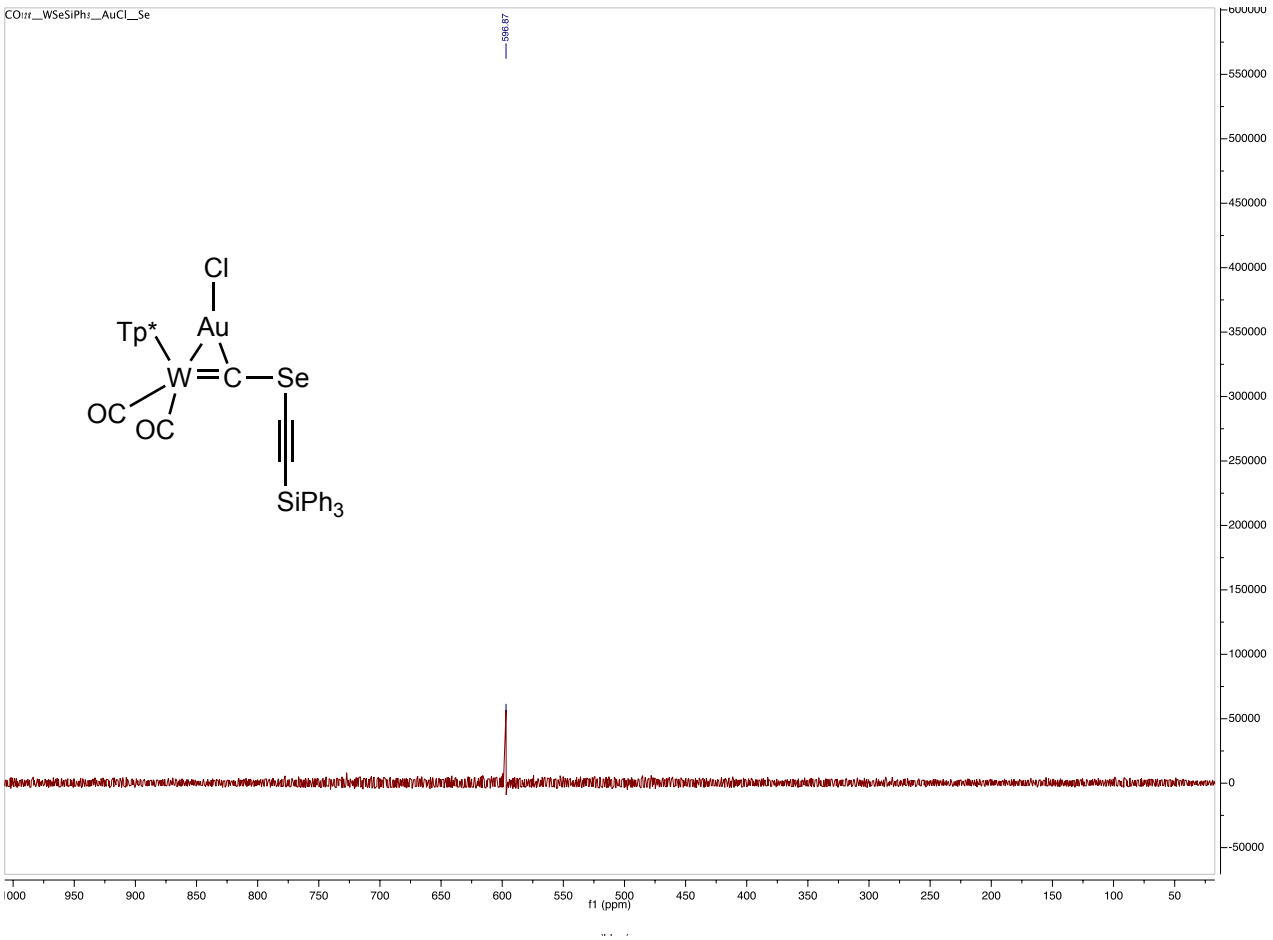
$^{77}Se\{^{1}H\}$ NMR SPECTRUM (134 MHz, $CDCl_3$, 25˚C, δ) of [WAuCl(μ-CSeC≡$CCPh_3$)$(CO)_2$(Tp*)] (**3f**).



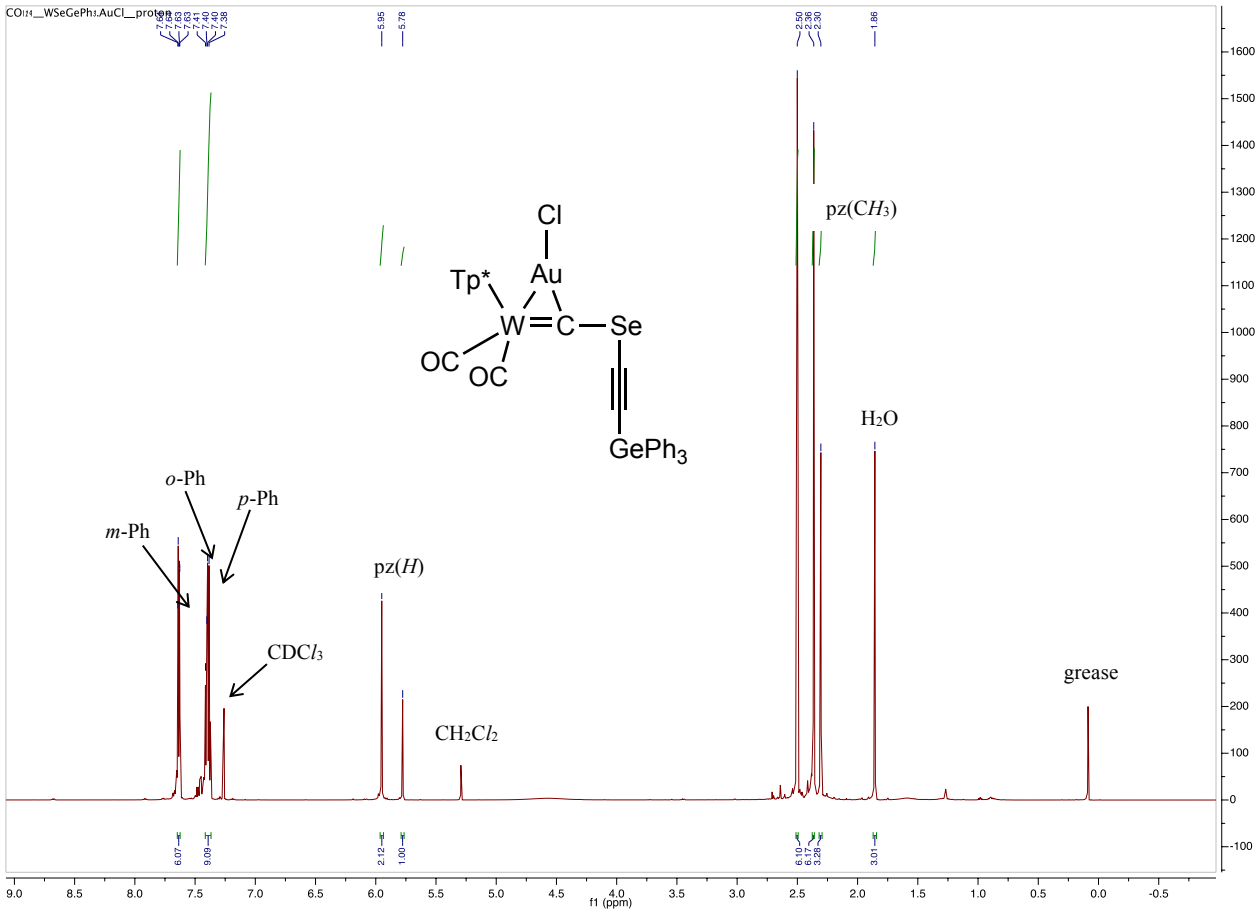
^{1}H NMR SPECTRUM (400 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CSiPh$_3$)(CO)$_2$(Tp*)] (**3g**).



