

Supporting Information

Experimental

The ^1H , ^{13}C and ^{195}Pt NMR spectra were recorded on a Bruker Avance DRX 500-MHz spectrometer. The operating frequencies and references, respectively, are shown in parentheses as follows: ^1H (500MHz, tetramethylsilane, SiMe_4), ^{13}C (125 MHz, TMS), and ^{195}Pt (107 MHz, aqueous Na_2PtCl_4). The chemical shifts and coupling constants are in parts per million and hertz, respectively. Electrospray ion mass spectra (ESI-MS) were recorded on a Hewlett-Packard Series 1100 spectrometer. 1-(*tert*-Butyl)imidazole and 1-(*isopropyl*)-imidazole were synthesized according to literature procedures.¹

X-ray intensity data were collected on the Oxford Diffraction Xcalibur CCD diffractometer with graphite monochromated $\text{Mo K}\alpha$ radiation ($\lambda = 0.71073 \text{ \AA}$) at temperature of 150(1), 120(2), and 150(1) K for **1**, **2**, and **3**, respectively. The data reduction, including the analytical numerical absorption correction [Clark, R. C.; Reid, J. S. *Acta Cryst* **1995**, *A51*, 887], was performed using the CrysAlis software package [Xcalibur CCD System: Empirical absorption correction (2008) CrysAlis-Software package, Oxford Diffraction Ltd.]. The structures were solved by direct methods (SHELXS97) and refined by full-matrix least-squares (SHELXL-97) [Sheldrick, G. M. *Acta Cryst* **2008**, *A64*, 112] on F^2 . The non-hydrogen atoms were refined anisotropically. All of the hydrogen atoms were positioned geometrically and refined with the riding model approximation, with $U_{\text{iso}}(\text{H}) = 1.2$ or $1.5 U_{\text{eq}}(\text{C})$. All calculations were carried out using the PLATON [Spek, A. L. *Acta Cryst.* **1990**, *A46*, C34. PLATON, A Multipurpose Crystallographic Tool, Utrecht University, Utrecht, The Netherlands]. For the molecular graphics the program SHELXTL was used. For complex **2**, a series of similarity and same restraints were applied to model the disordered acetone molecule.

Bis(imidazolium) Salts

The 1-alkyl-imidazoles and dibromomethane(1/2 equiv) were heated neat overnight in a pressure tube at 120 °C. The resulting solid was triturated with CH_2Cl_2 and washed with diethyl ether.

Preparation of [PtMe₂(Bis-NHC1)]

Ag_2O (323mg, 1.392 mmol) was added to a solution of 1,1'-methylene-3,3'-bis[*N*-(*tert*-butyl)imidazolium]dibromide (147mg, 0.348mmol) in CH_2Cl_2 (25 mL) under an inert atmosphere. After stirring for 45 min at room temperature, 0.5 equiv complex $[\text{Pt}_2\text{Me}_4(\mu\text{-SMe}_2)_2]$, (100mg, 0.147mmol), was added and the reaction was left to stirred to completion for another 2 h. The mixture was filtered through Celite and the solvent was removed under vacuum. The product was washed with ether (2 x 3 mL), and dried under vacuum. Yield 55 %; Anal. Calcd. for $\text{C}_{17}\text{H}_{30}\text{N}_4\text{Pt}$: C, 42.0; H, 6.2; N, 11.5; Found: C, 42.3; H, 6.1; N, 11.7. NMR data in acetone- d_6 : $\delta(^1\text{H})$ 0.23 (s, 6H, $^2J_{\text{PtH}} = 67.5$ Hz, 2 Me ligands); 1.7(s, 18H, , protons of *tert*-butyl groups); 5.3 (d, 1H, $^2J_{\text{HH}} = 12.2$ Hz, the proton H^a of the methylene linker); 6.1 (d, 1H, $J_{\text{PtH}} = 19.5$ Hz, $^2J_{\text{HH}} = 12.2$ Hz, the proton H^b of the methylene linker); 7.1, 7.3(two d, 4H, $^2J_{\text{HH}} = 2$ Hz, vinylic protons within the NHC groups); $\delta(^{13}\text{C})$ -7.7(s, $^1J_{\text{PtC}} = 606.1$ Hz, 2 Me ligands); 31, (s, *tert*-butyl group); 59(s, *tert*-butyl groups); 64(s, C atom of the methylene linker); 118(s, $^3J_{\text{PtC}} = 28.3$ Hz, vinylic C atoms within the NHC groups); 119 (s, $^3J_{\text{PtC}} = 18.6$ Hz, vinylic C atoms within the NHC groups); 185.8 (s, $^1J_{\text{PtC}} = 778.2$ Hz, C(carbene) atoms).

Complex **2** was prepared similarly by using the starting complex $[\text{Pt}_2\text{Me}_4(\mu\text{-SMe}_2)_2]$, and bisimidazolium salt, 1,1'-methylene-3,3'-bis[*N*-(*iso*-propyl)imidazolium]dibromide. Yield 70 %; Anal. Calcd. for $\text{C}_{38}\text{H}_{76}\text{Ag}_2\text{Br}_2\text{N}_8\text{Pt}_4\text{S}_2$: C, 24.4; H, 4.1; N, 6; Found: C, 24.6; H, 4; N, 6.2. NMR data in acetone- d_6 : $\delta(^1\text{H})$ 0.34 (s, 12H, $^2J_{\text{PtH}} = 91$ Hz, Me protons *trans* to SMe_2 Ligands); 0.25 (s, 12H, $^2J_{\text{PtH}} = 66$ Hz, Me protons *trans* to carbene ligands); 1.2-1.5 (28H, *iso*-propyl protons); 2.2 (1:8:18:8:1, 6H, $^3J_{\text{PtH}} = 18.3$ Hz, protons of SMe_2 Ligand); 2.8 (1:8:18:8:1, 6H, $^3J_{\text{PtH}} = 19.5$ Hz, protons of SMe_2 Ligand); 5.2, 5.6 (broad singlets, 4H, protons of the methylene linker); 7.5, 7.7 (broad singlets, vinylic protons within the NHC groups); $\delta(^{13}\text{C})$ -11.9 (s, $^1J_{\text{PtC}} = 736$, C of Me ligands *trans* to SMe_2 ligands); -7.9 (s, $^1J_{\text{PtC}} = 582$, C of Me ligands *trans* to carbene ligands); 23-25 (C atoms of *iso*-propyl groups); 50.9(s, C atoms of the *iso*-propyl groups) 62(s, C atom of the methylene linker); 118(s, vinylic C atoms within the NHC groups); 121 (s, vinylic C atoms within the NHC groups); 183 (s, no detectable $^1J_{\text{PtC}}$, C(carbene) atoms); $\delta(^{195}\text{Pt})$ -2420 (broad singlet with no detectable $^1J_{\text{PtAg}}$)

When an acetone solution containing complex **1** was allowed to crystallize by evaporation, decomposition occurred slowly to give crystals of the complex **3** within a day. Yield: ca. 65 %. Anal. Calcd. for $\text{C}_{16}\text{H}_{24}\text{N}_4\text{O}_3\text{Pt}$: C, 37.3 ; H, 4.6; N, 10.9; Found: C, 37.4; H, 4.6 ; N, 10.6. NMR data in DMSO- d_6 : $\delta(^1\text{H})$ 1.6(s, 18H, , protons of *tert*-butyl groups); 5.95 and 5.87 (AB, 2H, $^2J_{\text{HH}} = 12.6$ Hz, protons of the methylene linker); 7.4, 7.5(two d, 4H, $^2J_{\text{HH}} = 1.8$ Hz, vinylic protons within the NHC groups); $\delta(^{13}\text{C})$ 30.2(s, C atoms of the *tert*-butyl group); 58.9(s, C atoms of the *tert*-butyl groups) 62(s, C atom of the methylene linker); 119(s, vinylic C atoms within the NHC groups); 119.8 (s, vinylic C atoms within the NHC groups); 168 (s, C atom of carbonate ligand); 140 (s, $^1J_{\text{PtC}} = 1318$ Hz C(carbene) atoms).

References:

Gridnev, A. A.; Mihaltseva, I. M. *Synth. Commun.* **1994**, *24*, 1547-1555.

Table 1. Crystal data and structure refinement for Complex 1.

