

ORGANOMETALLICS

Organometallics, 1997, 16(10), 2223-2225, DOI:[10.1021/om961082w](https://doi.org/10.1021/om961082w)

Terms & Conditions

Electronic Supporting Information files are available without a subscription to ACS Web Editions. The American Chemical Society holds a copyright ownership interest in any copyrightable Supporting Information. Files available from the ACS website may be downloaded for personal use only. Users are not otherwise permitted to reproduce, republish, redistribute, or sell any Supporting Information from the ACS website, either in whole or in part, in either machine-readable form or any other form without permission from the American Chemical Society. For permission to reproduce, republish and redistribute this material, requesters must process their own requests via the RightsLink permission system. Information about how to use the RightsLink permission system can be found at <http://pubs.acs.org/page/copyright/permissions.html>



ACS Publications

MOST TRUSTED. MOST CITED. MOST READ.

Copyright © 1997 American Chemical Society

Table 1. Crystal data and structure refinement for 1.

OM961082W

Identification code	saw56i
Empirical formula	$C_{12}H_{18}LiN_3$
Formula weight	211.23
Temperature	153(2) K
Wavelength	0.71073 Å
Crystal system	Triclinic
Space group	$P\bar{1}$
Unit cell dimensions	$a = 11.138(10)$ Å $\alpha = 90.56(9)^\circ$ $b = 11.151(11)$ Å $\beta = 100.55(8)^\circ$ $c = 22.14(3)$ Å $\gamma = 112.24(8)^\circ$
Volume	$2493(4)$ Å ³
Z	8
Density (calculated)	1.126 Mg/m ³
Absorption coefficient	0.067 mm ⁻¹
F(000)	912
Crystal size	0.5 x 0.3 x 0.3 mm
θ range for data collection	3.58 to 25.15°
Index ranges	$-13 \leq h \leq 11$, $-13 \leq k \leq 13$, $0 \leq l \leq 26$
Reflections collected	15901
Independent reflections	8337 ($R_{int} = 0.1007$)
Absorption correction	None
Refinement method	Full-matrix least-squares on F^2
Data / restraints / parameters	8328 / 0 / 589
Goodness-of-fit on F^2	1.035
Final R indices [$I > 2\sigma(I)$]	$R1 = 0.0623$, $wR2 = 0.1500$
R indices (all data)	$R1 = 0.0914$, $wR2 = 0.1750$
Largest diff. peak and hole	0.425 and -0.261 eÅ ⁻³

Table 2. Atomic coordinates [$\times 10^4$] and equivalent isotropic displacement parameters [$\text{\AA}^2 \times 10^3$] for 1. U(eq) is defined as one third of the trace of the orthogonalized U_{ij} tensor.

