

Retraction of articles by H. Zhong *et al.*

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A series of 41 papers by H. Zhong *et al.* are retracted.

As a result of problems with the data sets and incorrect atom assignments, 41 papers by H. Zhong *et al.* are retracted. Full details of all the articles are given in Table 1.

Table 1

Details of articles to be retracted, in order of publication.

Title	Reference	DOI	Refcode
<i>Aquachlorobis(1,10-phenanthroline)cobalt(II) chloride thiourea solvate</i>	Zhong, Zeng, Liu & Luo (2006a)	10.1107/S1600536806041122	KERQEE
<i>cis-Dichlorobis(1,10-phenanthroline)cobalt(II)</i>	Zhong, Zeng & Luo (2006)	10.1107/S1600536806047295	MEQFOE
<i>Tris(quinolin-8-olato-κ²N,O)cobalt(III) glyoxal hemisolvate monohydrate</i>	Zhong, Zeng, Liu & Luo (2006b)	10.1107/S1600536806050240	MEQHEW
<i>(8-Quinololinol-κ²N,O)bis(8-quinolinolato-κ²N,O)nickel(II) glyoxal hemisolvate monohydrate</i>	Zhong, Zeng, Liu & Luo (2007)	10.1107/S1600536806053232	METVUD
<i>Aquachlorobis(1,10-phenanthroline)cobalt(II) chloride thioacetamide solvate</i>	Zhong, Zeng & Luo (2007)	10.1107/S1600536806053530	METQIM
<i>(8-Quinololinol-κ²N,O)-bis(8-quinolinolato-κ²N,O)zinc(II) glyoxal hemisolvate monohydrate</i>	Zhong, Zeng, Luo, Li & Xiao (2007)	10.1107/S1600536807001171	DEXTEG
<i>(Dimethylglyoxime-κ²N,N')bis(1,10-phenanthroline-κ²N,N')nickel(II) dinitrate dihydrate</i>	Zhong, Zeng, Yang, Luo & Li (2007a)	10.1107/S1600536807004102	YEYGOZ
<i>(Dimethylglyoxime-κ²N,N')bis(1,10-phenanthroline-κ²N,N')zinc(II) dinitrate dihydrate</i>	Zhong, Zeng, Yang, Luo & Li (2007b)	10.1107/S1600536807004096	YEYGUF
<i>Chloridobis(1,10-phenanthroline-κN,N')copper(I) hexahydrate</i>	Zhong, Zeng, Yang, Luo & Xiao (2007)	10.1107/S160053680700791X	HEGKOU1
<i>Tetrakis(pyridine-κN)bis(thiocyanato-κN)cobalt(II)</i>	Zhong, Zeng, Yang & Luo (2007a)	10.1107/S1600536807017461	ITCPCO1
<i>Tetrakis(pyridine-κN)bis(thiocyanato-κN)copper(II)</i>	Zhong, Zeng, Yang & Luo (2007b)	10.1107/S160053680701879X	AVUJEG02
<i>Tetrakis(nitrato-κ²O,O')bis(4-phenylpyridine-κN)cerium(IV)</i>	Zhong, Zeng, Yang & Luo (2007c)	10.1107/S1600536807018831	CICDOI
<i>Bis(4,4'-bipyridine-κ²N,N')tetrakis(nitrato-κ²O,O')cerium(IV)</i>	Zhong, Zeng, Yang & Luo (2007d)	10.1107/S1600536807021502	YIDNEF
<i>(1,10-Phenanthroline)tris(phenoxyacetato)lanthanum(III)</i>	Zhong, Zeng, Yang, Luo & Xu (2007)	10.1107/S1600536807027171	EDUROL
<i>(1,10-Phenanthroline)tris(phenoxyacetato)cerium(III)</i>	Zhong, Yang, Luo & Xu (2007a)	10.1107/S1600536807028061	EDUTUT
<i>(1,10-Phenanthroline)tri(3-phenylpropanoato)lanthanum(III)</i>	Zhong, Yang, Luo & Xu (2007b)	10.1107/S1600536807028693	RIGQEE
<i>(1,10-Phenanthroline-κ²N,N')tris(phenoxyacetato)-κO;κO;κO,O'-neodymium(III)</i>	Zhong, Yang, Luo & Xu (2007c)	10.1107/S1600536807030371	UDUMEM
<i>Bis(2,2'-bipyridyl-κ²N,N')bis(thiocyanato-κN)nickel(II)</i>	Zhong, Yang, Luo & Xu (2007d)	10.1107/S1600536807031613	YEJGOJ01
<i>Bis(2,2'-bipyridyl-κ²N,N')bis(isothiocyanato-κN)copper(II)</i>	Zhong, Yang, Luo & Xu (2007e)	10.1107/S1600536807033181	UFAPOH
<i>Bis(2,2'-bipyridyl-κ²N,N')bis(thiocyanato-κN)zinc(II)</i>	Zhong, Yang, Luo & Xu (2007f)	10.1107/S1600536807035337	TIGFAR
<i>(1,10-Phenanthroline-κ²N,N')tris(3-phenylpropanoato-κO)neodymium(III)</i>	Zhong, Yang, Luo & Xu (2007g)	10.1107/S1600536807035350	TIGFEV
<i>2-Fluoro-3,5-dinitrobenzamide monohydrate</i>	Zhong, Yang, Xie & Luo (2007j)	10.1107/S1600536807038676	VIKGAY
<i>2-Fluoro-3,5-dinitrobenzoic acid-ammonia (1/1)</i>	Zhong, Yang, Xie & Luo (2007k)	10.1107/S1600536807039724	KILKIA
<i>1-Hydroxy-4,6-dinitropyridine-2-carboxamide monohydrate</i>	Zhong, Yang, Xie & Luo (2007l)	10.1107/S1600536807040779	AFETAH
<i>N-(2-Hydroxyphenyl)carbamic acid-ammonia (1/1)</i>	Zhong, Yang, Xie & Luo (2007m)	10.1107/S160053680704086X	AFINAF
<i>catena-Poly[[bis(μ-anilinoacetato-κ²O:O')bis(μ-anilinoacetato-κ²O:O')bis(1,10-phenanthroline-κ²N,N')samarium(III)]-μ-anilinoacetato-κ²O:O']</i>	Zhong, Yang, Xie & Luo (2007a)	10.1107/S1600536807043528	PILDAQ
<i>2-Hydroxy-5-nitrobenzene-1,3-dicarboxylic acid monohydrate</i>	Zhong, Yang, Xie & Luo (2007n)	10.1107/S1600536807045199	XILWIZ
<i>catena-Poly[[tetra-μ-anilinoacetato-bis(1,10-phenanthroline)-dineodymium(III)]-di-μ-anilinoacetato]</i>	Zhong, Yang, Xie & Luo (2007b)	10.1107/S1600536807048489	WIMWEV
<i>Hexaaquacopper(II) bis(4-methylbenzenesulfonate)</i>	Zhong, Yang, Xie & Luo (2007c)	10.1107/S1600536807049525	TOLSCV01

