Acta Crystallographica Section E
**Structure Reports Online**
ISSN 1600-5368

# *cis*-(Carbonato-$\kappa^2O,O'$)bis(triphenylphosphine-$\kappa P$)platinum(II)–benzene–dichloromethane mixed solvate (2/1/1)

**Akella Sivaramakrishna, Hong Su* and John R. Moss**

Department of Chemistry, University of Cape Town, Rondebosch 7701, South Africa
Correspondence e-mail: hong.su@uct.ac.za

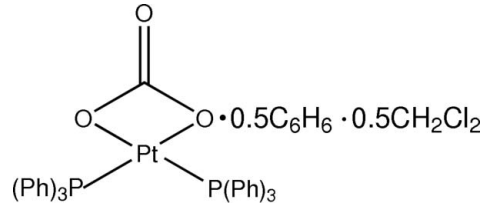
Received 16 October 2007; accepted 13 November 2007

Key indicators: single-crystal X-ray study; $T$ = 173 K; mean $\sigma$(C–C) = 0.008 Å; disorder in solvent or counterion; $R$ factor = 0.036; $wR$ factor = 0.060; data-to-parameter ratio = 14.9.

The title compound, $[Pt(CO_3)(C_{18}H_{15}P)_2]\cdot0.5C_6H_6\cdot0.5CH_2Cl_2$, is isotructural with the analogous tetrahydrofuran [Gregg, Powell & Sawyer (1988). *Acta Cryst.* C**44**, 43–46] and benzene monosolvates [Scholz, Lerner & Bolte (2006). *Acta Cryst.* E**62**, m312–m313]. The Pt atom shows a distorted square-planar coordination.

## Related literature

For general background, see: Andrews *et al.* (1994, 1996); Cariati *et al.* (1967); Clarke *et al.* (1984); Davies *et al.* (1987); Dralle *et al.* (2005); Porta *et al.* (1990). For related structures, see: Abram *et al.* (1999); Gregg *et al.* (1988); Scholz *et al.* (2006). For related literature, see: Allen (2002); Bennett *et al.* (1975); Crabtree *et al.* (1985).




## Experimental

*Crystal data*

$[Pt(CO_3)(C_{18}H_{15}P)_2]\cdot0.5C_6H_6\cdot0.5CH_2Cl_2$
$M_r$ = 861.16
Triclinic, $P\overline{1}$
$a$ = 10.4676 (2) Å
$b$ = 12.2005 (3) Å
$c$ = 15.2380 (4) Å
$\alpha$ = 85.576 (1)°
$\beta$ = 71.757 (1)°
$\gamma$ = 70.956 (1)°
$V$ = 1746.40 (7) Å$^3$
$Z$ = 2
Mo $K\alpha$ radiation
$\mu$ = 4.22 mm$^{-1}$
$T$ = 173 (2) K
0.10 × 0.07 × 0.04 mm

*Data collection*

Nonius KappaCCD diffractometer
Absorption correction: multi-scan (*SADABS*; Sheldrick, 2001)
$T_{min}$ = 0.677, $T_{max}$ = 0.849
37316 measured reflections
6847 independent reflections
5512 reflections with $I > 2\sigma(I)$
$R_{int}$ = 0.092

*Refinement*

$R[F^2 > 2\sigma(F^2)]$ = 0.036
$wR(F^2)$ = 0.060
$S$ = 1.05
6847 reflections
459 parameters
2 restraints
H-atom parameters constrained
$\Delta\rho_{max}$ = 1.33 e Å$^{-3}$
$\Delta\rho_{min}$ = −1.45 e Å$^{-3}$

Data collection: *COLLECT* (Nonius, 2000); cell refinement: *DENZO–SMN* (Otwinowski & Minor, 1997); data reduction: *DENZO–SMN*; program(s) used to solve structure: *SHELXS97* (Sheldrick, 1997); program(s) used to refine structure: *SHELXL97* (Sheldrick, 1997); molecular graphics: *X-SEED* (Barbour, 2001); software used to prepare material for publication: *SHELXL97*.

The authors thank Johnson Matthey (London), the Anglo Platinum Corporation and the University of Cape Town for financial support.

Supplementary data and figures for this paper are available from the IUCr electronic archives (Reference: BX2113).

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# supplementary materials

*Acta Cryst.* (2007). E**63**, m3097 [ **doi:10.1107/S1600536807058709** ]

# *cis*-(Carbonato-$\kappa^2 O,O'$)bis(triphenylphosphine-$\kappa P$)platinum(II)-benzene-dichloromethane mixed solvate (2/1/1)

**A. Sivaramakrishna, H. Su and J. R. Moss**

## Comment

The preparation of *cis*-(carbonato-*O*,*O*')-bis(triphenylphosphine)-platinum(II) [$(Ph_3P)_2Pt(CO_3)$] was first reported by Cariati *et al.* (1967). Carbonato(phosphine)platinum(II) compounds are in general good precursors for the preparation of Pt(II) diolate and alditolate complexes, as well as other Pt(0) and Pt(IV) compounds (Andrews *et al.*, 1994 and Clarke *et al.*, 1984). Platinum carbonate complexes have been observed to form from the decomposition of platinum hydride complexes (Davies *et al.*, 1987) or from the reactions of hydroxide or oxalate complexes (Porta *et al.*, 1990).

Crystal structures of $[(Ph_3P)_2Pt(CO_3)]$ as solvates with different solvents have been reported in the Cambridge Structural Database [CSD (Allen, 2002), version 5.28], namely the tetrahydrofuran monosolvate (FUTVOF, Gregg *et al.*, 1988), the chloroform disolvate (CISQOK, Abram *et al.*, 1999) and the benzene monosolvate (CSD Refcode CAYWIJ, Scholz *et al.*, 2006). These solvates were prepared mainly from the aerial hydrolysis of the $Pt(PPh_3)_4$ complex. Here, we present a semi-benzene semi-dichloromethane solvated complex, $[(Ph_3P)_2Pt(CO_3)]\cdot 0.5C_6H_6\cdot 0.5CH_2Cl_2$, Fig. 1, which was prepared by the hydrolysis of a dichloromethane solution of $(PPh_3)_2$bis(1-butenyl)platinum(II). The phenyl rings on the two P atoms are oriented such that some of the *ortho* H atoms form short Pt···H contacts (H26···Pt1 2.855 (5) Å; H42···Pt1 2.905 (5) Å; H56···Pt1 2.959 (6) Å). Similar contacts have been described as agostic (Crabtree *et al.* 1985) or non-primary valence interactions (Bennett *et al.* 1975). In addition to this, two phenyl rings from the opposite triphenylphosphine groups, the C31—C36 and C61—C66 rings, are almost overlapping, forming intramolecular π-π interaction with centroid distance of 3.474 Å. The coordination geometry around Pt atom can be described as a distorted square planar. The carbonato ligand is completely planar and makes an angle of *ca* 7.2 (2)° with the PPtP plane. In $CHCl_3$ solution, the IR spectrum of the $[(Ph_3P)_2Pt(CO_3)]$ compound showed two peaks at 1676 (v) and 1632 (*m*) $cm^{-1}$. Though only one fundamental carbonate vibrational mode is expected in this region, namely the C=O stretch, the extra band is attributed to an overtone of the out-of-plane carbonate bending mode as explained by Andrews *et al.* (1996).

