The structure of the title complex, [Ag₂(NO₃)₂(C₁₉H₁₇P)₂]ₙ, reveals a chain emanating from the coordination of one phosphine ligand to each silver(I) cation, as well as the bis-monodentate coordination of a bridging nitrato ligand (per Ag atom) and the bis-bidentate coordination of another bridging nitrato ligand (per Ag atom). The distorted four-coordinate Ag atoms are characterized by bonding angles that notably deviate from the ideal tetrahedral shape.
nitrato groups are observed to fall within shorter [2.295 (7)–2.406 (7) Å] and longer [2.460 (6)–2.635 (7) Å] ranges.

The inorganic polymer packs in three dimensions as layers of one-dimensional ribbons when viewed along the b axis (Fig. 2); the chain has glide symmetry. Furthermore, the aromatic rings of the phosphine ligands then overlap in an adjacent layer to form a hydrophobic layer in between Ag—NO₃-containing layers.

**Synthesis and crystallization**

Benzyldiphenylphosphine (1 mmol) was dissolved in acetonitrile (10 ml). Silver nitrate (1 mmol) was dissolved in acetonitrile (10 ml). In order to obtain the given 1:1 molar ratio, the solutions were mixed. The resulting solution was heated to 353 K for approximately 2 h. The solution was removed from the heat and left to slowly cool. During the process of the slow evaporation of the solvent, clear colorless crystals started to form.

**Refinement**

Experimental details including crystal data, data collection and structure refinement details are summarized in Table 1. The highest calculated residual electron density peak is 2.51 e Å⁻³ and is located 0.99 Å from Ag₂, which is attributed to the presence of the strong absorber (Ag), as well as imperfections in the absorption correction process.

**Acknowledgements**

Financial assistance from the South African National Research Foundation (SA NRF), the University of Pretoria (UP) and the University of Johannesburg (UJ) is gratefully acknowledged.

**Funding information**

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**Table 1**

| Crystal data | Chemical formula | \([Ag_2(NO_3)_2(C_9H_17P)_2]\) |
|--------------|------------------|-------------------------------|
| \(M_r\)     | 892.35           |                               |
| Crystal system, space group | Orthorhombic, \(Pna_2_1\) |                               |
| Temperature (K) | 150              |                               |
| \(a, b, c\) (Å) | 18.0126 (3), 10.6251 (2), 19.2597 (3) |                               |
| \(V\) (Å³) | 3682.20 (11) |                               |
| \(Z\) | 4 |                               |
| Radiation type | Cu \(K\alpha\) |                               |
| \(\mu\) (mm⁻¹) | 9.75 |                               |
| Crystal size (mm) | 0.21 × 0.15 × 0.12 |                               |

**Data collection**

Diffractometer XtaLAB Synergy R, DW system, HyPix

Absorption correction Multi-scan (CrysAlis PRO; Rigaku OD, 2022)

\(T_{\text{min}}, T_{\text{max}}\) 0.665, 1.000

No. of measured, independent and observed \([I > 2\sigma(I)]\) reflections 53360, 7741, 7352

\(R_{\text{int}}\) 0.068

\(R_{\text{I}}\), \(wR_{\text{I}}\), \(S\) 0.044, 0.120, 1.05

No. of reflections 7741

No. of parameters 451

No. of restraints 1

H-atom treatment H-atom parameters constrained

\(\Delta \rho_{\text{max}}, \Delta \rho_{\text{min}}\) (e Å⁻³) 2.51, −0.73

Absolute structure Flack x determined using 3276 quotients \([I/(I)]/[I/(I)]\) (Parsons et al., 2013)

Absolute structure parameter −0.009 (4)

**Figure 1**

The molecular structure of the asymmetric unit in the title compound showing displacement ellipsoids at the 50% probability level. Hydrogen atoms are omitted for clarity.

**Figure 2**

Perspective views along the (a) \(a\) and (b) \(b\) axes of the molecular packing of the title compound.

**Note:**

-The molecular structure and packing were visualized using Mercury (version 3.7) (Groom et al., 2016).

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**Figure 2**

Perspective views along the (a) \(a\) and (b) \(b\) axes of the molecular packing of the title compound.

