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catena-Poly[[(2,9-dimethyl-1,10-phenanthroline-κ^2N,N')lead(II)]-di-μ-2-hydroxybenzoato-$\kappa^3O^1,O^{1'}:O^2;\kappa^3O^2:O^1,O^{1'}$]

Xiao-Peng Xuan* and Pei-Zheng Zhao

Department of Chemistry, Henan Normal University, Xinxiang 453007, People's Republic of China
Correspondence e-mail: xpxuan@henannu.edu.cn

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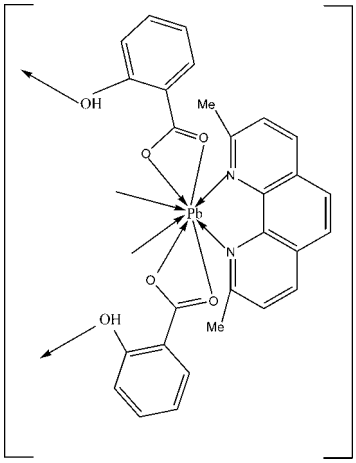
Key indicators: single-crystal X-ray study; T = 293 K; mean σ(C–C) = 0.005 Å; R factor = 0.018; wR factor = 0.044; data-to-parameter ratio = 13.7.

In the title polymeric comound, $[Pb(C_7H_5O_3)_2(C_{14}H_{12}N_2)]_n$, the Pb^{II} atom is located on a twofold rotation axis and is coordinated by two N atoms from one 2,9-dimethyl-1,10-phenanthroline (dmphen) ligand and six O atoms from four 2-hydroxybenzoate anions. The compound forms a zigzag polymeric chain along the c axis through bridging hydroxy groups of two 2-hydroxybenzoate ligands. The crystal packing is stabilized by the intramolecular hydrogen bonding and π–π interactions between dmphen rings of neighboring molecules, with a distance between the ring planes of 3.385 (3) Å.

Related literature

For information on the coordination chemistry of lead, see: Kovalevsky *et al.*(2003).



Experimental

Crystal data

$[Pb(C_7H_5O_3)_2(C_{14}H_{12}N_2)]$
M_r = 689.67
Orthorhombic, *Pbcn*
a = 19.6407 (19) Å
b = 12.9690 (12) Å
c = 9.8195 (9) Å
V = 2501.2 (4) Å^3
Z = 4
Mo $K\alpha$ radiation
μ = 6.79 mm^{-1}
T = 293 (2) K
0.24 × 0.15 × 0.12 mm

Data collection

Bruker SMART CCD area-detector diffractometer
Absorption correction: multi-scan (*SADABS*; Bruker, 1997)
T_{min} = 0.241, T_{max} = 0.443
17366 measured reflections
2323 independent reflections
1682 reflections with $I > 2\sigma(I)$
R_{int} = 0.034

Refinement

$R[F^2 > 2\sigma(F^2)]$ = 0.018
$wR(F^2)$ = 0.044
S = 1.04
2323 reflections
169 parameters
H-atom parameters constrained
$\Delta\rho_{max}$ = 0.44 e Å^{-3}
$\Delta\rho_{min}$ = −0.68 e Å^{-3}

Table 1
Hydrogen-bond geometry (Å, °).

D—H···A	D—H	H···A	D···A	D—H···A
O3—H3···O2	0.82	1.77	2.507 (4)	148

Data collection: *SMART* (Bruker, 1997); cell refinement: *SAINT* (Bruker, 1997); data reduction: *SAINT*; program(s) used to solve structure: *SHELXS97* (Sheldrick, 1997); program(s) used to refine structure: *SHELXL97* (Sheldrick, 1997); molecular graphics: *SHELXTL* (Bruker, 1997); software used to prepare material for publication: *SHELXTL*.

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Supplementary data and figures for this paper are available from the IUCr electronic archives (Reference: SJ2340).

References

Bruker (1997). *SMART*, *SAINT*, *SADABS* and *SHELXTL*. Bruker AXS Inc., Madison, Wisconsin, USA.
Kovalevsky, A. Y., Gembicky, M., Novozhilova, I. V. & Coppens, P. (2003). *Inorg. Chem.* **42**, 8794–8802.
Sheldrick, G. M. (1997). *SHELXS97* and *SHELXL97*. University of Göttingen, Germany.