Table 1 (continued)

Title	Reference	DOI	Refcode
<i>catena-Poly[[tetra-μ-anilinoacetato-bis(1,10-phenanthroline)-dilanthanum(III)]-di-μ-anilinoacetato]</i>	Zhong, Yang, Xie & Luo (2007d)	10.1107/S1600536807051240	GIMZEI
<i>Hexaaquachromium(II) bis(4-methylbenzenesulfonate)</i>	Zhong, Yang, Xie & Luo (2007e)	10.1107/S1600536807051227	GIMZIM
<i>Hexaaquamanganese(II) bis(4-methylbenzenesulfonate)</i>	Zhong, Yang, Xie & Luo (2007f)	10.1107/S1600536807052051	QUKQES01
<i>catena-Poly[(acetato-κO)(1,10-phenanthroline-κ^2N,N')cobalt(II)]-μ-acetato-κ^2O:O']</i>	Zhong, Yang, Xie & Luo (2007g)	10.1107/S1600536807053494	NIQLAB
<i>Hexaaquanickel(II) bis(4-aminobenzenesulfonate)</i>	Zhong, Zhong, Xie & Luo (2007a)	10.1107/S1600536807054372	HIPZOW
<i>catena-Poly[(acetato-κO)(1,10-phenanthroline-κ^2N,N')copper(II)]-μ-acetato-κ^2O:O']</i>	Zhong, Yang, Xie & Luo (2007h)	10.1107/S160053680705622X	XIRGOV
<i>Hexaaquazinc(II) bis(4-aminobenzenesulfonate)</i>	Zhong, Zhong, Xie & Luo (2007b)	10.1107/S1600536807056498	XIRJEO
<i>catena-Poly[(acetato-κO)(1,10-phenanthroline-κ^2N,N')nickel(II)]-μ-acetato-κ^2O:O']</i>	Zhong, Yang, Xie & Luo (2007i)	10.1107/S1600536807058540	HIQJOH
<i>Hexaaquacobalt(II) bis(4-aminobenzenesulfonate)</i>	Zhong, Xie & Luo (2007)	10.1107/S1600536807058527	HIQJUN
<i>catena-Poly[[tetra-μ-anilinoacetato-bis(1,10-phenanthroline)-dieuropium(III)]-di-μ-anilinoacetato]</i>	Zhong, Yang, Duan & Hong (2007)	10.1107/S1600536807060643	YIQMAN
<i>(Dimethylglyoxime-κ^2N,N')bis(1,10-phenanthroline-κ^2N,N')copper(II) dinirate dihydrate</i>	Zhong, Yang, Luo & Li (2007)	10.1107/S1600536807061193	YIQNUI
<i>catena-Poly[(1,10-phenanthroline-κ^2N,N')praseodymium(III)]-di-μ-phenoxyacetato-κ^4O:O'-[(1,10-phenanthroline-κ^2N,N')praseodymium(III)]-di-μ-phenoxyacetato-κ^4O:O'-di-μ-phenoxyacetato-κ^3O,O':κ^3O:O,O']</i>	Zhong, Yang, Luo & Xu (2008)	10.1107/S1600536807068614	GISJIC

