Supporting Information for

Bis(hydrosulfido)-bridged dinuclear rhodium(I) complexes as a platform for the synthesis of trinuclear sulfido aggregates with the core $[MRh_2(\mu_3\text{-}S_2)]$ (M = Rh, Ir, Pd, Pt, Ru)

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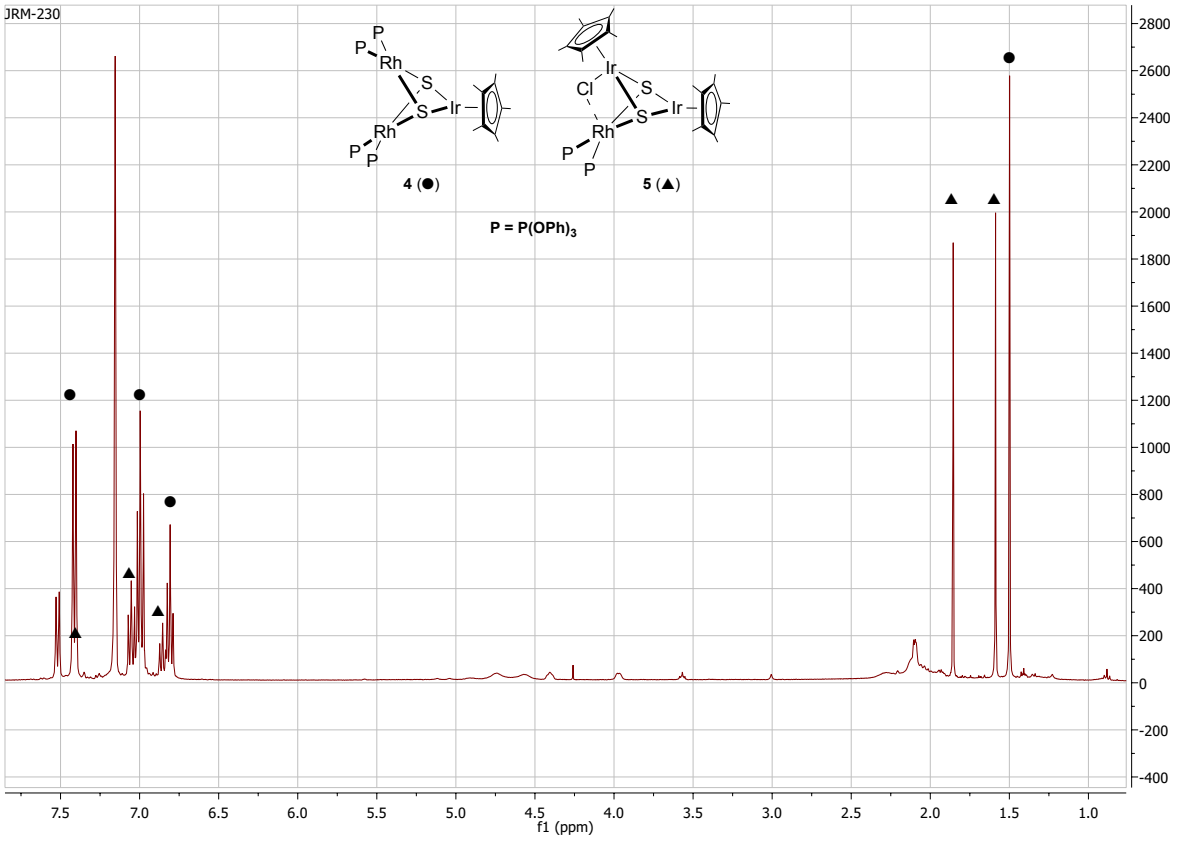
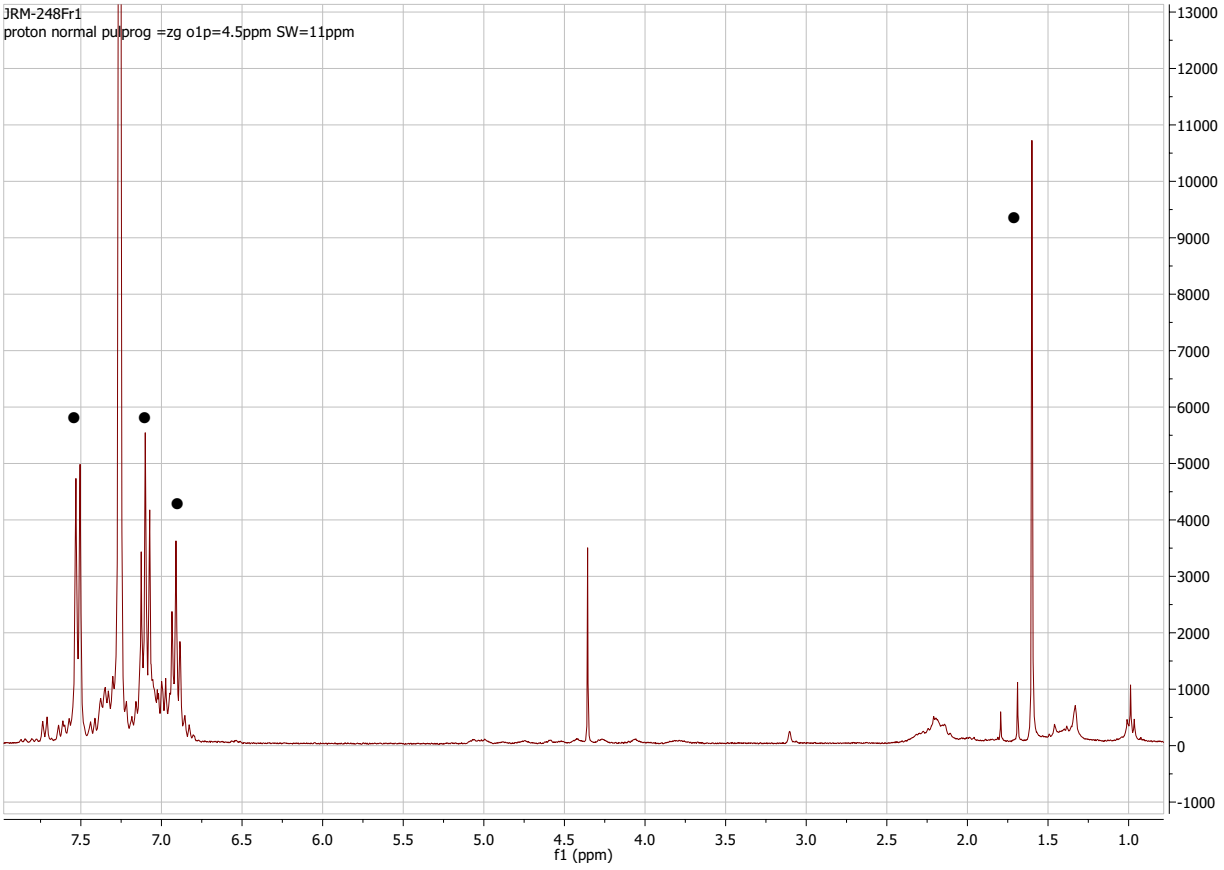
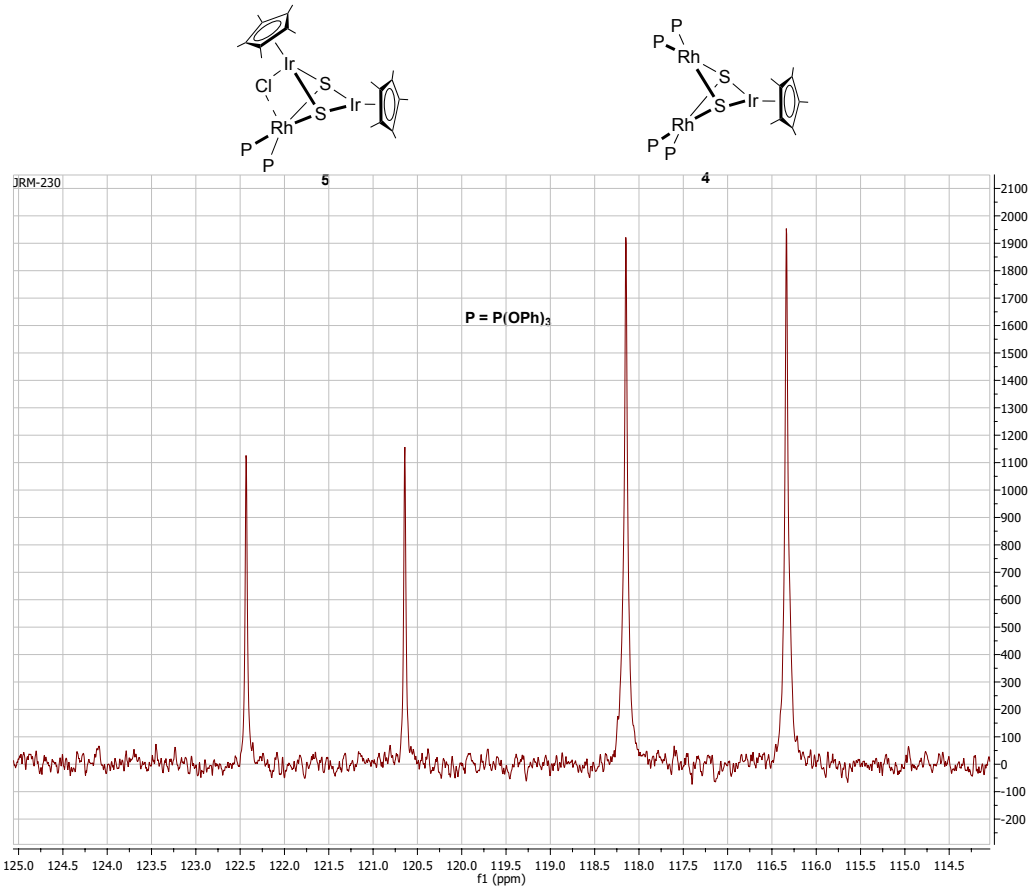
^{1}H NMR of 4 + 5 and 4 in C_6D_6 at 298 K



