# Reversibility Effects on the Stereoselectivity of Pt(II)-Mediated Cascade Poly-ene Cyclizations

## Supporting Information

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### Experimental Procedures

**General Methods.** All reactions were performed under an inert atmosphere of $N_2$ using standard Schlenk techniques or using an MBraun Lab-Master 100 glove box. Solvents for equilibrium studies ($CH_2Cl_2$, $ClCH_2CH_2Cl$, $MeNO_2$, $EtNO_2$) were dried over $CaH_2$, distilled, degassed by several successive freeze-pump-thaw cycles and stored in a

glove box. All starting [(RPPPR')PtMe][$BF_4$] and [(RPPPR')Pt-I][I] compounds,[1] [$Ph_2NH_2$][$BF_4$][2], [$Ph_2$NMeH][$BF_4$][2] and **1**[3] were prepared by published procedures. Diphenylamine was purchased from Aldrich, distilled over $CaH_2$, and stored over 4Å molecular sieves in a glove box. 2,3-dihydropyran was purchased from Aldrich and distilled prior to use. NMR spectra were recorded on a Bruker Avance 400 MHz or Bruker Avance 500 MHz spectrometer; chemical shifts are given in ppm and are referenced to residual solvent resonances ($^1$H and $^{13}$C). NMR spectra to determine the structure of the products from the cyclization of **10** were recorded on an 800 MHz Varian Inova NMR Spectrometer at Duke University (Durham, NC). $^{31}$P NMR chemical shifts are referenced to an external $PPh_3$ standard in $C_6D_6$ sealed in a capillary tube.

***E*-2:** Prepared by a similar procedure to **1**[3] using 2,3-dhydropyran in place of dihydrofuran. The crude material was separated by silica gel chromatography using 4:1 hexanes/EtOAc to yield 647.6 mg (54%) of a pale yellow oil; $^1$H NMR: (400 MHz, $CDCl_3$) δ 7.72 (d, 2 H, *J* = 7.6 Hz), 7.28 (d, 2 H, *J* = 7.6 Hz), 5.73 (m, 1 H), 4.94 (m, 3 H), 4.37 (br, 1 H), 2.91 (q, 2 H, *J* = 6.8 Hz), 2.41 (s, 3 H), 2.08 (m, 2 H), 1.96 (m, 4 H), 1.58 (s, 3 H), 1.48 (m, 2 H); $^{13}$C NMR (100 MHz, $CDCl_3$) δ 143.2, 138.5, 136.9, 135.7, 129.6, 127.0, 123.1, 114.3, 42.8, 38.9, 32.2, 29.4, 24.8, 21.5, 15.9. HRMS (ESI) [M+K]/z calc. 346.124, found 346.120.

***E*-7:** Prepared by a published procedure[3] using 3-methyl-2,3-dihydrofuran.[4] The crude material was purified by silica gel chromatography using 9:1 hexanes/EtOAc to yield 797.1 mg (65%) of a clear oil; $^1$H NMR: (400 MHz, $CDCl_3$) δ 5.73 (m, 1 H), 4.96

[1] Feducia, J. A.; Campbell, A. N.; Anthis, J. W.; Gagné, M. R. *Organometallics* **2006**, *25*, 3114-3117.
[2] Forschner, T. C.; Cutler, A. R. *Organometallics* **1985**, *4*, 1247-1257.
[3] Koh, J. H.; Mascarenhas, C.; Gagné, M. R. *Tetrahedron* **2004**, *60*, 7405-7410.
[4] Chan, J.; Jamison, T. F. *J. Am. Chem. Soc.* **2004**, *126*, 10682-10691.

(m, 2 H), 4.85 (d, 1 H, *J* = 9.6 Hz), 3.45 (m, 1 H), 3.25 (t, 1 H, *J* = 9.2 Hz), 2.60 (m, 1 H), 2.12 (m, 4 H), 1.63 (s, 3 H), 1.41 (m, 1 H), 0.92 (d, 3 H, *J* = 10.8 Hz); $^{13}$C NMR (100 MHz, $CDCl_3$) δ 158.0, 138.2, 115.2, 101.4, 77.4, 37.7, 31.2, 27.8, 21.2. HRMS (ESI) [M+Na]/z calc. 177.126, found 177.127.

***E,E*–10:** Prepared by a published procedure[3] using 3-methyl-2,3-dihydrofuran.[4] The crude material was purified by silica gel chromatography using 9:1 hexanes/EtOAc to yield 370.4 mg (53%) of a clear oil; $^1$H NMR: (400 MHz, $CDCl_3$) δ 5.77 (m, 1 H), 5.07 (m, 1 H), 4.98 (d, 1 H, *J* = 17.2 Hz), 4.90 (d, 1 H, *J* = 10.4 Hz), 4.84 (d, 1 H, *J* = 9.2 Hz), 3.44 (m, 1 H), 3.26 (t, 1 H, *J* = 9.2 Hz), 2.59 (m, 1 H), 2.07 (m, 8 H), 1.64 (s, 3 H), 1.58 (s, 3 H), 1.38 (m, 1 H), 0.89 (d, 3 H, *J* = 6.8 Hz); $^{13}$C NMR (100 MHz, $CDCl_3$) δ 139.1, 138.3, 135.3, 127.6, 124.6, 114.7, 68.3, 40.2, 39.4, 35.8, 32.8, 26.8, 17.4, 16.9, 16.4. HRMS (ESI) [M+Na]/z calc. 245.1881, found 245.1877.

**4:** In a glovebox, (PPP)$PtI_2$ (0.10 mmol) and $AgBF_4$ (0.23 mmol) were weighed out into a glass vial. Dichloromethane was added to this and the solution was stirred for 10 minutes upon which **(*E*:*Z*)-1** (0.11 mmol) was added to the solution dropwise. After an additional 10 minutes of stirring AgI began to precipitate and diphenylmethylamine (0.11 mmol) was added to the suspension. This mixture was shielded from light and stirred for 2 hours. The suspension was filtered through celite to remove AgI, washed three times with a saturated $NaHCO_3$ solution, dried over $MgSO_4$ and concentrated *in vacuo*. The product was precipitated three times from dichloromethane and $Et_2O$ and dried to give 75.4 mg (68%) of a white solid; $^1$H NMR (400 MHz, $CDCl_3$): δ 7.78 (m, 2 H); 7.51 (m, 25 H); 7.20 (d, 2 H, *J* = 8.0 Hz); 3.35 (m, 3 H); 2.87 (m, 3 H); 2.43 (m, 7 H);

1.79 (m, 1 H); 1.43 (m, 1 H); 1.29 (m, 4 H); 0.97 (m, 4 H); 0.80 (s, 3 H). $^{31}P\{^{1}H\}$ NMR (162 MHz, $CDCl_3$): δ 90.0 (s, $^{3}J_{Pt\text{-}P}$ = 1319 Hz, 1P); 44.6 (s, $^{3}J_{Pt\text{-}P}$ = 2991 Hz, 2P).

**8:** In a glovebox, (PPP)$PtI_2$ (0.53 mmol) and $AgBF_4$ (0.1.33 mmol) were weighed out into a glass vial. Dichloromethane (15 mL) and acetone (1.06 mmol) was added to this and the solution was stirred for 1 hour upon which a 3 mL solution of ***E*,7** (0.58 mmol) and $Ph_2NMe$ (1.06 mmol) in dichloromethane was added to the solution dropwise. This mixture was stirred for 1 hour. The suspension was filtered through celite to remove AgI, washed three times with a saturated $NaHCO_3$ solution, washed once with brine and dried over $MgSO_4$. The filtrate from drying was concentrated *in vacuo*. The product was precipitated three times from dichloromethane and $Et_2O$ and dried to give 380.3 mg (74%) of a white solid. Crystals suitable for X-ray crystallography were grown by vapor diffusion with dichloromethane and pentane; $^{1}H$ NMR (400 MHz, $CDCl_3$): δ 7.77 (m, 2 H); 7.48 (m, 23 H); 3.30 (m, 2 H); 2.98 (t, 1 H, *J* = 8.0 Hz); 2.79 (m, 2 H); 2.29 (m, 5 H); 1.49 (m, 3 H); 1.22 (m, 2 H); 0.87 (m, 3 H); 0.56 (d, 3 H, *J* = 10.0 Hz); 0.44 (t, 1 H, *J* = 11.6 Hz); 0.06 (s, 3 H). $^{31}P\{^{1}H\}$ NMR (162 MHz, $CDCl_3$): δ 89.6 (s, 1 P, $J_{Pt\text{-}P}$ = 1316 Hz); 41.1 (d, 2 P, $J_{P\text{-}P}$ = 22 Hz, $J_{Pt\text{-}P}$ = 3001 Hz).

**9:** In a glovebox, (EtPPP)$PtI_2$ (0.11 mmol) and $AgBF_4$ (0.29 mmol) were weighed out into a glass vial. Dichloromethane (8 mL) was added to this and the solution was stirred for 10 minutes upon which **E-7** (0.13 mmol) was added to the solution dropwise. After an additional 10 minutes of stirring AgI began to precipitate and diphenylmethylamine (0.13 mmol) was added to the suspension. This mixture was stirred for 48 hours. The suspension was filtered through celite to remove AgI, washed three times with a saturated $NaHCO_3$ solution, dried over $MgSO_4$ and concentrated *in*

*vacuo*. The product was precipitated three times from dichloromethane and $Et_2O$ and dried to give 53.6 mg (51%) of a white solid. Crystals suitable for X-ray crystallography were grown by vapor diffusion with dichloromethane and diethyl ether; $^1$H NMR (500 MHz, $CDCl_3$): δ 7.68 (m, 4 H); 7.59 (m, 6 H); 7.43 (m, 10 H); 3.70 (t, 1 H, $J$ = 8.0 Hz); 3.45 (m, 2 H); 3.09 (t, 1 H, $J$ = 8.0 Hz); 2.65 (m, 2 H); 2.34 (m, 5 H); 1.77 (m, 1 H); 1.67 (m, 2 H); 1.33 (m, 2 H); 1.03 (m, 1 H); 0.85 (m, 4 H); 0.78 (m, 2 H); 0.71 (m, 1 H); 0.57 (d, 3 H, $J$ = 6.5 Hz); 0.48 (s, 3 H). $^{31}$P{$^1$H} NMR (162 MHz, $CDCl_3$): δ 90.9 (s, $^3J_{Pt\text{-}P}$ = 1241 Hz, 1P); 43.8 (s, $^3J_{Pt\text{-}P}$ = 3012 Hz, 2P).

**Typical Procedure for Equilibrium Measurements.** A solution of [(RPPPR)PtMe][$BF_4$] (0.008 mmol), [$Ph_2NH_2$][$BF_4$] (0.08 mmol), and **(*E*:*Z*)-1** or ***E*-2** (0.08 mmol) in 300 μL of $CH_3NO_2$[5] (or other solvent for Table 1) was prepared in a glove box and sealed in a J-Young NMR tube at 25(1) $^o$C. The reaction was monitored by $^{31}$P NMR until no change in peak intensity was observed.

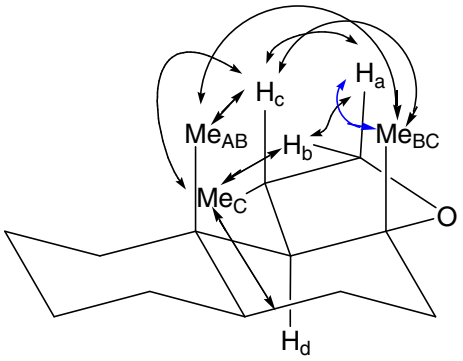
**Equilibrium Calculations.** Equilibrium constants were calculated from the average molar ratios of the Pt($\eta^2$-alkenyl) and Pt(alkyl) complexes using the equation below. [Pt] was obtained by determining the ratio of Pt-alkyl:Pt($\eta^2$-alkene) by $^{31}$P NMR. The concentration of acid and base were calculated from the ratio of Pt-alkyl:Pt($\eta^2$-alkene). 100% cyclization would result in 10 equiv. of acid present in solution while 0% cyclization would result in 9 equiv. of acid and 1 equiv. of base.

[5] Commercial $MeNO_2$ contains traces of propionitrile that poison the $Pt^{2+}$ catalyst, for purification see: Parrett, F. W.; Sun, M. S. *J. Chem. Educ.* **1977**, *54*, 448-449.

$$K_{eq} = \frac{[\text{Pt-alkyl}][Ph_2NH_2^+]}{[\text{Pt}(\eta^2\text{-alkene})][Ph_2NH]}$$

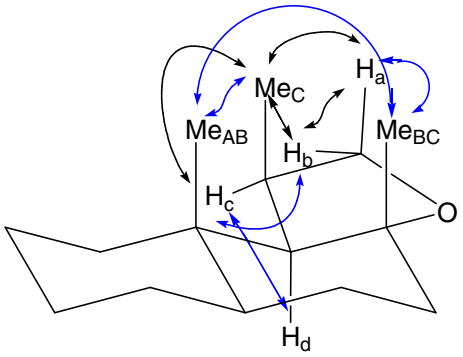
**Structural Assignment for Products of Cyclization.** Stereochemical assignments for the products of the cyclization of ***E:Z*-1** and ***E*-7** were determined by the organic fragment of the X-ray structures of **4**, **8**, and **9** respectively. Reductive cleavage of the organic fragment with $NaBH_4$ followed by GC analysis resulted in a more expedient process to determine the products of cyclization with various $Pt^{2+}$ sources.[6] Products from the cyclization of **10** were isolated following the standard protocol for Pt-alkyl reductive cleavage with $NaBH_4$.[6] The stereochemistry was determined by NOESY experiments on a 600 and 800 MHz spectrometer. $J_{HH}$ for the protons shown below was deduced from selective decoupling experiments performed on an 800 MHz spectrometer. Blue arrows indicate a weak NOE interaction.

[6] Koh, J. H.; Gagné, M. R. *Angew. Chem. Int. Ed.* **2004**, *43*, 3459-3461.




**Major Diastereomer**

| | δ (ppm) | (NOEs) |
|---|---|---|
| $H_a$: | 3.99 | $H_b$, $H_c$, $Me_{BC}$(w) |
| $H_b$: | 3.22 | $H_a$, $Me_C$ |
| $H_c$: | 2.25 | $H_a$, $Me_{BC}$, $Me_C$, $Me_{AB}$ |
| $H_d$: | 1.60 | $Me_C$ |
| | d, $J_{HH}$ = 11.5 Hz | |
| $Me_{AB}$: | 0.74 | $H_c$, $Me_{BC}$ |
| $Me_{BC}$: | 1.08 | $H_a$(w), $H_c$, $Me_{AB}$ |
| $Me_C$: | 1.02 | $H_b$, $H_c$, $H_d$ |
| | d, $J_{HH}$ = 6.6 Hz | |




**Minor Diastereomer**

| δ (ppm) | (NOEs) |
|---|---|
| 3.43 | $H_b$, $Me_{BC}$(w), $Me_C$(w) |
| 4.11 | $H_a$, $H_c$(w), $Me_C$(w) |
| 2.43 | $H_b$(w), $H_D$(w), $Me_C$(w) |
| 1.38 | $H_C$ |
| d, $J_{HH}$ = 9.0 Hz | |
| 0.87 | $Me_{BC}$(w), $Me_C$(w) |
| 1.24 | $H_a$(w), $Me_{AB}$(w) |
| 1.11 | $H_a$, $H_b$, $H_c$, $Me_{AB}$(w) |
| d, $J_{HH}$ = 7.2 Hz | |

