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N′-[(1*E*)-1-(4-Chlorophenyl)ethylidene]-2-(2,3-dimethylanilino)benzohydrazide

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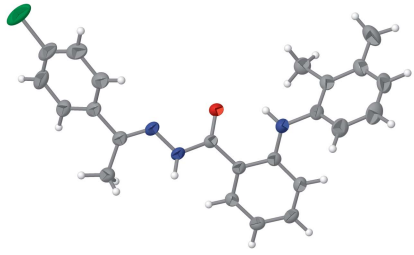
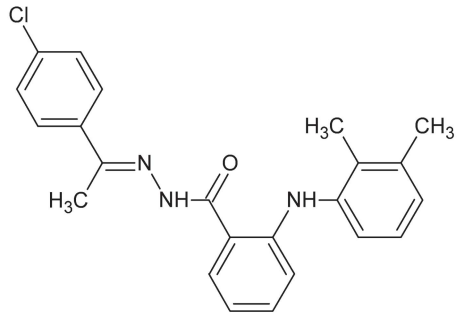
Structural data: full structural data are available from iucrdata.iucr.org

In the title compound, $C_{23}H_{22}ClN_3O$, the dihedral angle between the planes of the chlorophenyl and dimethylphenyl rings is 62.49 (10)°. These rings make dihedral angles of 21.11 (9) and 59.85 (9)°, respectively, with the central benzene ring. In the crystal, molecules are linked into a three-dimensional supramolecular network by N—H···N, N—H···O and C—H···O hydrogen bonds, and weak C—H···π interactions.

3D view



Chemical scheme



Structure description

Mefenamic acid (MA), or 2-[(2,3-dimethylphenyl)amino]benzoic acid, belongs to the family of *N*-arylanthranilic acids. It is one of the most widely used non-steroidal anti-inflammatory drugs (NSAIDs), having both anti-inflammatory and analgesic activities (Arun & Ashok, 2009). NSAIDs are associated with gastrointestinal ulcers, serious cardiovascular events and hypertension (Gupta & Kulkarni, 2013). Recently, it was found that masking the carboxylic acid group in the parent drug of NSAIDs led to safer prodrug profiles and enhanced the pharmacophoric efficacy (Mague *et al.*, 2014). In addition, some evidence showed that the hydrazone group present in the anti-inflammatory drug structure is behind its inhibitory character (Mohamed *et al.*, 2012). Further to our ongoing study of the functionalization of NSAIDs (Mohamed *et al.*, 2015*a*,*b*), the title compound was synthesized as a hydrazone profile incorporating MA as a core structure without a free carboxylic group.

The title molecule (Fig. 1) is twisted, with the dihedral angle between the planes of the chlorophenyl and dimethylphenyl rings being 62.49 (10)°. The chlorophenyl and dimethylphenyl rings make dihedral angles of 21.11 (9) and 59.85 (9)° with the central

Table 1
Hydrogen-bond geometry (Å, °).

*Cg*2 and *Cg*3 are the centroids of the C9–C14 and C15–C20 benzene rings, respectively.

D—H···*A*	*D*—H	H···*A*	*D*···*A*	*D*—H···*A*
N2—H2*N*···O1^{i}	0.86 (2)	2.53 (2)	3.3194 (18)	153 (2)
N2—H2*N*···N1^{i}	0.86 (2)	2.34 (2)	3.0563 (18)	141 (2)
N3—H3*N*···O1	0.86 (2)	1.99 (2)	2.691 (2)	139 (2)
C10—H10···O1^{i}	0.95	2.51	3.278 (2)	138
C12—H12···*Cg*3^{ii}	0.95	2.91	3.737 (2)	146
C21—H21*C*···*Cg*2^{iii}	0.98	2.94	3.720 (3)	138

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

benzene ring, respectively. The bridging fragment (C1/N1/N2/O1/C8) is not planar, with an N1—N2—C8—O1 torsion angle of 5.0 (2)°. All bond lengths and angles (Table 1) are comparable with those of related structures (Zhen & Han, 2005; Chantrapromma *et al.*, 2014; Fun *et al.*, 2011; Horkaew *et al.*, 2012).

