ARTICLE

Electronic Supporting Information for:

Metal Coordination to a Dimetallaoctatetrayne

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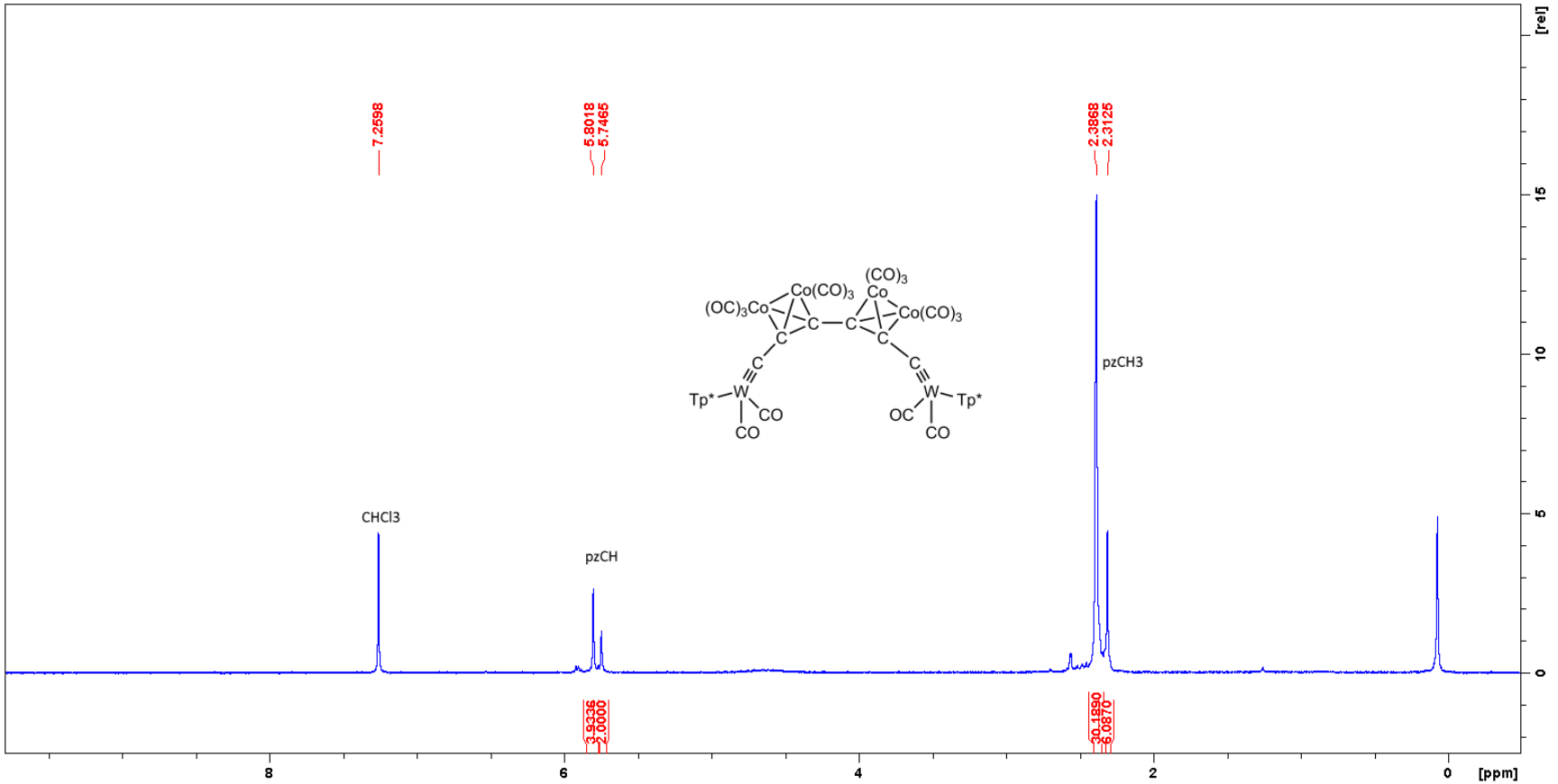
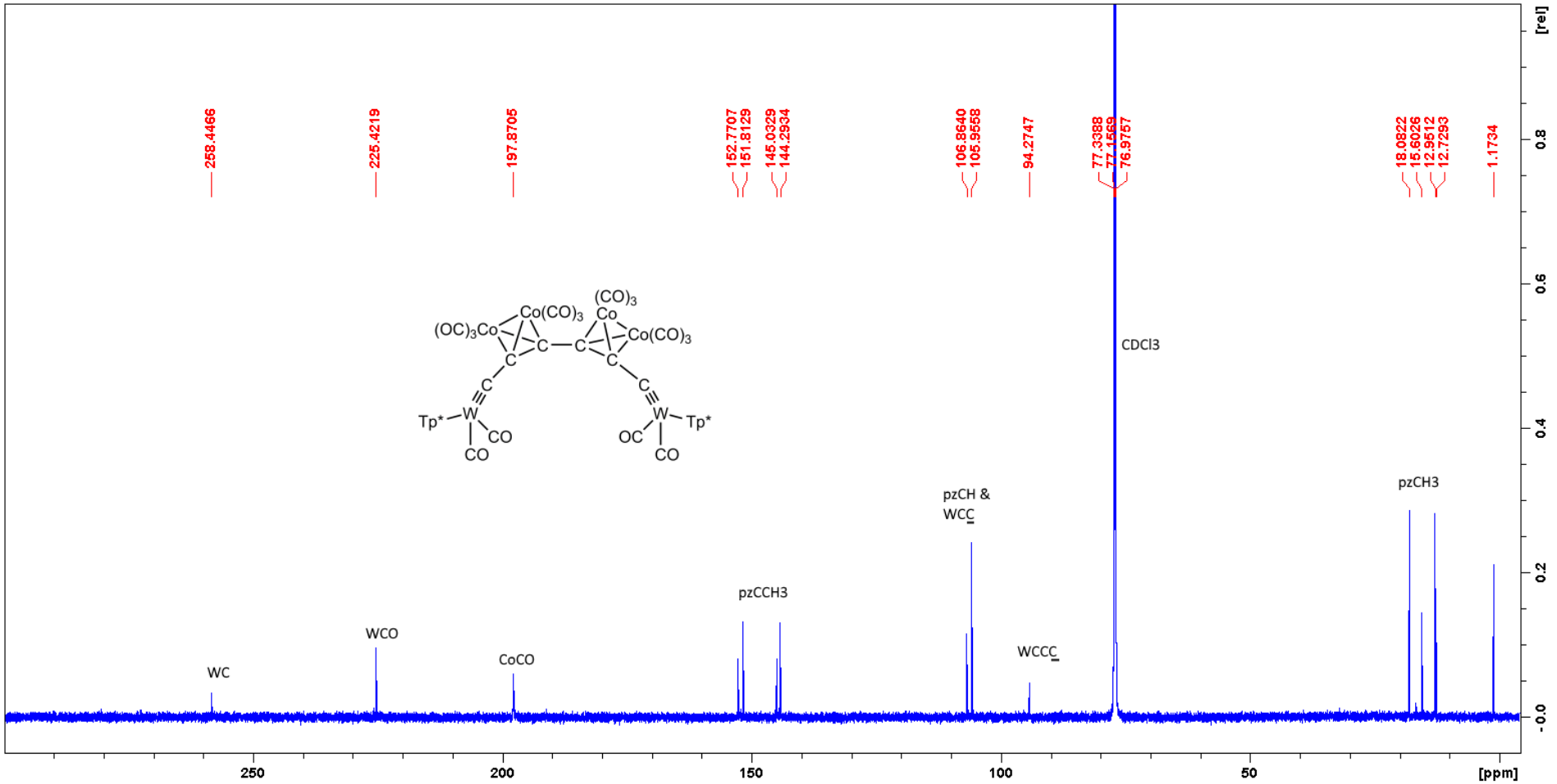
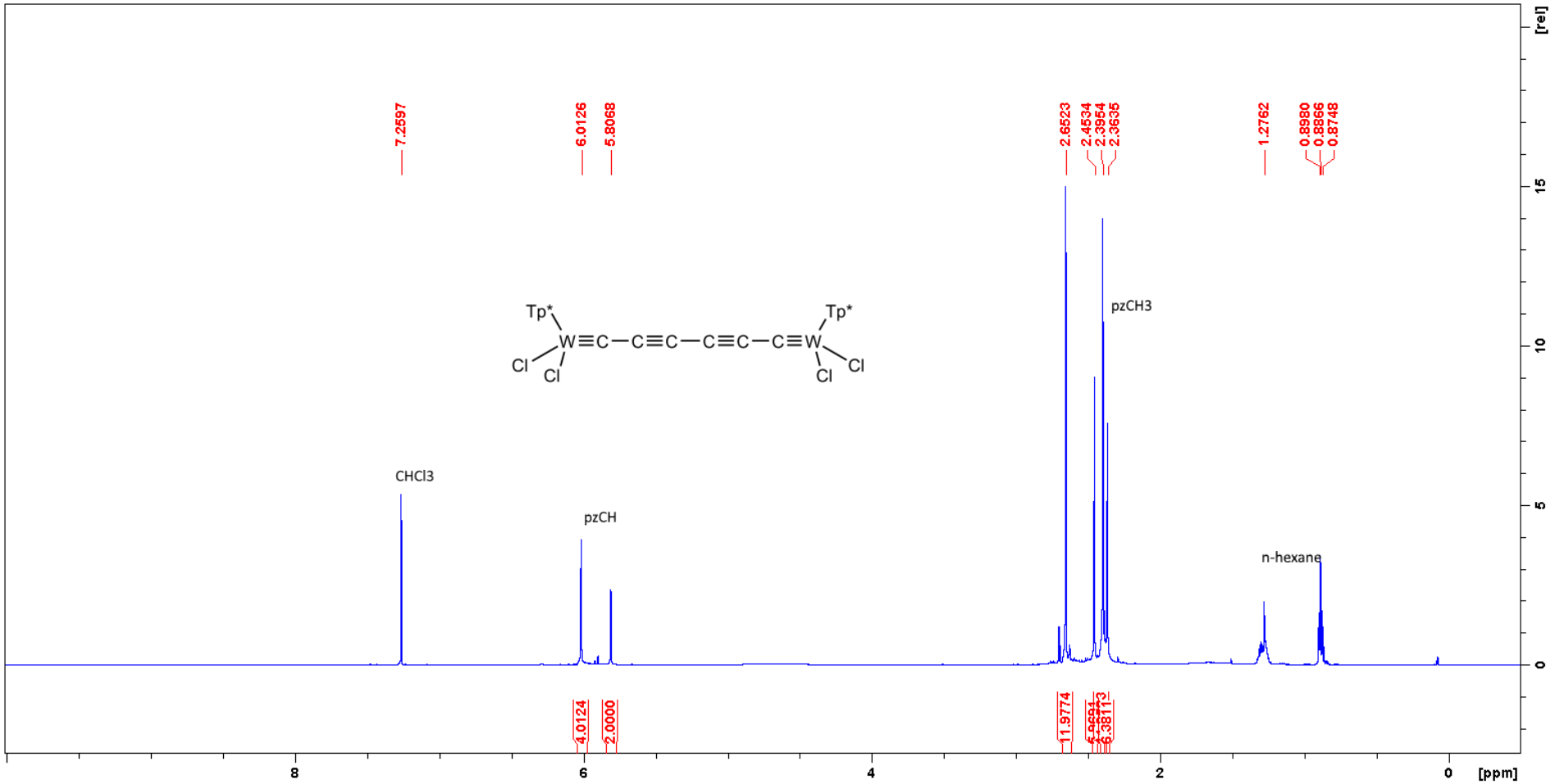


