C(19)	0.3667 (3)	0.2776 (3)	0.4355 (3)	0.046(1)
C(20)	0.4413 (4)	0.3766 (3)	0.4050 (3)	0.061 (2)
C(21)	0.5735 (4)	0.3754 (3)	0.4254 (3)	0.065 (2)
C(22)	0.6277 (4)	0.2734 (3)	0.4781 (3)	0.057 (2)
C(23)	0.5578 (5)	0.1748 (3)	0.5080(3)	0.070 (2)
C(24)	0.4281 (4)	0.1758 (3)	0.4866 (3)	0.062 (2)
C(25)†	0.2293 (6)	0.5477 (6)	0.1891 (9)	0.062 (2)
C(26)†	0.1847 (6)	0.4996 (6)	0.1090 (9)	0.059 (2)
C(27)†	0.0388 (6)	0.4676 (6)	0.1693 (9)	0.065 (2)
C(28)†	-0.0067 (6)	0.4959 (6)	0.2865 (9)	0.073 (2)
C(29)†	0.1110 (6)	0.5454 (6)	0.2988 (9)	0.067 (3)
C(25')†	0.2229 (5)	0.5351 (7)	0.1447 (8)	0.070 (2)
C(26')†	0.1171 (5)	0.4826 (7)	0.1190 (8)	0.056 (2)
C(27')†	-0.0073 (5)	0.4685 (7)	0.2240 (8)	0.057 (2)
C(28')†	0.0216 (5)	0.5122 (7)	0.3147 (8)	0.061 (2)
C(29')†	0.1639 (5)	0.5534 (7)	0.2657 (8)	0.058 (2)

† Site occupancy of 0.5.

Table 2. Selected geometric parameters  $(Å, \circ)$  in (1) and a comparison with those of related compounds (2) and (3)

	(1)	(2)	(3)
Cp-Ni*	1.763(1)	1.748(4)	1.748 (4)
Ni—P	2.144 (1)	2.139(1)	2.136(1)
Ni—S	2.190 (1)	2.192(1)	
<i>Cp</i> —Ni—S	132.3 (1)	133.0 (4)	
Cp-Ni-Se			132.3 (2)
<i>Cp</i> —Ni—P	135.3 (5)	136.4 (5)	136.4 (5)
P—Ni—S	92.4 (1)	90.5 (1)	
P—Ni—Se			91.4 (1)
Other selected ge	ometric paramete	ers in (1)	
Ni-C(25)	2.146 (6)	Ni-C(26)	2.103 (9)
NiC(27)	2.107 (8)	Ni-C(28)	2.153 (5)
Ni-C(29)	2.177 (7)	NiC(25')	2.142 (7)
NiC(26')	2.130 (8)	Ni - C(27')	2.139 (6)
Ni-C(28')	2.157 (7)	NiC(29')	2.159 (8)
PC(1)	1.832 (3)	PC(7)	1.831 (3)
PC(13)	1.831 (3)	SC(19)	1.764 (4)
Cl—C(22)	1.753 (4)		
Ni—P—C(7)	112.0(1)	Ni—P—C(13)	113.0(1)
C(1)—PC(7)	107.0(1)	Ni-SC(19)	111.5 (1)
C(1)—PC(13)	100.6(1)	C(7)PC(13)	104.5(1)
Ni-P-C(1)	118.3 (1)		

\* Cp represents the centroid of the cyclopentadienyl group.

In the refinement, the five C atoms of each cyclopentadienyl group were treated as a rigid body, with isotropic atomic displacement parameters and no H atoms attached.

Data collection: SHELXTL-Plus (Sheldrick, 1990). Cell refinement: SHELXTL-Plus. Data reduction: SHELXTL-Plus. Program(s) used to solve structure: SHELXTL-Plus. Program(s) used to refine structure: SHELXTL-Plus. Molecular graphics: SHELXTL-Plus. Software used to prepare material for publication: SHELXTL-Plus.

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Lists of structure factors, anisotropic displacement parameters, Hatom coordinates and complete geometry have been deposited with the IUCr (Reference: HA1150). Copies may be obtained through The Managing Editor, International Union of Crystallography, 5 Abbey Square, Chester CH1 2HU, England.

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# An Mo<sub>2</sub>(CO)<sub>4</sub> (Mo=Mo) Fragment Stabilized by a Tripod Ligand

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#### Abstract

Tetracarbonyl- $1\kappa^2 C$ ; $2\kappa^2 C$ -bis[ $3,4(\eta^5)$ -cyclopentadienyl]hexakis- $\mu$ -dimethylphosphito- $1:3\kappa^6 O:P$ ; $2:4\kappa^6 O:P$ -dicobaltdimolybdenum(I)(Mo-Mo), [Mo(CO)<sub>2</sub>{Co(C<sub>5</sub>-H<sub>5</sub>)(C<sub>2</sub>H<sub>6</sub>O<sub>3</sub>P)<sub>3</sub>}]<sub>2</sub>, a binuclear metal complex of type  $L_2$ Mo<sub>2</sub>(CO)<sub>4</sub> (L is a tripod ligand), shows central Mo=Mo triple bond lengths of 2.467(1) and 2.468(1) Å in the two independent molecules. The structure agrees very well with that of a related tungsten complex. The coordination of the central Mo atoms is distorted octahedral with acute Mo-Mo-C angles. All twelve Mo-O-P-Co fragments are synperiplanar, with Co-P bond lengths ranging from 2.152(2) to 2.171(1) Å.

### Comment

The  $(\eta^5$ -cyclopentadienyl)tris(dimethylphosphito)cobaltate(1-) anion, which is itself a half-sandwich complex, has a strong tendency to act as an *O*,*O*,*O*-tripod ligand using its three P==O groups and forms stable complexes with many metal ions (Kläui, 1990). Its structure has been studied thoroughly, for example, by crystal structure analysis of its Na and Cs salts (Kläui, Matt, Balegroune & Grandjean, 1991; Englert, Kläui & Weber-Schuster, 1992). We have determined the structure of a binuclear Mo complex, (I), in which two *L*Mo(CO)<sub>2</sub> fragments [*L* = Co(C<sub>5</sub>H<sub>5</sub>)(C<sub>2</sub>H<sub>6</sub>O<sub>3</sub>P)<sub>3</sub>] are connected by an Mo=Mo triple bond.



The two molecules contained in the asymmetric unit show approximate translation symmetry with  $\Delta x \approx 1/2$ ,  $\Delta y \approx 1/4$  and  $\Delta z \approx 1/2$ . Their structures agree well with that of a very similar  $L_2W_2(CO)_4$  complex, with ethoxy instead of methoxy groups, which has been discussed in great detail previously (Kläui, Müller, Herbst & Egert, 1987). The W=W distance of 2.503 (1) Å in that complex is slightly longer than the Mo=Mo distances of 2.467(1) and 2.468(1) Å in the title compound. The coordination of the central Mo atoms is distorted octahedral with acute Mo-Mo-C angles and each of the three O-atom donors of the tripod ligands is approximately trans with respect to the carbonyl ligands and the second Mo atom. The orientation of the carbonyl ligands, which are antiperiplanar with respect to one another, deviates by more than  $20^{\circ}$  from the ideal  $180^{\circ}$ torsion angle for the C-Mo-Mo-C fragment. The Mo-O-P-Co fragment, which altogether appears twelve times in the two independent molecules, is always synperiplanar, with a maximum deviation of  $11.7(3)^{\circ}$  of the respective torsion angle from the ideal  $0^{\circ}$  value; the Co— $\tilde{P}$  bond lengths range from 2.152(2) to 2.171(1) Å.



Fig. 1. The structure of molecule 1 of (I) with the atom-numbering scheme. H atoms have been omitted.

### Experimental

Crystals of (I) were provided by Professor W. Kläui (Technische Hochschule Aachen, now at the University of Düsseldorf, Germany).