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(Dimethylglyoxime- κ^2N,N')bis(1,10-phenanthroline- κ^2N,N')nickel(II) dinitrate dihydrate**H. Zhong,^{a*} X.-R. Zeng,^a X.-M. Yang,^b Q.-Y. Luo^a and M.-L. Li^a**^aCollege of Chemistry & Chemical Engineering, Provincial Key Laboratory of Coordination Chemistry, Jinggangshan University, Jian 343009, People's Republic of China, and^bInstitute of Applied Materials, Jiangxi University of Finance & Economics, Nanchang 330032, People's Republic of China

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Key indicators

Single-crystal X-ray study

 $T = 273\text{ K}$ Mean $\sigma(\text{C}-\text{C}) = 0.006\text{ \AA}$ R factor = 0.049 wR factor = 0.153

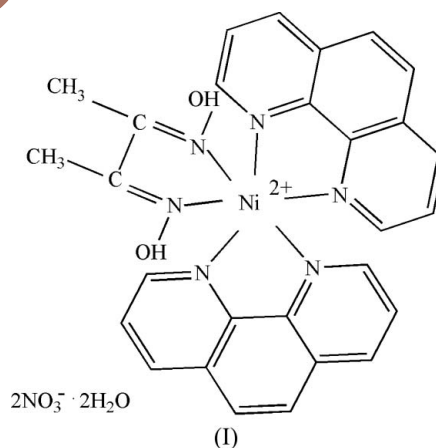
Data-to-parameter ratio = 15.8

For details of how these key indicators were automatically derived from the article, see <http://journals.iucr.org/e>.

In the molecule of the title compound, $[\text{Ni}(\text{C}_2\text{H}_8\text{N}_2)_2(\text{C}_4\text{H}_8\text{N}_2\text{O}_2)](\text{NO}_3)_2 \cdot 2\text{H}_2\text{O}$, the Ni atom has a distorted octahedral coordination formed by six N atoms from one dimethylglyoxime and two 1,10-phenanthroline ligands. In the crystal structure, molecules are linked into a three-dimensional framework by $\text{O}-\text{H} \cdots \text{O}$ hydrogen bonds and $\pi-\pi$ stacking interactions.

Comment

In recent years, interest in the chemistry of metal–oxygen clusters has grown because of their applications in areas including catalysis, materials chemistry and biochemistry (Pope, 1983; Pope & Müller, 2001). $\pi-\pi$ Stacking between aromatic rings is related to the electron-transfer process in some biological systems (Deisenhofer & Michel, 1989; Wall *et al.*, 1999). Aromatic polycyclic compounds, such as phenanthroline, quinoline and benzimidazole, have commonly shown $\pi-\pi$ stacking in metal complexes (Wu *et al.*, 2003; Pan & Xu, 2004; Liu *et al.*, 2004; Li *et al.*, 2005). As a bidentate flexible ligand, dimethylglyoxime is also a good ligand with excellent coordination capabilities for generating mono-, bi- or trinuclear complexes, which are commonly used as precursors for the formation of supramolecular architectures (Chaudhuri *et al.*, 1991; Cervera *et al.*, 1997). We report here the crystal structure of the title compound, (I).



In the molecule of (I) (Fig. 1), the ligand bond lengths and angles are within normal ranges (Allen *et al.*, 1987). The six N atoms of one dimethylglyoxime and two 1,10-phenanthroline (phen) ligands are coordinated to the Ni atom, in a distorted octahedral arrangement (Table 1). The dimethylglyoxime and two phen ligands are each planar, and the phen ligands are nearly perpendicular to each other, with a dihedral angle of $85.63(5)^\circ$.