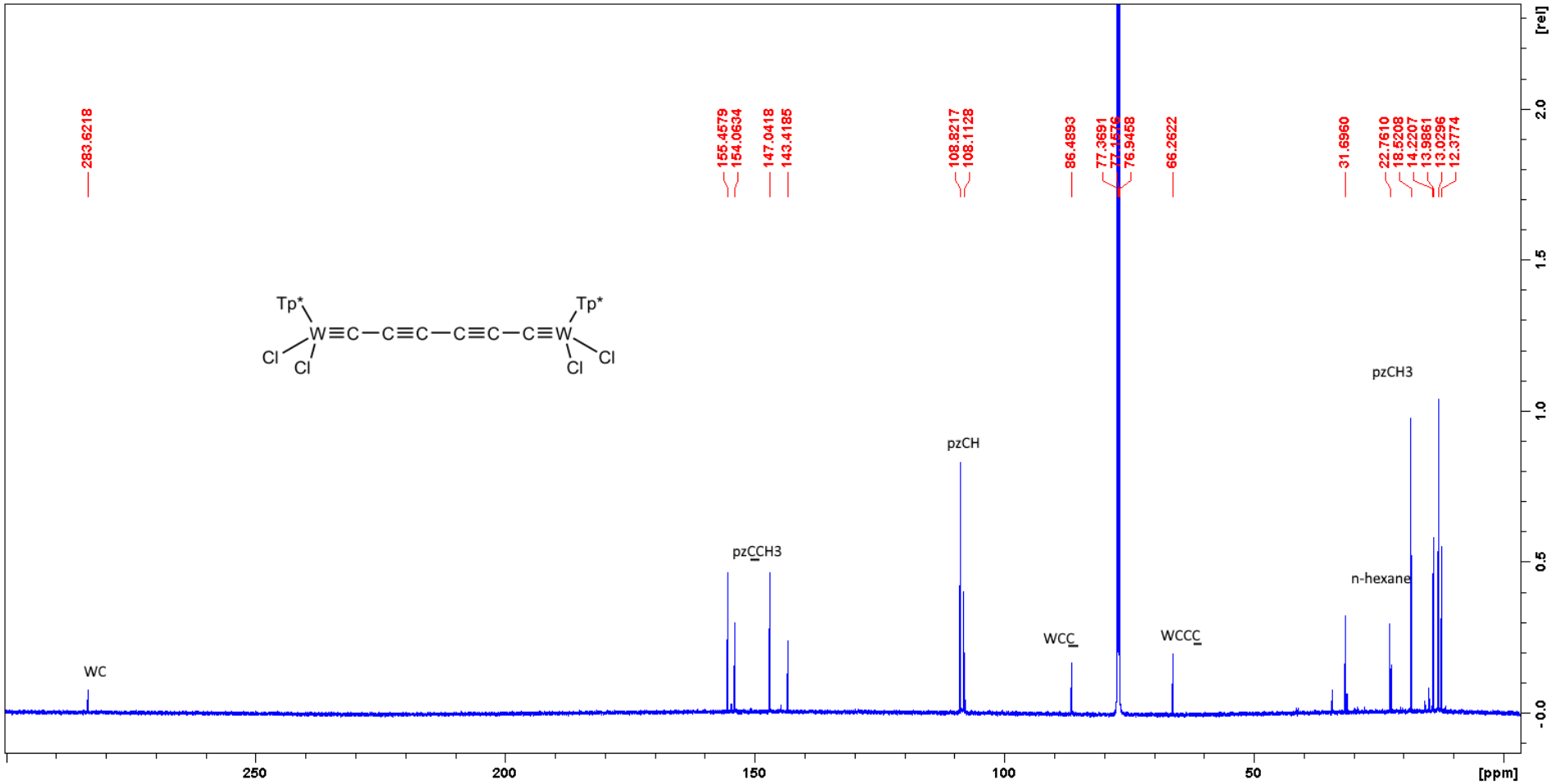
^{1}H NMR (700 MHz, $CDCl_3$, 298K, δ) for $[W_2\{\mu\text{-}C_6[Co_2(CO)_6]_2\}(CO)_4(Tp^*)_2]$ (**2**).



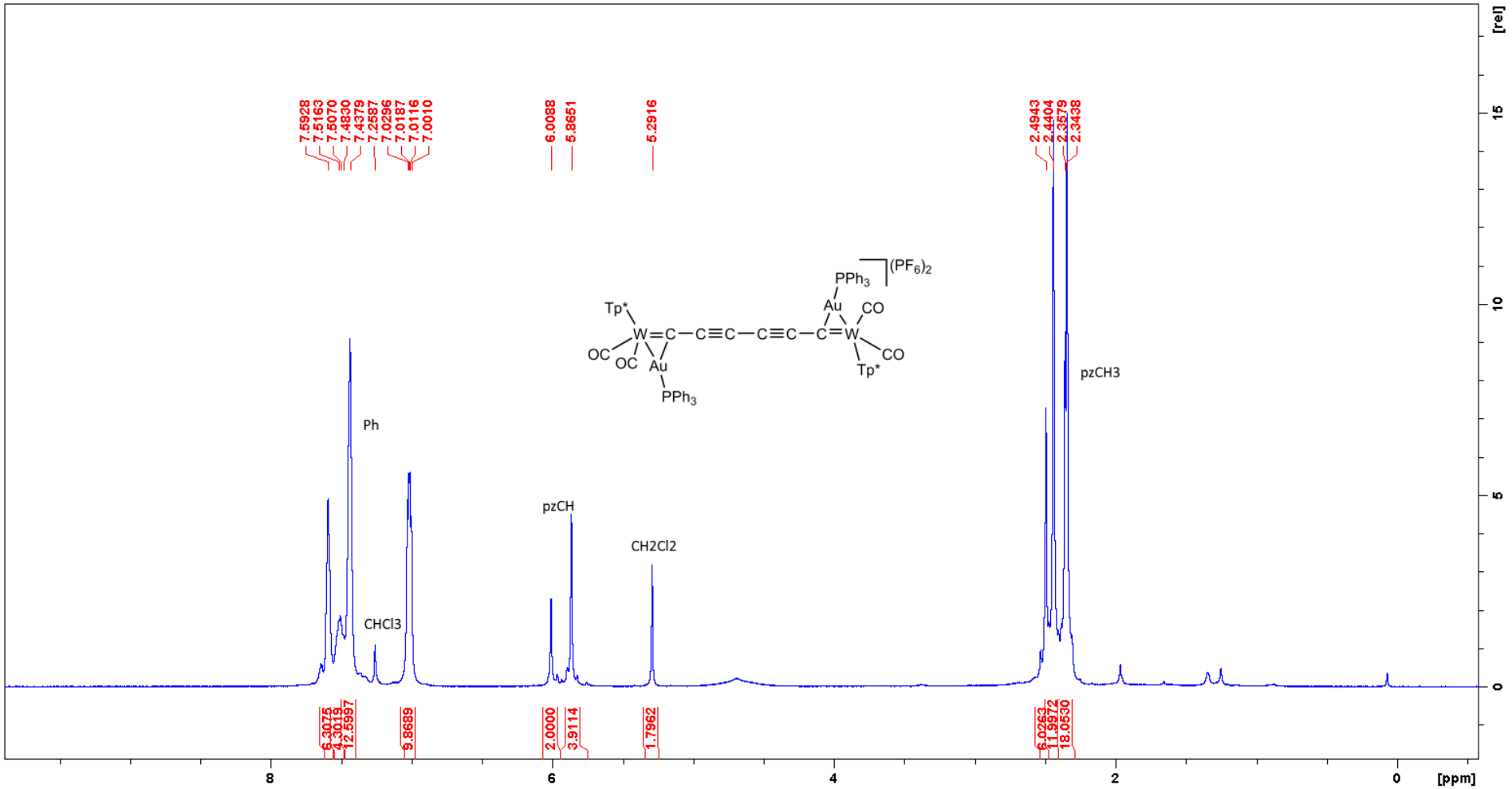
$^{13}C\{^{1}H\}$ NMR (176 MHz, $CDCl_3$, 298K, δ) for $[W_2\{\mu\text{-}C_6[Co_2(CO)_6]_2\}(CO)_4(Tp^*)_2]$ (**2**).



