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(Acetonitrile-κN)chlorido{2-[4-(3,5-difluorophenyl)-6-phenylpyridin-2-yl]phenyl-κ^2C^1,N}platinum(II)

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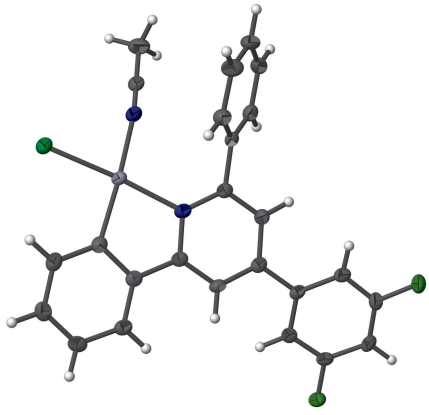
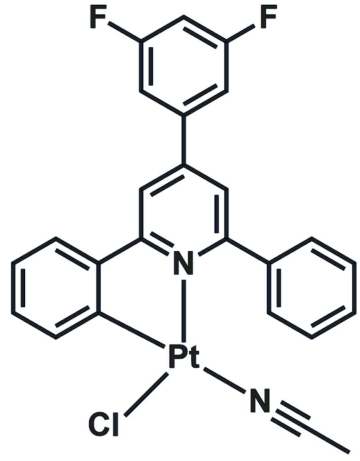
The title compound, [Pt($C_{23}H_{14}F_2N$)Cl(CH_3CN)], comprises of a Pt^{II} atom in a distorted square-planar coordination, defined by a *C*,*N*-chelating 4-(3,5-difluorophenyl)-2,6-diphenylpyridine ligand, a chlorido and an acetonitrile ligand. Hydrogen-bonding interactions between the H atoms of the 3,5-difluorophenyl ring and the acetonitrile ligand with Cl and F acceptor atoms of neighbouring ligands consolidate the packing.

3D view



Chemical scheme



Structure description

Platinum complexes have received attention because of their chemical and photophysical properties, such as high stabilities, emissions in the visible region, high fluorescent quantum yields and long excited lifetimes (Fang *et al.*, 2018). In this study, we report the crystal structure of a novel platinum(II) complex, [PtCl($C_{23}H_{14}F_2N$)(CH_3CN)].

The platinum(II) atom has a distorted square-planar coordination environment defined by a (*C*,*N*)-chelating 4-(3,5-difluorophenyl)-2,6-diphenylpyridine ligand, one chlorido ligand and one acetonitrile ligand (Fig. 1). Relevant bond lengths and angles are given in Table 1. The considerable distortion from planarity is reflected by the r.m.s. deviation of 0.1265 Å of the least-squares plane through Pt1, C1, N1, C2, with a highest deviation of 0.1641 (12) Å for C1. The chelating ligand is not planar, with dihedral angles between the central pyridine ring and the two phenyl rings of 3.88 (13)° for ring C1–C6 and of 52.97 (14)° for ring C18–C23; the dihedral angle between the central pyridine ring and the difluorophenyl ring amounts to 20.35 (13)°. The bond length between C9 and C10 of 1.487 (4) Å is intermediate between a single and double C—C bond and thus indicates a highly π-conjugated system (Coe, 2013). As shown in Fig. 2, there are intermolecular