## Experimental

The $[(Ph_3P)_2Pt(CO_3)]$ compound was prepared by the hydrolysis of a dichloromethane solution of $(PPh_3)_2$bis(1-butenyl)platinum(II) (Dralle *et al.*, 2005) on exposure to air. This is probably due to either oxidation of organic chain under these conditions by forming the C—O bonds or absorption of $CO_2$ from the air. The colour of the reaction mixture changed to yellow brown from colourless. It was also observed that the nature of ligand showed a marked effect on this oxidation reaction: the presence of diphosphine ligands like dppp, dppe did not show any signs of oxidation under these conditions. $^1$H-NMR showed only phenyl proton signals and $^{31}$P-NMR indicated a singlet at 27.2 p.p.m. with platinum satellites ($J_{Pt—P}$ = 3998 Hz). A solution (326 mg, 1.072 mmol) of *cis*-$(PPh_3)_2Pt(CH_2CH_2CH{=}CH_2)_2$ in 20 ml of $CH_2Cl_2$ was exposed to air for 45 days. Removal of solvent in high vacuum and recrystallize from a mixture of $CH_2Cl_2$ and n-hexane (1:1) led

to the isolation of compound [$(Ph_3P)_2Pt(CO_3)$] as colourless crystals (166 mg, 54%). Anal. Calc. for [$(Ph_3P)_2Pt(CO_3)$] ($C_{37}H_{30}O_3P_2Pt$): C, 57.00, H, 3.88, found: C, 56.92, H, 3.91. MS: $M^+$ = 779.6, $Pt(PPh3)_2^+$ = 719.6. Recrystallization from a mixture of dichloromethane and benzene (1:1) yielded colourless crystals of the title compound I which was subjected to X-ray analysis.

### Refinement

The non-H atoms of the molecule [$(Ph_3P)_2Pt(CO_3)$] were refined anisotropically. The solvent molecules, benzene and dichloromethane are located with well defined unambiguous atomic positions in the differnce electron density maps in the same solvent area and then each was assigned site occupancy factor of 0.50. The non-H atoms of both solvent molecules were refined anisotropically with the C—Cl bond being constrained lengthly and the carbon atoms of the benzene being fitted to a regular pentagon. The hydrogen atoms were placed geometrically in idealized positions riding with their respective parent atoms. The highest peak (1.33 e Å$^{-3}$) is located at 1.29Å from H5B and the deepest hole (−1.45 e Å$^{-3}$)is at 0.02Å from Pt1.

### Figures

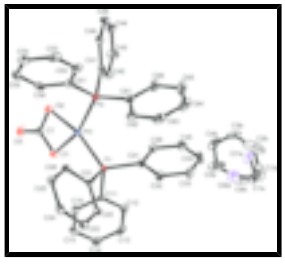

Fig. 1. *ORTEP* drawing of structure I, showing atomic labelling scheme. Displacement ellipsoids are drawn at 30% probability level and all H atoms are omitted for clarity. The solvent molecules, benzene and dichloromethane, occupy the same area with site occupancy factors to be 0.50 each.

### *cis*-(Carbonato-κ$^2$*O,O'*)bis(triphenylphosphine-κ*P*)platinum(II)–benzene– dichloromethane (2/1/1)

*Crystal data*

| | |
|---|---|
| $[Pt(CO_3)(C_{18}H_{15}P)_2]\cdot 0.5C_6H_6\cdot 0.5CH_2Cl_2$ | $Z$ = 2 |
| $M_r$ = 861.16 | $F_{000}$ = 852 |
| Triclinic, $P\overline{1}$ | $D_x$ = 1.638 Mg m$^{-3}$ |
| Hall symbol: -P 1 | Melting point: 188-190°C K |
| $a$ = 10.4676 (2) Å | Mo $K\alpha$ radiation<br>λ = 0.71073 Å |
| $b$ = 12.2005 (3) Å | Cell parameters from 37316 reflections |
| $c$ = 15.2380 (4) Å | θ = 3.1–21.6° |
| α = 85.576 (1)° | μ = 4.22 mm$^{-1}$ |
| β = 71.757 (1)° | $T$ = 173 (2) K |
| γ = 70.956 (1)° | Prism, colourless |
| $V$ = 1746.40 (7) Å$^3$ | 0.10 × 0.07 × 0.04 mm |

*Data collection*

| | |
|---|---|
| Nonius Kappa CCD diffractometer | 6847 independent reflections |

Radiation source: fine-focus sealed tube
Monochromator: graphite
$T$ = 173(2) K
1.2° φ scans and ω scans
Absorption correction: multi-scan (SADABS; Sheldrick, 2001)
$T_{min}$ = 0.677, $T_{max}$ = 0.849
37316 measured reflections
5512 reflections with $I > 2\sigma(I)$
$R_{int}$ = 0.092
$\theta_{max}$ = 26.0º
$\theta_{min}$ = 3.1º
$h$ = −12→12
$k$ = −15→15
$l$ = −18→18

*Refinement*

Refinement on $F^2$
Least-squares matrix: full
$R[F^2 > 2\sigma(F^2)]$ = 0.036
$wR(F^2)$ = 0.060
$S$ = 1.05
6847 reflections
459 parameters
2 restraints
Primary atom site location: structure-invariant direct methods
Secondary atom site location: difference Fourier map
Hydrogen site location: inferred from neighbouring sites
H-atom parameters constrained
$w = 1/[\sigma^2(F_o^2) + (0.0097P)^2 + 1.8518P]$ where $P = (F_o^2 + 2F_c^2)/3$
$(\Delta/\sigma)_{max}$ = 0.001
$\Delta\rho_{max}$ = 1.33 e Å$^{-3}$
$\Delta\rho_{min}$ = −1.45 e Å$^{-3}$
Extinction correction: SHELXL, $Fc^*=kFc[1+0.001xFc^2\lambda^3/\sin(2\theta)]^{-1/4}$
Extinction coefficient: 0.00138 (16)

*Special details*

**Experimental**. Half sphere of data collected using *COLLECT* strategy (Nonius, 2000). Crystal to detector distance = 30 mm; combination of φ and ω scans of 1.2°, 30 s per °, 2 iterations.