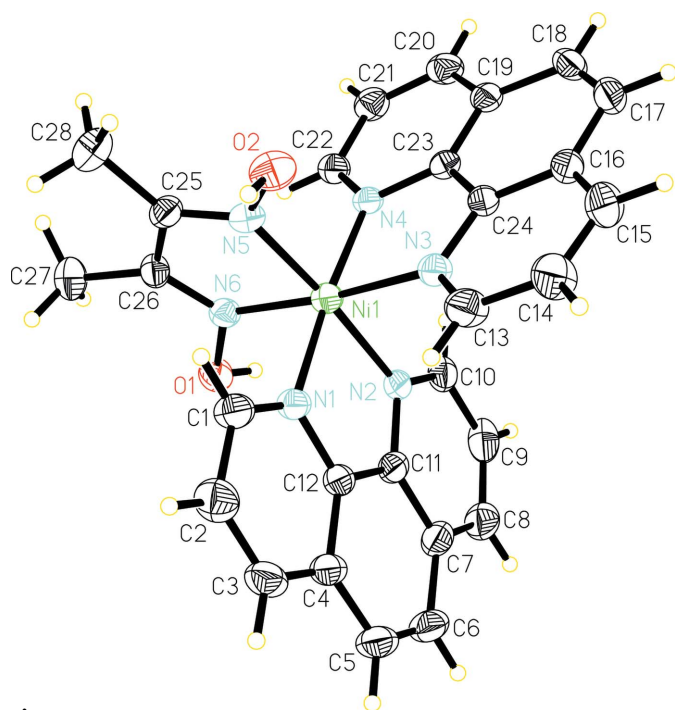


Figure 1
The structure of the cationic complex of (I), showing the atom-numbering scheme. Displacement ellipsoids are drawn at the 30% probability level. Solvent molecules and nitrate anions have been omitted for clarity.

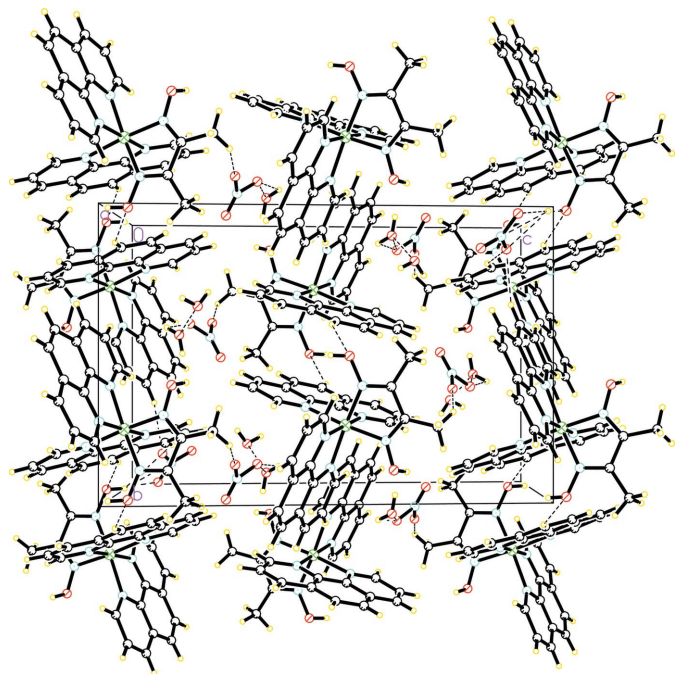


Figure 2
A packing diagram of (I). Hydrogen bonds are shown as dashed lines.

In the crystal structure, there is a three-dimensional framework (Fig. 2) formed by O—H...O hydrogen bonds (Table 2). There are π – π stacking interactions between adjacent phen ligands with a centroid-centroid distance of 3.602 (3) Å (symmetry code: $1 - x, 2 - y, 1 - z$). These π – π stacking interactions and hydrogen bonds lead to a supramolecular network structure (Fig. 2).

Experimental

Nickel(II) nitrate hexahydrate (582 mg, 2 mmol), phen (396 mg, 2 mmol) and dimethylglyoxime (116 mg, 1 mmol) were dissolved in ethanol (25 ml). The mixture was heated for 8 h under reflux with stirring. It was then filtered to give a clear solution, into which diethyl ether vapour was allowed to condense in a closed vessel. After being allowed to stand for a few days at room temperature, some green single crystals suitable for X-ray diffraction analysis precipitated.

