

ORGANOMETALLICS

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Table 1. Anisotropic Temperature Factors for 11

Table of u(i,j) or U values *100.

E.S.Ds. refer to the last digit printed

	u11(U)	u22	u33	u12	u13	u23
W1	2.77(3)	1.975(22)	1.579(22)	0.021(17)	-0.104(15)	0.051(16)
I1	3.43(4)	3.41 (4)	2.20 (3)	0.99 (3)	0.15 (3)	0.12 (3)
C1	4.6 (7)	2.9 (6)	3.7 (6)	0.9 (5)	-1.5 (5)	-1.4 (5)
O1	5.6 (5)	5.4 (5)	2.3 (4)	0.7 (4)	1.5 (4)	1.1 (4)
C2	3.3 (6)	1.1 (4)	2.8 (5)	-0.5 (4)	-1.0 (4)	-0.5 (4)
C3	3.0 (6)	2.9 (5)	3.4 (6)	0.7 (4)	-1.8 (5)	-0.4 (5)
C4	6.7 (8)	3.6 (6)	2.0 (5)	0.1 (5)	-1.2 (5)	0.3 (5)
C5	6.1 (8)	5.1 (7)	2.2 (5)	0.0 (6)	-0.8 (5)	-1.4 (5)
C6	4.6 (7)	4.6 (6)	4.4 (7)	1.3 (6)	-0.4 (5)	-0.8 (6)
C7	5.9 (8)	4.3 (7)	6.2 (8)	0.1 (6)	-2.3 (7)	-1.2 (6)
C8	4.7 (8)	3.6 (6)	9.2 (10)	-0.4 (6)	0.0 (7)	-1.8 (7)
C9	4.9 (8)	3.2 (6)	6.5 (8)	-0.7 (5)	0.6 (6)	0.1 (6)
C10	2.5 (6)	4.9 (7)	8.9 (10)	-1.6 (5)	-0.8 (6)	-0.7 (7)
C11	2.5 (6)	3.7 (6)	5.1 (7)	0.2 (5)	-0.2 (5)	-1.3 (5)
B1	4.2 (7)	2.0 (5)	1.6 (5)	0.8 (5)	-0.2 (5)	-1.3 (4)
N11	3.0 (5)	2.0 (4)	2.7 (4)	0.5 (3)	0.2 (3)	0.0 (3)
N12	2.8 (5)	2.3 (4)	1.6 (4)	0.1 (3)	0.1 (3)	-0.8 (3)
C13	2.4 (6)	3.2 (5)	2.4 (5)	-0.4 (4)	0.1 (4)	-0.3 (4)
C14	4.5 (7)	2.8 (5)	1.9 (5)	-0.3 (5)	0.6 (4)	0.2 (4)
C15	2.9 (6)	2.4 (5)	2.5 (5)	-0.5 (4)	-0.2 (4)	0.1 (4)
C16	4.8 (7)	3.8 (6)	3.1 (6)	-0.2 (5)	0.5 (5)	-0.2 (5)
C17	3.9 (6)	2.0 (5)	3.4 (6)	-0.4 (4)	0.7 (5)	0.1 (4)
N21	2.2 (4)	2.7 (4)	3.0 (4)	-0.3 (4)	-0.2 (3)	0.7 (4)
N22	3.1 (5)	2.0 (4)	1.6 (4)	0.5 (3)	-0.4 (3)	0.5 (3)
C23	3.6 (6)	2.1 (5)	2.9 (5)	-1.5 (4)	-1.2 (5)	0.9 (4)
C24	3.6 (7)	3.6 (6)	3.9 (6)	-1.1 (5)	-0.4 (5)	1.5 (5)
C25	3.2 (6)	3.1 (5)	3.1 (5)	-0.8 (5)	-0.3 (4)	0.2 (5)
C26	5.2 (7)	3.0 (5)	3.9 (6)	-1.8 (5)	-1.5 (5)	0.0 (5)
C27	3.5 (7)	5.0 (7)	5.4 (7)	-0.9 (5)	1.3 (5)	0.2 (6)
N31	2.9 (5)	2.0 (4)	2.8 (4)	-0.2 (4)	-0.1 (4)	1.0 (4)
N32	2.9 (5)	2.4 (4)	3.3 (5)	0.1 (4)	0.3 (4)	-0.2 (4)
C33	3.0 (6)	2.8 (5)	4.1 (6)	0.3 (5)	0.5 (5)	0.8 (5)
C34	3.0 (6)	3.1 (5)	3.8 (6)	-0.3 (5)	0.1 (5)	1.6 (5)
C35	2.1 (5)	2.6 (5)	3.2 (5)	-0.6 (4)	-0.2 (4)	0.8 (4)
C36	5.4 (8)	4.6 (7)	4.9 (7)	2.0 (6)	0.8 (6)	1.1 (6)
C37	3.6 (6)	4.4 (6)	3.3 (6)	0.4 (5)	-1.2 (5)	1.3 (5)
H4a	5.1					
H4b	5.1					
H5a	5.5					
H5b	5.5					
H6a	5.6					
H6b	5.6					
H7a	6.5					
H7b	6.5					
H8a	6.8					
H8b	6.8					
H9a	5.9					