**Geometry**. All e.s.d.'s (except the e.s.d. in the dihedral angle between two l.s. planes) are estimated using the full covariance matrix. The cell e.s.d.'s are taken into account individually in the estimation of e.s.d.'s in distances, angles and torsion angles; correlations between e.s.d.'s in cell parameters are only used when they are defined by crystal symmetry. An approximate (isotropic) treatment of cell e.s.d.'s is used for estimating e.s.d.'s involving l.s. planes.

**Refinement**. Refinement of $F^2$ against ALL reflections. The weighted *R*-factor *wR* and goodness of fit *S* are based on $F^2$, conventional *R*-factors *R* are based on *F*, with *F* set to zero for negative $F^2$. The threshold expression of $F^2 > \sigma(F^2)$ is used only for calculating *R*-factors(gt) *etc*. and is not relevant to the choice of reflections for refinement. *R*-factors based on $F^2$ are statistically about twice as large as those based on *F*, and *R*- factors based on ALL data will be even larger.

*Fractional atomic coordinates and isotropic or equivalent isotropic displacement parameters (Å$^2$)*

| | *x* | *y* | *z* | $U_{iso}$*/$U_{eq}$ | Occ. (<1) |
|---|---|---|---|---|---|
| Pt1 | 0.68157 (2) | 0.619084 (16) | 0.722116 (14) | 0.01730 (7) | |
| Cl1A | −0.2308 (4) | 1.2485 (3) | 1.0422 (3) | 0.0629 (12) | 0.50 |
| Cl2A | 0.0109 (4) | 1.2327 (3) | 0.8803 (3) | 0.0590 (10) | 0.50 |
| P1 | 0.61853 (12) | 0.77338 (9) | 0.63764 (8) | 0.0169 (3) | |
| P2 | 0.79888 (13) | 0.68445 (10) | 0.79647 (9) | 0.0208 (3) | |

| | | | | |
|---|---|---|---|---|
| O1 | 0.6013 (3) | 0.5118 (3) | 0.6748 (2) | 0.0230 (7) |
| O2 | 0.7197 (3) | 0.4556 (2) | 0.7765 (2) | 0.0231 (7) |
| O3 | 0.6483 (3) | 0.3258 (3) | 0.7215 (2) | 0.0320 (8) |
| C1 | 0.6555 (5) | 0.4223 (4) | 0.7241 (3) | 0.0214 (11) |
| C11 | 0.4805 (5) | 0.7670 (4) | 0.5907 (3) | 0.0183 (10) |
| C12 | 0.3494 (5) | 0.8540 (4) | 0.6099 (3) | 0.0242 (11) |
| H12 | 0.3284 | 0.9169 | 0.6507 | 0.029* |
| C13 | 0.2493 (5) | 0.8491 (4) | 0.5694 (4) | 0.0325 (13) |
| H13 | 0.1603 | 0.9090 | 0.5824 | 0.039* |
| C14 | 0.2782 (5) | 0.7585 (4) | 0.5108 (4) | 0.0321 (13) |
| H14 | 0.2100 | 0.7565 | 0.4824 | 0.039* |
| C15 | 0.4063 (5) | 0.6700 (4) | 0.4929 (3) | 0.0264 (11) |
| H15 | 0.4251 | 0.6061 | 0.4536 | 0.032* |
| C16 | 0.5070 (5) | 0.6744 (4) | 0.5321 (3) | 0.0217 (11) |
| H16 | 0.5952 | 0.6137 | 0.5190 | 0.026* |
| C21 | 0.7630 (5) | 0.7745 (4) | 0.5340 (3) | 0.0183 (10) |
| C22 | 0.7417 (5) | 0.8449 (4) | 0.4596 (3) | 0.0232 (11) |
| H22 | 0.6500 | 0.8976 | 0.4640 | 0.028* |
| C23 | 0.8533 (5) | 0.8383 (4) | 0.3797 (3) | 0.0278 (12) |
| H23 | 0.8381 | 0.8878 | 0.3301 | 0.033* |
| C24 | 0.9874 (5) | 0.7599 (4) | 0.3715 (3) | 0.0251 (11) |
| H24 | 1.0639 | 0.7563 | 0.3168 | 0.030* |
| C25 | 1.0086 (5) | 0.6873 (4) | 0.4431 (3) | 0.0227 (11) |
| H25 | 1.0994 | 0.6320 | 0.4370 | 0.027* |
| C26 | 0.8986 (5) | 0.6947 (4) | 0.5237 (3) | 0.0202 (10) |
| H26 | 0.9150 | 0.6449 | 0.5729 | 0.024* |
| C31 | 0.5409 (5) | 0.9146 (4) | 0.6962 (3) | 0.0215 (11) |
| C32 | 0.5610 (5) | 1.0156 (4) | 0.6548 (4) | 0.0280 (12) |
| H32 | 0.6250 | 1.0127 | 0.5944 | 0.034* |
| C33 | 0.4857 (5) | 1.1221 (4) | 0.7033 (4) | 0.0370 (14) |
| H33 | 0.5012 | 1.1914 | 0.6764 | 0.044* |
| C34 | 0.3900 (6) | 1.1266 (5) | 0.7892 (4) | 0.0459 (16) |
| H34 | 0.3367 | 1.1995 | 0.8204 | 0.055* |
| C35 | 0.3699 (6) | 1.0267 (5) | 0.8309 (4) | 0.0428 (15) |
| H35 | 0.3047 | 1.0304 | 0.8910 | 0.051* |
| C36 | 0.4458 (5) | 0.9206 (4) | 0.7845 (4) | 0.0328 (13) |
| H36 | 0.4325 | 0.8515 | 0.8132 | 0.039* |
| C41 | 0.7442 (5) | 0.6453 (4) | 0.9163 (3) | 0.0222 (11) |
| C42 | 0.6065 (5) | 0.6427 (4) | 0.9562 (4) | 0.0343 (13) |
| H42 | 0.5439 | 0.6586 | 0.9199 | 0.041* |
| C43 | 0.5593 (6) | 0.6170 (5) | 1.0493 (4) | 0.0397 (14) |
| H43 | 0.4648 | 0.6156 | 1.0762 | 0.048* |
| C44 | 0.6494 (6) | 0.5940 (4) | 1.1017 (4) | 0.0372 (13) |
| H44 | 0.6175 | 0.5762 | 1.1650 | 0.045* |
| C45 | 0.7866 (6) | 0.5965 (4) | 1.0630 (4) | 0.0351 (13) |
| H45 | 0.8485 | 0.5807 | 1.0998 | 0.042* |
| C46 | 0.8341 (5) | 0.6221 (4) | 0.9709 (3) | 0.0280 (12) |
| H46 | 0.9286 | 0.6238 | 0.9447 | 0.034* |
| C51 | 0.9892 (5) | 0.6088 (4) | 0.7531 (3) | 0.0201 (10) |