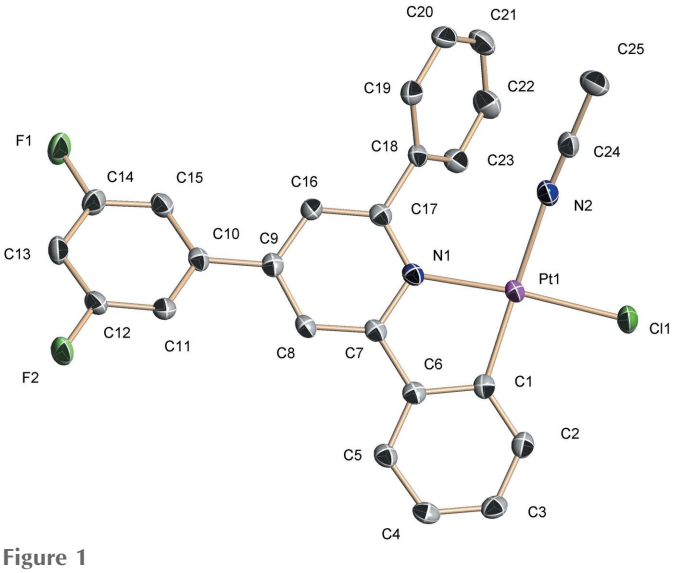


Figure 1
The molecular structure of the title compound, with the atom-numbering scheme. Displacement ellipsoids are drawn at the 30% probability level; H atoms were omitted for clarity.

hydrogen bonds between one H atom of the 3,5-difluorophenyl ring and the Cl atom, and between the acetonitrile ligand and F and Cl atoms of neighbouring molecules (Table 2), leading to the formation of a three-dimensional network.

Synthesis and crystallization

4-(3,5-Difluorophenyl)-2,6-diphenylpyridine 0.35 g (1 mmol), potassium hexachloridoplatinate 0.41 g (1 mmol) and 100 ml glacial acetic acid were added to a 250 ml round-bottom flask at room temperature and stirred for 10 min. After dissolution, the temperature was raised to 403 K for 72 h during which time the reaction mixture was slowly converted from a colourless liquid to a yellow solid. The solid was filtered when cooling to room temperature and washed by acetone. Yellow crystals for X-ray analysis were obtained from an acetonitrile solution.

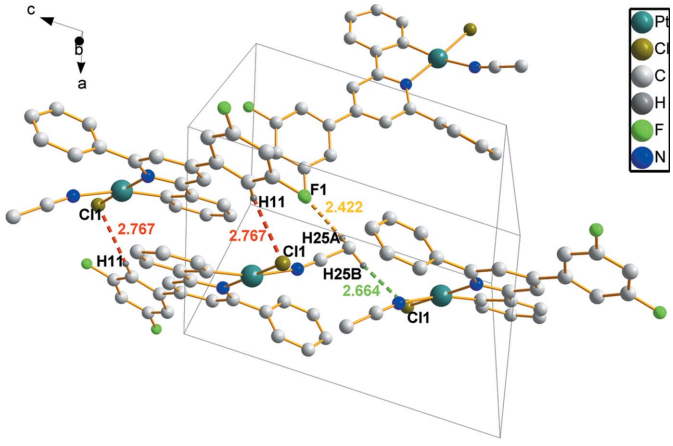


Figure 2
Hydrogen bonding in the title compound, shown as dashed lines.

Table 1
Selected geometric parameters (Å, °).

Pt1—C1	1.981 (3)	Pt1—N2	2.106 (2)
Pt1—N1	2.046 (2)	Pt1—Cl1	2.3036 (9)
C1—Pt1—N1	81.55 (10)	C1—Pt1—Cl1	93.84 (8)
C1—Pt1—N2	166.63 (10)	N1—Pt1—Cl1	174.90 (6)
N1—Pt1—N2	99.24 (9)	N2—Pt1—Cl1	85.75 (7)

Table 2
Hydrogen-bond geometry (Å, °).

D—H···A	D—H	H···A	D···A	D—H···A
C11—H11···Cl1^{i}	0.93	2.77	3.545 (3)	142
C25—H25A···F1^{ii}	0.96	2.42	3.202 (4)	138
C25—H25B···Cl1^{iii}	0.96	2.66	3.613 (3)	169

Symmetry codes: (i) $-x+1, -y+2, -z+2$; (ii) $x-1, -y+\frac{3}{2}, z-\frac{1}{2}$; (iii) $-x+1, -y+2, -z+1$.

Table 3
Experimental details.