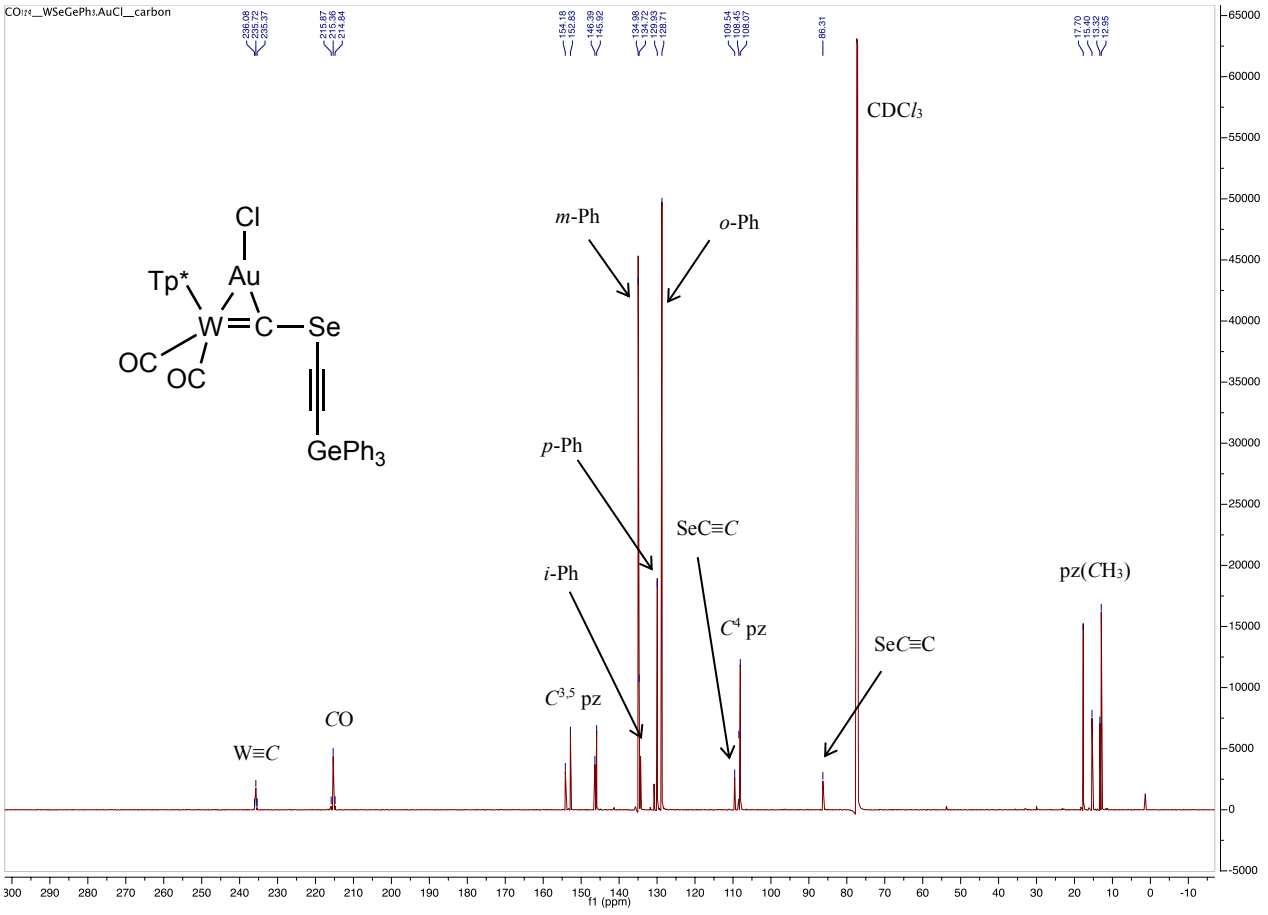
$^{13}C\{^{1}H\}$ NMR SPECTRUM (176 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CSiPh$_3$)(CO)$_2$(Tp*)] (**3g**).