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supplementary materials

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catena-Poly[[(2,9-dimethyl-1,10-phenanthroline-κ^2N,N')lead(II)]-di-μ-2-hydroxybenzoato-$\kappa^3O^1,O^{1'}:O^2;\kappa^3O^2:O^1,O^{1'}$]

X.-P. Xuan and P.-Z. Zhao

Comment

The coordination chemistry of lead(II) with N and O donor ligands has been investigated in the past decade and frequently discussed as lead is an environmental pollutant with severe toxic effects (Kovalevsky *et al.*2003). Recently, we obtained the title lead(II) complex, (I), by reaction of lead acetate, sodium salicylate and dmphen in ethanol/water mixtures, and its crystal structure is reported here.

A segment of the polymeric structure of (I) is illustrated in Fig.1. The Pb^{II} atom, which lies on a twofold axis, is coordinated by two N atoms from dmphen, two O atoms from hydroxy groups of the two 2-hydroxy-benzoate ligands, and four O atoms of carboxylate groups from another two 2-hydroxy-benzoate ligands (Figure 1). The dmphen ligand lies about the twofold axis and chelates to the Pb^{II} atom with Pb—N distances of 2.516 (3) Å. The six Pb—O bonds are divided into three groups with the different bond distances of 2.656 (3), 2.695 (3) and 2.887 (4) Å, respectively. The molecular structure forms a one-dimensional chain linked through two bridging 2-hydroxy-benzoate groups. An intra-molecular hydrogen bond between the coordinated hydroxy group and carboxyl O atom (Figure 1 and Table 1) stabilizes the conformation of the hydroxybenzoate ligands. Adjacent chains are connected by π-π interactions with a distance of 3.385 (3)Å between dmphen rings of neighboring molecules, forming a three-dimensional framework structure (Figure 2).

Experimental

To a solution of 2,9-dimethyl-1,10-phenanthroline ($C_{14}H_{12}N_2{\cdot}0.5H_2O$, 0.1088 g, 0.5 mmol), 2-hydrooxy-benzoate (0.0696 g, 0.5 mmol) and sodium hydroxide (0.0185 g,0.5 mmol) in ethanol/water (*v*:*v*=1:10, 11 ml) was added a solution of $Pb(CH_3COO)_2$ (0.1902 g, 0.5 mmol) in distilled water (5 ml). The resulting solution was stirred for 4 h at 323 K and filtered. Colorless single crystals of (I) were obtained by slow evaporation of the filtrate over 4 days.

Refinement

The carbon-bound H atoms were placed in calculated positions (C—H = 0.93 Å), and were included in the refinement in the riding model approximation, with U_{iso}(H) = 1.2 U_{eq}(C). The hydroxyl H atoms were placed in calculated positions (O—H =0.82 Å) and refined with free torsion angles to fit the electron density, with U_{iso}(H) = 1.5 U_{eq}(O).

Figures

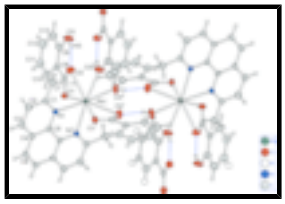

Fig. 1. A segment of the polymeric structure of (I). hydrogen bonds are shown as dashed lines. Displacement ellipsoids are drawn at the 30% probability level. [Symmetry codes: (i) −*x* + 1, *y*, −*z* + 5/2; (ii) *x*, −*y* + 1, *z* + 1/2; (iii) −*x* + 1, −*y* + 1, −*z* + 2]

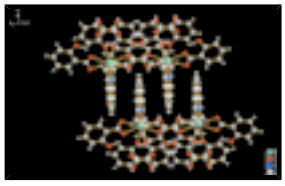

Fig. 2. Crystal packing of (I) showing the π-π interactions between the dmphen rings.

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Crystal data

$[Pb(C_7H_5O_3)_2(C_{14}H_{12}N_2)]$	F_{000} = 1336
M_r = 689.67	D_x = 1.831 Mg m^{-3}
Orthorhombic, *Pbcn*	Mo *K*α radiation λ = 0.71073 Å
Hall symbol: -P 2n 2ab	Cell parameters from 5195 reflections
a = 19.6407 (19) Å	θ = 2.8–26.9º
b = 12.9690 (12) Å	μ = 6.79 mm^{-1}
c = 9.8195 (9) Å	*T* = 293 (2) K
V = 2501.2 (4) Å^3	Block, yellow
Z = 4	0.24 × 0.15 × 0.12 mm