**Note:**

-The molecular structure and packing were visualized using Mercury (version 3.7) (Groom et al., 2016).
References

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full crystallographic data

IUCrData (2022). 7, x220772  [https://doi.org/10.1107/S2414314622007726]

catena-Poly[[((benzylidiphenylphosphine-κP)silver(I)]-μ-nitrato-κ²O:O’-[(benzyl-
diphenylphosphine-κP)silver(I)]-μ-nitrato-κ⁴O,O’:O’,O’’]

Kariska Potgieter, Frederick P. Malan and Reinout Meijboom

catena-Poly[[((benzylidiphenylphosphine-κP)silver(I)]-μ-nitrato-κ²O:O’-[(benzylidiphenylphosphine-κP)silver(I)]-μ-nitrato-κ⁴O,O’:O’,O’’]

Crystal data

[Ag₂(NO₃)₂(C₁₉H₁₇P)₂]  
Mr = 892.35  
Orthorhombic, Pna₂₁  
a = 18.0126 (3) Å  
b = 10.6251 (2) Å  
c = 19.2397 (3) Å  
V = 3682.20 (11) Å³  
Z = 4  
F(000) = 1792

Data collection

XtaLAB Synergy R, DW system, HyPix  
Radiation source: Rotating-anode X-ray tube, Rigaku (Cu) X-ray Source  
Detector resolution: 10.0000 pixels mm⁻¹  
ω scans  
Absorption correction: multi-scan  
(CrysAlisPro; Rigaku OD, 2022)

Refinement

Refinement on F²  
Least-squares matrix: full  
R[F² > 2σ(F²)] = 0.044  
wR(F²) = 0.120  
S = 1.05  
7741 reflections  
451 parameters  
1 restraint  
Primary atom site location: dual  
Hydrogen site location: inferred from neighbouring sites

H-atom parameters constrained

w = 1/[σ²(Fo²) + (0.0747P)² + 4.1236P]  
where P = (Fo² + 2Fc²)/3  
(Δ/σ)max < 0.001  
Δρmax = 2.51 e Å⁻³  
Δρmin = −0.73 e Å⁻³  
Absolute structure: Flack x determined using  
3276 quotients [(I⁺)−(I⁻)]/[(I⁺)+(I⁻)] (Parsons et al., 2013)  
Absolute structure parameter: −0.009 (4)
Special details

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

Refinement. All H atoms were placed in geometrically idealized positions and constrained to ride on their parent atoms.

Fractional atomic coordinates and isotropic or equivalent isotropic displacement parameters (Å²)