Identification code	1	
Empirical formula	C ₁₇ H ₃₀ N ₄ Pt	
Formula weight	485.54	
Temperature	150(1) K	
Wavelength	0.71073 Å	
Crystal system	Orthorhombic	
Space group	P n a 2(1)	
Unit cell dimensions	a = 11.5536(2) Å	α = 90° .
	b = 18.5617(3) Å	β = 90° .
	c = 8.6213(2) Å	γ = 90° .
Volume	1848.88(6) Å ³	
Z	4	
Density (calculated)	1.744 Mg/m ³	
Absorption coefficient	7.592 mm ⁻¹	
F(000)	952	
Crystal size	0.61 x 0.06 x 0.03 mm ³	
Theta range for data collection	4.16 to 30.99° .	
Index ranges	-16 ≤ h ≤ 16, -26 ≤ k ≤ 26, -12 ≤ l ≤ 12	
Reflections collected	27179	
Independent reflections	5842 [R(int) = 0.0332]	
Completeness to theta = 30.99°	99.6 %	
Absorption correction	Semi-empirical from equivalents	
Max. and min. transmission	1.00000 and 0.46615	
Refinement method	Full-matrix least-squares on F ²	
Data / restraints / parameters	5842 / 1 / 207	
Goodness-of-fit on F ²	1.055	
Final R indices [I > 2σ(I)]	R1 = 0.0218, wR2 = 0.0419	
R indices (all data)	R1 = 0.0309, wR2 = 0.0432	
Absolute structure parameter	0.007(6)	
Largest diff. peak and hole	1.352 and -0.734 e. Å ⁻³	

Table 2. Atomic coordinates ($\times 10^4$) and equivalent isotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for ?. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
C(10)	-12(3)	4979(2)	4078(4)	19(1)
C(12)	2504(2)	3806(2)	847(4)	15(1)
C(11)	2921(3)	5332(2)	674(4)	22(1)
C(22)	1536(3)	4072(2)	4180(4)	19(1)
C(42)	838(3)	3415(2)	6205(4)	25(1)
C(52)	35(3)	3903(2)	5863(4)	23(1)
C(62)	2861(3)	3077(2)	5224(4)	23(1)
C(82)	2790(4)	2505(3)	3985(5)	43(1)
C(72)	3894(3)	3574(2)	4945(6)	43(1)
C(92)	2982(4)	2731(2)	6813(4)	37(1)
C(21)	1949(3)	5503(2)	3934(4)	16(1)
C(41)	1696(3)	6432(2)	5581(4)	27(1)
C(51)	660(3)	6123(2)	5428(4)	25(1)
C(61)	3778(3)	6133(2)	4961(4)	20(1)
C(71)	4041(3)	5737(2)	6479(5)	37(1)
C(91)	4074(3)	6927(2)	5156(5)	38(1)
C(81)	4468(3)	5813(3)	3645(5)	38(1)
N(12)	460(2)	4305(2)	4638(3)	18(1)
N(32)	1770(2)	3520(2)	5172(3)	20(1)
N(11)	830(2)	5554(2)	4415(3)	16(1)
N(31)	2494(2)	6055(2)	4681(3)	20(1)
Pt(1)	2300(1)	4670(1)	2465(1)	17(1)

Table 3. Bond lengths [Å] and angles [°] for ?.

C(10)-N(12)	1.447(4)
C(10)-N(11)	1.473(4)
C(10)-H(101)	0.9900
C(10)-H(102)	0.9900
C(12)-Pt(1)	2.139(3)
C(12)-H(121)	0.9800
C(12)-H(122)	0.9800
C(12)-H(123)	0.9800
C(11)-Pt(1)	2.100(3)
C(11)-H(111)	0.9800
C(11)-H(112)	0.9800
C(11)-H(113)	0.9800
C(22)-N(32)	1.361(4)
C(22)-N(12)	1.374(4)
C(22)-Pt(1)	2.049(3)
C(42)-C(52)	1.329(5)
C(42)-N(32)	1.412(4)
C(42)-H(42)	0.9500
C(52)-N(12)	1.383(4)
C(52)-H(52)	0.9500
C(62)-N(32)	1.506(4)
C(62)-C(82)	1.509(5)
C(62)-C(92)	1.519(5)
C(62)-C(72)	1.527(5)
C(82)-H(823)	0.9800
C(82)-H(821)	0.9800
C(82)-H(822)	0.9800
C(72)-H(723)	0.9800
C(72)-H(721)	0.9800
C(72)-H(722)	0.9800
C(92)-H(923)	0.9800
C(92)-H(921)	0.9800
C(92)-H(922)	0.9800
C(21)-N(11)	1.362(4)
C(21)-N(31)	1.364(4)
C(21)-Pt(1)	2.039(3)
C(41)-C(51)	1.333(5)
C(41)-N(31)	1.393(4)

C(41)-H(41)	0.9500
C(51)-N(11)	1.385(4)
C(51)-H(51)	0.9500
C(61)-C(81)	1.508(5)
C(61)-N(31)	1.510(4)
C(61)-C(91)	1.523(5)
C(61)-C(71)	1.532(5)
C(71)-H(713)	0.9800
C(71)-H(711)	0.9800
C(71)-H(712)	0.9800
C(91)-H(913)	0.9800
C(91)-H(911)	0.9800
C(91)-H(912)	0.9800
C(81)-H(813)	0.9800
C(81)-H(811)	0.9800
C(81)-H(812)	0.9800
N(12)-C(10)-N(11)	108.1(3)
N(12)-C(10)-H(101)	110.1
N(11)-C(10)-H(101)	110.1
N(12)-C(10)-H(102)	110.1
N(11)-C(10)-H(102)	110.1
H(101)-C(10)-H(102)	108.4
Pt(1)-C(12)-H(121)	109.5
Pt(1)-C(12)-H(122)	109.5
H(121)-C(12)-H(122)	109.5
Pt(1)-C(12)-H(123)	109.5
H(121)-C(12)-H(123)	109.5
H(122)-C(12)-H(123)	109.5
Pt(1)-C(11)-H(111)	109.5
Pt(1)-C(11)-H(112)	109.5
H(111)-C(11)-H(112)	109.5
Pt(1)-C(11)-H(113)	109.5
H(111)-C(11)-H(113)	109.5
H(112)-C(11)-H(113)	109.5
N(32)-C(22)-N(12)	103.7(3)
N(32)-C(22)-Pt(1)	140.8(2)
N(12)-C(22)-Pt(1)	115.2(2)
C(52)-C(42)-N(32)	107.3(3)
C(52)-C(42)-H(42)	126.3

N(32)-C(42)-H(42)	126.3
C(42)-C(52)-N(12)	106.9(3)
C(42)-C(52)-H(52)	126.6
N(12)-C(52)-H(52)	126.6
N(32)-C(62)-C(82)	108.5(3)
N(32)-C(62)-C(92)	109.6(3)
C(82)-C(62)-C(92)	110.2(3)
N(32)-C(62)-C(72)	108.6(3)
C(82)-C(62)-C(72)	110.9(3)
C(92)-C(62)-C(72)	109.0(3)
C(62)-C(82)-H(823)	109.5
C(62)-C(82)-H(821)	109.5
H(823)-C(82)-H(821)	109.5
C(62)-C(82)-H(822)	109.5
H(823)-C(82)-H(822)	109.5
H(821)-C(82)-H(822)	109.5
C(62)-C(72)-H(723)	109.5
C(62)-C(72)-H(721)	109.5
H(723)-C(72)-H(721)	109.5
C(62)-C(72)-H(722)	109.5
H(723)-C(72)-H(722)	109.5
H(721)-C(72)-H(722)	109.5
C(62)-C(92)-H(923)	109.5
C(62)-C(92)-H(921)	109.5
H(923)-C(92)-H(921)	109.5
C(62)-C(92)-H(922)	109.5
H(923)-C(92)-H(922)	109.5
H(921)-C(92)-H(922)	109.5
N(11)-C(21)-N(31)	104.0(3)
N(11)-C(21)-Pt(1)	115.5(2)
N(31)-C(21)-Pt(1)	140.5(2)
C(51)-C(41)-N(31)	108.8(3)
C(51)-C(41)-H(41)	125.6
N(31)-C(41)-H(41)	125.6
C(41)-C(51)-N(11)	105.3(3)
C(41)-C(51)-H(51)	127.4
N(11)-C(51)-H(51)	127.4
C(81)-C(61)-N(31)	111.2(3)
C(81)-C(61)-C(91)	110.2(3)
N(31)-C(61)-C(91)	109.3(3)

C(81)-C(61)-C(71)	110.4(3)
N(31)-C(61)-C(71)	106.6(3)
C(91)-C(61)-C(71)	109.0(3)
C(61)-C(71)-H(713)	109.5
C(61)-C(71)-H(711)	109.5
H(713)-C(71)-H(711)	109.5
C(61)-C(71)-H(712)	109.5
H(713)-C(71)-H(712)	109.5
H(711)-C(71)-H(712)	109.5
C(61)-C(91)-H(913)	109.5
C(61)-C(91)-H(911)	109.5
H(913)-C(91)-H(911)	109.5
C(61)-C(91)-H(912)	109.5
H(913)-C(91)-H(912)	109.5
H(911)-C(91)-H(912)	109.5
C(61)-C(81)-H(813)	109.5
C(61)-C(81)-H(811)	109.5
H(813)-C(81)-H(811)	109.5
C(61)-C(81)-H(812)	109.5
H(813)-C(81)-H(812)	109.5
H(811)-C(81)-H(812)	109.5
C(22)-N(12)-C(52)	111.7(3)
C(22)-N(12)-C(10)	121.2(3)
C(52)-N(12)-C(10)	126.0(3)
C(22)-N(32)-C(42)	110.4(3)
C(22)-N(32)-C(62)	126.6(3)
C(42)-N(32)-C(62)	122.9(3)
C(21)-N(11)-C(51)	112.3(3)
C(21)-N(11)-C(10)	121.1(3)
C(51)-N(11)-C(10)	125.8(3)
C(21)-N(31)-C(41)	109.6(3)
C(21)-N(31)-C(61)	126.9(3)
C(41)-N(31)-C(61)	120.9(3)
C(21)-Pt(1)-C(22)	82.95(13)
C(21)-Pt(1)-C(11)	94.64(14)
C(22)-Pt(1)-C(11)	174.31(13)
C(21)-Pt(1)-C(12)	174.62(12)
C(22)-Pt(1)-C(12)	96.40(12)
C(11)-Pt(1)-C(12)	85.52(14)

Symmetry transformations used to generate equivalent atoms:

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

	U ¹¹	U ²²	U ³³	U ²³	U ¹³	U ¹²
C(10)	13(2)	20(2)	25(2)	-1(1)	1(1)	0(1)
C(12)	3(1)	22(2)	20(2)	-5(1)	1(1)	0(1)
C(11)	16(2)	29(2)	21(2)	0(1)	2(1)	1(1)
C(22)	17(2)	16(2)	24(2)	-6(1)	1(1)	-2(1)
C(42)	26(2)	25(2)	25(2)	5(2)	5(1)	-2(1)
C(52)	20(2)	22(2)	25(2)	-1(1)	7(1)	-4(1)
C(62)	15(2)	24(2)	30(2)	-1(1)	1(1)	7(1)
C(82)	54(3)	38(2)	39(2)	-14(2)	-11(2)	21(2)
C(72)	20(2)	43(3)	66(3)	14(2)	-3(2)	3(2)
C(92)	37(2)	46(3)	27(2)	5(2)	0(2)	14(2)
C(21)	13(1)	17(2)	18(1)	0(1)	-1(1)	3(1)
C(41)	18(2)	28(2)	36(2)	-16(2)	2(1)	3(1)
C(51)	18(2)	28(2)	28(2)	-6(2)	4(1)	7(1)
C(61)	14(2)	24(2)	22(2)	-6(1)	-3(1)	-1(1)
C(71)	28(2)	45(3)	36(2)	14(2)	-4(2)	-3(2)
C(91)	25(2)	28(2)	61(3)	3(2)	-7(2)	-5(2)
C(81)	17(2)	60(3)	36(2)	-18(2)	2(2)	-5(2)
N(12)	13(1)	21(2)	20(1)	-1(1)	5(1)	-1(1)
N(32)	18(1)	17(1)	24(1)	0(1)	3(1)	1(1)
N(11)	10(1)	15(1)	24(1)	-2(1)	0(1)	1(1)
N(31)	12(1)	23(2)	25(1)	-6(1)	1(1)	0(1)
Pt(1)	11(1)	21(1)	17(1)	-2(1)	2(1)	1(1)

Table 5. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($\text{\AA}^2 \times 10^{-3}$) for ?.

	x	y	z	U(eq)
H(101)	-757	5082	4601	23
H(102)	-154	4950	2947	23
H(121)	1953	3421	1094	23
H(122)	3295	3617	912	23
H(123)	2358	3983	-206	23
H(111)	2707	5834	885	33
H(112)	2581	5180	-314	33
H(113)	3766	5292	617	33
H(42)	793	3061	6999	30
H(52)	-691	3963	6363	27
H(823)	2135	2185	4202	65
H(821)	3508	2224	3977	65
H(822)	2680	2734	2971	65
H(723)	3844	3779	3900	64
H(721)	4613	3298	5045	64
H(722)	3887	3964	5712	64
H(923)	3025	3107	7608	55
H(921)	3690	2440	6842	55
H(922)	2311	2422	7013	55
H(41)	1862	6842	6201	33
H(51)	-43	6264	5912	30
H(713)	3586	5950	7322	55
H(711)	4867	5780	6717	55
H(712)	3838	5227	6369	55
H(913)	3749	7202	4289	57
H(911)	4917	6987	5172	57
H(912)	3747	7105	6133	57
H(813)	4310	5296	3576	57
H(811)	5296	5889	3836	57
H(812)	4248	6047	2670	57

Table 6. Torsion angles [$^{\circ}$] for ?.

N(32)-C(42)-C(52)-N(12)	0.0(4)
N(31)-C(41)-C(51)-N(11)	-0.4(4)
N(32)-C(22)-N(12)-C(52)	-0.8(3)
Pt(1)-C(22)-N(12)-C(52)	-176.2(2)
N(32)-C(22)-N(12)-C(10)	167.6(3)
Pt(1)-C(22)-N(12)-C(10)	-7.7(4)
C(42)-C(52)-N(12)-C(22)	0.5(4)
C(42)-C(52)-N(12)-C(10)	-167.2(3)
N(11)-C(10)-N(12)-C(22)	-54.4(4)
N(11)-C(10)-N(12)-C(52)	112.3(3)
N(12)-C(22)-N(32)-C(42)	0.8(3)
Pt(1)-C(22)-N(32)-C(42)	174.1(3)
N(12)-C(22)-N(32)-C(62)	-178.3(3)
Pt(1)-C(22)-N(32)-C(62)	-5.0(6)
C(52)-C(42)-N(32)-C(22)	-0.5(4)
C(52)-C(42)-N(32)-C(62)	178.6(3)
C(82)-C(62)-N(32)-C(22)	-81.3(4)
C(92)-C(62)-N(32)-C(22)	158.4(3)
C(72)-C(62)-N(32)-C(22)	39.4(5)
C(82)-C(62)-N(32)-C(42)	99.8(4)
C(92)-C(62)-N(32)-C(42)	-20.6(5)
C(72)-C(62)-N(32)-C(42)	-139.6(3)
N(31)-C(21)-N(11)-C(51)	0.5(4)
Pt(1)-C(21)-N(11)-C(51)	179.0(2)
N(31)-C(21)-N(11)-C(10)	-169.6(3)
Pt(1)-C(21)-N(11)-C(10)	8.9(4)
C(41)-C(51)-N(11)-C(21)	-0.1(4)
C(41)-C(51)-N(11)-C(10)	169.4(3)
N(12)-C(10)-N(11)-C(21)	54.1(4)
N(12)-C(10)-N(11)-C(51)	-114.6(3)
N(11)-C(21)-N(31)-C(41)	-0.7(4)
Pt(1)-C(21)-N(31)-C(41)	-178.6(3)
N(11)-C(21)-N(31)-C(61)	160.8(3)
Pt(1)-C(21)-N(31)-C(61)	-17.1(6)
C(51)-C(41)-N(31)-C(21)	0.7(4)
C(51)-C(41)-N(31)-C(61)	-162.1(3)
C(81)-C(61)-N(31)-C(21)	33.1(5)
C(91)-C(61)-N(31)-C(21)	155.1(3)

C(71)-C(61)-N(31)-C(21)	-87.2(4)
C(81)-C(61)-N(31)-C(41)	-167.3(3)
C(91)-C(61)-N(31)-C(41)	-45.4(5)
C(71)-C(61)-N(31)-C(41)	72.3(4)
N(11)-C(21)-Pt(1)-C(22)	-53.0(2)
N(31)-C(21)-Pt(1)-C(22)	124.7(4)
N(11)-C(21)-Pt(1)-C(11)	121.8(3)
N(31)-C(21)-Pt(1)-C(11)	-60.5(4)
N(11)-C(21)-Pt(1)-C(12)	30.3(14)
N(31)-C(21)-Pt(1)-C(12)	-152.0(12)
N(32)-C(22)-Pt(1)-C(21)	-120.1(4)
N(12)-C(22)-Pt(1)-C(21)	52.7(2)
N(32)-C(22)-Pt(1)-C(11)	174.6(11)
N(12)-C(22)-Pt(1)-C(11)	-12.6(14)
N(32)-C(22)-Pt(1)-C(12)	65.2(4)
N(12)-C(22)-Pt(1)-C(12)	-121.9(2)

Symmetry transformations used to generate equivalent atoms:

Table 1. Crystal data and structure refinement for complex **2**.

Identification code	2	
Empirical formula	C ₄₇ H ₉₄ Ag ₂ Br ₂ N ₈ O ₃ Pt ₄ S ₂	
Formula weight	2039.34	
Temperature	150(1) K	
Wavelength	0.71073 Å	
Crystal system	Triclinic	
Space group	P -1	
Unit cell dimensions	a = 9.8360(3) Å	α = 74.311(3)°
	b = 12.2936(4) Å	β = 85.741(2)°
	c = 13.7271(4) Å	γ = 79.721(3)°
Volume	1571.80(8) Å ³	
Z	1	
Density (calculated)	2.154 Mg/m ³	
Absorption coefficient	10.856 mm ⁻¹	
F(000)	964	
Crystal size	0.25 x 0.10 x 0.05 mm ³	
Theta range for data collection	4.21 to 29.07°	
Index ranges	-13 ≤ h ≤ 11, -13 ≤ k ≤ 16, -18 ≤ l ≤ 17	
Reflections collected	12100	
Independent reflections	7113 [R(int) = 0.0335]	
Completeness to theta = 25.00°	99.5 %	
Absorption correction	Semi-empirical from equivalents	
Max. and min. transmission	1.00000 and 0.38402	
Refinement method	Full-matrix least-squares on F ²	
Data / restraints / parameters	7113 / 114 / 339	
Goodness-of-fit on F ²	0.871	
Final R indices [I > 2σ(I)]	R1 = 0.0279, wR2 = 0.0486	
R indices (all data)	R1 = 0.0457, wR2 = 0.0507	
Largest diff. peak and hole	1.558 and -1.064 e Å ⁻³	

Table 2. Atomic coordinates ($\times 10^4$) and equivalent isotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for ?. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
C(10)	4065(5)	5482(4)	1456(4)	20(1)
C(11)	690(5)	8296(5)	227(4)	35(1)
C(12)	-1272(5)	7411(5)	1715(4)	30(1)
C(13)	1730(5)	2756(4)	2605(4)	32(1)
C(14)	-686(4)	4091(4)	3152(4)	24(1)
C(15)	-479(5)	6432(5)	4089(4)	27(1)
C(16)	2319(5)	6285(5)	4051(4)	29(1)
C(21)	2934(5)	7429(4)	1591(3)	17(1)
C(22)	3521(5)	4132(4)	3102(4)	18(1)
C(41)	4893(5)	8187(5)	1488(4)	28(1)
C(42)	5704(5)	3568(5)	3642(4)	29(1)
C(51)	5279(5)	7113(5)	1422(4)	28(1)
C(52)	5771(5)	4323(5)	2751(4)	28(1)
C(61)	2642(6)	9464(5)	1681(4)	30(1)
C(62)	3810(5)	2677(4)	4783(4)	24(1)
C(71)	2859(7)	9657(5)	2695(5)	56(2)
C(72)	4157(6)	2995(5)	5723(4)	37(2)
C(81)	2984(6)	10451(5)	813(5)	43(2)
C(82)	4403(6)	1434(5)	4821(5)	45(2)
Pt(1)	884(1)	7299(1)	1695(1)	20(1)
Pt(2)	1411(1)	4246(1)	3057(1)	18(1)
N(11)	4082(4)	6652(4)	1482(3)	20(1)
N(12)	4432(4)	4665(4)	2416(3)	21(1)
N(31)	3472(4)	8373(4)	1589(3)	23(1)
N(32)	4325(4)	3456(3)	3862(3)	21(1)
Ag(1)	324(1)	5413(1)	1083(1)	26(1)
Br(1)	-2040(1)	5083(1)	400(1)	40(1)
S(1)	1010(1)	6071(1)	3315(1)	19(1)
C(1)	7985(8)	1349(9)	2362(6)	108(3)
C(2)	6699(7)	1221(8)	1959(5)	82(3)
C(3)	5848(8)	2223(7)	1303(6)	78(2)
O(1)	6369(8)	295(7)	2176(7)	190(4)
C(4)	-790(20)	9230(20)	4961(18)	107(10)
C(5)	639(15)	9421(13)	5077(10)	62(4)
C(6)	600(30)	10610(18)	5160(20)	132(13)

O(2)

1630(12)

8735(10)

5097(8)

90(4)

Table 3. Bond lengths [Å] and angles [°] for ?.