Crystal data	
Chemical formula	$[Pt(C_{23}H_{14}F_2N)Cl(C_2H_3N)]$
M_r	613.94
Crystal system, space group	Monoclinic, $P2_1/c$
Temperature (K)	298
a, b, c (Å)	8.770 (5), 18.226 (5), 13.670 (5)
β (°)	104.414 (5)
V (Å^3)	2116.3 (15)
Z	4
Radiation type	Mo $K\alpha$
μ (mm^{-1})	6.79
Crystal size (mm)	0.30 × 0.20 × 0.20
Data collection	
Diffractometer	Bruker APEXII CCD
Absorption correction	Multi-scan (*SADABS*; Bruker, 2004)
T_{min}, T_{max}	0.235, 0.344
No. of measured, independent and observed [$I > 2\sigma(I)$] reflections	15021, 3835, 3578
R_{int}	0.023
(sin $\theta/\lambda)_{max}$ (Å^{-1})	0.600
Refinement	
$R[F^2 > 2\sigma(F^2)]$, $wR(F^2)$, S	0.016, 0.040, 1.07
No. of reflections	3835
No. of parameters	281
H-atom treatment	H-atom parameters constrained
$\Delta\rho_{max}$, $\Delta\rho_{min}$ (e Å^{-3})	0.63, −0.60

Computer programs: *APEX2* and *SAINT* (Bruker, 2004), *SHELXT2014* (Sheldrick, 2015*a*), *SHELXL2018* (Sheldrick, 2015*b*), *DIAMOND* (Brandenburg, 2016) and *publCIF* (Westrip, 2010).

Refinement

Crystal data, data collection and structure refinement details are summarized in Table 3.

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full crystallographic data

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Crystal data

$[Pt(C_{23}H_{14}F_2N)Cl(C_2H_3N)]$
M_r = 613.94
Monoclinic, $P2_1/c$
a = 8.770 (5) Å
b = 18.226 (5) Å
c = 13.670 (5) Å
β = 104.414 (5)°
V = 2116.3 (15) Å^3
Z = 4
$F(000)$ = 1176
D_x = 1.927 Mg m^{-3}
Mo $K\alpha$ radiation, λ = 0.71069 Å
Cell parameters from 9960 reflections
θ = 2.2–27.2°
μ = 6.79 mm^{-1}
T = 298 K
Block, yellow
0.30 × 0.20 × 0.20 mm

Data collection

Bruker APEXII CCD diffractometer
ω scans
Absorption correction: multi-scan (*SADABS*; Bruker, 2004)
T_{min} = 0.235, T_{max} = 0.344
15021 measured reflections
3835 independent reflections
3578 reflections with $I > 2\sigma(I)$
R_{int} = 0.023
θ_{max} = 25.3°, θ_{min} = 1.9°
h = −10→10
k = −21→18
l = −16→16

Refinement

Refinement on F^2
Least-squares matrix: full
$R[F^2 > 2\sigma(F^2)]$ = 0.016
$wR(F^2)$ = 0.040
S = 1.07
3835 reflections
281 parameters
0 restraints
Hydrogen site location: inferred from neighbouring sites
H-atom parameters constrained
$w = 1/[\sigma^2(F_o^2) + (0.016P)^2 + 2.1931P]$ where $P = (F_o^2 + 2F_c^2)/3$
$(\Delta/\sigma)_{max}$ = 0.009
$\Delta\rho_{max}$ = 0.63 e Å^{-3}
$\Delta\rho_{min}$ = −0.60 e Å^{-3}

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.