#### Crystal data

$[Mo(CO)_2 \{Co(C_5H_5)-$	Mo $K\alpha$ radiation
$(C_2H_6O_3P)_3]_2$	$\lambda = 0.71073 \text{ Å}$

 $M_r = 1206.2$ Monoclinic  $P2_1/c$ a = 13.651 (1) Åb = 23.910 (3) Åc = 27.883 (2) Å $\beta = 102.44 (1)^\circ$  $V = 8887.2 Å^3$ Z = 8 $D_x = 1.803 \text{ Mg m}^{-3}$  $D_m$  not measured

#### Data collection

Stoe–Siemens four-circle diffractometer  $\omega/2\theta$  scans Absorption correction: empirical via  $\psi$  scans (Sheldrick, 1990)  $T_{min} = 0.687, T_{max} =$ 1.000 16 610 measured reflections 15 775 independent reflections

### Refinement

Refinement on F R = 0.042 wR = 0.049 S = 2.08 12 743 reflections 1009 parameters H atoms riding, C—H = 0.96 Å w =  $1/[\sigma^2(F) + 0.0002F^2]$  Cell parameters from 50 reflections  $\theta = 10-12.5^{\circ}$  $\mu = 1.56 \text{ mm}^{-1}$ T = 293 KBlock  $0.7 \times 0.6 \times 0.5 \text{ mm}$ Dark red

12 743 observed reflections  $[F > 4\sigma(F)]$   $R_{int} = 0.040$   $\theta_{max} = 25^{\circ}$   $h = -15 \rightarrow 15$   $k = 0 \rightarrow 28$   $l = -1 \rightarrow 33$ 3 standard reflections monitored every 100 reflections intensity decay: none

 $(\Delta/\sigma)_{max} = 0.005$   $\Delta\rho_{max} = 0.97 \text{ e } \text{\AA}^{-3}$   $\Delta\rho_{min} = -0.78 \text{ e } \text{\AA}^{-3}$ Extinction correction: none Atomic scattering factors from International Tables for X-ray Crystallography (1974, Vol. IV)

Table 1. Fractional atomic coordinates and equivalent isotropic displacement parameters  $(Å^2)$ 

 $U_{\rm eq} = (1/3) \sum_i \sum_j U_{ij} a_i^* a_i^* \mathbf{a}_i \cdot \mathbf{a}_j.$ 

	x	у	z	$U_{eq}$
Molecul	e 1			
Mo(1)	0.45701 (3)	0.76080(1)	0.19896(1)	0.029(1)
C(1)	0.5977 (3)	0.7795 (2)	0.2094(1)	0.041(1)
O(1)	0.6802 (3)	0.7942 (2)	0.2133(1)	0.068(1)
C(1')	0.4521 (3)	0.8281 (2)	0.2374 (2)	0.043(1)
O(1')	0.4508 (3)	0.8706 (2)	0.2576(1)	0.076(2)
O(1A)	0.4536 (2)	0.7002(1)	0.1406(1)	0.044 (1)
P(1A)	0.3888(1)	0.6908(1)	0.0905(1)	0.056(1)
O(11A)	0.3447 (4)	0.6280 (2)	0.0874 (2)	0.144 (2)
C(12A)	0.3883 (5)	0.5830(3)	0.1115 (2)	0.085 (3)
O(14A)	0.4574 (3)	0.6858 (3)	0.0533 (2)	0.179 (3)
C(15A)	0.5518 (6)	0.7071 (3)	0.0581 (3)	0.107 (3)
O(1 <i>B</i> )	0.4250 (2)	0.8181 (1)	0.1356(1)	0.042(1)
P(1 <i>B</i> )	0.3495(1)	0.8179(1)	0.0877 (1)	0.038(1)
O(11B)	0.2776 (3)	0.8704 (1)	0.0867(1)	0.069(1)
C(12B)	0.2867 (5)	0.9102 (3)	0.1235 (2)	0.087 (3)
O(14B)	0.4080 (3)	0.8332 (2)	0.0453(1)	0.070(1)
C(15B)	0.4957 (4)	0.8659 (3)	0.0556 (2)	0.076(2)
O(1C)	0.2978 (2)	0.7449 (1)	0.1794(1)	0.043(1)
P(1 <i>C</i> )	0.2186 (1)	0.7393 (1)	0.1335(1)	0.040(1)
O(11C)	0.1594 (3)	0.6835 (2)	0.1362(1)	0.097 (2)
C(12C)	0.1761 (5)	0.6458 (3)	0.1758 (2)	0.088 (2)
O(14C)	0.1350 (3)	0.7851 (2)	0.1337 (1)	0.078 (2)
C(15C)	0.1067 (5)	0.8021 (3)	0.1779 (2)	0.098 (3)