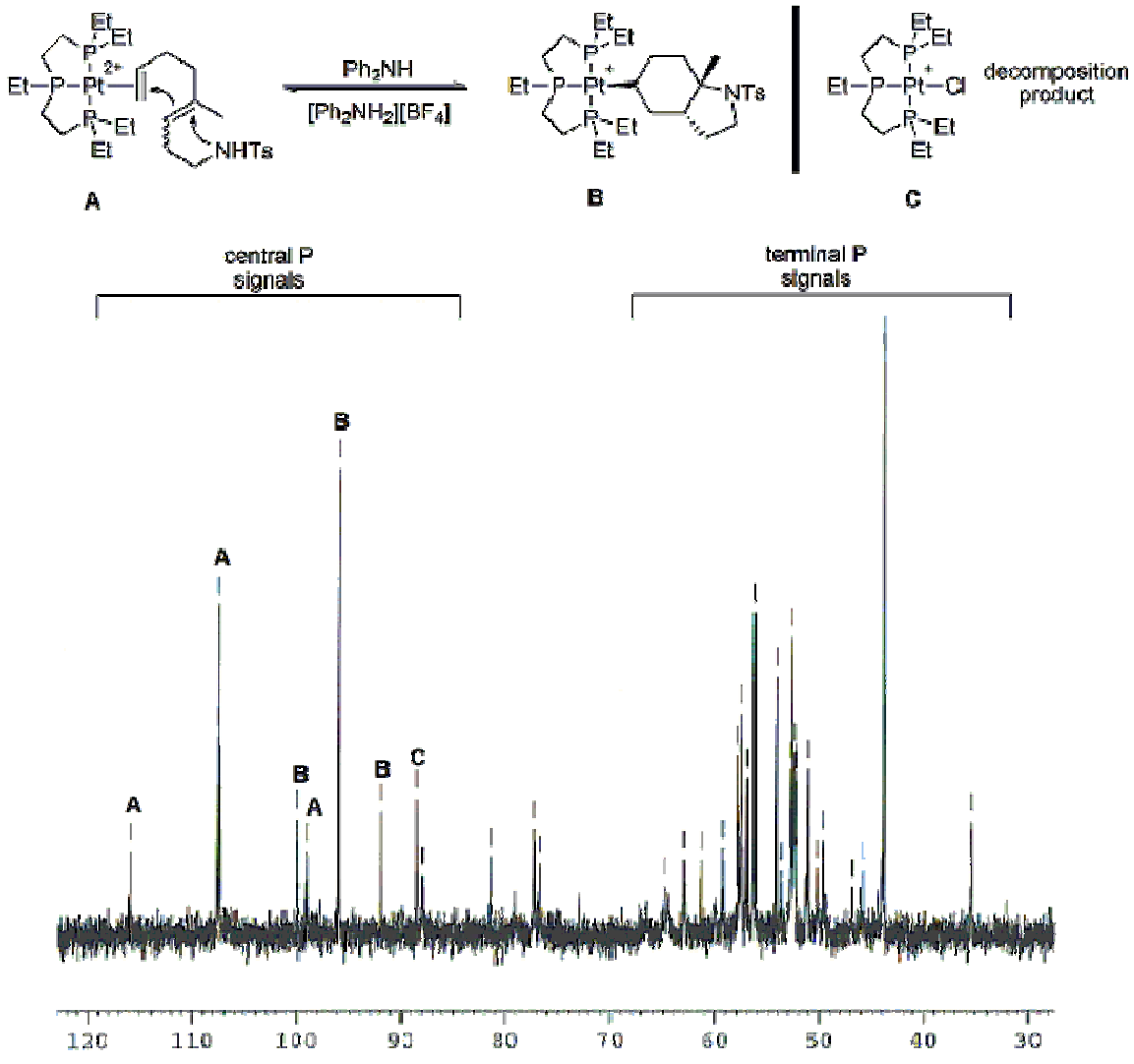



**Figure S1.** $^{31}$P NMR of cyclization of **(*E*:*Z*)-1** with (EtPPPEt)$Pt^{2+}$ in $CH_2Cl_2$.

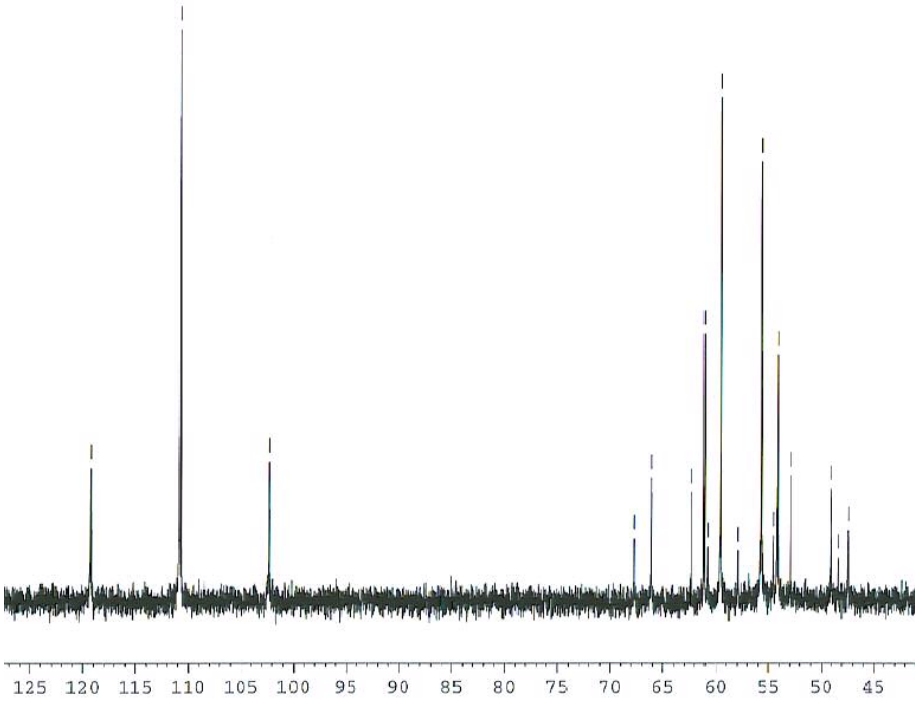



**Figure S2.** $^{31}P$ NMR of [(EtPPPEt)Pt(1-hexene)][$BF_4$]$_2$.

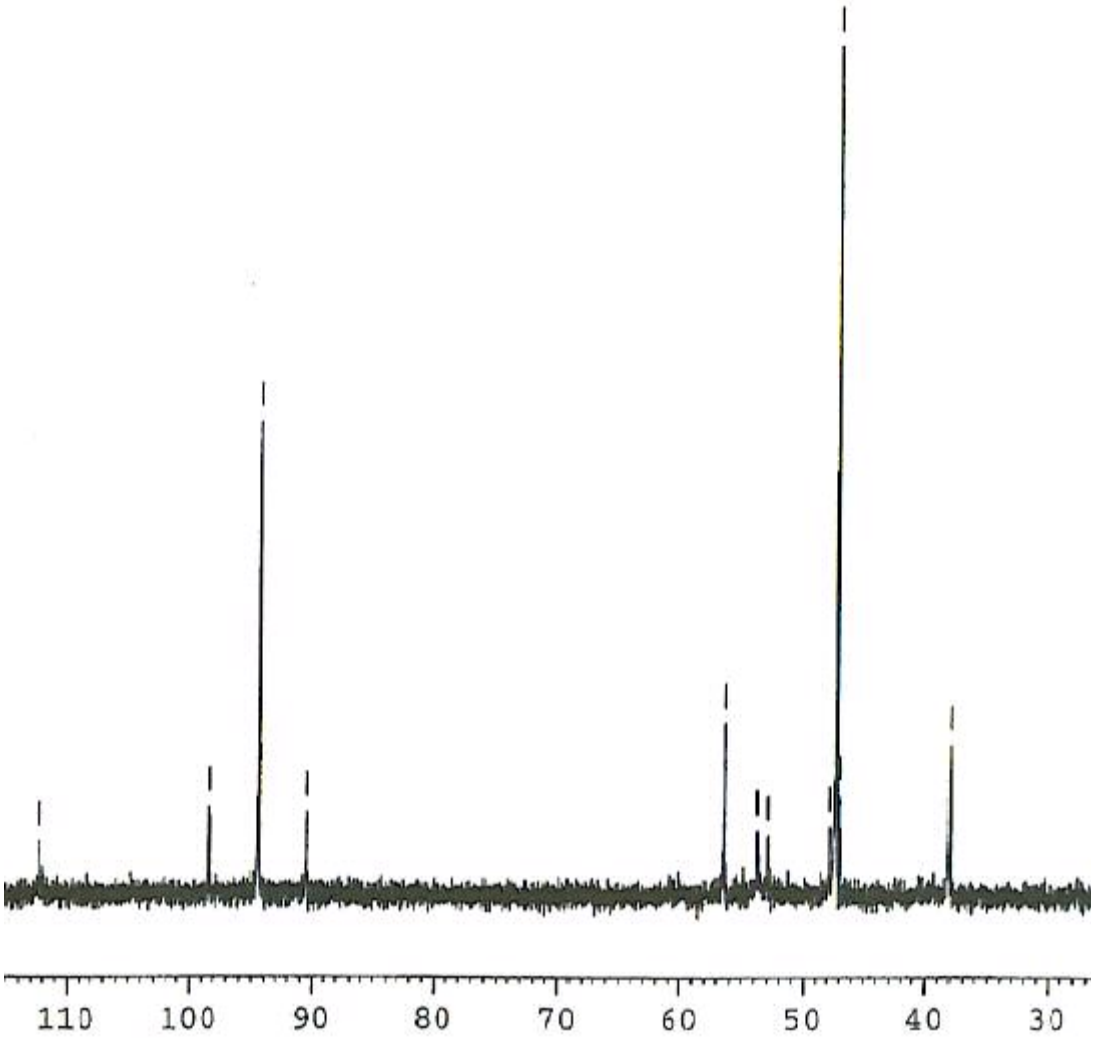



**Figure S3.** $^{31}$P NMR of cyclization of **(*E*:*Z*)-1** with (EtPPP)$Pt^{2+}$ in $MeNO_2$.

**Table S1.** $^{31}$P NMR chemical shifts[7] for Pt($\eta^2$-alkenyl) and Pt(alkyl) complexes.

| Ligand | Pt($\eta^2$-alkenyl) | Pt(alkyl) |
|---|---|---|
| EtPPPEt | 110.2 ppm | 98.3 ppm |
| tBuPPPEt | 136.4 ppm | 120.6 ppm |
| PPPEt | 108.1 ppm | 95.3 ppm |
| EtPPP | 110.7 ppm | 92.9 ppm |
| PPP | - | 91.4 ppm |

[7] Chemical shifts are given for the central P of the triphosphine ligand. This signal is the most diagnostic as the chemical shifts for the terminal phosphines in the Pt($\eta^2$-alkenyl) and the Pt(alkyl) overlap.

**Table S2.** Acid or base additive effects on the cyclization of **(*E*:*Z*)-1**.[a]

| Entry | Additive | **A** : **B** |
|---|---|---|
| 1 | None | 14 : 1 |
| 1* | $Ph_2NH$ | 1.6 : 1 |
| 4 | None | 1 : 10 |
| 4* | $Ph_2NH_2^+$ | 1 : 4 |

[a] Reaction conditions: [Pt] = 0.027 M, $[Ph_2NH_2][BF_4]$ = 0.27 M, [**1**] = 0.27 M, 25(1) °C. [b] Relative concentrations determined by $^{31}P$ NMR. Average of three measurements.

**Reductive Cleavage of Pt-alkyls.** To a 0.02 M solution of Pt-alkyl in dry $Et_2O$ (for ***E*-5** or ***E*-7**) or THF (for ***E*,*E*-10**) at 0°C was added 10 equivalents of $NaBH_4$ under $N_2$. The reaction mixture was warmed to room temperature and stirred for 3-5 hours. At this point the reaction was quenched with $H_2O$, diluted with brine and the cleaved products were extracted with $Et_2O$ and washed three times with brine. The organic layer was separated, dried over $MgSO_4$, filtered and concentrated. For ***E*-5**, the product was concentrated on a rotary evaporator at 0 °C. The crude material was purified by chromatography on silica with 300:1 pentane/$Et_2O$ to yield 13.0 mg (26%) of clear oil whose purity was compared to known spectral data. For ***E*-7**, the products were concentrated on a rotary evaporator at 0 °C and injected onto the GC (HP 6890 with a DB-1 column; 80 °C for 8 min, 20 °C/min to 250 °C, hold 15 min): $t_R$ 8.87 min (kinetic-PPP) and 9.34 min (thermodynamic-EtPPP). For ***E*,*E*-10**, the products were concentrated under vacuum and the 2:1 mixture of diastereomers was obtained by chromatography on silica gel using 300:1 hexanes/EtOAc.

**X-Ray Structure Determinations of 4, 8 and 9.**

**General Procedure.** Crystals of **4** suitable for X-ray crystallography were grown from slow evaporation of a dichloromethane solution. Crystals of **8** and **9** suitable for X-

ray crystallography were grown from vapor diffusion using dichloromethane and pentane at room temperature (48 h for **9**, 7 days for **8**). Single crystals were mounted in oil on the end of a fiber. Intensity data were collected on a Siemens SMART diffractometer with CCD detection using Mo Kα radiation of wavelength 0.71073 Å (to scan mode). The structure was solved by direct methods and refined by least-squares techniques on *F* using structure solution programs from the NARCVAX system.[8] All non-hydrogen atoms were refined anisotropically. Hydrogen atoms were placed in calculated positions (C-H = 0.96 Å) and allowed to ride on the atoms to which they were bonded. Crystal data, data collection, and refinement parameters for **4**, **8** and **9** are listed in Table S3, S8 and S14 respectively. Absorption corrections were made using SADABS. The X-ray structure for compound **4** was refined as an enantiomeric twin which resulted in the expected 50:50 mix. For compound **8**, the structure was solved in P2(1)/c (with Z = 8, Z'= 2). One molecule was disordered but eventually refined with the disordered portion restrained to have a consistent geometry. This still led to an unstable refinement and weak restraints on thermal parameters were put in place. In the structure shown for **9**, PLATON/Squeeze was used to model the solvent as it was too disordered to model with atomic positions (results are found at the bottom of the .cif file).

[8] Gabe, E. J.; Le Page, Y.; Charland, J. P.; Lee, F. L.; White, P. S. *J. Appl. Crystallogr.* **1989**, *22*, 384-392.

**Table S3.** Crystallographic data and collection parameters for **4**.

| | **4** |
|---|---|
| Empirical Formula | $C_{51}H_{57}BCl_2F_4NO_2P_3PtS$ |
| FW | 1193.75 |
| Space Group | Orthorhombic, $P2_12_12$ |
| *A* | 18.7099(12) |
| *B* | 25.8448(13) |
| *C* | 10.7596(4) |
| *V*, Å$^3$ | 5202.8(5) |
| *Z* | 4 |
| *T*, K | 173(2) |
| $D_c$, Mg/m$^3$ | 1.524 |
| λ, Å | Mo Kα (0.71073) |
| μ, mm$^{-1}$ | 2.986 |
| $R_f$[a] | 0.0706 |
| $R_w$[b] | 0.1536 |
| GOF[c] | 1.093 |

[a]$R_f = \Sigma(F_o - F_c)/\Sigma F_o$. [b]$R_w = [\Sigma\omega(F_o - F_c)^2/\Sigma\omega F_o^2]^{1/2}$. [c]GOF = $[\Sigma\omega(F_o - F_c)^2/(n - p)]^{1/2}$, where $n$ = number of reflections and $p$ = number of parameters.

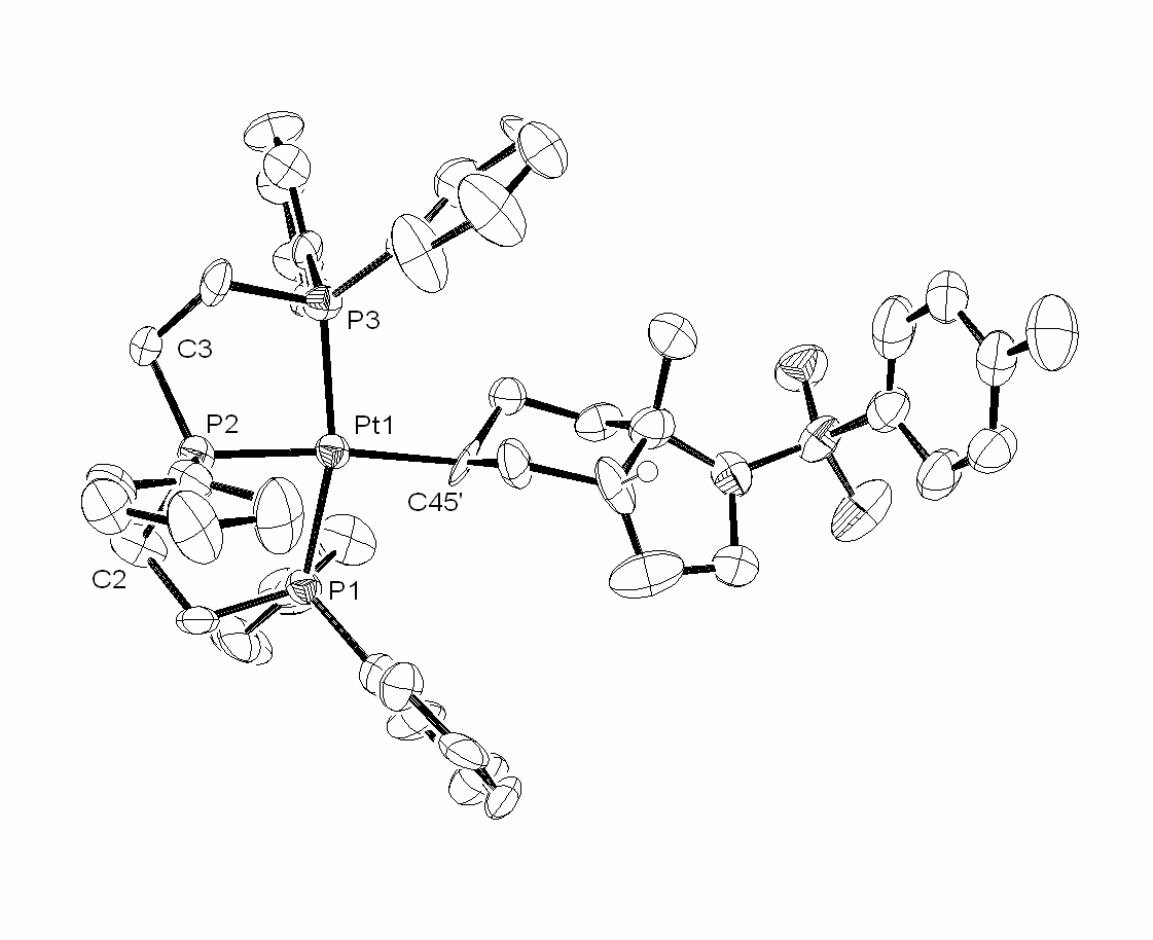



**Figure S3.** ORTEP drawing of **4**. $BF_4^-$ counter ion and solvent molecule not shown.

**Table S4.** Atomic coordinates ( x $10^4$) and equivalent isotropic displacement parameters ($Å^2$x $10^3$) for **4**. U(eq) is defined as one third of the trace of the orthogonalized $U^{ij}$ tensor.

| | x | y | z | U(eq) |
|---|---|---|---|---|
| Pt(1) | 2931(1) | 8829(1) | -457(1) | 31(1) |
| P(1) | 2969(3) | 9696(1) | -781(3) | 35(1) |
| P(2) | 4067(2) | 8843(2) | -1136(3) | 33(1) |
| P(3) | 3016(2) | 7946(1) | -753(3) | 33(1) |
| S(1) | -461(2) | 8601(2) | 3652(4) | 50(1) |
| C(1) | 3896(9) | 9867(5) | -1201(13) | 42(4) |
| C(2) | 4207(10) | 9456(6) | -1973(13) | 50(5) |
| C(3) | 4265(8) | 8247(6) | -1980(13) | 36(4) |
| C(4) | 3953(7) | 7824(6) | -1208(14) | 41(4) |
| C(5) | 2720(8) | 10133(6) | 513(17) | 49(4) |
| C(6) | 3087(11) | 10050(7) | 1627(12) | 58(5) |
| C(7) | 2902(16) | 10347(7) | 2650(18) | 83(7) |
| C(8) | 2346(11) | 10704(9) | 2560(20) | 81(8) |
| C(9) | 2006(12) | 10755(8) | 1470(19) | 79(6) |
| C(10) | 2200(9) | 10483(6) | 414(19) | 64(5) |
| C(11) | 2390(9) | 9883(6) | -2055(14) | 42(4) |
| C(12) | 2567(11) | 10280(7) | -2905(16) | 64(6) |
| C(13) | 2088(13) | 10429(7) | -3802(16) | 74(6) |
| C(14) | 1448(12) | 10164(7) | -3980(18) | 75(6) |
| C(15) | 1252(12) | 9767(8) | -3151(18) | 73(6) |
| C(16) | 1728(11) | 9629(7) | -2236(15) | 65(6) |
| C(17) | 4705(7) | 8838(6) | 102(12) | 42(3) |
| C(18) | 5426(8) | 8849(7) | -51(12) | 47(4) |
| C(19) | 5914(9) | 8837(8) | 931(13) | 57(4) |
| C(20) | 5644(10) | 8858(9) | 2160(13) | 71(6) |
| C(21) | 4926(10) | 8827(10) | 2353(14) | 81(6) |
| C(22) | 4451(8) | 8875(7) | 1381(11) | 49(4) |
| C(24) | 2097(9) | 8086(5) | -2777(12) | 42(3) |
| C(25) | 1747(9) | 7943(6) | -3798(15) | 50(4) |
| C(26) | 1794(9) | 7451(7) | -4230(13) | 54(5) |
| C(27) | 2220(10) | 7093(7) | -3646(16) | 61(5) |
| C(28) | 2583(9) | 7246(7) | -2574(14) | 47(4) |
| C(29) | 2519(8) | 7733(6) | -2117(11) | 31(3) |
| C(30) | 2821(8) | 7506(5) | 492(15) | 40(3) |
| C(31) | 2244(10) | 7164(7) | 479(19) | 65(5) |
| C(32) | 2103(14) | 6837(6) | 1519(15) | 73(6) |
| C(33) | 2531(11) | 6850(7) | 2517(16) | 60(5) |
| C(34) | 3073(13) | 7179(9) | 2576(16) | 89(8) |
| C(35) | 3250(10) | 7486(9) | 1571(16) | 79(7) |
| C(37) | 1124(8) | 9020(20) | 240(70) | 37(4) |
| C(38) | 661(7) | 8651(6) | 1020(12) | 44(4) |
| C(45) | 1913(6) | 8879(5) | 461(11) | 49(4) |
| C(37') | 1303(7) | 8521(6) | 180(14) | 37(4) |
| C(38') | 661(7) | 8651(6) | 1020(12) | 44(4) |
| C(45') | 1913(6) | 8879(5) | 461(11) | 49(4) |
| C(39) | 859(9) | 8561(7) | 2391(14) | 49(4) |

| | | | | |
|---|---|---|---|---|
| N(40) | 282(6) | 8820(6) | 3125(11) | 49(3) |
| C(41) | 558(12) | 9310(8) | 3780(20) | 86(7) |
| C(42) | 1247(13) | 9369(8) | 3160(20) | 88(7) |
| C(43) | 1517(8) | 8840(8) | 2826(12) | 58(5) |
| C(44) | 2159(8) | 8747(6) | 1885(11) | 49(4) |
| O(46) | -722(7) | 8236(5) | 2796(11) | 68(4) |
| O(47) | -903(7) | 9052(6) | 3967(11) | 80(4) |
| C(48) | -303(9) | 8292(7) | 5058(15) | 52(4) |
| C(49) | -216(11) | 7788(9) | 5113(17) | 77(6) |
| C(50) | -54(12) | 7523(8) | 6192(18) | 78(6) |
| C(51) | 47(9) | 7795(8) | 7273(14) | 55(4) |
| C(52) | -64(10) | 8333(7) | 7235(16) | 58(5) |
| C(53) | -246(10) | 8589(8) | 6160(14) | 61(5) |
| C(54) | 311(12) | 7549(10) | 8450(17) | 91(7) |
| C(55) | 912(9) | 7976(6) | 2697(15) | 50(4) |
| B(61) | 5807(10) | 8877(10) | 5878(15) | 55(5) |
| F(62) | 5229(12) | 9027(13) | 5378(15) | 274(17) |
| F(63) | 5618(15) | 8352(12) | 6010(30) | 320(20) |
| F(64) | 5895(6) | 9005(5) | 7070(8) | 81(4) |
| F(65) | 6416(5) | 8860(5) | 5203(8) | 74(3) |
| C(71) | 3568(15) | 8934(6) | 4550(30) | 170(40) |
| Cl(1) | 3407(7) | 8268(5) | 4416(13) | 92(3) |
| Cl(2) | 2892(8) | 9217(6) | 5431(13) | 124(5) |

**Table S5.** Bond lengths [Å] and angles [°] for **4.**

| | |
|---|---|
| Pt(1)-C(45) | 2.150(11) |
| Pt(1)-P(2) | 2.247(3) |
| Pt(1)-P(1) | 2.269(4) |
| Pt(1)-P(3) | 2.308(4) |
| P(1)-C(11) | 1.814(15) |
| P(1)-C(1) | 1.845(16) |
| P(1)-C(5) | 1.854(17) |
| P(2)-C(17) | 1.789(13) |
| P(2)-C(3) | 1.826(14) |
| P(2)-C(2) | 1.842(15) |
| P(3)-C(30) | 1.795(15) |
| P(3)-C(29) | 1.824(13) |
| P(3)-C(4) | 1.847(14) |
| S(1)-O(46) | 1.406(12) |
| S(1)-O(47) | 1.469(13) |
| S(1)-N(40) | 1.605(13) |
| S(1)-C(48) | 1.736(17) |
| C(1)-C(2) | 1.47(2) |
| C(3)-C(4) | 1.49(2) |
| C(5)-C(10) | 1.33(2) |
| C(5)-C(6) | 1.40(2) |
| C(6)-C(7) | 1.38(2) |
| C(7)-C(8) | 1.40(3) |
| C(8)-C(9) | 1.34(3) |
| C(9)-C(10) | 1.38(2) |
| C(11)-C(12) | 1.41(2) |
| C(11)-C(16) | 1.42(2) |
| C(12)-C(13) | 1.37(3) |
| C(13)-C(14) | 1.39(3) |

| | |
|---|---|
| C(14)-C(15) | 1.41(3) |
| C(15)-C(16) | 1.37(2) |
| C(17)-C(18) | 1.361(19) |
| C(17)-C(22) | 1.458(19) |
| C(18)-C(19) | 1.397(19) |
| C(19)-C(20) | 1.42(2) |
| C(20)-C(21) | 1.36(2) |
| C(21)-C(22) | 1.38(2) |
| C(24)-C(25) | 1.33(2) |
| C(24)-C(29) | 1.400(19) |
| C(25)-C(26) | 1.35(2) |
| C(26)-C(27) | 1.37(2) |
| C(27)-C(28) | 1.40(2) |
| C(28)-C(29) | 1.36(2) |
| C(30)-C(31) | 1.40(2) |
| C(30)-C(35) | 1.41(2) |
| C(31)-C(32) | 1.43(2) |
| C(32)-C(33) | 1.34(3) |
| C(33)-C(34) | 1.33(3) |
| C(34)-C(35) | 1.38(2) |
| C(37)-C(45) | 1.544(10) |
| C(37)-C(38) | 1.547(10) |
| C(38)-C(39) | 1.54(2) |
| C(45)-C(44) | 1.636(18) |
| C(39)-C(43) | 1.50(2) |
| C(39)-N(40) | 1.50(2) |
| C(39)-C(55) | 1.55(2) |
| N(40)-C(41) | 1.54(2) |
| C(41)-C(42) | 1.46(3) |
| C(42)-C(43) | 1.50(3) |
| C(43)-C(44) | 1.59(2) |
| C(48)-C(49) | 1.31(3) |
| C(48)-C(53) | 1.42(2) |
| C(49)-C(50) | 1.38(3) |
| C(50)-C(51) | 1.37(2) |
| C(51)-C(52) | 1.40(2) |
| C(51)-C(54) | 1.50(2) |
| C(52)-C(53) | 1.38(2) |
| B(61)-F(62) | 1.27(2) |
| B(61)-F(64) | 1.335(19) |
| B(61)-F(65) | 1.35(2) |
| B(61)-F(63) | 1.41(4) |
| C(71)-Cl(2) | 1.742(10) |
| C(71)-Cl(1) | 1.753(10) |