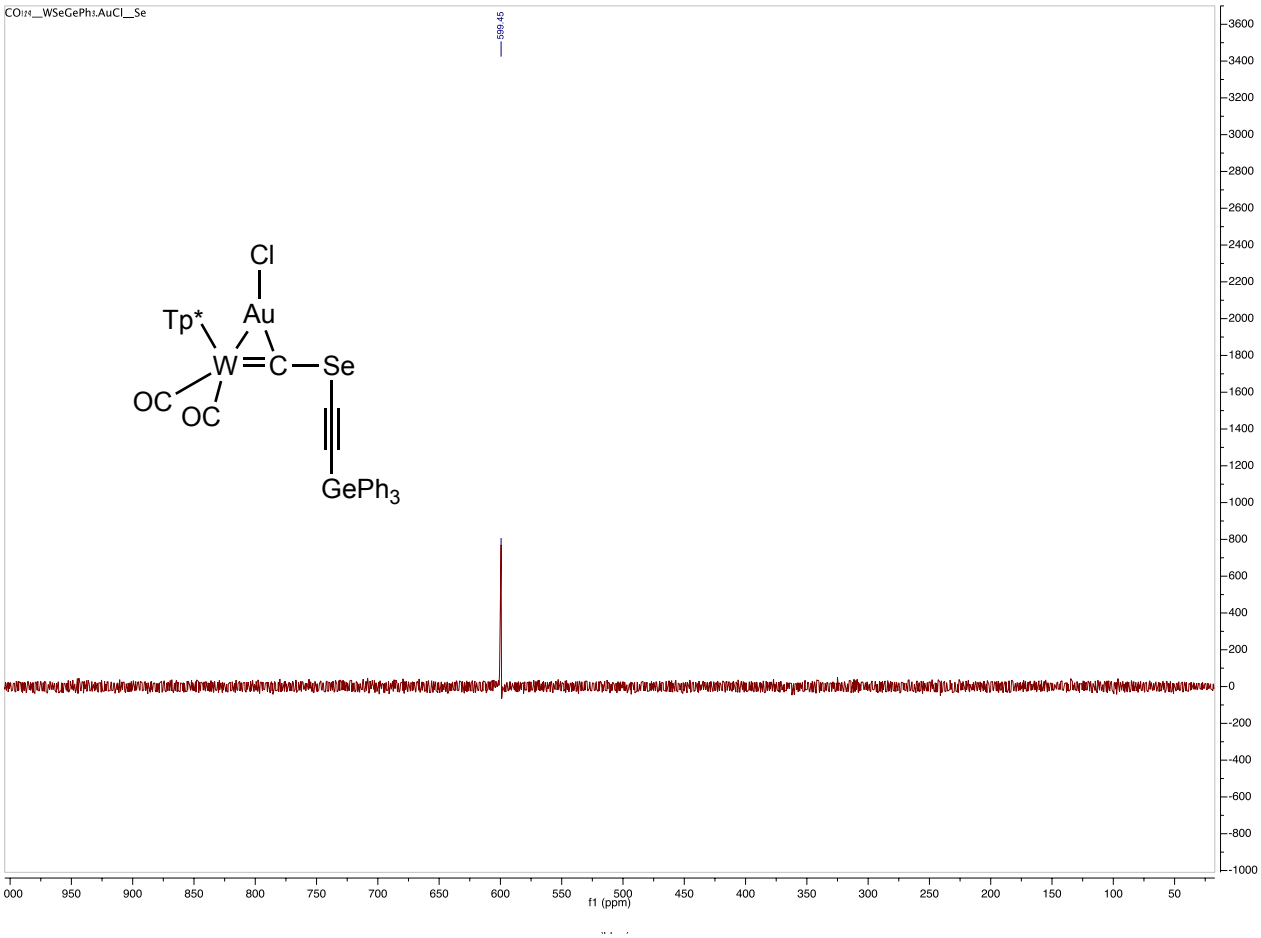
$^{77}Se\{^{1}H\}$ NMR SPECTRUM (134 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CSiPh$_3$)(CO)$_2$(Tp*)] (**3g**).



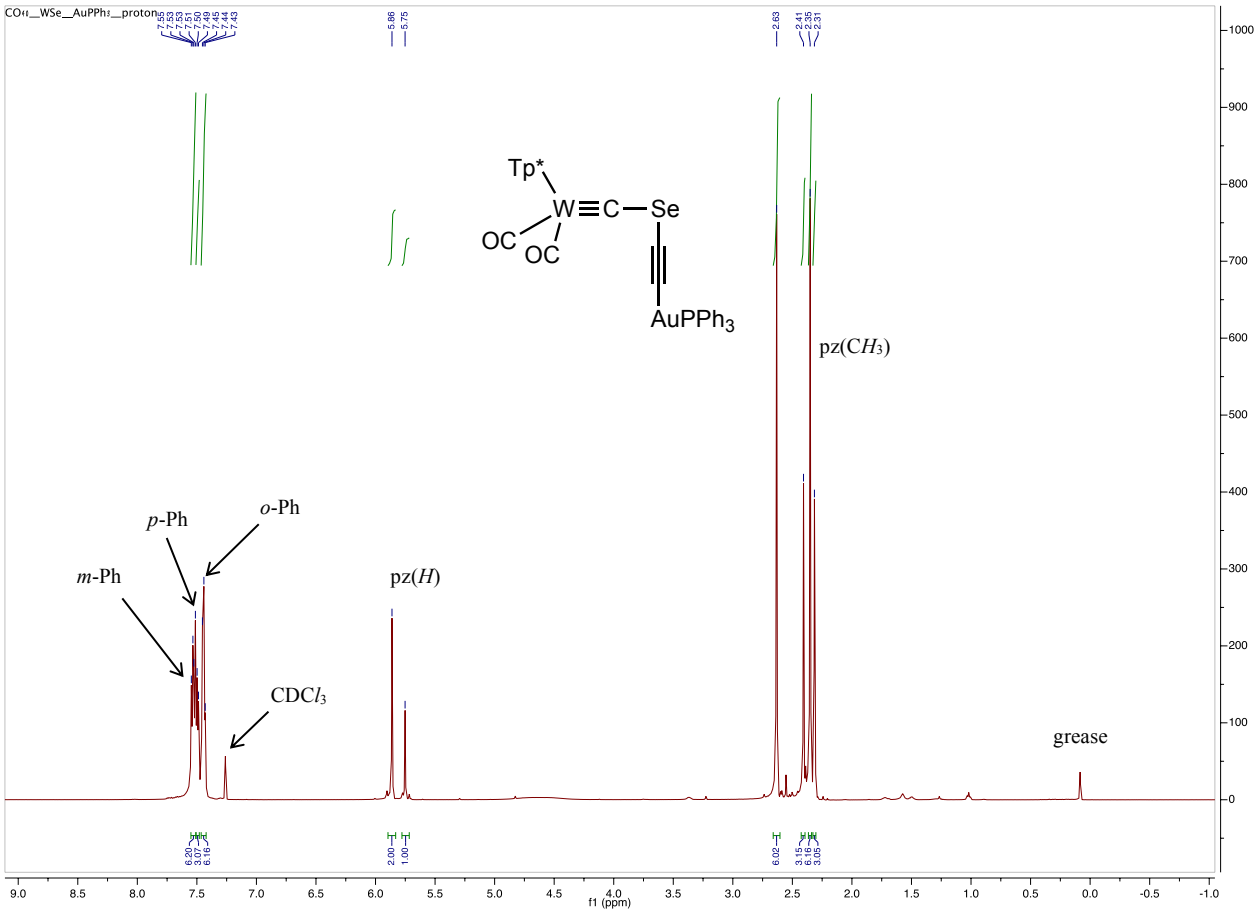
^{1}H NMR SPECTRUM (600 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CGePh_3)$(CO)_2$(Tp*)] (**3h**).