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00(1)	0.26129 (4)	0.74434(2)	0.06323(2)	0.035(1)	P(4B)	0.8874(1)	0.4382 (1	0.6044 (1)	0.037(1)
Can	0 1515 (3)	0.7843(2)	0.0095(1)	0.068 (2)	O(41B)	0.8380 (3)	0 3776 (1	0.6043(1)	0.057(1)
C(12)	0.1313 (3)	0.7666	_0.0000 (1)	0.000(2)	C(42B)	0.8947(4)	0.3308 (2	0.0015(1)	0.068 (2)
C(12)	0.2317	0.7000	-0.0119	0.072(2)	O(AAB)	0.0547(4)	0.3364 (2	0.0270(2)	0.000(2)
	0.2407	0.7070	-0.0003	0.097(3)	O(44B)	0.9391(3)	0.4204 (2	0.5075(1)	0.002(1)
C(14)	0.1000	0.0669	0.0185	0.114(3)	C(45B)	1.0493 (4)	0.4571 (3	0.3702(2)	0.073(2)
C(15)	0.1109	0.7364	0.0281	0.097 (3)	0(40)	0.8031 (2)	0.5024 (1	0.6908(1)	0.043 (1)
Mo(2)	0.53266 (3)	0.72868(1)	0.28286(1)	0.028(1)	P(4C)	0.7225(1)	0.4963 (1	0.6452(1)	0.034 (1)
C(2)	0.4846 (3)	0.6620 (2)	0.2458 (1)	0.038 (1)	O(41 <i>C</i> )	0.6568 (3)	0.4436 (2	2) 0.6512(1)	0.065(1)
O(2)	0.4551 (3)	0.6199 (1)	0.2271 (1)	0.058 (1)	C(42 <i>C</i> )	0.6844 (5)	0.4023 (3	3) 0.6877 (2)	0.087 (3)
C(2')	0.3909 (3)	0.7385 (2)	0.2861 (2)	0.040(1)	O(44C)	0.6422 (2)	0.5451 (2	2) 0.6429(1)	0.061 (1)
O(2')	0.3096 (3)	0.7414 (2)	0.2912(1)	0.062(1)	C(45C)	0.6062 (4)	0.5601 (3	3) 0.6859 (2)	0.083 (2)
O(2A)	0.5424 (2)	0.6800(1)	0.3508(1)	0.042(1)	Co(4)	0.76538 (4)	0.49483	(2) 0.57477 (2)	0.032(1)
P(2A)	0.6134 (1)	0.6795 (1)	0.3999(1)	0.053 (1)	C(41)	0.7430 (2)	0.5045 (2	2) 0.4991 (1)	0.074 (2)
O(21A)	0.6430 (4)	0.6163 (2)	0.4130(2)	0.151 (2)	C(42)	0.6689	0.5352	0.5167	0.060 (2)
C(22A)	0.5054 (5)	0.5703 (3)	0.3003 (2)	0.087(3)	C(43)	0.6135	0.2020	0.5394	0.066(2)
O(24A)	0.5536(3)	0.5705 (5)	0.3903 (2)	0.007(3)	C(43)	0.6522	0.4376	0.5359	0.000(2)
O(24A)	0.3320(3)	0.0923 (4)	0.4370 (2)	0.179(4)	C(44)	0.0333	0.4420	0.5558	0.077(2)
C(25A)	0.4556 (6)	0.7068 (4)	0.4320 (3)	0.118 (4)	C(45)	0.7333	0.4473	0.5109	0.090(2)
O(2 <i>B</i> )	0.6903 (2)	0.7084 (1)	0.2961 (1)	0.040(1)					
P(2 <i>B</i> )	0.7725 (1)	0.7024 (1)	0.3415(1)	0.044 (1)					
O(21 <i>B</i> )	0.8065 (4)	0.6394 (2)	0.3463 (1)	0.121 (2)	Τz	able 2 Sele	cted geom	etric narameters (A	( ° )
C(22B)	0.7921 (5)	0.5993 (3)	0.3107 (2)	0.081 (2)			cica geoin	ente parameters (i	., /
O(24B)	0.8693 (3)	0.7329 (3)	0.3326 (2)	0.128 (3)	Molecule	1		Molecule 2	
C(25B)	0.8955 (5)	0.7470 (3)	0.2913 (3)	0.092 (3)	Mo(1)M	lo(2)	2.467(1)	Mo(3)Mo(4)	2.468(1)
$\hat{\mathbf{n}}$	0 5908 (2)	0.7958 (1)	0.3322(1)	0.047(1)	Mo(1)-C	(1)	1.932 (4)	Mo(3)C(3)	1.933 (4)
P(2C)	0.5700(2)	0.7750(1)	0.3702 (1)	0.051(1)	Mo(1)C	ά'n	1 943 (4)	$M_0(3) - C(3')$	1 956 (5)
$\Omega(20)$	0.0005(1)	0.0014(1)	0.3792 (1)	0.031(1)	Mo(2)	(2)	1 936 (4)	$M_0(4)$ $C(4)$	1 935 (4)
O(21C)	0.0103 (3)	0.6293(2)	0.4167 (1)	0.124 (2)	Mo(2) C	(2)	1.070 (5)	$M_{\alpha}(4) = C(4')$	1.056 (5)
C(22C)	0.5344 (5)	0.8052 (3)	0.4075 (3)	0.120 (3)	Ma(1)	(2)	1.970 (3)	$M_{0}(4) = C(4)$	1.950(5)
O(24C)	0.7447 (4)	0.8475 (2)	0.3721 (2)	0.131 (2)	MO(1)	(1A)	2.172 (3)	M0(3)	2.217(3)
C(25 <i>C</i> )	0.7443 (6)	0.8802 (3)	0.3323 (3)	0.136 (4)	Mo(1)O	(1B)	2.203 (3)	MO(3) - O(3B)	2.165 (3)
Co(2)	0.74842 (5)	0.72878 (3)	0.41240 (2)	0.039 (1)	Mo(1)O	(1 <i>C</i> )	2.157 (3)	Mo(3)O(3C)	2.153 (3)
C(21)	0.8264 (3)	0.7787(1)	0.4679 (2)	0.100 (3)	Mo(2)O	(2A)	2.204 (3)	Mo(4)O(4A)	2.220 (3)
C(22)	0.8956	0.7535	0.4431	0.075 (2)	Mo(2)O	(2 <i>B</i> )	2.159 (3)	Mo(4)O(4B)	2.167 (3)
C(23)	0.8880	0.6946	0.4475	0.069(2)	Mo(2)O	(2C)	2.151 (3)	Mo(4)O(4C)	2.154 (3)
C(24)	0 8141	0.6834	0.4751	0.077(2)	Co(1)-P(	1A)	2.162(1)	Co(3)— $P(3A)$	2.153 (2)
C(25)	0.7760	0 7354	0 4877	0.105(4)	Co(1)-P(	1 <i>B</i> )	2,158 (1)	Co(3) - P(3B)	2.171 (1)
C(25)	0.7700	0.7554	0.4077	0.105 (1)	$C_0(1) - P($	Ó	2 165 (1)	$C_0(3) = P(3C)$	2 156 (1)
Mala and a					$C_0(2) = P(1)$	2A)	2 152 (2)	$C_0(4) - P(4A)$	2 159 (1)
Molecule 2				0.000 (1)	$C_0(2) = P(1)$	2R)	2.152(2)	$C_0(A) = P(AB)$	2.159(1)
Mo(3)	1.03973 (3)	0.48319(1)	0.79301(1)	0.028(1)	$C_0(2) = P(1)$	20)	2.107 (1)	$C_0(4) = P(4C)$	2.100(1)
C(3)	0.9907 (3)	0.4157 (2)	0.7577 (1)	0.037 (1)	C0(2)F(	20)	2.155(1)	CO(4) - F(4C)	2.107 (1)
O(3)	0.9605 (3)	0.3732 (1)	0.7402 (1)	0.059 (1)	Mo(2)M	lo(1) - C(1)	74.3(1)	Mo(4)Mo(3)C(3)	75.0(1)
C(3')	0.8990 (3)	0.4932 (2)	0.7962(1)	0.039(1)	Mo(2)M	lo(1) - C(1')	78.0(1)	Mo(4) - Mo(3) - C(3')	77.7(1)
O(3')	0.8168 (3)	0.4958 (2)	0.8008(1)	0.058(1)	Mo(1)M	lo(2) - C(2)	74.1 (1)	Mo(3) - Mo(4) - C(4)	74.5 (1)
O(3A)	1.0479 (2)	0.4355(1)	0.8619(1)	0.042(1)	Mo(1)-M	h(2) - C(2')	78.0(1)	$M_0(3) - M_0(4) - C(4')$	786(1)
P(3A)	1 1167 (1)	0 4362 (1)	0.9113(1)	0.051(1)	Mo(1) 0	(1A) = D(1A)	135 3 (2)	$M_0(3) = O(3A) = P(3A)$	134 4 (2)
O(31A)	1 0553 (3)	0 4572 (3)	0.9504(2)	0.140 (3)	Mo(1) 0	(1R) = D(1R)	133.7(2)	$M_0(3) = O(3R) = P(3R)$	1343(2)
C(32A)	0.0549(5)	0.4507 (4)	0.9364 (2)	0.146(3)	Mo(1)O	(1D) - F(1D)	133.7(2)	$M_{0}(3) = O(3B) = I(3B)$	134.3 (2)
O(24A)	(1,1)	0.4307(4)	0.0795 (3)	0.120(4)	Mo(1)	(1C) - P(1C)	137.3 (2)	$M_{0}(3) = ()(3C) = P(3C)$	130.3 (2)
O(34A)	1.13/1 (4)	0.3742 (2)	0.9265 (2)	0.145(2)	Mo(2)O	(2A) - P(2A)	134.3 (2)	MO(4) - O(4A) - P(4A)	133.3(2)
C(35A)	1.1084 (5)	0.3263 (3)	0.9005 (2)	0.089 (3)	Mo(2)O	(2B)—P(2B)	134.4 (2)	Mo(4) - O(4B) - P(4B)	1.16 6 7.11
O(3B)			0.00004.445						135.5(2)
. ,	1.1976 (2)	0.4621 (1)	0.8071(1)	0.042(1)	Mo(2)O	(2C)—P(2C)	135.9 (2)	Mo(4) - O(4C) - P(4C)	135.5 (2) 137.3 (2)
P(3 <i>B</i> )	1.1976 (2) 1.2784 (1)	0.4621 (1) 0.4560 (1)	0.8071 (1) 0.8527 (1)	0.042 (1) 0.046 (1)	Mo(2)—O P(1A)—Co	(2C) - P(2C) p(1) - P(1B)	135.9 (2) 91.1 (1)	Mo(4) - O(4C) - P(4C) P(3A) - Co(3) - P(3B)	135.5 (2) 137.3 (2) 89.8 (1)
P(3 <i>B</i> ) O(31 <i>B</i> )	1.1976 (2) 1.2784 (1) 1.3083 (3)	0.4621 (1) 0.4560 (1) 0.3915 (2)	0.8071 (1) 0.8527 (1) 0.8594 (1)	0.042 (1) 0.046 (1) 0.105 (2)	Mo(2)—O P(1A)—Co P(1A)—Co	(2C) - P(2C) p(1) - P(1B) p(1) - P(1C)	135.9 (2) 91.1 (1) 90.1 (1)	$\begin{array}{l} Mo(4) - O(4C) - P(4C) \\ P(3A) - Co(3) - P(3B) \\ P(3A) - Co(3) - P(3C) \end{array}$	135.5 (2) 137.3 (2) 89.8 (1) 91.3 (1)
P(3 <i>B</i> ) O(31 <i>B</i> ) C(32 <i>B</i> )	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2)	Mo(2)—O P(1A)—Co P(1A)—Co P(1B)—Co	(2C) - P(2C) p(1) - P(1B) p(1) - P(1C) p(1) - P(1C)	135.9 (2) 91.1 (1) 90.1 (1) 90.0 (1)	Mo(4)— $O(4C)$ — $P(4C)$ P(3A)— $Co(3)$ — $P(3B)$ P(3A)— $Co(3)$ — $P(3C)$ P(3B)— $Co(3)$ — $P(3C)$	135.5 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1)
P(3 <i>B</i> ) O(31 <i>B</i> ) C(32 <i>B</i> ) O(34 <i>B</i> )	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3)	Mo(2)—O P(1A)—Co P(1A)—Co P(1B)—Co P(2A)—Co	(2C) - P(2C) p(1) - P(1B) p(1) - P(1C) p(1) - P(1C) p(2) - P(2B)	135.9 (2) 91.1 (1) 90.1 (1) 90.0 (1) 89.2 (1)	$\begin{array}{l} Mo(4) - O(4C) - P(4C) \\ P(3A) - Co(3) - P(3B) \\ P(3A) - Co(3) - P(3C) \\ P(3B) - Co(3) - P(3C) \\ P(4A) - Co(4) - P(4B) \end{array}$	135.5 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 91.9 (1)
P(3 <i>B</i> ) O(31 <i>B</i> ) C(32 <i>B</i> ) O(34 <i>B</i> ) C(35 <i>B</i> )	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc	(2C) - P(2C) p(1) - P(1B) p(1) - P(1C) p(1) - P(1C) p(2) - P(2B) p(2) - P(2C)	135.9 (2) 91.1 (1) 90.1 (1) 90.0 (1) 89.2 (1) 92.0 (1)	$\begin{array}{l} Mo(4) - O(4C) - P(4C) \\ P(3A) - Co(3) - P(3B) \\ P(3A) - Co(3) - P(3C) \\ P(3B) - Co(3) - P(3C) \\ P(3B) - Co(3) - P(3C) \\ P(4A) - Co(4) - P(4B) \\ P(4A) - Co(4) - P(4C) \end{array}$	135.5 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 91.9 (1) 90.9 (1)