C(10)-N(12)	1.451(6)
C(10)-N(11)	1.451(6)
C(10)-H(10A)	0.9900
C(10)-H(10B)	0.9900
C(11)-Pt(1)	2.059(5)
C(11)-H(11A)	0.9800
C(11)-H(11B)	0.9800
C(11)-H(11C)	0.9800
C(12)-Pt(1)	2.099(5)
C(12)-H(12A)	0.9800
C(12)-H(12B)	0.9800
C(12)-H(12C)	0.9800
C(13)-Pt(2)	2.054(5)
C(13)-H(13A)	0.9800
C(13)-H(13B)	0.9800
C(13)-H(13C)	0.9800
C(14)-Pt(2)	2.096(4)
C(14)-H(14A)	0.9800
C(14)-H(14B)	0.9800
C(14)-H(14C)	0.9800
C(15)-S(1)	1.806(5)
C(15)-H(15A)	0.9800
C(15)-H(15B)	0.9800
C(15)-H(15C)	0.9800
C(16)-S(1)	1.791(5)
C(16)-H(16A)	0.9800
C(16)-H(16B)	0.9800
C(16)-H(16C)	0.9800
C(21)-N(31)	1.359(6)
C(21)-N(11)	1.370(6)
C(21)-Pt(1)	2.042(5)
C(22)-N(32)	1.350(6)
C(22)-N(12)	1.367(6)
C(22)-Pt(2)	2.060(5)
C(41)-C(51)	1.333(7)
C(41)-N(31)	1.378(6)
C(41)-H(41)	0.9500
C(42)-C(52)	1.326(7)

C(42)-N(32)	1.390(6)
C(42)-H(42)	0.9500
C(51)-N(11)	1.383(6)
C(51)-H(51)	0.9500
C(52)-N(12)	1.382(6)
C(52)-H(52)	0.9500
C(61)-N(31)	1.471(6)
C(61)-C(71)	1.511(8)
C(61)-C(81)	1.520(7)
C(61)-H(61)	1.0000
C(62)-N(32)	1.482(6)
C(62)-C(82)	1.523(7)
C(62)-C(72)	1.523(7)
C(62)-H(62)	1.0000
C(71)-H(71A)	0.9800
C(71)-H(71B)	0.9800
C(71)-H(71C)	0.9800
C(72)-H(72A)	0.9800
C(72)-H(72B)	0.9800
C(72)-H(72C)	0.9800
C(81)-H(81A)	0.9800
C(81)-H(81B)	0.9800
C(81)-H(81C)	0.9800
C(82)-H(82A)	0.9800
C(82)-H(82B)	0.9800
C(82)-H(82C)	0.9800
Pt(1)-S(1)	2.3231(13)
Pt(1)-Ag(1)	2.8222(4)
Pt(2)-S(1)	2.3248(13)
Pt(2)-Ag(1)	2.8847(5)
Ag(1)-Br(1)#1	2.6753(7)
Ag(1)-Br(1)	2.7057(6)
Br(1)-Ag(1)#1	2.6753(7)
C(1)-C(2)	1.467(8)
C(1)-H(1A)	0.9800
C(1)-H(1B)	0.9800
C(1)-H(1C)	0.9800
C(2)-O(1)	1.194(9)
C(2)-C(3)	1.474(9)
C(3)-H(3A)	0.9800

C(3)-H(3B)	0.9800
C(3)-H(3C)	0.9800
C(4)-C(5)	1.492(14)
C(4)-H(4A)	0.9800
C(4)-H(4B)	0.9800
C(4)-H(4C)	0.9800
C(5)-O(2)	1.167(12)
C(5)-C(6)	1.491(14)
C(6)-H(6A)	0.9800
C(6)-H(6B)	0.9800
C(6)-H(6C)	0.9800
N(12)-C(10)-N(11)	112.2(4)
N(12)-C(10)-H(10A)	109.2
N(11)-C(10)-H(10A)	109.2
N(12)-C(10)-H(10B)	109.2
N(11)-C(10)-H(10B)	109.2
H(10A)-C(10)-H(10B)	107.9
Pt(1)-C(11)-H(11A)	109.5
Pt(1)-C(11)-H(11B)	109.5
H(11A)-C(11)-H(11B)	109.5
Pt(1)-C(11)-H(11C)	109.5
H(11A)-C(11)-H(11C)	109.5
H(11B)-C(11)-H(11C)	109.5
Pt(1)-C(12)-H(12A)	109.5
Pt(1)-C(12)-H(12B)	109.5
H(12A)-C(12)-H(12B)	109.5
Pt(1)-C(12)-H(12C)	109.5
H(12A)-C(12)-H(12C)	109.5
H(12B)-C(12)-H(12C)	109.5
Pt(2)-C(13)-H(13A)	109.5
Pt(2)-C(13)-H(13B)	109.5
H(13A)-C(13)-H(13B)	109.5
Pt(2)-C(13)-H(13C)	109.5
H(13A)-C(13)-H(13C)	109.5
H(13B)-C(13)-H(13C)	109.5
Pt(2)-C(14)-H(14A)	109.5
Pt(2)-C(14)-H(14B)	109.5
H(14A)-C(14)-H(14B)	109.5
Pt(2)-C(14)-H(14C)	109.5

H(14A)-C(14)-H(14C)	109.5
H(14B)-C(14)-H(14C)	109.5
S(1)-C(15)-H(15A)	109.5
S(1)-C(15)-H(15B)	109.5
H(15A)-C(15)-H(15B)	109.5
S(1)-C(15)-H(15C)	109.5
H(15A)-C(15)-H(15C)	109.5
H(15B)-C(15)-H(15C)	109.5
S(1)-C(16)-H(16A)	109.5
S(1)-C(16)-H(16B)	109.5
H(16A)-C(16)-H(16B)	109.5
S(1)-C(16)-H(16C)	109.5
H(16A)-C(16)-H(16C)	109.5
H(16B)-C(16)-H(16C)	109.5
N(31)-C(21)-N(11)	103.0(4)
N(31)-C(21)-Pt(1)	126.1(3)
N(11)-C(21)-Pt(1)	130.9(3)
N(32)-C(22)-N(12)	104.0(4)
N(32)-C(22)-Pt(2)	125.3(4)
N(12)-C(22)-Pt(2)	130.7(4)
C(51)-C(41)-N(31)	107.2(4)
C(51)-C(41)-H(41)	126.4
N(31)-C(41)-H(41)	126.4
C(52)-C(42)-N(32)	107.9(5)
C(52)-C(42)-H(42)	126.0
N(32)-C(42)-H(42)	126.0
C(41)-C(51)-N(11)	106.6(4)
C(41)-C(51)-H(51)	126.7
N(11)-C(51)-H(51)	126.7
C(42)-C(52)-N(12)	106.3(5)
C(42)-C(52)-H(52)	126.8
N(12)-C(52)-H(52)	126.8
N(31)-C(61)-C(71)	110.2(5)
N(31)-C(61)-C(81)	110.7(5)
C(71)-C(61)-C(81)	111.5(5)
N(31)-C(61)-H(61)	108.1
C(71)-C(61)-H(61)	108.1
C(81)-C(61)-H(61)	108.1
N(32)-C(62)-C(82)	110.5(4)
N(32)-C(62)-C(72)	110.0(4)

