

Fig. 1. Thermal ellipsoid plot of (3) (35% level), showing the atom-numbering scheme.

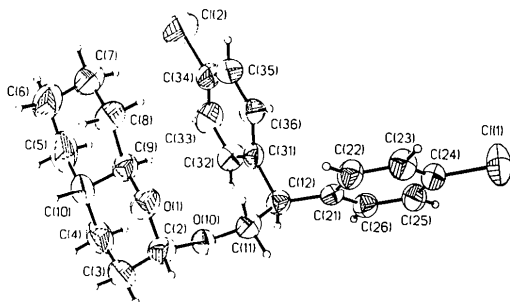


Fig. 2. Thermal ellipsoid plot of (4) (50% level), showing the atom-numbering scheme.

fit the complete set of data satisfactorily to the Morse function, which turns out to have a substantial linear region for moderate values of $(r - r_0)$ (for details see Jones & Kirby, 1984).

It is noteworthy that the exocyclic C—OR bonds are significantly shorter than the endocyclic C—O bonds at the acetal centre [1.428 (6) and 1.416 (6) Å respectively for (3) and (4)], as predicted by the linear relationships between bond length and reactivity discussed previously (Briggs, Glenn, Jones, Kirby &

Ramaswamy, 1984). The two acetal oxygen atoms might be expected to have similar effective electronegativities, giving rise to equal C—O bond lengths at the acetal centre. In practice the ring oxygen behaves as though it is slightly *more* electronegative. This is presumably a result of constraints imposed by the ring structure, perhaps on bond angles at the acetal centre, or at the ring oxygen (Deslongchamps, 1983). In fact the only systematic difference apparent between the angles in the cyclic series (1–4) and a similar acyclic series methoxymethyl acetals (MeOCH₂OR; Jones, Sheldrick, Kirby & Briggs, 1985) is the angle at the acetal carbon, which may be smaller ($110.3 \pm 1.9^\circ$ for six compounds) for the cyclic acetals. For the methoxymethyl series MeOCH₂OR is $112.7 \pm 0.4^\circ$ for four compounds.

The molecules of (3) pack so as to allow the formation of carboxylic acid dimers, with O(22)···O(21) 2.62 (1) Å (second atom at $1 - x, -y, -z$). (4) shows no unusually short intermolecular contacts.

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SHORT COMMUNICATION

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[Ph₄As][Cl₂OW(μ-Cl){μ-S(p-C₆H₄CH₃)}₂WOCl₂] and Co[(C₁₂H₁₀OP)₂Pt(C₃H₁₀NS₂)₂].2CHCl₃: corrigenda.* By RICHARD E. MARSH, *Arthur Amos Noyes Laboratory of Chemical Physics, California Institute of Technology, Pasadena, California 91125, USA*

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Abstract

Both tetraphenylarsonium μ -chloro-bis-(μ -*p*-tolylthiolato)-bis-[dichlorooxotungstate(V)] and bis[*N,N'*-diethylthiocarbam-

ato)bis(diphenylphosphinito)platino-*O,O'*[cobalt(II) chloroform (1/2) should be described in space groups of higher symmetry than originally reported, the tungsten compound in $P\bar{4}2_1m$ rather than $P\bar{4}$ and the Pt–Co complex in $C2/c$ rather than $P\bar{1}$.

$[\text{Ph}_4\text{As}][\text{Cl}_2\text{OW}(\mu\text{-Cl})\{\mu\text{-S}(p\text{-C}_6\text{H}_4\text{CH}_3)\}_2\text{WOCl}_2]$: The crystal structure of this compound was described (Ball, Boorman, Moynihan & Richardson, 1985) in space group $P\bar{4}$ [tetragonal; $a = 16.173$ (1), $c = 7.8566$ (8) Å, $Z = 2$]. It conforms to the symmetry of $P\bar{4}2_1m$ within the reported e.s.d.'s. The $P\bar{4}2_1m$ coordinates are given in Table 1.