In the crystal (Fig. 2), molecules are linked by N—H···N, N—H···O and C—H···O hydrogen bonds (Table 1) into a three-dimensional network. Weak C—H···π interactions (Table 1) are also present.

Synthesis and crystallization

The title compound was synthesized according to our previously reported procedure (Mohamed *et al.*, 2015*a*). The product was recrystallized from ethanol solution to yield yellow blocks of (I) (m.p. 473–477 K).

Refinement

Crystal data, data collection and structure refinement details are summarized in Table 2. H atoms on C atoms were placed in calculated positions and allowed to ride on their carrier atoms, with aromatic C—H = 0.95 Å and U_{iso}(H) = 1.2U_{eq}(C), and methyl C—H = 0.98 Å and U_{iso}(H) = 1.5U_{eq}(C). H atoms on N atoms were found in a difference Fourier map and were

Table 2
Experimental details.

Crystal data	
Chemical formula	$C_{23}H_{22}ClN_3O$
M_r	391.88
Crystal system, space group	Monoclinic, $P2_1/c$
Temperature (K)	173
a, b, c (Å)	13.1089 (4), 19.6738 (6), 7.9333 (2)
β (°)	96.899 (2)
V (Å^3)	2031.20 (10)
Z	4
Radiation type	Cu $K\alpha$
μ (mm^{-1})	1.80
Crystal size (mm)	0.45 × 0.25 × 0.10
Data collection	
Diffractometer	Rigaku Oxford Gemini
Absorption correction	Multi-scan (*CrysAlis PRO*; Agilent, 2014)
T_{min}, T_{max}	0.749, 1.000
No. of measured, independent and observed [$I > 2\sigma(I)$] reflections	7509, 3854, 3295
R_{int}	0.020
(sin $\theta/\lambda)_{max}$ (Å^{-1})	0.615
Refinement	
$R[F^2 > 2\sigma(F^2)]$, $wR(F^2)$, S	0.046, 0.132, 1.01
No. of reflections	3854
No. of parameters	262
No. of restraints	2
H-atom treatment	H atoms treated by a mixture of independent and constrained refinement
$\Delta\rho_{max}$, $\Delta\rho_{min}$ (e Å^{-3})	0.37, −0.40

Computer programs: *CrysAlis PRO* (Agilent, 2014), *SHELXT* (Sheldrick, 2015*a*), *SHELXL2014* (Sheldrick, 2015*b*), *ORTEP-3 for Windows* (Farrugia, 2012), *PLATON* (Spek, 2009) and *WinGX* (Farrugia, 2012).

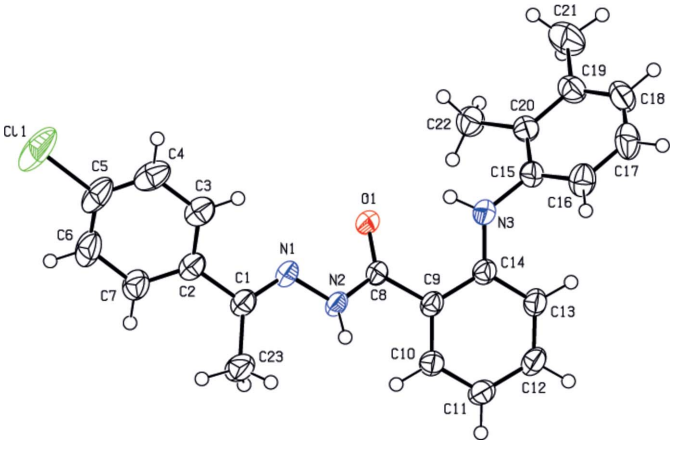


Figure 1
The structure of the title compound, with displacement ellipsoids for non-H atoms drawn at the 50% probability level.