| Atom | x    | y    | z    | Uiso*/Ueq |
|------|------|------|------|-----------|
| Ag1  | 0.20763 (3) | 0.67285 (6) | 0.57043 (3) | 0.04561 (16) |
| Ag2  | 0.49695 (3) | 0.61627 (5) | 0.44110 (5) | 0.04420 (16) |
| P1   | 0.20175 (9)  | 0.65229 (16) | 0.69195 (10) | 0.0293 (3) |
| P2   | 0.52210 (9)  | 0.42137 (17) | 0.38704 (10) | 0.0337 (4) |
| O1   | 0.1529 (4)  | 0.5950 (6)  | 0.4155 (4)  | 0.0321 (13) |
| O3   | 0.0623 (3)  | 0.6720 (6)  | 0.4045 (3)  | 0.0487 (14) |
| O2   | 0.0958 (4)  | 0.7638 (5)  | 0.4994 (3)  | 0.0461 (13) |
| N1   | 0.1028 (4)  | 0.6746 (6)  | 0.4568 (3)  | 0.0374 (13) |
| C26  | 0.4647 (3)  | 0.2889 (7)  | 0.4155 (4)  | 0.0321 (13) |
| N2   | 0.3496 (4)  | 0.7223 (7)  | 0.4926 (4)  | 0.0487 (17) |
| O5   | 0.3505 (5)  | 0.6175 (7)  | 0.5180 (4)  | 0.067 (2) |
| O4   | 0.2935 (4)  | 0.7904 (7)  | 0.5001 (5)  | 0.068 (2) |
| N1   | 0.4046 (4)  | 0.7612 (7)  | 0.4599 (6)  | 0.092 (3) |
| C1   | 0.2459 (4)  | 0.5121 (6)  | 0.7253 (4)  | 0.0372 (15) |
| C14  | 0.0614 (3)  | 0.5503 (8)  | 0.6926 (4)  | 0.0365 (15) |
| C31  | 0.4020 (4)  | 0.3152 (7)  | 0.4557 (4)  | 0.0384 (15) |
| H31  | 0.3917      | 0.3989      | 0.4701      | 0.046*     |
| C27  | 0.4797 (4)  | 0.1673 (7)  | 0.3947 (4)  | 0.0355 (14) |
| H27  | 0.5217      | 0.1503      | 0.3665      | 0.043*     |
| C19  | 0.0502 (4)  | 0.4320 (8)  | 0.7222 (5)  | 0.0465 (19) |
| H19  | 0.0705      | 0.4135      | 0.7666      | 0.056*     |
| C37  | 0.6669 (5)  | 0.2182 (9)  | 0.5650 (6)  | 0.0526 (19) |
| H37  | 0.6626      | 0.1396      | 0.5883      | 0.063*     |
| C9   | 0.3472 (5)  | 0.9341 (9)  | 0.7401 (5)  | 0.054 (2)  |
| H9   | 0.3865      | 0.9766      | 0.7170      | 0.065*     |
| C11  | 0.2715 (5)  | 0.9051 (8)  | 0.8408 (5)  | 0.0471 (18) |
| H11  | 0.2592      | 0.9286      | 0.8871      | 0.057*     |
| C28  | 0.4326 (4)  | 0.0685 (7)  | 0.4153 (4)  | 0.0395 (16) |
| H28  | 0.4436      | −0.0157     | 0.4023      | 0.047*     |
| C35  | 0.7050 (5)  | 0.4361 (9)  | 0.5645 (6)  | 0.052 (2)  |
| H35  | 0.7282      | 0.5052      | 0.5871      | 0.062*     |
| C13  | 0.1073 (4)  | 0.6497 (7)  | 0.7280 (4)  | 0.0360 (14) |
| H13A | 0.1096      | 0.6322      | 0.7785      | 0.043*     |
| H13B | 0.0837      | 0.7330      | 0.7215      | 0.043*     |
| C33  | 0.6447 (4)  | 0.3482 (7)  | 0.4637 (4)  | 0.0355 (15) |
| C10  | 0.3299 (6)  | 0.9636 (8)  | 0.8070 (6)  | 0.055 (2)  |
| H10  | 0.3583      | 1.0253      | 0.8308      | 0.066*     |
| C7   | 0.2484 (4)  | 0.7797 (7)  | 0.7387 (4)  | 0.0337 (14) |