Crystal data

$[\text{Ni}(\text{C}_{12}\text{H}_8\text{N}_2)_2(\text{C}_4\text{H}_8\text{N}_2\text{O}_2)]\cdot(\text{NO}_3)_2\cdot 2\text{H}_2\text{O}$
 $M_r = 695.27$
 Monoclinic, $P2_1/c$
 $a = 13.8759$ (19) Å
 $b = 12.045$ (5) Å
 $c = 18.3778$ (18) Å
 $\beta = 96.145$ (1)°
 $V = 3053.9$ (14) Å³
 $Z = 4$
 $D_x = 1.512$ Mg m⁻³
 Mo $K\alpha$ radiation
 $\mu = 0.71$ mm⁻¹
 $T = 273$ (2) K
 Prism, green
 $0.30 \times 0.23 \times 0.18$ mm

Data collection

Bruker APEX-II area-detector diffractometer
 φ and ω scans
 Absorption correction: multi-scan (SADABS; Sheldrick, 1996)
 $T_{\min} = 0.817$, $T_{\max} = 0.883$
 22071 measured reflections
 7021 independent reflections
 3780 reflections with $I > 2\sigma(I)$
 $R_{\text{int}} = 0.043$
 $\theta_{\max} = 27.9^\circ$

Refinement

Refinement on F^2
 $R[F^2 > 2\sigma(F^2)] = 0.049$
 $wR(F^2) = 0.153$
 $S = 0.93$
 7021 reflections
 444 parameters
 H atoms treated by a mixture of independent and constrained refinement
 $w = 1/[\sigma^2(F_o^2) + (0.1P)^2 + 0.002P]$
 where $P = (F_o^2 + 2F_c^2)/3$
 $(\Delta/\sigma)_{\max} = 0.006$
 $\Delta\rho_{\max} = 0.76$ e Å⁻³
 $\Delta\rho_{\min} = -0.53$ e Å⁻³

Table 1

Selected geometric parameters (Å, °).

Ni1—N1	1.934 (3)	Ni1—N4	1.950 (3)
Ni1—N2	1.994 (3)	Ni1—N5	1.907 (3)
Ni1—N3	1.963 (3)	Ni1—N6	1.892 (3)
N1—Ni1—N2	83.70 (13)	N2—Ni1—N6	95.44 (13)
N1—Ni1—N3	92.48 (13)	N3—Ni1—N4	83.86 (13)
N1—Ni1—N4	175.30 (13)	N3—Ni1—N5	93.96 (14)
N1—Ni1—N5	93.12 (13)	N3—Ni1—N6	174.45 (13)
N1—Ni1—N6	90.47 (13)	N4—Ni1—N5	90.07 (13)
N2—Ni1—N3	89.55 (12)	N4—Ni1—N6	93.43 (12)
N2—Ni1—N4	93.31 (12)	N5—Ni1—N6	81.18 (14)
N2—Ni1—N5	175.37 (13)		

Table 2

Hydrogen-bond geometry (Å, °).

$D-H\cdots A$	$D-H$	$H\cdots A$	$D\cdots A$	$D-H\cdots A$
O9—H9A...O7 ⁱ	0.85 (5)	2.18 (7)	2.599 (18)	110 (6)
O1—H1...N7 ⁱⁱ	0.82	2.49	3.250 (5)	155
O1—H1...O3 ⁱⁱ	0.82	2.37	2.998 (5)	134
O1—H1...O4 ⁱⁱ	0.82	1.95	2.706 (4)	153

Symmetry codes: (i) $-x + 1, y - \frac{1}{2}, -z + \frac{1}{2}$; (ii) $x, y + 1, z - 1$.

H atoms of the water molecules were located in a difference map and refined isotropically [O—H = 0.822 (10)–0.85 (5) Å and $U_{\text{iso}}(\text{H}) =$

0.526 (16)–0.553(13 Å²]. The remaining H atoms were positioned geometrically, with O–H = 0.82 Å (for OH) and C–H = 0.93 and 0.96 Å for aromatic and methyl H atoms, respectively, and constrained to ride on their parent atoms, with $U_{\text{iso}}(\text{H}) = xU_{\text{eq}}(\text{C}, \text{O})$, where $x = 1.2$ for aromatic H atoms and $x = 1.5$ for all other H atoms.

Data collection: *SMART* (Siemens, 1996); cell refinement: *SAINTE* (Siemens, 1996); data reduction: *SAINTE*; program(s) used to solve structure: *SHELXS97* (Sheldrick, 1997); program(s) used to refine structure: *SHELXL97* (Sheldrick, 1997); molecular graphics: *SHELXTL* (Siemens, 1996); software used to prepare material for publication: *SHELXTL*.

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Article retracted