P(3 <i>B</i> ) O(31 <i>B</i> ) C(32 <i>B</i> ) O(34 <i>B</i> ) C(35 <i>B</i> ) O(3C)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.506 (1)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	(2C) - P(2C) p(1) - P(1B) p(1) - P(1C) p(1) - P(1C) p(2) - P(2B) p(2) - P(2C) p(2) - P(2C)	135.9 (2) 91.1 (1) 90.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 90.3 (1)	$\begin{array}{l} Mo(4) - O(4C) - P(4C) \\ P(3A) - Co(3) - P(3B) \\ P(3A) - Co(3) - P(3C) \\ P(3B) - Co(3) - P(3C) \\ P(4A) - Co(4) - P(4B) \\ P(4A) - Co(4) - P(4C) \\ P(4C) \\$	135.5 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 91.9 (1) 90.9 (1)
P(3 <i>B</i> ) O(31 <i>B</i> ) C(32 <i>B</i> ) O(34 <i>B</i> ) C(35 <i>B</i> ) O(3 <i>C</i> ) P(3C)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5506 (1)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.8891 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	(2C) - P(2C) p(1) - P(1B) p(1) - P(1C) p(1) - P(1C) p(2) - P(2B) p(2) - P(2C) p(2C) - P(2C)	135.9 (2) 91.1 (1) 90.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 90.3 (1)	$\begin{array}{l} Mo(4) - O(4C) - P(4C) \\ P(3A) - Co(3) - P(3B) \\ P(3A) - Co(3) - P(3C) \\ P(3B) - Co(3) - P(3C) \\ P(4A) - Co(4) - P(4B) \\ P(4A) - Co(4) - P(4C) \\ P(4B) - Co(4) - P(4C) \\ P(4B) - Co(4) - P(4C) \end{array}$	135.5 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 91.9 (1) 90.9 (1) 90.0 (1)
P(3 <i>B</i> ) O(31 <i>B</i> ) C(32 <i>B</i> ) O(34 <i>B</i> ) C(35 <i>B</i> ) O(3 <i>C</i> ) P(3 <i>C</i> ) O(31 <i>C</i> )	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.211 (4)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.8891 (1) 0.926 (2)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	(2C) - P(2C) $p(1) - P(1B)$ $p(1) - P(1C)$ $p(2) - P(2B)$ $p(2) - P(2B)$ $p(2) - P(2C)$ $p(2C)$ Molecule 1	135.9 (2) 91.1 (1) 90.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 90.3 (1)	$\begin{array}{l} Mo(4) - O(4C) - P(4C) \\ P(3A) - Co(3) - P(3B) \\ P(3A) - Co(3) - P(3C) \\ P(3B) - Co(3) - P(3C) \\ P(4A) - Co(4) - P(4B) \\ P(4A) - Co(4) - P(4C) \\ P(4B) - Co(4) - P(4C) \end{array}$	135.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 91.9 (1) 90.9 (1) 90.0 (1)
P(3 <i>B</i> ) O(31 <i>B</i> ) C(32 <i>B</i> ) O(34 <i>B</i> ) C(35 <i>B</i> ) O(3 <i>C</i> ) P(3 <i>C</i> ) O(31 <i>C</i> )	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.2020 (5)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4831 (3) 0.5045 (3) 0.5506 (1) 0.5564 (1) 0.5861 (2)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8436 (1) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.8891 (1) 0.9269 (2) 0.9416 (2)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.124 (4)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ Molecule 1 \\ C(1) - Mo(1) \end{array}$	135.9 (2) 91.1 (1) 90.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 90.3 (1) )	$\begin{array}{l} Mo(4) - O(4C) - P(4C) \\ P(3A) - Co(3) - P(3B) \\ P(3A) - Co(3) - P(3C) \\ P(3B) - Co(3) - P(3C) \\ P(4A) - Co(4) - P(4C) \\ P(4A) - Co(4) - P(4C) \\ P(4B) - Co(4) - P(4C) \\$	135.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 91.9 (1) 90.9 (1) 90.0 (1)
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.8891 (1) 0.9269 (2) 0.9145 (3)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ Molecule 1 \\ C(1) - Mo(1) \\ C(1) - Mo(1) \\ \end{array}$	135.9 (2) 91.1 (1) 90.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 90.3 (1) 	$\begin{array}{l} Mo(4) - O(4C) - P(4C) \\ P(3A) - Co(3) - P(3B) \\ P(3A) - Co(3) - P(3C) \\ P(3B) - Co(3) - P(3C) \\ P(4A) - Co(4) - P(4B) \\ P(4A) - Co(4) - P(4C) \\ P(4B) - Co(4) - P(4C) \\$	135.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 91.9 (1) 90.9 (1) 90.0 (1)
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4531 (3) 0.5045 (3) 0.5564 (1) 0.5564 (1) 0.5664 (2) 0.6133 (4) 0.6018 (2)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.8828 (2)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ Molecule 1 \\ C(1) - Mo(1) \\ C(1) \\ C(1) - Mo(1) \\ C(1) \\ C(1) - Mo(1) \\ C(1) \\ $	135.9 (2)  91.1 (1)  90.0 (1)  92.0 (1)  92.0 (1)  92.0 (1)  90.3 (1)	$\begin{array}{llllllllllllllllllllllllllllllllllll$	135.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1)
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(35C)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4531 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5661 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.98891 (1) 0.9269 (2) 0.9145 (3) 0.8828 (2) 0.8452 (3)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ Molecule 1 \\ C(1) - Mo(1) \\ C(1) - Mo(1) \\ C(1') - Mo(0) \\ C(1') - Mo(1) \\ C(1') \\ C(1') - Mo(1) \\ C(1') - Mo(1) \\ C(1') \\ C(1') \\ C(1') - Mo(1) \\ C(1') \\ C(1'$	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  90.3 (1) Mo(2)C(2) Mo(2)C(2)C(2) Mo(2)C(2)C(2) Mo(2)C(2)C(2) Mo(2)C(2)C(2)C(2) Mo(2)C(2)	$\begin{array}{llllllllllllllllllllllllllllllllllll$	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1)
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(35C) C(35C) Co(3)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8436 (1) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.8828 (2) 0.8452 (3) 0.92333 (2)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4) 0.043 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	(2C) - P(2C) $(1) - P(1B)$ $(1) - P(1C)$ $(2) - P(2B)$ $(2) - P(2B)$ $(2) - P(2C)$ Molecule 1 $C(1) - Mo(1)$ $C(1) - Mo(1)$ $C(1') - Mo(0)$ $C(1') - Mo(0)$ $C(1') - Mo(0)$ $C(1') - Mo(0)$	135.9 (2) 91.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 90.3 (1) 	$\begin{array}{llllllllllllllllllllllllllllllllllll$	135.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1)
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(35C) C(35C) C(31)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.25451 (6) 1.25373 (5) 1.4014 (3)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5564 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.8891 (1) 0.9269 (2) 0.9145 (3) 0.8828 (2) 0.8452 (3) 0.92333 (2) 0.9547 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4) 0.043 (1) 0.089 (3)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (01) - Mo(1) \\ (01) - Mo(1) \\ (01) - O(1) $	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  90.3 (1)  -Mo(2)C(2)  -Mo(2)C(2)  -Mo(2)-C(1)  -Mo(2)-C(2)  -Mo(2)-C(2)-C(2)  -Mo(2)-C(2)  -Mo(2)-C(2)-C(2)  -Mo(2	$\begin{array}{llllllllllllllllllllllllllllllllllll$	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1)
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(3C) P(3C) O(31C) C(32C) O(34C) C(35C) Co(3) C(31) C(32)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4331 (3) 0.5045 (3) 0.5506 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.44367 (3) 0.5083 (2) 0.4494	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.8828 (2) 0.8452 (3) 0.92333 (2) 0.9547 (1) 0.9589	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4) 0.043 (1) 0.089 (3) 0.077 (2)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2A)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (03) - P(2C) \\ (04) - P(2C) \\ (04) - P(2C) \\ (04) - P(2C) \\ (04) - P(1C) \\$	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  92.0 (1)  90.3 (1) Mo(2)C(2) Mo(2)C(2)  1)Mo(2)C(2)  1)Mo(2)C(2)  1)Mo(2)C(2)  0,C(2)	$\begin{array}{c} \text{Mo(4)} &\text{O}(4C)P(4C) \\ \text{P(3A)}Co(3)P(3B) \\ \text{P(3A)}Co(3)P(3C) \\ \text{P(3B)}Co(3)P(3C) \\ \text{P(3B)}Co(4)P(4B) \\ \text{P(4A)}Co(4)P(4C) \\ \text{P(4B)}Co(4)P(4C) \\ \text{P(4B)}Co(4) \\ \text{P(4B)}Co($	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1)