| Atom | x   | y   | z   | U11 | U22 | U33 | U12 | U13 | U23 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| C12  | 0.2310 (5) | 0.8122 (8) | 0.8074 (4) | 0.0411 (16) |
| H12  | 0.1917 | 0.7707 | 0.8309 | 0.049* |
| C34  | 0.6760 (4) | 0.4487 (8) | 0.4988 (4) | 0.0402 (16) |
| H34  | 0.6774 | 0.5288 | 0.4768 | 0.048* |
| C15  | 0.0299 (5) | 0.5748 (11) | 0.6288 (5) | 0.054 (2) |
| H15  | 0.0366 | 0.6554 | 0.6084 | 0.065* |
| C38  | 0.6402 (4) | 0.2314 (9) | 0.4981 (5) | 0.0477 (19) |
| H38  | 0.6186 | 0.1612 | 0.4751 | 0.057* |
| C36  | 0.6994 (5) | 0.3173 (10) | 0.5976 (5) | 0.057 (2) |
| H36  | 0.7186 | 0.3070 | 0.6432 | 0.069* |
| C18  | 0.0010 (5) | 0.3420 (10) | 0.6875 (8) | 0.062 (3) |
| H18  | 0.0025 | 0.2619 | 0.7082 | 0.074* |
| C30  | 0.3549 (4) | 0.2173 (9) | 0.4743 (5) | 0.0460 (18) |
| H30  | 0.3116 | 0.2347 | 0.5008 | 0.055* |
| C6   | 0.2349 (5) | 0.4681 (8) | 0.7926 (5) | 0.051 (2) |
| H6   | 0.2010 | 0.5080 | 0.8233 | 0.061* |
| C29  | 0.3703 (4) | 0.0948 (8) | 0.4548 (4) | 0.0440 (18) |
| H29  | 0.3380 | 0.0286 | 0.4685 | 0.053* |
| C8   | 0.3063 (5) | 0.8403 (8) | 0.7055 (5) | 0.0463 (19) |
| H8   | 0.3186 | 0.8184 | 0.6590 | 0.056* |
| C23  | 0.4602 (7) | 0.4667 (12) | 0.1562 (6) | 0.072 (3) |
| H23  | 0.4468 | 0.4801 | 0.1091 | 0.086* |
| C20  | 0.5020 (4) | 0.4340 (7) | 0.2941 (4) | 0.0406 (17) |
| C2   | 0.2970 (5) | 0.4527 (9) | 0.6817 (6) | 0.055 (2) |
| H2   | 0.3046 | 0.4832 | 0.6358 | 0.066* |
| C24  | 0.4162 (8) | 0.5068 (11) | 0.2077 (6) | 0.074 (3) |
| H24  | 0.3699 | 0.5445 | 0.1967 | 0.088* |
| C22  | 0.5270 (7) | 0.4042 (15) | 0.1732 (6) | 0.074 (4) |
| H22  | 0.5583 | 0.3733 | 0.1374 | 0.089* |
| C32  | 0.6180 (4) | 0.3627 (7) | 0.3912 (4) | 0.0366 (14) |
| H32A | 0.6208 | 0.2803 | 0.3673 | 0.044* |
| H32B | 0.6510 | 0.4220 | 0.3662 | 0.044* |
| C25  | 0.4366 (6) | 0.4945 (10) | 0.2755 (5) | 0.061 (2) |
| H25  | 0.4054 | 0.5280 | 0.3109 | 0.073* |
| C4   | 0.3264 (8) | 0.3052 (9) | 0.7701 (9) | 0.084 (4) |
| H4   | 0.3540 | 0.2345 | 0.7857 | 0.101* |
| C21  | 0.5468 (5) | 0.3881 (11) | 0.2420 (5) | 0.056 (2) |
| H21  | 0.5915 | 0.3452 | 0.2534 | 0.067* |
| C17  | −0.0197 (6) | 0.3671 (14) | 0.6222 (7) | 0.075 (4) |
| H17  | −0.0458 | 0.3038 | 0.5973 | 0.090* |
| C3   | 0.3366 (7) | 0.3495 (11) | 0.7051 (9) | 0.081 (4) |
| H3   | 0.3713 | 0.3096 | 0.6751 | 0.097* |
| C16  | −0.0106 (6) | 0.4861 (17) | 0.5941 (6) | 0.079 (4) |
| H16  | −0.0326 | 0.5062 | 0.5506 | 0.095* |
| C5   | 0.2766 (8) | 0.3612 (10) | 0.8135 (8) | 0.075 (4) |
| H5   | 0.2696 | 0.3279 | 0.8589 | 0.090* |
### Atomic displacement parameters (Å²)