| | | | | | |
|---|---|---|---|---|---|
| C52 | 1.0905 (5) | 0.6579 (4) | 0.7568 (4) | 0.0317 (13) | |
| H52 | 1.0613 | 0.7345 | 0.7813 | 0.038* | |
| C53 | 1.2324 (5) | 0.5957 (4) | 0.7250 (4) | 0.0346 (13) | |
| H53 | 1.3005 | 0.6306 | 0.7268 | 0.042* | |
| C54 | 1.2770 (5) | 0.4851 (5) | 0.6911 (3) | 0.0347 (13) | |
| H54 | 1.3755 | 0.4432 | 0.6700 | 0.042* | |
| C55 | 1.1791 (5) | 0.4336 (4) | 0.6873 (4) | 0.0337 (13) | |
| H55 | 1.2098 | 0.3564 | 0.6637 | 0.040* | |
| C56 | 1.0350 (5) | 0.4960 (4) | 0.7183 (3) | 0.0276 (12) | |
| H56 | 0.9673 | 0.4611 | 0.7156 | 0.033* | |
| C61 | 0.7872 (5) | 0.8355 (4) | 0.8016 (4) | 0.0263 (12) | |
| C62 | 0.8509 (5) | 0.8877 (4) | 0.7226 (4) | 0.0335 (13) | |
| H62 | 0.9021 | 0.8431 | 0.6667 | 0.040* | |
| C63 | 0.8402 (7) | 1.0033 (5) | 0.7248 (5) | 0.0501 (18) | |
| H63 | 0.8854 | 1.0375 | 0.6711 | 0.060* | |
| C64 | 0.7638 (7) | 1.0693 (5) | 0.8053 (6) | 0.058 (2) | |
| H64 | 0.7548 | 1.1492 | 0.8066 | 0.070* | |
| C65 | 0.7008 (6) | 1.0193 (5) | 0.8836 (5) | 0.0528 (17) | |
| H65 | 0.6490 | 1.0644 | 0.9391 | 0.063* | |
| C66 | 0.7127 (6) | 0.9029 (4) | 0.8816 (4) | 0.0390 (14) | |
| H66 | 0.6690 | 0.8689 | 0.9360 | 0.047* | |
| C1A | −0.1603 (13) | 1.3141 (13) | 0.9414 (10) | 0.046 (5) | 0.50 |
| H1A1 | −0.2220 | 1.3264 | 0.9014 | 0.056* | 0.50 |
| H1A2 | −0.1601 | 1.3911 | 0.9576 | 0.056* | 0.50 |
| C1B | −0.1889 (14) | 1.3178 (7) | 0.9804 (9) | 0.055 (6) | 0.50 |
| H1B | −0.2442 | 1.3947 | 0.9725 | 0.065* | 0.50 |
| C2B | −0.2077 (12) | 1.2719 (10) | 1.0681 (7) | 0.117 (12) | 0.50 |
| H2B | −0.2759 | 1.3174 | 1.1202 | 0.141* | 0.50 |
| C3B | −0.1268 (12) | 1.1593 (10) | 1.0797 (6) | 0.055 (4) | 0.50 |
| H3B | −0.1396 | 1.1279 | 1.1397 | 0.067* | 0.50 |
| C4B | −0.0270 (11) | 1.0926 (7) | 1.0035 (9) | 0.082 (5) | 0.50 |
| H4B | 0.0283 | 1.0157 | 1.0114 | 0.098* | 0.50 |
| C5B | −0.0082 (10) | 1.1386 (11) | 0.9158 (7) | 0.086 (6) | 0.50 |
| H5B | 0.0600 | 1.0930 | 0.8637 | 0.103* | 0.50 |
| C6B | −0.0891 (13) | 1.2511 (11) | 0.9042 (7) | 0.070 (5) | 0.50 |
| H6B | −0.0763 | 1.2825 | 0.8442 | 0.084* | 0.50 |

*Atomic displacement parameters (Å$^2$)*

| | $U^{11}$ | $U^{22}$ | $U^{33}$ | $U^{12}$ | $U^{13}$ | $U^{23}$ |
|---|---|---|---|---|---|---|
| Pt1 | 0.01714 (10) | 0.01846 (10) | 0.01863 (11) | −0.00798 (7) | −0.00715 (8) | 0.00441 (7) |
| Cl1A | 0.045 (2) | 0.061 (2) | 0.057 (3) | −0.0059 (19) | 0.004 (2) | 0.016 (2) |
| Cl2A | 0.043 (2) | 0.074 (2) | 0.053 (2) | −0.015 (2) | −0.009 (2) | 0.0072 (18) |
| P1 | 0.0156 (6) | 0.0182 (6) | 0.0172 (7) | −0.0055 (5) | −0.0051 (5) | 0.0007 (5) |
| P2 | 0.0229 (7) | 0.0188 (6) | 0.0248 (8) | −0.0089 (5) | −0.0120 (6) | 0.0058 (5) |
| O1 | 0.0217 (18) | 0.0280 (18) | 0.024 (2) | −0.0127 (14) | −0.0095 (16) | 0.0048 (15) |
| O2 | 0.0232 (18) | 0.0262 (17) | 0.0223 (19) | −0.0117 (15) | −0.0078 (16) | 0.0071 (14) |
| O3 | 0.034 (2) | 0.0233 (18) | 0.042 (2) | −0.0129 (16) | −0.0135 (18) | 0.0061 (16) |