H9b	5.9
H10a	6.4
H10b	6.4
H11a	4.8
H11b	4.8
H1	3.6
H14	4.1
H16a	4.9
H16b	4.9
H16c	4.9
H17a	4.1
H17b	4.1
H17c	4.1
H24	4.7
H26a	5.0
H26b	5.0
H26c	5.0
H27a	5.6
H27b	5.6
H27c	5.6
H34	4.3
H36a	6.0
H36b	6.0
H36c	6.0
H37a	4.8
H37b	4.8
H37c	4.8

Anisotropic Temperature Factors are of the form
$$\text{Temp} = -2\pi^2 (h^2 u_{11}^2 + k^2 u_{22}^2 + l^2 u_{33}^2 + 2hk u_{12} + 2hl u_{13} + 2kl u_{23})$$

Table 2. Complete Bond Distances for **11**

W(1)-I(1)	2.7905(7)	N(11)-N(12)	1.387(10)
W(1)-C(1)	1.913(12)	N(11)-C(15)	1.352(11)
W(1)-C(2)	2.023(9)	N(12)-C(13)	1.351(12)
W(1)-C(3)	2.060(9)	C(13)-C(14)	1.391(13)
W(1)-N(11)	2.253(7)	C(13)-C(16)	1.479(13)
W(1)-N(21)	2.255(7)	C(14)-C(15)	1.404(13)
W(1)-N(31)	2.196(7)	C(15)-C(17)	1.475(12)
C(1)-O(1)	1.190(13)	N(21)-N(22)	1.390(10)
C(2)-C(3)	1.302(14)	N(21)-C(25)	1.341(12)
C(2)-C(11)	1.494(14)	N(22)-C(23)	1.351(11)
C(3)-C(4)	1.509(13)	C(23)-C(24)	1.361(16)
C(4)-C(5)	1.538(16)	C(23)-C(26)	1.474(14)
C(5)-C(6)	1.518(16)	C(24)-C(25)	1.389(14)
C(6)-C(7)	1.536(17)	C(25)-C(27)	1.505(15)
C(7)-C(8)	1.518(20)	N(31)-N(32)	1.381(11)
C(8)-C(9)	1.530(17)	N(31)-C(35)	1.337(11)
C(9)-C(10)	1.516(16)	N(32)-C(33)	1.335(12)
C(10)-C(11)	1.535(14)	C(33)-C(34)	1.361(14)
B(1)-N(12)	1.520(13)	C(33)-C(36)	1.495(15)
B(1)-N(22)	1.522(14)	C(34)-C(35)	1.391(14)
B(1)-N(32)	1.540(13)	C(35)-C(37)	1.505(14)