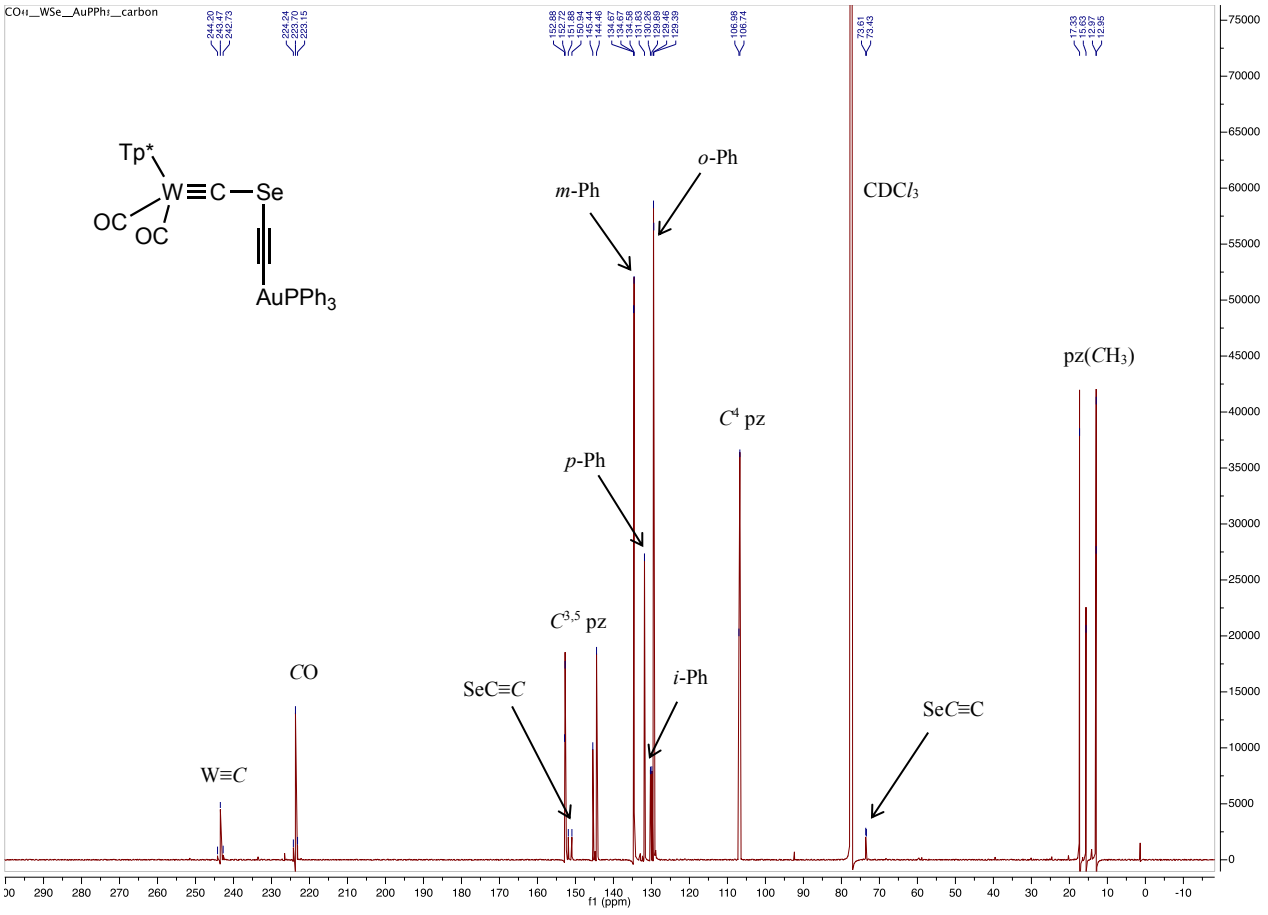
$^{13}C\{^{1}H\}$ NMR SPECTRUM (151 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CGePh_3)$(CO)_2$(Tp*)] (**3h**).