$\text{Co}[(\text{C}_{12}\text{H}_{10}\text{OP})_2\text{Pt}(\text{C}_5\text{H}_{10}\text{NS}_2)]_2 \cdot 2\text{CHCl}_3$: The structure of this compound was described (Allan, Milburn, Sawyer, Shah, Stephenson & Veitch, 1985) in space group $P\bar{1}$ [triclinic; $a = 11.31$ (3), $b = 14.085$ (4), $c = 24.701$ (8) Å, $\alpha = 80.20$ (3), $\beta = 76.73$ (3), $\gamma = 66.32$ (2)°, $Z = 2$]. The vectors $(\bar{1}20)$, $(\bar{1}00)$, $(0\bar{1}1)$ define a C -centered cell with $a' = 25.798$, $b' = 11.31$, $c' = 26.270$ Å, $\alpha' = 90.03$, $\beta' = 114.26$, $\gamma' = 90.01$ °, $Z = 4$; the corresponding transformations $x' = \frac{1}{2}(y+z) - \frac{1}{4}$, $y' = -x - \frac{1}{2}(y+z) + \frac{1}{4}$, $z' = z$ lead to coordinates (Table 2) that are consistent with space group $C2/c$ within the reported e.s.d.'s.

For both compounds the average value of Δ/σ , where Δ is the parameter shift necessary to achieve the higher symmetry and σ is the reported e.s.d. of that parameter (see Tables 1 and 2), is about 0.6 and the r.m.s. value is about 0.8. Thus,

Table 1. $[\text{Ph}_4\text{As}][\text{Cl}_2\text{OW}(\mu\text{-Cl})\{\mu\text{-S}(p\text{-tolyl})\}_2\text{WOCl}_2]$: coordinates ($\times 10^4$), space group $P\bar{4}2_1m$

Numbers in square brackets are single-atom shifts from the $P\bar{4}$ coordinates (Ball *et al.*, 1985; Table 2) necessary to attain the symmetry of $P\bar{4}2_1m$; numbers in parentheses are single-atom e.s.d.'s.

Site	x	y	z
W	4(e)	629.2 [1] (7)	4370.8
As(1,2)	2(b)	0	5000
Cl(1)	2(c)	0	5000
Cl(2,3)	8(f)	1984 [4] (5)	4376 [3] (5)
S	4(e)	860 [8] (4)	5860
O	4(e)	741 [3] (9)	4259
C(1)	4(e)	1220 [12] (14)	6220
C(2)	4(e)	1830 [10] (17)	6830
C(3)	4(e)	2162 [6] (18)	7162
C(4)	4(e)	1946 [6] (15)	6946
C(5)	4(e)	1332 [4] (16)	6332
C(6)	4(e)	972 [8] (18)	5972
C(7)	4(e)	2285 [22] (19)	7285
C(11,21)	8(f)	426 [21] (19)	862 [20] (19)
C(12,22)	8(f)	936 [0] (23)	648 [22] (22)
C(13,23)	8(f)	1230 [6] (19)	1238 [2] (22)
C(14,24)	8(f)	1022 [10] (20)	2016 [1] (20)
C(15,25)	8(f)	590 [2] (23)	2273 [19] (24)
C(16,26)	8(f)	218 [16] (18)	1696 [12] (19)

Table 2. $\text{Co}[(\text{C}_{12}\text{H}_{10}\text{OP})_2\text{Pt}(\text{C}_5\text{H}_{10}\text{NS}_2)]_2 \cdot 2\text{CHCl}_3$: coordinates ($\times 10^4$), space group $C2/c$

Brackets and parentheses as in Table 1.