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|---|---|---|---|---|---|---|
| C1 | 0.020 (3) | 0.019 (3) | 0.023 (3) | −0.008 (2) | −0.003 (2) | 0.003 (2) |
| C11 | 0.019 (2) | 0.018 (2) | 0.020 (3) | −0.008 (2) | −0.009 (2) | 0.006 (2) |
| C12 | 0.024 (3) | 0.021 (2) | 0.029 (3) | −0.011 (2) | −0.006 (2) | 0.001 (2) |
| C13 | 0.020 (3) | 0.025 (3) | 0.053 (4) | −0.005 (2) | −0.016 (3) | 0.009 (3) |
| C14 | 0.031 (3) | 0.036 (3) | 0.042 (4) | −0.017 (3) | −0.022 (3) | 0.008 (3) |
| C15 | 0.028 (3) | 0.032 (3) | 0.022 (3) | −0.015 (2) | −0.006 (2) | 0.001 (2) |
| C16 | 0.019 (2) | 0.024 (2) | 0.022 (3) | −0.009 (2) | −0.004 (2) | 0.003 (2) |
| C21 | 0.022 (3) | 0.017 (2) | 0.017 (3) | −0.008 (2) | −0.006 (2) | −0.0039 (19) |
| C22 | 0.023 (3) | 0.020 (2) | 0.022 (3) | −0.002 (2) | −0.007 (2) | 0.003 (2) |
| C23 | 0.033 (3) | 0.025 (3) | 0.019 (3) | −0.007 (2) | −0.001 (2) | 0.005 (2) |
| C24 | 0.022 (3) | 0.027 (3) | 0.023 (3) | −0.011 (2) | 0.001 (2) | −0.004 (2) |
| C25 | 0.017 (2) | 0.024 (2) | 0.026 (3) | −0.007 (2) | −0.005 (2) | −0.003 (2) |
| C26 | 0.022 (3) | 0.022 (2) | 0.020 (3) | −0.009 (2) | −0.010 (2) | 0.002 (2) |
| C31 | 0.018 (2) | 0.020 (2) | 0.026 (3) | −0.004 (2) | −0.008 (2) | 0.000 (2) |
| C32 | 0.021 (3) | 0.024 (3) | 0.039 (3) | −0.005 (2) | −0.011 (2) | 0.001 (2) |
| C33 | 0.032 (3) | 0.021 (3) | 0.055 (4) | −0.002 (2) | −0.013 (3) | −0.005 (3) |
| C34 | 0.041 (4) | 0.030 (3) | 0.057 (4) | 0.008 (3) | −0.015 (3) | −0.024 (3) |
| C35 | 0.032 (3) | 0.052 (4) | 0.027 (3) | 0.007 (3) | −0.005 (3) | −0.013 (3) |
| C36 | 0.033 (3) | 0.028 (3) | 0.032 (3) | −0.001 (2) | −0.011 (3) | −0.003 (2) |
| C41 | 0.027 (3) | 0.018 (2) | 0.024 (3) | −0.004 (2) | −0.015 (2) | −0.002 (2) |
| C42 | 0.035 (3) | 0.041 (3) | 0.033 (3) | −0.014 (3) | −0.018 (3) | 0.005 (3) |
| C43 | 0.036 (3) | 0.056 (4) | 0.025 (3) | −0.020 (3) | −0.002 (3) | 0.008 (3) |
| C44 | 0.039 (3) | 0.044 (3) | 0.019 (3) | −0.004 (3) | −0.007 (3) | 0.003 (2) |
| C45 | 0.040 (3) | 0.038 (3) | 0.021 (3) | 0.003 (3) | −0.015 (3) | −0.003 (2) |
| C46 | 0.025 (3) | 0.027 (3) | 0.029 (3) | −0.001 (2) | −0.011 (2) | −0.006 (2) |
| C51 | 0.018 (2) | 0.024 (2) | 0.020 (3) | −0.010 (2) | −0.007 (2) | 0.008 (2) |
| C52 | 0.033 (3) | 0.026 (3) | 0.048 (4) | −0.017 (2) | −0.024 (3) | 0.014 (2) |
| C53 | 0.032 (3) | 0.042 (3) | 0.041 (4) | −0.022 (3) | −0.021 (3) | 0.020 (3) |
| C54 | 0.021 (3) | 0.058 (4) | 0.023 (3) | −0.013 (3) | −0.004 (2) | 0.004 (3) |
| C55 | 0.023 (3) | 0.042 (3) | 0.033 (3) | −0.001 (2) | −0.011 (3) | −0.012 (3) |
| C56 | 0.027 (3) | 0.037 (3) | 0.025 (3) | −0.016 (2) | −0.011 (2) | −0.001 (2) |
| C61 | 0.026 (3) | 0.024 (3) | 0.040 (3) | −0.011 (2) | −0.024 (3) | 0.008 (2) |
| C62 | 0.043 (3) | 0.027 (3) | 0.045 (4) | −0.020 (3) | −0.027 (3) | 0.011 (3) |
| C63 | 0.072 (5) | 0.035 (3) | 0.074 (5) | −0.036 (3) | −0.052 (4) | 0.031 (3) |
| C64 | 0.066 (5) | 0.024 (3) | 0.107 (7) | −0.022 (3) | −0.056 (5) | 0.019 (4) |
| C65 | 0.051 (4) | 0.024 (3) | 0.083 (5) | −0.008 (3) | −0.023 (4) | −0.004 (3) |
| C66 | 0.038 (3) | 0.024 (3) | 0.058 (4) | −0.011 (2) | −0.019 (3) | 0.005 (3) |
| C1A | 0.061 (12) | 0.039 (10) | 0.025 (11) | −0.001 (8) | −0.010 (8) | 0.001 (6) |
| C1B | 0.072 (12) | 0.051 (10) | 0.060 (15) | −0.032 (9) | −0.035 (11) | 0.001 (10) |
| C2B | 0.14 (2) | 0.16 (3) | 0.084 (19) | −0.082 (19) | −0.029 (15) | −0.035 (16) |
| C3B | 0.075 (10) | 0.066 (9) | 0.057 (10) | −0.048 (8) | −0.044 (9) | 0.032 (8) |
| C4B | 0.061 (10) | 0.052 (8) | 0.132 (16) | 0.018 (8) | −0.069 (11) | 0.007 (10) |
| C5B | 0.048 (9) | 0.126 (15) | 0.055 (11) | 0.014 (10) | −0.023 (8) | 0.014 (10) |
| C6B | 0.060 (13) | 0.125 (18) | 0.037 (11) | −0.041 (12) | −0.024 (11) | 0.018 (10) |

*Geometric parameters (Å, °)*

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| Pt1—O1 | 2.045 (3) | C36—H36 | 0.9500 |
| Pt1—O2 | 2.063 (3) | C41—C42 | 1.388 (7) |