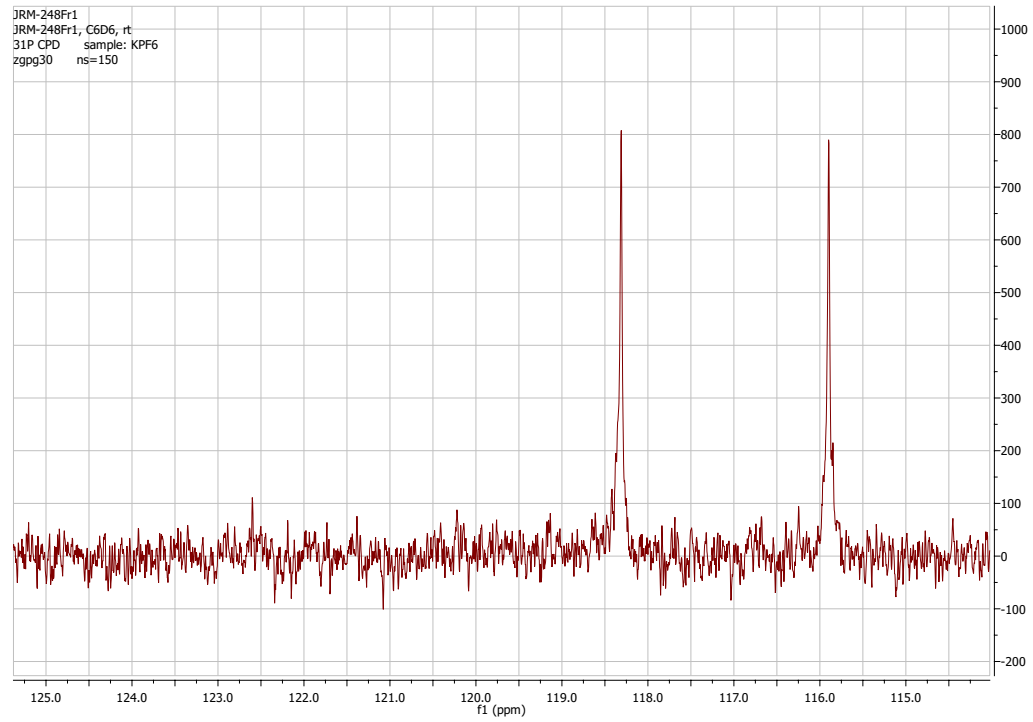


$^{31}P\{^{1}H\}$ NMR of 4 + 5 and 4 in C_6D_6 at 298 K

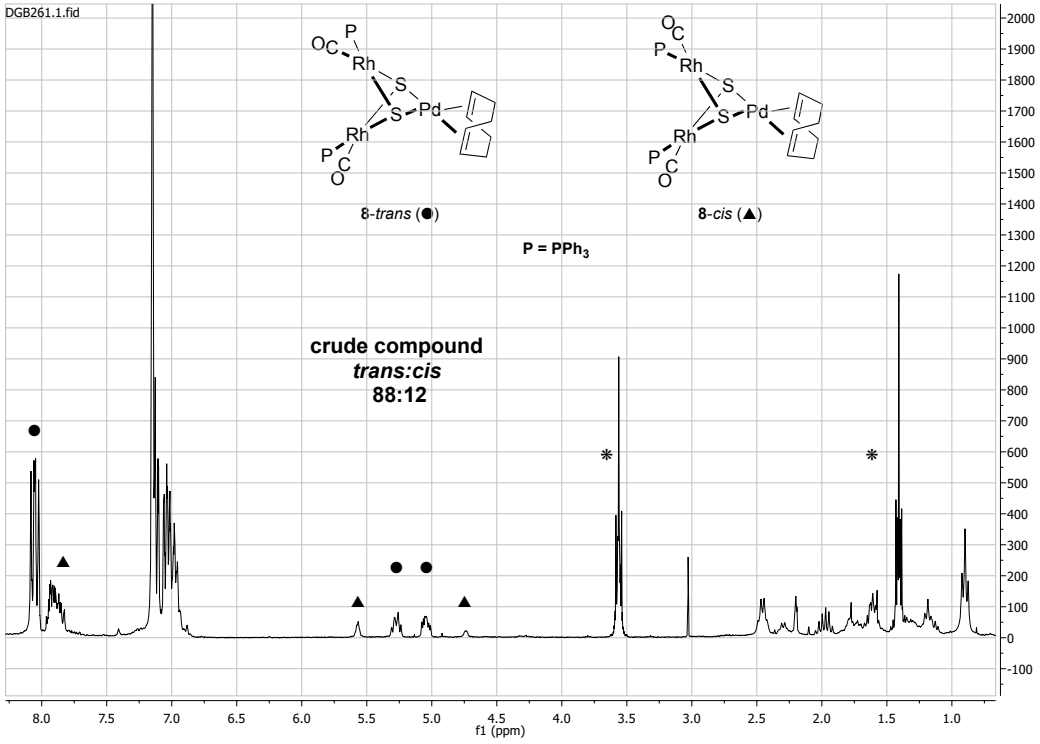
a)