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

	x	*y*	*z*	U_{iso}*/U_{eq}
Pt1	0.55963 (2)	1.05151 (2)	0.78384 (2)	0.02038 (5)
Cl1	0.38721 (9)	1.13087 (4)	0.68065 (5)	0.03611 (18)
C14	1.1855 (3)	0.76355 (16)	1.1856 (2)	0.0275 (6)
C5	0.6207 (3)	1.09210 (15)	1.0927 (2)	0.0231 (6)
H5	0.670223	1.066195	1.150455	0.028*
C23	0.8746 (3)	0.98091 (17)	0.7086 (2)	0.0260 (6)
H23	0.887401	1.027274	0.737952	0.031*
C2	0.4788 (3)	1.17075 (15)	0.9194 (2)	0.0250 (6)
H2	0.432728	1.198285	0.862429	0.030*
C9	0.8932 (3)	0.89937 (15)	1.04021 (19)	0.0212 (5)
F1	1.3038 (2)	0.72059 (11)	1.16971 (13)	0.0432 (5)
C21	0.8798 (4)	0.90177 (19)	0.5687 (2)	0.0361 (7)
H21	0.896266	0.894923	0.504660	0.043*
C4	0.5330 (3)	1.15460 (15)	1.1003 (2)	0.0250 (6)
H4	0.519379	1.169482	1.162604	0.030*
C15	1.1063 (3)	0.80721 (15)	1.1077 (2)	0.0248 (6)
H15	1.134651	0.808001	1.046567	0.030*
C3	0.4662 (3)	1.19436 (15)	1.0137 (2)	0.0259 (6)
H3	0.412038	1.237496	1.018825	0.031*
C24	0.4648 (4)	0.94075 (16)	0.5940 (2)	0.0259 (6)
C1	0.5593 (3)	1.10670 (14)	0.90866 (19)	0.0205 (5)
C22	0.9030 (4)	0.97014 (19)	0.6141 (2)	0.0347 (7)
H22	0.937678	1.009018	0.581218	0.042*
N1	0.7183 (3)	0.98863 (12)	0.88429 (16)	0.0199 (5)
C7	0.7222 (3)	1.00335 (14)	0.98306 (19)	0.0192 (5)
C18	0.8269 (3)	0.92247 (15)	0.75956 (19)	0.0211 (6)
C16	0.8928 (3)	0.88772 (15)	0.93942 (19)	0.0220 (6)
H16	0.949692	0.848666	0.922713	0.026*
N2	0.5145 (3)	0.98045 (14)	0.65843 (17)	0.0260 (5)
C25	0.4001 (4)	0.88949 (18)	0.5126 (2)	0.0363 (7)
H25A	0.400044	0.840932	0.539824	0.054*
H25B	0.463395	0.890171	0.464547	0.054*
H25C	0.294251	0.903555	0.479812	0.054*
C17	0.8092 (3)	0.93322 (14)	0.8635 (2)	0.0202 (6)
C10	0.9817 (3)	0.85061 (14)	1.12207 (19)	0.0197 (5)
C6	0.6342 (3)	1.06843 (14)	0.9978 (2)	0.0204 (6)
C20	0.8323 (4)	0.84396 (18)	0.6188 (2)	0.0327 (7)
H20	0.816887	0.798020	0.588359	0.039*
C19	0.8072 (3)	0.85342 (16)	0.7143 (2)	0.0266 (6)
H19	0.777268	0.813748	0.748059	0.032*
C11	0.9428 (3)	0.84817 (16)	1.21572 (18)	0.0234 (6)
H11	0.859429	0.875703	1.226834	0.028*
C8	0.8095 (3)	0.95953 (14)	1.06091 (19)	0.0201 (6)
H8	0.811555	0.970849	1.127560	0.024*
C12	1.0303 (3)	0.80438 (16)	1.29028 (19)	0.0248 (6)

C13	1.1537 (3)	0.76078 (17)	1.2789 (2)	0.0282 (6)
H13	1.211236	0.731568	1.330846	0.034*
F2	0.9943 (2)	0.80220 (10)	1.38172 (12)	0.0373 (4)

Atomic displacement parameters (Å²)

