

Supporting Information

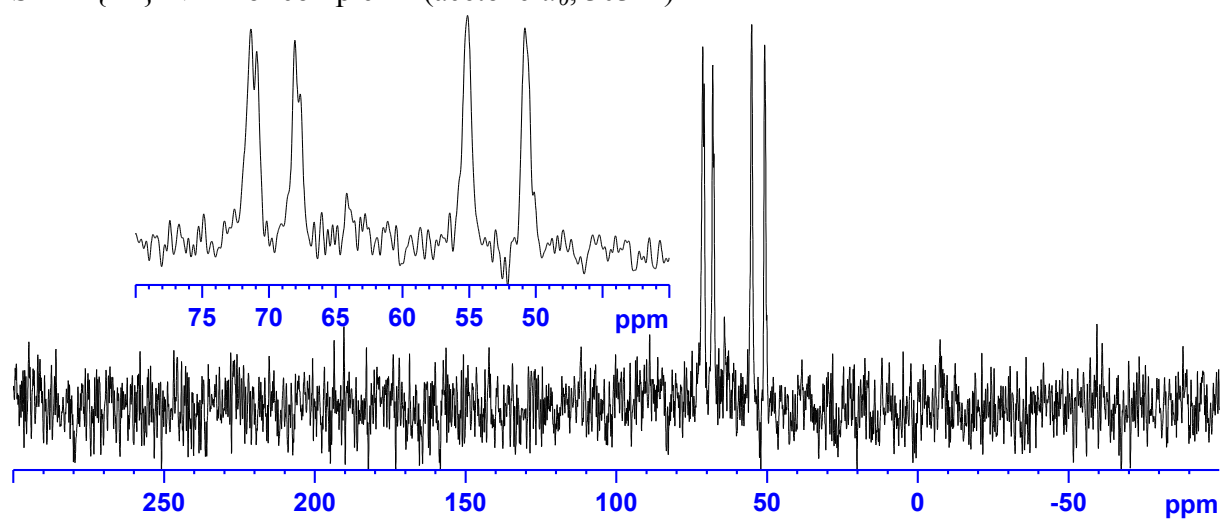
Heterobimetallic catechol-phosphine complexes with palladium and a group-13 element: structural flexibility and dynamics