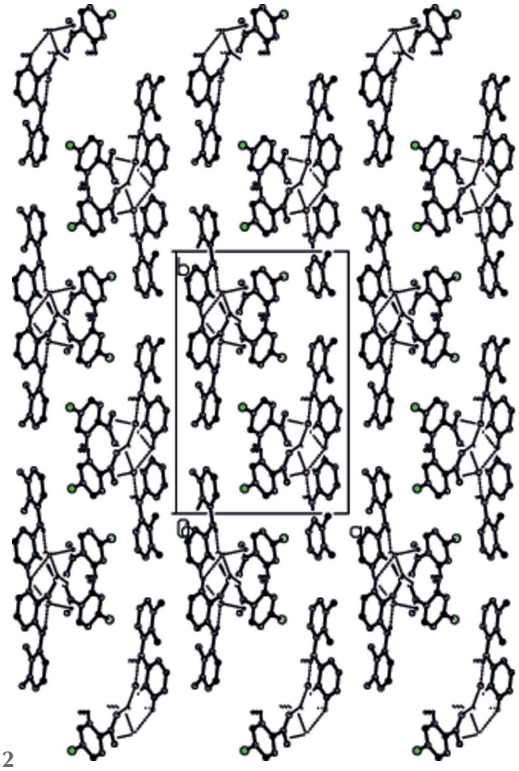


Figure 2
Part of the packing diagram for the title compound, viewing down the *c* axis.

refined, with the N—H distances restrained to 0.86 (2) Å and with $U_{iso}(H) = 1.2U_{eq}(N)$.

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full crystallographic data

IUCrData (2017). **2**, x171188 [https://doi.org/10.1107/S2414314617011889]

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Crystal data

$C_{23}H_{22}ClN_3O$
M_r = 391.88
Monoclinic, $P2_1/c$
a = 13.1089 (4) Å
b = 19.6738 (6) Å
c = 7.9333 (2) Å
β = 96.899 (2)°
V = 2031.20 (10) Å^3
Z = 4
$F(000)$ = 824
D_x = 1.281 Mg m^{-3}
Cu $K\alpha$ radiation, λ = 1.54184 Å
Cell parameters from 3019 reflections
θ = 4.1–71.1°
μ = 1.80 mm^{-1}
T = 173 K
Prism, colourless
0.45 × 0.25 × 0.10 mm

Data collection

Rigaku Oxford Gemini diffractometer
Radiation source: fine-focus sealed X-ray tube, Enhance (Cu) X-ray Source
Graphite monochromator
Detector resolution: 16.0416 pixels mm^{-1}
ω scans
Absorption correction: multi-scan (CrysAlis PRO; Agilent, 2014)
T_{min} = 0.749, T_{max} = 1.000
7509 measured reflections
3854 independent reflections
3295 reflections with $I > 2\sigma(I)$
R_{int} = 0.020
θ_{max} = 71.4°, θ_{min} = 4.1°
h = −15→16
k = −23→9
l = −9→9