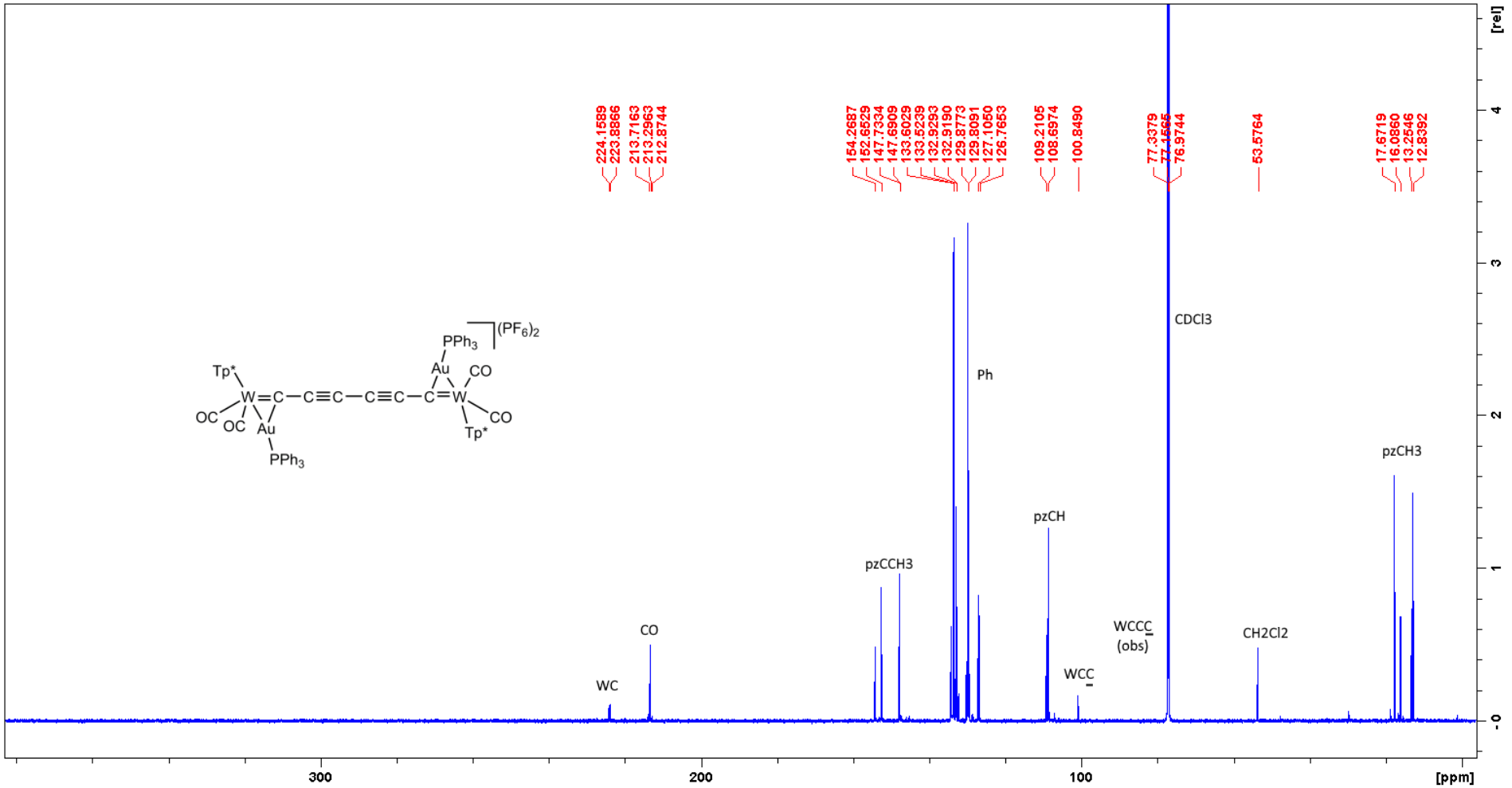
^{1}H NMR (600 MHz, $CDCl_3$, 298K, δ) for $[W_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)Cl_4(Tp^*)_2]$ (**4**).



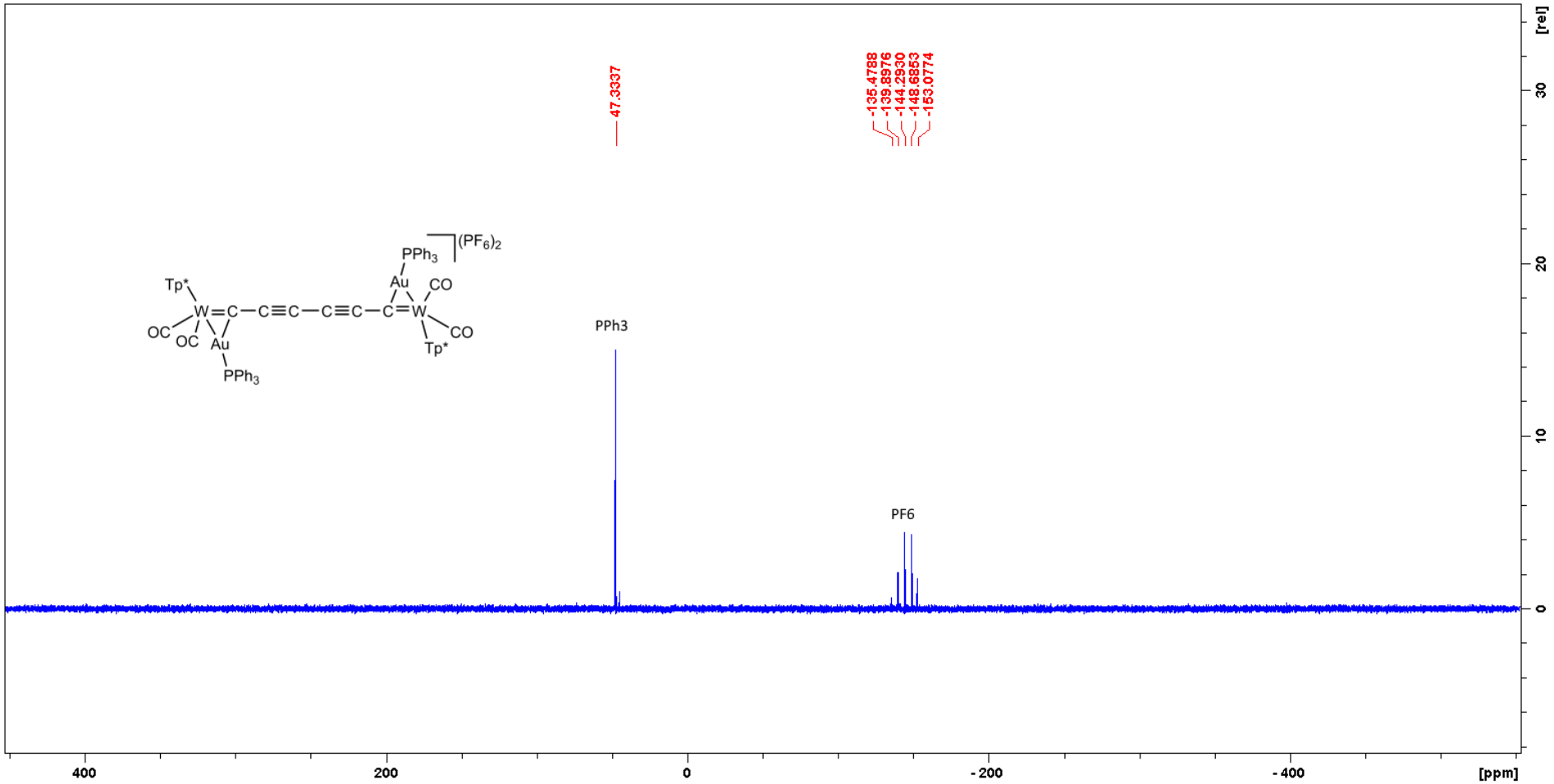
$^{13}C\{^{1}H\}$ NMR (151 MHz, $CDCl_3$, 298K, δ) for $[W_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)Cl_4(Tp^*)_2]$ (**4**).