|     | \( U^{11} \)   | \( U^{22} \)   | \( U^{33} \)   | \( U^{12} \)   | \( U^{13} \)   | \( U^{23} \)   |
|-----|----------------|----------------|----------------|----------------|----------------|----------------|
| Ag1 | 0.0474 (3)     | 0.0544 (3)     | 0.0350 (2)     | −0.0033 (2)    | 0.0018 (2)     | 0.0002 (3)     |
| Ag2 | 0.0444 (3)     | 0.0335 (3)     | 0.0547 (3)     | −0.0016 (2)    | 0.0037 (2)     | −0.0057 (3)    |
| P1  | 0.0242 (7)     | 0.0301 (8)     | 0.0335 (8)     | 0.0013 (6)     | −0.0005 (6)    | −0.0039 (7)    |
| P2  | 0.0254 (7)     | 0.0310 (8)     | 0.0448 (9)     | −0.0035 (7)    | 0.0029 (7)     | −0.0018 (7)    |
| O1  | 0.059 (4)      | 0.049 (3)      | 0.045 (3)      | 0.016 (3)      | 0.001 (3)      | −0.004 (3)     |
| O2  | 0.041 (3)      | 0.058 (4)      | 0.048 (3)      | 0.002 (3)      | −0.002 (2)     | −0.010 (3)     |
| N1  | 0.061 (3)      | 0.034 (3)      | 0.044 (3)      | 0.005 (2)      | 0.002 (2)      | −0.003 (2)     |
| O3  | 0.039 (3)      | 0.034 (3)      | 0.041 (3)      | 0.004 (2)      | 0.002 (2)      | 0.006 (2)      |
| N2  | 0.038 (3)      | 0.038 (4)      | 0.069 (5)      | −0.001 (3)     | 0.020 (3)      | −0.004 (3)     |
| O5  | 0.072 (5)      | 0.054 (4)      | 0.074 (5)      | −0.006 (3)     | 0.000 (3)      | 0.006 (3)      |
| O4  | 0.060 (4)      | 0.050 (4)      | 0.092 (6)      | 0.016 (3)      | 0.035 (4)      | 0.017 (4)      |
| O6  | 0.068 (5)      | 0.045 (4)      | 0.163 (10)     | −0.003 (3)     | 0.071 (6)      | 0.003 (5)      |
| C1  | 0.030 (3)      | 0.023 (3)      | 0.058 (4)      | −0.001 (2)     | −0.012 (3)     | −0.008 (3)     |
| C14 | 0.054 (4)      | 0.042 (4)      | 0.067 (6)      | −0.020 (4)     | −0.004 (4)     | −0.003 (4)     |
| C31 | 0.032 (3)      | 0.038 (4)      | 0.045 (4)      | 0.001 (3)      | −0.001 (3)     | 0.002 (3)      |
| C11 | 0.060 (5)      | 0.037 (4)      | 0.039 (4)      | −0.006 (3)     | 0.000 (3)      | 0.006 (3)      |
| C19 | 0.031 (3)      | 0.045 (4)      | 0.063 (5)      | −0.002 (3)     | −0.004 (3)     | −0.009 (4)     |
| C37 | 0.044 (4)      | 0.058 (5)      | 0.055 (5)      | 0.010 (4)      | 0.005 (4)      | 0.011 (5)      |
| C9  | 0.054 (5)      | 0.042 (4)      | 0.067 (6)      | −0.020 (4)     | −0.004 (4)     | −0.003 (4)     |
| C10 | 0.062 (5)      | 0.036 (4)      | 0.068 (6)      | −0.011 (4)     | −0.020 (5)     | 0.000 (4)      |
| C7  | 0.034 (3)      | 0.026 (3)      | 0.041 (4)      | 0.002 (2)      | −0.006 (3)     | 0.001 (3)      |
| C28 | 0.039 (4)      | 0.034 (4)      | 0.046 (4)      | −0.011 (3)     | −0.010 (3)     | 0.005 (3)      |
| C35 | 0.043 (4)      | 0.053 (5)      | 0.059 (5)      | 0.010 (4)      | 0.001 (4)      | −0.019 (5)     |
| C13 | 0.030 (3)      | 0.035 (4)      | 0.042 (4)      | 0.001 (3)      | −0.001 (3)     | 0.000 (3)      |
| C33 | 0.023 (3)      | 0.037 (3)      | 0.047 (4)      | −0.002 (3)     | 0.003 (3)      | −0.002 (3)     |
| C18 | 0.062 (5)      | 0.036 (4)      | 0.068 (6)      | −0.011 (4)     | −0.020 (5)     | 0.000 (4)      |
| C38 | 0.036 (4)      | 0.044 (4)      | 0.063 (5)      | −0.005 (3)     | 0.003 (3)      | 0.009 (4)      |
| C36 | 0.051 (5)      | 0.077 (7)      | 0.044 (4)      | 0.028 (5)      | 0.003 (4)      | 0.002 (4)      |
| C12 | 0.046 (4)      | 0.043 (4)      | 0.035 (4)      | −0.001 (3)     | −0.009 (3)     | −0.004 (3)     |
| C34 | 0.031 (3)      | 0.038 (4)      | 0.052 (4)      | 0.005 (3)      | −0.003 (3)     | −0.002 (3)     |
| C15 | 0.036 (4)      | 0.082 (6)      | 0.043 (4)      | −0.018 (4)     | 0.002 (3)      | −0.004 (5)     |
| C38 | 0.036 (4)      | 0.044 (4)      | 0.063 (5)      | −0.005 (3)     | 0.003 (3)      | 0.009 (4)      |
| C6  | 0.055 (5)      | 0.032 (4)      | 0.066 (5)      | −0.013 (3)     | −0.026 (4)     | 0.007 (4)      |
| C29 | 0.037 (4)      | 0.045 (4)      | 0.050 (5)      | −0.011 (3)     | −0.010 (3)     | 0.015 (3)      |
| C8  | 0.045 (4)      | 0.037 (4)      | 0.057 (5)      | −0.009 (3)     | 0.003 (4)      | 0.001 (4)      |
| C23 | 0.078 (7)      | 0.079 (8)      | 0.059 (6)      | −0.022 (6)     | −0.022 (5)     | 0.029 (6)      |
| C20 | 0.046 (4)      | 0.028 (4)      | 0.048 (4)      | −0.019 (3)     | −0.005 (3)     | 0.006 (3)      |
| C22 | 0.038 (4)      | 0.048 (5)      | 0.079 (7)      | 0.011 (3)      | −0.015 (4)     | −0.021 (5)     |
| C4  | 0.088 (8)      | 0.030 (4)      | 0.135 (12)     | 0.019 (5)      | −0.056 (8)     | −0.012 (6)     |
|       | (Å)     |       | (Å)     |       |       | (Å)     |
|-------|---------|-------|---------|-------|-------|---------|
| C21   | 0.036 (4)| 0.084 (7)| 0.049 (5)| −0.008 (4)| 0.001 (4)| 0.003 (4) |
| C17   | 0.046 (5)| 0.111 (10)| 0.070 (7)| −0.025 (6)| 0.002 (5)| −0.047 (7) |
| C3    | 0.069 (7)| 0.050 (6)| 0.125 (12)| 0.029 (5)| −0.033 (7)| −0.022 (7) |
| C16   | 0.052 (5)| 0.138 (13)| 0.048 (5)| −0.043 (7)| −0.001 (4)| −0.021 (7) |
| C5    | 0.092 (8)| 0.044 (5)| 0.090 (9)| −0.019 (5)| −0.047 (7)| 0.022 (6) |