	x	y	z	U(eq)
Li(1)	9532(4)	2307(4)	2050(2)	24(1)
Li(2)	7759(4)	2377(4)	2693(2)	26(1)
Li(3)	7397(4)	234(4)	2008(2)	27(1)
Li(4)	9239(4)	1053(4)	3041(2)	28(1)
C(1)	7439(3)	1636(3)	4166(1)	36(1)
C(2)	7361(3)	2362(3)	4657(1)	43(1)
C(3)	6140(3)	2122(3)	4814(1)	43(1)
C(4)	5028(3)	1142(3)	4485(1)	42(1)
C(5)	5113(3)	393(3)	4003(1)	36(1)
C(6)	6328(3)	637(2)	3835(1)	29(1)
C(7)	6455(2)	-65(2)	3272(1)	27(1)
N(8)	7172(2)	491(2)	2903(1)	26(1)
N(9)	5538(2)	-1428(2)	3182(1)	33(1)
C(10)	5652(3)	-2192(3)	3708(1)	43(1)
C(11)	5506(3)	-2061(2)	2601(1)	35(1)
C(12)	4825(3)	-1578(3)	2060(1)	35(1)
N(13)	5532(2)	-1281(2)	1546(1)	32(1)
C(14)	5547(3)	-2471(3)	1268(2)	49(1)
C(15)	4848(3)	-718(3)	1075(1)	44(1)
C(16)	10876(3)	4066(3)	4375(1)	41(1)
C(17)	11484(4)	3986(3)	4966(1)	58(1)
C(18)	12719(5)	3926(3)	5074(2)	66(1)
C(19)	13343(4)	3942(4)	4588(2)	64(1)
C(20)	12738(3)	4037(3)	3992(2)	48(1)
C(21)	11488(3)	4086(2)	3877(1)	31(1)
C(22)	10741(2)	4010(2)	3225(1)	24(1)
N(23)	9821(2)	2974(2)	2973(1)	24(1)
N(24)	11257(2)	5176(2)	2926(1)	30(1)
C(25)	11964(3)	6443(3)	3269(1)	43(1)
C(26)	10553(3)	5188(3)	2308(1)	31(1)
C(27)	11160(3)	4953(3)	1776(1)	33(1)
N(28)	11249(2)	3668(2)	1736(1)	28(1)
C(29)	11287(3)	3308(3)	1106(1)	41(1)
C(30)	12475(3)	3712(3)	2136(1)	39(1)
C(31)	8770(3)	-2599(3)	1592(1)	35(1)
C(32)	8062(3)	-3519(3)	1099(1)	38(1)
C(33)	7927(3)	-3143(3)	505(1)	38(1)
C(34)	8487(3)	-1849(3)	410(1)	35(1)
C(35)	9185(3)	-925(3)	901(1)	31(1)
C(36)	9334(3)	-1281(2)	1504(1)	27(1)
C(37)	9921(2)	-254(2)	2043(1)	25(1)
N(38)	9318(2)	435(2)	2171(1)	25(1)
N(39)	11112(2)	-253(2)	2414(1)	33(1)
C(40)	12015(3)	-669(3)	2148(2)	44(1)
C(41)	11751(3)	737(3)	2928(1)	35(1)
C(42)	11504(3)	324(3)	3558(1)	36(1)
N(43)	10129(2)	-34(2)	3630(1)	32(1)
C(44)	10097(4)	185(3)	4277(1)	51(1)
C(45)	9340(3)	-1419(3)	3423(1)	40(1)
C(46)	7905(3)	3511(3)	320(1)	35(1)
C(47)	8480(3)	3543(3)	-187(1)	37(1)
C(48)	8701(3)	2481(3)	-377(1)	32(1)

C(49)	8358(3)	1391(3)	-53(1)	31(1)
C(50)	7811(3)	1368(2)	463(1)	28(1)
C(51)	7570(2)	2428(2)	660(1)	25(1)
C(52)	7091(2)	2435(2)	1259(1)	24(1)
N(53)	7611(2)	2130(2)	1752(1)	24(1)
N(54)	6059(2)	2937(2)	1207(1)	32(1)
C(55)	5005(3)	2571(3)	659(1)	45(1)
C(56)	5611(3)	2968(3)	1785(1)	34(1)
C(57)	6581(3)	4113(2)	2236(1)	30(1)
N(58)	6858(2)	3748(2)	2868(1)	29(1)
C(59)	5658(3)	3303(3)	3124(1)	42(1)
C(60)	7858(3)	4881(3)	3257(1)	39(1)

Table 3. Bond lengths [Å] and angles [°] for 1.