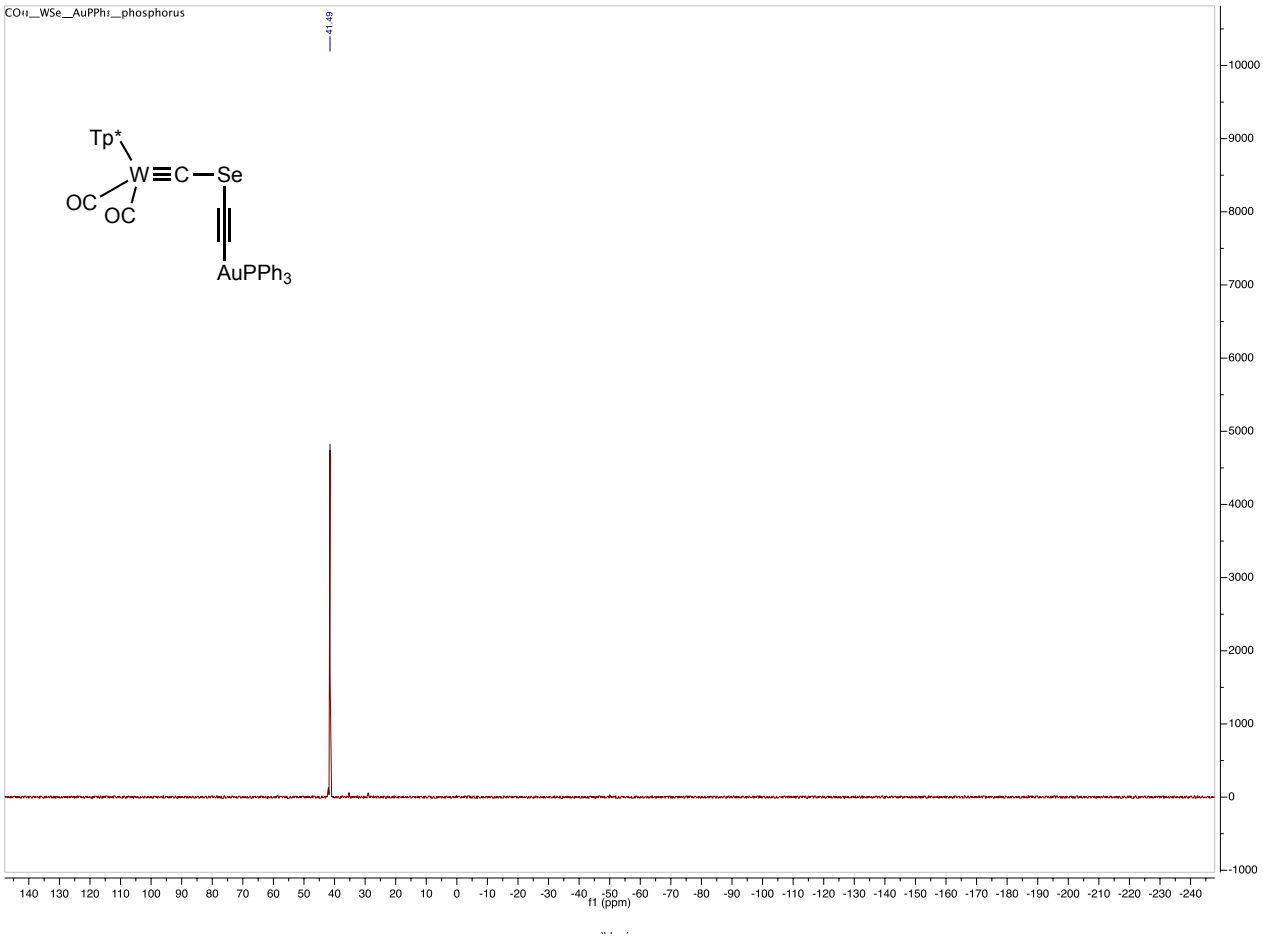
$^{77}Se\{^{1}H\}$ NMR SPECTRUM (134 MHz, $CDCl_3$, 25°C, δ) of [WAuCl(μ-CSeC≡CGePh_3)$(CO)_2$(Tp*)] (**3h**).



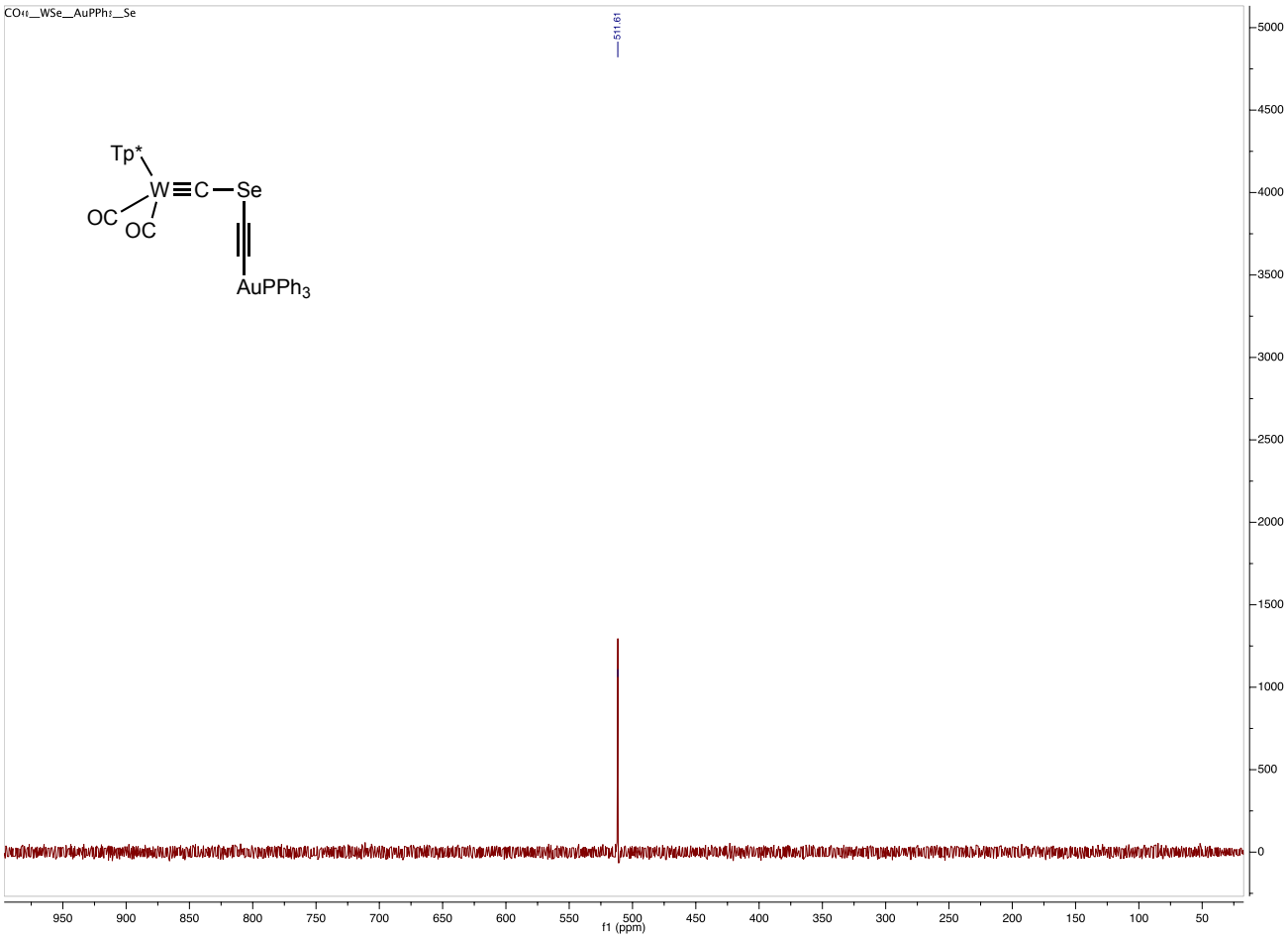
^{1}H NMR SPECTRUM (600 MHz, $CDCl_3$, 25°C, δ) of [W(≡CSeC≡CAuPPh$_3$)(CO)$_2$(Tp*)] (**4a**).