**Geometric parameters (Å, °)**

| Bond          | Distance (Å) | Bond          | Distance (Å) | Bond          | Distance (Å) |
|---------------|--------------|---------------|--------------|---------------|--------------|
| Ag1—P1        | 2.3506 (19)  | C37—C38       | 1.381 (14)   | Ag1—O1        | 2.380 (6)    |
| Ag1—O1        | 2.406 (7)    | C37—C36       | 1.358 (15)   | Ag1—O4        | 2.3612 (19)  |
| Ag1—O4        | 2.460 (6)    | C9—C10        | 1.360 (15)   | Ag2—P2        | 1.806 (7)    |
| Ag2—P2        | 2.95 (7)     | C9—C8         | 1.407 (12)   | Ag2—O2i       | 2.830 (7)    |
| Ag2—O2i       | 2.295 (7)    | C11—C10       | 1.384 (14)   | P1—C1         | 1.838 (8)    |
| P1—C1         | 2.32 (7)     | C11—C12       | 1.386 (12)   | P1—C13        | 1.830 (7)    |
| P1—C13        | 1.390 (7)    | C35—C34       | 1.375 (14)   | P1—C7         | 1.380 (7)    |
| P1—C7         | 1.830 (7)    | C35—C36       | 1.417 (15)   | P2—C26        | 1.383 (11)   |
| P2—C26        | 1.830 (7)    | C33—C34       | 1.383 (11)   | P2—C20        | 1.389 (9)    |
| P2—C20        | 1.829 (9)    | C33—C38       | 1.409 (11)   | P2—C32        | 1.384 (11)   |
| P2—C32        | 1.838 (7)    | C33—C32       | 1.484 (11)   | O1—N1         | 1.251 (9)    |
| O1—N1         | 1.243 (9)    | C7—C12        | 1.400 (11)   | O3—N1         | 1.243 (9)    |
| O3—N1         | 2.460 (6)    | C15—C16       | 1.366 (15)   | O2—Ag2ii      | 1.260 (8)    |
| O2—Ag2ii      | 1.260 (8)    | C18—C17       | 1.39 (2)     | C26—C31       | 1.398 (10)   |
| C26—C31       | 1.379 (11)   | C6—C5         | 1.420 (14)   | N2—O5         | 1.216 (10)   |
| C26—C27       | 1.394 (12)   | C24—C25       | 1.362 (15)   | N2—O4         | 1.249 (10)   |
| C26—C27       | 1.504 (10)   | C22—C21       | 1.381 (15)   | N2—O6         | 1.245 (10)   |
| C26—C27       | 1.377 (12)   | C4—C3         | 1.35 (2)     | C1—C6         | 1.391 (13)   |
| C1—C6         | 1.396 (12)   | C2—C3         | 1.383 (15)   | C1—C2         | 1.394 (12)   |
| C1—C2         | 1.394 (12)   | C24—C25       | 1.362 (15)   | C14—C19       | 1.504 (10)   |
| C14—C19       | 1.396 (12)   | C22—C21       | 1.381 (15)   | C14—C13       | 1.377 (12)   |
| C14—C13       | 1.379 (11)   | C4—C3         | 1.35 (2)     | C31—C30       | 1.389 (11)   |
| C31—C30       | 1.406 (10)   | C17—C16       | 1.38 (2)     | C27—C28       | 1.372 (13)   |