Refinement

Refinement on F^2
Least-squares matrix: full
$R[F^2 > 2\sigma(F^2)]$ = 0.046
$wR(F^2)$ = 0.132
S = 1.01
3854 reflections
262 parameters
2 restraints
Hydrogen site location: mixed
H atoms treated by a mixture of independent and constrained refinement
$w = 1/[\sigma^2(F_o^2) + (0.0717P)^2 + 0.6046P]$ where $P = (F_o^2 + 2F_c^2)/3$
$(\Delta/\sigma)_{max} < 0.001$
$\Delta\rho_{max}$ = 0.37 e Å^{-3}
$\Delta\rho_{min}$ = −0.40 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}
C1	0.38673 (13)	0.82927 (9)	0.6434 (2)	0.0373 (4)
C2	0.45079 (13)	0.84964 (9)	0.5093 (2)	0.0380 (4)
C3	0.51538 (14)	0.80264 (11)	0.4452 (2)	0.0450 (4)
H3A	0.5221	0.7583	0.4928	0.054*
C4	0.57021 (15)	0.82006 (13)	0.3121 (3)	0.0554 (5)
H4	0.6157	0.7884	0.2701	0.066*
C5	0.55760 (17)	0.88399 (14)	0.2419 (3)	0.0583 (6)
C6	0.49458 (18)	0.93127 (12)	0.3018 (3)	0.0574 (6)
H6	0.4866	0.9750	0.2510	0.069*
C7	0.44242 (16)	0.91431 (10)	0.4382 (2)	0.0478 (5)
H7	0.4004	0.9473	0.4836	0.057*
C8	0.24073 (13)	0.68585 (8)	0.70860 (18)	0.0315 (3)
C9	0.17766 (12)	0.65811 (8)	0.83703 (19)	0.0320 (3)
C10	0.12799 (13)	0.70152 (9)	0.9389 (2)	0.0353 (4)
H10	0.1363	0.7492	0.9281	0.042*
C11	0.06683 (14)	0.67704 (9)	1.0554 (2)	0.0397 (4)
H11	0.0332	0.7074	1.1236	0.048*
C12	0.05530 (14)	0.60724 (10)	1.0711 (2)	0.0413 (4)
H12	0.0145	0.5898	1.1525	0.050*
C13	0.10221 (14)	0.56296 (9)	0.9703 (2)	0.0384 (4)
H13	0.0934	0.5154	0.9834	0.046*
C14	0.16279 (13)	0.58687 (8)	0.8485 (2)	0.0343 (4)
C15	0.19282 (13)	0.47261 (8)	0.7284 (2)	0.0359 (4)
C16	0.22356 (15)	0.43079 (11)	0.8668 (2)	0.0477 (4)
H16	0.2523	0.4500	0.9716	0.057*
C17	0.21207 (16)	0.36117 (11)	0.8509 (3)	0.0533 (5)
H17	0.2322	0.3325	0.9454	0.064*
C18	0.17132 (16)	0.33337 (9)	0.6975 (3)	0.0509 (5)
H18	0.1636	0.2855	0.6878	0.061*
C19	0.14150 (15)	0.37399 (9)	0.5579 (3)	0.0435 (4)
C20	0.15184 (12)	0.44481 (8)	0.5730 (2)	0.0347 (4)
C21	0.1000 (2)	0.34189 (12)	0.3907 (3)	0.0730 (7)
H21A	0.1014	0.2923	0.4023	0.110*
H21B	0.1426	0.3555	0.3030	0.110*
H21C	0.0291	0.3570	0.3583	0.110*
C22	0.12136 (16)	0.49003 (10)	0.4219 (2)	0.0464 (4)
H22A	0.1805	0.4967	0.3590	0.070*
H22B	0.0985	0.5341	0.4608	0.070*
H22C	0.0653	0.4687	0.3475	0.070*
C23	0.3623 (2)	0.87996 (12)	0.7733 (3)	0.0633 (7)
H23A	0.3985	0.9226	0.7571	0.095*
H23B	0.3844	0.8622	0.8873	0.095*
H23C	0.2881	0.8883	0.7608	0.095*
Cl1	0.62355 (6)	0.90513 (5)	0.07017 (9)	0.0951 (3)
N1	0.35227 (10)	0.76846 (7)	0.62931 (16)	0.0322 (3)

N2	0.29092 (11)	0.74519 (7)	0.74680 (16)	0.0317 (3)
H2N	0.2954 (16)	0.7615 (10)	0.848 (2)	0.038*
N3	0.20736 (14)	0.54361 (8)	0.7410 (2)	0.0445 (4)
H3N	0.2270 (18)	0.5635 (11)	0.654 (2)	0.053*
O1	0.24471 (11)	0.65752 (6)	0.57097 (15)	0.0424 (3)

Atomic displacement parameters (Å²)