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(31C) C(32C) O(34C) C(35C) Co(3) C(31) C(32) C(33)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4538 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.8828 (2) 0.8452 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9864	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	(2C) - P(2C) $(1) - P(1B)$ $(1) - P(1C)$ $(01) - P(1C)$ $(02) - P(2B)$ $(02) - P(2C)$ $(02) - P(2C)$ $Molecule 1$ $C(1) - Mo(1)$ $C(1') - Mo(1)$ $Mo(1) - O(1)$	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  89.2 (1)  92.0 (1)  90.3 (1)	$\begin{array}{c} \text{Mo(4)} &\text{O}(4C)P(4C) \\ \text{P(3A)}Co(3)P(3B) \\ \text{P(3A)}Co(3)P(3C) \\ \text{P(3B)}Co(3)P(3C) \\ \text{P(3B)}Co(4)P(4C) \\ \text{P(4A)}Co(4)P(4C) \\ \text{P(4B)}Co(4)P(4C) \\ \text{P(4B)}Co(4) \\ \text{P(4B)} -$	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 91.9 (1) 90.9 (1) 90.0 (1)
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(32C) O(34C) C(32C) C(32C) C(33) C(31) C(32) C(33) C(34)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4994	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.8891 (1) 0.9269 (2) 0.9145 (3) 0.8828 (2) 0.8452 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9864 0.9992	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (4)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (01) - Mo(1) \\ (01) - Mo(1) \\ (01) - Mo(1) \\ (01) - O(1) \\ (01) - O(1) \\ (01) - O(1) \\ (02) - O(2) \\ (02) - O(2) \\ (01) - O(2)$	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  90.3 (1)  -Mo(2)-C(2)  -Mo(2)-C(2)  -Mo(2)-C(1)  -Mo(2)-C(2)  -Mo	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)} \\ \text{P(4B)}\text{Co(4)} \\ \text{P(4B)}\text{Co(4)} \\ \text{P(4B)}\text{Co(4)} \\ \text{P(4B)} \\ \text{Co(4)}\text{P(4C)} \\ \text{P(4B)} \\ \text{Co(4)}\text{P(4C)} \\ \text{P(4B)} \\ \text{P(4B)}\text{Co(4)} \\ \text{P(4B)} \\ \text{P(4B)}\text{Co(4)} \\ \text{P(4B)} \\ \text{P(4B)} \\ \text{P(4B)}\text{Co(4)} \\ \text{P(4B)} \\ $	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(31C) C(32C) O(34C) C(35) C(31) C(32) C(33) C(33) C(34) C(35)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3325	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5506 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384 0.4904 0.5337	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.8269 (2) 0.9145 (3) 0.828 (2) 0.8452 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9864 0.9992 0.9796	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (4) 0.115 (3)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (01) - Mo(1) \\ (01) - O(1) \\ (01) - O(1) \\ (02) - O(2) \\ (02) - O(2) \\ (02) - O(2) \\ (01) - O(1) \\ (01) - O($	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  92.0 (1)  90.3 (1)  -Mo(2)-C(2  -Mo	$\begin{array}{c} \text{Mo(4)} &\text{O}(4C)P(4C) \\ \text{P(3A)}Co(3)P(3B) \\ \text{P(3A)}Co(3)P(3C) \\ \text{P(3B)}Co(3)P(3C) \\ \text{P(4A)}Co(4)P(4B) \\ \text{P(4A)}Co(4)P(4C) \\ \text{P(4B)}Co(4)P(4C) \\ \text{P(4B)}Co(4) \\ P(4B$	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(3C) P(3C) O(31C) C(32C) O(34C) C(35C) C(31) C(32) C(33) C(34) C(35) Mo(4)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3255 0.96314 (3)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4331 (3) 0.5045 (3) 0.5506 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384 0.4904 0.5337 0.51454 (1)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9864 0.9992 0.9796 0.70897 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.089 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.134 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (4) 0.115 (3) 0.027 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (01) - Mo(1) \\ (02) - O(2) \\ (02) $	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  92.0 (1)  92.0 (1)  90.3 (1)	$\begin{array}{c c} Mo(4) & -O(4C) - P(4C) \\ P(3A) - Co(3) - P(3B) \\ P(3A) - Co(3) - P(3C) \\ P(3B) - Co(3) - P(3C) \\ P(4A) - Co(4) - P(4B) \\ P(4A) - Co(4) - P(4C) \\ P(4B) - P(4C) \\ P(4B) - Co(4) \\ P(4B) - Co(4) - P(4C) \\ P(4B) - Co(4) \\ P(4B$	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.0 (1) 90.0 (1) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(32C) O(34C) C(35C) C(31) C(32) C(33) C(34) C(35) Mo(4) C(4)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3325 0.96314 (3) 1.1045 (3)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4334 0.4904 0.5337 0.51454 (1) 0.51454 (1) 0.51454 (1)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.99864 0.9992 0.9796 0.70897 (1) 0.7181 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.089 (3) 0.089 (3) 0.049 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.134 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (4) 0.115 (3) 0.027 (1) 0.039 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (01) - Mo(1) \\ (01) - Mo(1) \\ (01) - Mo(1) \\ (01) - Mo(1) \\ (01) - O(1) \\ (01) - O(1) \\ (01) - O(1) \\ (02) - O(2) \\ (02) - O($	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  89.2 (1)  92.0 (1)  90.3 (1) Mo(2)C(2) C(2)	$\begin{array}{rl} \text{Mo(4)} &\text{O(4C)} &\text{P(4C)} \\ \text{P(3A)} &\text{Co(3)} &\text{P(3B)} \\ \text{P(3A)} &\text{Co(3)} &\text{P(3C)} \\ \text{P(3B)} &\text{Co(3)} &\text{P(3C)} \\ \text{P(3B)} &\text{Co(4)} &\text{P(4C)} \\ \text{P(4A)} &\text{Co(4)} &\text{P(4C)} \\ \text{P(4B)} &\text{Co(4)} \\ \text{P(4B)} &$	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(32C) O(34C) C(32) C(33) C(31) C(32) C(33) C(34) C(35) Mo(4) C(4) O(4)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3325 0.96314 (3) 1.1045 (3) 1.1877 (3)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.5564 (1) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384 0.4904 0.5337 0.51454 (1) 0.5317 (2) 0.5464 (2)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9864 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.725 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (3) 0.027 (1) 0.039 (1) 0.039 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (01) - Mo(1) \\$	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  92.0 (1)  90.3 (1)  -Mo(2)-C(2)  -Mo(2)-C(2)  -Mo(2)-C(1)  -Mo(2)-C(2)  -Mo(2)-C(2)  -Mo(2)-C(2)  -Mo(2)-C(2)  -Mo(2)-C(2)  -Mo(2)-C(2)  -Mo(4)-C(4)  -Mo(4)-C(4)-C(4)  -Mo(4)-C(4)  -Mo(4)-C(4)-C(4)  -Mo(4)-C(4)  -Mo(4)-C(4)-C(4)  -Mo(4	$\begin{array}{r} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4D)}\text{P(4C)} \\ \text{P(4D)}\text{P(4D)} \\ $	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(31C) C(32C) O(34C) C(32C) C(32C) C(33) C(31) C(32) C(33) C(34) C(35) Mo(4) C(4) O(4) O(4) O(4) O(4) O(4) O(4)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3325 0.96314 (3) 1.1045 (3) 1.1872 (3) 0.9637 (4)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4331 (3) 0.5045 (3) 0.5506 (1) 0.5564 (1) 0.5564 (1) 0.5618 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384 0.4904 0.4384 0.4904 0.5337 0.51454 (1) 0.5317 (2) 0.5464 (2) 0.54	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.95847 (1) 0.9589 0.9864 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.7205 (1) 0.7205 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.134 (4) 0.0489 (3) 0.077 (2) 0.085 (2) 0.115 (3) 0.027 (1) 0.039 (1) 0.046 (1) 0.046 (2)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (01) - Mo(1) \\$	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  92.0 (1)  92.0 (1)  90.3 (1)	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4B)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4B)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4B)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4B)} \\ \text{P(4B)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4B)} \\ $	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(31C) C(32C) O(34C) C(35C) C(31) C(32) C(31) C(32) C(33) C(34) C(35) Mo(4) C(4) O(4) C(4) O(4) C(4) O(4) C(4)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3255 0.96314 (3) 1.1872 (3) 0.9637 (4) 0.9657 (4)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4531 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.5661 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4834 0.4904 0.4384 0.4904 0.5337 0.51454 (1) 0.517 (2) 0.5464 (2) 0.5840 (2) 0.5840 (2) 0.5840 (2) 0.5840 (2) 0.592 (2)	0.8071 (1) 0.8527 (1) 0.8527 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9864 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.7205 (1) 0.7461 (2) 0.9546 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.134 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (4) 0.115 (3) 0.027 (1) 0.039 (1) 0.066 (1) 0.046 (2) 0.094 (2)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\$	135.9 (2) 91.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 92.0 (1) 90.3 (1) -Mo(2)-C(2) -Mo(2)-C(2) -Mo(2)-C(1)-Mo(2)-C(2) A)-P(1A)-Cc B)-P(1B)-Cc C)-P(1C)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4D)}\text{Co(4)} \\ \text{P(4D)}\text{P(4C)} \\ \text{P(4D)}\text{Co(4)} \\ \text{P(4D)}\text{Co(4)} \\ \text{P(4D)} \\ \text{P(4D)}\text{P(4C)} \\ \text{P(4D)} \\ \text{P(4D)}\text{P(4C)} \\ \text{P(4D)} \\ \text{P(4D)}\text{P(4C)} \\ \text{P(4D)} \\ \text{P(4D)} \\ \text{P(4D)}\text{P(4D)} \\ \text{P(4D)} \\ $	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.0 (1) 90.0 (1) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(31C) C(32C) O(34C) C(35C) C(33) C(31) C(32) C(33) C(34) C(35) Mo(4) C(4') O(4') O(4') O(4')	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3325 0.96314 (3) 1.1045 (3) 1.1872 (3) 0.9637 (4) 0.9664 (3) 0.9037 (2)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4334 0.4904 0.5337 0.51454 (1) 0.51454 (1) 0.51454 (2) 0.5464 (2) 0.5649 (2) 0.5699	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9984 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.7205 (1) 0.7461 (2) 0.7654 (1) 0.7654 (	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.089 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (4) 0.115 (3) 0.027 (1) 0.039 (1) 0.046 (2) 0.046 (2) 0.042 (2) 0.044 (2)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (01) - Mo(1) \\ (01) - O(1) \\ (01) - O($	135.9 (2) 91.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 89.2 (1) 92.0 (1) 90.3 (1) -Mo(2)-C(2) -Mo(2)-C(2) -Mo(2)-C(2) -Mo(2)-C(2) -Mo(2)-C(2) -Mo(2)-C(2) -Mo(2)-C(2) -Mo(2)-C(2) -Mo(2)-C(2) -Mo(4)-C(4)	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}$	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1) ) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(32C) O(34C) C(32C) C(32) C(33) C(31) C(32) C(33) C(33) C(34) C(35) Mo(4) C(4) O(4') O(4') O(4') O(4')	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3225 0.96314 (3) 1.1045 (3) 1.1045 (3) 1.1045 (3) 0.9664 (3) 0.9639 (2)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.5564 (1) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384 0.4904 0.5337 0.51454 (1) 0.5317 (2) 0.5464 (2) 0.5695 (1) 0.5695 (1)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.8289 (1) 0.9269 (2) 0.9145 (3) 0.8828 (2) 0.8452 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.99864 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.7461 (2) 0.7654 (1) 0.6433 (1) 0.6433 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.141 (4) 0.049 (3) 0.077 (2) 0.085 (2) 0.115 (3) 0.027 (1) 0.039 (1) 0.046 (2) 0.080 (2) 0.042 (1) 0.042 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (01) - Mo(1) \\ (01) - O(1) \\ (01) - O($	135.9 (2) 91.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 92.0 (1) 92.0 (1) 90.3 (1) 90.3 (1) -Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(4)-C(4) 1)-Mo(4	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}$	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1) ) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(3C) P(3C) O(31C) C(32C) O(34C) C(32C) C(31) C(32) C(33) C(34) C(32) C(33) C(34) C(35) Mo(4) C(4) O(4) C(4) O(4) O(4) P(4A) P(4A)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3325 0.96314 (3) 1.1872 (3) 0.9637 (4) 0.9664 (3) 0.9339 (2) 0.8601 (1)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.4531 (3) 0.5045 (3) 0.5506 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384 0.4904 0.4384 0.4904 0.5317 (2) 0.5464 (2) 0.5464 (2) 0.5629 (2) 0.5695 (1) 0.5671 (1)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8416 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9587 (1) 0.9589 0.9864 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.7205 (1) 0.7461 (2) 0.7654 (1) 0.6433 (1) 0.5948 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.134 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (4) 0.115 (3) 0.027 (1) 0.039 (1) 0.046 (2) 0.080 (2) 0.034 (1) 0.034 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (03) - P(2C) \\ (03) - P(2C) \\ (04) - P(2C) \\ (04) - P(2C) \\ (04) - P(2C) \\ (05) - P(2C) \\$	135.9 (2) 91.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 92.0 (1) 92.0 (1) 92.0 (1) 90.3 (1) 90.3 (1) -Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 2)-P(1A)-Cc B)-P(1B)-Cc C)-P(1C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc A)-	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)} \\ \text{P(4B)} \\ \text{P(4B)}\text{P(4B)} \\ \text{P(4B)} \\ \text{P(4B)}\text{P(4B)} \\ \text{P(4B)} \\ \text{P(4B)}\text{P(4B)} \\ \text{P(4B)} \\ \text{P(4B)}\text{P(4B)} \\ \text{P(4B)} \\ $	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.0 (1) 90.0 (1) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(32C) O(34C) C(35C) C(31) C(32) C(33) C(31) C(32) C(33) C(33) C(33) C(34) C(35) Mo(4) C(4') O(4) O(4) C(4') O(4) O(4) O(4) O(4) O(4) O(4) O(4) O(4	$\begin{array}{c} 1.1976 (2) \\ 1.2784 (1) \\ 1.3083 (3) \\ 1.3030 (5) \\ 1.3771 (3) \\ 1.3998 (5) \\ 1.1000 (2) \\ 1.1749 (1) \\ 1.1211 (4) \\ 1.0292 (5) \\ 1.2546 (4) \\ 1.2451 (6) \\ 1.25373 (5) \\ 1.4014 (3) \\ 1.3928 \\ 1.3187 \\ 1.2814 \\ 1.3325 \\ 0.96314 (3) \\ 1.1045 (3) \\ 1.1872 (3) \\ 0.9637 (4) \\ 0.9664 (3) \\ 0.9339 (2) \\ 0.8601 (1) \\ 0.9207 (2) \end{array}$	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5566 (1) 0.5564 (1) 0.5564 (1) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384 0.4904 0.5337 0.51454 (1) 0.5317 (2) 0.5464 (2) 0.5464 (2) 0.5464 (2) 0.5464 (2) 0.5465 (1) 0.5675 (1) 0.5745 (1)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9864 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.7205 (1) 0.7461 (2) 0.7654 (1) 0.5518 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.089 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.134 (4) 0.043 (1) 0.085 (2) 0.115 (3) 0.027 (1) 0.039 (1) 0.066 (1) 0.046 (2) 0.044 (1) 0.032 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) & -P(2C) \\ (01) & -P(1B) \\ (01) & -P(1C) \\ (01) & -P(1C) \\ (02) & -P(2B) \\ (02) & -P(2C) \\ (03) & -P(1C) \\ (03) & -P(1C) \\ (01) & $	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  89.2 (1)  92.0 (1)  90.3 (1)	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(5D)} \\ \text{O(1)}11.7 (3) \\ \text{O(2)}11.5 \text{S} (2) \\ \text{O(3)}\text{P(3)} \\ \text{O(3)}\text{P(3)} \\ \text{O(3)}\text{P(3)} \\ \text{O(3)}\text{P(3)} \\ \text{O(4)}\text{O(4)} \\ \text{O(4)}\text{O(4)} \\ \text{O(4)}\text{O(4)} \\ \text{O(5)}\text{O(4)} \\ \text{O(5)}\text{O(5)} \\ \text{O(6)} \\ \text{O(6)} \\ \text{O(6)} \\ \text{O(6)} \\ \text{O(7)}\text{O(6)} \\ \text{O(7)} \\ \text{O(7)} \\ \text{O(7)} \\ \text{P(7)} \\ \text{O(7)} \\ O(7$	137.