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| Bond          | Angle (°) | Bond          | Angle (°) | Bond          | Angle (°) |
|---------------|-----------|---------------|-----------|---------------|-----------|
| C7—P1—Ag1     | 113.5 (2) | C9—C10—C11   | 121.1 (8) |
| C7—P1—C13    | 104.5 (3) | C12—C7—P1    | 122.9 (6) |
| C6—P2—Ag2    | 115.7 (2) | C8—C7—P1     | 117.6 (6) |
| C6—P2—C32    | 104.9 (3) | C8—C7—C12    | 119.3 (7) |
| C20—P2—Ag2   | 109.2 (3) | C11—C12—C7   | 119.7 (8) |
| C20—P2—C26   | 103.7 (3) | C35—C34—C33  | 121.8 (8) |
| C20—P2—C32   | 104.7 (4) | C16—C15—C14  | 121.7 (11) |
| C2—P2—Ag2    | 117.3 (3) | C37—C38—C33  | 120.5 (8) |
| N1—O1—Ag1    | 100.8 (5) | C37—C36—C35  | 120.9 (10) |
| N1—O2—Ag2ii  | 99.5 (4)  | C19—C18—C17  | 120.6 (12) |
| O1—N1—O2     | 119.0 (7) | C29—C30—C31  | 120.9 (7)  |
| O3—N1—O1     | 121.9 (7) | C1—C6—C5     | 117.2 (11) |
| O3—N1—O2     | 119.0 (6) | C30—C29—C28  | 120.1 (7)  |
| C31—C26—P2   | 117.9 (5) | C7—C8—C9     | 120.4 (9)  |
| C27—C26—P2   | 121.6 (5) | C24—C23—C22  | 118.9 (10) |
| C27—C26—C31  | 120.4 (6) | C25—C20—P2   | 117.0 (7)  |
| O5—N2—O4     | 119.6 (7) | C21—C20—P2   | 124.8 (7)  |
| O5—N2—O6     | 119.7 (7) | C21—C20—C25  | 118.3 (9)  |
| O6—N2—O4     | 120.6 (8) | C3—C2—C1     | 120.2 (12) |
| N2—O4—Ag1    | 106.5 (5) | C23—C24—C25  | 121.3 (11) |
| N2—O6—Ag2    | 115.7 (6) | C21—C22—C23  | 120.0 (11) |
| C6—C1—P1     | 123.0 (6) | C33—C32—P2   | 112.4 (5)  |
| C6—C1—C2     | 120.1 (8) | C24—C25—C20  | 121.3 (11) |
| C2—C1—P1     | 116.7 (7) | C3—C4—C5     | 120.4 (10) |
| C19—C14—C13  | 121.8 (7) | C20—C21—C22  | 120.2 (10) |
| C15—C14—C19  | 118.3 (8) | C16—C17—C18  | 118.8 (9)  |
| C15—C14—C13  | 119.8 (8) | C4—C3—C2     | 120.5 (13) |
| C30—C31—C26  | 119.1 (7) | C15—C16—C17  | 120.1 (11) |
| C26—C27—C28  | 120.0 (7) | C4—C5—C6     | 121.6 (13) |

Symmetry codes: (i) x+1/2, −y+3/2, z; (ii) x−1/2, −y+3/2, z.