	U^{11}	U^{22}	U^{33}	U^{12}	U^{13}	U^{23}
C1	0.0380 (8)	0.0442 (9)	0.0299 (8)	−0.0101 (7)	0.0051 (6)	−0.0016 (7)
C2	0.0337 (8)	0.0489 (10)	0.0317 (8)	−0.0158 (7)	0.0049 (6)	−0.0047 (7)
C3	0.0376 (9)	0.0576 (11)	0.0402 (9)	−0.0108 (8)	0.0059 (7)	−0.0053 (8)
C4	0.0373 (9)	0.0833 (15)	0.0475 (11)	−0.0155 (10)	0.0129 (8)	−0.0152 (11)
C5	0.0458 (11)	0.0896 (16)	0.0419 (10)	−0.0328 (11)	0.0151 (8)	−0.0010 (11)
C6	0.0599 (12)	0.0634 (13)	0.0506 (11)	−0.0254 (11)	0.0140 (10)	0.0083 (10)
C7	0.0498 (10)	0.0492 (10)	0.0463 (10)	−0.0161 (8)	0.0136 (8)	−0.0008 (8)
C8	0.0395 (8)	0.0310 (7)	0.0240 (7)	−0.0002 (6)	0.0043 (6)	0.0035 (6)
C9	0.0359 (8)	0.0362 (8)	0.0238 (7)	−0.0069 (6)	0.0026 (6)	0.0006 (6)
C10	0.0420 (9)	0.0348 (8)	0.0291 (7)	−0.0071 (7)	0.0038 (6)	−0.0025 (6)
C11	0.0436 (9)	0.0442 (9)	0.0328 (8)	−0.0043 (7)	0.0110 (7)	−0.0043 (7)
C12	0.0443 (9)	0.0493 (10)	0.0321 (8)	−0.0109 (8)	0.0115 (7)	0.0023 (7)
C13	0.0461 (9)	0.0366 (8)	0.0333 (8)	−0.0101 (7)	0.0073 (7)	0.0026 (7)
C14	0.0402 (8)	0.0356 (8)	0.0269 (7)	−0.0070 (7)	0.0034 (6)	−0.0008 (6)
C15	0.0376 (8)	0.0324 (8)	0.0387 (8)	−0.0022 (7)	0.0092 (7)	0.0021 (7)
C16	0.0487 (10)	0.0509 (10)	0.0420 (9)	−0.0057 (8)	−0.0006 (8)	0.0085 (8)
C17	0.0514 (11)	0.0458 (10)	0.0626 (13)	0.0074 (9)	0.0058 (9)	0.0233 (9)
C18	0.0529 (11)	0.0295 (8)	0.0730 (14)	0.0021 (8)	0.0186 (10)	0.0049 (9)
C19	0.0419 (9)	0.0353 (9)	0.0543 (11)	−0.0030 (7)	0.0092 (8)	−0.0044 (8)
C20	0.0296 (7)	0.0343 (8)	0.0407 (9)	0.0021 (6)	0.0069 (6)	0.0013 (7)
C21	0.0935 (19)	0.0511 (13)	0.0728 (16)	−0.0187 (13)	0.0027 (14)	−0.0197 (12)
C22	0.0506 (10)	0.0464 (10)	0.0416 (9)	0.0018 (8)	0.0026 (8)	0.0041 (8)
C23	0.0870 (17)	0.0562 (12)	0.0537 (12)	−0.0331 (12)	0.0376 (12)	−0.0182 (10)
Cl1	0.0815 (5)	0.1470 (8)	0.0648 (4)	−0.0449 (5)	0.0413 (3)	0.0049 (4)
N1	0.0324 (7)	0.0400 (7)	0.0243 (6)	−0.0044 (6)	0.0046 (5)	0.0042 (5)
N2	0.0372 (7)	0.0375 (7)	0.0210 (6)	−0.0062 (6)	0.0059 (5)	0.0020 (5)
N3	0.0661 (10)	0.0332 (7)	0.0379 (8)	−0.0106 (7)	0.0215 (7)	−0.0013 (6)
O1	0.0654 (8)	0.0355 (6)	0.0289 (6)	−0.0076 (6)	0.0161 (5)	−0.0023 (5)

Geometric parameters (Å, º)

C1—N1	1.279 (2)	C13—H13	0.9500
C1—C2	1.487 (2)	C14—N3	1.383 (2)
C1—C23	1.496 (3)	C15—C16	1.392 (3)
C2—C3	1.391 (3)	C15—C20	1.396 (2)
C2—C7	1.391 (3)	C15—N3	1.412 (2)
C3—C4	1.390 (3)	C16—C17	1.382 (3)
C3—H3A	0.9500	C16—H16	0.9500
C4—C5	1.377 (4)	C17—C18	1.382 (3)