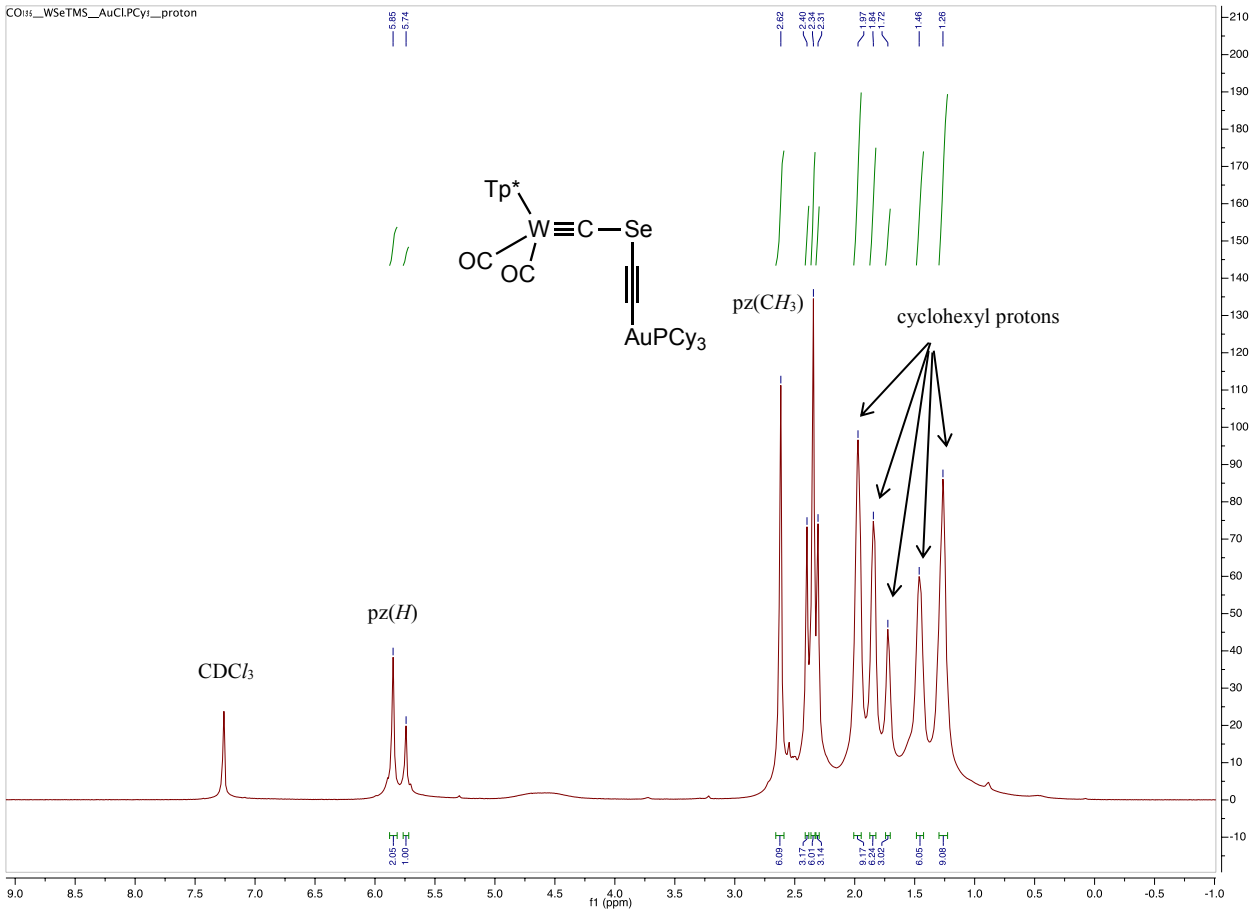
$^{13}C\{^{1}H\}$ NMR SPECTRUM (151 MHz, $CDCl_3$, 25°C, δ) of [W(≡CSeC≡CAuPPh$_3$)(CO)$_2$(Tp*)] (**4a**).