C(82)-C(62)-C(72)	111.6(5)
N(32)-C(62)-H(62)	108.2
C(82)-C(62)-H(62)	108.2
C(72)-C(62)-H(62)	108.2
C(61)-C(71)-H(71A)	109.5
C(61)-C(71)-H(71B)	109.5
H(71A)-C(71)-H(71B)	109.5
C(61)-C(71)-H(71C)	109.5
H(71A)-C(71)-H(71C)	109.5
H(71B)-C(71)-H(71C)	109.5
C(62)-C(72)-H(72A)	109.5
C(62)-C(72)-H(72B)	109.5
H(72A)-C(72)-H(72B)	109.5
C(62)-C(72)-H(72C)	109.5
H(72A)-C(72)-H(72C)	109.5
H(72B)-C(72)-H(72C)	109.5
C(61)-C(81)-H(81A)	109.5
C(61)-C(81)-H(81B)	109.5
H(81A)-C(81)-H(81B)	109.5
C(61)-C(81)-H(81C)	109.5
H(81A)-C(81)-H(81C)	109.5
H(81B)-C(81)-H(81C)	109.5
C(62)-C(82)-H(82A)	109.5
C(62)-C(82)-H(82B)	109.5
H(82A)-C(82)-H(82B)	109.5
C(62)-C(82)-H(82C)	109.5
H(82A)-C(82)-H(82C)	109.5
H(82B)-C(82)-H(82C)	109.5
C(21)-Pt(1)-C(11)	88.61(19)
C(21)-Pt(1)-C(12)	172.1(2)
C(11)-Pt(1)-C(12)	86.0(2)
C(21)-Pt(1)-S(1)	94.41(13)
C(11)-Pt(1)-S(1)	175.34(16)
C(12)-Pt(1)-S(1)	91.33(16)
C(21)-Pt(1)-Ag(1)	113.25(13)
C(11)-Pt(1)-Ag(1)	90.04(16)
C(12)-Pt(1)-Ag(1)	72.59(14)
S(1)-Pt(1)-Ag(1)	85.51(3)
C(13)-Pt(2)-C(22)	88.87(19)
C(13)-Pt(2)-C(14)	85.3(2)

C(22)-Pt(2)-C(14)	170.8(2)
C(13)-Pt(2)-S(1)	171.49(17)
C(22)-Pt(2)-S(1)	92.33(13)
C(14)-Pt(2)-S(1)	94.47(14)
C(13)-Pt(2)-Ag(1)	87.73(16)
C(22)-Pt(2)-Ag(1)	113.05(14)
C(14)-Pt(2)-Ag(1)	73.86(15)
S(1)-Pt(2)-Ag(1)	84.05(3)
C(21)-N(11)-C(51)	111.5(4)
C(21)-N(11)-C(10)	124.9(4)
C(51)-N(11)-C(10)	123.6(4)
C(22)-N(12)-C(52)	111.3(4)
C(22)-N(12)-C(10)	125.2(4)
C(52)-N(12)-C(10)	123.5(4)
C(21)-N(31)-C(41)	111.7(4)
C(21)-N(31)-C(61)	124.2(4)
C(41)-N(31)-C(61)	124.1(4)
C(22)-N(32)-C(42)	110.5(4)
C(22)-N(32)-C(62)	124.6(4)
C(42)-N(32)-C(62)	125.0(4)
Br(1)#1-Ag(1)-Br(1)	98.140(19)
Br(1)#1-Ag(1)-Pt(1)	112.988(19)
Br(1)-Ag(1)-Pt(1)	129.69(2)
Br(1)#1-Ag(1)-Pt(2)	111.80(2)
Br(1)-Ag(1)-Pt(2)	124.34(2)
Pt(1)-Ag(1)-Pt(2)	80.162(12)
Ag(1)#1-Br(1)-Ag(1)	81.860(19)
C(16)-S(1)-C(15)	98.4(2)
C(16)-S(1)-Pt(1)	113.15(19)
C(15)-S(1)-Pt(1)	111.16(19)
C(16)-S(1)-Pt(2)	112.31(18)
C(15)-S(1)-Pt(2)	117.66(18)
Pt(1)-S(1)-Pt(2)	104.49(5)
C(2)-C(1)-H(1A)	109.5
C(2)-C(1)-H(1B)	109.5
H(1A)-C(1)-H(1B)	109.5
C(2)-C(1)-H(1C)	109.5
H(1A)-C(1)-H(1C)	109.5
H(1B)-C(1)-H(1C)	109.5
O(1)-C(2)-C(1)	118.4(9)

O(1)-C(2)-C(3)	121.6(8)
C(1)-C(2)-C(3)	120.0(8)
C(2)-C(3)-H(3A)	109.5
C(2)-C(3)-H(3B)	109.5
H(3A)-C(3)-H(3B)	109.5
C(2)-C(3)-H(3C)	109.5
H(3A)-C(3)-H(3C)	109.5
H(3B)-C(3)-H(3C)	109.5
O(2)-C(5)-C(6)	125.8(14)
O(2)-C(5)-C(4)	124.4(14)
C(6)-C(5)-C(4)	109.8(16)

Symmetry transformations used to generate equivalent atoms:

#1 -x,-y+1,-z

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

	U ¹¹	U ²²	U ³³	U ²³	U ¹³	U ¹²
C(10)	17(3)	22(3)	21(3)	-9(2)	2(2)	-2(2)
C(11)	23(3)	42(4)	35(4)	2(3)	-3(3)	-6(3)
C(12)	20(3)	29(3)	40(4)	-10(3)	-7(2)	0(2)
C(13)	32(3)	21(3)	46(4)	-18(3)	-5(3)	-1(2)
C(14)	14(3)	27(3)	32(3)	-6(3)	-2(2)	-6(2)
C(15)	20(3)	29(3)	30(3)	-10(3)	6(2)	-1(2)
C(16)	23(3)	27(3)	39(4)	-14(3)	-2(2)	-1(2)
C(21)	19(3)	17(3)	10(3)	0(2)	-2(2)	1(2)
C(22)	19(3)	13(3)	24(3)	-10(2)	3(2)	0(2)
C(41)	15(3)	33(4)	40(4)	-9(3)	-1(2)	-13(2)
C(42)	15(3)	32(3)	37(4)	-8(3)	-9(2)	4(2)
C(51)	9(2)	38(4)	34(4)	-5(3)	-1(2)	-7(2)
C(52)	18(3)	29(3)	36(4)	-7(3)	-11(2)	-2(2)
C(61)	30(3)	18(3)	42(4)	-7(3)	-1(3)	-7(2)
C(62)	19(3)	27(3)	24(3)	-1(2)	-5(2)	-5(2)
C(71)	92(6)	27(4)	48(5)	-15(3)	11(4)	-3(4)
C(72)	29(3)	48(4)	30(4)	-5(3)	-9(3)	-6(3)
C(81)	39(4)	34(4)	49(4)	1(3)	-6(3)	-4(3)
C(82)	52(4)	29(4)	52(4)	-4(3)	-10(3)	-6(3)
Pt(1)	14(1)	20(1)	25(1)	-6(1)	-1(1)	-3(1)
Pt(2)	14(1)	20(1)	22(1)	-7(1)	-2(1)	-3(1)
N(11)	14(2)	24(3)	24(3)	-6(2)	-2(2)	-6(2)
N(12)	18(2)	22(3)	24(3)	-10(2)	-1(2)	-2(2)
N(31)	21(2)	21(3)	28(3)	-6(2)	4(2)	-7(2)
N(32)	14(2)	24(3)	23(3)	-4(2)	-4(2)	1(2)
Ag(1)	22(1)	34(1)	25(1)	-13(1)	-2(1)	-6(1)
Br(1)	24(1)	71(1)	36(1)	-29(1)	3(1)	-12(1)
S(1)	14(1)	23(1)	22(1)	-9(1)	1(1)	-3(1)
C(1)	105(7)	168(11)	66(6)	-51(7)	-7(5)	-26(6)
C(2)	75(6)	90(7)	99(7)	-41(5)	24(5)	-48(5)
C(3)	103(7)	79(6)	72(6)	-40(5)	13(4)	-41(5)
O(1)	116(6)	82(5)	355(14)	-18(7)	-17(7)	-30(5)
C(4)	89(10)	150(20)	120(20)	-80(20)	32(16)	-57(13)
C(5)	63(8)	73(10)	40(9)	1(8)	7(8)	-10(7)
C(6)	130(20)	76(14)	200(40)	-30(20)	-30(20)	-29(13)

O(2) 94(8) 93(10) 70(8) -21(7) 22(7) 8(7)

Table 5. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($\text{\AA}^2 \times 10^{-3}$) for ?.

	x	y	z	U(eq)
H(10A)	3130	5418	1279	24
H(10B)	4723	5293	921	24
H(11A)	1533	8628	8	53
H(11B)	-104	8912	189	53
H(11C)	550	7822	-216	53
H(12A)	-1711	8046	1995	44
H(12B)	-1531	6693	2136	44
H(12C)	-1581	7546	1024	44
H(13A)	1957	2926	1878	47
H(13B)	889	2409	2743	47
H(13C)	2496	2222	2979	47
H(14A)	-926	3887	2551	36
H(14B)	-1251	4821	3190	36
H(14C)	-862	3491	3759	36
H(15A)	-326	5995	4794	40
H(15B)	-1299	6244	3848	40
H(15C)	-620	7254	4044	40
H(16A)	2169	7088	4074	43
H(16B)	3231	6095	3742	43
H(16C)	2274	5789	4741	43
H(41)	5486	8723	1470	34
H(42)	6463	3173	4056	34
H(51)	6198	6737	1348	33
H(52)	6578	4578	2411	33
H(61)	1645	9412	1643	36
H(62)	2782	2776	4752	29
H(71A)	2701	8981	3235	84
H(71B)	2208	10327	2787	84
H(71C)	3808	9789	2721	84
H(72A)	5163	2897	5770	55
H(72B)	3778	2498	6326	55
H(72C)	3754	3796	5677	55
H(81A)	3941	10551	863	65
H(81B)	2358	11156	849	65

H(81C)	2875	10283	167	65
H(82A)	4232	1278	4181	68
H(82B)	3958	927	5381	68
H(82C)	5401	1299	4924	68
H(1A)	7794	1498	3030	163
H(1B)	8362	1991	1902	163
H(1C)	8657	644	2425	163
H(3A)	5587	2020	707	118
H(3B)	6379	2854	1085	118
H(3C)	5012	2461	1679	118
H(4A)	-976	9390	4240	161
H(4B)	-1458	9739	5269	161
H(4C)	-872	8430	5297	161
H(6A)	646	10598	5876	198
H(6B)	-267	11088	4886	198
H(6C)	1384	10926	4781	198

Table 6. Torsion angles [$^{\circ}$] for ?.