	x'	y'	z'
Pt(2,1)	-967.0 [2] (4)	-298.1 [0] (10)	831.1 [1] (4)
Co(1)	0 [3]	-770 [-] (4)	2500 [3] (2)
S(1,3)	-1937 [2] (3)	-278 [8] (9)	185 [1] (4)
S(2,4)	-1041 [2] (3)	1174 [4] (7)	162 [4] (3)
O(2,3)	189 [3] (7)	135 [8] (17)	1962 [0] (8)
O(1,4)	-626 [4] (7)	-1751 [2] (18)	1998 [0] (8)
N(1,2)	-2107 [14] (11)	1242 [8] (24)	-658 [8] (12)
C(1,2)	-1735 [0] (12)	792 [15] (29)	-166 [8] (12)
C(11,21)	-2720 [26] (15)	873 [28] (41)	-945 [11] (17)
C(12,22)	-2774 [28] (21)	106 [38] (38)	-1452 [5] (22)
C(13,23)	-1921 [4] (15)	2115 [6] (34)	-982 [6] (16)
C(14,24)	-2129 [2] (24)	3329 [3] (42)	-856 [8] (27)
C(4,3)	964 [4] (11)	2262 [8] (20)	2532 [4] (14)
Cl(4,3)	1066 [8] (5)	1823 [17] (10)	3209 [5] (5)
Cl(5,2)	1620 [1] (6)	2071 [7] (14)	2462 [8] (7)
Cl(6,1)	771 [8] (6)	3757 [1] (12)	2419 [1] (6)
P(1,4)	-1050 [2] (3)	-1719 [1] (7)	1386 [2] (3)
P(2,3)	-20 [1] (3)	-197 [1] (6)	1341 [3] (3)
C(51,311)	328 [4] (8)	-1580 [8] (16)	1302 [3] (9)
C(52,312)	158 [2] (8)	-2182 [9] (16)	796 [8] (9)
C(53,313)	409 [4] (8)	-3259 [12] (16)	770 [14] (9)
C(54,314)	832 [8] (8)	-3736 [3] (16)	1252 [16] (9)
C(55,315)	1003 [9] (8)	-3135 [20] (16)	1759 [11] (9)
C(56,316)	751 [8] (8)	-2057 [22] (16)	1784 [4] (9)
C(511,31)	294 [4] (7)	924 [4] (15)	1072 [2] (8)
C(512,36)	142 [6] (7)	2092 [4] (15)	1112 [4] (8)
C(513,35)	362 [5] (7)	3007 [2] (15)	904 [0] (8)
C(514,34)	734 [0] (7)	2754 [2] (15)	657 [5] (8)
C(515,33)	887 [4] (7)	1585 [2] (15)	617 [7] (8)
C(516,32)	667 [2] (7)	670 [0] (15)	825 [4] (8)
C(61,41)	-1749 [1] (7)	-1645 [11] (21)	1398 [6] (9)
C(62,42)	-1787 [6] (7)	-1012 [17] (21)	1838 [6] (9)
C(63,43)	-2309 [8] (7)	-908 [30] (21)	1875 [3] (9)
C(64,44)	-2792 [5] (7)	-1439 [36] (21)	1474 [1] (9)
C(65,45)	-2754 [0] (7)	-2072 [30] (21)	1036 [2] (9)
C(66,46)	-2232 [2] (7)	-2176 [17] (21)	998 [4] (9)
C(611,411)	-1025 [6] (8)	-3143 [13] (19)	1100 [6] (8)
C(612,412)	-722 [2] (8)	-4048 [21] (20)	1460 [1] (8)
C(613,413)	-694 [3] (8)	-5165 [19] (20)	1248 [4] (8)
C(614,414)	-970 [6] (8)	-5378 [8] (20)	676 [5] (8)
C(615,415)	-1275 [2] (8)	-4474 [1] (20)	316 [0] (8)
C(616,416)	-1302 [4] (8)	-3356 [2] (20)	529 [4] (8)

both structures conform to the higher symmetries well within the reported e.s.d.'s, and it is unnecessary to consult the intensity data for confirmation of the higher Laue symmetries and the systematic absences [$h00$ with h odd for the tetragonal structure, $0kl$ with $(k+l)$ odd for the triclinic indexing of the monoclinic structure].

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