Li(1)-N(38)	2.035(5)	Li(1)-N(53)	2.052(5)
Li(1)-N(23)	2.094(5)	Li(1)-N(28)	2.180(5)
Li(1)-Li(3)	2.600(6)	Li(1)-Li(4)	2.619(6)
Li(1)-Li(2)	2.661(6)	Li(2)-N(8)	2.038(5)
Li(2)-N(53)	2.068(5)	Li(2)-N(23)	2.101(5)
Li(2)-N(58)	2.188(5)	Li(2)-Li(4)	2.624(6)
Li(2)-Li(3)	2.673(6)	Li(3)-N(38)	2.028(5)
Li(3)-N(8)	2.073(5)	Li(3)-N(53)	2.131(5)
Li(3)-N(13)	2.179(6)	Li(3)-Li(4)	2.664(7)
Li(4)-N(23)	2.005(5)	Li(4)-N(38)	2.067(5)
Li(4)-N(8)	2.105(5)	Li(4)-N(43)	2.149(5)
C(1)-C(2)	1.384(4)	C(1)-C(6)	1.384(4)
C(2)-C(3)	1.394(4)	C(3)-C(4)	1.375(5)
C(4)-C(5)	1.387(4)	C(5)-C(6)	1.397(4)
C(6)-C(7)	1.523(4)	C(7)-N(8)	1.250(3)
C(7)-N(9)	1.462(4)	N(9)-C(11)	1.450(4)
N(9)-C(10)	1.463(4)	C(11)-C(12)	1.514(4)
C(12)-N(13)	1.471(4)	N(13)-C(14)	1.464(4)
N(13)-C(15)	1.465(4)	C(16)-C(17)	1.379(5)
C(16)-C(21)	1.394(4)	C(17)-C(18)	1.380(6)
C(18)-C(19)	1.379(6)	C(19)-C(20)	1.393(5)
C(20)-C(21)	1.391(4)	C(21)-C(22)	1.511(4)
C(22)-N(23)	1.257(4)	C(22)-N(24)	1.432(4)
N(24)-C(26)	1.450(4)	N(24)-C(25)	1.453(4)
C(26)-C(27)	1.527(4)	C(27)-N(28)	1.476(4)
N(28)-C(29)	1.462(4)	N(28)-C(30)	1.468(4)
C(31)-C(32)	1.383(4)	C(31)-C(36)	1.393(4)
C(32)-C(33)	1.384(4)	C(33)-C(34)	1.374(4)
C(34)-C(35)	1.383(4)	C(35)-C(36)	1.396(4)
C(36)-C(37)	1.510(4)	C(37)-N(38)	1.258(3)
C(37)-N(39)	1.427(4)	N(39)-C(41)	1.451(4)
N(39)-C(40)	1.462(3)	C(41)-C(42)	1.514(4)
C(42)-N(43)	1.469(4)	N(43)-C(44)	1.460(4)
N(43)-C(45)	1.477(4)	C(46)-C(47)	1.384(4)
C(46)-C(51)	1.393(4)	C(47)-C(48)	1.374(4)
C(48)-C(49)	1.380(4)	C(49)-C(50)	1.387(4)
C(50)-C(51)	1.390(4)	C(51)-C(52)	1.520(4)
C(52)-N(53)	1.251(3)	C(52)-N(54)	1.445(3)
N(54)-C(55)	1.456(4)	N(54)-C(56)	1.463(4)
C(56)-C(57)	1.526(4)	C(57)-N(58)	1.472(4)
N(58)-C(59)	1.461(4)	N(58)-C(60)	1.463(4)
N(38)-Li(1)-N(53)	102.4(2)	N(38)-Li(1)-N(23)	98.7(2)
N(53)-Li(1)-N(23)	99.5(2)	N(38)-Li(1)-N(28)	121.3(2)
N(53)-Li(1)-N(28)	125.4(2)	N(23)-Li(1)-N(28)	103.9(2)
N(38)-Li(1)-Li(3)	50.1(2)	N(53)-Li(1)-Li(3)	52.9(2)
N(23)-Li(1)-Li(3)	98.2(2)	N(28)-Li(1)-Li(3)	157.5(2)
N(38)-Li(1)-Li(4)	50.9(2)	N(53)-Li(1)-Li(4)	98.7(2)
N(23)-Li(1)-Li(4)	48.8(2)	N(28)-Li(1)-Li(4)	133.4(2)
Li(3)-Li(1)-Li(4)	61.4(2)	N(38)-Li(1)-Li(2)	97.1(2)
N(53)-Li(1)-Li(2)	50.0(2)	N(23)-Li(1)-Li(2)	50.7(2)
N(28)-Li(1)-Li(2)	138.4(2)	Li(3)-Li(1)-Li(2)	61.1(2)
Li(4)-Li(1)-Li(2)	59.6(2)	N(8)-Li(2)-N(53)	100.4(2)
N(8)-Li(2)-N(23)	99.9(2)	N(53)-Li(2)-N(23)	98.7(2)
N(8)-Li(2)-N(58)	126.7(2)	N(53)-Li(2)-N(58)	108.1(2)
N(23)-Li(2)-N(58)	118.4(2)	N(8)-Li(2)-Li(4)	51.8(2)
N(53)-Li(2)-Li(4)	98.1(2)	N(23)-Li(2)-Li(4)	48.7(2)
N(58)-Li(2)-Li(4)	152.9(2)	N(8)-Li(2)-Li(1)	96.4(2)
N(53)-Li(2)-Li(1)	49.5(2)	N(23)-Li(2)-Li(1)	50.5(2)