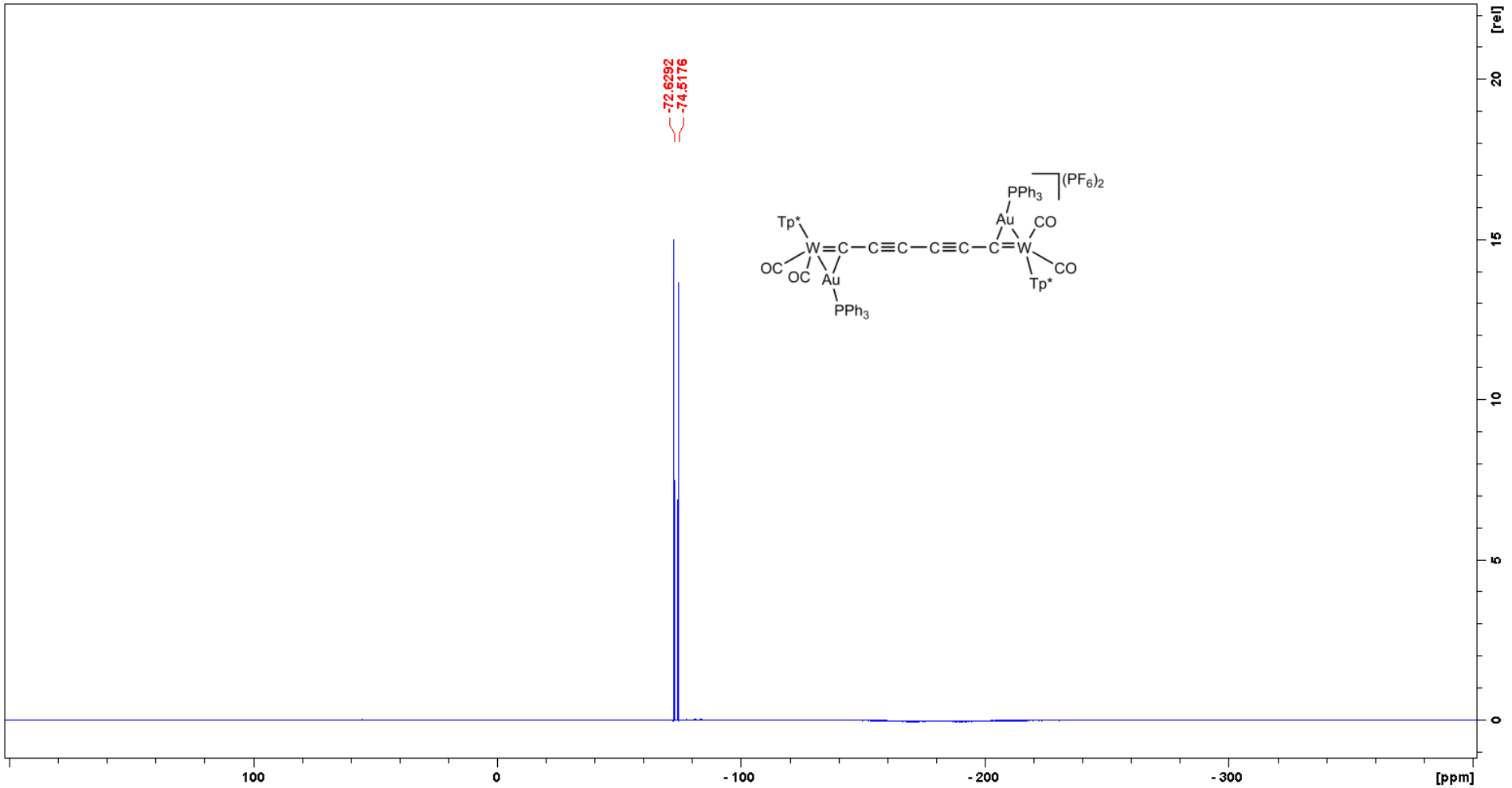
^{1}H NMR (700 MHz, $CDCl_3$, 298K, δ) for $[W_2Au_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(PPh_3)_2(CO)_4(Tp^*)_2](PF_6)_2$ (**5**).



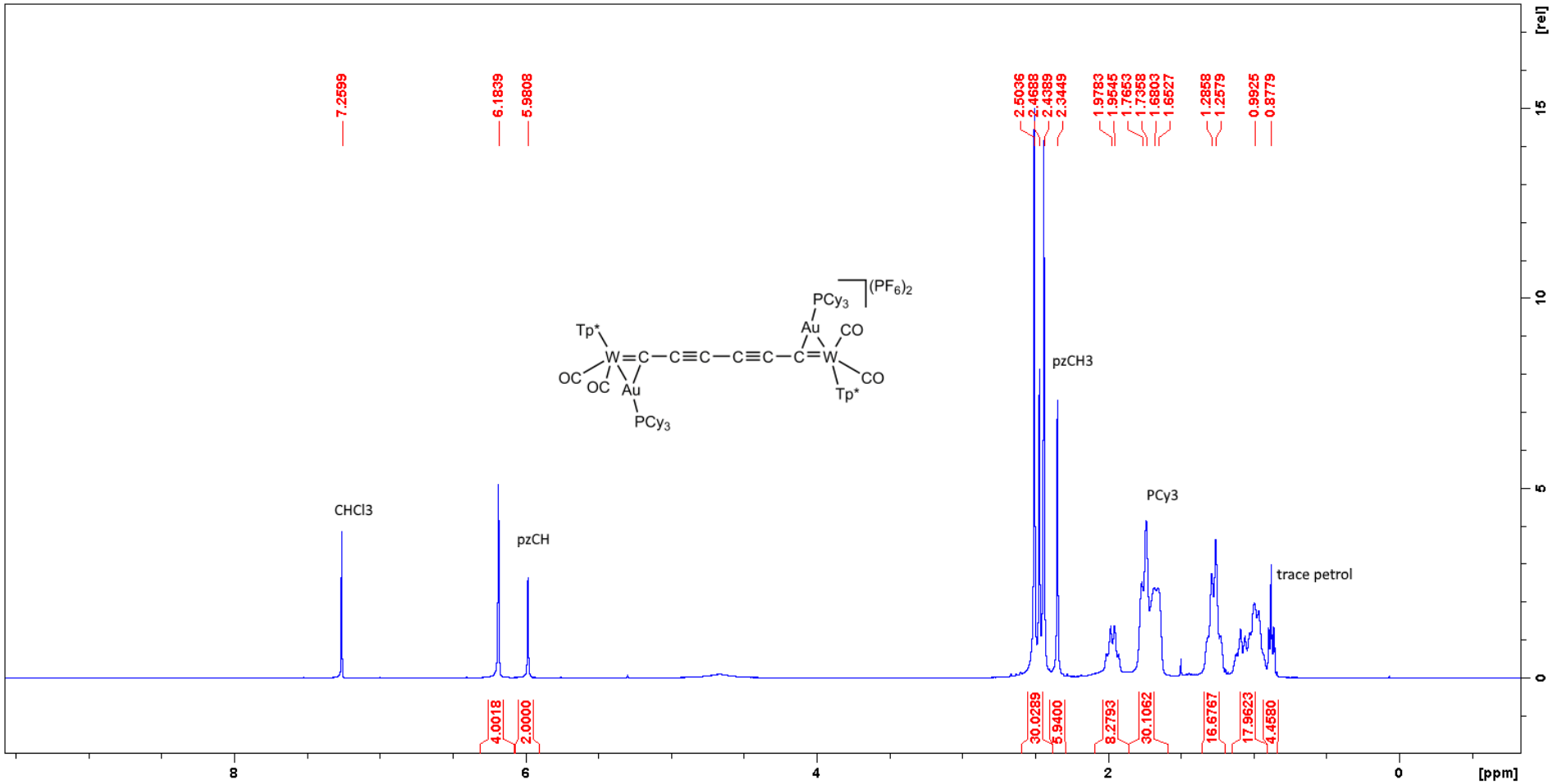
$^{13}C\{^{1}H\}$ NMR (176 MHz, $CDCl_3$, 298K, δ) for $[W_2Au_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(PPh_3)_2(CO)_4(Tp^*)_2](PF_6)_2$ (**5**).