C4—H4	0.9500	C17—H17	0.9500
C5—C6	1.366 (4)	C18—C19	1.384 (3)
C5—Cl1	1.749 (2)	C18—H18	0.9500
C6—C7	1.389 (3)	C19—C20	1.404 (2)
C6—H6	0.9500	C19—C21	1.510 (3)
C7—H7	0.9500	C20—C22	1.508 (2)
C8—O1	1.2325 (19)	C21—H21A	0.9800
C8—N2	1.356 (2)	C21—H21B	0.9800
C8—C9	1.491 (2)	C21—H21C	0.9800
C9—C10	1.390 (2)	C22—H22A	0.9800
C9—C14	1.419 (2)	C22—H22B	0.9800
C10—C11	1.381 (2)	C22—H22C	0.9800
C10—H10	0.9500	C23—H23A	0.9800
C11—C12	1.389 (3)	C23—H23B	0.9800
C11—H11	0.9500	C23—H23C	0.9800
C12—C13	1.377 (3)	N1—N2	1.3804 (18)
C12—H12	0.9500	N2—H2N	0.859 (15)
C13—C14	1.403 (2)	N3—H3N	0.861 (16)

N1—C1—C2	114.40 (15)	C16—C15—N3	120.34 (17)
N1—C1—C23	125.56 (16)	C20—C15—N3	118.98 (15)
C2—C1—C23	119.93 (16)	C17—C16—C15	119.74 (19)
C3—C2—C7	118.80 (17)	C17—C16—H16	120.1
C3—C2—C1	120.22 (17)	C15—C16—H16	120.1
C7—C2—C1	120.85 (17)	C18—C17—C16	119.91 (18)
C4—C3—C2	120.5 (2)	C18—C17—H17	120.0
C4—C3—H3A	119.8	C16—C17—H17	120.0
C2—C3—H3A	119.8	C17—C18—C19	121.24 (17)
C5—C4—C3	119.0 (2)	C17—C18—H18	119.4
C5—C4—H4	120.5	C19—C18—H18	119.4
C3—C4—H4	120.5	C18—C19—C20	119.34 (18)
C6—C5—C4	121.96 (19)	C18—C19—C21	119.94 (19)
C6—C5—Cl1	119.00 (19)	C20—C19—C21	120.71 (19)
C4—C5—Cl1	119.04 (19)	C15—C20—C19	119.15 (16)
C5—C6—C7	118.8 (2)	C15—C20—C22	120.55 (15)
C5—C6—H6	120.6	C19—C20—C22	120.29 (17)
C7—C6—H6	120.6	C19—C21—H21A	109.5
C6—C7—C2	120.9 (2)	C19—C21—H21B	109.5
C6—C7—H7	119.5	H21A—C21—H21B	109.5
C2—C7—H7	119.5	C19—C21—H21C	109.5
O1—C8—N2	121.07 (14)	H21A—C21—H21C	109.5
O1—C8—C9	121.73 (14)	H21B—C21—H21C	109.5
N2—C8—C9	117.16 (13)	C20—C22—H22A	109.5
C10—C9—C14	119.45 (15)	C20—C22—H22B	109.5
C10—C9—C8	120.62 (14)	H22A—C22—H22B	109.5
C14—C9—C8	119.81 (15)	C20—C22—H22C	109.5
C11—C10—C9	121.66 (16)	H22A—C22—H22C	109.5
C11—C10—H10	119.2	H22B—C22—H22C	109.5

C9—C10—H10	119.2	C1—C23—H23A	109.5
C10—C11—C12	118.90 (16)	C1—C23—H23B	109.5
C10—C11—H11	120.5	H23A—C23—H23B	109.5
C12—C11—H11	120.5	C1—C23—H23C	109.5
C13—C12—C11	120.82 (16)	H23A—C23—H23C	109.5
C13—C12—H12	119.6	H23B—C23—H23C	109.5
C11—C12—H12	119.6	C1—N1—N2	118.65 (14)
C12—C13—C14	121.14 (16)	C8—N2—N1	116.17 (13)
C12—C13—H13	119.4	C8—N2—H2N	120.5 (14)
C14—C13—H13	119.4	N1—N2—H2N	121.7 (14)
N3—C14—C13	122.27 (15)	C14—N3—C15	126.10 (15)
N3—C14—C9	119.78 (15)	C14—N3—H3N	113.8 (16)
C13—C14—C9	117.94 (15)	C15—N3—H3N	116.4 (16)
C16—C15—C20	120.61 (16)		