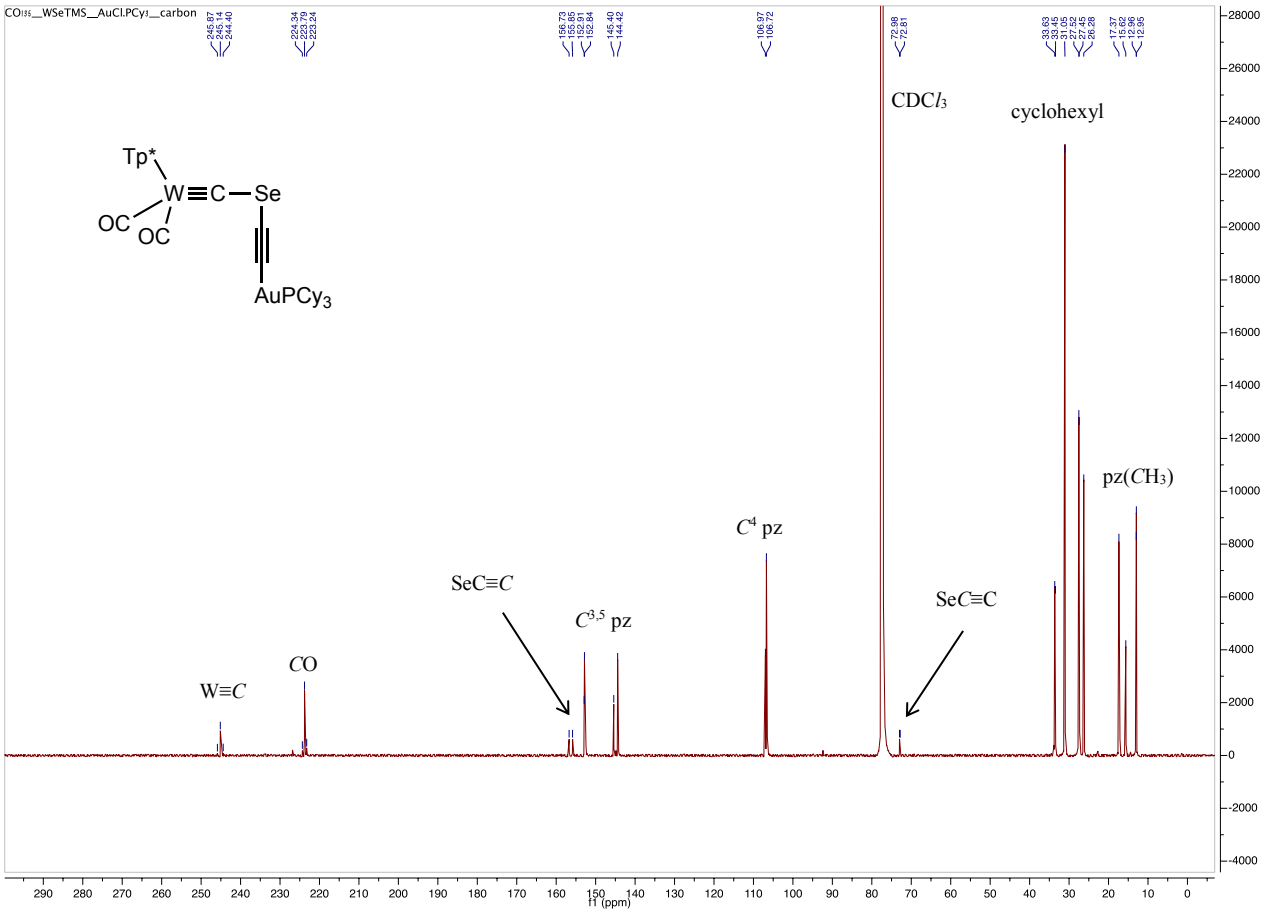
$^{31}P\{^{1}H\}$ NMR SPECTRUM (162 MHz, C_6D_6, 25°C, δ) of [W(≡CSeC≡CAuPPh$_3$)(CO)$_2$(Tp*)] (**4a**).



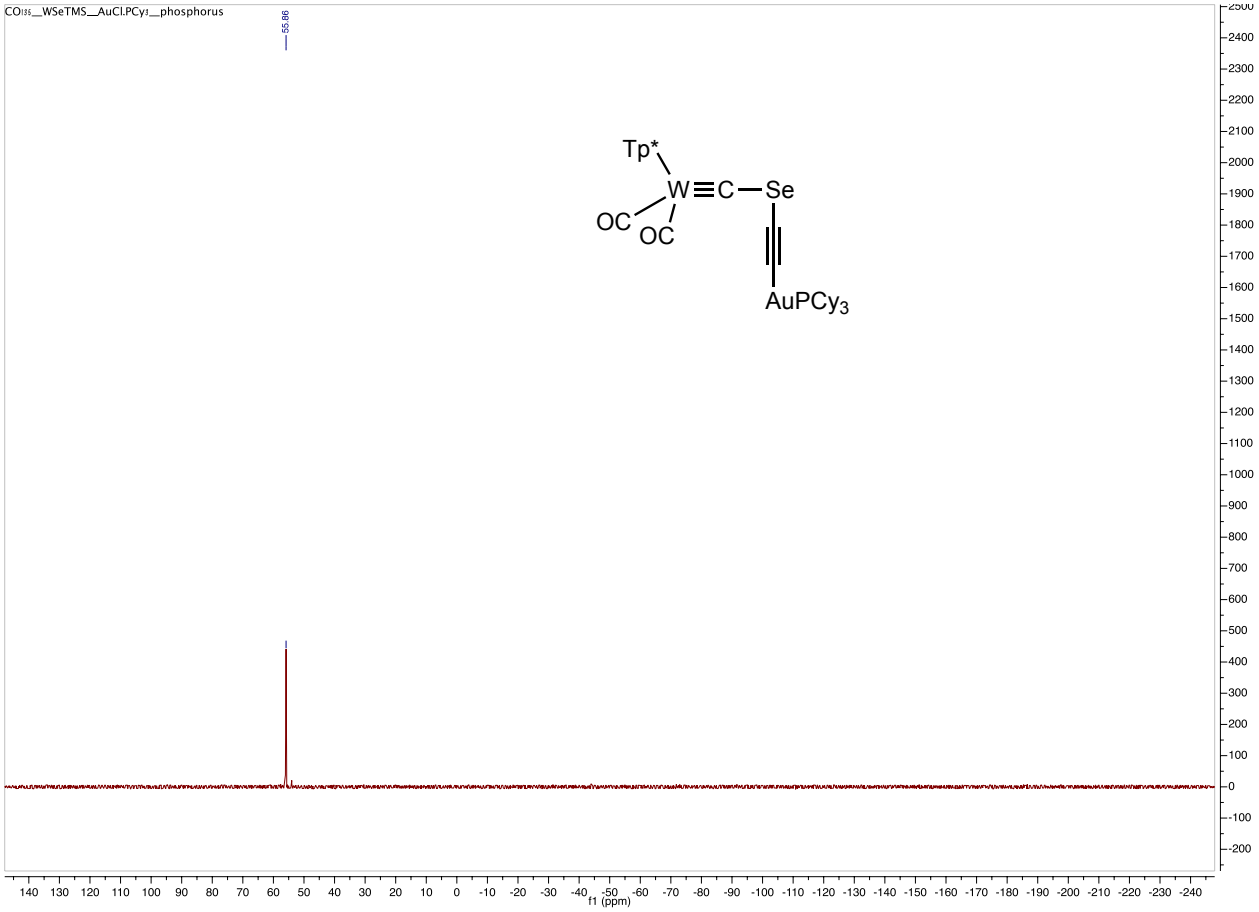
$^{77}Se\{^{1}H\}$ NMR SPECTRUM (76 MHz, $CDCl_3$, 25˚C, δ) of [W(≡CSeC≡CAuPPh$_3$)(CO)$_2$(Tp*)] (**4a**).