N(58)-Li(2)-Li(1)	136.2(2)	Li(4)-Li(2)-Li(1)	59.4(2)
N(8)-Li(2)-Li(3)	50.0(2)	N(53)-Li(2)-Li(3)	51.5(2)
N(23)-Li(2)-Li(3)	95.8(2)	N(58)-Li(2)-Li(3)	143.9(2)
Li(4)-Li(2)-Li(3)	60.4(2)	Li(1)-Li(2)-Li(3)	58.3(2)
N(38)-Li(3)-N(8)	100.0(2)	N(38)-Li(3)-N(53)	100.0(2)
N(8)-Li(3)-N(53)	97.2(2)	N(38)-Li(3)-N(13)	134.6(2)
N(8)-Li(3)-N(13)	105.2(2)	N(53)-Li(3)-N(13)	113.2(2)
N(38)-Li(3)-Li(1)	50.3(2)	N(8)-Li(3)-Li(1)	97.4(2)
N(53)-Li(3)-Li(1)	50.2(2)	N(13)-Li(3)-Li(1)	154.1(2)
N(38)-Li(3)-Li(4)	50.1(2)	N(8)-Li(3)-Li(4)	50.9(2)
N(53)-Li(3)-Li(4)	95.4(2)	N(13)-Li(3)-Li(4)	146.1(2)
Li(1)-Li(3)-Li(4)	59.6(2)	N(38)-Li(3)-Li(2)	96.9(2)
N(8)-Li(3)-Li(2)	48.9(2)	N(53)-Li(3)-Li(2)	49.4(2)
N(13)-Li(3)-Li(2)	128.1(2)	Li(1)-Li(3)-Li(2)	60.6(2)
Li(4)-Li(3)-Li(2)	58.9(2)	N(23)-Li(4)-N(38)	100.6(2)
N(23)-Li(4)-N(8)	100.8(2)	N(38)-Li(4)-N(8)	97.7(2)
N(23)-Li(4)-N(43)	130.7(3)	N(38)-Li(4)-N(43)	102.7(2)
N(8)-Li(4)-N(43)	118.1(2)	N(23)-Li(4)-Li(1)	51.8(2)
N(38)-Li(4)-Li(1)	49.8(2)	N(8)-Li(4)-Li(1)	96.0(2)
N(43)-Li(4)-Li(1)	140.3(2)	N(23)-Li(4)-Li(2)	51.9(2)
N(38)-Li(4)-Li(2)	97.5(2)	N(8)-Li(4)-Li(2)	49.6(2)
N(43)-Li(4)-Li(2)	158.0(2)	Li(1)-Li(4)-Li(2)	61.0(2)
N(23)-Li(4)-Li(3)	98.5(2)	N(38)-Li(4)-Li(3)	48.8(2)
N(8)-Li(4)-Li(3)	49.9(2)	N(43)-Li(4)-Li(3)	129.2(2)
Li(1)-Li(4)-Li(3)	59.0(2)	Li(2)-Li(4)-Li(3)	60.7(2)
C(2)-C(1)-C(6)	121.3(3)	C(1)-C(2)-C(3)	120.0(3)
C(4)-C(3)-C(2)	119.2(3)	C(3)-C(4)-C(5)	120.7(3)
C(4)-C(5)-C(6)	120.6(3)	C(1)-C(6)-C(5)	118.2(3)
C(1)-C(6)-C(7)	119.0(2)	C(5)-C(6)-C(7)	122.6(3)
N(8)-C(7)-N(9)	124.4(2)	N(8)-C(7)-C(6)	123.6(2)
N(9)-C(7)-C(6)	111.7(2)	C(7)-N(8)-Li(2)	129.0(2)
C(7)-N(8)-Li(3)	140.6(2)	Li(2)-N(8)-Li(3)	81.1(2)