| | |
|---|---|
| C(45)-Pt(1)-P(2) | 170.5(4) |
| C(45)-Pt(1)-P(1) | 92.2(4) |
| P(2)-Pt(1)-P(1) | 84.51(16) |
| C(45)-Pt(1)-P(3) | 100.6(4) |
| P(2)-Pt(1)-P(3) | 84.63(16) |
| P(1)-Pt(1)-P(3) | 162.28(10) |
| C(11)-P(1)-C(1) | 108.2(8) |
| C(11)-P(1)-C(5) | 104.7(7) |
| C(1)-P(1)-C(5) | 105.9(6) |
| C(11)-P(1)-Pt(1) | 111.2(5) |
| C(1)-P(1)-Pt(1) | 107.7(5) |
| C(5)-P(1)-Pt(1) | 118.6(5) |

| | |
|---|---|
| C(17)-P(2)-C(3) | 103.3(7) |
| C(17)-P(2)-C(2) | 105.9(7) |
| C(3)-P(2)-C(2) | 117.0(6) |
| C(17)-P(2)-Pt(1) | 112.9(4) |
| C(3)-P(2)-Pt(1) | 109.9(5) |
| C(2)-P(2)-Pt(1) | 107.9(6) |
| C(30)-P(3)-C(29) | 107.8(7) |
| C(30)-P(3)-C(4) | 106.4(7) |
| C(29)-P(3)-C(4) | 102.6(7) |
| C(30)-P(3)-Pt(1) | 120.7(5) |
| C(29)-P(3)-Pt(1) | 112.0(5) |
| C(4)-P(3)-Pt(1) | 105.7(5) |
| O(46)-S(1)-O(47) | 119.3(8) |
| O(46)-S(1)-N(40) | 107.8(8) |
| O(47)-S(1)-N(40) | 106.8(9) |
| O(46)-S(1)-C(48) | 108.7(9) |
| O(47)-S(1)-C(48) | 105.1(8) |
| N(40)-S(1)-C(48) | 108.9(8) |
| C(2)-C(1)-P(1) | 109.7(11) |
| C(1)-C(2)-P(2) | 106.8(11) |
| C(4)-C(3)-P(2) | 105.1(10) |
| C(3)-C(4)-P(3) | 113.2(11) |
| C(10)-C(5)-C(6) | 122.1(17) |
| C(10)-C(5)-P(1) | 122.6(14) |
| C(6)-C(5)-P(1) | 115.2(13) |
| C(7)-C(6)-C(5) | 118(2) |
| C(6)-C(7)-C(8) | 120(2) |
| C(9)-C(8)-C(7) | 118.4(18) |
| C(8)-C(9)-C(10) | 123(2) |
| C(5)-C(10)-C(9) | 118.1(19) |
| C(12)-C(11)-C(16) | 116.9(15) |
| C(12)-C(11)-P(1) | 122.9(14) |
| C(16)-C(11)-P(1) | 120.2(13) |
| C(13)-C(12)-C(11) | 120.5(18) |
| C(12)-C(13)-C(14) | 121.3(16) |
| C(13)-C(14)-C(15) | 119.7(17) |
| C(16)-C(15)-C(14) | 118(2) |
| C(15)-C(16)-C(11) | 123.0(17) |
| C(18)-C(17)-C(22) | 115.8(12) |
| C(18)-C(17)-P(2) | 124.9(11) |
| C(22)-C(17)-P(2) | 119.1(10) |
| C(17)-C(18)-C(19) | 123.9(13) |
| C(18)-C(19)-C(20) | 118.1(15) |
| C(21)-C(20)-C(19) | 119.5(15) |
| C(20)-C(21)-C(22) | 121.0(15) |
| C(21)-C(22)-C(17) | 120.1(14) |
| C(25)-C(24)-C(29) | 121.0(14) |
| C(24)-C(25)-C(26) | 120.7(15) |
| C(25)-C(26)-C(27) | 120.9(15) |
| C(26)-C(27)-C(28) | 117.9(16) |
| C(29)-C(28)-C(27) | 121.3(15) |
| C(28)-C(29)-C(24) | 118.1(13) |
| C(28)-C(29)-P(3) | 121.8(11) |
| C(24)-C(29)-P(3) | 119.9(11) |
| C(31)-C(30)-C(35) | 115.1(16) |
| C(31)-C(30)-P(3) | 123.5(14) |
| C(35)-C(30)-P(3) | 121.4(12) |

| | |
|---|---|
| C(30)-C(31)-C(32) | 120.7(18) |
| C(33)-C(32)-C(31) | 120.2(18) |
| C(34)-C(33)-C(32) | 120.8(16) |
| C(33)-C(34)-C(35) | 120.9(17) |
| C(34)-C(35)-C(30) | 122.0(17) |
| C(45)-C(37)-C(38) | 107.3(13) |
| C(39)-C(38)-C(37) | 119(3) |
| C(37)-C(45)-C(44) | 118(3) |
| C(37)-C(45)-Pt(1) | 142(2) |
| C(44)-C(45)-Pt(1) | 99.7(8) |
| C(43)-C(39)-N(40) | 102.2(13) |
| C(43)-C(39)-C(38) | 115.1(13) |
| N(40)-C(39)-C(38) | 105.3(12) |
| C(43)-C(39)-C(55) | 110.5(14) |
| N(40)-C(39)-C(55) | 111.7(13) |
| C(38)-C(39)-C(55) | 111.5(13) |
| C(39)-N(40)-C(41) | 111.6(13) |
| C(39)-N(40)-S(1) | 130.8(13) |
| C(41)-N(40)-S(1) | 114.8(11) |
| C(42)-C(41)-N(40) | 99.9(15) |
| C(41)-C(42)-C(43) | 108.1(18) |
| C(39)-C(43)-C(42) | 103.7(15) |
| C(39)-C(43)-C(44) | 110.4(13) |
| C(42)-C(43)-C(44) | 122.9(16) |
| C(43)-C(44)-C(45) | 110.7(11) |
| C(49)-C(48)-C(53) | 119.3(16) |
| C(49)-C(48)-S(1) | 121.1(14) |
| C(53)-C(48)-S(1) | 119.5(14) |
| C(48)-C(49)-C(50) | 123.8(18) |
| C(51)-C(50)-C(49) | 119.2(19) |
| C(50)-C(51)-C(52) | 117.5(17) |
| C(50)-C(51)-C(54) | 123(2) |
| C(52)-C(51)-C(54) | 119.5(17) |
| C(53)-C(52)-C(51) | 122.5(17) |
| C(52)-C(53)-C(48) | 117.5(17) |
| F(62)-B(61)-F(64) | 115.9(18) |
| F(62)-B(61)-F(65) | 120.1(18) |
| F(64)-B(61)-F(65) | 114.9(16) |
| F(62)-B(61)-F(63) | 97(3) |
| F(64)-B(61)-F(63) | 100(2) |
| F(65)-B(61)-F(63) | 103.6(18) |
| Cl(2)-C(71)-Cl(1) | 109.4(12) |

**Table S6.** Anisotropic displacement parameters ($Å^2 x\ 10^3$) for **4**. The anisotropic displacement factor exponent takes the form: $-2\pi^2[ h^2 a^{*2} U^{11} + ... + 2 h k a^* b^* U^{12} ]$.

| | $U_{11}$ | $U_{22}$ | $U_{33}$ | $U_{23}$ | $U_{13}$ | $U_{12}$ |
|---|---|---|---|---|---|---|
| Pt(1) | 40(1) | 31(1) | 22(1) | 3(1) | 1(1) | -4(1) |

| | | | | | | |
|---|---|---|---|---|---|---|
| P(1) | 45(2) | 31(2) | 28(2) | 2(1) | 4(2) | -6(2) |
| P(2) | 42(2) | 36(2) | 22(2) | 4(2) | 0(1) | -3(2) |
| P(3) | 40(2) | 32(2) | 26(2) | -2(1) | -5(2) | -1(2) |
| S(1) | 53(3) | 61(3) | 38(2) | -13(2) | -2(2) | 8(2) |
| C(1) | 71(12) | 22(8) | 35(8) | -6(6) | 10(8) | -9(7) |
| C(2) | 83(13) | 49(11) | 19(7) | 11(7) | -24(8) | -19(9) |
| C(3) | 37(9) | 38(9) | 34(8) | -3(7) | 12(6) | 2(7) |
| C(4) | 22(8) | 57(11) | 43(9) | -13(8) | 8(7) | 5(7) |
| C(5) | 55(11) | 51(9) | 43(8) | -6(9) | 7(9) | -12(7) |
| C(6) | 89(15) | 62(11) | 22(7) | -3(7) | 12(8) | -9(10) |
| C(7) | 140(20) | 39(10) | 66(12) | -3(8) | 40(15) | -45(15) |
| C(8) | 66(13) | 75(15) | 102(17) | -57(13) | 55(13) | -27(11) |
| C(9) | 54(12) | 99(16) | 84(13) | -53(12) | -16(12) | -1(12) |
| C(10) | 56(11) | 60(11) | 77(11) | -40(10) | -21(12) | -2(9) |
| C(11) | 49(10) | 42(10) | 34(8) | -15(7) | -12(7) | 10(8) |
| C(12) | 97(15) | 53(12) | 42(10) | 20(9) | 19(10) | -19(10) |
| C(13) | 107(16) | 56(11) | 60(11) | 38(9) | -36(13) | -22(13) |
| C(14) | 95(16) | 56(13) | 75(13) | 13(10) | -37(12) | 22(12) |
| C(15) | 91(16) | 59(13) | 70(13) | -6(10) | -13(12) | 9(11) |
| C(16) | 94(15) | 65(13) | 35(9) | 30(9) | -29(9) | -2(11) |
| C(17) | 39(8) | 33(7) | 54(8) | 4(8) | -3(6) | -7(8) |
| C(18) | 57(9) | 45(9) | 38(7) | 12(7) | -7(6) | -10(9) |
| C(19) | 55(10) | 66(11) | 51(8) | 4(9) | -1(7) | -11(11) |
| C(20) | 76(12) | 113(16) | 25(7) | 16(11) | -12(7) | -34(14) |
| C(21) | 75(13) | 136(19) | 33(8) | -9(13) | 3(8) | -23(16) |
| C(22) | 58(9) | 67(11) | 22(6) | -5(8) | 2(6) | -20(10) |
| C(24) | 52(9) | 38(8) | 35(7) | 6(6) | -1(8) | 22(9) |
| C(25) | 60(10) | 44(10) | 47(9) | 4(8) | -19(8) | -4(8) |
| C(26) | 69(12) | 58(11) | 36(9) | 3(7) | -15(7) | 6(9) |
| C(27) | 72(14) | 48(11) | 62(10) | -19(8) | -29(10) | 15(9) |
| C(28) | 50(10) | 53(11) | 39(8) | 4(8) | -13(7) | -3(8) |
| C(29) | 39(8) | 40(9) | 15(6) | -3(6) | 4(6) | -1(7) |
| C(30) | 55(9) | 25(7) | 40(7) | -4(7) | 12(9) | 2(7) |
| C(31) | 86(14) | 61(11) | 47(9) | -6(9) | -2(11) | -4(10) |
| C(32) | 126(17) | 40(10) | 54(10) | 17(8) | 2(13) | -43(13) |
| C(33) | 75(13) | 63(13) | 41(10) | 31(9) | -2(9) | -4(11) |
| C(34) | 110(20) | 111(18) | 43(10) | 33(11) | -35(11) | -48(16) |
| C(35) | 66(13) | 130(20) | 45(11) | 40(12) | -24(9) | -34(12) |
| C(38) | 54(10) | 42(10) | 37(7) | -8(6) | -15(7) | 5(7) |
| C(45) | 82(11) | 47(9) | 17(5) | 6(7) | 30(7) | 35(9) |
| C(38') | 54(10) | 42(10) | 37(7) | -8(6) | -15(7) | 5(7) |
| C(45') | 82(11) | 47(9) | 17(5) | 6(7) | 30(7) | 35(9) |
| C(39) | 61(11) | 49(10) | 39(8) | -6(8) | -4(7) | -1(8) |
| N(40) | 45(7) | 50(8) | 52(7) | 7(8) | 4(6) | -5(8) |
| C(41) | 96(17) | 59(14) | 104(16) | -31(12) | 46(14) | -33(12) |
| C(42) | 114(19) | 75(15) | 76(14) | -41(12) | -43(14) | 1(14) |
| C(43) | 68(10) | 86(13) | 19(6) | 18(9) | -4(6) | -38(12) |
| C(44) | 56(10) | 65(11) | 27(6) | 3(7) | 10(7) | -20(10) |
| O(46) | 69(8) | 71(9) | 64(8) | -27(7) | -6(6) | -9(7) |
| O(47) | 83(9) | 107(11) | 49(7) | -21(7) | -25(6) | 48(8) |
| C(48) | 47(10) | 52(11) | 55(10) | -6(8) | 9(7) | 11(8) |
| C(49) | 77(14) | 107(19) | 46(11) | -12(11) | 14(9) | -12(13) |
| C(50) | 94(16) | 72(14) | 68(13) | -16(11) | 39(12) | -24(12) |
| C(51) | 47(10) | 77(13) | 41(9) | -6(9) | 8(7) | -7(9) |
| C(52) | 77(13) | 52(12) | 44(10) | -1(8) | 3(9) | 13(10) |
| C(53) | 67(12) | 74(13) | 43(9) | -18(9) | 6(9) | -6(10) |
| C(54) | 99(17) | 120(20) | 49(11) | 18(12) | 8(11) | 3(15) |

| | | | | | | |
|---|---|---|---|---|---|---|
| C(55) | 57(11) | 49(10) | 46(9) | 15(8) | -11(8) | 1(8) |
| B(61) | 54(11) | 76(15) | 37(9) | -9(10) | 0(8) | 6(13) |
| F(62) | 230(20) | 530(50) | 60(9) | -8(18) | -52(13) | 230(30) |
| F(63) | 270(30) | 350(30) | 350(40) | -280(30) | 250(30) | -250(30) |
| F(64) | 93(8) | 120(11) | 29(5) | -27(5) | -5(5) | -1(7) |
| F(65) | 74(6) | 101(8) | 48(5) | -13(6) | 23(5) | -13(7) |
| C(71) | 60(30) | 430(120) | 27(16) | 50(50) | 10(20) | -50(40) |
| Cl(1) | 96(8) | 85(8) | 95(8) | -2(7) | 4(7) | -1(6) |
| Cl(2) | 138(11) | 136(11) | 98(8) | -29(9) | -45(11) | 13(10) |

**Table S7.** Hydrogen coordinates ( x $10^4$) and isotropic displacement parameters (Å$^2$x $10^3$) for **4.**

| | x | y | z | U(eq) |
|---|---|---|---|---|
| H(1A) | 3899 | 10198 | -1665 | 51 |
| H(1B) | 4184 | 9912 | -438 | 51 |
| H(2A) | 4724 | 9519 | -2101 | 60 |
| H(2B) | 3969 | 9445 | -2795 | 60 |
| H(3A) | 4044 | 8253 | -2816 | 43 |
| H(3B) | 4788 | 8200 | -2073 | 43 |
| H(4A) | 4245 | 7782 | -448 | 49 |
| H(4B) | 3976 | 7496 | -1680 | 49 |
| H(6) | 3453 | 9797 | 1681 | 69 |
| H(7) | 3154 | 10307 | 3410 | 99 |
| H(8) | 2210 | 10907 | 3260 | 97 |
| H(9) | 1615 | 10987 | 1419 | 95 |
| H(10) | 1970 | 10545 | -358 | 77 |
| H(12) | 3020 | 10444 | -2854 | 77 |
| H(13) | 2196 | 10719 | -4313 | 89 |
| H(14) | 1146 | 10251 | -4658 | 90 |
| H(15) | 802 | 9599 | -3222 | 88 |
| H(16) | 1607 | 9350 | -1700 | 78 |
| H(18) | 5609 | 8866 | -873 | 56 |
| H(19) | 6414 | 8815 | 780 | 69 |
| H(20) | 5961 | 8894 | 2844 | 85 |
| H(21) | 4750 | 8770 | 3169 | 97 |
| H(22) | 3959 | 8933 | 1544 | 59 |
| H(24) | 2060 | 8433 | -2492 | 50 |
| H(25) | 1461 | 8188 | -4229 | 61 |
| H(26) | 1529 | 7354 | -4945 | 65 |
| H(27) | 2266 | 6751 | -3962 | 73 |
| H(28) | 2880 | 7004 | -2156 | 57 |
| H(31) | 1942 | 7149 | -229 | 78 |
| H(32) | 1705 | 6609 | 1503 | 88 |
| H(33) | 2444 | 6620 | 3190 | 71 |
| H(34) | 3344 | 7205 | 3321 | 107 |
| H(35) | 3672 | 7690 | 1607 | 95 |
| H(37A) | 1004 | 8991 | -656 | 45 |
| H(37B) | 1036 | 9387 | 494 | 45 |
| H(38A) | 163 | 8779 | 996 | 53 |

| | | | | |
|---|---|---|---|---|
| H(38B) | 665 | 8310 | 599 | 53 |
| H(37C) | 1454 | 8159 | 322 | 45 |
| H(37D) | 1164 | 8557 | -704 | 45 |
| H(38C) | 520 | 9016 | 897 | 53 |
| H(38D) | 249 | 8429 | 793 | 53 |
| H(41A) | 242 | 9611 | 3630 | 104 |
| H(41B) | 615 | 9256 | 4685 | 104 |
| H(42A) | 1591 | 9544 | 3716 | 106 |
| H(42B) | 1192 | 9581 | 2398 | 106 |
| H(43) | 1660 | 8673 | 3625 | 69 |
| H(44A) | 2317 | 8382 | 1936 | 59 |
| H(44B) | 2568 | 8970 | 2119 | 59 |
| H(49) | -268 | 7594 | 4368 | 92 |
| H(50) | -14 | 7157 | 6187 | 93 |
| H(52) | -10 | 8527 | 7979 | 69 |
| H(53) | -331 | 8951 | 6157 | 73 |
| H(54A) | 834 | 7566 | 8475 | 136 |
| H(54B) | 158 | 7187 | 8477 | 136 |
| H(54C) | 114 | 7734 | 9167 | 136 |
| H(55A) | 1382 | 7846 | 2443 | 76 |
| H(55B) | 537 | 7788 | 2249 | 76 |
| H(55C) | 851 | 7925 | 3593 | 76 |
| H(71A) | 4036 | 8993 | 4954 | 208 |
| H(71B) | 3581 | 9093 | 3713 | 208 |

**Table S8.** Crystallographic data and collection parameters for **8**.

| | **8** |
|---|---|
| Empirical Formula | $C_{44}H_{50}BF_4NOP_3Pt$ |
| FW | 969.65 |
| Space Group | Orthorhombic, $P2_1/n$ |
| *A* | 10.5334(14) |
| *B* | 44.022(6) |
| *C* | 19.544(3) |
| *V*, Å$^3$ | 8885(2) |
| *Z* | 8 |
| *T*, K | 100(2) |
| $D_c$, Mg/m$^3$ | 1.450 |
| λ, Å | Mo Kα (0.71073) |
| μ, mm$^{-1}$ | 3.314 |
| $R_f$[a] | 0.0771 |
| $R_w$[b] | 0.1770 |
| GOF[c] | 1.031 |

[a]$R_f = \Sigma(F_o - F_c)/\Sigma F_o$. [b]$R_w = [\Sigma\omega(F_o - F_c)^2/\Sigma\omega F_o^2]^{1/2}$. [c]GOF = $[\Sigma\omega(F_o - F_c)^2/(n - p)]^{1/2}$, where $n$ = number of reflections and $p$ = number of parameters.