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|---|---|---|---|
| Pt1—P1 | 2.2324 (11) | C41—C46 | 1.392 (6) |
| Pt1—P2 | 2.2533 (12) | C42—C43 | 1.396 (7) |
| Pt1—C1 | 2.501 (5) | C42—H42 | 0.9500 |
| Cl1A—C1A | 1.741 (9) | C43—C44 | 1.367 (7) |
| Cl2A—C1A | 1.733 (9) | C43—H43 | 0.9500 |
| P1—C31 | 1.815 (4) | C44—C45 | 1.381 (7) |
| P1—C21 | 1.815 (5) | C44—H44 | 0.9500 |
| P1—C11 | 1.826 (4) | C45—C46 | 1.382 (7) |
| P2—C41 | 1.811 (5) | C45—H45 | 0.9500 |
| P2—C61 | 1.813 (5) | C46—H46 | 0.9500 |
| P2—C51 | 1.824 (4) | C51—C56 | 1.389 (6) |
| O1—C1 | 1.348 (5) | C51—C52 | 1.393 (6) |
| O2—C1 | 1.349 (5) | C52—C53 | 1.374 (7) |
| O3—C1 | 1.208 (5) | C52—H52 | 0.9500 |
| C11—C12 | 1.394 (6) | C53—C54 | 1.361 (7) |
| C11—C16 | 1.395 (6) | C53—H53 | 0.9500 |
| C12—C13 | 1.391 (6) | C54—C55 | 1.382 (7) |
| C12—H12 | 0.9500 | C54—H54 | 0.9500 |
| C13—C14 | 1.369 (7) | C55—C56 | 1.392 (6) |
| C13—H13 | 0.9500 | C55—H55 | 0.9500 |
| C14—C15 | 1.382 (6) | C56—H56 | 0.9500 |
| C14—H14 | 0.9500 | C61—C66 | 1.382 (7) |
| C15—C16 | 1.381 (6) | C61—C62 | 1.398 (7) |
| C15—H15 | 0.9500 | C62—C63 | 1.380 (7) |
| C16—H16 | 0.9500 | C62—H62 | 0.9500 |
| C21—C22 | 1.398 (6) | C63—C64 | 1.382 (9) |
| C21—C26 | 1.404 (6) | C63—H63 | 0.9500 |
| C22—C23 | 1.384 (6) | C64—C65 | 1.374 (9) |
| C22—H22 | 0.9500 | C64—H64 | 0.9500 |
| C23—C24 | 1.391 (6) | C65—C66 | 1.385 (7) |
| C23—H23 | 0.9500 | C65—H65 | 0.9500 |
| C24—C25 | 1.377 (6) | C66—H66 | 0.9500 |
| C24—H24 | 0.9500 | C1A—H1A1 | 0.9900 |
| C25—C26 | 1.381 (6) | C1A—H1A2 | 0.9900 |
| C25—H25 | 0.9500 | C1B—C2B | 1.3900 |
| C26—H26 | 0.9500 | C1B—C6B | 1.3900 |
| C31—C32 | 1.389 (6) | C1B—H1B | 0.9500 |
| C31—C36 | 1.391 (7) | C2B—C3B | 1.3900 |
| C32—C33 | 1.404 (6) | C2B—H2B | 0.9500 |
| C32—H32 | 0.9500 | C3B—C4B | 1.3900 |
| C33—C34 | 1.369 (8) | C3B—H3B | 0.9500 |
| C33—H33 | 0.9500 | C4B—C5B | 1.3900 |
| C34—C35 | 1.378 (8) | C4B—H4B | 0.9500 |
| C34—H34 | 0.9500 | C5B—C6B | 1.3900 |
| C35—C36 | 1.388 (7) | C5B—H5B | 0.9500 |
| C35—H35 | 0.9500 | C6B—H6B | 0.9500 |
| O1—Pt1—O2 | 65.16 (11) | C35—C36—C31 | 120.5 (5) |
| O1—Pt1—P1 | 98.84 (9) | C35—C36—H36 | 119.7 |
| O2—Pt1—P1 | 163.83 (9) | C31—C36—H36 | 119.7 |

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| O1—Pt1—P2 | 161.52 (8) | C42—C41—C46 | 118.7 (5) |
| O2—Pt1—P2 | 96.43 (9) | C42—C41—P2 | 119.1 (3) |
| P1—Pt1—P2 | 99.48 (4) | C46—C41—P2 | 122.1 (4) |
| O1—Pt1—C1 | 32.57 (12) | C41—C42—C43 | 120.6 (5) |
| O2—Pt1—C1 | 32.62 (12) | C41—C42—H42 | 119.7 |
| P1—Pt1—C1 | 131.28 (11) | C43—C42—H42 | 119.7 |
| P2—Pt1—C1 | 128.96 (11) | C44—C43—C42 | 119.8 (5) |
| C31—P1—C21 | 110.5 (2) | C44—C43—H43 | 120.1 |
| C31—P1—C11 | 102.4 (2) | C42—C43—H43 | 120.1 |
| C21—P1—C11 | 102.5 (2) | C43—C44—C45 | 120.3 (5) |
| C31—P1—Pt1 | 117.35 (15) | C43—C44—H44 | 119.9 |
| C21—P1—Pt1 | 111.32 (14) | C45—C44—H44 | 119.9 |
| C11—P1—Pt1 | 111.45 (14) | C44—C45—C46 | 120.3 (5) |
| C41—P2—C61 | 104.5 (2) | C44—C45—H45 | 119.9 |
| C41—P2—C51 | 105.7 (2) | C46—C45—H45 | 119.9 |
| C61—P2—C51 | 103.8 (2) | C45—C46—C41 | 120.3 (5) |
| C41—P2—Pt1 | 107.31 (15) | C45—C46—H46 | 119.8 |
| C61—P2—Pt1 | 123.70 (14) | C41—C46—H46 | 119.8 |
| C51—P2—Pt1 | 110.53 (15) | C56—C51—C52 | 118.6 (4) |
| C1—O1—Pt1 | 92.7 (2) | C56—C51—P2 | 118.6 (3) |
| C1—O2—Pt1 | 91.8 (2) | C52—C51—P2 | 122.7 (4) |
| O3—C1—O1 | 125.0 (4) | C53—C52—C51 | 120.2 (5) |
| O3—C1—O2 | 124.8 (4) | C53—C52—H52 | 119.9 |
| O1—C1—O2 | 110.2 (4) | C51—C52—H52 | 119.9 |
| O3—C1—Pt1 | 177.0 (4) | C54—C53—C52 | 121.1 (5) |
| O1—C1—Pt1 | 54.7 (2) | C54—C53—H53 | 119.4 |
| O2—C1—Pt1 | 55.5 (2) | C52—C53—H53 | 119.4 |
| C12—C11—C16 | 118.5 (4) | C53—C54—C55 | 120.1 (5) |
| C12—C11—P1 | 121.8 (3) | C53—C54—H54 | 120.0 |
| C16—C11—P1 | 119.7 (3) | C55—C54—H54 | 120.0 |
| C13—C12—C11 | 120.2 (4) | C54—C55—C56 | 119.4 (5) |
| C13—C12—H12 | 119.9 | C54—C55—H55 | 120.3 |
| C11—C12—H12 | 119.9 | C56—C55—H55 | 120.3 |
| C14—C13—C12 | 120.4 (4) | C51—C56—C55 | 120.6 (4) |
| C14—C13—H13 | 119.8 | C51—C56—H56 | 119.7 |
| C12—C13—H13 | 119.8 | C55—C56—H56 | 119.7 |
| C13—C14—C15 | 120.1 (4) | C66—C61—C62 | 118.3 (5) |
| C13—C14—H14 | 119.9 | C66—C61—P2 | 121.7 (4) |
| C15—C14—H14 | 119.9 | C62—C61—P2 | 120.0 (4) |
| C16—C15—C14 | 120.0 (5) | C63—C62—C61 | 120.7 (6) |
| C16—C15—H15 | 120.0 | C63—C62—H62 | 119.6 |
| C14—C15—H15 | 120.0 | C61—C62—H62 | 119.6 |
| C15—C16—C11 | 120.7 (4) | C62—C63—C64 | 120.0 (6) |
| C15—C16—H16 | 119.6 | C62—C63—H63 | 120.0 |
| C11—C16—H16 | 119.6 | C64—C63—H63 | 120.0 |
| C22—C21—C26 | 118.1 (4) | C65—C64—C63 | 120.0 (5) |
| C22—C21—P1 | 122.3 (3) | C65—C64—H64 | 120.0 |
| C26—C21—P1 | 119.4 (3) | C63—C64—H64 | 120.0 |
| C23—C22—C21 | 120.4 (4) | C64—C65—C66 | 120.0 (6) |