Data collection

Bruker SMART CCD area-detector diffractometer	2323 independent reflections
Radiation source: fine-focus sealed tube	1682 reflections with $I > 2\sigma(I)$
Monochromator: graphite	R_{int} = 0.034
T = 293(2) K	θ_{max} = 25.5º
φ and ω scans	θ_{min} = 2.8º
Absorption correction: multi-scan (SADABS; Bruker, 1997)	*h* = −23→23
T_{min} = 0.241, T_{max} = 0.443	*k* = −15→15
17366 measured reflections	*l* = −11→11

Refinement

Refinement on F^2	Secondary atom site location: difference Fourier map

Least-squares matrix: full

$R[F^2 > 2\sigma(F^2)] = 0.018$

$wR(F^2) = 0.044$

$S = 1.04$

2323 reflections

169 parameters

Primary atom site location: structure-invariant direct methods

Hydrogen site location: inferred from neighbouring sites

H-atom parameters constrained

$w = 1/[\sigma^2(F_o^2) + (0.0159P)^2 + 3.2022P]$ where $P = (F_o^2 + 2F_c^2)/3$

$(\Delta/\sigma)_{max} = 0.002$

$\Delta\rho_{max} = 0.44$ e Å^{-3}

$\Delta\rho_{min} = -0.68$ e Å^{-3}

Extinction correction: none

Special details

Geometry. All e.s.d.'s (except the e.s.d. in the dihedral angle between two l.s. planes are estimated using the full covariance matrix. The cell e.s.d.'s are taken into account individually in the estimation of e.s.d.'s in distances, angles and torsion angles; correlations between e.s.d.'s in cell parameters are only used when they are defined by crystal symmetry. An approximate (isotropic) treatment of cell e.s.d.'s is used for estimating e.s.d.'s involving l.s. planes.

Refinement. Refinement of F^2 against ALL reflections. The weighted *R*-factor *wR* and goodness of fit S are based on F^2, conventional *R*-factors *R* are based on F, with F set to zero for negative F^2. The threshold expression of $F^2 > 2\text{sigma}(F^2)$ is used only for calculating *R*-factors(gt) *etc*. and is not relevant to the choice of reflections for refinement. *R*-factors based on F^2 are statistically about twice as large as those based on F, and *R*-factors based on ALL data will be even larger.

Fractional atomic coordinates and isotropic or equivalent isotropic displacement parameters (Å^2)

	x	*y*	*z*	U_{iso}*/U_{eq}
Pb1	0.5000	0.681947 (12)	1.2500	0.02840 (7)
O1	0.39415 (14)	0.73146 (19)	1.0950 (3)	0.0421 (7)
O2	0.46065 (14)	0.6121 (2)	1.0038 (3)	0.0509 (7)
O3	0.41486 (16)	0.4894 (2)	0.8289 (3)	0.0676 (10)
H3	0.4414	0.5131	0.8854	0.101*
N1	0.54686 (15)	0.8440 (2)	1.1448 (3)	0.0283 (7)
C1	0.59274 (19)	0.8427 (3)	1.0457 (4)	0.0330 (8)
C2	0.61983 (19)	0.9346 (3)	0.9934 (4)	0.0410 (9)
H2	0.6525	0.9320	0.9249	0.049*

C3	0.5986 (2)	1.0276 (3)	1.0422 (4)	0.0412 (10)
H3A	0.6164	1.0884	1.0069	0.049*
C4	0.54957 (19)	1.0310 (3)	1.1463 (4)	0.0325 (8)
C5	0.52573 (17)	0.9357 (3)	1.1951 (3)	0.0271 (7)
C6	0.5238 (2)	1.1256 (3)	1.2008 (4)	0.0408 (10)
H6	0.5401	1.1880	1.1675	0.049*
C7	0.6143 (2)	0.7411 (3)	0.9886 (4)	0.0452 (10)
H7A	0.6383	0.7027	1.0571	0.068*
H7B	0.6437	0.7521	0.9118	0.068*
H7C	0.5749	0.7030	0.9601	0.068*
C8	0.3607 (2)	0.5531 (3)	0.8161 (4)	0.0420 (9)
C9	0.35326 (18)	0.6393 (3)	0.9001 (4)	0.0309 (8)
C10	0.29722 (19)	0.7031 (3)	0.8802 (4)	0.0418 (10)
H10	0.2917	0.7608	0.9353	0.050*
C11	0.2497 (2)	0.6826 (3)	0.7808 (4)	0.0505 (12)
H11	0.2128	0.7264	0.7677	0.061*
C12	0.2578 (2)	0.5956 (4)	0.7005 (5)	0.0552 (12)
H12	0.2257	0.5810	0.6336	0.066*
C13	0.3120 (2)	0.5310 (3)	0.7180 (4)	0.0555 (12)
H13	0.3163	0.4723	0.6642	0.067*
C14	0.40548 (19)	0.6634 (3)	1.0067 (4)	0.0326 (8)