N(31)-C(41)-C(51)-N(11)	0.0(6)
N(32)-C(42)-C(52)-N(12)	-0.8(6)
N(31)-C(21)-Pt(1)-C(11)	73.3(4)
N(11)-C(21)-Pt(1)-C(11)	-104.9(5)
N(31)-C(21)-Pt(1)-C(12)	26.1(16)
N(11)-C(21)-Pt(1)-C(12)	-152.1(13)
N(31)-C(21)-Pt(1)-S(1)	-110.2(4)
N(11)-C(21)-Pt(1)-S(1)	71.6(4)
N(31)-C(21)-Pt(1)-Ag(1)	162.8(4)
N(11)-C(21)-Pt(1)-Ag(1)	-15.4(5)
N(32)-C(22)-Pt(2)-C(13)	-79.9(4)
N(12)-C(22)-Pt(2)-C(13)	99.0(5)
N(32)-C(22)-Pt(2)-C(14)	-29.3(14)
N(12)-C(22)-Pt(2)-C(14)	149.7(11)
N(32)-C(22)-Pt(2)-S(1)	108.5(4)
N(12)-C(22)-Pt(2)-S(1)	-72.5(4)
N(32)-C(22)-Pt(2)-Ag(1)	-167.0(4)
N(12)-C(22)-Pt(2)-Ag(1)	12.0(5)
N(31)-C(21)-N(11)-C(51)	0.3(5)
Pt(1)-C(21)-N(11)-C(51)	178.7(4)
N(31)-C(21)-N(11)-C(10)	179.0(4)
Pt(1)-C(21)-N(11)-C(10)	-2.5(7)
C(41)-C(51)-N(11)-C(21)	-0.2(6)
C(41)-C(51)-N(11)-C(10)	-179.0(4)
N(12)-C(10)-N(11)-C(21)	-100.9(5)
N(12)-C(10)-N(11)-C(51)	77.7(6)
N(32)-C(22)-N(12)-C(52)	-0.1(5)
Pt(2)-C(22)-N(12)-C(52)	-179.2(4)
N(32)-C(22)-N(12)-C(10)	179.7(4)
Pt(2)-C(22)-N(12)-C(10)	0.5(7)
C(42)-C(52)-N(12)-C(22)	0.6(6)
C(42)-C(52)-N(12)-C(10)	-179.2(4)
N(11)-C(10)-N(12)-C(22)	104.1(5)
N(11)-C(10)-N(12)-C(52)	-76.2(6)
N(11)-C(21)-N(31)-C(41)	-0.2(5)
Pt(1)-C(21)-N(31)-C(41)	-178.8(3)
N(11)-C(21)-N(31)-C(61)	179.6(4)
Pt(1)-C(21)-N(31)-C(61)	1.0(7)

C(51)-C(41)-N(31)-C(21)	0.1(6)
C(51)-C(41)-N(31)-C(61)	-179.7(5)
C(71)-C(61)-N(31)-C(21)	110.1(6)
C(81)-C(61)-N(31)-C(21)	-126.1(5)
C(71)-C(61)-N(31)-C(41)	-70.1(6)
C(81)-C(61)-N(31)-C(41)	53.7(7)
N(12)-C(22)-N(32)-C(42)	-0.4(5)
Pt(2)-C(22)-N(32)-C(42)	178.8(3)
N(12)-C(22)-N(32)-C(62)	-178.5(4)
Pt(2)-C(22)-N(32)-C(62)	0.7(7)
C(52)-C(42)-N(32)-C(22)	0.8(6)
C(52)-C(42)-N(32)-C(62)	178.8(4)
C(82)-C(62)-N(32)-C(22)	115.4(5)
C(72)-C(62)-N(32)-C(22)	-121.0(5)
C(82)-C(62)-N(32)-C(42)	-62.4(6)
C(72)-C(62)-N(32)-C(42)	61.3(6)
C(21)-Pt(1)-Ag(1)-Br(1)#1	-32.84(14)
C(11)-Pt(1)-Ag(1)-Br(1)#1	55.66(15)
C(12)-Pt(1)-Ag(1)-Br(1)#1	141.48(16)
S(1)-Pt(1)-Ag(1)-Br(1)#1	-125.72(4)
C(21)-Pt(1)-Ag(1)-Br(1)	-156.35(14)
C(11)-Pt(1)-Ag(1)-Br(1)	-67.84(15)
C(12)-Pt(1)-Ag(1)-Br(1)	17.98(16)
S(1)-Pt(1)-Ag(1)-Br(1)	110.78(4)
C(21)-Pt(1)-Ag(1)-Pt(2)	76.78(14)
C(11)-Pt(1)-Ag(1)-Pt(2)	165.28(15)
C(12)-Pt(1)-Ag(1)-Pt(2)	-108.90(16)
S(1)-Pt(1)-Ag(1)-Pt(2)	-16.10(3)
C(13)-Pt(2)-Ag(1)-Br(1)#1	-50.73(15)
C(22)-Pt(2)-Ag(1)-Br(1)#1	37.07(14)
C(14)-Pt(2)-Ag(1)-Br(1)#1	-136.51(15)
S(1)-Pt(2)-Ag(1)-Br(1)#1	127.07(3)
C(13)-Pt(2)-Ag(1)-Br(1)	66.52(15)
C(22)-Pt(2)-Ag(1)-Br(1)	154.32(14)
C(14)-Pt(2)-Ag(1)-Br(1)	-19.25(15)
S(1)-Pt(2)-Ag(1)-Br(1)	-115.67(4)
C(13)-Pt(2)-Ag(1)-Pt(1)	-161.68(15)
C(22)-Pt(2)-Ag(1)-Pt(1)	-73.88(14)
C(14)-Pt(2)-Ag(1)-Pt(1)	112.54(15)
S(1)-Pt(2)-Ag(1)-Pt(1)	16.12(3)

Br(1)#1-Ag(1)-Br(1)-Ag(1)#1	0.0
Pt(1)-Ag(1)-Br(1)-Ag(1)#1	129.15(3)
Pt(2)-Ag(1)-Br(1)-Ag(1)#1	-123.50(3)
C(21)-Pt(1)-S(1)-C(16)	29.9(2)
C(11)-Pt(1)-S(1)-C(16)	160(2)
C(12)-Pt(1)-S(1)-C(16)	-144.6(2)
Ag(1)-Pt(1)-S(1)-C(16)	142.97(19)
C(21)-Pt(1)-S(1)-C(15)	139.6(2)
C(11)-Pt(1)-S(1)-C(15)	-90(2)
C(12)-Pt(1)-S(1)-C(15)	-35.0(2)
Ag(1)-Pt(1)-S(1)-C(15)	-107.40(18)
C(21)-Pt(1)-S(1)-Pt(2)	-92.53(14)
C(11)-Pt(1)-S(1)-Pt(2)	38(2)
C(12)-Pt(1)-S(1)-Pt(2)	92.91(15)
Ag(1)-Pt(1)-S(1)-Pt(2)	20.50(4)
C(13)-Pt(2)-S(1)-C(16)	-128.1(10)
C(22)-Pt(2)-S(1)-C(16)	-30.2(2)
C(14)-Pt(2)-S(1)-C(16)	143.7(2)
Ag(1)-Pt(2)-S(1)-C(16)	-143.1(2)
C(13)-Pt(2)-S(1)-C(15)	118.7(10)
C(22)-Pt(2)-S(1)-C(15)	-143.3(2)
C(14)-Pt(2)-S(1)-C(15)	30.5(2)
Ag(1)-Pt(2)-S(1)-C(15)	103.7(2)
C(13)-Pt(2)-S(1)-Pt(1)	-5.1(10)
C(22)-Pt(2)-S(1)-Pt(1)	92.85(15)
C(14)-Pt(2)-S(1)-Pt(1)	-93.32(15)
Ag(1)-Pt(2)-S(1)-Pt(1)	-20.08(3)

Symmetry transformations used to generate equivalent atoms:

#1 -x,-y+1,-z

Table 1. Crystal data and structure refinement for complex **3**.

Identification code	3	
Empirical formula	C ₁₆ H ₃₀ N ₄ O ₆ Pt	
Formula weight	569.53	
Temperature	120(2) K	
Wavelength	0.71073 Å	
Crystal system	monoclinic	
Space group	P 2 ₁ /c	
Unit cell dimensions	a = 8.8501(2) Å	$\alpha = 90^\circ$
	b = 17.2896(4) Å	$\beta = 94.015(2)^\circ$
	c = 13.1079(2) Å	$\gamma = 90^\circ$
Volume	2000.78(7) Å ³	
Z	4	
Density (calculated)	1.891 Mg/m ³	
Absorption coefficient	7.052 mm ⁻¹	
F(000)	1120	
Crystal size	? x ? x ? mm ³	
Theta range for data collection	4.18 to 32.70°	
Index ranges	-12 ≤ h ≤ 12, -25 ≤ k ≤ 23, -18 ≤ l ≤ 19	
Reflections collected	13622	
Independent reflections	6565 [R(int) = 0.0335]	
Completeness to theta = 30.00°	99.7 %	
Refinement method	Full-matrix least-squares on F ²	
Data / restraints / parameters	6565 / 15 / 269	
Goodness-of-fit on F ²	1.004	
Final R indices [I > 2σ(I)]	R1 = 0.0386, wR2 = 0.0698	
R indices (all data)	R1 = 0.0622, wR2 = 0.0727	
Largest diff. peak and hole	2.316 and -1.507 e Å ⁻³	