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| C23—C22—H22 | 119.8 | C64—C65—H65 | 120.0 |
| C21—C22—H22 | 119.8 | C66—C65—H65 | 120.0 |
| C22—C23—C24 | 120.5 (4) | C61—C66—C65 | 121.0 (6) |
| C22—C23—H23 | 119.7 | C61—C66—H66 | 119.5 |
| C24—C23—H23 | 119.7 | C65—C66—H66 | 119.5 |
| C25—C24—C23 | 119.6 (5) | Cl2A—C1A—Cl1A | 112.8 (6) |
| C25—C24—H24 | 120.2 | Cl2A—C1A—H1A1 | 109.0 |
| C23—C24—H24 | 120.2 | Cl1A—C1A—H1A1 | 109.0 |
| C24—C25—C26 | 120.3 (4) | Cl2A—C1A—H1A2 | 109.0 |
| C24—C25—H25 | 119.8 | Cl1A—C1A—H1A2 | 109.0 |
| C26—C25—H25 | 119.8 | H1A1—C1A—H1A2 | 107.8 |
| C25—C26—C21 | 121.0 (4) | C2B—C1B—C6B | 120.0 |
| C25—C26—H26 | 119.5 | C2B—C1B—H1B | 120.0 |
| C21—C26—H26 | 119.5 | C6B—C1B—H1B | 120.0 |
| C32—C31—C36 | 119.6 (4) | C3B—C2B—C1B | 120.0 |
| C32—C31—P1 | 123.8 (4) | C3B—C2B—H2B | 120.0 |
| C36—C31—P1 | 116.3 (3) | C1B—C2B—H2B | 120.0 |
| C31—C32—C33 | 119.3 (5) | C2B—C3B—C4B | 120.0 |
| C31—C32—H32 | 120.3 | C2B—C3B—H3B | 120.0 |
| C33—C32—H32 | 120.3 | C4B—C3B—H3B | 120.0 |
| C34—C33—C32 | 120.3 (5) | C5B—C4B—C3B | 120.0 |
| C34—C33—H33 | 119.9 | C5B—C4B—H4B | 120.0 |
| C32—C33—H33 | 119.9 | C3B—C4B—H4B | 120.0 |
| C33—C34—C35 | 120.7 (5) | C4B—C5B—C6B | 120.0 |
| C33—C34—H34 | 119.6 | C4B—C5B—H5B | 120.0 |
| C35—C34—H34 | 119.6 | C6B—C5B—H5B | 120.0 |
| C34—C35—C36 | 119.6 (5) | C5B—C6B—C1B | 120.0 |
| C34—C35—H35 | 120.2 | C5B—C6B—H6B | 120.0 |
| C36—C35—H35 | 120.2 | C1B—C6B—H6B | 120.0 |
| O1—Pt1—P1—C31 | 135.33 (19) | C22—C23—C24—C25 | 0.8 (7) |
| O2—Pt1—P1—C31 | 143.2 (4) | C23—C24—C25—C26 | −1.9 (7) |
| P2—Pt1—P1—C31 | −47.15 (17) | C24—C25—C26—C21 | 0.9 (7) |
| C1—Pt1—P1—C31 | 138.7 (2) | C22—C21—C26—C25 | 1.2 (6) |
| O1—Pt1—P1—C21 | −96.03 (17) | P1—C21—C26—C25 | 175.3 (3) |
| O2—Pt1—P1—C21 | −88.2 (4) | C21—P1—C31—C32 | 17.0 (4) |
| P2—Pt1—P1—C21 | 81.48 (15) | C11—P1—C31—C32 | −91.6 (4) |
| C1—Pt1—P1—C21 | −92.7 (2) | Pt1—P1—C31—C32 | 146.0 (3) |
| O1—Pt1—P1—C11 | 17.72 (19) | C21—P1—C31—C36 | −169.4 (3) |
| O2—Pt1—P1—C11 | 25.6 (4) | C11—P1—C31—C36 | 82.1 (4) |
| P2—Pt1—P1—C11 | −164.77 (16) | Pt1—P1—C31—C36 | −40.3 (4) |
| C1—Pt1—P1—C11 | 21.0 (2) | C36—C31—C32—C33 | 0.6 (7) |
| O1—Pt1—P2—C41 | −51.4 (3) | P1—C31—C32—C33 | 174.1 (4) |
| O2—Pt1—P2—C41 | −46.50 (17) | C31—C32—C33—C34 | −2.2 (7) |
| P1—Pt1—P2—C41 | 136.39 (15) | C32—C33—C34—C35 | 2.5 (8) |
| C1—Pt1—P2—C41 | −49.2 (2) | C33—C34—C35—C36 | −1.2 (8) |
| O1—Pt1—P2—C61 | −172.9 (3) | C34—C35—C36—C31 | −0.3 (8) |
| O2—Pt1—P2—C61 | −168.0 (2) | C32—C31—C36—C35 | 0.6 (7) |
| P1—Pt1—P2—C61 | 14.9 (2) | P1—C31—C36—C35 | −173.3 (4) |
| C1—Pt1—P2—C61 | −170.7 (2) | C61—P2—C41—C42 | 99.9 (4) |