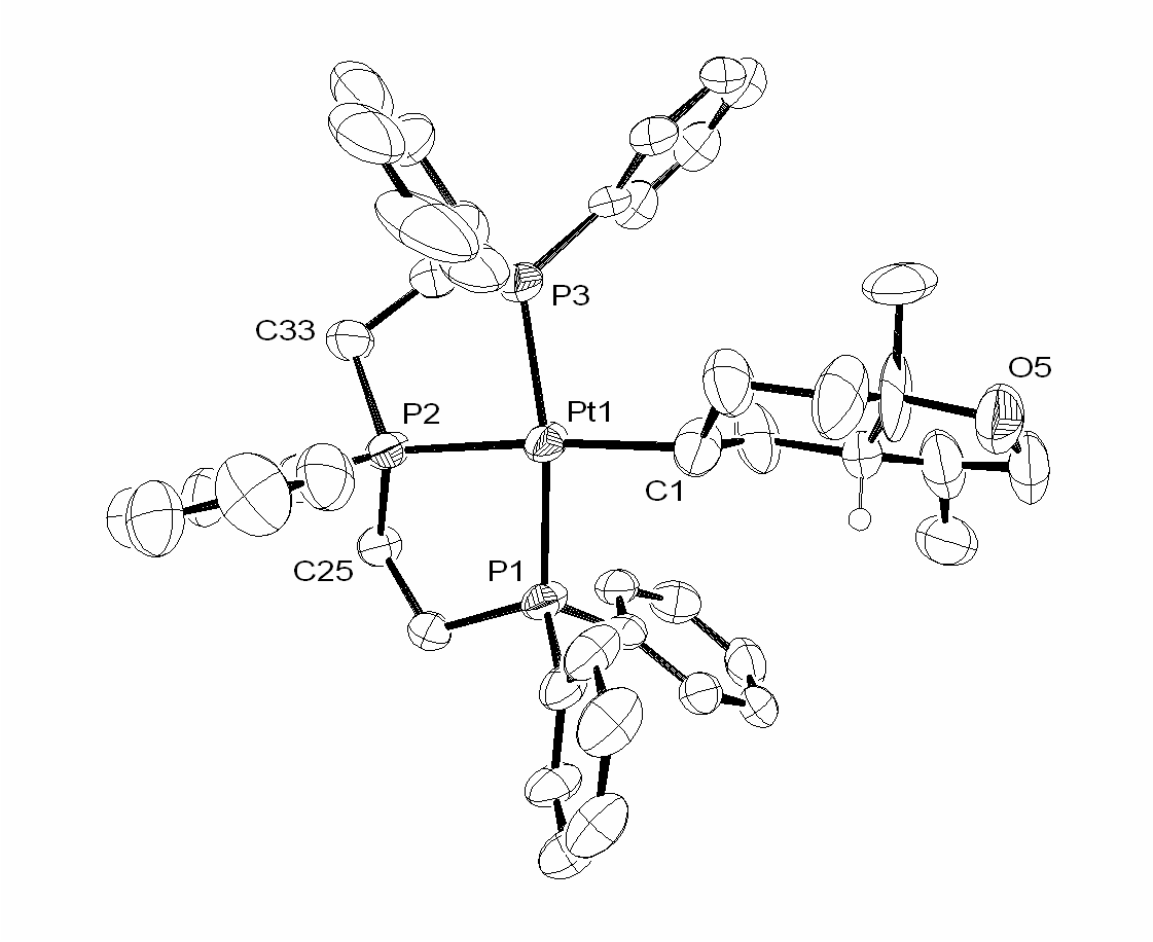



**Figure S4.** ORTEP representation of **8**. $BF_4^-$ counter ion and solvent molecule not shown.

**Table S9.** Atomic coordinates ( x $10^4$) and equivalent isotropic displacement parameters ($Å^2$x $10^3$) for **8**. U(eq) is defined as one third of the trace of the orthogonalized $U^{ij}$ tensor.

| | x | y | z | U(eq) |
|---|---|---|---|---|
| Pt(1) | 2181(1) | 604(1) | 3168(1) | 43(1) |
| P(1) | 3969(3) | 498(1) | 3983(2) | 41(1) |
| P(2) | 1144(3) | 616(1) | 4094(2) | 42(1) |
| C(1) | 3309(13) | 597(3) | 2359(7) | 61(4) |
| C(2) | 2948(15) | 855(3) | 1839(7) | 72(4) |
| C(3) | 3885(18) | 871(4) | 1318(10) | 111(7) |
| C(4) | 4082(18) | 576(4) | 1054(8) | 100(7) |
| O(5) | 5043(11) | 560(3) | 609(5) | 88(3) |
| P(5) | 7098(4) | 1679(1) | 10096(2) | 62(1) |
| C(6) | 5692(18) | 287(5) | 697(9) | 112(7) |
| C(7) | 4967(18) | 92(4) | 1166(8) | 94(5) |
| C(8) | 4400(12) | 333(3) | 1538(6) | 58(3) |
| C(9) | 3442(15) | 300(3) | 2040(7) | 68(4) |
| C(10) | 2772(15) | 520(5) | 484(9) | 131(9) |
| C(11) | 5814(15) | -151(4) | 1552(8) | 90(5) |
| C(12) | 4744(10) | 146(2) | 3789(5) | 40(2) |
| C(13) | 3999(10) | -111(3) | 3696(5) | 45(3) |
| C(14) | 4483(12) | -386(3) | 3507(6) | 53(3) |
| C(15) | 5784(13) | -388(3) | 3406(6) | 58(3) |
| C(16) | 6504(11) | -135(3) | 3482(5) | 45(3) |
| C(17) | 6022(11) | 137(3) | 3668(6) | 48(3) |
| C(18) | 5251(10) | 780(2) | 4186(6) | 45(3) |
| C(19) | 5179(11) | 1045(3) | 3774(7) | 54(3) |
| C(20) | 6153(13) | 1257(3) | 3918(8) | 68(4) |
| C(21) | 7182(13) | 1219(3) | 4463(8) | 67(4) |
| C(22) | 7227(11) | 960(3) | 4861(7) | 57(3) |
| C(23) | 6288(10) | 738(3) | 4721(6) | 50(3) |
| C(24) | 3470(10) | 425(3) | 4817(5) | 45(3) |
| C(25) | 2023(9) | 344(2) | 4720(5) | 41(3) |
| C(26) | 1150(11) | 963(3) | 4571(6) | 53(3) |
| C(27) | 1542(15) | 1235(3) | 4322(8) | 75(4) |
| C(28) | 1478(19) | 1505(3) | 4665(9) | 94(5) |
| C(29) | 1093(17) | 1518(4) | 5289(9) | 85(5) |
| C(30) | 677(14) | 1251(4) | 5548(8) | 73(4) |
| C(32) | 697(12) | 977(3) | 5194(6) | 60(3) |
| C(33) | -553(11) | 512(3) | 3806(6) | 49(3) |
| C(34) | -813(12) | 391(4) | 3045(6) | 69(4) |
| C(35) | -580(16) | 990(4) | 2470(7) | 77(5) |
| C(36) | 203(19) | 1240(4) | 2561(8) | 90(6) |
| C(37) | -260(30) | 1539(5) | 2553(10) | 158(12) |
| C(38) | -1670(30) | 1553(6) | 2442(9) | 114(8) |
| C(39) | -2460(30) | 1305(6) | 2342(9) | 126(9) |
| C(40) | -1930(16) | 1033(5) | 2357(8) | 104(7) |
| C(41) | -366(11) | 445(4) | 1665(6) | 64(4) |
| C(42) | -623(12) | 649(4) | 1076(7) | 83(5) |
| C(43) | -980(13) | 508(5) | 415(7) | 88(6) |
| C(44) | -1056(14) | 198(5) | 352(8) | 88(5) |
| C(45) | -796(13) | 19(4) | 934(8) | 81(5) |
| C(46) | -437(13) | 130(4) | 1579(8) | 75(4) |

| | | | | |
|---|---|---|---|---|
| Pt(2) | 5688(1) | 1799(1) | 9090(1) | 54(1) |
| P(3) | 111(3) | 616(1) | 2528(2) | 61(1) |
| P(4) | 5380(4) | 1290(1) | 9032(2) | 78(1) |
| C(51) | 4302(16) | 1880(4) | 8147(9) | 96(3) |
| C(52) | 4635(17) | 2086(4) | 7668(9) | 103(3) |
| C(53) | 3596(16) | 2097(5) | 6938(9) | 103(3) |
| C(54) | 2255(17) | 2161(5) | 7074(10) | 100(2) |
| O(55) | 1299(11) | 2135(3) | 6465(6) | 97(2) |
| C(56) | 134(16) | 2095(4) | 6709(9) | 96(3) |
| C(57) | 507(16) | 1987(4) | 7493(9) | 98(3) |
| C(58) | 1964(16) | 1927(4) | 7527(9) | 98(2) |
| C(59) | 2867(15) | 1908(4) | 8263(9) | 94(3) |
| C(60) | 2150(30) | 2489(5) | 7425(13) | 168(11) |
| C(61) | -290(20) | 1687(6) | 7561(12) | 149(9) |
| C(62) | 3761(15) | 1128(3) | 8695(10) | 86(5) |
| C(63) | 3540(16) | 1022(4) | 7980(11) | 112(7) |
| C(64) | 2312(18) | 909(4) | 7689(13) | 117(7) |
| C(65) | 1440(20) | 889(4) | 8095(14) | 115(7) |
| C(66) | 1620(30) | 993(5) | 8742(15) | 129(8) |
| C(67) | 2840(30) | 1131(6) | 9080(12) | 140(9) |
| C(68) | 6383(16) | 1051(4) | 8704(10) | 90(5) |
| C(69) | 6506(18) | 731(3) | 8880(9) | 86(5) |
| C(70) | 7225(18) | 550(5) | 8570(8) | 99(6) |
| C(71) | 7890(14) | 668(3) | 8022(10) | 85(5) |
| C(72) | 7764(18) | 962(5) | 7829(13) | 129(8) |
| C(73) | 6934(14) | 1180(3) | 8217(7) | 72(4) |
| C(74) | 5830(40) | 1167(5) | 9936(13) | 250(20) |
| C(75) | 6690(19) | 1302(3) | 10382(7) | 82(5) |
| C(76) | 8800(16) | 1668(3) | 10108(8) | 70(4) |
| C(77) | 9683(19) | 1556(4) | 10672(9) | 87(5) |
| C(78) | 11000(20) | 1559(4) | 10708(11) | 102(6) |
| C(79) | 11460(20) | 1678(5) | 10158(13) | 117(7) |
| C(80) | 10633(18) | 1815(5) | 9607(12) | 115(7) |
| C(81) | 9313(16) | 1801(4) | 9589(10) | 95(5) |
| P61 | 6301(8) | 2282(2) | 9473(4) | 63(1) |
| C821 | 7020(40) | 1963(9) | 10780(20) | 63(2) |
| C831 | 7120(30) | 2258(6) | 10427(14) | 64(2) |
| C841 | 7374(19) | 2506(4) | 9066(11) | 79(2) |
| C851 | 7621(19) | 2427(4) | 8416(11) | 78(3) |
| C861 | 8389(19) | 2613(4) | 8091(9) | 79(3) |
| C871 | 8910(18) | 2879(4) | 8416(10) | 80(3) |
| C881 | 8663(19) | 2958(4) | 9066(10) | 81(3) |
| C891 | 7890(20) | 2772(4) | 9390(9) | 80(2) |
| C901 | 4880(16) | 2522(4) | 9497(11) | 72(2) |
| C911 | 4580(20) | 2761(5) | 9028(11) | 75(2) |
| C921 | 3490(20) | 2938(4) | 9036(11) | 77(2) |
| C931 | 2701(17) | 2876(4) | 9512(11) | 77(2) |
| C941 | 3003(18) | 2637(4) | 9981(10) | 76(3) |
| C951 | 4093(19) | 2460(4) | 9973(10) | 74(2) |
| P62 | 5585(8) | 2280(2) | 9552(4) | 63(1) |
| C822 | 6770(30) | 1964(10) | 10730(20) | 63(2) |
| C832 | 5660(30) | 2193(6) | 10524(14) | 64(2) |
| C842 | 6949(16) | 2512(4) | 9491(11) | 77(2) |
| C852 | 7251(18) | 2553(4) | 8836(9) | 79(2) |
| C862 | 8280(19) | 2739(4) | 8759(9) | 81(2) |
| C872 | 9007(16) | 2884(4) | 9337(11) | 82(3) |

| | | | | |
|---|---|---|---|---|
| C882 | 8705(18) | 2844(4) | 9992(9) | 83(3) |
| C892 | 7676(19) | 2658(5) | 10069(9) | 81(3) |
| C902 | 4243(16) | 2535(4) | 9370(12) | 74(2) |
| C912 | 4376(17) | 2824(4) | 9103(13) | 75(2) |
| C922 | 3340(20) | 3025(3) | 9008(12) | 77(3) |
| C932 | 2174(17) | 2939(4) | 9179(11) | 77(3) |
| C942 | 2040(15) | 2650(4) | 9445(11) | 77(3) |
| C952 | 3075(19) | 2448(3) | 9541(11) | 76(3) |
| B(1) | 4270(20) | 1772(4) | 1818(15) | 93(7) |
| F(1) | 5377(11) | 1787(3) | 2322(8) | 166(6) |
| F(2) | 4017(12) | 2068(2) | 1651(7) | 142(4) |
| F(3) | 4446(11) | 1618(3) | 1285(8) | 134(4) |
| F(4) | 3266(12) | 1663(3) | 2100(7) | 145(5) |
| B(2) | 9505(16) | 440(4) | 6402(8) | 60(4) |
| F(5) | 10681(10) | 450(4) | 6425(9) | 218(9) |
| F(6) | 9094(15) | 740(3) | 6506(7) | 158(5) |
| F(7) | 9176(8) | 247(2) | 6899(4) | 80(2) |
| F(8) | 8704(11) | 404(3) | 5790(6) | 138(5) |

**Table S10.** Bond lengths [Å] and angles [°] for **8**.

| | |
|---|---|
| Pt(1)-C(1) | 2.158(11) |
| Pt(1)-P(1) | 2.262(3) |
| Pt(1)-P(2) | 2.290(3) |
| Pt(1)-P(3) | 2.290(3) |
| P(1)-C(18) | 1.819(12) |
| P(1)-C(12) | 1.827(11) |
| P(1)-C(24) | 1.838(10) |
| P(2)-C(26) | 1.787(13) |
| P(2)-C(33) | 1.825(11) |
| P(2)-C(25) | 1.827(10) |
| C(1)-C(9) | 1.467(17) |
| C(1)-C(2) | 1.522(16) |
| C(2)-C(3) | 1.553(18) |
| C(3)-C(4) | 1.43(2) |
| C(4)-C(8) | 1.423(17) |
| C(4)-O(5) | 1.460(15) |
| C(4)-C(10) | 1.61(3) |
| O(5)-C(6) | 1.374(19) |
| P(5)-C(76) | 1.788(17) |
| P(5)-C(75) | 1.831(13) |
| P(5)-C821 | 1.850(5) |
| P(5)-C822 | 1.850(5) |
| P(5)-Pt(2) | 2.281(4) |
| C(6)-C(7) | 1.56(2) |
| C(7)-C(8) | 1.479(19) |
| C(7)-C(11) | 1.50(2) |
| C(8)-C(9) | 1.546(16) |
| C(12)-C(13) | 1.367(15) |
| C(12)-C(17) | 1.412(14) |
| C(13)-C(14) | 1.390(16) |
| C(14)-C(15) | 1.423(17) |
| C(15)-C(16) | 1.338(17) |
| C(16)-C(17) | 1.378(16) |

| | |
|---|---|
| C(18)-C(23) | 1.368(15) |
| C(18)-C(19) | 1.411(14) |
| C(19)-C(20) | 1.375(17) |
| C(20)-C(21) | 1.372(19) |
| C(21)-C(22) | 1.379(17) |
| C(22)-C(23) | 1.377(16) |
| C(24)-C(25) | 1.540(14) |
| C(26)-C(27) | 1.388(17) |
| C(26)-C(32) | 1.393(16) |
| C(27)-C(28) | 1.37(2) |
| C(28)-C(29) | 1.36(2) |
| C(29)-C(30) | 1.39(2) |
| C(30)-C(32) | 1.395(18) |
| C(33)-C(34) | 1.551(16) |
| C(34)-P(3) | 1.828(14) |
| C(35)-C(36) | 1.36(2) |
| C(35)-C(40) | 1.41(2) |
| C(35)-P(3) | 1.794(16) |
| C(36)-C(37) | 1.40(2) |
| C(37)-C(38) | 1.46(3) |
| C(38)-C(39) | 1.36(3) |
| C(39)-C(40) | 1.32(2) |
| C(41)-C(46) | 1.40(2) |
| C(41)-C(42) | 1.440(19) |
| C(41)-P(3) | 1.825(13) |
| C(42)-C(43) | 1.41(2) |
| C(43)-C(44) | 1.37(2) |
| C(44)-C(45) | 1.37(2) |
| C(45)-C(46) | 1.34(2) |
| Pt(2)-C(51) | 2.144(17) |
| Pt(2)-P(4) | 2.267(4) |
| Pt(2)-P61 | 2.301(8) |
| Pt(2)-P62 | 2.311(8) |
| P(4)-C(68) | 1.701(17) |
| P(4)-C(74) | 1.82(2) |
| P(4)-C(62) | 1.845(16) |
| C(51)-C(52) | 1.40(2) |
| C(51)-C(59) | 1.58(2) |
| C(52)-C(53) | 1.62(2) |
| C(53)-C(54) | 1.51(2) |
| C(54)-O(55) | 1.40(2) |
| C(54)-C(58) | 1.43(2) |
| C(54)-C(60) | 1.61(3) |
| O(55)-C(56) | 1.412(18) |
| C(56)-C(57) | 1.58(2) |
| C(57)-C(58) | 1.55(2) |
| C(57)-C(61) | 1.59(3) |
| C(58)-C(59) | 1.56(2) |
| C(62)-C(67) | 1.34(3) |
| C(62)-C(63) | 1.45(2) |
| C(63)-C(64) | 1.40(2) |
| C(64)-C(65) | 1.33(3) |
| C(65)-C(66) | 1.32(3) |
| C(66)-C(67) | 1.46(3) |
| C(68)-C(73) | 1.33(2) |
| C(68)-C(69) | 1.45(2) |

| | |
|---|---|
| C(69)-C(70) | 1.33(2) |
| C(70)-C(71) | 1.48(2) |
| C(71)-C(72) | 1.35(2) |
| C(72)-C(73) | 1.59(2) |
| C(74)-C(75) | 1.28(2) |
| C(76)-C(81) | 1.37(2) |
| C(76)-C(77) | 1.39(2) |
| C(77)-C(78) | 1.37(3) |
| C(78)-C(79) | 1.37(3) |
| C(79)-C(80) | 1.38(3) |
| C(80)-C(81) | 1.38(2) |
| P61-C841 | 1.802(15) |
| P61-C901 | 1.841(15) |
| P61-C831 | 1.90(3) |
| C821-C831 | 1.49(6) |
| C841-C851 | 1.3900 |
| C841-C891 | 1.3900 |
| C851-C861 | 1.3900 |
| C861-C871 | 1.3900 |
| C871-C881 | 1.3900 |
| C881-C891 | 1.3900 |
| C901-C911 | 1.3900 |
| C901-C951 | 1.3900 |
| C911-C921 | 1.3900 |
| C921-C931 | 1.3900 |
| C931-C941 | 1.3900 |
| C941-C951 | 1.3900 |
| P62-C842 | 1.786(15) |
| P62-C902 | 1.786(15) |
| P62-C832 | 1.93(3) |
| C822-C832 | 1.53(5) |
| C842-C852 | 1.3900 |
| C842-C892 | 1.3900 |
| C852-C862 | 1.3900 |
| C862-C872 | 1.3900 |
| C872-C882 | 1.3900 |
| C882-C892 | 1.3900 |
| C902-C912 | 1.3900 |
| C902-C952 | 1.3900 |
| C912-C922 | 1.3900 |
| C922-C932 | 1.3900 |
| C932-C942 | 1.3900 |
| C942-C952 | 1.3900 |
| B(1)-F(3) | 1.29(2) |
| B(1)-F(2) | 1.36(2) |
| B(1)-F(1) | 1.37(3) |
| B(1)-F(4) | 1.37(2) |
| B(2)-F(5) | 1.232(18) |
| B(2)-F(8) | 1.331(18) |
| B(2)-F(7) | 1.385(16) |
| B(2)-F(6) | 1.417(19) |

| | |
|---|---|
| C(1)-Pt(1)-P(1) | 90.6(4) |
| C(1)-Pt(1)-P(2) | 175.2(4) |
| P(1)-Pt(1)-P(2) | 84.80(10) |

| | |
|---|---|
| C(1)-Pt(1)-P(3) | 101.7(4) |
| P(1)-Pt(1)-P(3) | 163.75(11) |
| P(2)-Pt(1)-P(3) | 83.15(10) |
| C(18)-P(1)-C(12) | 106.3(5) |
| C(18)-P(1)-C(24) | 104.8(5) |
| C(12)-P(1)-C(24) | 104.6(5) |
| C(18)-P(1)-Pt(1) | 119.5(4) |
| C(12)-P(1)-Pt(1) | 112.0(4) |
| C(24)-P(1)-Pt(1) | 108.5(4) |
| C(26)-P(2)-C(33) | 106.2(6) |
| C(26)-P(2)-C(25) | 105.1(5) |
| C(33)-P(2)-C(25) | 112.2(5) |
| C(26)-P(2)-Pt(1) | 118.6(4) |
| C(33)-P(2)-Pt(1) | 109.9(4) |
| C(25)-P(2)-Pt(1) | 104.8(3) |
| C(9)-C(1)-C(2) | 114.4(11) |
| C(9)-C(1)-Pt(1) | 116.0(8) |
| C(2)-C(1)-Pt(1) | 112.2(8) |
| C(1)-C(2)-C(3) | 111.3(11) |
| C(4)-C(3)-C(2) | 110.7(13) |
| C(8)-C(4)-C(3) | 118.3(14) |
| C(8)-C(4)-O(5) | 105.0(12) |
| C(3)-C(4)-O(5) | 115.3(14) |
| C(8)-C(4)-C(10) | 113.6(16) |
| C(3)-C(4)-C(10) | 103.0(15) |
| O(5)-C(4)-C(10) | 100.4(13) |
| C(6)-O(5)-C(4) | 110.8(11) |
| C(76)-P(5)-C(75) | 105.5(8) |
| C(76)-P(5)-C821 | 101.4(13) |
| C(75)-P(5)-C821 | 110.2(17) |
| C(76)-P(5)-C822 | 109.4(12) |
| C(75)-P(5)-C822 | 108.8(18) |
| C821-P(5)-C822 | 8(2) |
| C(76)-P(5)-Pt(2) | 119.9(5) |
| C(75)-P(5)-Pt(2) | 108.8(6) |
| C821-P(5)-Pt(2) | 110.7(16) |
| C822-P(5)-Pt(2) | 104.2(15) |
| O(5)-C(6)-C(7) | 105.3(12) |
| C(8)-C(7)-C(11) | 121.6(13) |
| C(8)-C(7)-C(6) | 100.6(14) |
| C(11)-C(7)-C(6) | 112.1(15) |
| C(4)-C(8)-C(7) | 106.1(11) |
| C(4)-C(8)-C(9) | 113.3(11) |
| C(7)-C(8)-C(9) | 128.3(12) |
| C(1)-C(9)-C(8) | 108.3(10) |
| C(13)-C(12)-C(17) | 119.8(10) |
| C(13)-C(12)-P(1) | 117.5(8) |
| C(17)-C(12)-P(1) | 122.5(9) |
| C(12)-C(13)-C(14) | 121.6(10) |
| C(13)-C(14)-C(15) | 117.0(11) |
| C(16)-C(15)-C(14) | 121.4(11) |
| C(15)-C(16)-C(17) | 121.4(11) |
| C(16)-C(17)-C(12) | 118.7(11) |
| C(23)-C(18)-C(19) | 119.5(11) |
| C(23)-C(18)-P(1) | 121.5(8) |
| C(19)-C(18)-P(1) | 119.0(9) |