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 91.9 (1) 90.9 (1) 90.0 (1) ) ) ) ) ) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(32C) O(34C) C(35C) C(31) C(32) C(33) C(34) C(32) C(33) C(34) C(35) Mo(4) C(4) O(4)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3325 0.96314 (3) 1.1872 (3) 0.9637 (4) 0.9664 (3) 0.9339 (2) 0.8601 (1) 0.9207 (2) 1.0035 (4)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5506 (1) 0.5564 (1) 0.5564 (1) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4334 0.4904 0.5337 0.51454 (1) 0.51454 (1) 0.51454 (2) 0.5695 (1) 0.5695 (1) 0.5671 (1) 0.5745 (1) 0.6134 (2)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9984 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.7205 (1) 0.7461 (2) 0.7654 (1) 0.5518 (1) 0.5588 (2)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.134 (4) 0.043 (1) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (4) 0.115 (3) 0.027 (1) 0.039 (1) 0.039 (1) 0.046 (2) 0.042 (2) 0.042 (1) 0.034 (1) 0.052 (1) 0.070 (2)	Mo(2)—O P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) & -P(2C) \\ (01) & -P(1B) \\ (01) & -P(1B) \\ (01) & -P(1C) \\ (02) & -P(2B) \\ (02) & -P(2C) \\ (02) & -P(2C) \\ (02) & -P(2C) \\ (02) & -P(2C) \\ (01) & -Mo(1) \\ (01) & $	135.9 (2)  91.1 (1)  90.0 (1)  89.2 (1)  92.0 (1)  92.0 (1)  90.3 (1)  -Mo(2)-C(2)  -Mo(2)-C(2)  -Mo(2)-C(1)  -Mo(2)-C(1)  -Mo(2)-C(2)  -Mo(2)-C(2)  -Mo(4)-C(4)  -Mo(4)	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)} \\ \text{P(4B)}\text{P(4B)} \\ \text{P(4B)}\text{P(4B)} \\ $	137.3 (2)         137.3 (2)         89.8 (1)         91.3 (1)         90.3 (1)         90.9 (1)         90.9 (1)         90.0 (1)         ) </td
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(31C) C(32C) O(34C) C(32C) O(34C) C(32C) C(32) C(33) C(31) C(32) C(33) C(33) C(34) C(35) Mo(4) C(4) O(4) O(4) O(4) P(4A) O(41A) C(42A) O(44A)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3325 0.96314 (3) 1.1045 (3) 1.1045 (3) 1.1045 (3) 0.9637 (4) 0.9637 (4) 0.9637 (4) 0.9639 (2) 0.8601 (1) 0.9207 (2) 1.0035 (4) 0.768 (3)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5506 (1) 0.5564 (1) 0.5564 (1) 0.5664 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384 0.4904 0.4384 0.4904 0.5337 0.51454 (1) 0.5317 (2) 0.5464 (2) 0.5695 (1) 0.5671 (1) 0.5745 (1) 0.6134 (2) 0.6237 (1)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.828 (2) 0.9145 (3) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9964 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.7461 (2) 0.7654 (1) 0.6433 (1) 0.5518 (1) 0.5588 (2) 0.5883 (1)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.129 (3) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.134 (4) 0.089 (3) 0.077 (2) 0.085 (2) 0.115 (4) 0.015 (3) 0.027 (1) 0.039 (1) 0.046 (2) 0.042 (1) 0.034 (1) 0.052 (1) 0.070 (2) 0.062 (1)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (03) - P(1C) \\$	135.9 (2) 91.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 92.0 (1) 92.0 (1) 90.3 (1) )Mo(2)C(2 1)Mo(2)C(2 1)Mo(2)C(2 1)Mo(2)C(2 1)Mo(2)C(2 A)P(1A)Cc B)P(1B)Cc CP(1C)Cc A)P(2A)Cc B)P(2B)Cc CP(1C)Cc A)P(2A)Cc B)P(2B)Cc CP(1C)Cc A)P(2A)Cc B)P(2B)Cc CP(2C)Cc A)Mo(4)C(4 B)P(3A)Cc B)P(3B)Cc CP(3C)-Cc A)P(4A)Cc	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)} \\ \text{P(4B)}\text{P(4C)} \\ \text{P(4B)}$	135.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.9 (1) 90.0 (1) ) ) ) ) ) ) ) ) ) ) ) ) )
P(3B) O(31B) C(32B) O(34B) C(35B) O(3C) P(3C) O(3C) P(3C) O(31C) C(32C) O(34C) C(32C) C(31) C(32) C(33) C(31) C(32) C(33) C(34) C(35) Mo(4) C(4) O(4) C(4) O(4) O(4) P(4A) O(41A) C(42A) O(44A) C(42A) O(44A) C(42A)	1.1976 (2) 1.2784 (1) 1.3083 (3) 1.3030 (5) 1.3771 (3) 1.3998 (5) 1.1000 (2) 1.1749 (1) 1.1211 (4) 1.0292 (5) 1.2546 (4) 1.2451 (6) 1.25373 (5) 1.4014 (3) 1.3928 1.3187 1.2814 1.3325 0.96314 (3) 1.1872 (3) 0.9637 (4) 0.9664 (3) 0.9339 (2) 0.8601 (1) 0.9207 (2) 1.035 (4) 0.7893 (5)	0.4621 (1) 0.4560 (1) 0.3915 (2) 0.3538 (2) 0.4831 (3) 0.5045 (3) 0.5506 (1) 0.5564 (1) 0.5564 (1) 0.5861 (2) 0.6133 (4) 0.6018 (2) 0.6400 (3) 0.48367 (3) 0.5083 (2) 0.4494 0.4384 0.4904 0.5337 0.51454 (1) 0.5317 (2) 0.5464 (2) 0.5464 (2) 0.5695 (1) 0.5671 (1) 0.5745 (1) 0.5745 (1) 0.6134 (2) 0.6237 (1) 0.6600 (3)	0.8071 (1) 0.8527 (1) 0.8594 (1) 0.8211 (2) 0.8436 (1) 0.8032 (2) 0.8416 (1) 0.9269 (2) 0.9145 (3) 0.92333 (2) 0.9547 (1) 0.9589 0.9864 0.9992 0.9796 0.70897 (1) 0.7181 (1) 0.7205 (1) 0.7461 (2) 0.7654 (1) 0.6548 (1) 0.5518 (1) 0.5588 (2) 0.5588 (2) 0.5583 (1) 0.6269 (2)	0.042 (1) 0.046 (1) 0.105 (2) 0.078 (2) 0.089 (3) 0.049 (1) 0.055 (1) 0.123 (2) 0.134 (4) 0.132 (2) 0.134 (4) 0.043 (1) 0.085 (2) 0.115 (4) 0.115 (3) 0.027 (1) 0.039 (1) 0.046 (2) 0.046 (2) 0.046 (2) 0.042 (1) 0.034 (1) 0.052 (1) 0.070 (2) 0.067 (3)	Mo(2)—O P(1A)—Cc P(1A)—Cc P(1B)—Cc P(2A)—Cc P(2A)—Cc P(2B)—Cc	$\begin{array}{l} (2C) - P(2C) \\ (01) - P(1B) \\ (01) - P(1C) \\ (01) - P(1C) \\ (02) - P(2B) \\ (02) - P(2C) \\ (02) - P(2C) \\ (02) - P(2C) \\ (03) - P(2C) \\ (03) - P(1C) \\ (04) - P(1C) \\ (04) - P(1C) \\ (04) - P(1C) \\ (04) - P(1C) \\ (01) - P(1C) \\$	135.9 (2) 91.1 (1) 90.0 (1) 89.2 (1) 92.0 (1) 92.0 (1) 90.3 (1) 90.3 (1) -Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) 1)-Mo(2)-C(2) A)-P(1A)-Cc B)-P(1B)-Cc C)-P(1C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(2C)-Cc A)-P(2A)-Cc B)-P(2B)-Cc C)-P(3C)-Cc A)-P(3A)-Cc B)-P(3B)-Cc C)-P(3C)-Cc A)-P(4A)-Cc B)-P(4B)-Cc	$\begin{array}{c} \text{Mo(4)} &\text{O(4C)}\text{P(4C)} \\ \text{P(3A)}\text{Co(3)}\text{P(3B)} \\ \text{P(3A)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(3)}\text{P(3C)} \\ \text{P(3B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4A)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(4C)} \\ \text{P(4B)}\text{Co(4)}\text{P(3C)} \\ \text{P(4D)}\text{115.5 (2)} \\ \text{P(4)}\text{115.5 (2)} \\ \text{P(4)}\text{115.5 (2)} \\ \text{P(4)}\text{115.5 (2)} \\ \text{P(4)}\text{115.7 (2)} \\ \text{P(4)}\text{P(3C)} \\ \text{P(3C)} \\ \text{P(4)}\text{P(3C)} \\ \text{P(4)}\text{P(4C)} \\ \text{P(4)}\text{P(4)} \\ \text{P(4)}\text{P(4)} \\ \text{P(4)}\text{P(4)} \\ \text{P(4)}P(4)$	135.3 (2) 137.3 (2) 89.8 (1) 91.3 (1) 90.3 (1) 90.9 (1) 90.0 (1) 90.0 (1) ) ) ) ) ) ) ) ) ) ) ) ) )