Table 2. Atomic coordinates ($\times 10^4$) and equivalent isotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for ?. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
C(10)	6925(5)	8898(3)	2833(3)	24(1)
C(11)	6513(5)	6314(3)	686(3)	27(1)
C(21)	4676(4)	8221(3)	2090(3)	20(1)
C(22)	6848(4)	8715(3)	986(3)	20(1)
C(41)	2957(5)	8646(3)	3138(3)	26(1)
C(42)	7905(5)	9836(3)	529(4)	30(1)
C(51)	4287(5)	8961(3)	3467(3)	27(1)
C(52)	7908(5)	9840(3)	1547(4)	26(1)
C(61)	1925(5)	7735(3)	1738(3)	25(1)
C(62)	6987(5)	8937(3)	-944(3)	26(1)
C(71)	2246(5)	7670(3)	583(3)	31(1)
C(72)	5455(5)	8549(4)	-1145(3)	36(1)
C(81)	1862(6)	6967(3)	2245(4)	36(1)
C(82)	8267(6)	8391(3)	-1193(4)	38(1)
C(91)	447(5)	8174(4)	1799(4)	40(1)
C(92)	7035(7)	9668(4)	-1586(4)	47(2)
N(11)	5322(4)	8693(2)	2808(3)	22(1)
N(12)	7258(4)	9154(2)	1817(3)	22(1)
N(31)	3182(4)	8199(2)	2279(3)	21(1)
N(32)	7230(4)	9155(2)	175(3)	24(1)
O(1)	5372(4)	6521(2)	1227(2)	25(1)
O(2)	7254(3)	6917(2)	348(2)	25(1)
O(3)	6844(4)	5634(2)	515(3)	35(1)
Pt(1)	5953(1)	7688(1)	1138(1)	19(1)
O(1W)	2821(5)	5509(3)	864(3)	49(1)
O(2W)	9884(4)	6345(3)	-602(3)	57(1)
O(3W)	9882(6)	5141(3)	1367(4)	77(2)

Table 3. Bond lengths [Å] and angles [°] for ?.

C(10)-N(12)	1.452(5)
C(10)-N(11)	1.460(5)
C(10)-H(101)	0.9900
C(10)-H(102)	0.9900
C(11)-O(3)	1.236(6)
C(11)-O(1)	1.324(5)
C(11)-O(2)	1.324(6)
C(11)-Pt(1)	2.507(5)
C(21)-N(11)	1.344(5)
C(21)-N(31)	1.363(5)
C(21)-Pt(1)	1.969(4)
C(22)-N(12)	1.356(5)
C(22)-N(32)	1.369(6)
C(22)-Pt(1)	1.959(5)
C(41)-C(51)	1.340(6)
C(41)-N(31)	1.392(5)
C(41)-H(41)	0.9500
C(42)-C(52)	1.335(6)
C(42)-N(32)	1.386(6)
C(42)-H(42)	0.9500
C(51)-N(11)	1.382(5)
C(51)-H(51)	0.9500
C(52)-N(12)	1.375(6)
C(52)-H(52)	0.9500
C(61)-C(81)	1.487(7)
C(61)-N(31)	1.508(6)
C(61)-C(91)	1.520(6)
C(61)-C(71)	1.563(6)
C(62)-N(32)	1.515(6)
C(62)-C(72)	1.519(7)
C(62)-C(92)	1.521(7)
C(62)-C(82)	1.527(7)
C(71)-H(711)	0.9800
C(71)-H(712)	0.9800
C(71)-H(713)	0.9800
C(72)-H(721)	0.9800
C(72)-H(722)	0.9800
C(72)-H(723)	0.9800

C(81)-H(811)	0.9800
C(81)-H(812)	0.9800
C(81)-H(813)	0.9800
C(82)-H(821)	0.9800
C(82)-H(822)	0.9800
C(82)-H(823)	0.9800
C(91)-H(911)	0.9800
C(91)-H(912)	0.9800
C(91)-H(913)	0.9800
C(92)-H(921)	0.9800
C(92)-H(922)	0.9800
C(92)-H(923)	0.9800
O(1)-Pt(1)	2.088(3)
O(2)-Pt(1)	2.084(3)
O(1W)-H(11W)	0.887(5)
O(1W)-H(12W)	0.889(5)
O(2W)-H(21W)	0.892(5)
O(2W)-H(22W)	0.892(5)
O(3W)-H(31W)	0.891(5)
O(3W)-H(32W)	0.892(5)
N(12)-C(10)-N(11)	108.2(3)
N(12)-C(10)-H(101)	110.1
N(11)-C(10)-H(101)	110.1
N(12)-C(10)-H(102)	110.1
N(11)-C(10)-H(102)	110.1
H(101)-C(10)-H(102)	108.4
O(3)-C(11)-O(1)	123.7(5)
O(3)-C(11)-O(2)	124.0(4)
O(1)-C(11)-O(2)	112.3(4)
O(3)-C(11)-Pt(1)	176.2(4)
O(1)-C(11)-Pt(1)	56.3(2)
O(2)-C(11)-Pt(1)	56.2(2)
N(11)-C(21)-N(31)	105.1(3)
N(11)-C(21)-Pt(1)	119.5(3)
N(31)-C(21)-Pt(1)	135.2(3)
N(12)-C(22)-N(32)	104.3(4)
N(12)-C(22)-Pt(1)	120.8(3)
N(32)-C(22)-Pt(1)	134.9(3)
C(51)-C(41)-N(31)	108.3(4)

C(51)-C(41)-H(41)	125.9
N(31)-C(41)-H(41)	125.9
C(52)-C(42)-N(32)	108.0(4)
C(52)-C(42)-H(42)	126.0
N(32)-C(42)-H(42)	126.0
C(41)-C(51)-N(11)	105.6(4)
C(41)-C(51)-H(51)	127.2
N(11)-C(51)-H(51)	127.2
C(42)-C(52)-N(12)	106.4(4)
C(42)-C(52)-H(52)	126.8
N(12)-C(52)-H(52)	126.8
C(81)-C(61)-N(31)	108.3(4)
C(81)-C(61)-C(91)	111.3(4)
N(31)-C(61)-C(91)	108.6(4)
C(81)-C(61)-C(71)	112.6(4)
N(31)-C(61)-C(71)	108.4(4)
C(91)-C(61)-C(71)	107.6(4)
N(32)-C(62)-C(72)	110.0(3)
N(32)-C(62)-C(92)	108.8(4)
C(72)-C(62)-C(92)	109.3(4)
N(32)-C(62)-C(82)	107.7(4)
C(72)-C(62)-C(82)	110.9(4)
C(92)-C(62)-C(82)	110.2(4)
C(61)-C(71)-H(711)	109.5
C(61)-C(71)-H(712)	109.5
H(711)-C(71)-H(712)	109.5
C(61)-C(71)-H(713)	109.5
H(711)-C(71)-H(713)	109.5
H(712)-C(71)-H(713)	109.5
C(62)-C(72)-H(721)	109.5
C(62)-C(72)-H(722)	109.5
H(721)-C(72)-H(722)	109.5
C(62)-C(72)-H(723)	109.5
H(721)-C(72)-H(723)	109.5
H(722)-C(72)-H(723)	109.5
C(61)-C(81)-H(811)	109.5
C(61)-C(81)-H(812)	109.5
H(811)-C(81)-H(812)	109.5
C(61)-C(81)-H(813)	109.5
H(811)-C(81)-H(813)	109.5

H(812)-C(81)-H(813)	109.5
C(62)-C(82)-H(821)	109.5
C(62)-C(82)-H(822)	109.5
H(821)-C(82)-H(822)	109.5
C(62)-C(82)-H(823)	109.5
H(821)-C(82)-H(823)	109.5
H(822)-C(82)-H(823)	109.5
C(61)-C(91)-H(911)	109.5
C(61)-C(91)-H(912)	109.5
H(911)-C(91)-H(912)	109.5
C(61)-C(91)-H(913)	109.5
H(911)-C(91)-H(913)	109.5
H(912)-C(91)-H(913)	109.5
C(62)-C(92)-H(921)	109.5
C(62)-C(92)-H(922)	109.5
H(921)-C(92)-H(922)	109.5
C(62)-C(92)-H(923)	109.5
H(921)-C(92)-H(923)	109.5
H(922)-C(92)-H(923)	109.5
C(21)-N(11)-C(51)	111.9(4)
C(21)-N(11)-C(10)	121.9(3)
C(51)-N(11)-C(10)	126.2(4)
C(22)-N(12)-C(52)	111.7(4)
C(22)-N(12)-C(10)	120.4(4)
C(52)-N(12)-C(10)	127.9(4)
C(21)-N(31)-C(41)	109.1(4)
C(21)-N(31)-C(61)	128.5(4)
C(41)-N(31)-C(61)	122.3(3)
C(22)-N(32)-C(42)	109.7(4)
C(22)-N(32)-C(62)	126.0(4)
C(42)-N(32)-C(62)	124.3(4)
C(11)-O(1)-Pt(1)	91.8(3)
C(11)-O(2)-Pt(1)	92.0(3)
C(22)-Pt(1)-C(21)	83.98(17)
C(22)-Pt(1)-O(2)	106.75(15)
C(21)-Pt(1)-O(2)	167.21(16)
C(22)-Pt(1)-O(1)	169.79(14)
C(21)-Pt(1)-O(1)	105.16(15)
O(2)-Pt(1)-O(1)	63.63(12)
C(22)-Pt(1)-C(11)	138.31(17)

C(21)-Pt(1)-C(11)	136.40(17)
O(2)-Pt(1)-C(11)	31.85(14)
O(1)-Pt(1)-C(11)	31.85(13)
H(11W)-O(1W)-H(12W)	106.8(12)
H(21W)-O(2W)-H(22W)	105.0(12)
H(31W)-O(3W)-H(32W)	106.0(12)