Atomic displacement parameters (Å^2)

	U^{11}	U^{22}	U^{33}	U^{12}	U^{13}	U^{23}
Pb1	0.03391 (11)	0.02267 (9)	0.02861 (10)	0.000	−0.00428 (10)	0.000
O1	0.0499 (17)	0.0371 (15)	0.0393 (16)	0.0065 (13)	−0.0091 (13)	−0.0094 (13)
O2	0.0411 (17)	0.0631 (18)	0.0486 (17)	0.0182 (15)	−0.0138 (14)	−0.0164 (15)
O3	0.076 (2)	0.0532 (19)	0.073 (2)	0.0292 (17)	−0.0294 (19)	−0.0326 (17)
N1	0.0315 (17)	0.0251 (15)	0.0284 (16)	0.0009 (13)	0.0007 (13)	−0.0006 (12)
C1	0.033 (2)	0.032 (2)	0.034 (2)	0.0013 (17)	0.0004 (17)	−0.0017 (16)
C2	0.039 (2)	0.044 (2)	0.040 (2)	−0.0061 (19)	0.0102 (18)	0.0028 (19)
C3	0.047 (2)	0.036 (2)	0.041 (2)	−0.0098 (19)	0.0067 (19)	0.0072 (17)
C4	0.040 (2)	0.0274 (19)	0.0303 (19)	−0.0050 (17)	−0.0022 (16)	0.0037 (16)
C5	0.0288 (17)	0.0301 (19)	0.0225 (16)	0.0018 (15)	0.0007 (14)	−0.0014 (15)
C6	0.055 (3)	0.0255 (19)	0.041 (2)	−0.0057 (17)	−0.0036 (17)	0.0023 (16)
C7	0.043 (3)	0.043 (2)	0.050 (3)	0.004 (2)	0.015 (2)	−0.003 (2)
C8	0.047 (2)	0.038 (2)	0.041 (2)	0.0015 (19)	−0.009 (2)	−0.0066 (19)
C9	0.030 (2)	0.0321 (19)	0.0305 (19)	−0.0013 (16)	−0.0011 (16)	0.0034 (16)
C10	0.035 (2)	0.046 (2)	0.044 (2)	0.0038 (19)	0.0001 (19)	−0.0031 (19)
C11	0.032 (2)	0.067 (3)	0.053 (3)	0.002 (2)	−0.0090 (19)	0.008 (2)
C12	0.049 (3)	0.067 (3)	0.049 (3)	−0.015 (2)	−0.017 (2)	−0.002 (2)
C13	0.063 (3)	0.051 (3)	0.052 (3)	−0.006 (2)	−0.015 (2)	−0.013 (2)
C14	0.037 (2)	0.0318 (19)	0.0295 (19)	−0.0016 (17)	−0.0012 (17)	0.0040 (16)

Geometric parameters (Å, °)

Pb1—N1	2.516 (3)	C3—C4	1.405 (5)