Table 3. Complete Bond Angles for 11

I(1)-W(1)-C(1)	89.3(3)	W(1)-N(11)-N(12)	119.1(5)
I(1)-W(1)-C(2)	105.57(24)	W(1)-N(11)-C(15)	134.0(6)
I(1)-W(1)-C(3)	100.65(25)	N(12)-N(11)-C(15)	106.5(7)
I(1)-W(1)-N(11)	84.97(18)	B(1)-N(12)-N(11)	120.1(7)
I(1)-W(1)-N(21)	87.68(19)	B(1)-N(12)-C(13)	129.6(7)
I(1)-W(1)-N(31)	164.55(19)	N(11)-N(12)-C(13)	110.4(7)
C(1)-W(1)-C(2)	106.1(4)	N(12)-C(13)-C(14)	107.3(8)
C(1)-W(1)-C(3)	69.1(4)	N(12)-C(13)-C(16)	124.0(8)
C(1)-W(1)-N(11)	168.6(4)	C(14)-C(13)-C(16)	128.7(9)
C(1)-W(1)-N(21)	88.0(3)	C(13)-C(14)-C(15)	106.6(8)
C(1)-W(1)-N(31)	96.2(3)	N(11)-C(15)-C(14)	109.3(8)
C(2)-W(1)-C(3)	37.2(4)	N(11)-C(15)-C(17)	125.3(8)
C(2)-W(1)-N(11)	85.0(3)	C(14)-C(15)-C(17)	125.4(8)
C(2)-W(1)-N(21)	160.5(3)	W(1)-N(21)-N(22)	118.3(5)
C(2)-W(1)-N(31)	86.8(3)	W(1)-N(21)-C(25)	134.8(6)
C(3)-W(1)-N(11)	121.6(4)	N(22)-N(21)-C(25)	106.6(7)
C(3)-W(1)-N(21)	155.3(3)	B(1)-N(22)-N(21)	120.9(7)
C(3)-W(1)-N(31)	94.8(3)	B(1)-N(22)-C(23)	129.7(8)
N(11)-W(1)-N(21)	82.0(3)	N(21)-N(22)-C(23)	109.1(8)
N(11)-W(1)-N(31)	87.0(3)	N(22)-C(23)-C(24)	108.0(8)
N(21)-W(1)-N(31)	78.1(3)	N(22)-C(23)-C(26)	123.2(9)
W(1)-C(1)-O(1)	178.3(8)	C(24)-C(23)-C(26)	128.8(9)
W(1)-C(2)-C(3)	73.0(6)	C(23)-C(24)-C(25)	107.3(9)
W(1)-C(2)-C(11)	144.4(7)	N(21)-C(25)-C(24)	109.1(9)
C(3)-C(2)-C(11)	141.5(8)	N(21)-C(25)-C(27)	124.4(8)
W(1)-C(3)-C(2)	69.9(5)	C(24)-C(25)-C(27)	126.5(9)
W(1)-C(3)-C(4)	148.9(8)	W(1)-N(31)-N(32)	120.2(5)
C(2)-C(3)-C(4)	141.2(9)	W(1)-N(31)-C(35)	133.8(6)
C(3)-C(4)-C(5)	114.6(8)	N(32)-N(31)-C(35)	105.7(7)
C(4)-C(5)-C(6)	114.7(9)	B(1)-N(32)-N(31)	119.2(7)
C(5)-C(6)-C(7)	115.4(9)	B(1)-N(32)-C(33)	129.8(8)
C(6)-C(7)-C(8)	114.0(9)	N(31)-N(32)-C(33)	110.1(7)
C(7)-C(8)-C(9)	114.2(9)	N(32)-C(33)-C(34)	108.0(9)
C(8)-C(9)-C(10)	115.9(10)	N(32)-C(33)-C(36)	121.9(9)
C(9)-C(10)-C(11)	112.2(9)	C(34)-C(33)-C(36)	130.1(9)
C(2)-C(11)-C(10)	112.4(8)	C(33)-C(34)-C(35)	106.4(8)
N(12)-B(1)-N(22)	110.5(7)	N(31)-C(35)-C(34)	109.8(8)
N(12)-B(1)-N(32)	110.3(8)	N(31)-C(35)-C(37)	123.1(8)
N(22)-B(1)-N(32)	107.8(7)	C(34)-C(35)-C(37)	127.0(8)