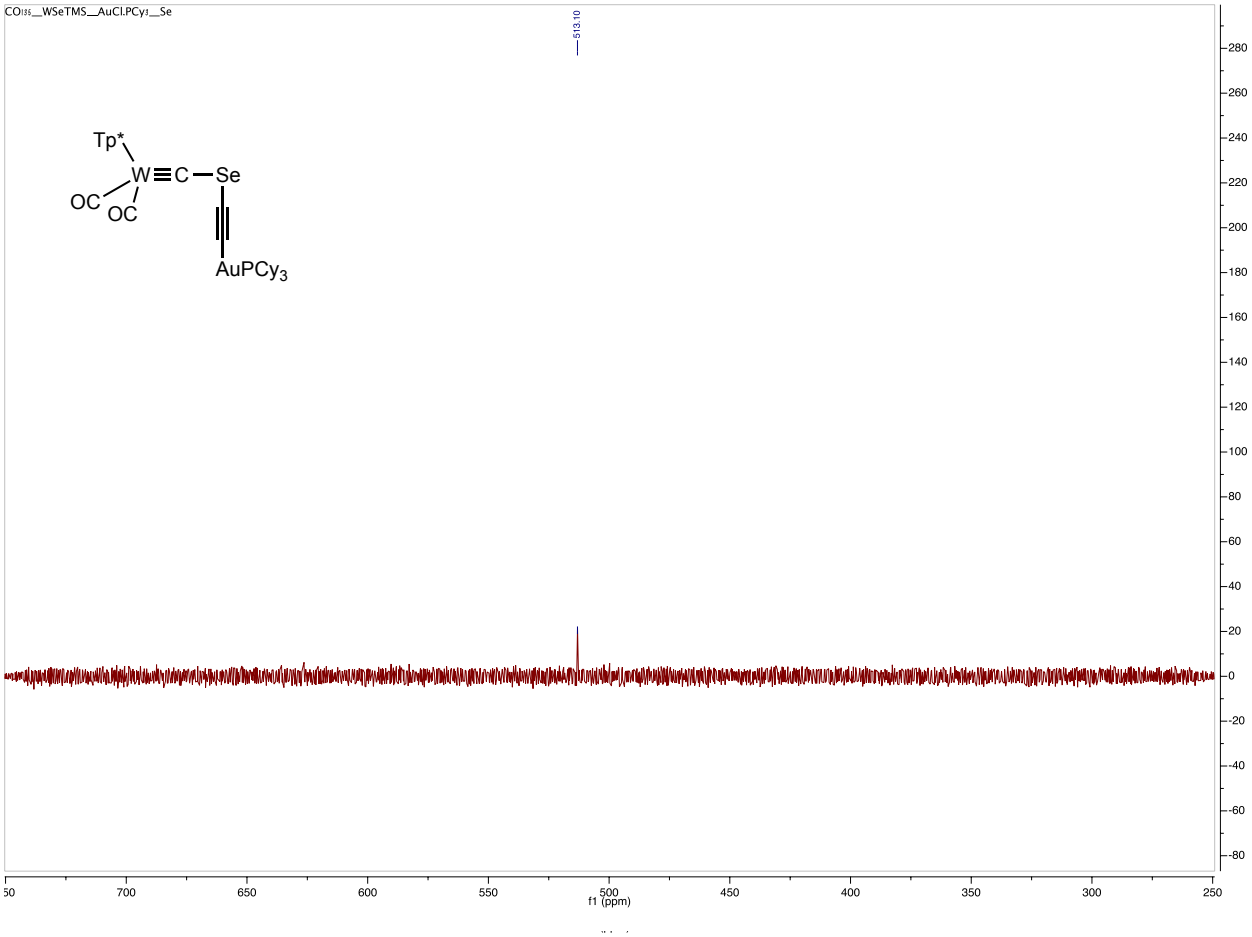
^{1}H NMR SPECTRUM (600 MHz, $CDCl_3$, 25°C, δ) of [W(≡CSeC≡CAuPCy$_3$)(CO)$_2$(Tp*)] (**4b**).



$^{13}C\{^{1}H\}$ NMR SPECTRUM (151 MHz, $CDCl_3$, 25°C, δ) of [W(≡CSeC≡CAuPCy$_3$)(CO)$_2$(Tp*)] (**4b**).



$^{31}P\{^{1}H\}$ NMR SPECTRUM (162 MHz, C_6D_6, 25°C, δ) of [W(≡CSeC≡CAuPCy$_3$)(CO)$_2$(Tp*)] (**4b**).



$^{77}Se\{^{1}H\}$ NMR SPECTRUM (76 MHz, $CDCl_3$, 25˚C, δ) of [W(≡CSeC≡CAuPCy$_3$)(CO)$_2$(Tp*)] (**4b**).

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