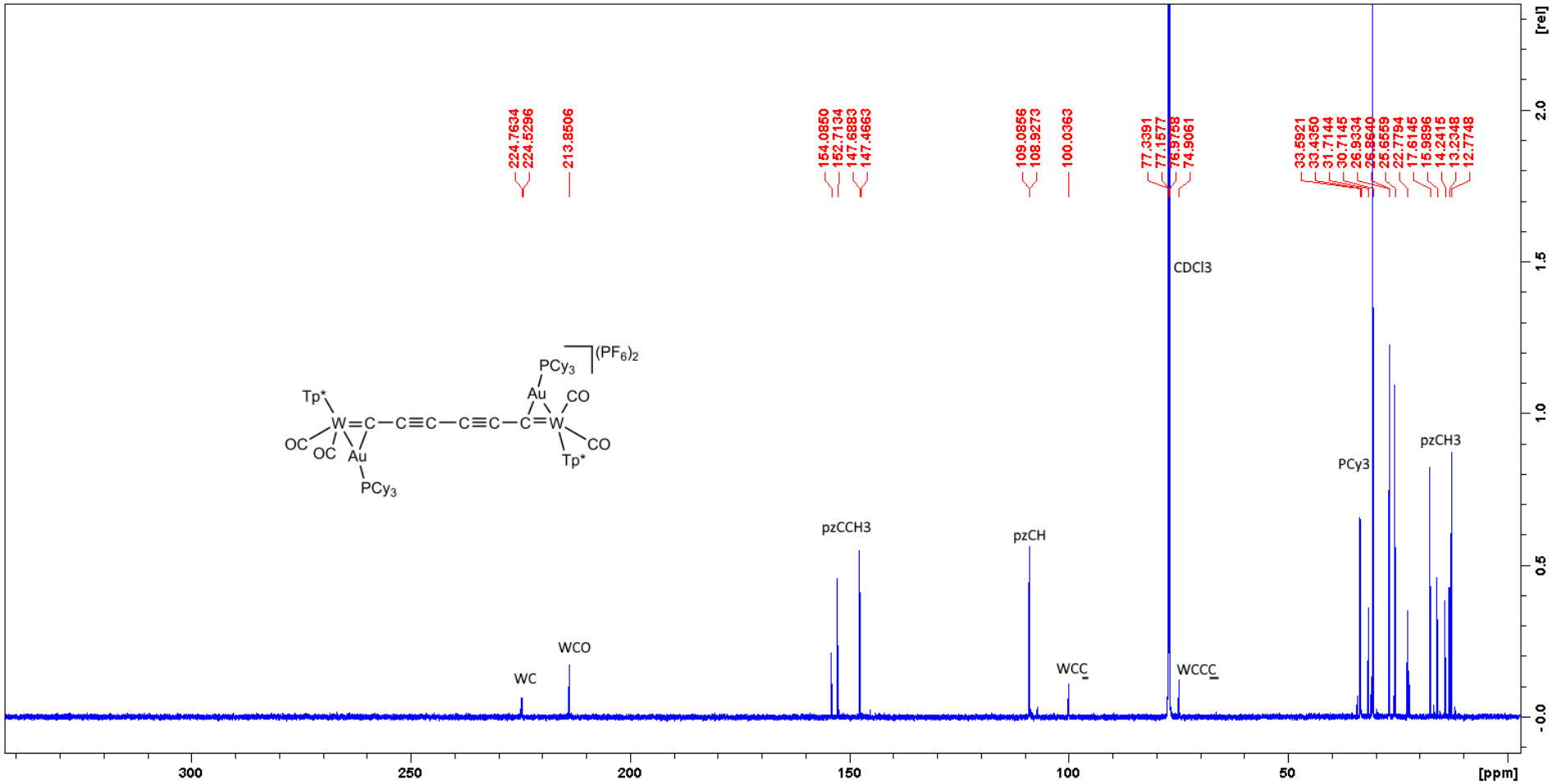
$^{31}P\{^{1}H\}$ NMR (162 MHz, $CDCl_3$, 298K, δ) for $[W_2Au_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(PPh_3)_2(CO)_4(Tp^*)_2](PF_6)_2$ (**5**).



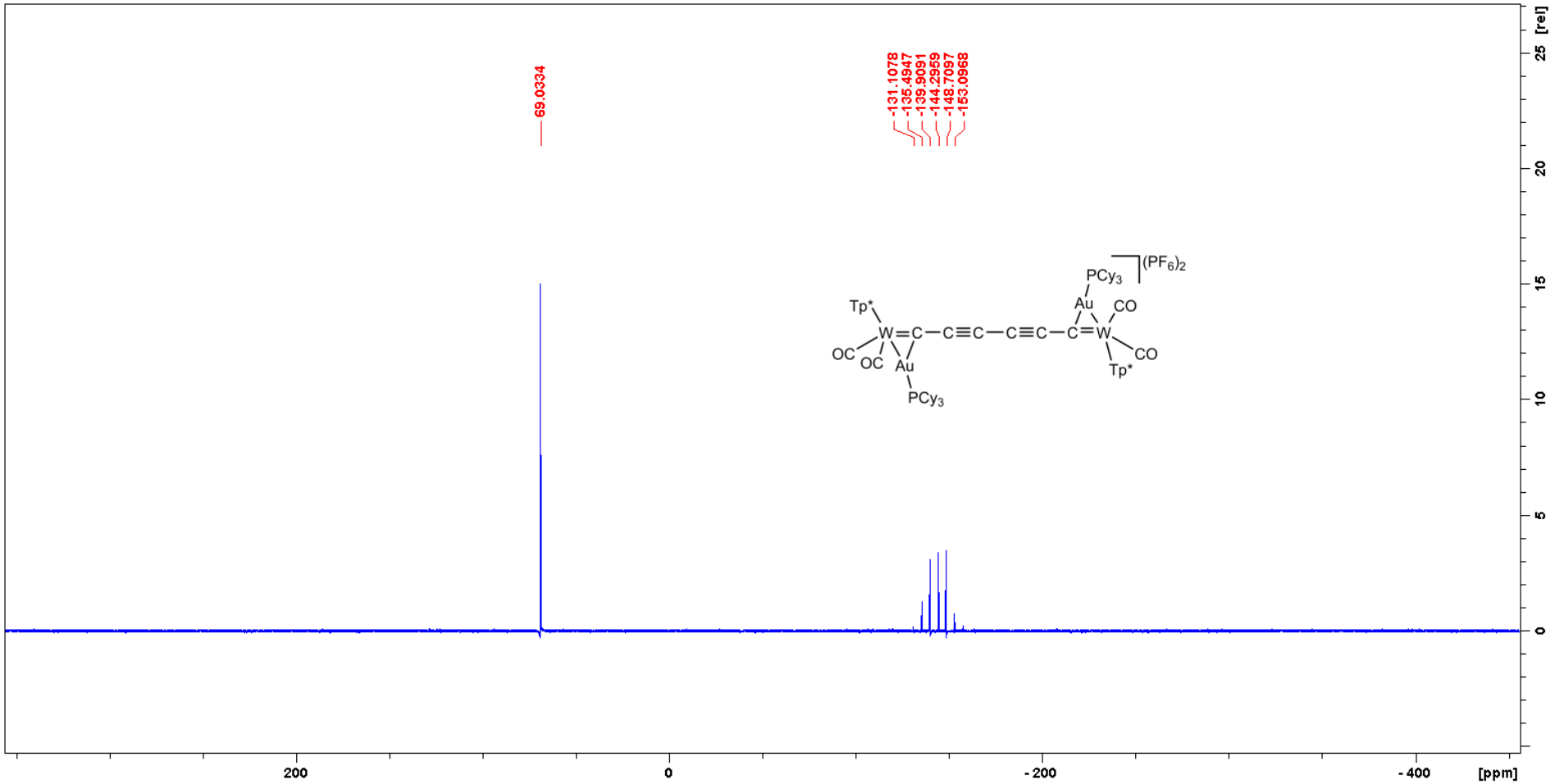
$^{19}F\{^{1}H\}$ NMR (376 MHz, $CDCl_3$, 298K, δ) for $[W_2Au_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(PPh_3)_2(CO)_4(Tp^*)_2](PF_6)_2$ (**5**).