	U^{11}	U^{22}	U^{33}	U^{12}	U^{13}	U^{23}
Pt1	0.02230 (7)	0.02281 (7)	0.01527 (6)	0.00164 (4)	0.00324 (4)	0.00162 (4)
Cl1	0.0398 (4)	0.0472 (5)	0.0205 (3)	0.0205 (4)	0.0060 (3)	0.0072 (3)
C14	0.0213 (14)	0.0318 (16)	0.0297 (15)	0.0065 (12)	0.0070 (12)	0.0021 (12)
C5	0.0257 (15)	0.0208 (14)	0.0207 (13)	−0.0047 (11)	0.0022 (11)	−0.0020 (11)
C23	0.0274 (15)	0.0274 (16)	0.0227 (14)	−0.0006 (12)	0.0053 (12)	−0.0015 (11)
C2	0.0235 (15)	0.0223 (15)	0.0270 (14)	0.0003 (11)	0.0022 (11)	0.0025 (11)
C9	0.0211 (14)	0.0197 (14)	0.0211 (13)	−0.0035 (11)	0.0024 (11)	0.0007 (11)
F1	0.0396 (10)	0.0612 (13)	0.0312 (9)	0.0285 (10)	0.0135 (8)	0.0136 (9)
C21	0.0363 (18)	0.053 (2)	0.0191 (14)	0.0089 (15)	0.0072 (13)	−0.0036 (14)
C4	0.0260 (15)	0.0247 (15)	0.0238 (14)	−0.0061 (12)	0.0053 (11)	−0.0075 (11)
C15	0.0266 (15)	0.0295 (16)	0.0183 (13)	0.0005 (12)	0.0056 (11)	0.0016 (11)
C3	0.0241 (15)	0.0194 (14)	0.0327 (15)	−0.0011 (12)	0.0040 (12)	−0.0060 (12)
C24	0.0288 (16)	0.0291 (16)	0.0197 (14)	0.0047 (12)	0.0060 (12)	0.0050 (12)
C1	0.0194 (13)	0.0198 (14)	0.0221 (13)	−0.0028 (11)	0.0049 (10)	0.0022 (11)
C22	0.0418 (19)	0.0403 (18)	0.0242 (15)	−0.0002 (15)	0.0126 (14)	0.0050 (13)
N1	0.0225 (12)	0.0183 (11)	0.0177 (11)	−0.0040 (9)	0.0027 (9)	−0.0010 (9)
C7	0.0201 (14)	0.0177 (13)	0.0191 (13)	−0.0059 (11)	0.0033 (10)	−0.0015 (10)
C18	0.0180 (13)	0.0255 (14)	0.0178 (13)	0.0031 (11)	0.0008 (10)	−0.0008 (11)
C16	0.0254 (14)	0.0182 (14)	0.0217 (13)	0.0018 (11)	0.0045 (11)	0.0000 (11)
N2	0.0251 (13)	0.0322 (14)	0.0197 (12)	0.0038 (11)	0.0039 (10)	0.0029 (11)
C25	0.051 (2)	0.0323 (18)	0.0257 (15)	−0.0007 (15)	0.0088 (14)	−0.0035 (13)
C17	0.0200 (14)	0.0198 (14)	0.0197 (13)	−0.0040 (11)	0.0028 (11)	−0.0018 (10)
C10	0.0194 (13)	0.0194 (13)	0.0180 (12)	−0.0048 (11)	0.0001 (10)	−0.0005 (10)
C6	0.0201 (14)	0.0178 (13)	0.0223 (13)	−0.0057 (11)	0.0036 (11)	−0.0015 (10)
C20	0.0320 (17)	0.0352 (17)	0.0266 (15)	0.0082 (14)	−0.0007 (12)	−0.0118 (13)
C19	0.0256 (15)	0.0268 (15)	0.0242 (14)	0.0040 (12)	0.0005 (11)	−0.0013 (12)
C11	0.0266 (15)	0.0208 (14)	0.0223 (14)	0.0011 (11)	0.0051 (11)	−0.0010 (11)
C8	0.0236 (14)	0.0211 (14)	0.0148 (12)	−0.0039 (11)	0.0030 (10)	0.0002 (10)
C12	0.0295 (15)	0.0282 (16)	0.0170 (13)	0.0004 (12)	0.0062 (11)	0.0009 (11)
C13	0.0260 (15)	0.0338 (17)	0.0222 (14)	0.0062 (13)	0.0011 (11)	0.0067 (12)
F2	0.0452 (11)	0.0492 (11)	0.0194 (8)	0.0183 (9)	0.0115 (8)	0.0097 (8)

Geometric parameters (Å, º)

Pt1—C1	1.981 (3)	C3—H3	0.9300
Pt1—N1	2.046 (2)	C24—N2	1.139 (4)
Pt1—N2	2.106 (2)	C24—C25	1.456 (4)
Pt1—Cl1	2.3036 (9)	C1—C6	1.416 (4)
C14—F1	1.360 (3)	C22—H22	0.9300
C14—C15	1.371 (4)	N1—C17	1.359 (3)
C14—C13	1.372 (4)	N1—C7	1.369 (3)