Symmetry transformations used to generate equivalent atoms:

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

	U ¹¹	U ²²	U ³³	U ²³	U ¹³	U ¹²
C(10)	17(2)	27(3)	27(2)	-5(2)	0(2)	0(2)
C(11)	30(3)	27(3)	23(2)	0(2)	-1(2)	3(2)
C(21)	17(2)	21(3)	22(2)	0(2)	1(2)	1(2)
C(22)	14(2)	21(3)	26(2)	-5(2)	5(2)	5(2)
C(41)	22(2)	32(3)	25(2)	-3(2)	8(2)	-1(2)
C(42)	29(3)	22(3)	38(3)	1(2)	3(2)	-3(2)
C(51)	28(2)	28(3)	25(2)	-3(2)	7(2)	4(2)
C(52)	23(2)	19(3)	36(3)	-6(2)	2(2)	-4(2)
C(61)	15(2)	35(3)	26(2)	-9(2)	5(2)	11(2)
C(62)	27(2)	31(3)	20(2)	2(2)	4(2)	3(2)
C(71)	27(2)	39(3)	26(2)	-3(2)	0(2)	-2(2)
C(72)	33(3)	55(4)	21(2)	-1(2)	3(2)	-1(3)
C(81)	29(3)	36(3)	42(3)	-7(3)	8(2)	-8(2)
C(82)	34(3)	48(4)	32(3)	-5(2)	11(2)	7(3)
C(91)	20(2)	46(4)	53(3)	-11(3)	-2(2)	7(2)
C(92)	71(4)	39(4)	31(3)	8(3)	8(3)	-5(3)
N(11)	18(2)	24(2)	22(2)	-3(2)	3(1)	2(2)
N(12)	20(2)	23(2)	23(2)	-6(2)	1(1)	0(2)
N(31)	19(2)	24(2)	20(2)	0(2)	4(1)	2(2)
N(32)	22(2)	21(2)	28(2)	2(2)	3(2)	-1(2)
O(1)	32(2)	23(2)	22(2)	-3(1)	9(1)	4(1)
O(2)	28(2)	19(2)	28(2)	-1(1)	9(1)	4(1)
O(3)	50(2)	19(2)	37(2)	-2(2)	12(2)	9(2)
Pt(1)	17(1)	20(1)	19(1)	-1(1)	3(1)	1(1)
O(1W)	62(3)	35(3)	54(3)	-15(2)	32(2)	-14(2)
O(2W)	27(2)	84(4)	60(3)	-29(3)	13(2)	-1(2)
O(3W)	60(3)	70(4)	97(4)	15(3)	-19(3)	-5(3)

Table 5. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($^2 \times 10^{-3}$) for ?.

	x	y	z	U(eq)
H(11W)	3530(40)	5870(20)	920(40)	41(17)
H(101)	7152	9316	3336	29
H(102)	7557	8443	3037	29
H(41)	2022	8716	3440	31
H(42)	8298	10231	119	36
H(51)	4479	9297	4034	32
H(52)	8284	10237	1996	31
H(711)	1417	7387	214	46
H(712)	3199	7392	520	46
H(713)	2322	8189	292	46
H(721)	5233	8488	-1883	54
H(722)	4670	8869	-863	54
H(723)	5474	8039	-817	54
H(811)	1004	6671	1936	53
H(812)	1737	7040	2976	53
H(813)	2805	6685	2158	53
H(821)	8130	8235	-1912	56
H(822)	8250	7932	-755	56
H(823)	9241	8657	-1071	56
H(911)	-382	7879	1451	61
H(912)	527	8679	1467	61
H(913)	243	8249	2518	61
H(921)	6772	9541	-2306	70
H(922)	8056	9890	-1516	70
H(923)	6306	10044	-1352	70
H(12W)	3080(60)	5190(30)	380(40)	74
H(21W)	9080(50)	6500(30)	-290(40)	85
H(22W)	10010(70)	5851(13)	-420(50)	85
H(31W)	9010(40)	5390(40)	1250(60)	115
H(32W)	10570(60)	5410(40)	1050(60)	115

Table 6. Torsion angles [$^{\circ}$] for ?.

N(31)-C(41)-C(51)-N(11)	-0.7(5)
N(32)-C(42)-C(52)-N(12)	1.0(5)
N(31)-C(21)-N(11)-C(51)	1.3(5)
Pt(1)-C(21)-N(11)-C(51)	-174.4(3)
N(31)-C(21)-N(11)-C(10)	-176.9(4)
Pt(1)-C(21)-N(11)-C(10)	7.3(6)
C(41)-C(51)-N(11)-C(21)	-0.4(5)
C(41)-C(51)-N(11)-C(10)	177.8(4)
N(12)-C(10)-N(11)-C(21)	50.0(6)
N(12)-C(10)-N(11)-C(51)	-128.0(4)
N(32)-C(22)-N(12)-C(52)	-1.3(5)
Pt(1)-C(22)-N(12)-C(52)	177.9(3)
N(32)-C(22)-N(12)-C(10)	175.6(4)
Pt(1)-C(22)-N(12)-C(10)	-5.1(5)
C(42)-C(52)-N(12)-C(22)	0.2(5)
C(42)-C(52)-N(12)-C(10)	-176.5(4)
N(11)-C(10)-N(12)-C(22)	-51.0(5)
N(11)-C(10)-N(12)-C(52)	125.5(5)
N(11)-C(21)-N(31)-C(41)	-1.8(5)
Pt(1)-C(21)-N(31)-C(41)	173.0(4)
N(11)-C(21)-N(31)-C(61)	-177.3(4)
Pt(1)-C(21)-N(31)-C(61)	-2.6(7)
C(51)-C(41)-N(31)-C(21)	1.6(5)
C(51)-C(41)-N(31)-C(61)	177.5(4)
C(81)-C(61)-N(31)-C(21)	88.3(5)
C(91)-C(61)-N(31)-C(21)	-150.7(5)
C(71)-C(61)-N(31)-C(21)	-34.1(6)
C(81)-C(61)-N(31)-C(41)	-86.8(5)
C(91)-C(61)-N(31)-C(41)	34.2(6)
C(71)-C(61)-N(31)-C(41)	150.8(4)
N(12)-C(22)-N(32)-C(42)	2.0(5)
Pt(1)-C(22)-N(32)-C(42)	-177.1(4)
N(12)-C(22)-N(32)-C(62)	-179.0(4)
Pt(1)-C(22)-N(32)-C(62)	1.9(7)
C(52)-C(42)-N(32)-C(22)	-1.9(5)
C(52)-C(42)-N(32)-C(62)	179.0(4)
C(72)-C(62)-N(32)-C(22)	40.5(6)
C(92)-C(62)-N(32)-C(22)	160.2(4)

C(82)-C(62)-N(32)-C(22)	-80.4(5)
C(72)-C(62)-N(32)-C(42)	-140.6(5)
C(92)-C(62)-N(32)-C(42)	-20.9(6)
C(82)-C(62)-N(32)-C(42)	98.5(5)
O(3)-C(11)-O(1)-Pt(1)	175.5(4)
O(2)-C(11)-O(1)-Pt(1)	-4.7(4)
O(3)-C(11)-O(2)-Pt(1)	-175.5(4)
O(1)-C(11)-O(2)-Pt(1)	4.7(4)
N(12)-C(22)-Pt(1)-C(21)	46.9(3)
N(32)-C(22)-Pt(1)-C(21)	-134.1(4)
N(12)-C(22)-Pt(1)-O(2)	-126.0(3)
N(32)-C(22)-Pt(1)-O(2)	53.0(4)
N(12)-C(22)-Pt(1)-O(1)	-107.1(8)
N(32)-C(22)-Pt(1)-O(1)	71.9(10)
N(12)-C(22)-Pt(1)-C(11)	-120.7(3)
N(32)-C(22)-Pt(1)-C(11)	58.3(5)
N(11)-C(21)-Pt(1)-C(22)	-47.6(4)
N(31)-C(21)-Pt(1)-C(22)	138.2(5)
N(11)-C(21)-Pt(1)-O(2)	100.0(7)
N(31)-C(21)-Pt(1)-O(2)	-74.2(8)
N(11)-C(21)-Pt(1)-O(1)	127.7(3)
N(31)-C(21)-Pt(1)-O(1)	-46.5(5)
N(11)-C(21)-Pt(1)-C(11)	120.4(4)
N(31)-C(21)-Pt(1)-C(11)	-53.9(5)
C(11)-O(2)-Pt(1)-C(22)	173.2(3)
C(11)-O(2)-Pt(1)-C(21)	27.0(7)
C(11)-O(2)-Pt(1)-O(1)	-3.1(2)
C(11)-O(1)-Pt(1)-C(22)	-17.2(9)
C(11)-O(1)-Pt(1)-C(21)	-170.3(3)
C(11)-O(1)-Pt(1)-O(2)	3.1(2)
O(3)-C(11)-Pt(1)-C(22)	84(6)
O(1)-C(11)-Pt(1)-C(22)	175.5(2)
O(2)-C(11)-Pt(1)-C(22)	-9.7(4)
O(3)-C(11)-Pt(1)-C(21)	-78(6)
O(1)-C(11)-Pt(1)-C(21)	13.6(4)
O(2)-C(11)-Pt(1)-C(21)	-171.6(2)
O(3)-C(11)-Pt(1)-O(2)	94(6)
O(1)-C(11)-Pt(1)-O(2)	-174.8(4)
O(3)-C(11)-Pt(1)-O(1)	-91(6)
O(2)-C(11)-Pt(1)-O(1)	174.8(4)

Symmetry transformations used to generate equivalent atoms:

