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Poly[[di-μ_3-nicotinato-μ_3-oxalato-samarium(III)silver(I)] dihydrate]. Corrigendum

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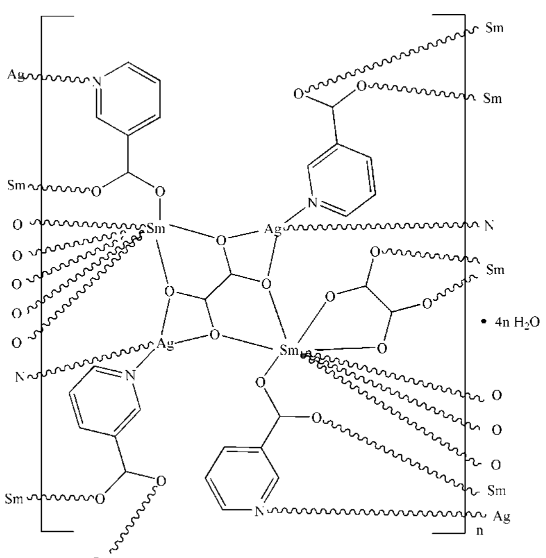
The title of the paper by Zhu, Zhao & Yu [*Acta Cryst.* (2009), E**65**, m1105] is corrected.

In the paper by Zhu *et al.* (2009), the chemical name given in the *Title* should be 'Poly[[tetra-μ_3-nicotinato-μ_4-oxalato-μ_2-oxalato-disamarium(III)disilver(I)] tetrahydrate]'. The revised scheme is shown below.



References

Zhu, L.-C., Zhao, Z.-G. & Yu, S.-J. (2009). *Acta Cryst.* E**65**, m1105.

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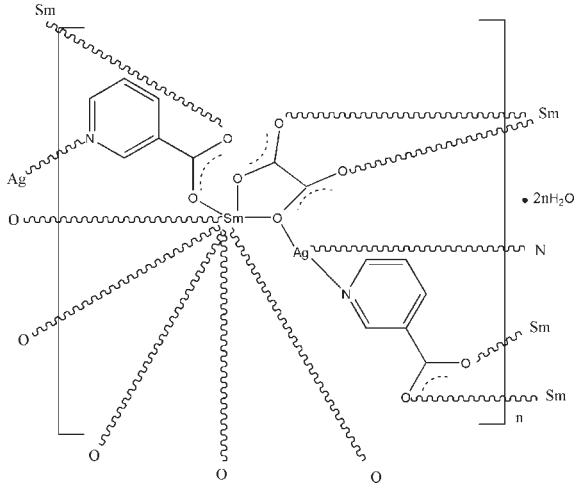
Key indicators: single-crystal X-ray study; T = 296 K; mean σ(C–C) = 0.006 Å; R factor = 0.023; wR factor = 0.052; data-to-parameter ratio = 12.5.

In the title three-dimensional heterometallic complex, $\{[AgSm(C_6H_4NO_2)_2(C_2O_4)]\cdot 2H_2O\}_n$, the Sm^{III} ion is eight-coordinated by four O atoms from four different nicotinate ligands and four O atoms from two different oxalate ligands. The three-coordinate Ag^{I} ion is bonded to two N atoms from two different nicotinate anions and one O atom from an oxalate anion. These metal coordination units are connected by bridging nicotinate and oxalate ligands, generating a three-dimensional network. The uncoordinated water molecules link the carboxylate groups *via* O—H···O hydrogen bonding. The crystal structure is further stabilized by hydrogen bonds between the water molecules.

Related literature

For theapplications of lanthanide–transition metal heterometallic complexes with bridging multifunctional organic ligands, see: Cheng *et al.* (2006); Kuang *et al.* (2007); Luo *et al.* (2007); Peng *et al.* (2008).



Experimental

Crystal data

$[AgSm(C_6H_4NO_2)_2(C_2O_4)]\cdot 2H_2O$
M_r = 626.49
Monoclinic, $P2_1/c$
a = 9.7145 (9) Å
b = 22.3444 (15) Å
c = 9.1726 (6) Å
β = 117.295 (1)°
V = 1769.4 (2) Å^3
Z = 4
Mo $K\alpha$ radiation
μ = 4.45 mm^{-1}
T = 296 K
0.23 × 0.20 × 0.19 mm

Data collection

Bruker APEXII area-detector diffractometer
Absorption correction: multi-scan (*SADABS*; Sheldrick, 1996)
T_{min} = 0.374, T_{max} = 0.429
8972 measured reflections
3171 independent reflections
2995 reflections with $I > 2\sigma(I)$
R_{int} = 0.027

Refinement

$R[F^2 > 2\sigma(F^2)]$ = 0.023
$wR(F^2)$ = 0.052
S = 1.12
3171 reflections
254 parameters
H-atom parameters constrained
$\Delta\rho_{max}$ = 0.84 e Å^{-3}
$\Delta\rho_{min}$ = −0.65 e Å^{-3}

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

D—H···A	D—H	H···A	D···A	D—H···A
O1W—H1W···O7^{i}	0.86	2.10	2.960 (5)	175
O1W—H2W···O2W	0.86	2.06	2.892 (7)	161
O2W—H4W···O1W^{ii}	0.87	1.92	2.780 (7)	171

Symmetry code: (i) $x, -y+\frac{3}{2}, z+\frac{1}{2}$.

Data collection: *APEX2* (Bruker, 2004); cell refinement: *SAINT* (Bruker, 2004); data reduction: *SAINT*; program(s) used to solve structure: *SHELXS97* (Sheldrick, 2008); program(s) used to refine structure: *SHELXL97* (Sheldrick, 2008); molecular graphics: *SHELXTL* (Sheldrick, 2008); software used to prepare material for publication: *SHELXL97*.

The authors acknowledge South China Normal University for supporting this work.

Supplementary data and figures for this paper are available from the IUCr electronic archives (Reference: PV2185).

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Sheldrick, G. M. (1996). *SADABS*. University of Göttingen, Germany.
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supporting information

Acta Cryst. (2009). E**65**, m1105 [doi:10.1107/S1600536809032115]

Poly[[di-μ_3-nicotinato-μ_3-oxalato-samarium(III)silver(I)] dihydrate]

Li-Cai Zhu, Zhen-Gang Zhao and Shu-Juan Yu

S1. Comment

In the past few years, lanthanide-transition metal heterometallic complexs with bridging multifunctionnal organic ligands have generated much interest, not only because of their impressive topological structures, but also due to their versatile applications in ion exchange, magnetism, bimetallic catalysis and luminescent probe (Cheng *et al.*, 2006; Kuang *et al.*, 2007; Luo *et al.*, 2007; Peng *et al.*, 2008). As an extension of this research, we report here the structure of the title compound, a new heterometallic coordination polymer.

In the title compound (Fig. 1), there are one Sm^{III} ion, one Ag^{I} ion, two halves of oxalate ligand, two nicotinate ligands, and two lattice water molecules in the asymmetric unit. Each Sm^{III} ion is eight-coordinated by four O atoms from four different nicotinate ligands, and four O atoms of two different oxalate ligands. The Sm center can be described as having a bicapped trigonal prism coordination geometry. The three-coordinate Ag^{I} ion is bonded to two N atoms from two different nicotinate anions and one O atom from an oxalate anion. Thus the Ag^{I} ion is in a T-shaped configuration. These metal coordination units are connected by bridging nicotinate and oxalate ligands, generating a three-dimensional network (Fig. 2). The uncoordinated water molecules link the carboxylate groups by O—H···O hydrogen bonding (Table 1). The crystal structure is further stabilized by hydrogen bonds.

S2. Experimental

A mixture of $AgNO_3$ (0.057 g, 0.33 mmol), Sm_2O_3 (0.116 g, 0.33 mmol), nicotinic acid (0.164 g, 1.33 mmol), oxalic acid (0.119 g, 1.33 mmol), H_2O (7 ml), and $HClO_4$ (0.257 mmol)(pH 2) was sealed in a 20 ml Teflon-lined reaction vessel at 443 K for 6 days then slowly cooled to room temperature. The product was collected by filtration, washed with water and air-dried. Colorless block crystals suitable for X-ray analysis were obtained.

S3. Refinement

H atoms bonded to C atoms were positioned geometrically and refined as riding, with C—H = 0.93 Å and U_{iso}(H) = 1.2 U_{eq}(C). H atoms of water molecules were found from difference Fourier maps and included in the refinements with a restraint of O—H = 0.86 - 0.87 Å and U_{iso}(H) = 1.5 U_{eq}(O). The largest residual electron density in the final difference map was located at a distance of 0.82 Å from Ag2 atom and was meaningless.

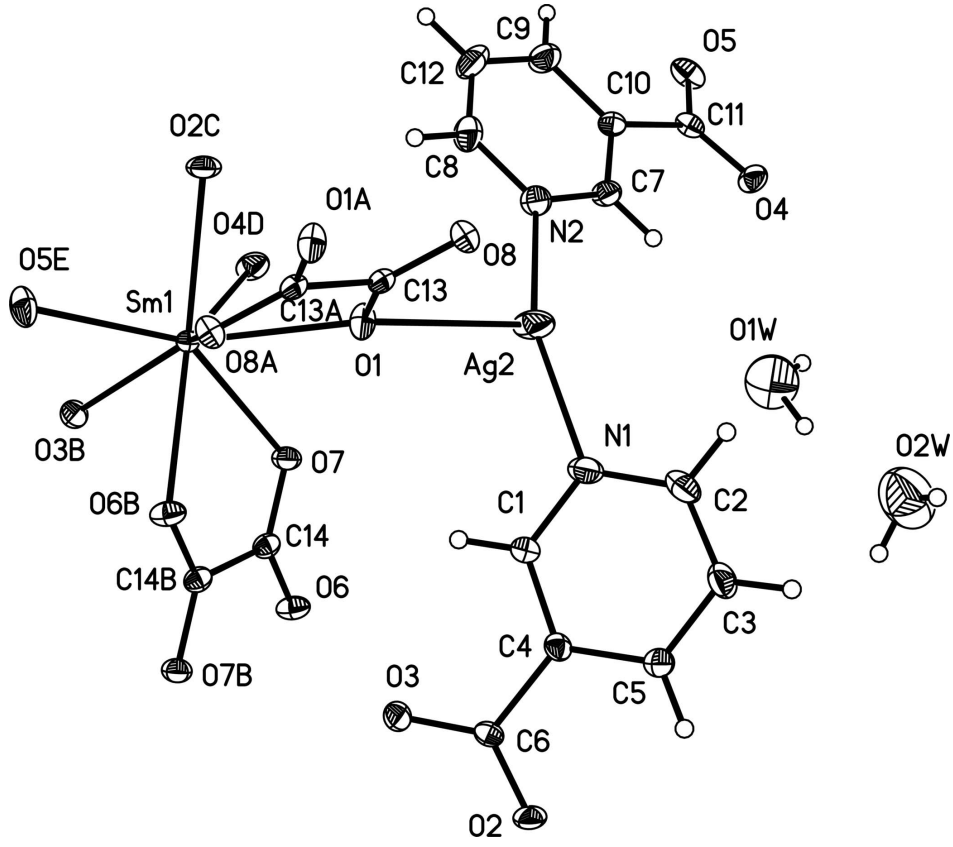

Figure 1

The molecular structure showing the atomic-numbering scheme and displacement ellipsoids drawn at the 30% probability level. Symmetry codes included in the atomic labels: (A) 2-x, 2-y, 1-z; (B) 1-x, 2-y, -z; (C) 1+x, y, z; (D) x, 1.5-y, -0.5+z; (E) 2-x, 0.5+y, 0.5-z.

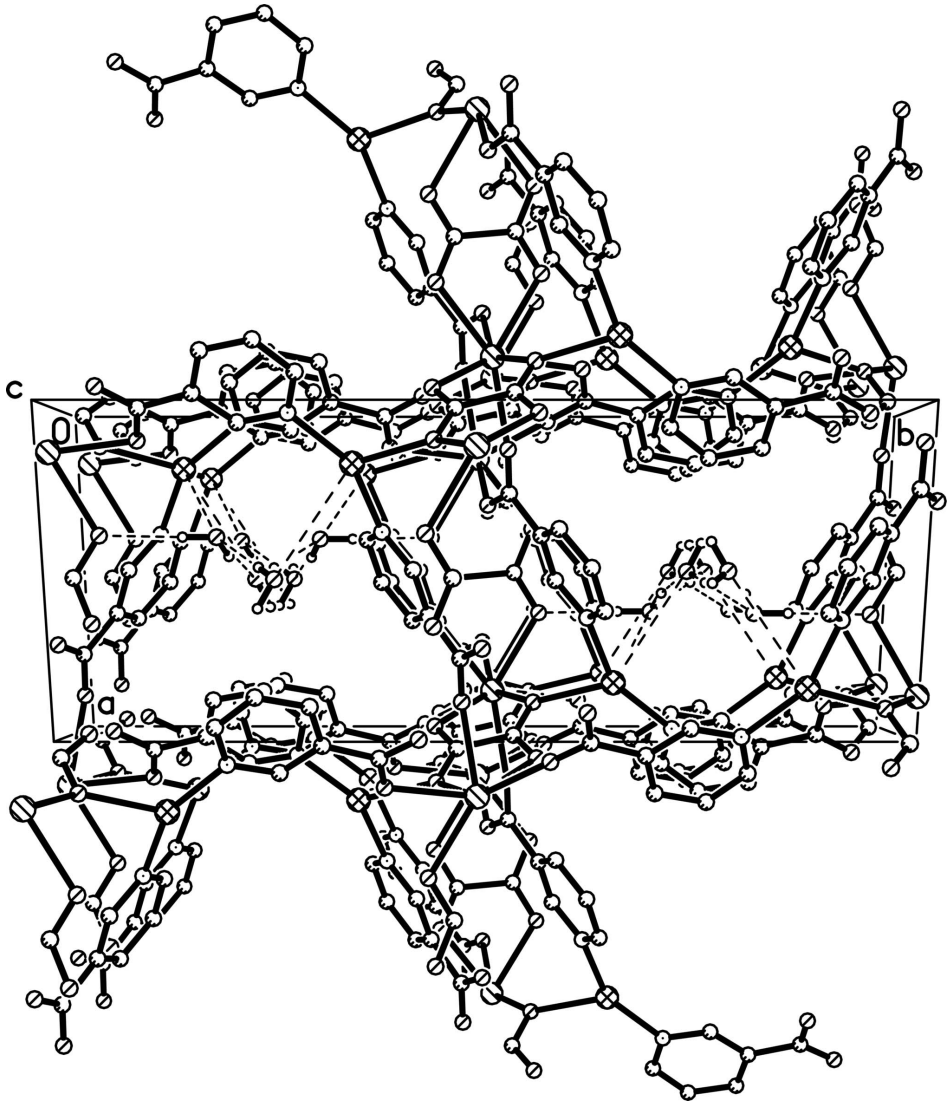

Figure 2

A view of the three-dimensional structure of the title compound; dotted lines denote hydrogen bonds.

Poly[[di-μ_3-nicotinato-μ_3-oxalato-samarium(III)silver(I)] dihydrate]

Crystal data

$[AgSm(C_6H_4NO_2)_2(C_2O_4)]\cdot 2H_2O$
$M_r = 626.49$
Monoclinic, $P2_1/c$
Hall symbol: -P 2ybc
$a = 9.7145\ (9)$ Å
$b = 22.3444\ (15)$ Å
$c = 9.1726\ (6)$ Å
$\beta = 117.295\ (1)°$
$V = 1769.4\ (2)$ Å^3
$Z = 4$
$F(000) = 1196$
$D_x = 2.352$ Mg m^{-3}
Mo $K\alpha$ radiation, $\lambda = 0.71073$ Å
Cell parameters from 6346 reflections
$\theta = 2.4–27.8°$
$\mu = 4.45$ mm^{-1}
$T = 296$ K
Block, colorless
0.23 × 0.20 × 0.19 mm

Data collection

Bruker APEXII area-detector diffractometer
Radiation source: fine-focus sealed tube
Graphite monochromator
φ and ω scans
Absorption correction: multi-scan (*SADABS*; Sheldrick, 1996)
T_{min} = 0.374, T_{max} = 0.429
8972 measured reflections
3171 independent reflections
2995 reflections with $I > 2\sigma(I)$
R_{int} = 0.027
θ_{max} = 25.2°, θ_{min} = 2.4°
$h = -5 \rightarrow 11$
$k = -26 \rightarrow 26$
$l = -10 \rightarrow 10$

Refinement

Refinement on F^2
Least-squares matrix: full
$R[F^2 > 2\sigma(F^2)]$ = 0.023
$wR(F^2)$ = 0.052
S = 1.12
3171 reflections
254 parameters
0 restraints
Primary atom site location: structure-invariant direct methods
Secondary atom site location: difference Fourier map
Hydrogen site location: inferred from neighbouring sites
H-atom parameters constrained
$w = 1/[\sigma^2(F_o^2) + (0.0174P)^2 + 1.7329P]$ where $P = (F_o^2 + 2F_c^2)/3$
$(\Delta/\sigma)_{max}$ = 0.002
$\Delta\rho_{max}$ = 0.84 e Å^{-3}
$\Delta\rho_{min}$ = −0.65 e Å^{-3}
Extinction correction: *SHELXL97* (Sheldrick, 2008), $Fc^*=kFc[1+0.001xFc^2\lambda^3/\sin(2\theta)]^{-1/4}$
Extinction coefficient: 0.00351 (16)