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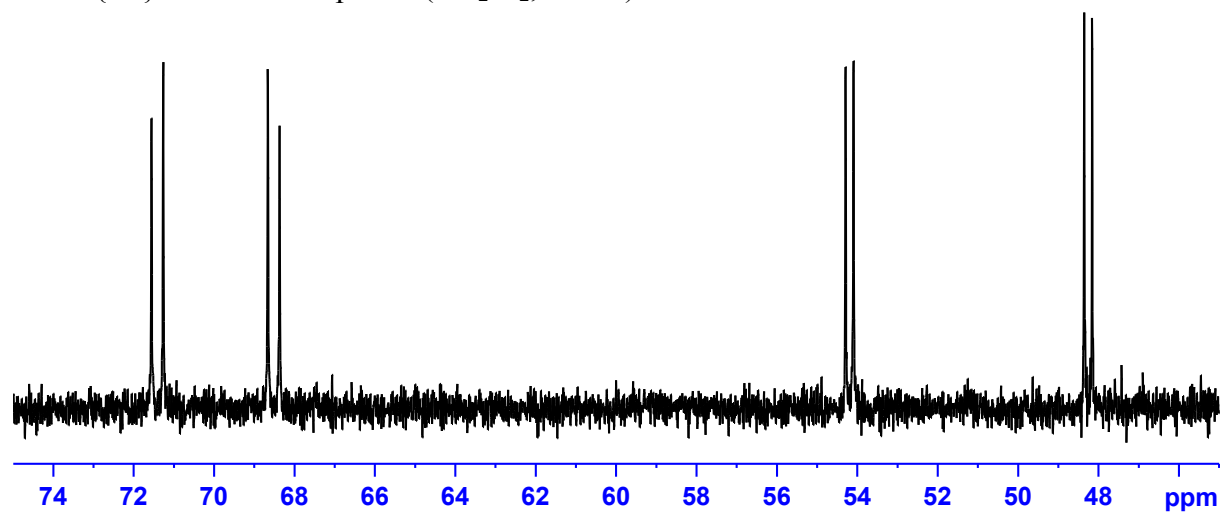
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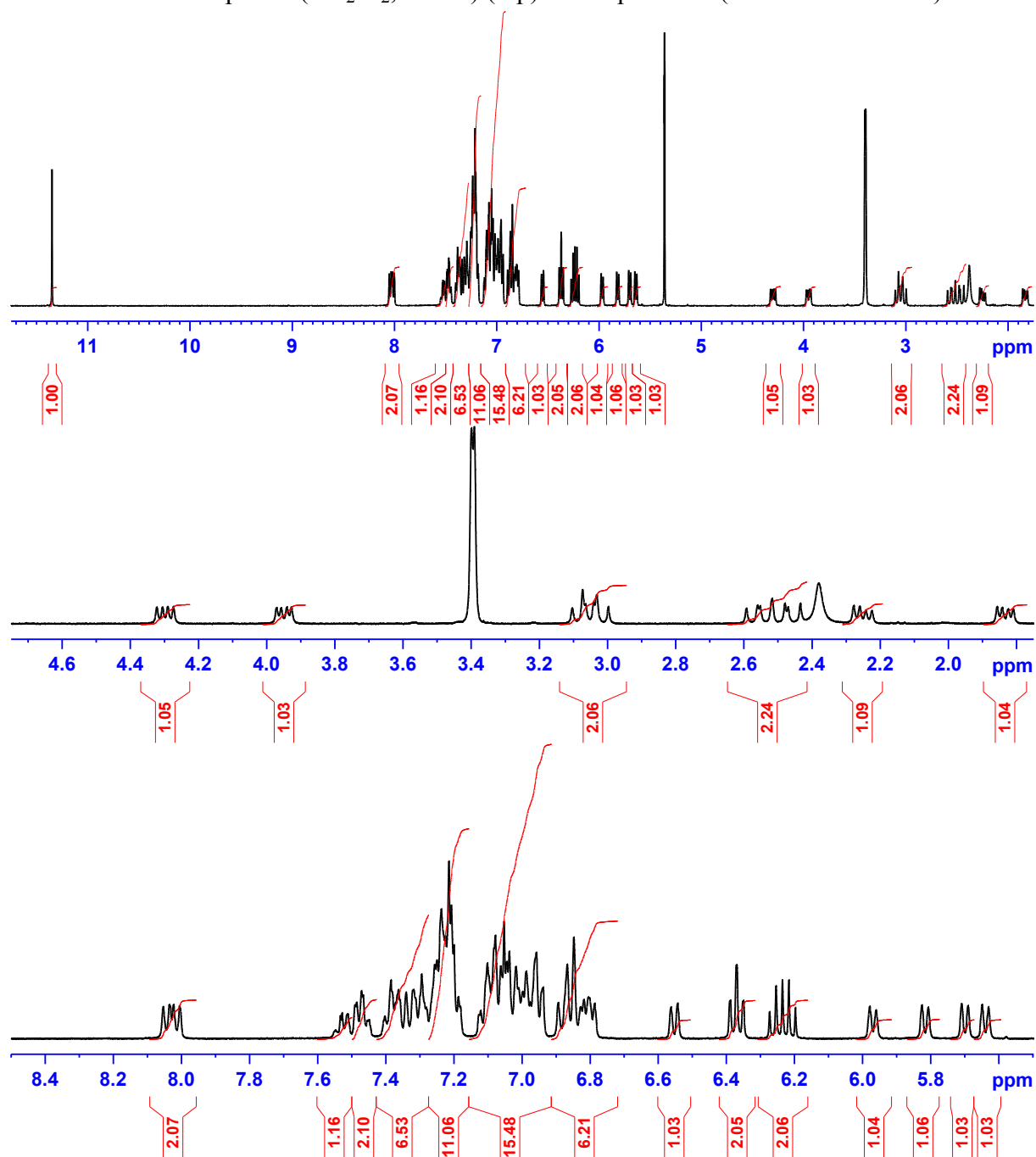
S1 $^{31}\text{P}\{^1\text{H}\}$ NMR of complex **7** (acetone- d_6 , 303 K)