C(7)-N(8)-Li(4)	126.2(2)	Li(2)-N(8)-Li(4)	78.6(2)
Li(3)-N(8)-Li(4)	79.2(2)	C(11)-N(9)-C(7)	112.4(2)
C(11)-N(9)-C(10)	113.5(2)	C(7)-N(9)-C(10)	115.4(2)
N(9)-C(11)-C(12)	111.5(2)	N(13)-C(12)-C(11)	113.9(2)
C(14)-N(13)-C(15)	108.6(3)	C(14)-N(13)-C(12)	110.3(2)
C(15)-N(13)-C(12)	109.1(2)	C(14)-N(13)-Li(3)	119.1(2)
C(15)-N(13)-Li(3)	109.1(2)	C(12)-N(13)-Li(3)	100.2(2)
C(17)-C(16)-C(21)	121.1(3)	C(16)-C(17)-C(18)	120.2(3)
C(19)-C(18)-C(17)	119.8(3)	C(18)-C(19)-C(20)	120.2(4)
C(21)-C(20)-C(19)	120.5(3)	C(20)-C(21)-C(16)	118.2(3)
C(20)-C(21)-C(22)	121.1(3)	C(16)-C(21)-C(22)	120.3(3)
N(23)-C(22)-N(24)	124.9(2)	N(23)-C(22)-C(21)	121.4(2)
N(24)-C(22)-C(21)	113.5(2)	C(22)-N(23)-Li(4)	138.7(2)
C(22)-N(23)-Li(1)	123.7(2)	Li(4)-N(23)-Li(1)	79.4(2)
C(22)-N(23)-Li(2)	134.3(2)	Li(4)-N(23)-Li(2)	79.4(2)
Li(1)-N(23)-Li(2)	78.7(2)	C(22)-N(24)-C(26)	116.4(2)
C(22)-N(24)-C(25)	122.1(2)	C(26)-N(24)-C(25)	115.2(2)
N(24)-C(26)-C(27)	116.7(2)	N(28)-C(27)-C(26)	114.6(2)
C(29)-N(28)-C(30)	107.5(2)	C(29)-N(28)-C(27)	110.3(2)
C(30)-N(28)-C(27)	110.1(2)	C(29)-N(28)-Li(1)	112.5(2)
C(30)-N(28)-Li(1)	110.1(2)	C(27)-N(28)-Li(1)	106.4(2)
C(32)-C(31)-C(36)	121.2(3)	C(31)-C(32)-C(33)	120.0(3)
C(34)-C(33)-C(32)	119.6(3)	C(33)-C(34)-C(35)	120.5(3)
C(34)-C(35)-C(36)	121.0(3)	C(31)-C(36)-C(35)	117.6(3)
C(31)-C(36)-C(37)	121.5(2)	C(35)-C(36)-C(37)	120.4(2)
N(38)-C(37)-N(39)	124.5(2)	N(38)-C(37)-C(36)	121.1(2)
N(39)-C(37)-C(36)	114.0(2)	C(37)-N(38)-Li(3)	134.9(2)
C(37)-N(38)-Li(1)	134.0(2)	Li(3)-N(38)-Li(1)	79.6(2)
C(37)-N(38)-Li(4)	127.0(2)	Li(3)-N(38)-Li(4)	81.2(2)
Li(1)-N(38)-Li(4)	79.3(2)	C(37)-N(39)-C(41)	116.8(2)
C(37)-N(39)-C(40)	121.0(2)	C(41)-N(39)-C(40)	114.7(2)