N1—C1—C2—C3	−35.9 (2)	C8—C9—C14—N3	0.3 (2)
C23—C1—C2—C3	147.8 (2)	C10—C9—C14—C13	−3.4 (2)
N1—C1—C2—C7	139.95 (17)	C8—C9—C14—C13	−179.50 (15)
C23—C1—C2—C7	−36.4 (3)	C20—C15—C16—C17	−0.9 (3)
C7—C2—C3—C4	−0.2 (3)	N3—C15—C16—C17	−177.81 (18)
C1—C2—C3—C4	175.68 (16)	C15—C16—C17—C18	0.8 (3)
C2—C3—C4—C5	−1.6 (3)	C16—C17—C18—C19	0.0 (3)
C3—C4—C5—C6	1.5 (3)	C17—C18—C19—C20	−0.7 (3)
C3—C4—C5—Cl1	−178.09 (15)	C17—C18—C19—C21	178.3 (2)
C4—C5—C6—C7	0.5 (3)	C16—C15—C20—C19	0.3 (3)
Cl1—C5—C6—C7	−179.95 (16)	N3—C15—C20—C19	177.20 (16)
C5—C6—C7—C2	−2.4 (3)	C16—C15—C20—C22	−178.26 (17)
C3—C2—C7—C6	2.2 (3)	N3—C15—C20—C22	−1.3 (2)
C1—C2—C7—C6	−173.65 (17)	C18—C19—C20—C15	0.5 (3)
O1—C8—C9—C10	−144.71 (17)	C21—C19—C20—C15	−178.4 (2)
N2—C8—C9—C10	32.9 (2)	C18—C19—C20—C22	179.07 (18)
O1—C8—C9—C14	31.3 (2)	C21—C19—C20—C22	0.1 (3)
N2—C8—C9—C14	−151.01 (15)	C2—C1—N1—N2	−179.22 (14)
C14—C9—C10—C11	2.1 (2)	C23—C1—N1—N2	−3.2 (3)
C8—C9—C10—C11	178.15 (15)	O1—C8—N2—N1	−5.0 (2)
C9—C10—C11—C12	0.3 (3)	C9—C8—N2—N1	177.36 (13)
C10—C11—C12—C13	−1.3 (3)	C1—N1—N2—C8	167.86 (15)
C11—C12—C13—C14	−0.1 (3)	C13—C14—N3—C15	5.2 (3)
C12—C13—C14—N3	−177.36 (17)	C9—C14—N3—C15	−174.63 (17)
C12—C13—C14—C9	2.5 (3)	C16—C15—N3—C14	−63.0 (3)
C10—C9—C14—N3	176.43 (16)	C20—C15—N3—C14	120.0 (2)

Hydrogen-bond geometry (Å, º)

*Cg*2 and *Cg*3 are the centroids of the C9–C14 and C15–C20 benzene rings, respectively.

D—H···*A*	*D*—H	H···*A*	*D*···*A*	*D*—H···*A*
N2—H2*N*···O1^{i}	0.86 (2)	2.53 (2)	3.3194 (18)	153 (2)
N2—H2*N*···N1^{i}	0.86 (2)	2.34 (2)	3.0563 (18)	141 (2)

N3—H3*N*···O1	0.86 (2)	1.99 (2)	2.691 (2)	139 (2)
C10—H10···O1^{i}	0.95	2.51	3.278 (2)	138
C12—H12···*Cg*3^{ii}	0.95	2.91	3.737 (2)	146
C21—H21*C*···*Cg*2^{iii}	0.98	2.94	3.720 (3)	138

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