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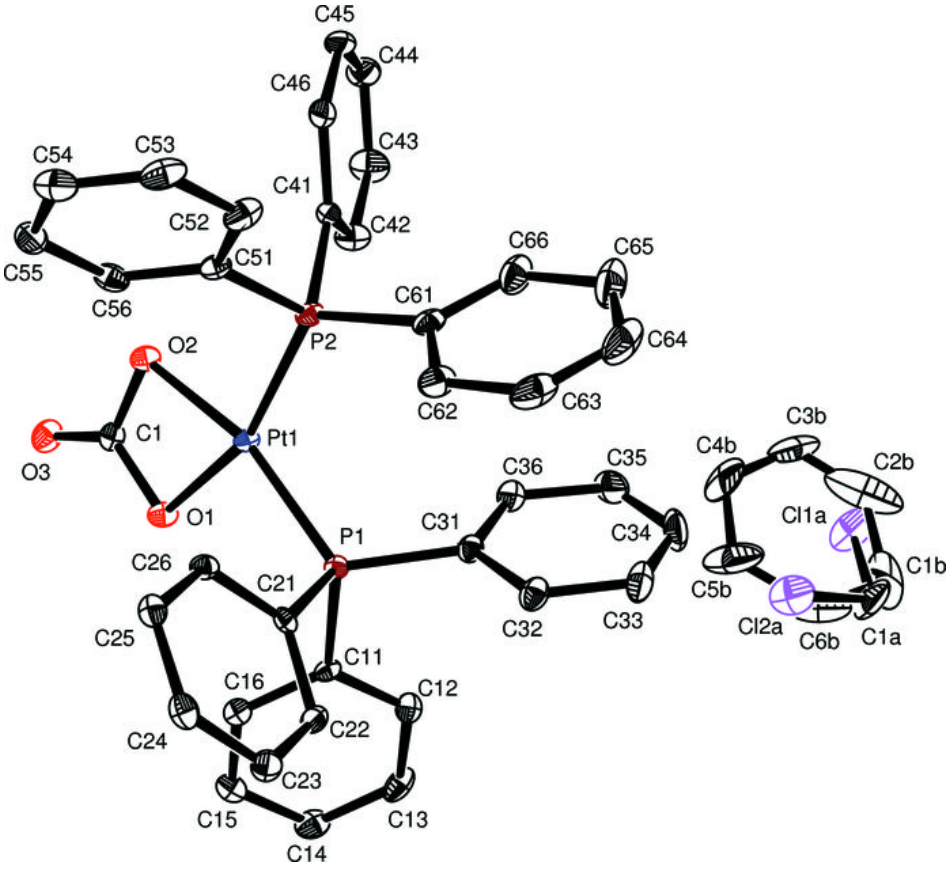
| O1—Pt1—P2—C51 | 63.4 (3) | C51—P2—C41—C42 | −151.0 (4) |
| O2—Pt1—P2—C51 | 68.29 (17) | Pt1—P2—C41—C42 | −33.0 (4) |
| P1—Pt1—P2—C51 | −108.82 (15) | C61—P2—C41—C46 | −77.5 (4) |
| C1—Pt1—P2—C51 | 65.6 (2) | C51—P2—C41—C46 | 31.6 (4) |
| O2—Pt1—O1—C1 | −2.2 (2) | Pt1—P2—C41—C46 | 149.6 (3) |
| P1—Pt1—O1—C1 | 175.4 (2) | C46—C41—C42—C43 | −0.1 (7) |
| P2—Pt1—O1—C1 | 3.1 (5) | P2—C41—C42—C43 | −177.7 (4) |
| O1—Pt1—O2—C1 | 2.2 (2) | C41—C42—C43—C44 | −0.1 (8) |
| P1—Pt1—O2—C1 | −6.4 (5) | C42—C43—C44—C45 | 0.3 (8) |
| P2—Pt1—O2—C1 | −176.1 (2) | C43—C44—C45—C46 | −0.2 (8) |
| Pt1—O1—C1—O3 | −176.3 (4) | C44—C45—C46—C41 | −0.1 (7) |
| Pt1—O1—C1—O2 | 3.3 (4) | C42—C41—C46—C45 | 0.2 (7) |
| Pt1—O2—C1—O3 | 176.3 (4) | P2—C41—C46—C45 | 177.7 (4) |
| Pt1—O2—C1—O1 | −3.3 (3) | C41—P2—C51—C56 | 86.8 (4) |
| O1—Pt1—C1—O3 | 87 (7) | C61—P2—C51—C56 | −163.5 (4) |
| O2—Pt1—C1—O3 | −97 (7) | Pt1—P2—C51—C56 | −29.0 (4) |
| P1—Pt1—C1—O3 | 81 (7) | C41—P2—C51—C52 | −90.6 (4) |
| P2—Pt1—C1—O3 | −92 (7) | C61—P2—C51—C52 | 19.1 (5) |
| O2—Pt1—C1—O1 | 176.3 (4) | Pt1—P2—C51—C52 | 153.6 (4) |
| P1—Pt1—C1—O1 | −6.1 (3) | C56—C51—C52—C53 | 1.0 (7) |
| P2—Pt1—C1—O1 | −178.72 (19) | P2—C51—C52—C53 | 178.4 (4) |
| O1—Pt1—C1—O2 | −176.3 (4) | C51—C52—C53—C54 | −1.2 (8) |
| P1—Pt1—C1—O2 | 177.65 (18) | C52—C53—C54—C55 | 0.6 (8) |
| P2—Pt1—C1—O2 | 5.0 (3) | C53—C54—C55—C56 | 0.1 (8) |
| C31—P1—C11—C12 | −4.8 (4) | C52—C51—C56—C55 | −0.4 (7) |
| C21—P1—C11—C12 | −119.3 (4) | P2—C51—C56—C55 | −177.9 (4) |
| Pt1—P1—C11—C12 | 121.5 (3) | C54—C55—C56—C51 | −0.2 (7) |
| C31—P1—C11—C16 | 173.6 (4) | C41—P2—C61—C66 | −16.0 (4) |
| C21—P1—C11—C16 | 59.0 (4) | C51—P2—C61—C66 | −126.5 (4) |
| Pt1—P1—C11—C16 | −60.1 (4) | Pt1—P2—C61—C66 | 106.8 (4) |
| C16—C11—C12—C13 | −1.5 (7) | C41—P2—C61—C62 | 165.9 (4) |
| P1—C11—C12—C13 | 176.9 (4) | C51—P2—C61—C62 | 55.4 (4) |
| C11—C12—C13—C14 | 0.4 (7) | Pt1—P2—C61—C62 | −71.3 (4) |
| C12—C13—C14—C15 | 1.3 (8) | C66—C61—C62—C63 | 0.4 (7) |
| C13—C14—C15—C16 | −1.8 (7) | P2—C61—C62—C63 | 178.5 (4) |
| C14—C15—C16—C11 | 0.7 (7) | C61—C62—C63—C64 | −1.2 (8) |
| C12—C11—C16—C15 | 1.0 (7) | C62—C63—C64—C65 | 1.3 (9) |
| P1—C11—C16—C15 | −177.5 (3) | C63—C64—C65—C66 | −0.6 (9) |
| C31—P1—C21—C22 | −63.3 (4) | C62—C61—C66—C65 | 0.3 (7) |
| C11—P1—C21—C22 | 45.3 (4) | P2—C61—C66—C65 | −177.8 (4) |
| Pt1—P1—C21—C22 | 164.5 (3) | C64—C65—C66—C61 | −0.2 (8) |
| C31—P1—C21—C26 | 122.9 (3) | C6B—C1B—C2B—C3B | 0.0 |
| C11—P1—C21—C26 | −128.6 (3) | C1B—C2B—C3B—C4B | 0.0 |
| Pt1—P1—C21—C26 | −9.3 (4) | C2B—C3B—C4B—C5B | 0.0 |
| C26—C21—C22—C23 | −2.4 (6) | C3B—C4B—C5B—C6B | 0.0 |
| P1—C21—C22—C23 | −176.3 (4) | C4B—C5B—C6B—C1B | 0.0 |
| C21—C22—C23—C24 | 1.4 (7) | C2B—C1B—C6B—C5B | 0.0 |

**Fig. 1**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