N(39)-C(41)-C(42)	116.8(2)	N(43)-C(42)-C(41)	114.5(2)
C(44)-N(43)-C(42)	109.9(3)	C(44)-N(43)-C(45)	108.8(2)
C(42)-N(43)-C(45)	110.4(2)	C(44)-N(43)-Li(4)	112.3(2)
C(42)-N(43)-Li(4)	109.2(2)	C(45)-N(43)-Li(4)	106.2(2)
C(47)-C(46)-C(51)	121.5(3)	C(48)-C(47)-C(46)	120.3(2)
C(47)-C(48)-C(49)	119.2(2)	C(48)-C(49)-C(50)	120.5(3)
C(49)-C(50)-C(51)	121.0(2)	C(50)-C(51)-C(46)	117.4(2)
C(50)-C(51)-C(52)	120.2(2)	C(46)-C(51)-C(52)	122.1(2)
N(53)-C(52)-N(54)	124.3(2)	N(53)-C(52)-C(51)	123.1(2)
N(54)-C(52)-C(51)	112.4(2)	C(52)-N(53)-Li(1)	129.3(2)
C(52)-N(53)-Li(2)	140.1(2)	Li(1)-N(53)-Li(2)	80.5(2)
C(52)-N(53)-Li(3)	128.1(2)	Li(1)-N(53)-Li(3)	76.9(2)
Li(2)-N(53)-Li(3)	79.1(2)	C(52)-N(54)-C(55)	120.3(2)
C(52)-N(54)-C(56)	112.7(2)	C(55)-N(54)-C(56)	114.2(2)
N(54)-C(56)-C(57)	111.9(2)	N(58)-C(57)-C(56)	113.1(2)
C(59)-N(58)-C(60)	108.7(2)	C(59)-N(58)-C(57)	110.5(2)
C(60)-N(58)-C(57)	109.3(2)	C(59)-N(58)-Li(2)	119.6(2)
C(60)-N(58)-Li(2)	109.0(2)	C(57)-N(58)-Li(2)	99.1(2)

