Table 3. *Bond angles* (°)

	Molecule (I)	Molecule (II)
N(2)C(1)O(7)	105·0 (4)	105·7 (4)
N(2)C(1)N(8)	115·7 (4)	115·6 (4)
N(2)C(1)C(20)	108·4 (4)	110·7 (5)
O(7)C(1)N(8)	110·8 (4)	109·8 (4)
O(7)C(1)C(20)	104·7 (4)	103·4 (4)
N(8)C(1)C(20)	111·6 (4)	110·9 (5)
C(1)N(2)C(3)	116·7 (4)	117·6 (4)
C(1)N(2)C(4)	107·6 (4)	107·5 (4)
C(3)N(2)C(4)	60·3 (3)	59·9 (3)
N(2)C(3)C(4)	60·0 (3)	61·6 (3)
N(2)C(3)C(17)	114·8 (3)	115·4 (4)
C(4)C(3)C(17)	121·9 (4)	122·4 (5)
N(2)C(4)C(3)	59·7 (3)	58·5 (3)
N(2)C(4)C(5)	109·0 (3)	108·6 (4)
N(2)C(4)C(11)	118·5 (3)	116·8 (4)
C(3)C(4)C(5)	118·4 (4)	119·3 (4)
C(3)C(4)C(11)	125·5 (3)	123·9 (4)
C(5)C(4)C(11)	113·0 (4)	114·6 (4)
C(4)C(5)C(6)	103·5 (3)	105·6 (4)
C(4)C(5)C(9)	107·7 (4)	109·4 (4)
C(6)C(5)C(9)	104·4 (3)	101·8 (4)
C(5)C(6)O(7)	111·6 (4)	110·6 (4)
C(5)C(6)O(24)	128·7 (5)	129·1 (6)
O(7)C(6)O(24)	119·7 (4)	120·2 (5)
C(1)O(7)C(6)	110·7 (4)	111·0 (4)
C(1)N(8)C(9)	109·2 (4)	108·5 (2)
C(5)C(9)N(8)	117·2 (5)	118·4 (4)
C(5)C(9)C(10)	119·5 (5)	119·6 (5)
N(8)C(9)C(10)	123·2 (5)	122·0 (5)
C(4)C(11)C(12)	121·7 (4)	119·2 (4)
C(4)C(11)C(16)	118·9 (4)	120·7 (5)
C(12)C(11)C(16)	119·4 (5)	120·0 (5)
C(11)C(12)C(13)	120·5 (5)	118·9 (5)
C(12)C(13)C(14)	120·3 (6)	120·5 (7)
C(13)C(14)C(15)	119·3 (5)	120·0 (7)
C(14)C(15)C(16)	121·2 (5)	120·9 (6)
C(11)C(16)C(15)	119·4 (5)	119·7 (6)
C(3)C(17)C(18)	110·1 (4)	109·7 (5)
C(3)C(17)C(19)	108·5 (3)	108·9 (5)
C(18)C(17)C(19)	111·2 (5)	111·6 (5)
C(1)C(20)F(21)	112·9 (5)	113·7 (7)
C(1)C(20)F(22)	109·8 (5)	112·9 (6)
C(1)C(20)F(23)	111·9 (5)	107·5 (5)

peaks in the final difference map of +0·29 and −0·28 e Å^{-3}, $\sum w(|F_o| - |F_c|)^2$ minimized with $w = 1/\sigma^2(F_o)$; IBM 4341 computer, locally written programs for data collection, *MULTAN*78 (Main, Hull, Lessinger, Germain, Declercq & Woolfson, 1978) for direct-methods calculations and *XRAY*76 (Stewart, Machin, Dickinson, Ammon, Heck & Flack, 1976) for all others; atomic scattering factors for C and O from Cromer & Mann (1968), those for H from Stewart, Davidson & Simpson (1965). Table 1 lists atomic positional parameters and U_{eq} values while Tables 2 and 3 give bond lengths and bond angles.* Fig. 1 shows the atom numbering.

Related literature. The synthesis and chemistry of compound (3) is given in a paper by Steglich, Jeschke & Buschmann (1986). No crystal structure with a similar tricyclic skeleton could be found in the literature.

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*Lists of H-atom coordinates, anisotropic thermal parameters and structure factors have been deposited with the British Library Document Supply Centre as Supplementary Publication No. SUP 44600 (42 pp.). Copies may be obtained through The Executive Secretary, International Union of Crystallography, 5 Abbey Square, Chester CH1 2HU, England.

References

CROMER, D. T. & MANN, J. B. (1968). *Acta Cryst.* A**24**, 321–324.

MAIN, P., HULL, S. E., LESSINGER, L., GERMAIN, G., DECLERCQ, J.-P. & WOOLFSON, M. M. (1978). *MULTAN*78. *A System of Computer Programs for the Automatic Solution of Crystal Structures from X-ray Diffraction Data.* Univs. of York, England, and Louvain, Belgium.

STEGLICH, W., JESCHKE, R. & BUSCHMANN, E. (1986). *Gazz. Chim. Ital.* **116**, 361–372.

STEWART, J. M., MACHIN, P. A., DICKINSON, C. W., AMMON, H. L., HECK, H. & FLACK, H. (1976). The *XRAY*76 system. Tech. Rep. TR-446. Computer Science Center, Univ. of Maryland, College Park, Maryland, USA.

STEWART, R. F., DAVIDSON, E. R. & SIMPSON, W. T. (1965). *J. Chem. Phys.* **42**, 3175–3187.

SHORT COMMUNICATIONS

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Acta Cryst. (1988). C**44**, 773

μ-[Ethylenebis(dimethylphosphine)]-bis[tris(cyclopentadienyl)uranium(IV)]. Erratum.

By ALLAN ZALKIN, JOHN G. BRENNAN and RICHARD A. ANDERSEN, *Materials and Molecular Research Division, Lawrence Berkeley Laboratory and Department of Chemistry, University of California, Berkeley CA* 94720, *USA*

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Abstract

In the title to the paper by Zalkin, Brennan & Andersen [*Acta Cryst.* (1987). C**43**, 1706–1708] the oxidation state of uranium was incorrectly stated as (IV) instead of (III).

All relevant information is given in the *Abstract.*

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