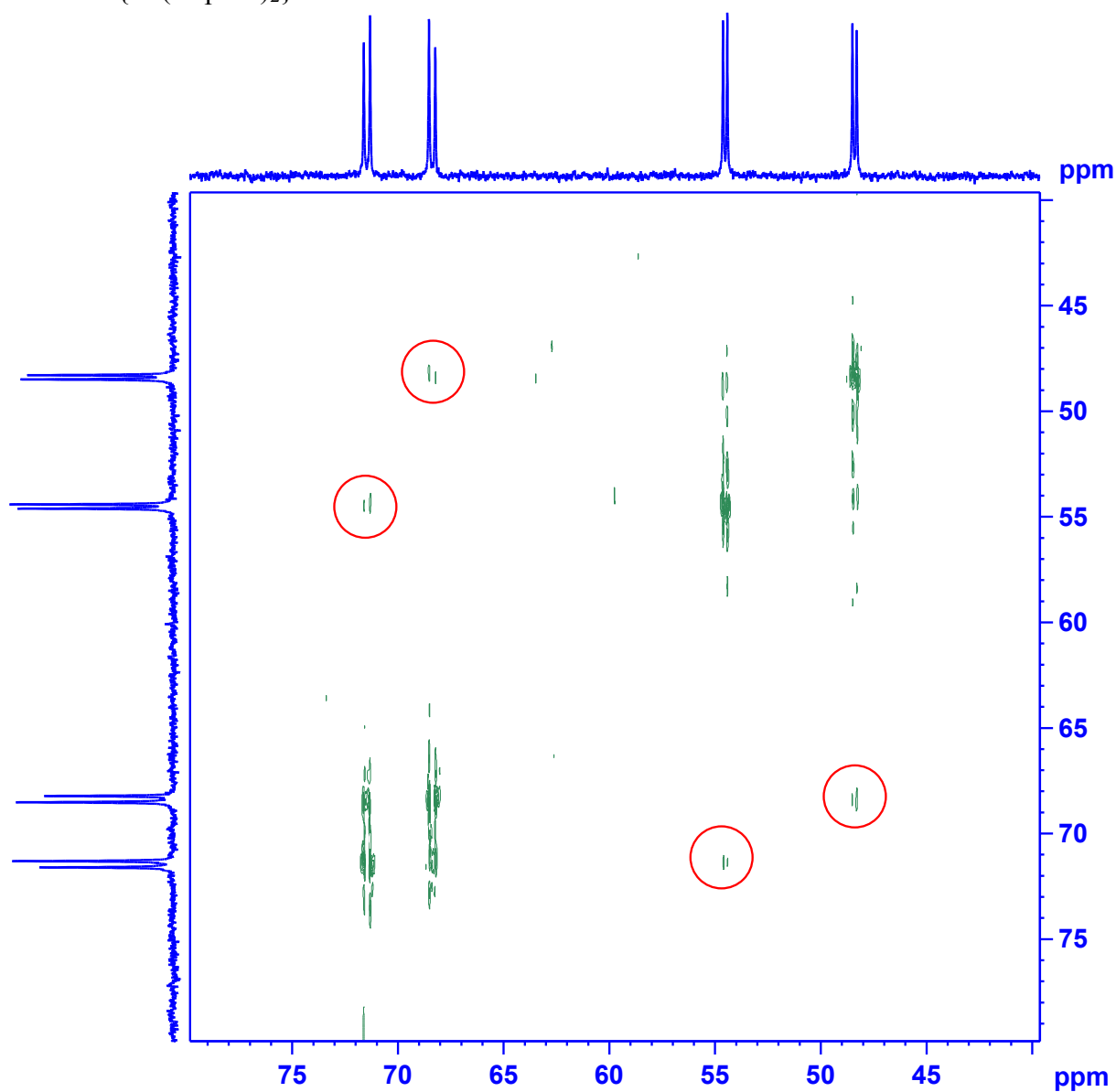
S2 $^{31}\text{P}\{^1\text{H}\}$ NMR of complex **8** (CD_2Cl_2 , 253 K).