The cyclopentadienyl rings were idealized and refined as rigid groups. Some of the methoxy groups, especially the O atoms, have high U values.

Data collection: profile-fitting program (Clegg, 1981). Cell refinement: profile-fitting program. Data reduction: XLS (Sheldrick, 1987). Program(s) used to solve structure: SHELXS86 (Sheldrick, 1985) using direct methods. Program(s) used to refine structure: XLS (Sheldrick, 1987). Molecular graphics: SHELXTL-Plus (Sheldrick, 1990). Software used to prepare material for publication: SHELXTL-Plus.

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# *trans*-Diazidobis[1,2-bis(diethylphosphino)ethane-*P*,*P'*]iron(II)

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### Abstract

The title structure,  $[Fe(N_3)_2(C_{10}H_{24}P_2)_2]$ , has been studied and was found to consist of neutral molecules with the Fe atom located at a centre of symmetry. The Fe—P bond lengths [2.258 (1) and 2.268 (1) Å] are indicative of low-spin Fe<sup>II</sup>. The Fe—N<sub>azido</sub> distance is 2.008 (4) Å.

## Comment

As part of a project investigating the synthesis of iron tetraphosphines having acetylido, azido and nitrile ligands, a series of diazido complexes of the type  $[Fe(PP)_2(N_3)_2]$  [where PP is 1,2-bis(dimethyl-phosphino)ethane (dmpe), 1,2-bis(diethylphosphino)ethane (depe) or 1,2-bis(dipropylphosphino)ethane (dprpe)] were synthesized and their properties examined (Buys, Field, George, Hambley & Pike, 1995). These bis(diazido)-iron(II) complexes can easily be converted to the corresponding iron-bis(acetylide) complexes by reaction with the corresponding acetylene. The title compound, [Fe(depe)\_2(N\_3)\_2], (1), was synthesized by substitution of the chloride in [FeCl<sub>2</sub>(depe)<sub>2</sub>] with azide in alcohol solution.



The crystal structure of (1) (Fig. 1) shows the three N atoms of each azide group to be approximately linear, with an Fe-N-N angle of 139.1 (4)°. This is significantly larger than the corresponding angle found in related structures, for example,  $132.3 (3)^{\circ}$  for Fe—N—N in [Fe(dmpe)<sub>2</sub>(N<sub>3</sub>)<sub>2</sub>] (Buys, Field, George, Hambley & Pike, 1995), 121.8 (4)° for Fe—N—N in [Fe(tpp)(N<sub>3</sub>)] (where tpp is tetraphenylporphyrin) (Zhang, Hallows, Ryan, Jones, Carpenter & Sweigart, 1994), 116.7 (7)° for Ru-N-N in  $[Ru(en)_2(N_2)(N_3)]^+$  (Davis & Ibers, 1970), 132.9 (3)° for Ru—N—N in [Ru(N<sub>3</sub>)<sub>2</sub>(depe)<sub>2</sub> (Buys, Field, George, Hambley & Purches, 1995), 125.4 (5)° for Cu-N-N in  $[Cu{Et_2NCH_2CH_2N(H)CH_2CH_2NEt_2}_2(Br)(N_3)]$ (Ziolo, Allen, Titus, Gray & Dorio, 1972) and 121.4(6)- $129.9(5)^{\circ}$  for Mo—N—N in [Mo(N<sub>3</sub>)<sub>4</sub>(NO)(H<sub>2</sub>NO)] (Weighardt, Backes-Dahmann, Swiridoff & Weiss, 1983). The N-N bond lengths are 1.170(5) and 1.155 (6) Å for (Fe—) $N_1$ — $N_2$  and (N—) $N_2$ — $N_3$ , respectively, which compare well with values of 1.179 (5) and 1.162 (5) Å for the corresponding bond lengths in [Fe(dmpe)<sub>2</sub>(N<sub>3</sub>)] (Buys, Field, George, Hambley & Pike, 1995), and values of 1.180(5) and 1.170 (5) Å in  $[Ru(depe)_2(N_3)_2]$  (Buys, Field, George, Hambley & Purches, 1995). The N-N bond lengths in HN<sub>3</sub> are 1.240(3) and 1.134(3) Å (Amkle & Dailey, 1950), and 1.150 (16) Å in  $N_3^-$  (Frevel, 1936). The azide groups in (1) are tilted in opposite directions in the crystal.

Lists of structure factors, anisotropic displacement parameters, Hatom coordinates, complete geometry and torsion angles have been deposited with the IUCr (Reference: JZ1119). Copies may be obtained through The Managing Editor, International Union of Crystallography, 5 Abbey Square, Chester CH1 2HU, England.