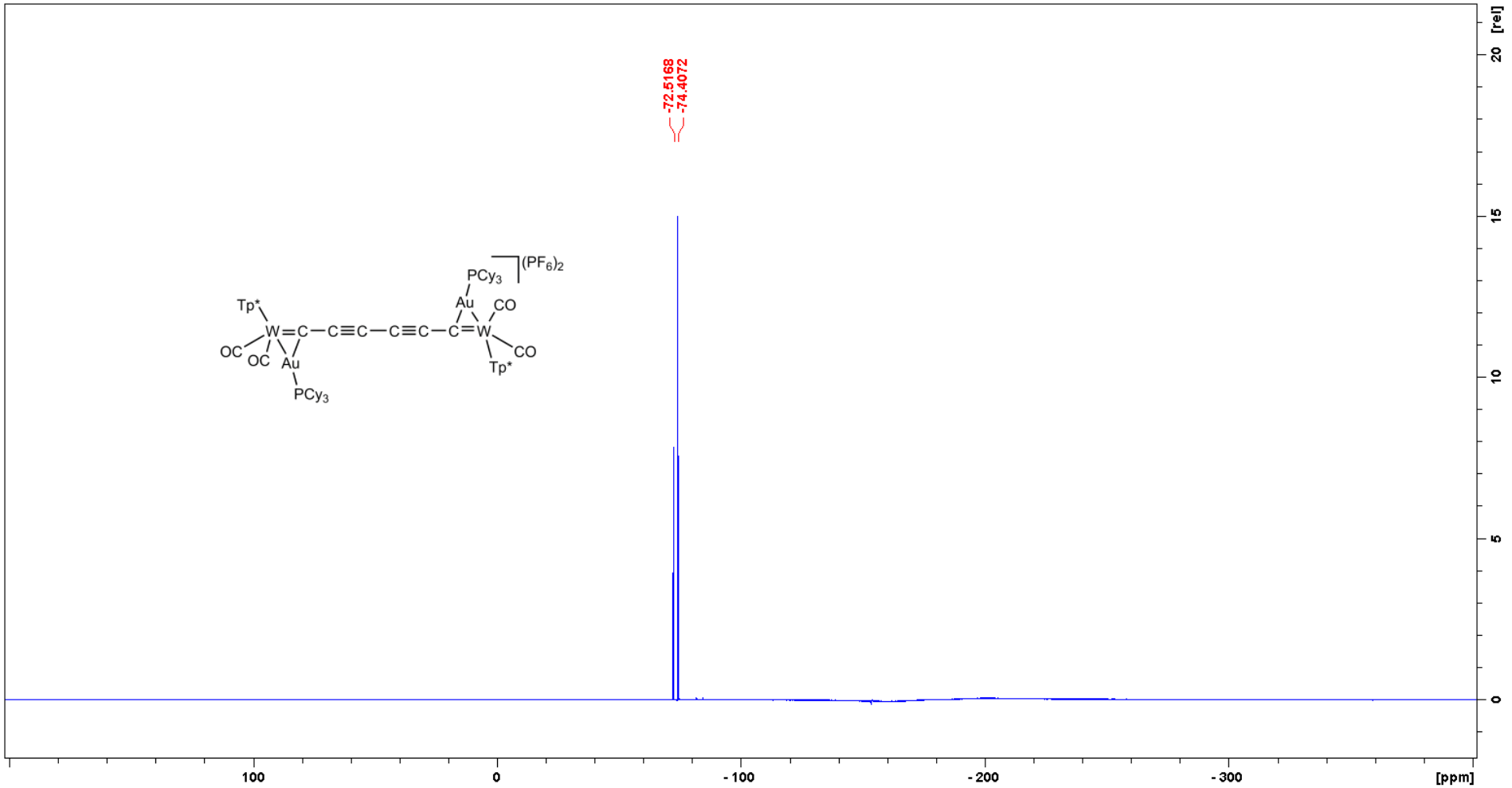
^{1}H NMR (700 MHz, $CDCl_3$, 298K, δ) for $[W_2Au_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(PCy_3)_2(CO)_4(Tp^*)_2](PF_6)_2$ (**6**).



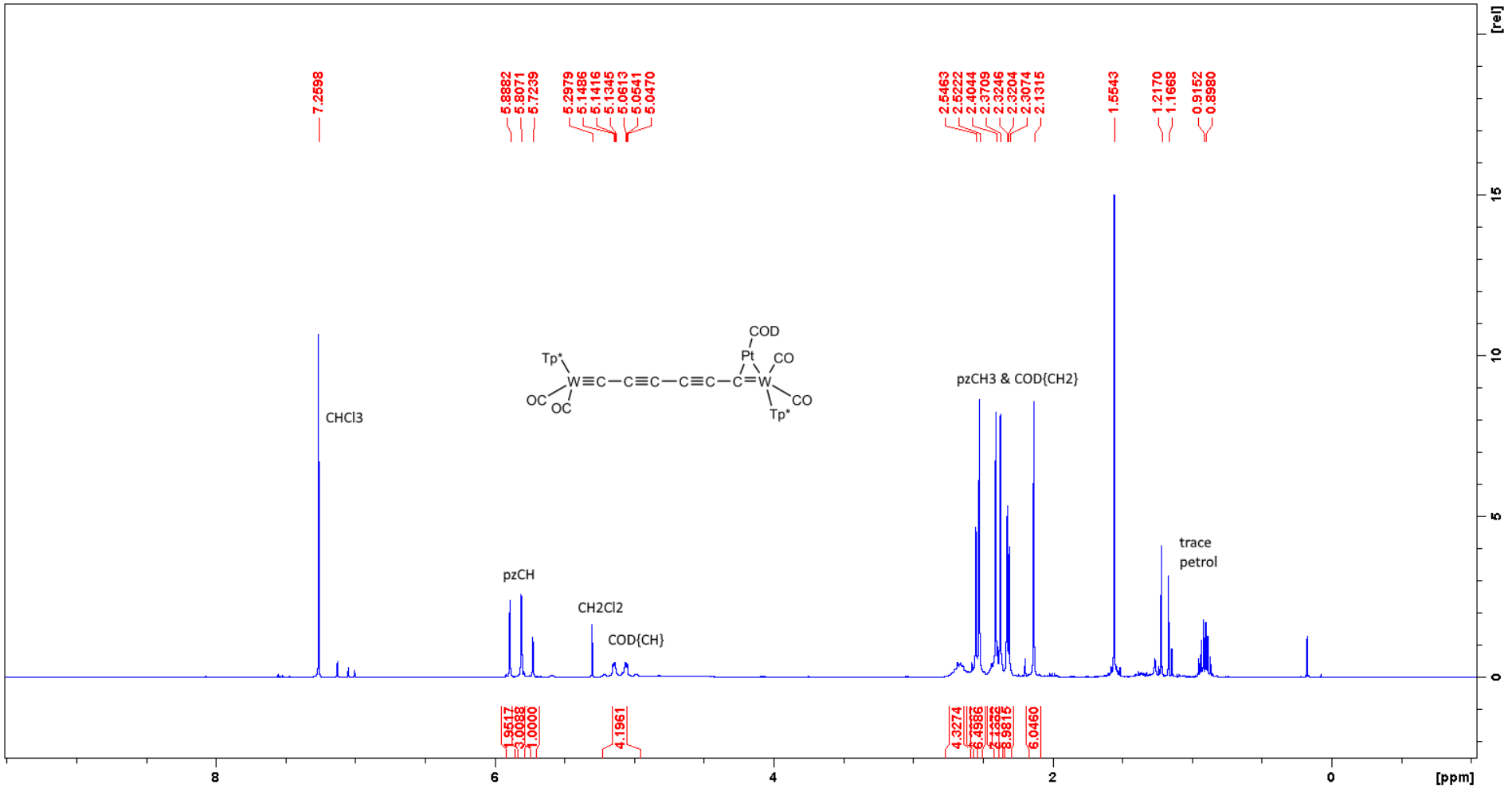
$^{13}C\{^{1}H\}$ NMR (176 MHz, $CDCl_3$, 298K, δ) for $[W_2Au_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(PCy_3)_2(CO)_4(Tp^*)_2](PF_6)_2$ (**6**).



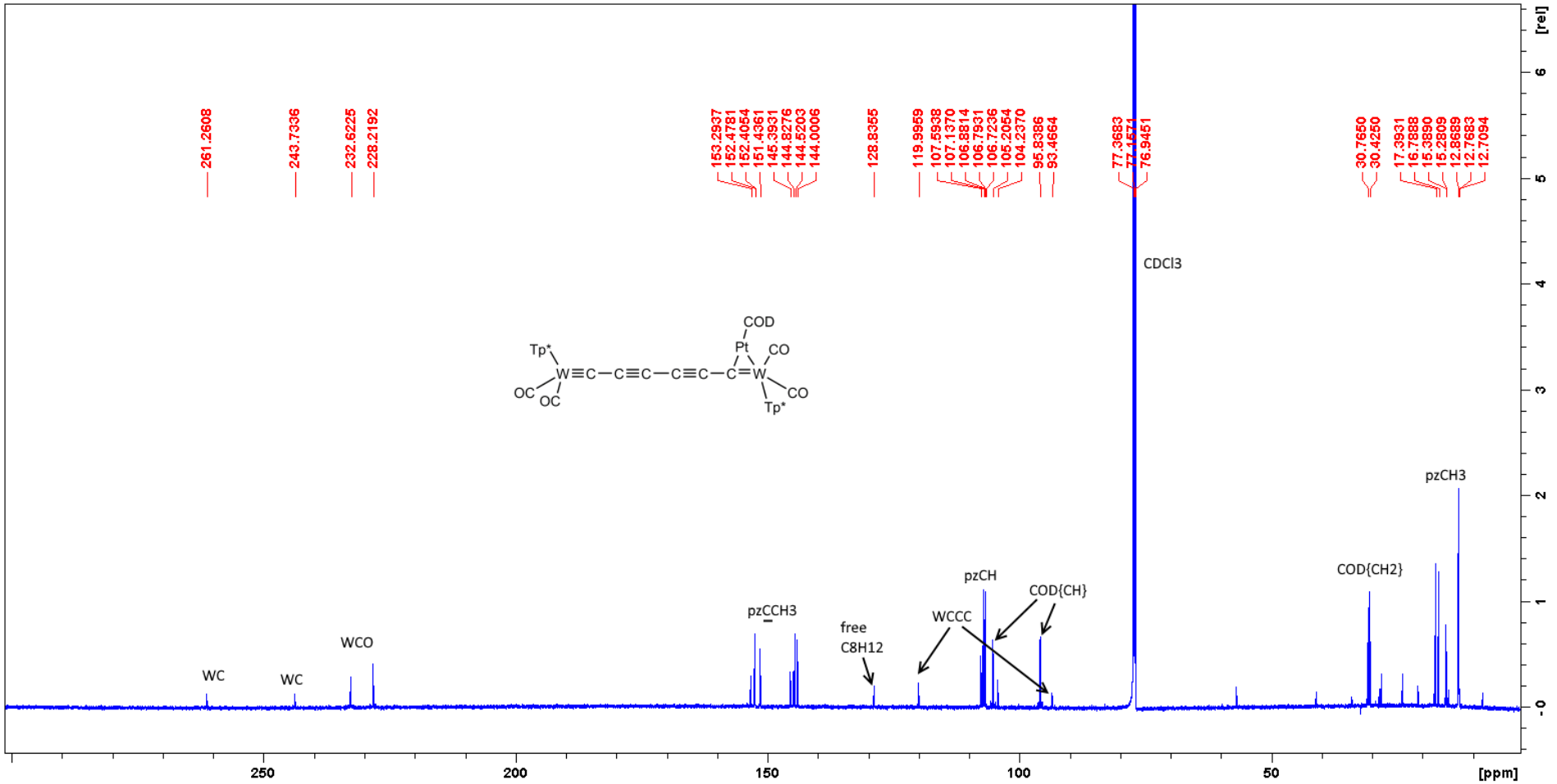
$^{31}P\{^{1}H\}$ NMR (162 MHz, $CDCl_3$, 298K, δ) for $[W_2Au_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(PCy_3)_2(CO)_4(Tp^*)_2](PF_6)_2$ (**6**).