Table 4. Atomic Parameters x, y, z and Biso for 11

Table .Atomic Parameters x,y,z and Biso. E.S.Ds. refer to the last digit printed.				
	x	y	z	Biso
W1	0.13299(4)	0.826262(16)	0.108246(24)	1.665(18)
I1	0.34892(7)	0.74250 (3)	0.15417 (4)	2.38 (3)
C1	0.2114 (11)	0.8382 (5)	-0.0133 (7)	3.0 (4)
O1	0.2603 (8)	0.8440 (3)	-0.0892 (5)	3.5 (3)
C2	-0.0358 (10)	0.7702 (4)	0.0881 (6)	1.9 (4)
C3	0.0276 (10)	0.7732 (4)	0.0080 (7)	2.5 (4)
C4	0.0143 (12)	0.7507 (5)	-0.0926 (7)	3.2 (5)
C5	0.1093 (12)	0.6943 (5)	-0.1178 (7)	3.5 (5)
C6	0.0854 (12)	0.6337 (5)	-0.0611 (8)	3.6 (5)
C7	-0.0613 (13)	0.6055 (5)	-0.0686 (9)	4.3 (5)
C8	-0.1164 (13)	0.5806 (5)	0.0240 (10)	4.6 (6)
C9	-0.1210 (12)	0.6308 (5)	0.1023 (8)	3.8 (5)
C10	-0.2217 (11)	0.6856 (5)	0.0868 (10)	4.3 (6)
C11	-0.1688 (10)	0.7485 (5)	0.1301 (7)	3.0 (5)
B1	0.0701 (12)	0.9404 (5)	0.2638 (7)	2.1 (4)
N11	0.0811 (8)	0.8198 (3)	0.2620 (5)	2.0 (3)
N12	0.0544 (8)	0.8757 (3)	0.3114 (5)	1.8 (3)
C13	0.0123 (10)	0.8617 (4)	0.3993 (6)	2.1 (4)
C14	0.0129 (11)	0.7953 (4)	0.4081 (6)	2.4 (4)
C15	0.0544 (10)	0.7707 (4)	0.3210 (6)	2.0 (4)
C16	-0.0248 (11)	0.9105 (5)	0.4701 (7)	3.1 (5)
C17	0.0715 (11)	0.7022 (4)	0.2986 (7)	2.4 (4)
N21	0.2692 (8)	0.9068 (3)	0.1607 (5)	2.1 (3)
N22	0.2165 (8)	0.9485 (3)	0.2275 (5)	1.8 (3)
C23	0.3084 (11)	0.9963 (4)	0.2430 (7)	2.3 (4)
C24	0.4198 (11)	0.9856 (5)	0.1876 (7)	2.9 (4)
C25	0.3934 (10)	0.9300 (4)	0.1368 (7)	2.5 (4)
C26	0.2850 (12)	1.0488 (5)	0.3103 (7)	3.2 (5)
C27	0.4878 (11)	0.8990 (5)	0.0669 (8)	3.7 (5)
N31	-0.0088 (8)	0.9084 (3)	0.1005 (5)	2.0 (3)
N32	-0.0306 (8)	0.9459 (3)	0.1791 (5)	2.3 (3)
C33	-0.1291 (10)	0.9892 (4)	0.1610 (7)	2.6 (4)
C34	-0.1737 (10)	0.9808 (4)	0.0705 (7)	2.6 (4)
C35	-0.0961 (9)	0.9307 (4)	0.0343 (6)	2.1 (4)
C36	-0.1735 (13)	1.0368 (5)	0.2332 (8)	3.9 (5)
C37	-0.1095 (11)	0.9016 (5)	-0.0623 (7)	3.0 (4)
H4a	-0.079	0.737	-0.103	4.0
H4b	0.034	0.786	-0.133	4.0
H5a	0.203	0.708	-0.108	4.3
H5b	0.094	0.684	-0.183	4.3
H6a	0.102	0.644	0.004	4.4
H6b	0.149	0.601	-0.081	4.4
H7a	-0.120	0.639	-0.091	5.1
H7b	-0.061	0.571	-0.114	5.1
H8a	-0.209	0.566	0.013	5.4
H8b	-0.060	0.545	0.045	5.4

H9a	-0.030	0.650	0.108	4.6
H9b	-0.143	0.610	0.160	4.6
H10a	-0.236	0.691	0.020	5.1
H10b	-0.308	0.674	0.115	5.1
H11a	-0.155	0.743	0.197	3.8
H11b	-0.237	0.781	0.119	3.8
H1	0.050	0.974	0.308	2.9
H14	-0.012	0.771	0.463	3.2
H16a	-0.049	0.889	0.527	3.9
H16b	0.052	0.939	0.482	3.9
H16c	-0.102	0.935	0.447	3.9
H17a	0.043	0.677	0.352	3.2
H17b	0.016	0.691	0.244	3.2
H17c	0.167	0.694	0.286	3.2
H24	0.501	1.012	0.184	3.7
H26a	0.361	1.078	0.311	4.0
H26b	0.202	1.071	0.291	4.0
H26c	0.274	1.031	0.372	4.0
H27a	0.569	0.925	0.061	4.5
H27b	0.514	0.857	0.089	4.5
H27c	0.441	0.896	0.007	4.5
H34	-0.246	1.004	0.038	3.4
H36a	-0.245	1.064	0.206	4.7
H36b	-0.209	1.014	0.286	4.7
H36c	-0.097	1.063	0.253	4.7
H37a	-0.178	0.925	-0.098	3.8
H37b	-0.022	0.904	-0.093	3.8
H37c	-0.137	0.857	-0.058	3.8

Biso is the Mean of the Principal Axes of the Thermal Ellipsoid