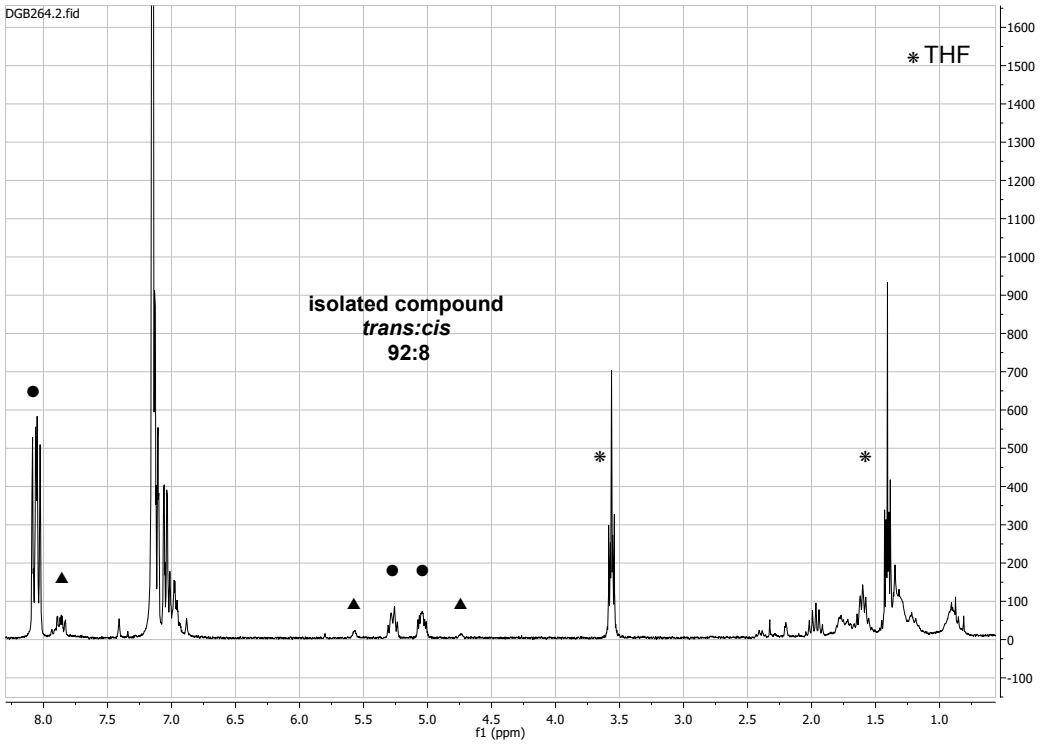


b)