C5—C4	1.393 (4)	C7—C8	1.397 (4)
C5—C6	1.399 (4)	C7—C6	1.456 (4)
C5—H5	0.9300	C18—C19	1.394 (4)
C23—C22	1.389 (4)	C18—C17	1.481 (4)
C23—C18	1.392 (4)	C16—C17	1.387 (4)
C23—H23	0.9300	C16—H16	0.9300
C2—C3	1.389 (4)	C25—H25A	0.9600
C2—C1	1.390 (4)	C25—H25B	0.9600
C2—H2	0.9300	C25—H25C	0.9600
C9—C8	1.387 (4)	C10—C11	1.405 (4)
C9—C16	1.393 (4)	C20—C19	1.387 (4)
C9—C10	1.487 (4)	C20—H20	0.9300
C21—C20	1.377 (5)	C19—H19	0.9300
C21—C22	1.385 (5)	C11—C12	1.369 (4)
C21—H21	0.9300	C11—H11	0.9300
C4—C3	1.387 (4)	C8—H8	0.9300
C4—H4	0.9300	C12—F2	1.364 (3)
C15—C10	1.402 (4)	C12—C13	1.382 (4)
C15—H15	0.9300	C13—H13	0.9300

C1—Pt1—N1	81.55 (10)	N1—C7—C8	120.9 (2)
C1—Pt1—N2	166.63 (10)	N1—C7—C6	114.4 (2)
N1—Pt1—N2	99.24 (9)	C8—C7—C6	124.7 (2)
C1—Pt1—Cl1	93.84 (8)	C23—C18—C19	119.2 (3)
N1—Pt1—Cl1	174.90 (6)	C23—C18—C17	119.7 (2)
N2—Pt1—Cl1	85.75 (7)	C19—C18—C17	121.0 (2)
F1—C14—C15	118.0 (2)	C17—C16—C9	121.3 (3)
F1—C14—C13	117.8 (2)	C17—C16—H16	119.4
C15—C14—C13	124.2 (3)	C9—C16—H16	119.4
C4—C5—C6	119.8 (3)	C24—N2—Pt1	168.0 (2)
C4—C5—H5	120.1	C24—C25—H25A	109.5
C6—C5—H5	120.1	C24—C25—H25B	109.5
C22—C23—C18	120.2 (3)	H25A—C25—H25B	109.5
C22—C23—H23	119.9	C24—C25—H25C	109.5
C18—C23—H23	119.9	H25A—C25—H25C	109.5
C3—C2—C1	121.2 (3)	H25B—C25—H25C	109.5
C3—C2—H2	119.4	N1—C17—C16	121.1 (2)
C1—C2—H2	119.4	N1—C17—C18	120.4 (2)
C8—C9—C16	116.8 (2)	C16—C17—C18	118.5 (2)
C8—C9—C10	121.5 (2)	C15—C10—C11	118.9 (2)
C16—C9—C10	121.7 (2)	C15—C10—C9	120.7 (2)
C20—C21—C22	119.6 (3)	C11—C10—C9	120.3 (2)
C20—C21—H21	120.2	C5—C6—C1	121.2 (3)
C22—C21—H21	120.2	C5—C6—C7	123.4 (2)
C3—C4—C5	119.2 (2)	C1—C6—C7	115.5 (2)
C3—C4—H4	120.4	C21—C20—C19	120.8 (3)
C5—C4—H4	120.4	C21—C20—H20	119.6
C14—C15—C10	118.7 (2)	C19—C20—H20	119.6