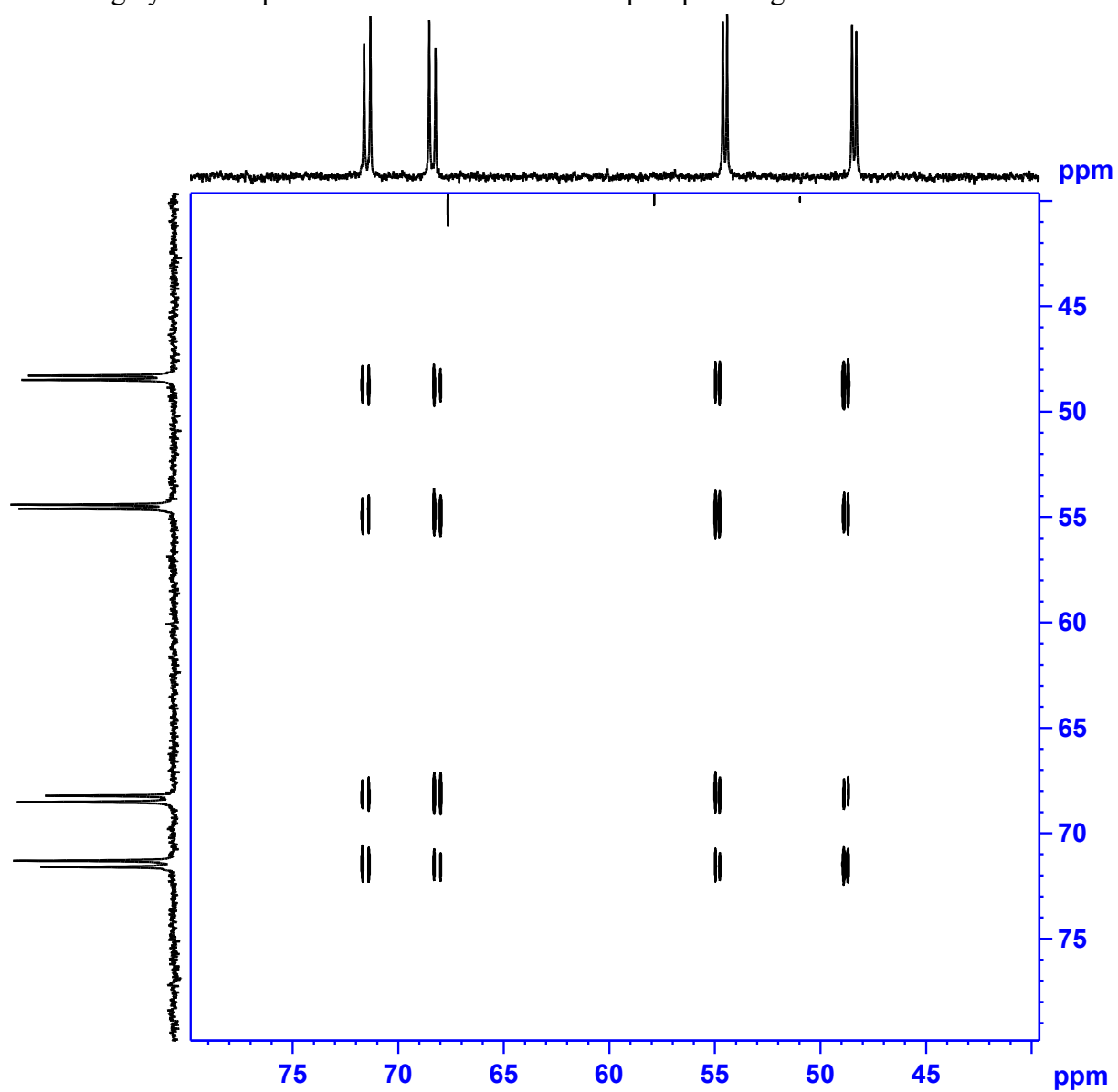
S3 ^1H NMR of complex **8** (CD_2Cl_2 , 253 K) (top) and expansions (middle and bottom).



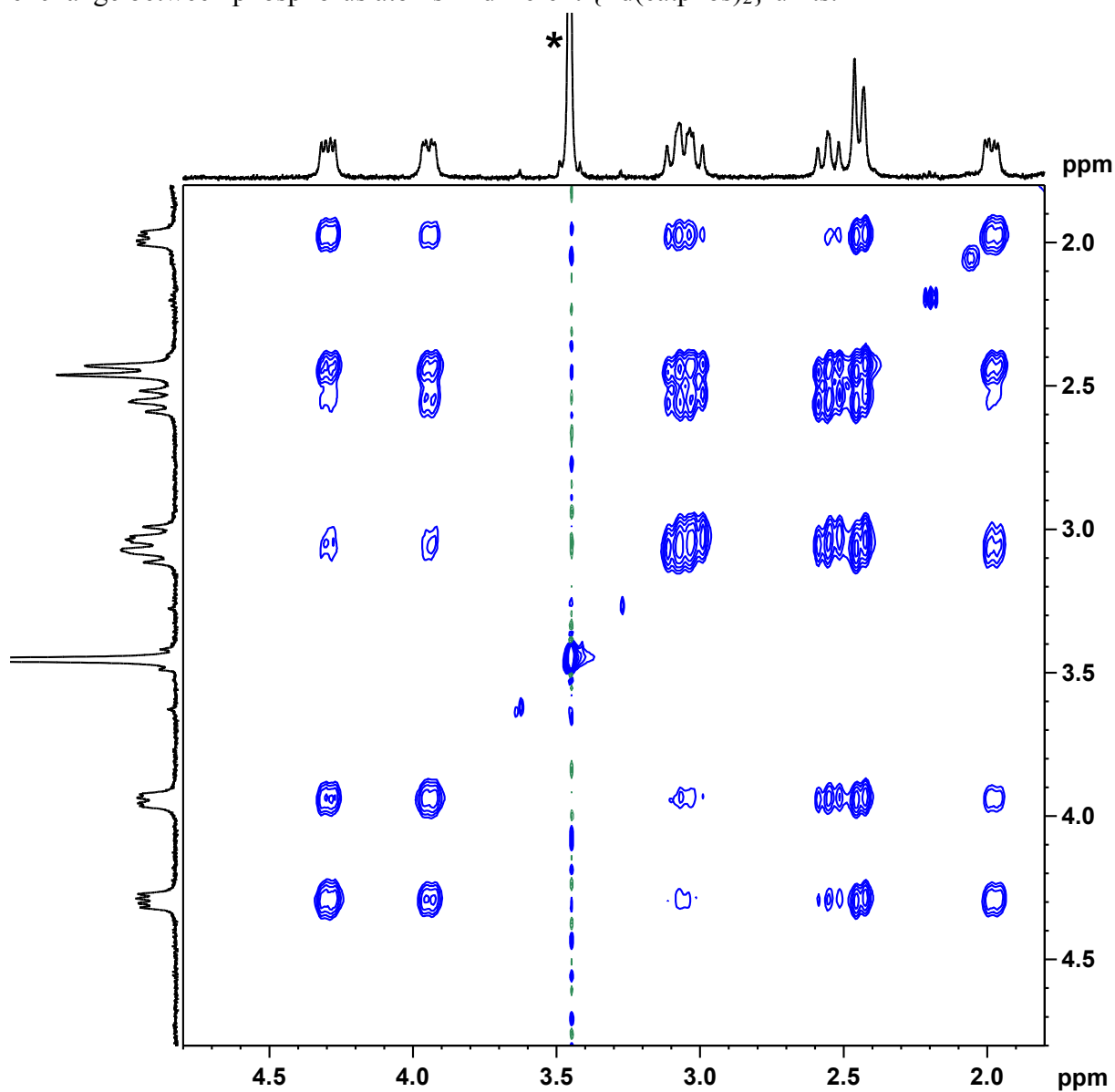
S4 $^{31}\text{P}\{^1\text{H}\}$ EXSY spectrum (CD_2Cl_2 , 273 K) of **8** recorded with a mixing time of 25 ms. Red circles highlight Cross-peaks indicating pairwise exchange between phosphorus atoms in different $\{\text{Pd}(\text{catphos})_2\}$ units.



S5 $^{31}\text{P}\{^1\text{H}\}$ EXSY spectrum (CD_2Cl_2 , 303 K) of **8** recorded with a mixing time of 250 ms indicating dynamic equilibration of all four catechol phosphine ligands.



S6 ^1H EXSY spectrum (CD_2Cl_2 , 303 K) of **8** recorded with a mixing time of 200 ms. Stars denote the signals of co-crystallised MeOH circles highlight cross-peaks indicating pairwise exchange between phosphorus atoms in different $\{\text{Pd}(\text{catphos})_2\}$ units.



S7 Benzylic region of the ^1H , ^{31}P HMQC spectrum of **8** (CD_2Cl_2 , 273 K) enabling the assignment of benzylic protons to the ligands in different $\{\text{Pd}(\text{catphos})_2\}$ units.