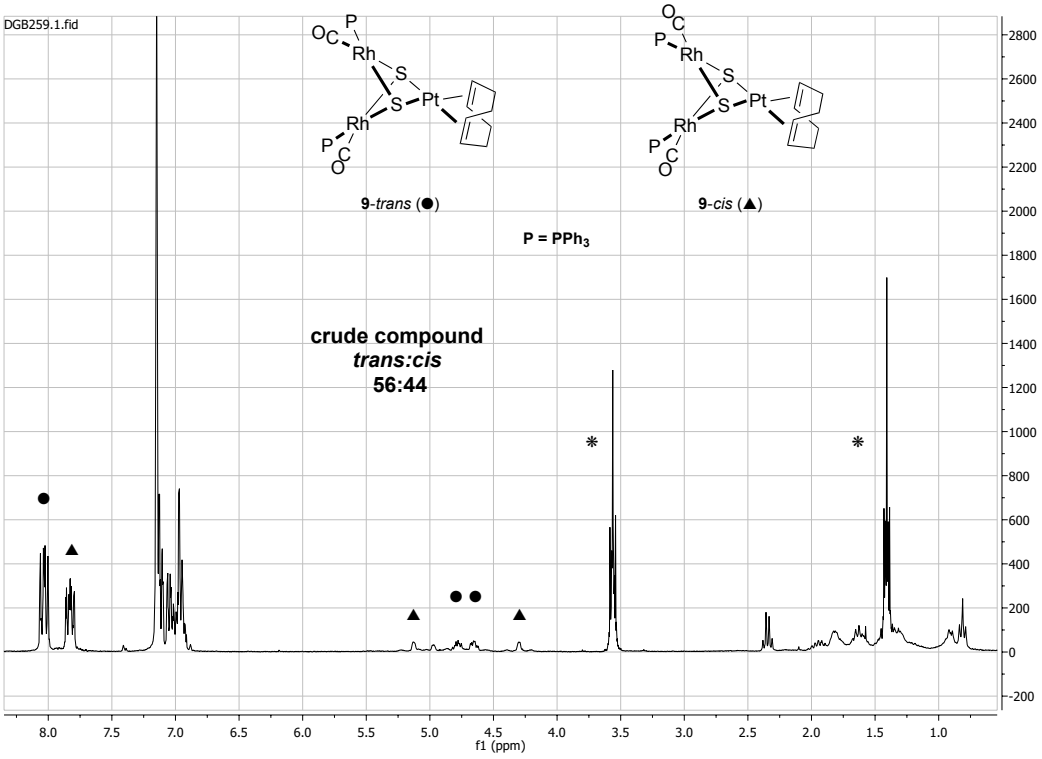


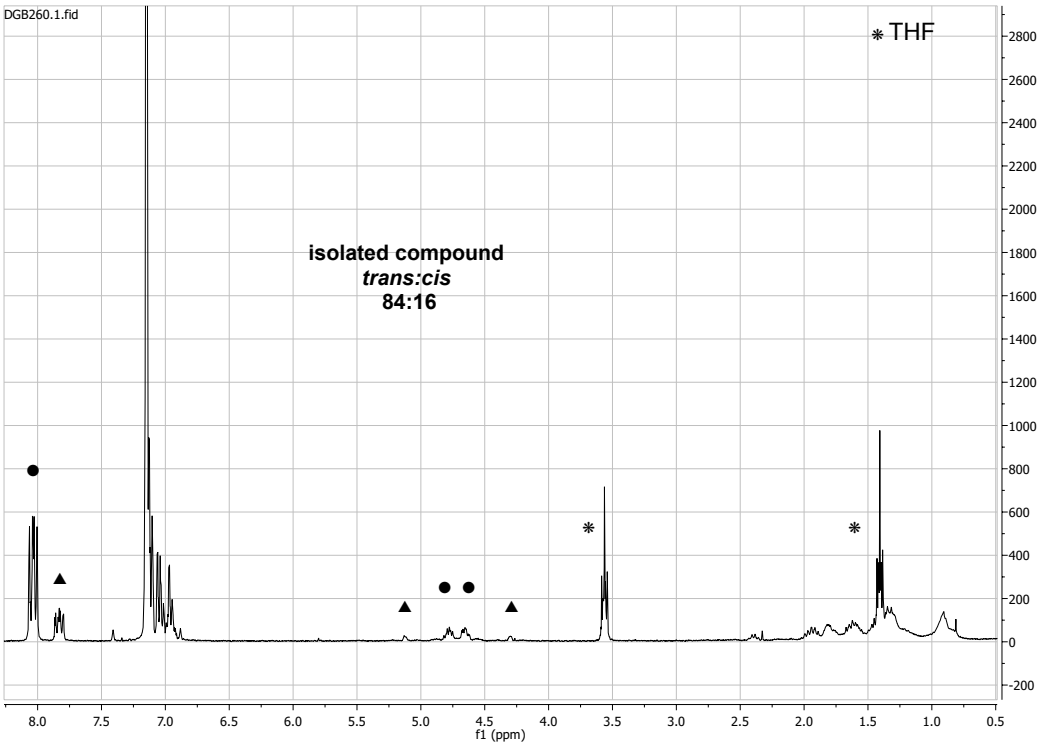
^{1}H NMR of [(cod)Pd(μ_3-S)$_2$Rh$_2$(CO)$_2$(PPh$_3$)$_2$] (8) in C_6D_6 at 298 K



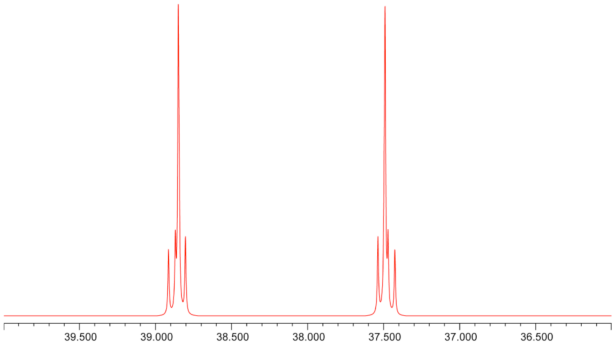


^{1}H NMR of [(cod)Pt(μ_3-S)$_2$Rh$_2$(CO)$_2$(PPh$_3$)$_2$] (9) in C_6D_6 at 298 K

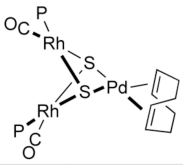


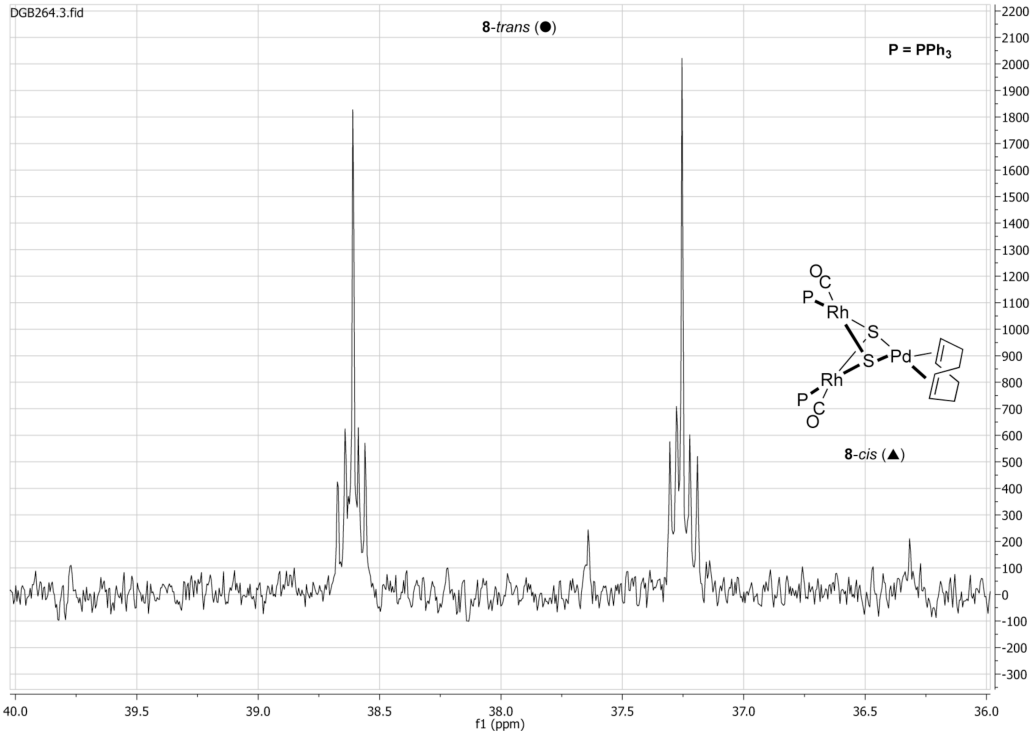


$^{31}P\{^{1}H\}$ NMR of $[(cod)Pd(\mu_3\text{-}S)_2Rh_2(CO)_2(PPh_3)_2]$ (8) in C_6D_6 at 298 K