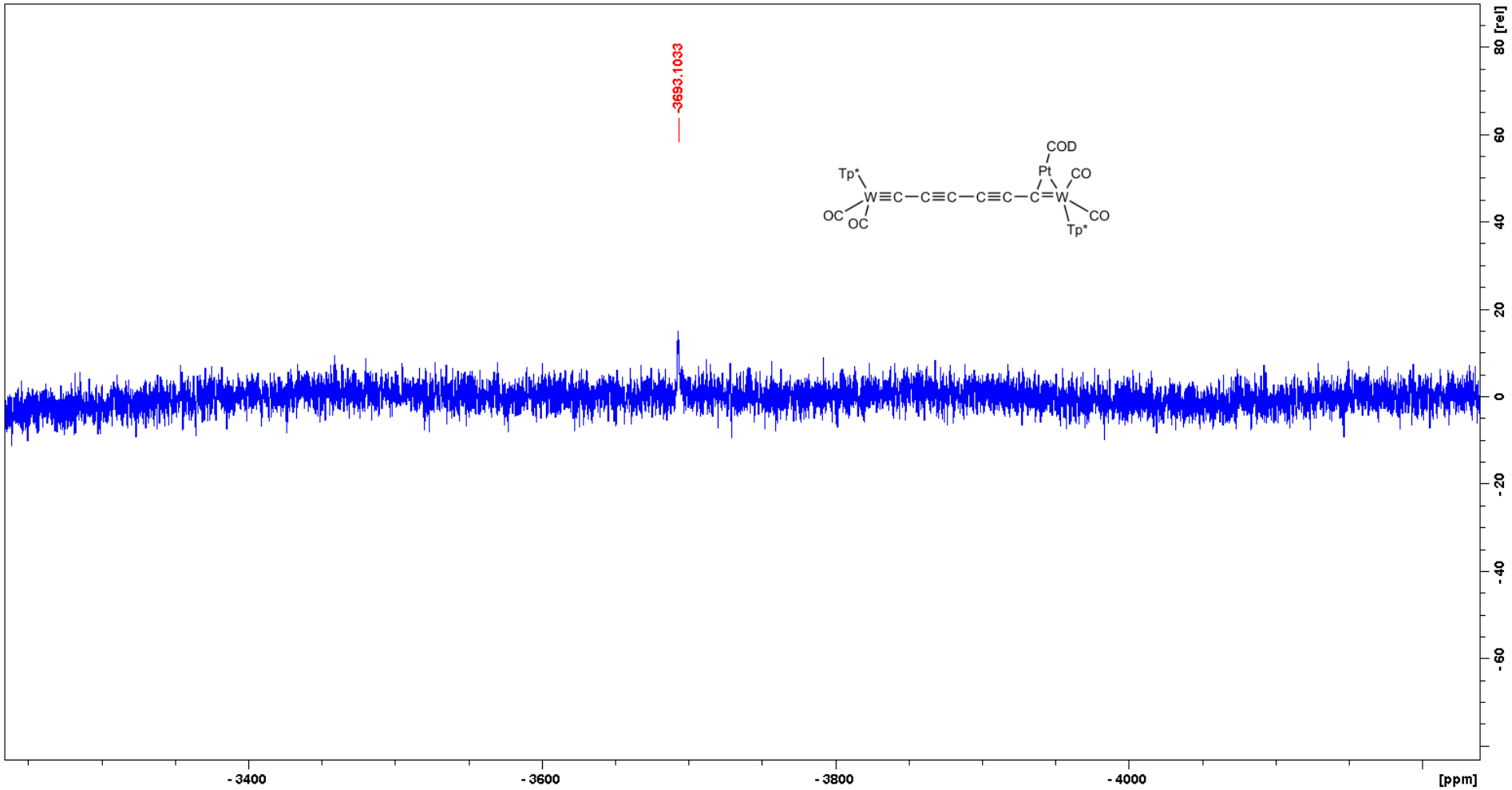
$^{19}F\{^{1}H\}$ NMR (376 MHz, $CDCl_3$, 298K, δ) for $[W_2Au_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(PCy_3)_2(CO)_4(Tp^*)_2](PF_6)_2$ (**6**).



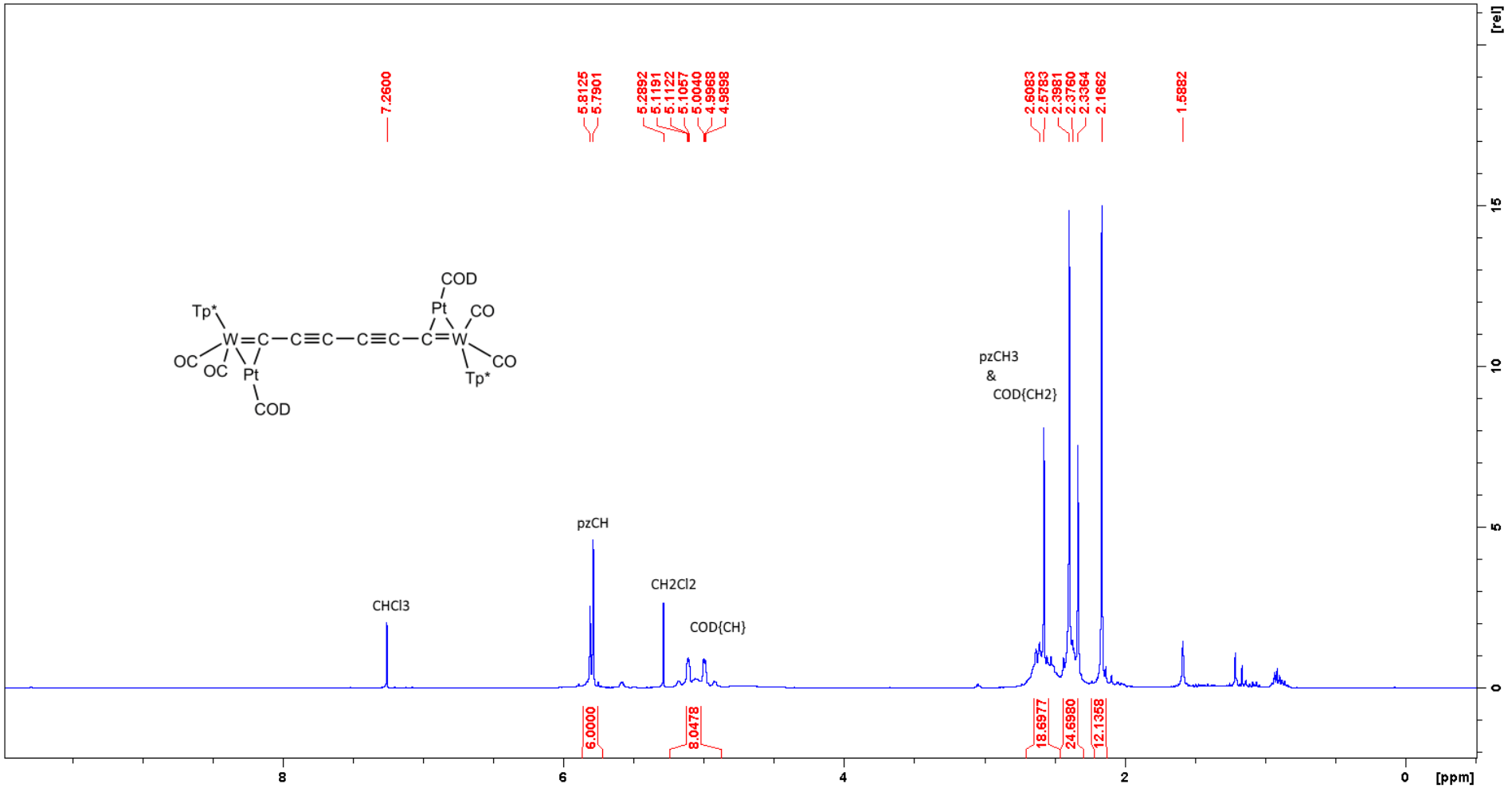
^{1}H NMR (600 MHz, $CDCl_3$, 298K, δ) for $[W_2Pt(\mu\text{-}CC{\equiv}CC{\equiv}CC)(COD)(CO)_4(Tp^*)_2]$ (**7**).