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|---|---|
| C(20)-C(19)-C(18) | 119.4(12) |
| C(21)-C(20)-C(19) | 121.4(12) |
| C(20)-C(21)-C(22) | 118.2(12) |
| C(23)-C(22)-C(21) | 122.1(13) |
| C(18)-C(23)-C(22) | 119.5(11) |
| C(25)-C(24)-P(1) | 112.3(7) |
| C(24)-C(25)-P(2) | 106.9(7) |
| C(27)-C(26)-C(32) | 116.4(12) |
| C(27)-C(26)-P(2) | 121.6(10) |
| C(32)-C(26)-P(2) | 121.9(9) |
| C(28)-C(27)-C(26) | 122.1(14) |
| C(29)-C(28)-C(27) | 121.7(15) |
| C(28)-C(29)-C(30) | 117.6(14) |
| C(29)-C(30)-C(32) | 121.1(13) |
| C(26)-C(32)-C(30) | 120.9(12) |
| C(34)-C(33)-P(2) | 111.0(8) |
| C(33)-C(34)-P(3) | 109.4(9) |
| C(36)-C(35)-C(40) | 118.6(17) |
| C(36)-C(35)-P(3) | 120.2(12) |
| C(40)-C(35)-P(3) | 121.2(17) |
| C(35)-C(36)-C(37) | 124(2) |
| C(36)-C(37)-C(38) | 113(2) |
| C(39)-C(38)-C(37) | 124(2) |
| C(40)-C(39)-C(38) | 119(2) |
| C(39)-C(40)-C(35) | 122(2) |
| C(46)-C(41)-C(42) | 121.6(13) |
| C(46)-C(41)-P(3) | 121.2(11) |
| C(42)-C(41)-P(3) | 117.1(13) |
| C(43)-C(42)-C(41) | 115.6(17) |
| C(44)-C(43)-C(42) | 121.2(15) |
| C(45)-C(44)-C(43) | 120.1(16) |
| C(46)-C(45)-C(44) | 123.1(18) |
| C(45)-C(46)-C(41) | 118.3(15) |
| C(51)-Pt(2)-P(4) | 93.1(5) |
| C(51)-Pt(2)-P(5) | 175.8(5) |
| P(4)-Pt(2)-P(5) | 82.86(13) |
| C(51)-Pt(2)-P61 | 103.1(6) |
| P(4)-Pt(2)-P61 | 163.3(2) |
| P(5)-Pt(2)-P61 | 80.8(2) |
| C(51)-Pt(2)-P62 | 96.2(6) |
| P(4)-Pt(2)-P62 | 155.3(2) |
| P(5)-Pt(2)-P62 | 87.0(2) |
| P61-Pt(2)-P62 | 19.9(2) |
| C(35)-P(3)-C(41) | 106.6(7) |
| C(35)-P(3)-C(34) | 106.2(7) |
| C(41)-P(3)-C(34) | 102.0(7) |
| C(35)-P(3)-Pt(1) | 112.7(6) |
| C(41)-P(3)-Pt(1) | 123.7(4) |
| C(34)-P(3)-Pt(1) | 103.8(4) |
| C(68)-P(4)-C(74) | 97.0(15) |
| C(68)-P(4)-C(62) | 103.1(8) |
| C(74)-P(4)-C(62) | 106.0(12) |
| C(68)-P(4)-Pt(2) | 122.4(6) |
| C(74)-P(4)-Pt(2) | 103.8(8) |
| C(62)-P(4)-Pt(2) | 120.9(4) |
| C(52)-C(51)-C(59) | 114.9(14) |

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|---|---|
| C(52)-C(51)-Pt(2) | 117.8(13) |
| C(59)-C(51)-Pt(2) | 113.5(11) |
| C(51)-C(52)-C(53) | 113.3(16) |
| C(54)-C(53)-C(52) | 110.1(15) |
| O(55)-C(54)-C(58) | 105.2(16) |
| O(55)-C(54)-C(53) | 112.0(15) |
| C(58)-C(54)-C(53) | 107.3(15) |
| O(55)-C(54)-C(60) | 109.6(15) |
| C(58)-C(54)-C(60) | 109.9(18) |
| C(53)-C(54)-C(60) | 112.6(18) |
| C(54)-O(55)-C(56) | 104.5(13) |
| O(55)-C(56)-C(57) | 107.4(13) |
| C(58)-C(57)-C(56) | 98.4(13) |
| C(58)-C(57)-C(61) | 113.3(17) |
| C(56)-C(57)-C(61) | 107.2(16) |
| C(54)-C(58)-C(57) | 100.6(14) |
| C(54)-C(58)-C(59) | 116.3(16) |
| C(57)-C(58)-C(59) | 117.8(14) |
| C(58)-C(59)-C(51) | 107.3(13) |
| C(67)-C(62)-C(63) | 123.4(18) |
| C(67)-C(62)-P(4) | 120.9(17) |
| C(63)-C(62)-P(4) | 115.5(15) |
| C(64)-C(63)-C(62) | 117.8(19) |
| C(65)-C(64)-C(63) | 118(2) |
| C(66)-C(65)-C(64) | 124(2) |
| C(65)-C(66)-C(67) | 122(2) |
| C(62)-C(67)-C(66) | 114(2) |
| C(73)-C(68)-C(69) | 123.5(16) |
| C(73)-C(68)-P(4) | 113.3(13) |
| C(69)-C(68)-P(4) | 122.8(14) |
| C(70)-C(69)-C(68) | 120.6(19) |
| C(69)-C(70)-C(71) | 120.8(18) |
| C(72)-C(71)-C(70) | 120.3(17) |
| C(71)-C(72)-C(73) | 119(2) |
| C(68)-C(73)-C(72) | 116.0(16) |
| C(75)-C(74)-P(4) | 122.6(17) |
| C(74)-C(75)-P(5) | 113.1(13) |
| C(81)-C(76)-C(77) | 116.1(16) |
| C(81)-C(76)-P(5) | 121.3(12) |
| C(77)-C(76)-P(5) | 122.3(13) |
| C(78)-C(77)-C(76) | 123.3(18) |
| C(79)-C(78)-C(77) | 118.5(18) |
| C(78)-C(79)-C(80) | 120(2) |
| C(81)-C(80)-C(79) | 119(2) |
| C(76)-C(81)-C(80) | 122.7(18) |
| C841-P61-C901 | 106.2(10) |
| C841-P61-C831 | 105.1(12) |
| C901-P61-C831 | 102.7(12) |
| C841-P61-Pt(2) | 121.6(8) |
| C901-P61-Pt(2) | 111.2(8) |
| C831-P61-Pt(2) | 108.3(8) |
| C831-C821-P(5) | 103(2) |
| C821-C831-P61 | 116.5(19) |
| C851-C841-C891 | 120.0 |
| C851-C841-P61 | 120.8(12) |
| C891-C841-P61 | 119.1(11) |

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|---|---|
| C861-C851-C841 | 120.0 |
| C851-C861-C871 | 120.0 |
| C881-C871-C861 | 120.0 |
| C891-C881-C871 | 120.0 |
| C881-C891-C841 | 120.0 |
| C911-C901-C951 | 120.0 |
| C911-C901-P61 | 120.0(11) |
| C951-C901-P61 | 120.0(11) |
| C901-C911-C921 | 120.0 |
| C911-C921-C931 | 120.0 |
| C941-C931-C921 | 120.0 |
| C931-C941-C951 | 120.0 |
| C941-C951-C901 | 120.0 |
| C842-P62-C902 | 104.0(10) |
| C842-P62-C832 | 107.7(12) |
| C902-P62-C832 | 101.4(11) |
| C842-P62-Pt(2) | 113.4(8) |
| C902-P62-Pt(2) | 126.4(8) |
| C832-P62-Pt(2) | 102.0(8) |
| C832-C822-P(5) | 120(3) |
| C822-C832-P62 | 106(2) |
| C852-C842-C892 | 120.0 |
| C852-C842-P62 | 117.9(12) |
| C892-C842-P62 | 122.1(12) |
| C862-C852-C842 | 120.0 |
| C852-C862-C872 | 120.0 |
| C882-C872-C862 | 120.0 |
| C872-C882-C892 | 120.0 |
| C882-C892-C842 | 120.0 |
| C912-C902-C952 | 120.0 |
| C912-C902-P62 | 121.0(11) |
| C952-C902-P62 | 118.9(11) |
| C922-C912-C902 | 120.0 |
| C932-C922-C912 | 120.0 |
| C922-C932-C942 | 120.0 |
| C952-C942-C932 | 120.0 |
| C942-C952-C902 | 120.0 |
| F(3)-B(1)-F(2) | 111(2) |
| F(3)-B(1)-F(1) | 111.7(16) |
| F(2)-B(1)-F(1) | 103.1(18) |
| F(3)-B(1)-F(4) | 112.7(18) |
| F(2)-B(1)-F(4) | 107.5(15) |
| F(1)-B(1)-F(4) | 110(2) |
| F(5)-B(2)-F(8) | 119.5(16) |
| F(5)-B(2)-F(7) | 112.7(13) |
| F(8)-B(2)-F(7) | 110.8(14) |
| F(5)-B(2)-F(6) | 107.1(17) |
| F(8)-B(2)-F(6) | 94.7(12) |
| F(7)-B(2)-F(6) | 110.3(12) |

**Table S11.** Anisotropic displacement parameters ($Å^2 x\ 10^3$) for **8**. The anisotropic displacement factor exponent takes the form: $-2\pi^2[\ h^2 a^{*2} U^{11} + ... + 2\ h\ k\ a^*\ b^*\ U^{12}\ ]$

| | $U^{11}$ | $U^{22}$ | $U^{33}$ | $U^{23}$ | $U^{13}$ | $U^{12}$ |
|---|---|---|---|---|---|---|
| Pt(1) | 32(1) | 61(1) | 39(1) | 21(1) | 9(1) | 12(1) |
| P(1) | 27(1) | 52(2) | 43(2) | 18(1) | 6(1) | 3(1) |
| P(2) | 28(1) | 60(2) | 38(2) | 16(1) | 6(1) | 2(1) |
| C(1) | 65(8) | 64(8) | 60(8) | 29(6) | 27(7) | 26(7) |
| C(2) | 89(11) | 77(10) | 58(8) | 14(7) | 33(8) | 8(8) |
| C(3) | 109(14) | 136(16) | 110(14) | 78(13) | 72(12) | 46(12) |
| C(4) | 138(15) | 106(12) | 85(11) | 68(10) | 95(12) | 56(11) |
| O(5) | 81(7) | 121(9) | 75(7) | 21(6) | 43(6) | 16(7) |
| P(5) | 89(3) | 50(2) | 49(2) | 1(2) | 14(2) | -9(2) |
| C(6) | 101(13) | 190(20) | 63(10) | 15(11) | 50(10) | 44(14) |
| C(7) | 106(13) | 130(15) | 57(9) | 4(9) | 41(10) | 20(11) |
| C(8) | 47(7) | 92(10) | 39(7) | 4(6) | 15(6) | 9(7) |
| C(9) | 107(11) | 56(8) | 54(8) | 20(6) | 42(8) | 4(8) |
| C(10) | 45(9) | 250(30) | 89(13) | 98(15) | -4(9) | 10(12) |
| C(11) | 80(11) | 116(13) | 64(10) | -24(9) | -7(8) | 38(10) |
| C(12) | 34(6) | 53(7) | 30(6) | 15(5) | 2(5) | 10(5) |
| C(13) | 31(6) | 67(8) | 36(6) | 11(5) | 2(5) | 1(5) |
| C(14) | 55(7) | 51(7) | 49(7) | 10(6) | -1(6) | 4(6) |
| C(15) | 69(9) | 65(8) | 41(7) | -3(6) | 15(6) | 21(7) |
| C(16) | 45(6) | 61(8) | 29(6) | 4(5) | 8(5) | 4(6) |
| C(17) | 39(6) | 70(8) | 36(6) | 12(5) | 8(5) | -3(6) |
| C(18) | 35(6) | 49(6) | 52(7) | 15(5) | 12(5) | 10(5) |
| C(19) | 39(6) | 54(7) | 73(9) | 31(6) | 20(6) | 9(6) |
| C(20) | 61(9) | 48(8) | 100(11) | 23(7) | 30(9) | -4(7) |
| C(21) | 47(8) | 56(8) | 101(11) | 3(8) | 26(8) | -1(6) |
| C(22) | 40(7) | 57(8) | 73(9) | 4(6) | 8(6) | 13(6) |
| C(23) | 33(6) | 55(7) | 59(8) | 24(6) | 3(6) | 10(5) |
| C(24) | 39(6) | 62(7) | 31(6) | 7(5) | 3(5) | 8(5) |
| C(25) | 35(6) | 54(7) | 35(6) | 20(5) | 10(5) | -4(5) |
| C(26) | 47(7) | 60(8) | 51(7) | 11(6) | 9(6) | -7(6) |
| C(27) | 84(10) | 88(11) | 60(9) | 10(8) | 27(8) | -6(8) |
| C(28) | 138(16) | 44(8) | 98(13) | -7(8) | 22(12) | -4(9) |
| C(29) | 99(12) | 75(11) | 88(12) | -20(9) | 31(10) | 13(9) |
| C(30) | 66(9) | 93(11) | 62(9) | -12(8) | 18(8) | 7(8) |
| C(32) | 61(8) | 71(9) | 54(8) | 5(6) | 26(7) | 2(7) |
| C(33) | 38(6) | 67(8) | 40(6) | 2(5) | 3(5) | -6(5) |
| C(34) | 36(7) | 118(12) | 50(8) | -13(8) | 1(6) | 2(7) |
| C(35) | 77(10) | 118(13) | 33(7) | 5(8) | 7(7) | 52(10) |
| C(36) | 107(14) | 93(12) | 56(9) | 1(8) | -17(9) | 66(11) |
| C(37) | 240(30) | 123(17) | 75(13) | -9(11) | -56(16) | 99(19) |
| C(38) | 150(20) | 128(18) | 53(11) | 0(11) | -18(12) | 77(16) |
| C(39) | 160(20) | 170(20) | 46(10) | -2(13) | 3(12) | 100(20) |
| C(40) | 83(11) | 173(18) | 57(9) | 18(10) | 16(9) | 85(12) |
| C(41) | 27(6) | 124(13) | 38(7) | -5(7) | -3(5) | 26(7) |
| C(42) | 46(7) | 154(15) | 47(8) | 22(9) | 6(6) | 47(9) |
| C(43) | 52(8) | 173(18) | 36(8) | 8(9) | 0(7) | 57(10) |
| C(44) | 59(9) | 145(16) | 60(10) | -15(11) | 11(8) | 34(11) |
| C(45) | 53(8) | 130(14) | 63(10) | 4(10) | 16(8) | 29(9) |
| C(46) | 54(8) | 114(13) | 57(9) | 2(8) | 15(7) | 28(8) |
| Pt(2) | 68(1) | 50(1) | 49(1) | 7(1) | 23(1) | 5(1) |

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|---|---|---|---|---|---|---|
| P(3) | 40(2) | 105(3) | 39(2) | 16(2) | 7(1) | 29(2) |
| P(4) | 72(3) | 56(2) | 92(3) | -10(2) | -19(2) | 10(2) |
| C(51) | 72(5) | 124(6) | 94(6) | 37(5) | 20(5) | 18(5) |
| C(52) | 78(5) | 134(6) | 98(6) | 33(5) | 18(5) | 10(5) |
| C(53) | 78(5) | 134(6) | 96(6) | 32(5) | 17(5) | 9(5) |
| C(54) | 76(4) | 128(5) | 94(5) | 34(4) | 15(4) | 12(4) |
| O(55) | 75(4) | 124(5) | 91(5) | 28(4) | 15(4) | 9(4) |
| C(56) | 73(5) | 122(6) | 94(6) | 34(5) | 18(5) | 17(5) |
| C(57) | 72(5) | 126(6) | 97(6) | 39(5) | 20(5) | 18(5) |
| C(58) | 73(4) | 125(5) | 95(5) | 41(4) | 17(4) | 17(4) |
| C(59) | 70(5) | 121(6) | 92(6) | 40(5) | 20(5) | 20(5) |
| C(60) | 220(30) | 90(15) | 170(20) | -40(15) | -40(20) | 6(16) |
| C(61) | 119(18) | 180(20) | 130(20) | 42(17) | -2(15) | -32(17) |
| C(62) | 72(10) | 37(7) | 134(16) | -16(8) | -20(10) | 21(7) |
| C(63) | 62(10) | 129(16) | 139(17) | -75(14) | 5(11) | -5(10) |
| C(64) | 85(13) | 94(13) | 170(20) | -61(14) | 25(14) | -10(11) |
| C(65) | 150(20) | 70(12) | 140(20) | -14(12) | 57(18) | -31(12) |
| C(66) | 140(20) | 99(16) | 160(20) | 54(15) | 63(19) | -19(14) |
| C(67) | 150(20) | 180(20) | 112(17) | 39(16) | 58(17) | -30(19) |
| C(68) | 70(10) | 81(11) | 117(14) | -13(10) | 11(10) | -8(9) |
| C(69) | 114(13) | 58(9) | 75(10) | -17(8) | -10(10) | 14(9) |
| C(70) | 104(13) | 146(16) | 57(10) | 1(10) | 41(10) | 21(12) |
| C(71) | 60(9) | 64(10) | 127(15) | -34(9) | 9(9) | 5(7) |
| C(72) | 79(13) | 97(15) | 200(20) | 17(15) | -3(14) | 30(11) |
| C(73) | 82(10) | 77(10) | 63(9) | -11(7) | 29(8) | -19(8) |
| C(74) | 410(50) | 127(19) | 130(20) | 76(16) | -170(30) | -130(30) |
| C(75) | 159(16) | 47(8) | 45(8) | 0(6) | 35(10) | -12(9) |
| C(76) | 91(11) | 49(7) | 65(9) | -1(7) | 1(9) | 5(7) |
| C(77) | 106(14) | 79(11) | 71(11) | 1(8) | 2(10) | 10(10) |
| C(78) | 99(15) | 103(14) | 84(13) | 4(11) | -37(12) | 8(11) |
| C(79) | 81(13) | 139(18) | 126(19) | -15(15) | 3(14) | 9(13) |
| C(80) | 69(11) | 156(19) | 118(17) | 37(14) | 14(11) | 19(12) |
| C(81) | 65(10) | 124(15) | 96(13) | 10(11) | 18(10) | 6(10) |
| P61 | 62(3) | 49(2) | 80(3) | 7(2) | 20(3) | 5(3) |
| C821 | 62(4) | 66(3) | 60(3) | -6(3) | 9(3) | -6(3) |
| C831 | 63(4) | 66(3) | 61(3) | -6(3) | 8(3) | -6(3) |
| C841 | 70(5) | 70(4) | 97(5) | 6(4) | 19(4) | -8(4) |
| C851 | 69(5) | 69(5) | 97(6) | 6(5) | 19(5) | -8(4) |
| C861 | 70(5) | 69(5) | 98(6) | 7(5) | 19(5) | -8(5) |
| C871 | 71(5) | 70(5) | 99(6) | 7(5) | 19(5) | -9(5) |
| C881 | 72(5) | 71(5) | 100(6) | 6(5) | 17(5) | -9(4) |
| C891 | 72(4) | 70(4) | 98(5) | 5(4) | 18(4) | -8(4) |
| C901 | 75(4) | 57(4) | 86(4) | 4(4) | 23(4) | 13(4) |
| C911 | 79(5) | 60(5) | 88(5) | 4(4) | 23(4) | 14(4) |
| C921 | 81(5) | 62(5) | 89(5) | 5(4) | 24(4) | 16(5) |
| C931 | 81(5) | 63(5) | 89(5) | 6(4) | 24(4) | 15(5) |
| C941 | 80(5) | 62(5) | 89(5) | 5(4) | 25(5) | 15(5) |
| C951 | 78(5) | 60(5) | 88(5) | 5(4) | 25(4) | 13(5) |
| P62 | 62(3) | 49(2) | 80(3) | 7(2) | 20(3) | 5(3) |
| C822 | 62(4) | 66(3) | 60(3) | -6(3) | 9(3) | -6(3) |
| C832 | 63(4) | 66(3) | 61(3) | -6(3) | 8(3) | -6(3) |
| C842 | 70(4) | 67(4) | 95(5) | 5(4) | 17(4) | -6(4) |
| C852 | 70(5) | 71(5) | 98(5) | 6(4) | 18(4) | -8(4) |
| C862 | 72(5) | 72(4) | 99(5) | 6(4) | 17(4) | -9(4) |
| C872 | 73(5) | 72(5) | 101(6) | 5(5) | 16(5) | -9(4) |
| C882 | 74(5) | 73(5) | 101(6) | 5(5) | 15(5) | -8(5) |

| | | | | | | |
|---|---|---|---|---|---|---|
| C892 | 73(5) | 71(5) | 99(6) | 5(5) | 16(5) | -7(4) |
| C902 | 79(5) | 59(4) | 87(5) | 4(4) | 23(4) | 14(4) |
| C912 | 79(5) | 61(4) | 88(5) | 5(4) | 23(4) | 14(4) |
| C922 | 82(5) | 63(5) | 89(5) | 6(4) | 24(5) | 15(5) |
| C932 | 82(5) | 63(5) | 90(5) | 6(5) | 24(5) | 15(5) |
| C942 | 81(5) | 63(5) | 90(5) | 5(5) | 24(5) | 15(5) |
| C952 | 80(5) | 61(5) | 89(5) | 6(4) | 23(5) | 14(5) |
| B(1) | 79(14) | 54(11) | 160(20) | 2(12) | 53(15) | 19(10) |
| F(1) | 74(7) | 220(15) | 186(13) | -32(11) | -19(8) | 68(8) |
| F(2) | 142(10) | 79(7) | 203(13) | 18(7) | 35(9) | 30(7) |
| F(3) | 109(8) | 113(8) | 194(13) | -28(8) | 60(9) | 1(7) |
| F(4) | 126(10) | 133(9) | 184(12) | 6(9) | 53(9) | -43(8) |
| B(2) | 57(10) | 75(11) | 47(9) | 13(8) | 12(8) | 23(8) |
| F(5) | 57(6) | 350(20) | 257(17) | 226(16) | 56(9) | 51(9) |
| F(6) | 180(13) | 184(13) | 125(10) | 26(9) | 71(10) | 50(11) |
| F(7) | 66(5) | 94(6) | 86(6) | 26(5) | 29(5) | 11(4) |
| F(8) | 130(9) | 135(9) | 122(9) | 60(7) | -44(8) | -60(8) |