Pb1—N1^{i}	2.516 (3)	C3—H3A	0.9300
Pb1—O1	2.656 (3)	C4—C5	1.405 (5)
Pb1—O1^{i}	2.656 (3)	C4—C6	1.432 (5)
Pb1—O2	2.695 (3)	C5—C5^{i}	1.478 (7)
Pb1—O2^{i}	2.695 (3)	C6—C6^{i}	1.344 (8)
Pb1—O3^{ii}	2.887 (3)	C6—H6	0.9300
Pb1—O3^{iii}	2.887 (3)	C7—H7A	0.9600
Pb1—C14	3.035 (4)	C7—H7B	0.9600
Pb1—C14^{i}	3.035 (4)	C7—H7C	0.9600
O1—C14	1.257 (4)	C8—C13	1.387 (5)
O2—C14	1.272 (4)	C8—C9	1.397 (5)
O3—C8	1.353 (4)	C9—C10	1.390 (5)
O3—Pb1^{iii}	2.887 (3)	C9—C14	1.499 (5)
O3—H3	0.8200	C10—C11	1.377 (5)
N1—C1	1.326 (4)	C10—H10	0.9300
N1—C5	1.353 (4)	C11—C12	1.385 (6)
C1—C2	1.402 (5)	C11—H11	0.9300
C1—C7	1.495 (5)	C12—C13	1.366 (6)
C2—C3	1.364 (5)	C12—H12	0.9300
C2—H2	0.9300	C13—H13	0.9300
N1—Pb1—N1^{i}	66.71 (13)	C1—N1—Pb1	122.6 (2)
N1—Pb1—O1	81.32 (9)	C5—N1—Pb1	118.2 (2)
N1^{i}—Pb1—O1	75.34 (8)	N1—C1—C2	121.1 (3)
N1—Pb1—O1^{i}	75.34 (8)	N1—C1—C7	118.6 (3)
N1^{i}—Pb1—O1^{i}	81.32 (9)	C2—C1—C7	120.3 (3)
O1—Pb1—O1^{i}	152.01 (11)	C3—C2—C1	120.4 (4)
N1—Pb1—O2	91.01 (9)	C3—C2—H2	119.8
N1^{i}—Pb1—O2	122.98 (9)	C1—C2—H2	119.8
O1—Pb1—O2	48.90 (8)	C2—C3—C4	119.5 (4)
O1^{i}—Pb1—O2	145.09 (8)	C2—C3—H3A	120.2
N1—Pb1—O2^{i}	122.97 (9)	C4—C3—H3A	120.2
N1^{i}—Pb1—O2^{i}	91.01 (9)	C5—C4—C3	116.7 (3)
O1—Pb1—O2^{i}	145.09 (8)	C5—C4—C6	120.6 (3)
O1^{i}—Pb1—O2^{i}	48.90 (8)	C3—C4—C6	122.7 (3)
O2—Pb1—O2^{i}	140.70 (12)	N1—C5—C4	123.1 (3)
N1—Pb1—O3^{ii}	164.79 (9)	N1—C5—C5^{i}	118.42 (19)
N1^{i}—Pb1—O3^{ii}	108.72 (10)	C4—C5—C5^{i}	118.5 (2)
O1—Pb1—O3^{ii}	83.49 (8)	C6^{i}—C6—C4	121.0 (2)
O1^{i}—Pb1—O3^{ii}	119.06 (8)	C6^{i}—C6—H6	119.5
O2—Pb1—O3^{ii}	79.39 (9)	C4—C6—H6	119.5
O2^{i}—Pb1—O3^{ii}	70.51 (8)	C1—C7—H7A	109.5
N1—Pb1—O3^{iii}	108.72 (10)	C1—C7—H7B	109.5
N1^{i}—Pb1—O3^{iii}	164.79 (9)	H7A—C7—H7B	109.5