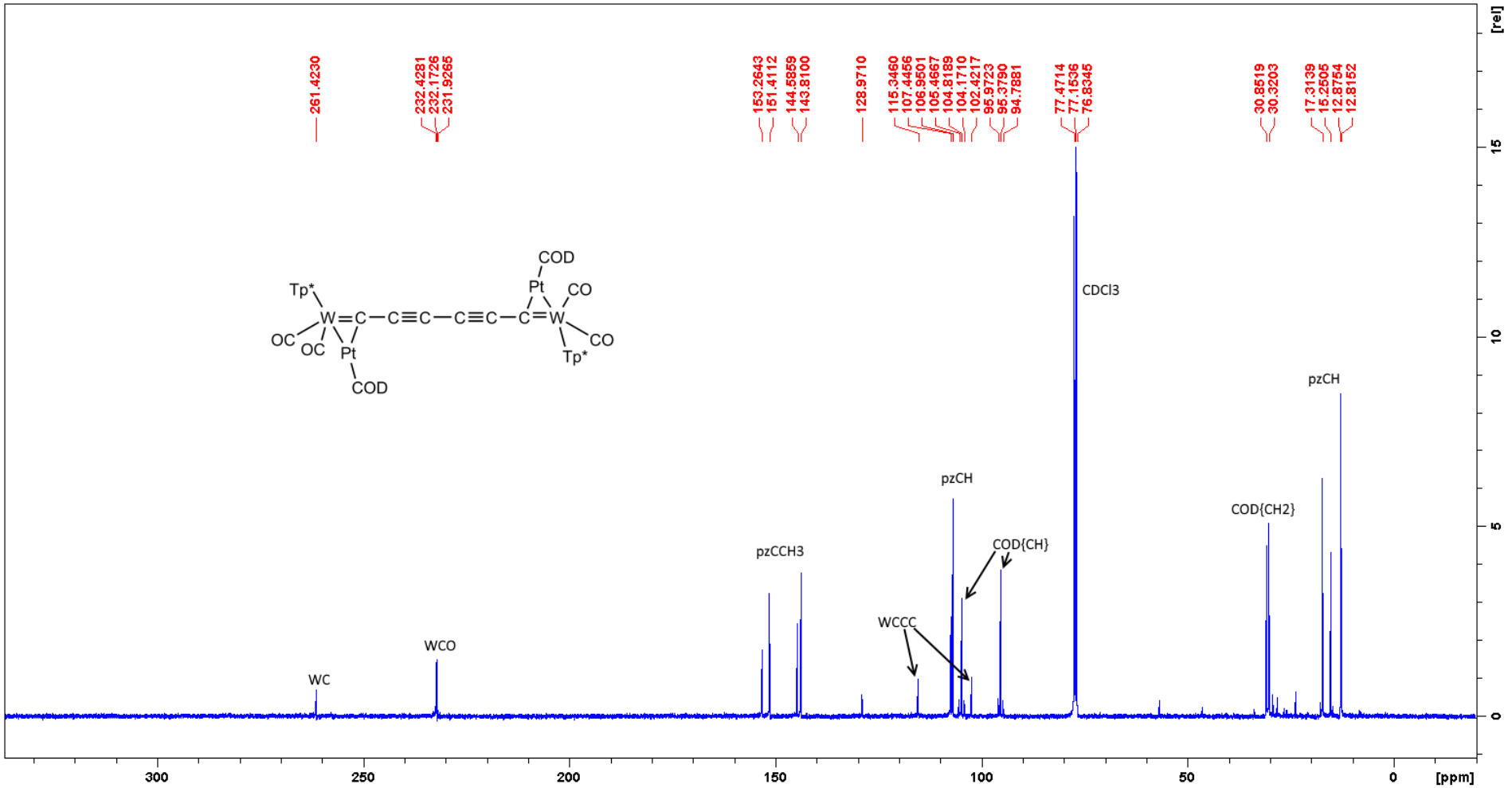
$^{13}C\{^{1}H\}$ NMR (151 MHz, $CDCl_3$, 298K, δ) for $[W_2Pt(\mu\text{-}CC{\equiv}CC{\equiv}CC)(COD)(CO)_4(Tp^*)_2]$ (**7**).



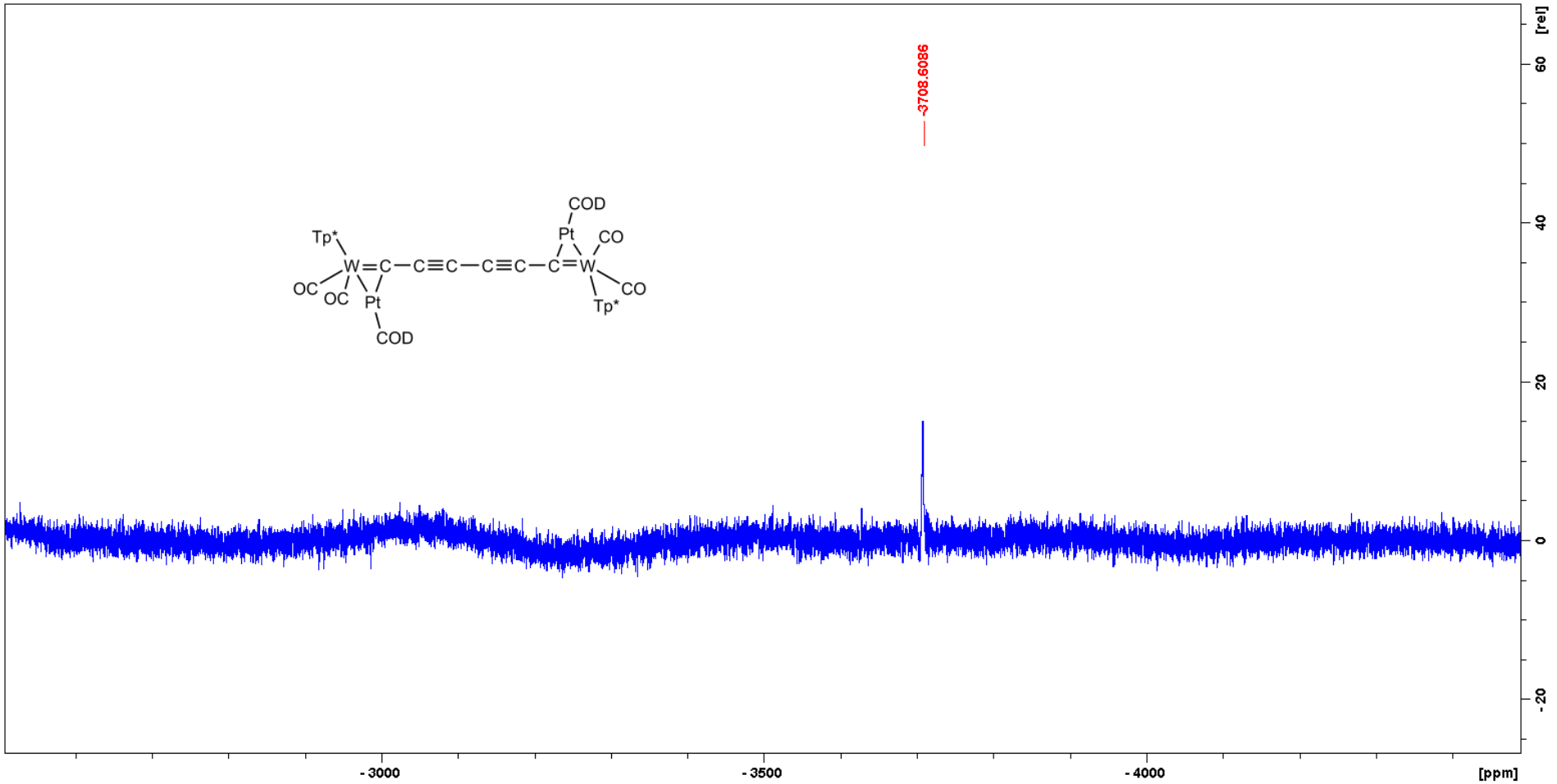
^{195}Pt NMR (86 MHz, $CDCl_3$, 298K, δ) for $[W_2Pt(\mu\text{-}CC{\equiv}CC{\equiv}CC)(COD)(CO)_4(Tp^*)_2]$ (**7**).



^{1}H NMR (400 MHz, $CDCl_3$, 298K, δ) for $[W_2Pt_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(COD)_2(CO)_4(Tp^*)_2]$ (**8**).



$^{13}C\{^{1}H\}$ NMR (101 MHz, $CDCl_3$, 298K, δ) for $[W_2Pt_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(COD)_2(CO)_4(Tp^*)_2]$ (**8**).



^{195}Pt NMR (86 MHz, $CDCl_3$, 298K, δ) for $[W_2Pt_2(\mu\text{-}CC{\equiv}CC{\equiv}CC)(COD)_2(CO)_4(Tp^*)_2]$ (**8**).