**Table S12.** Hydrogen coordinates ( x $10^4$) and isotropic displacement parameters (Å$^2$x $10^3$) for **8.**

| | x | y | z | U(eq) |
|---|---|---|---|---|
| H(1) | 4207 | 647 | 2608 | 73 |
| H(2A) | 2976 | 1050 | 2094 | 87 |
| H(2B) | 2052 | 824 | 1577 | 87 |
| H(3A) | 3520 | 1007 | 926 | 134 |
| H(3B) | 4727 | 956 | 1557 | 134 |
| H(6A) | 6607 | 318 | 928 | 135 |
| H(6B) | 5667 | 187 | 241 | 135 |
| H(7) | 4234 | -12 | 849 | 113 |
| H(8) | 5185 | 415 | 1857 | 70 |
| H(9A) | 2589 | 230 | 1779 | 82 |
| H(9B) | 3771 | 148 | 2406 | 82 |
| H(10A) | 2808 | 319 | 270 | 196 |
| H(10B) | 2687 | 677 | 123 | 196 |
| H(10C) | 2024 | 528 | 713 | 196 |
| H(11A) | 6588 | -58 | 1835 | 134 |
| H(11B) | 6072 | -293 | 1217 | 134 |
| H(11C) | 5336 | -261 | 1856 | 134 |
| H(13) | 3130 | -102 | 3761 | 54 |
| H(14) | 3967 | -565 | 3448 | 64 |
| H(15) | 6149 | -572 | 3282 | 69 |
| H(16) | 7367 | -144 | 3407 | 54 |
| H(17) | 6539 | 316 | 3714 | 57 |
| H(19) | 4464 | 1076 | 3400 | 65 |
| H(20) | 6112 | 1433 | 3634 | 82 |
| H(21) | 7845 | 1368 | 4563 | 80 |
| H(22) | 7928 | 933 | 5245 | 68 |
| H(23) | 6360 | 558 | 4995 | 60 |
| H(24A) | 3991 | 255 | 5060 | 54 |
| H(24B) | 3648 | 607 | 5117 | 54 |
| H(25A) | 1731 | 359 | 5170 | 49 |

| | | | | |
|---|---|---|---|---|
| H(25B) | 1869 | 134 | 4540 | 49 |
| H(27) | 1864 | 1235 | 3901 | 90 |
| H(28) | 1708 | 1688 | 4460 | 112 |
| H(29) | 1109 | 1704 | 5539 | 103 |
| H(30) | 373 | 1255 | 5975 | 88 |
| H(32) | 397 | 797 | 5380 | 72 |
| H(33A) | -784 | 353 | 4119 | 59 |
| H(33B) | -1106 | 691 | 3835 | 59 |
| H(34A) | -1749 | 405 | 2841 | 83 |
| H(34B) | -553 | 175 | 3041 | 83 |
| H(36) | 1113 | 1209 | 2635 | 108 |
| H(37) | 282 | 1713 | 2613 | 189 |
| H(38) | -2064 | 1748 | 2438 | 137 |
| H(39) | -3375 | 1328 | 2264 | 152 |
| H(40) | -2478 | 860 | 2289 | 125 |
| H(42) | -557 | 863 | 1128 | 99 |
| H(43) | -1171 | 631 | 8 | 106 |
| H(44) | -1290 | 108 | -97 | 106 |
| H(45) | -874 | -195 | 876 | 98 |
| H(46) | -236 | -2 | 1971 | 90 |
| H(51) | 4288 | 1682 | 7896 | 115 |
| H(52A) | 5492 | 2029 | 7571 | 124 |
| H(52B) | 4713 | 2291 | 7878 | 124 |
| H(53A) | 3843 | 2258 | 6636 | 123 |
| H(53B) | 3596 | 1901 | 6692 | 123 |
| H(56A) | -413 | 1940 | 6424 | 116 |
| H(56B) | -354 | 2288 | 6677 | 116 |
| H(57) | 354 | 2149 | 7828 | 117 |
| H(58) | 2036 | 1729 | 7288 | 117 |
| H(59A) | 2639 | 1729 | 8521 | 113 |
| H(59B) | 2771 | 2093 | 8538 | 113 |
| H(60A) | 2091 | 2647 | 7067 | 252 |
| H(60B) | 2922 | 2523 | 7788 | 252 |
| H(60C) | 1377 | 2495 | 7632 | 252 |
| H(61A) | -377 | 1568 | 7131 | 223 |
| H(61B) | -1159 | 1742 | 7636 | 223 |
| H(61C) | 155 | 1567 | 7957 | 223 |
| H(63) | 4208 | 1029 | 7716 | 134 |
| H(64) | 2106 | 848 | 7214 | 141 |
| H(65) | 636 | 794 | 7909 | 138 |
| H(66) | 941 | 976 | 8994 | 155 |
| H(67) | 2976 | 1217 | 9535 | 168 |
| H(69) | 6067 | 651 | 9221 | 104 |
| H(70) | 7316 | 342 | 8701 | 119 |
| H(71) | 8407 | 536 | 7807 | 102 |
| H(72) | 8164 | 1037 | 7467 | 155 |
| H(73) | 6835 | 1391 | 8109 | 86 |
| H(74A) | 5022 | 1168 | 10127 | 303 |
| H(74B) | 6098 | 952 | 9927 | 303 |
| H(75A) | 7483 | 1175 | 10474 | 98 |
| H(75B) | 6379 | 1322 | 10826 | 98 |
| H(77) | 9363 | 1473 | 11053 | 105 |
| H(78) | 11573 | 1481 | 11105 | 123 |
| H(79) | 12362 | 1666 | 10154 | 141 |
| H(80) | 10961 | 1917 | 9250 | 138 |
| H(81) | 8740 | 1887 | 9200 | 114 |

| | | | | |
|---|---|---|---|---|
| H82A1 | 6189 | 1948 | 10947 | 76 |
| H82B1 | 7743 | 1937 | 11186 | 76 |
| H83A1 | 8050 | 2306 | 10463 | 77 |
| H83B1 | 6748 | 2418 | 10684 | 77 |
| H851 | 7265 | 2246 | 8194 | 94 |
| H861 | 8558 | 2559 | 7647 | 94 |
| H871 | 9435 | 3006 | 8194 | 96 |
| H881 | 9019 | 3139 | 9288 | 97 |
| H891 | 7726 | 2826 | 9835 | 96 |
| H911 | 5116 | 2803 | 8703 | 90 |
| H921 | 3282 | 3101 | 8716 | 92 |
| H931 | 1957 | 2997 | 9517 | 92 |
| H941 | 2465 | 2595 | 10306 | 91 |
| H951 | 4299 | 2297 | 10293 | 89 |
| H82A2 | 6600 | 1852 | 11146 | 76 |
| H82B2 | 7570 | 2082 | 10888 | 76 |
| H83A2 | 5831 | 2380 | 10807 | 77 |
| H83B2 | 4828 | 2105 | 10595 | 77 |
| H852 | 6755 | 2453 | 8441 | 95 |
| H862 | 8487 | 2766 | 8311 | 97 |
| H872 | 9710 | 3011 | 9285 | 98 |
| H882 | 9201 | 2943 | 10387 | 100 |
| H892 | 7469 | 2630 | 10516 | 97 |
| H912 | 5174 | 2883 | 8987 | 90 |
| H922 | 3432 | 3223 | 8826 | 92 |
| H932 | 1466 | 3077 | 9114 | 93 |
| H942 | 1242 | 2591 | 9562 | 92 |
| H952 | 2984 | 2251 | 9723 | 91 |

**Table S13.** Torsion angles [°] for **8**.

| | |
|---|---|
| C(1)-Pt(1)-P(1)-C(18) | 67.9(5) |
| P(2)-Pt(1)-P(1)-C(18) | -110.6(4) |
| P(3)-Pt(1)-P(1)-C(18) | -152.9(5) |
| C(1)-Pt(1)-P(1)-C(12) | -57.2(5) |
| P(2)-Pt(1)-P(1)-C(12) | 124.2(4) |
| P(3)-Pt(1)-P(1)-C(12) | 81.9(6) |
| C(1)-Pt(1)-P(1)-C(24) | -172.2(5) |
| P(2)-Pt(1)-P(1)-C(24) | 9.3(4) |
| P(3)-Pt(1)-P(1)-C(24) | -33.0(6) |
| C(1)-Pt(1)-P(2)-C(26) | 68(4) |
| P(1)-Pt(1)-P(2)-C(26) | 85.8(5) |
| P(3)-Pt(1)-P(2)-C(26) | -105.1(5) |
| C(1)-Pt(1)-P(2)-C(33) | -169(4) |
| P(1)-Pt(1)-P(2)-C(33) | -151.8(4) |
| P(3)-Pt(1)-P(2)-C(33) | 17.3(4) |
| C(1)-Pt(1)-P(2)-C(25) | -49(4) |
| P(1)-Pt(1)-P(2)-C(25) | -31.1(4) |
| P(3)-Pt(1)-P(2)-C(25) | 138.0(4) |
| P(1)-Pt(1)-C(1)-C(9) | 88.4(10) |
| P(2)-Pt(1)-C(1)-C(9) | 106(4) |
| P(3)-Pt(1)-C(1)-C(9) | -80.9(10) |
| P(1)-Pt(1)-C(1)-C(2) | -137.6(11) |
| P(2)-Pt(1)-C(1)-C(2) | -120(4) |

| | |
|---|---|
| P(3)-Pt(1)-C(1)-C(2) | 53.1(11) |
| C(9)-C(1)-C(2)-C(3) | -52.6(19) |
| Pt(1)-C(1)-C(2)-C(3) | 172.7(12) |
| C(1)-C(2)-C(3)-C(4) | 46(2) |
| C(2)-C(3)-C(4)-C(8) | -49(2) |
| C(2)-C(3)-C(4)-O(5) | -174.5(14) |
| C(2)-C(3)-C(4)-C(10) | 77.2(15) |
| C(8)-C(4)-O(5)-C(6) | 14(2) |
| C(3)-C(4)-O(5)-C(6) | 146.0(17) |
| C(10)-C(4)-O(5)-C(6) | -104.1(16) |
| C(4)-O(5)-C(6)-C(7) | 8(2) |
| O(5)-C(6)-C(7)-C(8) | -25.7(18) |
| O(5)-C(6)-C(7)-C(11) | -156.4(14) |
| C(3)-C(4)-C(8)-C(7) | -161.4(16) |
| O(5)-C(4)-C(8)-C(7) | -31.1(19) |
| C(10)-C(4)-C(8)-C(7) | 77.6(16) |
| C(3)-C(4)-C(8)-C(9) | 53(2) |
| O(5)-C(4)-C(8)-C(9) | -176.9(13) |
| C(10)-C(4)-C(8)-C(9) | -68.2(17) |
| C(11)-C(7)-C(8)-C(4) | 159.1(17) |
| C(6)-C(7)-C(8)-C(4) | 34.7(18) |
| C(11)-C(7)-C(8)-C(9) | -62(2) |
| C(6)-C(7)-C(8)-C(9) | 173.6(14) |
| C(2)-C(1)-C(9)-C(8) | 53.4(16) |
| Pt(1)-C(1)-C(9)-C(8) | -173.6(9) |
| C(4)-C(8)-C(9)-C(1) | -51.7(18) |
| C(7)-C(8)-C(9)-C(1) | 171.7(14) |
| C(18)-P(1)-C(12)-C(13) | 172.8(8) |
| C(24)-P(1)-C(12)-C(13) | 62.3(9) |
| Pt(1)-P(1)-C(12)-C(13) | -55.0(9) |
| C(18)-P(1)-C(12)-C(17) | -13.5(10) |
| C(24)-P(1)-C(12)-C(17) | -124.0(9) |
| Pt(1)-P(1)-C(12)-C(17) | 118.7(8) |
| C(17)-C(12)-C(13)-C(14) | 2.4(16) |
| P(1)-C(12)-C(13)-C(14) | 176.2(8) |
| C(12)-C(13)-C(14)-C(15) | -0.8(16) |
| C(13)-C(14)-C(15)-C(16) | -0.7(17) |
| C(14)-C(15)-C(16)-C(17) | 0.6(18) |
| C(15)-C(16)-C(17)-C(12) | 0.9(16) |
| C(13)-C(12)-C(17)-C(16) | -2.4(15) |
| P(1)-C(12)-C(17)-C(16) | -176.0(8) |
| C(12)-P(1)-C(18)-C(23) | -58.8(10) |
| C(24)-P(1)-C(18)-C(23) | 51.6(11) |
| Pt(1)-P(1)-C(18)-C(23) | 173.3(8) |
| C(12)-P(1)-C(18)-C(19) | 120.3(9) |
| C(24)-P(1)-C(18)-C(19) | -129.2(9) |
| Pt(1)-P(1)-C(18)-C(19) | -7.5(11) |
| C(23)-C(18)-C(19)-C(20) | 0.0(18) |
| P(1)-C(18)-C(19)-C(20) | -179.2(10) |
| C(18)-C(19)-C(20)-C(21) | -1(2) |
| C(19)-C(20)-C(21)-C(22) | 1(2) |
| C(20)-C(21)-C(22)-C(23) | 0.9(19) |
| C(19)-C(18)-C(23)-C(22) | 1.7(17) |
| P(1)-C(18)-C(23)-C(22) | -179.1(9) |
| C(21)-C(22)-C(23)-C(18) | -2.2(18) |
| C(18)-P(1)-C(24)-C(25) | 148.3(8) |

| | |
|---|---|
| C(12)-P(1)-C(24)-C(25) | -100.0(8) |
| Pt(1)-P(1)-C(24)-C(25) | 19.7(9) |
| P(1)-C(24)-C(25)-P(2) | -45.2(10) |
| C(26)-P(2)-C(25)-C(24) | -75.0(8) |
| C(33)-P(2)-C(25)-C(24) | 170.0(7) |
| Pt(1)-P(2)-C(25)-C(24) | 50.7(8) |
| C(33)-P(2)-C(26)-C(27) | -111.9(12) |
| C(25)-P(2)-C(26)-C(27) | 129.1(11) |
| Pt(1)-P(2)-C(26)-C(27) | 12.4(13) |
| C(33)-P(2)-C(26)-C(32) | 64.6(12) |
| C(25)-P(2)-C(26)-C(32) | -54.4(12) |
| Pt(1)-P(2)-C(26)-C(32) | -171.1(9) |
| C(32)-C(26)-C(27)-C(28) | -1(2) |
| P(2)-C(26)-C(27)-C(28) | 176.1(13) |
| C(26)-C(27)-C(28)-C(29) | 4(3) |
| C(27)-C(28)-C(29)-C(30) | -4(3) |
| C(28)-C(29)-C(30)-C(32) | 2(2) |
| C(27)-C(26)-C(32)-C(30) | -2(2) |
| P(2)-C(26)-C(32)-C(30) | -178.2(10) |
| C(29)-C(30)-C(32)-C(26) | 1(2) |
| C(26)-P(2)-C(33)-C(34) | 138.8(9) |
| C(25)-P(2)-C(33)-C(34) | -107.0(10) |
| Pt(1)-P(2)-C(33)-C(34) | 9.3(10) |
| P(2)-C(33)-C(34)-P(3) | -39.2(11) |
| C(40)-C(35)-C(36)-C(37) | 0(2) |
| P(3)-C(35)-C(36)-C(37) | -177.2(13) |
| C(35)-C(36)-C(37)-C(38) | 1(3) |
| C(36)-C(37)-C(38)-C(39) | -1(3) |
| C(37)-C(38)-C(39)-C(40) | 1(3) |
| C(38)-C(39)-C(40)-C(35) | 0(3) |
| C(36)-C(35)-C(40)-C(39) | -1(2) |
| P(3)-C(35)-C(40)-C(39) | 177.0(13) |
| C(46)-C(41)-C(42)-C(43) | 1.5(17) |
| P(3)-C(41)-C(42)-C(43) | 179.5(9) |
| C(41)-C(42)-C(43)-C(44) | -0.7(19) |
| C(42)-C(43)-C(44)-C(45) | 1(2) |
| C(43)-C(44)-C(45)-C(46) | -1(2) |
| C(44)-C(45)-C(46)-C(41) | 2(2) |
| C(42)-C(41)-C(46)-C(45) | -2.2(19) |
| P(3)-C(41)-C(46)-C(45) | 179.8(10) |
| C(76)-P(5)-Pt(2)-C(51) | 118(7) |
| C(75)-P(5)-Pt(2)-C(51) | -3(7) |
| C821-P(5)-Pt(2)-C(51) | -124(7) |
| C822-P(5)-Pt(2)-C(51) | -119(7) |
| C(76)-P(5)-Pt(2)-P(4) | 101.4(5) |
| C(75)-P(5)-Pt(2)-P(4) | -20.0(6) |
| C821-P(5)-Pt(2)-P(4) | -141.2(15) |
| C822-P(5)-Pt(2)-P(4) | -135.9(16) |
| C(76)-P(5)-Pt(2)-P61 | -82.2(5) |
| C(75)-P(5)-Pt(2)-P61 | 156.5(6) |
| C821-P(5)-Pt(2)-P61 | 35.2(15) |
| C822-P(5)-Pt(2)-P61 | 40.5(16) |
| C(76)-P(5)-Pt(2)-P62 | -101.3(5) |
| C(75)-P(5)-Pt(2)-P62 | 137.4(6) |
| C821-P(5)-Pt(2)-P62 | 16.2(15) |
| C822-P(5)-Pt(2)-P62 | 21.4(16) |

| | |
|---|---|
| C(36)-C(35)-P(3)-C(41) | -115.7(12) |
| C(40)-C(35)-P(3)-C(41) | 66.8(12) |
| C(36)-C(35)-P(3)-C(34) | 136.1(12) |
| C(40)-C(35)-P(3)-C(34) | -41.4(13) |
| C(36)-C(35)-P(3)-Pt(1) | 23.1(13) |
| C(40)-C(35)-P(3)-Pt(1) | -154.4(10) |
| C(46)-C(41)-P(3)-C(35) | -155.1(11) |
| C(42)-C(41)-P(3)-C(35) | 26.9(11) |
| C(46)-C(41)-P(3)-C(34) | -43.9(11) |
| C(42)-C(41)-P(3)-C(34) | 138.0(10) |
| C(46)-C(41)-P(3)-Pt(1) | 71.8(12) |
| C(42)-C(41)-P(3)-Pt(1) | -106.2(9) |
| C(33)-C(34)-P(3)-C(35) | -67.1(11) |
| C(33)-C(34)-P(3)-C(41) | -178.5(9) |
| C(33)-C(34)-P(3)-Pt(1) | 52.0(9) |
| C(1)-Pt(1)-P(3)-C(35) | -100.5(6) |
| P(1)-Pt(1)-P(3)-C(35) | 121.4(6) |
| P(2)-Pt(1)-P(3)-C(35) | 78.9(5) |
| C(1)-Pt(1)-P(3)-C(41) | 30.1(7) |
| P(1)-Pt(1)-P(3)-C(41) | -108.0(7) |
| P(2)-Pt(1)-P(3)-C(41) | -150.4(7) |
| C(1)-Pt(1)-P(3)-C(34) | 145.0(6) |
| P(1)-Pt(1)-P(3)-C(34) | 6.9(7) |
| P(2)-Pt(1)-P(3)-C(34) | -35.5(5) |
| C(51)-Pt(2)-P(4)-C(68) | 98.0(9) |
| P(5)-Pt(2)-P(4)-C(68) | -83.2(8) |
| P61-Pt(2)-P(4)-C(68) | -95.6(11) |
| P62-Pt(2)-P(4)-C(68) | -149.9(9) |
| C(51)-Pt(2)-P(4)-C(74) | -154.3(15) |
| P(5)-Pt(2)-P(4)-C(74) | 24.5(14) |
| P61-Pt(2)-P(4)-C(74) | 12.2(17) |
| P62-Pt(2)-P(4)-C(74) | -42.1(15) |
| C(51)-Pt(2)-P(4)-C(62) | -35.7(9) |
| P(5)-Pt(2)-P(4)-C(62) | 143.1(8) |
| P61-Pt(2)-P(4)-C(62) | 130.7(11) |
| P62-Pt(2)-P(4)-C(62) | 76.4(10) |
| P(4)-Pt(2)-C(51)-C(52) | -136.0(15) |
| P(5)-Pt(2)-C(51)-C(52) | -153(6) |
| P61-Pt(2)-C(51)-C(52) | 48.0(16) |
| P62-Pt(2)-C(51)-C(52) | 67.0(16) |
| P(4)-Pt(2)-C(51)-C(59) | 85.7(13) |
| P(5)-Pt(2)-C(51)-C(59) | 69(7) |
| P61-Pt(2)-C(51)-C(59) | -90.3(13) |
| P62-Pt(2)-C(51)-C(59) | -71.4(13) |
| C(59)-C(51)-C(52)-C(53) | -49(2) |
| Pt(2)-C(51)-C(52)-C(53) | 172.9(12) |
| C(51)-C(52)-C(53)-C(54) | 55(2) |
| C(52)-C(53)-C(54)-O(55) | -172.5(14) |
| C(52)-C(53)-C(54)-C(58) | -58(2) |
| C(52)-C(53)-C(54)-C(60) | 63(2) |
| C(58)-C(54)-O(55)-C(56) | 44.1(18) |
| C(53)-C(54)-O(55)-C(56) | 160.3(15) |
| C(60)-C(54)-O(55)-C(56) | -74.0(19) |
| C(54)-O(55)-C(56)-C(57) | -19.0(19) |
| O(55)-C(56)-C(57)-C(58) | -10(2) |
| O(55)-C(56)-C(57)-C(61) | -127.6(17) |