Symmetry transformations used to generate equivalent atoms:

Table 4. Anisotropic displacement parameters [$\text{\AA}^2 \times 10^3$] for 1.

The anisotropic displacement factor exponent takes the form:

$$-2\pi^2 [(h a^*)^2 U_{11} + \dots + 2 h k a^* b^* U_{12}]$$

	U11	U22	U33	U23	U13	U12
Li(1)	20(2)	26(2)	26(2)	1(2)	7(2)	8(2)
Li(2)	29(2)	25(2)	26(2)	3(2)	7(2)	12(2)
Li(3)	21(2)	27(2)	28(2)	-5(2)	7(2)	4(2)
Li(4)	32(2)	27(2)	29(2)	4(2)	11(2)	13(2)
C(1)	34(2)	41(2)	36(2)	4(1)	12(1)	15(1)
C(2)	46(2)	44(2)	36(2)	-3(1)	13(1)	13(2)
C(3)	57(2)	50(2)	33(2)	3(1)	20(1)	27(2)
C(4)	42(2)	58(2)	38(2)	10(1)	22(1)	25(2)
C(5)	35(2)	44(2)	34(1)	9(1)	15(1)	16(1)
C(6)	33(2)	31(1)	28(1)	9(1)	12(1)	14(1)
C(7)	23(1)	26(1)	33(1)	1(1)	7(1)	9(1)
N(8)	26(1)	28(1)	29(1)	5(1)	11(1)	11(1)
N(9)	38(1)	26(1)	36(1)	7(1)	16(1)	9(1)
C(10)	44(2)	40(2)	52(2)	21(1)	24(2)	18(1)
C(11)	34(2)	22(1)	50(2)	2(1)	17(1)	8(1)
C(12)	23(1)	30(1)	47(2)	-7(1)	10(1)	4(1)
N(13)	24(1)	33(1)	35(1)	-3(1)	6(1)	8(1)
C(14)	49(2)	47(2)	49(2)	-13(2)	12(2)	16(2)
C(15)	29(2)	48(2)	46(2)	3(1)	0(1)	7(1)
C(16)	46(2)	41(2)	30(2)	-3(1)	4(1)	9(1)
C(17)	77(3)	56(2)	28(2)	-2(1)	2(2)	15(2)
C(18)	96(3)	50(2)	35(2)	-2(2)	-21(2)	24(2)
C(19)	60(2)	59(2)	62(2)	-11(2)	-24(2)	29(2)
C(20)	42(2)	53(2)	42(2)	-9(1)	-6(1)	18(2)
C(21)	30(2)	24(1)	31(1)	-3(1)	0(1)	6(1)
C(22)	21(1)	26(1)	26(1)	-1(1)	6(1)	10(1)
N(23)	23(1)	26(1)	25(1)	-1(1)	5(1)	10(1)
N(24)	33(1)	23(1)	31(1)	-1(1)	4(1)	9(1)
C(25)	41(2)	27(1)	49(2)	-2(1)	0(1)	5(1)
C(26)	33(2)	25(1)	35(1)	4(1)	6(1)	14(1)
C(27)	32(2)	31(1)	34(1)	10(1)	10(1)	8(1)
N(28)	27(1)	33(1)	27(1)	5(1)	9(1)	12(1)
C(29)	40(2)	44(2)	36(2)	2(1)	14(1)	12(1)
C(30)	35(2)	49(2)	37(2)	6(1)	13(1)	20(1)
C(31)	56(2)	31(1)	28(1)	7(1)	17(1)	25(1)
C(32)	58(2)	27(1)	35(2)	2(1)	18(1)	20(1)
C(33)	51(2)	35(2)	33(2)	-6(1)	10(1)	24(1)
C(34)	52(2)	36(2)	28(1)	5(1)	12(1)	25(1)
C(35)	36(2)	30(1)	34(1)	5(1)	13(1)	20(1)
C(36)	31(1)	28(1)	31(1)	4(1)	13(1)	19(1)
C(37)	27(1)	27(1)	26(1)	7(1)	11(1)	14(1)
N(38)	24(1)	26(1)	28(1)	3(1)	9(1)	12(1)
N(39)	27(1)	45(1)	33(1)	-1(1)	10(1)	21(1)
C(40)	39(2)	58(2)	51(2)	8(2)	18(1)	33(2)
C(41)	22(1)	41(2)	42(2)	4(1)	4(1)	13(1)
C(42)	37(2)	37(2)	34(2)	2(1)	-3(1)	18(1)
N(43)	39(1)	35(1)	26(1)	5(1)	8(1)	18(1)
C(44)	72(2)	57(2)	34(2)	6(1)	13(2)	34(2)
C(45)	48(2)	34(2)	41(2)	8(1)	14(1)	15(1)
C(46)	53(2)	26(1)	30(1)	4(1)	10(1)	20(1)
C(47)	48(2)	33(2)	29(1)	9(1)	11(1)	14(1)
C(48)	32(2)	41(2)	21(1)	2(1)	7(1)	11(1)

C(49)	34(2)	33(1)	32(1)	0(1)	9(1)	18(1)
C(50)	30(1)	26(1)	31(1)	6(1)	8(1)	13(1)
C(51)	26(1)	28(1)	21(1)	1(1)	1(1)	11(1)
C(52)	25(1)	20(1)	27(1)	-1(1)	5(1)	8(1)
N(53)	22(1)	24(1)	26(1)	1(1)	5(1)	9(1)
N(54)	36(1)	42(1)	26(1)	1(1)	4(1)	24(1)
C(55)	45(2)	63(2)	34(2)	0(1)	-2(1)	34(2)
C(56)	31(2)	48(2)	34(1)	4(1)	8(1)	25(1)
C(57)	37(2)	31(1)	32(1)	7(1)	13(1)	21(1)
N(58)	33(1)	31(1)	27(1)	3(1)	11(1)	15(1)
C(59)	44(2)	49(2)	41(2)	9(1)	21(1)	23(2)
C(60)	44(2)	38(2)	37(2)	-5(1)	8(1)	19(1)

Table 5. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for 1.