O1—Pb1—O3^{iii}	119.06 (8)	C1—C7—H7C	109.5
O1^{i}—Pb1—O3^{iii}	83.49 (8)	H7A—C7—H7C	109.5
O2—Pb1—O3^{iii}	70.51 (8)	H7B—C7—H7C	109.5
O2^{i}—Pb1—O3^{iii}	79.39 (9)	O3—C8—C13	118.7 (4)
O3^{ii}—Pb1—O3^{iii}	79.34 (14)	O3—C8—C9	121.1 (3)
N1—Pb1—C14	88.10 (9)	C13—C8—C9	120.2 (4)
N1^{i}—Pb1—C14	99.53 (10)	C10—C9—C8	118.4 (3)
O1—Pb1—C14	24.37 (8)	C10—C9—C14	121.0 (3)
O1^{i}—Pb1—C14	161.67 (9)	C8—C9—C14	120.5 (3)
O2—Pb1—C14	24.75 (8)	C11—C10—C9	121.4 (4)
O2^{i}—Pb1—C14	148.74 (9)	C11—C10—H10	119.3
O3^{ii}—Pb1—C14	78.23 (9)	C9—C10—H10	119.3
O3^{iii}—Pb1—C14	94.70 (9)	C10—C11—C12	118.9 (4)
N1—Pb1—C14^{i}	99.53 (10)	C10—C11—H11	120.6
N1^{i}—Pb1—C14^{i}	88.10 (9)	C12—C11—H11	120.6
O1—Pb1—C14^{i}	161.67 (9)	C13—C12—C11	121.2 (4)
O1^{i}—Pb1—C14^{i}	24.37 (8)	C13—C12—H12	119.4
O2—Pb1—C14^{i}	148.74 (9)	C11—C12—H12	119.4
O2^{i}—Pb1—C14^{i}	24.75 (8)	C12—C13—C8	119.8 (4)
O3^{ii}—Pb1—C14^{i}	94.70 (9)	C12—C13—H13	120.1
O3^{iii}—Pb1—C14^{i}	78.23 (9)	C8—C13—H13	120.1
C14—Pb1—C14^{i}	170.91 (13)	O1—C14—O2	122.3 (3)
C14—O1—Pb1	95.0 (2)	O1—C14—C9	120.5 (3)
C14—O2—Pb1	92.7 (2)	O2—C14—C9	117.3 (3)
C8—O3—Pb1^{iii}	154.2 (2)	O1—C14—Pb1	60.66 (19)
C8—O3—H3	109.5	O2—C14—Pb1	62.50 (19)
Pb1^{iii}—O3—H3	95.9	C9—C14—Pb1	170.1 (2)
C1—N1—C5	119.1 (3)		
N1—Pb1—O1—C14	104.8 (2)	Pb1—N1—C5—C4	178.6 (3)
N1^{i}—Pb1—O1—C14	172.9 (2)	C1—N1—C5—C5^{i}	179.6 (4)
O1^{i}—Pb1—O1—C14	138.4 (2)	Pb1—N1—C5—C5^{i}	−2.5 (5)
O2—Pb1—O1—C14	5.8 (2)	C3—C4—C5—N1	−1.3 (5)
O2^{i}—Pb1—O1—C14	−117.2 (2)	C6—C4—C5—N1	178.1 (4)
O3^{ii}—Pb1—O1—C14	−75.8 (2)	C3—C4—C5—C5^{i}	179.8 (4)
O3^{iii}—Pb1—O1—C14	−1.8 (2)	C6—C4—C5—C5^{i}	−0.8 (6)
C14^{i}—Pb1—O1—C14	−161.1 (3)	C5—C4—C6—C6^{i}	−0.1 (7)
N1—Pb1—O2—C14	−83.3 (2)	C3—C4—C6—C6^{i}	179.2 (5)
N1^{i}—Pb1—O2—C14	−20.6 (3)	Pb1^{iii}—O3—C8—C13	6.3 (9)
O1—Pb1—O2—C14	−5.7 (2)	Pb1^{iii}—O3—C8—C9	−174.0 (4)
O1^{i}—Pb1—O2—C14	−148.6 (2)	O3—C8—C9—C10	178.7 (4)
O2^{i}—Pb1—O2—C14	125.0 (2)	C13—C8—C9—C10	−1.6 (6)
O3^{ii}—Pb1—O2—C14	84.9 (2)	O3—C8—C9—C14	0.0 (6)