| | |
|---|---|
| O(55)-C(54)-C(58)-C(57) | -50.0(19) |
| C(53)-C(54)-C(58)-C(57) | -169.4(17) |
| C(60)-C(54)-C(58)-C(57) | 68(2) |
| O(55)-C(54)-C(58)-C(59) | -178.4(14) |
| C(53)-C(54)-C(58)-C(59) | 62(2) |
| C(60)-C(54)-C(58)-C(59) | -61(2) |
| C(56)-C(57)-C(58)-C(54) | 34(2) |
| C(61)-C(57)-C(58)-C(54) | 147.4(18) |
| C(56)-C(57)-C(58)-C(59) | 161.9(16) |
| C(61)-C(57)-C(58)-C(59) | -85(2) |
| C(54)-C(58)-C(59)-C(51) | -55(2) |
| C(57)-C(58)-C(59)-C(51) | -174.3(16) |
| C(52)-C(51)-C(59)-C(58) | 47(2) |
| Pt(2)-C(51)-C(59)-C(58) | -173.4(12) |
| C(68)-P(4)-C(62)-C(67) | 143.9(17) |
| C(74)-P(4)-C(62)-C(67) | 43(2) |
| Pt(2)-P(4)-C(62)-C(67) | -75.0(18) |
| C(68)-P(4)-C(62)-C(63) | -40.8(15) |
| C(74)-P(4)-C(62)-C(63) | -142.1(17) |
| Pt(2)-P(4)-C(62)-C(63) | 100.4(12) |
| C(67)-C(62)-C(63)-C(64) | -2(3) |
| P(4)-C(62)-C(63)-C(64) | -177.4(15) |
| C(62)-C(63)-C(64)-C(65) | -4(3) |
| C(63)-C(64)-C(65)-C(66) | 6(4) |
| C(64)-C(65)-C(66)-C(67) | -2(4) |
| C(63)-C(62)-C(67)-C(66) | 5(3) |
| P(4)-C(62)-C(67)-C(66) | -179.5(14) |
| C(65)-C(66)-C(67)-C(62) | -4(3) |
| C(74)-P(4)-C(68)-C(73) | -140.6(15) |
| C(62)-P(4)-C(68)-C(73) | 111.1(14) |
| Pt(2)-P(4)-C(68)-C(73) | -29.4(16) |
| C(74)-P(4)-C(68)-C(69) | 45.9(17) |
| C(62)-P(4)-C(68)-C(69) | -62.4(16) |
| Pt(2)-P(4)-C(68)-C(69) | 157.2(11) |
| C(73)-C(68)-C(69)-C(70) | 2(3) |
| P(4)-C(68)-C(69)-C(70) | 174.8(14) |
| C(68)-C(69)-C(70)-C(71) | -2(3) |
| C(69)-C(70)-C(71)-C(72) | 0(3) |
| C(70)-C(71)-C(72)-C(73) | 2(3) |
| C(69)-C(68)-C(73)-C(72) | 0(2) |
| P(4)-C(68)-C(73)-C(72) | -173.7(12) |
| C(71)-C(72)-C(73)-C(68) | -2(2) |
| C(68)-P(4)-C(74)-C(75) | 95(3) |
| C(62)-P(4)-C(74)-C(75) | -160(3) |
| Pt(2)-P(4)-C(74)-C(75) | -31(4) |
| P(4)-C(74)-C(75)-P(5) | 16(4) |
| C(76)-P(5)-C(75)-C(74) | -122(2) |
| C821-P(5)-C(75)-C(74) | 129(3) |
| C822-P(5)-C(75)-C(74) | 121(3) |
| Pt(2)-P(5)-C(75)-C(74) | 8(3) |
| C(75)-P(5)-C(76)-C(81) | 139.4(13) |
| C821-P(5)-C(76)-C(81) | -106(2) |
| C822-P(5)-C(76)-C(81) | -104(2) |
| Pt(2)-P(5)-C(76)-C(81) | 16.4(15) |
| C(75)-P(5)-C(76)-C(77) | -47.8(14) |
| C821-P(5)-C(76)-C(77) | 67(2) |

| | |
|---|---|
| C822-P(5)-C(76)-C(77) | 69(2) |
| Pt(2)-P(5)-C(76)-C(77) | -170.8(10) |
| C(81)-C(76)-C(77)-C(78) | -3(2) |
| P(5)-C(76)-C(77)-C(78) | -176.7(14) |
| C(76)-C(77)-C(78)-C(79) | 0(3) |
| C(77)-C(78)-C(79)-C(80) | 6(3) |
| C(78)-C(79)-C(80)-C(81) | -7(3) |
| C(77)-C(76)-C(81)-C(80) | 2(3) |
| P(5)-C(76)-C(81)-C(80) | 175.3(16) |
| C(79)-C(80)-C(81)-C(76) | 3(3) |
| C(51)-Pt(2)-P61-C841 | -75.4(10) |
| P(4)-Pt(2)-P61-C841 | 118.5(11) |
| P(5)-Pt(2)-P61-C841 | 106.1(9) |
| P62-Pt(2)-P61-C841 | -146.9(15) |
| C(51)-Pt(2)-P61-C901 | 50.7(9) |
| P(4)-Pt(2)-P61-C901 | -115.3(10) |
| P(5)-Pt(2)-P61-C901 | -127.8(8) |
| P62-Pt(2)-P61-C901 | -20.8(10) |
| C(51)-Pt(2)-P61-C831 | 162.9(10) |
| P(4)-Pt(2)-P61-C831 | -3.2(14) |
| P(5)-Pt(2)-P61-C831 | -15.6(9) |
| P62-Pt(2)-P61-C831 | 91.4(13) |
| C(76)-P(5)-C821-C831 | 79(2) |
| C(75)-P(5)-C821-C831 | -169.6(19) |
| C822-P(5)-C821-C831 | -88(24) |
| Pt(2)-P(5)-C821-C831 | -49(2) |
| P(5)-C821-C831-P61 | 36(3) |
| C841-P61-C831-C821 | -142(2) |
| C901-P61-C831-C821 | 107(2) |
| Pt(2)-P61-C831-C821 | -11(2) |
| C901-P61-C841-C851 | -113.1(13) |
| C831-P61-C841-C851 | 138.5(13) |
| Pt(2)-P61-C841-C851 | 15.2(15) |
| C901-P61-C841-C891 | 63.0(14) |
| C831-P61-C841-C891 | -45.4(15) |
| Pt(2)-P61-C841-C891 | -168.6(9) |
| C891-C841-C851-C861 | 0.0 |
| P61-C841-C851-C861 | 176.1(16) |
| C841-C851-C861-C871 | 0.0 |
| C851-C861-C871-C881 | 0.0 |
| C861-C871-C881-C891 | 0.0 |
| C871-C881-C891-C841 | 0.0 |
| C851-C841-C891-C881 | 0.0 |
| P61-C841-C891-C881 | -176.2(16) |
| C841-P61-C901-C911 | 23.2(15) |
| C831-P61-C901-C911 | 133.3(13) |
| Pt(2)-P61-C901-C911 | -111.0(11) |
| C841-P61-C901-C951 | -158.3(13) |
| C831-P61-C901-C951 | -48.2(15) |
| Pt(2)-P61-C901-C951 | 67.5(13) |
| C951-C901-C911-C921 | 0.0 |
| P61-C901-C911-C921 | 178.5(16) |
| C901-C911-C921-C931 | 0.0 |
| C911-C921-C931-C941 | 0.0 |
| C921-C931-C941-C951 | 0.0 |
| C931-C941-C951-C901 | 0.0 |

| | |
|---|---|
| C911-C901-C951-C941 | 0.0 |
| P61-C901-C951-C941 | -178.5(16) |
| C(51)-Pt(2)-P62-C842 | -104.3(9) |
| P(4)-Pt(2)-P62-C842 | 144.2(8) |
| P(5)-Pt(2)-P62-C842 | 78.4(8) |
| P61-Pt(2)-P62-C842 | 7.4(10) |
| C(51)-Pt(2)-P62-C902 | 26.1(10) |
| P(4)-Pt(2)-P62-C902 | -85.4(11) |
| P(5)-Pt(2)-P62-C902 | -151.2(10) |
| P61-Pt(2)-P62-C902 | 137.8(15) |
| C(51)-Pt(2)-P62-C832 | 140.2(10) |
| P(4)-Pt(2)-P62-C832 | 28.7(12) |
| P(5)-Pt(2)-P62-C832 | -37.1(9) |
| P61-Pt(2)-P62-C832 | -108.1(14) |
| C(76)-P(5)-C822-C832 | 134(3) |
| C(75)-P(5)-C822-C832 | -112(3) |
| C821-P(5)-C822-C832 | 147(27) |
| Pt(2)-P(5)-C822-C832 | 4(4) |
| P(5)-C822-C832-P62 | -34(4) |
| C842-P62-C832-C822 | -73(2) |
| C902-P62-C832-C822 | 178(2) |
| Pt(2)-P62-C832-C822 | 47(2) |
| C902-P62-C842-C852 | -85.9(13) |
| C832-P62-C842-C852 | 167.1(12) |
| Pt(2)-P62-C842-C852 | 55.0(12) |
| C902-P62-C842-C892 | 92.2(14) |
| C832-P62-C842-C892 | -14.9(16) |
| Pt(2)-P62-C842-C892 | -127.0(10) |
| C892-C842-C852-C862 | 0.0 |
| P62-C842-C852-C862 | 178.1(15) |
| C842-C852-C862-C872 | 0.0 |
| C852-C862-C872-C882 | 0.0 |
| C862-C872-C882-C892 | 0.0 |
| C872-C882-C892-C842 | 0.0 |
| C852-C842-C892-C882 | 0.0 |
| P62-C842-C892-C882 | -178.0(16) |
| C842-P62-C902-C912 | 11.7(15) |
| C832-P62-C902-C912 | 123.4(14) |
| Pt(2)-P62-C902-C912 | -122.3(11) |
| C842-P62-C902-C952 | -164.2(13) |
| C832-P62-C902-C952 | -52.5(16) |
| Pt(2)-P62-C902-C952 | 61.8(16) |
| C952-C902-C912-C922 | 0.0 |
| P62-C902-C912-C922 | -175.8(17) |
| C902-C912-C922-C932 | 0.0 |
| C912-C922-C932-C942 | 0.0 |
| C922-C932-C942-C952 | 0.0 |
| C932-C942-C952-C902 | 0.0 |
| C912-C902-C952-C942 | 0.0 |
| P62-C902-C952-C942 | 175.9(17) |

**Table S14.** Crystallographic data and collection parameters for **9**.

| | **9** |
|---|---|
| Empirical Formula | $C_{40}H_{50}BF_4OP_3Pt$ |
| FW | 921.61 |
| Space Group | Triclinic, P-1 |
| *A* | 10.7092(9) |
| *B* | 11.3859(9) |
| *C* | 18.7092(15) |
| *V*, Å$^3$ | 2093.4(3) |
| *Z* | 2 |
| *T*, K | 100(2) |
| $D_c$, Mg/m$^3$ | 1.462 |
| λ, Å | Mo Kα (0.71073) |
| μ, mm$^{-1}$ | 3.513 |
| $R_f$[a] | 0.0328 |
| $R_w$[b] | 0.0836 |
| GOF[c] | 1.086 |

[a]$R_f = \Sigma(F_o - F_c)/\Sigma F_o$. [b]$R_w = [\Sigma\omega(F_o - F_c)^2/\Sigma\omega F_o^2]^{1/2}$. [c]GOF = $[\Sigma\omega(F_o - F_c)^2/(n - p)]^{1/2}$, where $n$ = number of reflections and $p$ = number of parameters.

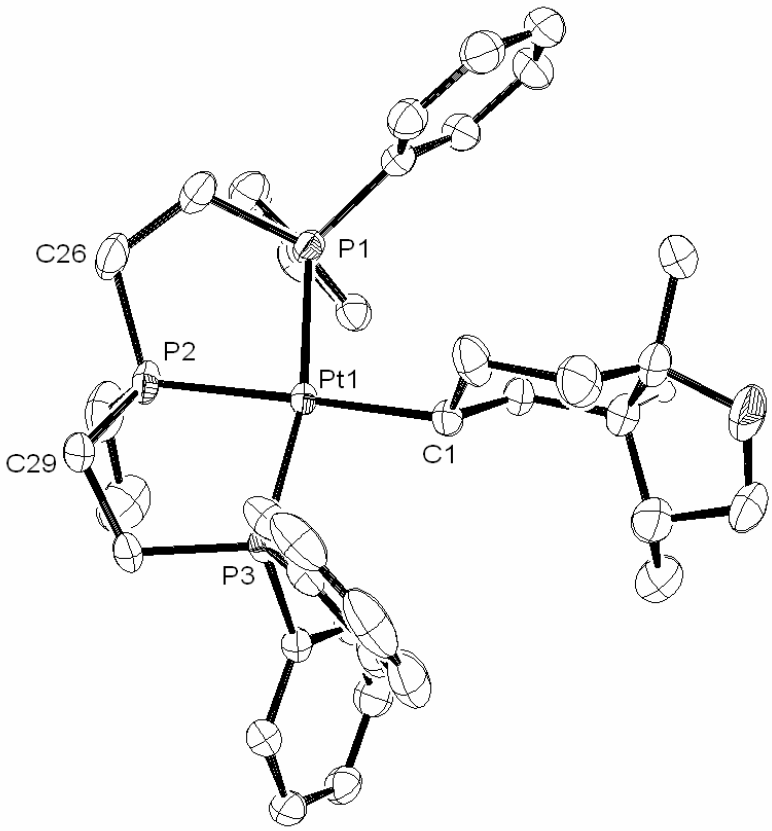


**Figure S5.** ORTEP representation of **9**. $BF_4^-$ counter ion and solvent molecule not shown.

**Table S15.** Atomic coordinates ( x $10^4$) and equivalent isotropic displacement parameters ($Å^2$x $10^3$) for **9**. U(eq) is defined as one third of the trace of the orthogonalized $U^{ij}$ tensor.

| | x | y | z | U(eq) |
|---|---|---|---|---|
| Pt(1) | -706(1) | 7493(1) | 7095(1) | 21(1) |
| P(1) | -2117(1) | 7994(1) | 7744(1) | 25(1) |
| P(2) | -2413(1) | 7498(1) | 6081(1) | 30(1) |
| P(3) | 237(1) | 6790(1) | 6244(1) | 24(1) |
| C(1) | 829(3) | 7256(4) | 7980(2) | 30(1) |
| C(2) | 1483(4) | 8362(4) | 8610(2) | 35(1) |
| C(3) | 2625(4) | 8144(4) | 9220(2) | 41(1) |
| C(4) | 2200(4) | 6942(5) | 9522(2) | 48(1) |
| C(6) | 4519(5) | 7400(5) | 9622(3) | 51(1) |
| C(7) | 3903(4) | 8023(5) | 8995(2) | 45(1) |
| C(8) | 1453(5) | 5827(5) | 8884(3) | 49(1) |
| C(9) | 325(5) | 6065(4) | 8294(2) | 39(1) |
| C(10) | 1412(5) | 7035(6) | 10096(2) | 56(1) |
| C(11) | 4827(5) | 9253(5) | 8901(3) | 57(1) |
| C(12) | -2128(3) | 7717(3) | 8684(2) | 28(1) |
| C(13) | -2544(4) | 6488(4) | 8816(2) | 34(1) |
| C(14) | -2500(4) | 6258(4) | 9539(2) | 41(1) |
| C(15) | -2052(4) | 7241(4) | 10136(2) | 43(1) |
| C(16) | -1637(5) | 8467(4) | 10016(2) | 42(1) |
| C(17) | -1684(4) | 8703(4) | 9293(2) | 33(1) |
| O(18) | 3472(4) | 6782(4) | 9919(2) | 65(1) |
| C(19) | -2003(3) | 9625(3) | 7767(2) | 28(1) |
| C(20) | -724(4) | 10503(3) | 7912(2) | 32(1) |
| C(21) | -581(4) | 11769(4) | 7941(2) | 39(1) |
| C(22) | -1716(5) | 12157(4) | 7807(2) | 45(1) |
| C(23) | -2997(5) | 11286(4) | 7652(3) | 49(1) |
| C(24) | -3141(4) | 10030(4) | 7632(2) | 39(1) |
| C(25) | -3830(3) | 7065(3) | 7161(2) | 34(1) |
| C(26) | -4030(4) | 7180(4) | 6331(2) | 43(1) |
| C(27) | -2413(5) | 8911(5) | 5679(3) | 57(1) |
| C(28) | -1204(6) | 9497(6) | 5439(4) | 67(2) |
| C(29) | -2486(4) | 6240(4) | 5358(2) | 38(1) |
| C(30) | -1038(4) | 6354(4) | 5312(2) | 34(1) |
| C(31) | 1714(3) | 7905(3) | 6109(2) | 25(1) |
| C(32) | 2266(3) | 7648(3) | 5526(2) | 29(1) |
| C(33) | 3368(4) | 8534(3) | 5418(2) | 32(1) |
| C(34) | 3925(4) | 9690(4) | 5891(2) | 35(1) |
| C(35) | 3376(4) | 9953(4) | 6468(2) | 39(1) |
| C(36) | 2277(4) | 9066(3) | 6580(2) | 32(1) |
| C(37) | 709(4) | 5397(3) | 6393(2) | 29(1) |
| C(38) | 2058(4) | 5403(4) | 6562(2) | 36(1) |
| C(39) | 2348(6) | 4294(4) | 6663(2) | 48(1) |
| C(40) | 1305(7) | 3203(5) | 6597(2) | 57(1) |
| C(41) | -24(6) | 3198(4) | 6440(2) | 50(1) |
| C(42) | -333(5) | 4295(3) | 6342(2) | 38(1) |
| B(1) | 4273(4) | 6514(4) | 3585(3) | 38(1) |
| F(1) | 5334(6) | 7170(4) | 3383(4) | 132(2) |
| F(2) | 4658(5) | 5801(6) | 4047(4) | 157(3) |

| | | | | |
|---|---|---|---|---|
| F(4) | 3346(6) | 5739(5) | 2958(4) | 162(3) |
| F(3) | 3629(4) | 7364(4) | 3803(2) | 80(1) |

**Table S16.** Bond lengths [Å] and angles [°] for **9**.

| | |
|---|---|
| Pt(1)-C(1) | 2.134(3) |
| Pt(1)-P(3) | 2.2722(8) |
| Pt(1)-P(2) | 2.3016(8) |
| Pt(1)-P(1) | 2.3032(8) |
| P(1)-C(12) | 1.819(3) |
| P(1)-C(19) | 1.822(3) |
| P(1)-C(25) | 1.846(4) |
| P(2)-C(29) | 1.842(4) |
| P(2)-C(27) | 1.843(5) |
| P(2)-C(26) | 1.850(4) |
| P(3)-C(31) | 1.818(3) |
| P(3)-C(37) | 1.822(4) |
| P(3)-C(30) | 1.861(3) |
| C(1)-C(2) | 1.512(5) |
| C(1)-C(9) | 1.541(6) |
| C(2)-C(3) | 1.556(5) |
| C(3)-C(4) | 1.525(7) |
| C(3)-C(7) | 1.562(6) |
| C(4)-O(18) | 1.457(5) |
| C(4)-C(10) | 1.528(6) |
| C(4)-C(8) | 1.534(7) |
| C(6)-O(18) | 1.412(6) |
| C(6)-C(7) | 1.540(6) |
| C(7)-C(11) | 1.526(7) |
| C(8)-C(9) | 1.534(6) |
| C(12)-C(17) | 1.405(5) |
| C(12)-C(13) | 1.410(5) |
| C(13)-C(14) | 1.397(6) |
| C(14)-C(15) | 1.388(6) |
| C(15)-C(16) | 1.399(6) |
| C(16)-C(17) | 1.397(5) |
| C(19)-C(24) | 1.397(5) |
| C(19)-C(20) | 1.397(5) |
| C(20)-C(21) | 1.400(5) |
| C(21)-C(22) | 1.382(6) |
| C(22)-C(23) | 1.394(7) |
| C(23)-C(24) | 1.390(6) |
| C(25)-C(26) | 1.541(6) |
| C(27)-C(28) | 1.475(8) |
| C(29)-C(30) | 1.542(5) |
| C(31)-C(36) | 1.400(5) |
| C(31)-C(32) | 1.403(4) |
| C(32)-C(33) | 1.392(5) |
| C(33)-C(34) | 1.397(5) |
| C(34)-C(35) | 1.392(6) |
| C(35)-C(36) | 1.394(5) |
| C(37)-C(38) | 1.401(5) |
| C(37)-C(42) | 1.403(5) |

| | |
|---|---|
| C(38)-C(39) | 1.402(6) |
| C(39)-C(40) | 1.391(8) |
| C(40)-C(41) | 1.381(8) |
| C(41)-C(42) | 1.397(6) |
| B(1)-F(2) | 1.315(6) |
| B(1)-F(1) | 1.333(6) |
| B(1)-F(4) | 1.375(7) |
| B(1)-F(3) | 1.418(6) |

| | |
|---|---|
| C(1)-Pt(1)-P(3) | 90.04(9) |
| C(1)-Pt(1)-P(2) | 173.01(10) |
| P(3)-Pt(1)-P(2) | 85.87(3) |
| C(1)-Pt(1)-P(1) | 101.07(9) |
| P(3)-Pt(1)-P(1) | 166.86(3) |
| P(2)-Pt(1)-P(1) | 82.35(3) |
| C(12)-P(1)-C(19) | 105.17(15) |
| C(12)-P(1)-C(25) | 104.01(17) |
| C(19)-P(1)-C(25) | 107.12(17) |
| C(12)-P(1)-Pt(1) | 125.26(11) |
| C(19)-P(1)-Pt(1) | 110.17(11) |
| C(25)-P(1)-Pt(1) | 103.82(12) |
| C(29)-P(2)-C(27) | 109.9(2) |
| C(29)-P(2)-C(26) | 110.85(18) |
| C(27)-P(2)-C(26) | 99.6(2) |
| C(29)-P(2)-Pt(1) | 104.73(13) |
| C(27)-P(2)-Pt(1) | 121.81(16) |
| C(26)-P(2)-Pt(1) | 109.86(13) |
| C(31)-P(3)-C(37) | 105.96(16) |
| C(31)-P(3)-C(30) | 104.83(15) |
| C(37)-P(3)-C(30) | 105.07(17) |
| C(31)-P(3)-Pt(1) | 116.13(11) |
| C(37)-P(3)-Pt(1) | 115.68(10) |
| C(30)-P(3)-Pt(1) | 108.12(12) |
| C(2)-C(1)-C(9) | 110.1(3) |
| C(2)-C(1)-Pt(1) | 114.2(2) |
| C(9)-C(1)-Pt(1) | 112.4(2) |
| C(1)-C(2)-C(3) | 111.4(3) |
| C(4)-C(3)-C(2) | 114.7(3) |
| C(4)-C(3)-C(7) | 100.8(4) |
| C(2)-C(3)-C(7) | 117.5(3) |
| O(18)-C(4)-C(3) | 104.5(4) |
| O(18)-C(4)-C(10) | 106.8(3) |
| C(3)-C(4)-C(10) | 112.8(4) |
| O(18)-C(4)-C(8) | 108.3(4) |
| C(3)-C(4)-C(8) | 111.3(3) |
| C(10)-C(4)-C(8) | 112.7(4) |
| O(18)-C(6)-C(7) | 107.8(3) |
| C(11)-C(7)-C(6) | 116.1(4) |
| C(11)-C(7)-C(3) | 113.5(4) |
| C(6)-C(7)-C(3) | 101.4(4) |
| C(4)-C(8)-C(9) | 112.8(4) |
| C(8)-C(9)-C(1) | 112.8(4) |
| C(17)-C(12)-C(13) | 118.8(3) |
| C(17)-C(12)-P(1) | 121.4(3) |
| C(13)-C(12)-P(1) | 119.8(3) |

| | |
|---|---|
| C(14)-C(13)-C(12) | 120.5(4) |
| C(15)-C(14)-C(13) | 120.0(4) |
| C(14)-C(15)-C(16) | 120.3(4) |
| C(17)-C(16)-C(15) | 119.9(4) |
| C(16)-C(17)-C(12) | 120.5(4) |
| C(6)-O(18)-C(4) | 109.8(3) |
| C(24)-C(19)-C(20) | 118.7(3) |
| C(24)-C(19)-P(1) | 122.8(3) |
| C(20)-C(19)-P(1) | 118.5(3) |
| C(19)-C(20)-C(21) | 120.7(4) |
| C(22)-C(21)-C(20) | 119.9(4) |
| C(21)-C(22)-C(23) | 119.8(4) |
| C(24)-C(23)-C(22) | 120.4(4) |
| C(23)-C(24)-C(19) | 120.4(4) |
| C(26)-C(25)-P(1) | 112.1(3) |
| C(25)-C(26)-P(2) | 111.4(2) |
| C(28)-C(27)-P(2) | 115.7(4) |
| C(30)-C(29)-P(2) | 109.2(2) |
| C(29)-C(30)-P(3) | 113.2(2) |
| C(36)-C(31)-C(32) | 119.3(3) |
| C(36)-C(31)-P(3) | 119.1(2) |
| C(32)-C(31)-P(3) | 121.6(2) |
| C(33)-C(32)-C(31) | 120.5(3) |
| C(32)-C(33)-C(34) | 119.9(3) |
| C(35)-C(34)-C(33) | 119.9(3) |
| C(34)-C(35)-C(36) | 120.4(3) |
| C(35)-C(36)-C(31) | 120.1(3) |
| C(38)-C(37)-C(42) | 120.1(4) |
| C(38)-C(37)-P(3) | 122.3(3) |
| C(42)-C(37)-P(3) | 117.7(3) |
| C(37)-C(38)-C(39) | 119.3(4) |
| C(40)-C(39)-C(38) | 120.1(5) |
| C(41)-C(40)-C(39) | 120.7(4) |
| C(40)-C(41)-C(42) | 120.0(4) |
| C(41)-C(42)-C(37) | 119.8(4) |
| F(2)-B(1)-F(1) | 109.5(5) |
| F(2)-B(1)-F(4) | 107.0(5) |
| F(1)-B(1)-F(4) | 108.3(6) |
| F(2)-B(1)-F(3) | 120.0(6) |
| F(1)-B(1)-F(3) | 106.8(4) |
| F(4)-B(1)-F(3) | 104.8(4) |