	x	y	z	U(eq)
H(1A)	8253(3)	1823(3)	4056(1)	43
H(2A)	8123(3)	3011(3)	4881(1)	52
H(3A)	6078(3)	2619(3)	5138(1)	52
H(4A)	4209(3)	979(3)	4586(1)	51
H(5A)	4354(3)	-278(3)	3790(1)	44
H(10A)	5752(22)	-1690(8)	4082(2)	65
H(10B)	6410(13)	-2413(18)	3725(6)	65
H(10C)	4868(10)	-2973(10)	3661(5)	65
H(11A)	5041(3)	-2993(2)	2601(1)	42
H(11B)	6404(3)	-1896(2)	2557(1)	42
H(12A)	3943(3)	-2232(3)	1909(1)	42
H(12B)	4729(3)	-799(3)	2202(1)	42
H(14A)	4654(3)	-3075(9)	1117(10)	73
H(14B)	5989(20)	-2853(12)	1573(3)	73
H(14C)	6008(20)	-2265(5)	933(7)	73
H(15A)	3954(7)	-1326(9)	930(7)	66
H(15B)	5300(13)	-530(20)	736(5)	66
H(15C)	4841(19)	70(11)	1249(3)	66
H(16A)	10044(3)	4107(3)	4307(1)	50
H(17A)	11061(4)	3973(3)	5292(1)	69
H(18A)	13130(5)	3876(3)	5473(2)	80
H(19A)	14170(4)	3888(4)	4659(2)	77
H(20A)	13173(3)	4068(3)	3668(2)	57
H(25A)	12366(18)	6338(3)	3677(4)	64
H(25B)	11356(5)	6853(9)	3296(9)	64
H(25C)	12639(14)	6974(8)	3062(6)	64
H(26A)	10477(3)	6024(3)	2275(1)	37
H(26B)	9663(3)	4530(3)	2256(1)	37
H(27A)	10635(3)	5045(3)	1392(1)	39
H(27B)	12043(3)	5621(3)	1820(1)	39
H(29A)	10502(10)	3285(20)	831(2)	61
H(29B)	11330(21)	2465(9)	1084(2)	61
H(29C)	12053(12)	3937(12)	987(4)	61
H(30A)	13223(3)	4350(14)	2010(6)	58
H(30B)	12526(10)	2874(6)	2105(7)	58
H(30C)	12475(9)	3939(19)	2556(2)	58
H(31A)	8872(3)	-2864(3)	1988(1)	41
H(32A)	7676(3)	-4392(3)	1168(1)	46
H(33A)	7461(3)	-3761(3)	173(1)	45
H(34A)	8395(3)	-1593(3)	11(1)	42
H(35A)	9562(3)	-54(3)	829(1)	37
H(40A)	12518(16)	-972(20)	2464(2)	66
H(40B)	12605(14)	51(6)	1975(9)	66
H(40C)	11513(3)	-1360(14)	1830(7)	66
H(41A)	11464(3)	1449(3)	2842(1)	42
H(41B)	12698(3)	1072(3)	2946(1)	42
H(42A)	11751(3)	-414(3)	3640(1)	44
H(42B)	12076(3)	1030(3)	3866(1)	44
H(44A)	10500(22)	-321(19)	4522(2)	77
H(44B)	9195(4)	-72(22)	4322(2)	77
H(44C)	10575(21)	1091(5)	4412(3)	77
H(45A)	9384(17)	-1582(5)	3002(3)	61
H(45B)	8434(5)	-1627(5)	3452(9)	61

H(45C)	9687(13)	-1950(3)	3679(6)	61
H(46A)	7739(3)	4228(3)	436(1)	42
H(47A)	8717(3)	4286(3)	-399(1)	44
H(48A)	9077(3)	2498(3)	-721(1)	39
H(49A)	8496(3)	665(3)	-182(1)	37
H(50A)	7602(3)	632(2)	681(1)	34
H(55A)	5344(6)	2439(21)	307(2)	68
H(55B)	4678(15)	3252(10)	596(6)	68
H(55C)	4298(10)	1782(12)	714(4)	68
H(56A)	5510(3)	2163(3)	1974(1)	41
H(56B)	4751(3)	3030(3)	1699(1)	41
H(57A)	7405(3)	4483(2)	2091(1)	36
H(57B)	6219(3)	4779(2)	2242(1)	36
H(59A)	5318(12)	3976(8)	3119(9)	62
H(59B)	5863(5)	3099(20)	3541(3)	62
H(59C)	5005(8)	2540(12)	2881(6)	62
H(60A)	7534(9)	5565(7)	3260(8)	58
H(60B)	8656(7)	5174(12)	3097(5)	58
H(60C)	8039(15)	4646(6)	3670(2)	58