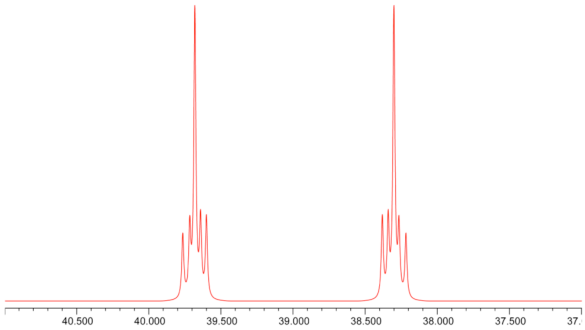


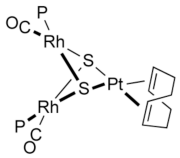
simulated spectrum

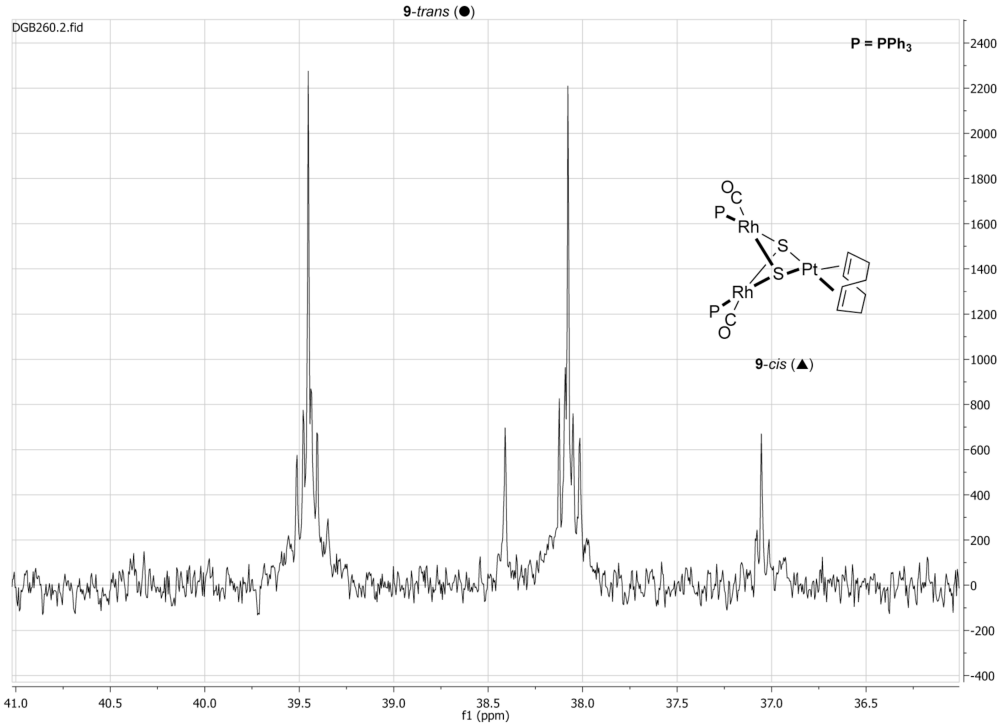




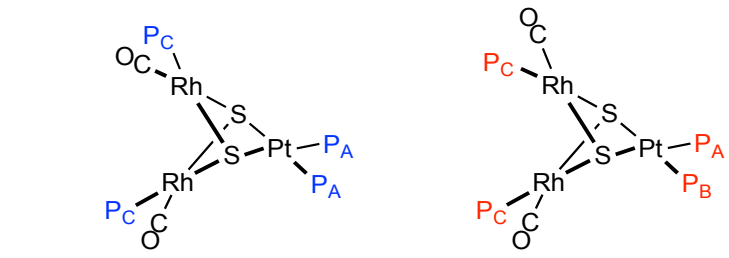
$^{31}P\{^{1}H\}$ NMR of $[(cod)Pt(\mu_3\text{-}S)_2Rh_2(CO)_2(PPh_3)_2]$ (9) in C_6D_6 at 298 K



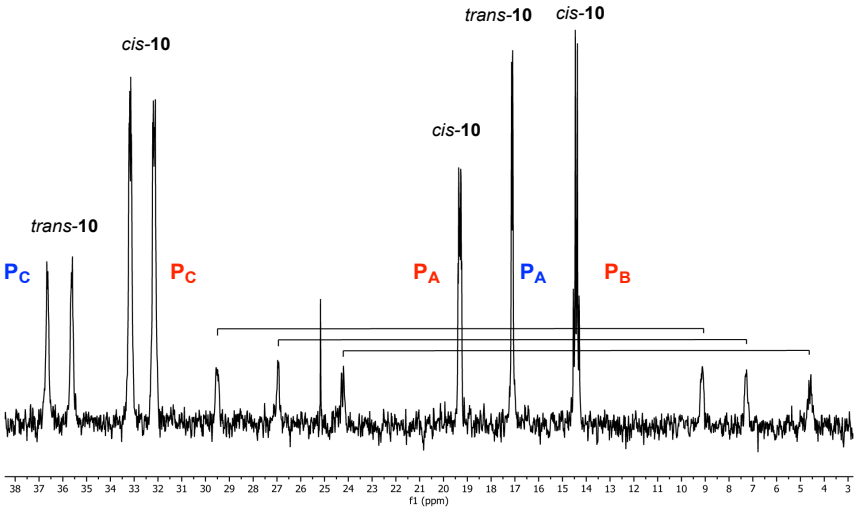




$^{31}P\{^{1}H\}$ NMR of $[(PPh_3)_2Pt(\mu_3\text{-}S)_2Rh_2(CO)_2(PPh_3)_2]$ (10) in C_6D_6 at 298 K



P = PPh_3



trans-**10** (32%)

δ 36.66 (br dd, $J_{Rh\text{-}PC}$ = 167.0 Hz, $^{4}J_{PC\text{-}PA}$ = 8.4 Hz, P_C)

δ 17.13 (d, $^{4}J_{PA\text{-}PC}$ = 8.4 Hz, $J_{Pt\text{-}PA}$ = 3185 Hz, P_A)

cis-**10** (68%)

δ 32.73 (ddd, $J_{Rh\text{-}PC}$ = 161.7 Hz, $^{4}J_{PB\text{-}PC}$ = 12.8 Hz, $^{4}J_{PC\text{-}PA}$ = 5.3 Hz, P_C)

δ 19.33 (dt, $^{2}J_{PA\text{-}PB}$ = 13.1 Hz, $^{4}J_{PA\text{-}PC}$ = 5.3 Hz, $J_{Pt\text{-}PA}$ = 3293 Hz, P_A)

δ 14.43 (dt, $^{2}J_{PA\text{-}PB}$ = 13.1 Hz, $^{4}J_{PC\text{-}PB}$ = 12.8 Hz, $J_{Pt\text{-}PB}$ = 3182 Hz, P_B)