**Table S17.** Anisotropic displacement parameters ($Å^2 x\ 10^3$) for **9**. The anisotropic displacement factor exponent takes the form: $-2\pi^2[\ h^2 a^{*2} U^{11} + ... + 2\ h\ k\ a^*\ b^*\ U^{12}\ ]$

| | $U^{11}$ | $U^{22}$ | $U^{33}$ | $U^{23}$ | $U^{13}$ | $U^{12}$ |
|---|---|---|---|---|---|---|
| Pt(1) | 18(1) | 26(1) | 17(1) | 2(1) | 1(1) | 7(1) |
| P(1) | 20(1) | 28(1) | 25(1) | 2(1) | 4(1) | 9(1) |
| P(2) | 26(1) | 33(1) | 25(1) | 7(1) | -4(1) | 7(1) |
| P(3) | 22(1) | 29(1) | 17(1) | 2(1) | 4(1) | 5(1) |
| C(1) | 27(2) | 46(2) | 21(1) | 7(1) | 5(1) | 19(1) |
| C(2) | 24(2) | 48(2) | 24(2) | 6(1) | 2(1) | 5(1) |

| | | | | | | |
|---|---|---|---|---|---|---|
| C(3) | 26(2) | 60(2) | 32(2) | 7(2) | 1(1) | 10(2) |
| C(4) | 29(2) | 81(3) | 37(2) | 25(2) | 4(2) | 22(2) |
| C(6) | 33(2) | 73(3) | 47(2) | 11(2) | 1(2) | 28(2) |
| C(7) | 37(2) | 55(2) | 39(2) | 1(2) | 6(2) | 15(2) |
| C(8) | 55(3) | 64(3) | 43(2) | 21(2) | 13(2) | 38(2) |
| C(9) | 54(2) | 41(2) | 27(2) | 7(1) | 6(2) | 28(2) |
| C(10) | 39(2) | 95(4) | 31(2) | 22(2) | 8(2) | 17(2) |
| C(11) | 36(2) | 73(3) | 57(3) | 15(2) | 11(2) | 10(2) |
| C(12) | 22(1) | 35(2) | 29(2) | 7(1) | 8(1) | 11(1) |
| C(13) | 30(2) | 37(2) | 38(2) | 9(1) | 8(1) | 12(1) |
| C(14) | 35(2) | 46(2) | 46(2) | 20(2) | 13(2) | 16(2) |
| C(15) | 38(2) | 60(3) | 35(2) | 17(2) | 13(2) | 20(2) |
| C(16) | 46(2) | 52(2) | 29(2) | 5(2) | 12(2) | 17(2) |
| C(17) | 34(2) | 38(2) | 31(2) | 7(1) | 11(1) | 12(1) |
| O(18) | 38(2) | 105(3) | 55(2) | 38(2) | 0(2) | 30(2) |
| C(19) | 30(2) | 31(2) | 24(1) | 5(1) | 6(1) | 14(1) |
| C(20) | 34(2) | 33(2) | 29(2) | 8(1) | 8(1) | 11(1) |
| C(21) | 47(2) | 34(2) | 31(2) | 7(1) | 9(2) | 7(2) |
| C(22) | 66(3) | 33(2) | 38(2) | 10(2) | 13(2) | 21(2) |
| C(23) | 52(3) | 47(2) | 58(3) | 13(2) | 15(2) | 31(2) |
| C(24) | 34(2) | 41(2) | 46(2) | 7(2) | 9(2) | 19(2) |
| C(25) | 21(1) | 36(2) | 41(2) | -3(1) | 2(1) | 9(1) |
| C(26) | 26(2) | 59(2) | 38(2) | -3(2) | -4(1) | 19(2) |
| C(27) | 51(3) | 54(3) | 53(3) | 24(2) | -7(2) | 12(2) |
| C(28) | 54(3) | 65(3) | 84(4) | 37(3) | 13(3) | 18(3) |
| C(29) | 24(2) | 54(2) | 22(1) | -2(1) | 1(1) | 1(2) |
| C(30) | 29(2) | 47(2) | 17(1) | -2(1) | 1(1) | 4(1) |
| C(31) | 22(1) | 29(1) | 21(1) | 4(1) | 4(1) | 6(1) |
| C(32) | 30(2) | 31(2) | 24(1) | 4(1) | 7(1) | 9(1) |
| C(33) | 29(2) | 41(2) | 29(2) | 12(1) | 11(1) | 13(1) |
| C(34) | 25(2) | 40(2) | 37(2) | 12(1) | 8(1) | 5(1) |
| C(35) | 33(2) | 36(2) | 37(2) | -1(1) | 7(2) | 1(1) |
| C(36) | 29(2) | 35(2) | 27(2) | -2(1) | 6(1) | 6(1) |
| C(37) | 38(2) | 32(2) | 18(1) | 2(1) | 9(1) | 10(1) |
| C(38) | 43(2) | 45(2) | 22(1) | 5(1) | 5(1) | 20(2) |
| C(39) | 68(3) | 55(2) | 27(2) | 8(2) | 6(2) | 36(2) |
| C(40) | 106(4) | 47(2) | 26(2) | 11(2) | 15(2) | 40(3) |
| C(41) | 85(4) | 35(2) | 29(2) | 10(2) | 23(2) | 14(2) |
| C(42) | 54(2) | 33(2) | 25(2) | 3(1) | 17(2) | 6(2) |
| B(1) | 30(2) | 29(2) | 57(3) | 16(2) | 12(2) | 7(2) |
| F(1) | 128(4) | 80(3) | 269(7) | 89(4) | 148(5) | 59(3) |
| F(2) | 78(3) | 192(6) | 183(6) | 154(5) | 0(3) | 5(3) |
| F(4) | 136(5) | 98(4) | 201(6) | -75(4) | -51(4) | 73(4) |
| F(3) | 65(2) | 102(3) | 66(2) | -23(2) | 23(2) | 26(2) |

**Table S18.** Hydrogen coordinates ( x $10^4$) and isotropic displacement parameters ($Å^2$x $10^3$) for **9**.

| | x | y | z | U(eq) |
|---|---|---|---|---|
| H(1) | 1560 | 7151 | 7757 | 36 |
| H(2A) | 787 | 8517 | 8838 | 42 |
| H(2B) | 1868 | 9109 | 8406 | 42 |
| H(3) | 2934 | 8852 | 9650 | 50 |
| H(6A) | 4915 | 6799 | 9420 | 61 |
| H(6B) | 5245 | 8034 | 10018 | 61 |
| H(7) | 3598 | 7428 | 8511 | 54 |
| H(8A) | 1054 | 5095 | 9095 | 59 |
| H(8B) | 2112 | 5631 | 8640 | 59 |
| H(9A) | -404 | 6132 | 8520 | 47 |
| H(9B) | -64 | 5345 | 7877 | 47 |
| H(10A) | 1336 | 6315 | 10349 | 83 |
| H(10B) | 505 | 7049 | 9841 | 83 |
| H(10C) | 1891 | 7800 | 10464 | 83 |
| H(11A) | 5058 | 9873 | 9353 | 86 |
| H(11B) | 4359 | 9542 | 8470 | 86 |
| H(11C) | 5657 | 9134 | 8819 | 86 |
| H(13) | -2858 | 5812 | 8409 | 41 |
| H(14) | -2776 | 5427 | 9624 | 49 |
| H(15) | -2027 | 7082 | 10627 | 51 |
| H(16) | -1323 | 9138 | 10426 | 50 |
| H(17) | -1415 | 9537 | 9212 | 40 |
| H(20) | 57 | 10239 | 7993 | 39 |
| H(21) | 294 | 12361 | 8051 | 46 |
| H(22) | -1623 | 13014 | 7821 | 54 |
| H(23) | -3777 | 11551 | 7558 | 58 |
| H(24) | -4018 | 9443 | 7526 | 47 |
| H(25A) | -3984 | 6181 | 7209 | 41 |
| H(25B) | -4509 | 7346 | 7346 | 41 |
| H(26A) | -4417 | 7861 | 6229 | 51 |
| H(26B) | -4681 | 6398 | 6015 | 51 |
| H(27A) | -3219 | 8700 | 5241 | 68 |
| H(27B) | -2510 | 9530 | 6054 | 68 |
| H(28A) | -387 | 9616 | 5847 | 101 |
| H(28B) | -1232 | 10304 | 5309 | 101 |
| H(28C) | -1188 | 8959 | 5001 | 101 |
| H(29A) | -2902 | 5424 | 5484 | 45 |
| H(29B) | -3049 | 6299 | 4868 | 45 |
| H(30A) | -771 | 6987 | 5004 | 41 |
| H(30B) | -1037 | 5549 | 5058 | 41 |
| H(32) | 1885 | 6864 | 5201 | 34 |
| H(33) | 3742 | 8352 | 5024 | 38 |
| H(34) | 4677 | 10296 | 5819 | 42 |
| H(35) | 3753 | 10742 | 6787 | 46 |
| H(36) | 1910 | 9251 | 6976 | 38 |
| H(38) | 2768 | 6150 | 6607 | 43 |
| H(39) | 3260 | 4288 | 6777 | 57 |
| H(40) | 1508 | 2453 | 6661 | 68 |
| H(41) | -729 | 2448 | 6398 | 59 |

| | | | | |
|---|---|---|---|---|
| H(42) | -1245 | 4296 | 6241 | 46 |

**Table S19.** Torsion angles [°] for **9**.

| | |
|---|---|
| C(1)-Pt(1)-P(1)-C(12) | -17.64(18) |
| P(3)-Pt(1)-P(1)-C(12) | 129.65(18) |
| P(2)-Pt(1)-P(1)-C(12) | 156.18(15) |
| C(1)-Pt(1)-P(1)-C(19) | 109.30(16) |
| P(3)-Pt(1)-P(1)-C(19) | -103.41(17) |
| P(2)-Pt(1)-P(1)-C(19) | -76.87(12) |
| C(1)-Pt(1)-P(1)-C(25) | -136.28(17) |
| P(3)-Pt(1)-P(1)-C(25) | 11.0(2) |
| P(2)-Pt(1)-P(1)-C(25) | 37.54(14) |
| C(1)-Pt(1)-P(2)-C(29) | -24.4(8) |
| P(3)-Pt(1)-P(2)-C(29) | 30.00(13) |
| P(1)-Pt(1)-P(2)-C(29) | -144.15(13) |
| C(1)-Pt(1)-P(2)-C(27) | -149.7(8) |
| P(3)-Pt(1)-P(2)-C(27) | -95.3(2) |
| P(1)-Pt(1)-P(2)-C(27) | 90.5(2) |
| C(1)-Pt(1)-P(2)-C(26) | 94.7(8) |
| P(3)-Pt(1)-P(2)-C(26) | 149.10(16) |
| P(1)-Pt(1)-P(2)-C(26) | -25.06(16) |
| C(1)-Pt(1)-P(3)-C(31) | -79.44(15) |
| P(2)-Pt(1)-P(3)-C(31) | 106.24(12) |
| P(1)-Pt(1)-P(3)-C(31) | 132.59(16) |
| C(1)-Pt(1)-P(3)-C(37) | 45.70(17) |
| P(2)-Pt(1)-P(3)-C(37) | -128.62(13) |
| P(1)-Pt(1)-P(3)-C(37) | -102.27(18) |
| C(1)-Pt(1)-P(3)-C(30) | 163.15(17) |
| P(2)-Pt(1)-P(3)-C(30) | -11.17(14) |
| P(1)-Pt(1)-P(3)-C(30) | 15.2(2) |
| P(3)-Pt(1)-C(1)-C(2) | 132.1(2) |
| P(2)-Pt(1)-C(1)-C(2) | -173.7(6) |
| P(1)-Pt(1)-C(1)-C(2) | -54.9(3) |
| P(3)-Pt(1)-C(1)-C(9) | -101.5(2) |
| P(2)-Pt(1)-C(1)-C(9) | -47.3(9) |
| P(1)-Pt(1)-C(1)-C(9) | 71.5(2) |
| C(9)-C(1)-C(2)-C(3) | 54.4(4) |
| Pt(1)-C(1)-C(2)-C(3) | -178.0(2) |
| C(1)-C(2)-C(3)-C(4) | -52.7(5) |
| C(1)-C(2)-C(3)-C(7) | 65.4(5) |
| C(2)-C(3)-C(4)-O(18) | 165.4(4) |
| C(7)-C(3)-C(4)-O(18) | 38.2(4) |
| C(2)-C(3)-C(4)-C(10) | -79.0(5) |
| C(7)-C(3)-C(4)-C(10) | 153.7(3) |
| C(2)-C(3)-C(4)-C(8) | 48.8(5) |
| C(7)-C(3)-C(4)-C(8) | -78.4(4) |
| O(18)-C(6)-C(7)-C(11) | 146.5(5) |
| O(18)-C(6)-C(7)-C(3) | 23.1(5) |
| C(4)-C(3)-C(7)-C(11) | -161.7(4) |
| C(2)-C(3)-C(7)-C(11) | 72.9(5) |
| C(4)-C(3)-C(7)-C(6) | -36.5(4) |
| C(2)-C(3)-C(7)-C(6) | -161.9(4) |
| O(18)-C(4)-C(8)-C(9) | -163.2(4) |

| | |
|---|---|
| C(3)-C(4)-C(8)-C(9) | -48.9(5) |
| C(10)-C(4)-C(8)-C(9) | 79.0(5) |
| C(4)-C(8)-C(9)-C(1) | 53.9(5) |
| C(2)-C(1)-C(9)-C(8) | -56.3(4) |
| Pt(1)-C(1)-C(9)-C(8) | 175.1(3) |
| C(19)-P(1)-C(12)-C(17) | -18.1(3) |
| C(25)-P(1)-C(12)-C(17) | -130.5(3) |
| Pt(1)-P(1)-C(12)-C(17) | 110.9(3) |
| C(19)-P(1)-C(12)-C(13) | 164.1(3) |
| C(25)-P(1)-C(12)-C(13) | 51.7(3) |
| Pt(1)-P(1)-C(12)-C(13) | -66.9(3) |
| C(17)-C(12)-C(13)-C(14) | -0.8(5) |
| P(1)-C(12)-C(13)-C(14) | 177.0(3) |
| C(12)-C(13)-C(14)-C(15) | 0.4(6) |
| C(13)-C(14)-C(15)-C(16) | -0.3(6) |
| C(14)-C(15)-C(16)-C(17) | 0.6(6) |
| C(15)-C(16)-C(17)-C(12) | -1.0(6) |
| C(13)-C(12)-C(17)-C(16) | 1.1(5) |
| P(1)-C(12)-C(17)-C(16) | -176.7(3) |
| C(7)-C(6)-O(18)-C(4) | 0.7(6) |
| C(3)-C(4)-O(18)-C(6) | -25.2(5) |
| C(10)-C(4)-O(18)-C(6) | -145.0(5) |
| C(8)-C(4)-O(18)-C(6) | 93.5(5) |
| C(12)-P(1)-C(19)-C(24) | -87.2(3) |
| C(25)-P(1)-C(19)-C(24) | 23.0(4) |
| Pt(1)-P(1)-C(19)-C(24) | 135.3(3) |
| C(12)-P(1)-C(19)-C(20) | 94.0(3) |
| C(25)-P(1)-C(19)-C(20) | -155.7(3) |
| Pt(1)-P(1)-C(19)-C(20) | -43.4(3) |
| C(24)-C(19)-C(20)-C(21) | 1.6(5) |
| P(1)-C(19)-C(20)-C(21) | -179.6(3) |
| C(19)-C(20)-C(21)-C(22) | -1.5(6) |
| C(20)-C(21)-C(22)-C(23) | 0.6(6) |
| C(21)-C(22)-C(23)-C(24) | 0.2(7) |
| C(22)-C(23)-C(24)-C(19) | -0.1(7) |
| C(20)-C(19)-C(24)-C(23) | -0.8(6) |
| P(1)-C(19)-C(24)-C(23) | -179.6(3) |
| C(12)-P(1)-C(25)-C(26) | 179.8(3) |
| C(19)-P(1)-C(25)-C(26) | 68.8(3) |
| Pt(1)-P(1)-C(25)-C(26) | -47.8(3) |
| P(1)-C(25)-C(26)-P(2) | 28.5(4) |
| C(29)-P(2)-C(26)-C(25) | 118.6(3) |
| C(27)-P(2)-C(26)-C(25) | -125.7(3) |
| Pt(1)-P(2)-C(26)-C(25) | 3.3(3) |
| C(29)-P(2)-C(27)-C(28) | -66.4(5) |
| C(26)-P(2)-C(27)-C(28) | 177.2(5) |
| Pt(1)-P(2)-C(27)-C(28) | 56.5(5) |
| C(27)-P(2)-C(29)-C(30) | 85.6(3) |
| C(26)-P(2)-C(29)-C(30) | -165.3(3) |
| Pt(1)-P(2)-C(29)-C(30) | -46.9(3) |
| P(2)-C(29)-C(30)-P(3) | 40.0(4) |
| C(31)-P(3)-C(30)-C(29) | -139.2(3) |
| C(37)-P(3)-C(30)-C(29) | 109.4(3) |
| Pt(1)-P(3)-C(30)-C(29) | -14.7(3) |
| C(37)-P(3)-C(31)-C(36) | -123.1(3) |
| C(30)-P(3)-C(31)-C(36) | 126.0(3) |

| | |
|---|---|
| Pt(1)-P(3)-C(31)-C(36) | 6.8(3) |
| C(37)-P(3)-C(31)-C(32) | 59.6(3) |
| C(30)-P(3)-C(31)-C(32) | -51.2(3) |
| Pt(1)-P(3)-C(31)-C(32) | -170.4(2) |
| C(36)-C(31)-C(32)-C(33) | 0.5(5) |
| P(3)-C(31)-C(32)-C(33) | 177.7(3) |
| C(31)-C(32)-C(33)-C(34) | -0.4(5) |
| C(32)-C(33)-C(34)-C(35) | 0.0(6) |
| C(33)-C(34)-C(35)-C(36) | 0.4(6) |
| C(34)-C(35)-C(36)-C(31) | -0.3(6) |
| C(32)-C(31)-C(36)-C(35) | -0.1(5) |
| P(3)-C(31)-C(36)-C(35) | -177.4(3) |
| C(31)-P(3)-C(37)-C(38) | 15.0(3) |
| C(30)-P(3)-C(37)-C(38) | 125.7(3) |
| Pt(1)-P(3)-C(37)-C(38) | -115.2(3) |
| C(31)-P(3)-C(37)-C(42) | -165.7(2) |
| C(30)-P(3)-C(37)-C(42) | -55.0(3) |
| Pt(1)-P(3)-C(37)-C(42) | 64.1(3) |
| C(42)-C(37)-C(38)-C(39) | 1.3(5) |
| P(3)-C(37)-C(38)-C(39) | -179.4(3) |
| C(37)-C(38)-C(39)-C(40) | -0.1(6) |
| C(38)-C(39)-C(40)-C(41) | -0.7(6) |
| C(39)-C(40)-C(41)-C(42) | 0.3(6) |
| C(40)-C(41)-C(42)-C(37) | 0.9(6) |
| C(38)-C(37)-C(42)-C(41) | -1.7(5) |
| P(3)-C(37)-C(42)-C(41) | 179.0(3) |