C14—C15—H15	120.6	C20—C19—C18	119.9 (3)
C10—C15—H15	120.6	C20—C19—H19	120.0
C4—C3—C2	121.0 (3)	C18—C19—H19	120.0
C4—C3—H3	119.5	C12—C11—C10	118.6 (3)
C2—C3—H3	119.5	C12—C11—H11	120.7
N2—C24—C25	179.2 (3)	C10—C11—H11	120.7
C2—C1—C6	117.5 (2)	C9—C8—C7	120.9 (2)
C2—C1—Pt1	128.8 (2)	C9—C8—H8	119.5
C6—C1—Pt1	113.04 (19)	C7—C8—H8	119.5
C21—C22—C23	120.3 (3)	F2—C12—C11	119.0 (2)
C21—C22—H22	119.9	F2—C12—C13	116.9 (2)
C23—C22—H22	119.9	C11—C12—C13	124.1 (2)
C17—N1—C7	118.7 (2)	C14—C13—C12	115.5 (3)
C17—N1—Pt1	127.75 (17)	C14—C13—H13	122.3
C7—N1—Pt1	113.46 (17)	C12—C13—H13	122.3

C6—C5—C4—C3	−2.9 (4)	C16—C9—C10—C15	21.0 (4)
F1—C14—C15—C10	178.6 (3)	C8—C9—C10—C11	21.4 (4)
C13—C14—C15—C10	−1.8 (5)	C16—C9—C10—C11	−159.8 (3)
C5—C4—C3—C2	3.3 (4)	C4—C5—C6—C1	−0.4 (4)
C1—C2—C3—C4	−0.2 (4)	C4—C5—C6—C7	−179.4 (2)
C3—C2—C1—C6	−3.0 (4)	C2—C1—C6—C5	3.3 (4)
C3—C2—C1—Pt1	166.9 (2)	Pt1—C1—C6—C5	−168.2 (2)
C20—C21—C22—C23	−1.7 (5)	C2—C1—C6—C7	−177.6 (2)
C18—C23—C22—C21	1.8 (5)	Pt1—C1—C6—C7	10.9 (3)
C17—N1—C7—C8	−4.1 (4)	N1—C7—C6—C5	178.7 (2)
Pt1—N1—C7—C8	172.12 (19)	C8—C7—C6—C5	−3.6 (4)
C17—N1—C7—C6	173.7 (2)	N1—C7—C6—C1	−0.4 (3)
Pt1—N1—C7—C6	−10.0 (3)	C8—C7—C6—C1	177.4 (2)
C22—C23—C18—C19	−0.4 (4)	C22—C21—C20—C19	0.1 (5)
C22—C23—C18—C17	175.2 (3)	C21—C20—C19—C18	1.3 (4)
C8—C9—C16—C17	−1.6 (4)	C23—C18—C19—C20	−1.2 (4)
C10—C9—C16—C17	179.6 (2)	C17—C18—C19—C20	−176.7 (3)
C7—N1—C17—C16	6.1 (4)	C15—C10—C11—C12	1.2 (4)
Pt1—N1—C17—C16	−169.5 (2)	C9—C10—C11—C12	−177.9 (2)
C7—N1—C17—C18	−170.9 (2)	C16—C9—C8—C7	3.6 (4)
Pt1—N1—C17—C18	13.5 (4)	C10—C9—C8—C7	−177.7 (2)
C9—C16—C17—N1	−3.3 (4)	N1—C7—C8—C9	−0.8 (4)
C9—C16—C17—C18	173.8 (2)	C6—C7—C8—C9	−178.4 (2)
C23—C18—C17—N1	53.1 (4)	C10—C11—C12—F2	179.4 (2)
C19—C18—C17—N1	−131.4 (3)	C10—C11—C12—C13	−1.4 (4)
C23—C18—C17—C16	−124.0 (3)	F1—C14—C13—C12	−178.7 (3)
C19—C18—C17—C16	51.5 (4)	C15—C14—C13—C12	1.7 (5)
C14—C15—C10—C11	0.3 (4)	F2—C12—C13—C14	179.2 (3)
C14—C15—C10—C9	179.4 (3)	C11—C12—C13—C14	−0.1 (5)
C8—C9—C10—C15	−157.7 (3)		

Hydrogen-bond geometry (Å, º)

D—H···*A*	*D*—H	H···*A*	*D*···*A*	*D*—H···*A*
C11—H11···Cl1^{i}	0.93	2.77	3.545 (3)	142
C25—H25*A*···F1^{ii}	0.96	2.42	3.202 (4)	138
C25—H25*B*···Cl1^{iii}	0.96	2.66	3.613 (3)	169

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