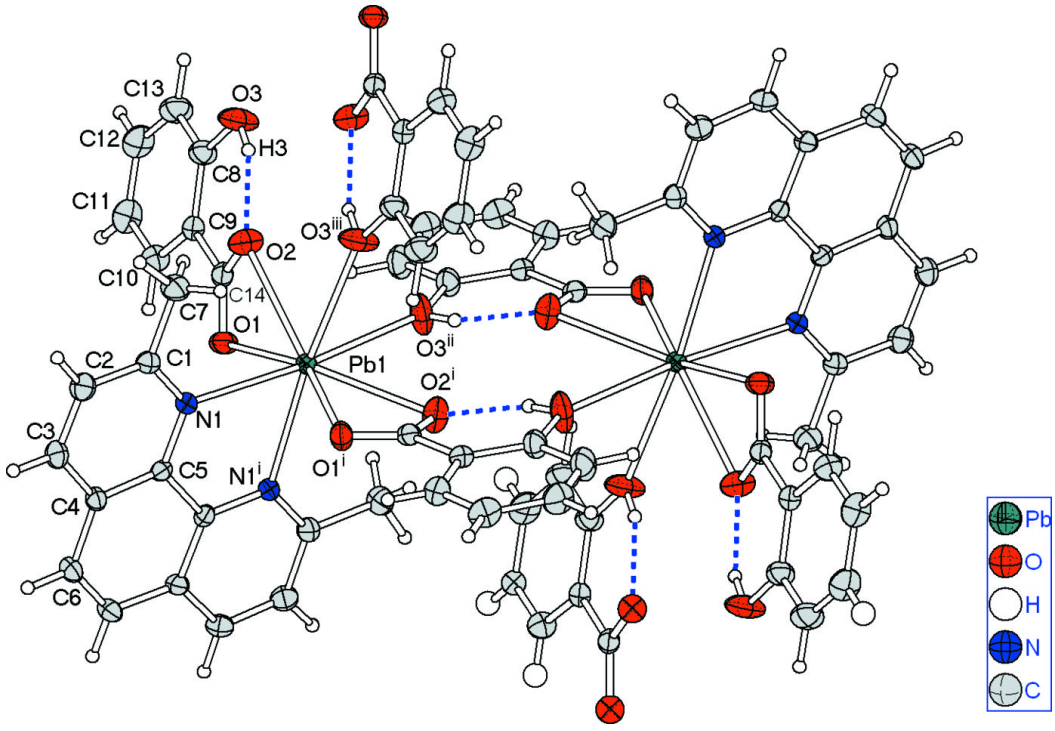
O3^{iii}—Pb1—O2—C14	167.2 (2)	C13—C8—C9—C14	179.7 (4)
C14^{i}—Pb1—O2—C14	166.4 (2)	C8—C9—C10—C11	0.1 (6)
N1^{i}—Pb1—N1—C1	178.7 (3)	C14—C9—C10—C11	178.7 (3)
O1—Pb1—N1—C1	−103.6 (3)	C9—C10—C11—C12	0.9 (6)
O1^{i}—Pb1—N1—C1	92.0 (3)	C10—C11—C12—C13	−0.4 (7)
O2—Pb1—N1—C1	−55.5 (3)	C11—C12—C13—C8	−1.1 (7)
O2^{i}—Pb1—N1—C1	103.5 (3)	O3—C8—C13—C12	−178.2 (4)
O3^{ii}—Pb1—N1—C1	−105.9 (4)	C9—C8—C13—C12	2.1 (7)
O3^{iii}—Pb1—N1—C1	14.2 (3)	Pb1—O1—C14—O2	−11.0 (4)
C14—Pb1—N1—C1	−80.1 (3)	Pb1—O1—C14—C9	168.7 (3)
C14^{i}—Pb1—N1—C1	94.9 (3)	Pb1—O2—C14—O1	10.8 (4)
N1^{i}—Pb1—N1—C5	0.90 (19)	Pb1—O2—C14—C9	−168.9 (3)
O1—Pb1—N1—C5	78.6 (2)	C10—C9—C14—O1	11.9 (5)
O1^{i}—Pb1—N1—C5	−85.8 (2)	C8—C9—C14—O1	−169.5 (4)
O2—Pb1—N1—C5	126.7 (2)	C10—C9—C14—O2	−168.5 (4)
O2^{i}—Pb1—N1—C5	−74.2 (3)	C8—C9—C14—O2	10.2 (5)
O3^{ii}—Pb1—N1—C5	76.3 (4)	N1—Pb1—C14—O1	−73.0 (2)
O3^{iii}—Pb1—N1—C5	−163.5 (2)	N1^{i}—Pb1—C14—O1	−7.0 (2)
C14—Pb1—N1—C5	102.1 (3)	O1^{i}—Pb1—C14—O1	−98.1 (4)
C14^{i}—Pb1—N1—C5	−82.8 (3)	O2—Pb1—C14—O1	−169.5 (4)
C5—N1—C1—C2	0.4 (5)	O2^{i}—Pb1—C14—O1	101.1 (3)
Pb1—N1—C1—C2	−177.3 (3)	O3^{ii}—Pb1—C14—O1	100.3 (2)
C5—N1—C1—C7	−178.5 (3)	O3^{iii}—Pb1—C14—O1	178.4 (2)
Pb1—N1—C1—C7	3.8 (5)	N1—Pb1—C14—O2	96.5 (2)
N1—C1—C2—C3	−1.0 (6)	N1^{i}—Pb1—C14—O2	162.5 (2)
C7—C1—C2—C3	177.8 (4)	O1—Pb1—C14—O2	169.5 (4)
C1—C2—C3—C4	0.4 (6)	O1^{i}—Pb1—C14—O2	71.4 (4)
C2—C3—C4—C5	0.7 (5)	O2^{i}—Pb1—C14—O2	−89.3 (3)
C2—C3—C4—C6	−178.7 (4)	O3^{ii}—Pb1—C14—O2	−90.2 (2)
C1—N1—C5—C4	0.7 (5)	O3^{iii}—Pb1—C14—O2	−12.1 (2)

Symmetry codes: (i) −*x*+1, *y*, −*z*+5/2; (ii) *x*, −*y*+1, *z*+1/2; (iii) −*x*+1, −*y*+1, −*z*+2.

Hydrogen-bond geometry (Å, °)

D—H···*A*	*D*—H	H···*A*	*D*···*A*	*D*—H···*A*
O3—H3···O2	0.82	1.77	2.507 (4)	148

Fig. 1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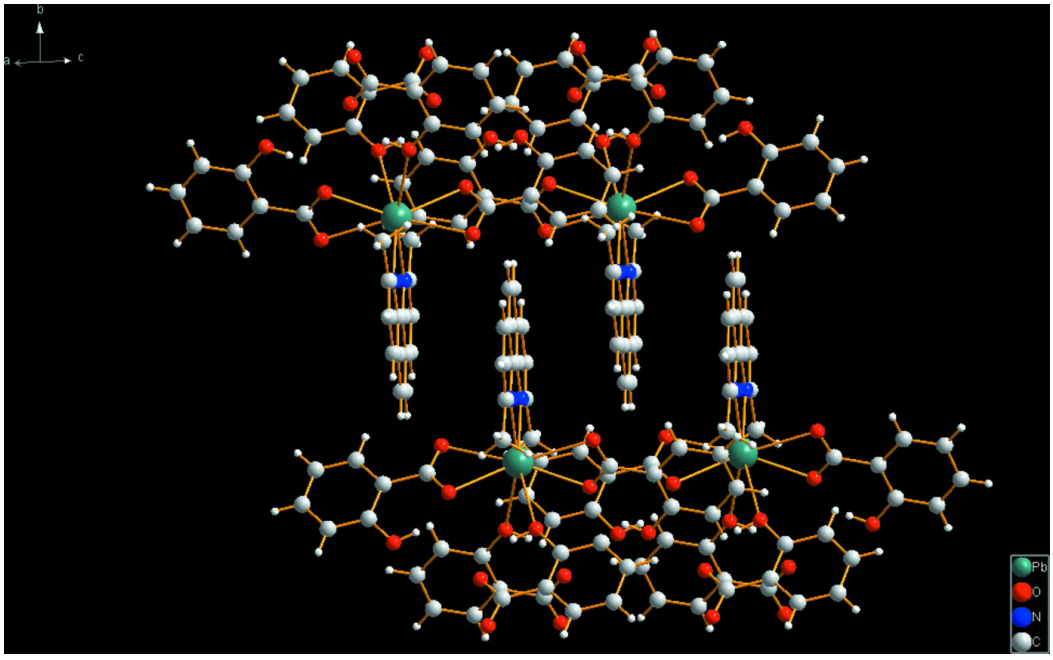
O3
C12
H3
C8
C11
C9
O2
O3iii
C10
C14
C7
O1
O3ii
C2
C1
Pb1
O2i
N1
C3
C5
N1i
O1i
C4
C6
Pb
O
H
N
C

Fig. 2



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catena-Poly[[(2,9-dimethyl-1,10-phenanthroline-κ^2N,N')lead(II)]-di-μ-2-hydroxybenzoato-$\kappa^3O^1,O^{1'}:O^2;\kappa^3O^2:O^1,O^{1'}$]. Corrigendum

Xiao-Peng Xuan* and Pei-Zheng Zhao

Department of Chemistry, Henan Normal University, Xinxiang 453007, People's Republic of China
Correspondence e-mail: xpxuan@henannu.edu.cn

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A reference in the paper by Xuan & Zhao [*Acta Cryst.* (2007), E**63**, m2678] is replaced.

In the paper by Xuan & Zhao (2007), the reference to Kovalevsky *et al.* (2003) in the *Related literature* and *Comment* should be replaced by a reference to Shimoni-Livny *et al.* (1998), as given below.

References

Kovalevsky, A. Y., Gembicky, M., Novozhilova, I. V. & Coppens, P. (2003). *Inorg. Chem.* **42**, 8794–8802.
Shimoni-Livny, L., Glusker, J. P. & Bock, C. W. (1998). *Inorg. Chem.* **37**, 1853–1867.
Xuan, X.-P. & Zhao, P.-Z. (2007). *Acta Cryst.* E**63**, m2678.

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