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 $F^2 > \sigma(F^2)$ 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}
Sm1	0.85715 (2)	0.991315 (8)	0.11767 (2)	0.01683 (8)
Ag2	0.82067 (4)	0.852371 (14)	0.48309 (5)	0.04794 (12)
O1	0.8835 (3)	0.94402 (11)	0.3695 (3)	0.0275 (6)
N1	0.6254 (4)	0.88411 (15)	0.5163 (4)	0.0346 (8)
C4	0.3834 (4)	0.93617 (16)	0.4147 (4)	0.0231 (8)
C3	0.4789 (5)	0.88129 (19)	0.6648 (5)	0.0368 (10)
H3	0.4696	0.8681	0.7560	0.044*
C1	0.5154 (4)	0.91951 (17)	0.4047 (5)	0.0291 (9)
H1	0.5291	0.9334	0.3166	0.035*
C2	0.6042 (5)	0.86566 (19)	0.6441 (5)	0.0382 (10)
H2	0.6788	0.8410	0.7221	0.046*
C6	0.2586 (4)	0.97226 (16)	0.2811 (4)	0.0222 (8)
C5	0.3662 (5)	0.91690 (17)	0.5490 (4)	0.0293 (9)
H5	0.2795	0.9279	0.5608	0.035*
O3	0.2900 (3)	0.99674 (11)	0.1769 (3)	0.0284 (6)

O2	0.1309 (3)	0.97383 (13)	0.2834 (3)	0.0313 (6)
N2	0.9619 (4)	0.78296 (14)	0.4537 (4)	0.0332 (8)
C7	0.9364 (4)	0.72618 (16)	0.4792 (5)	0.0287 (8)
H7	0.8605	0.7184	0.5117	0.034*
C9	1.1309 (5)	0.6899 (2)	0.4136 (5)	0.0390 (10)
H9	1.1876	0.6589	0.3994	0.047*
C8	1.0722 (5)	0.79305 (19)	0.4069 (5)	0.0408 (10)
H8	1.0903	0.8322	0.3859	0.049*
O7	0.6156 (3)	0.93618 (11)	0.0496 (3)	0.0253 (6)
C10	1.0169 (4)	0.67816 (16)	0.4599 (4)	0.0239 (8)
C12	1.1588 (5)	0.7483 (2)	0.3889 (6)	0.0490 (12)
H12	1.2365	0.7573	0.3600	0.059*
C13	0.9793 (4)	0.96697 (16)	0.5028 (4)	0.0207 (7)
O8	1.0418 (3)	0.94114 (11)	0.6386 (3)	0.0255 (6)
O6	0.3580 (3)	0.94430 (11)	−0.0787 (3)	0.0280 (6)
O1W	0.6113 (6)	0.69616 (19)	0.5607 (5)	0.0925 (14)
H1W	0.6115	0.6576	0.5630	0.139*
H2W	0.5551	0.7081	0.6053	0.139*
O2W	0.4884 (7)	0.7331 (2)	0.7801 (6)	0.1179 (19)
H3W	0.4044	0.7508	0.7119	0.177*
H4W	0.5226	0.7525	0.8720	0.177*
C11	0.9771 (4)	0.61643 (15)	0.4922 (4)	0.0236 (8)
O4	0.8882 (3)	0.61157 (11)	0.5557 (3)	0.0322 (6)
O5	1.0350 (3)	0.57246 (12)	0.4552 (3)	0.0353 (7)
C14	0.4919 (4)	0.96531 (16)	−0.0083 (4)	0.0216 (8)

Atomic displacement parameters (Å²)

	U^{11}	U^{22}	U^{33}	U^{12}	U^{13}	U^{23}
Sm1	0.01410 (11)	0.01776 (12)	0.01771 (11)	0.00069 (7)	0.00649 (8)	0.00163 (7)
Ag2	0.0358 (2)	0.02335 (18)	0.0903 (3)	0.00795 (13)	0.0338 (2)	0.00929 (16)
O1	0.0327 (16)	0.0290 (14)	0.0187 (12)	−0.0129 (12)	0.0100 (12)	−0.0031 (10)
N1	0.0243 (18)	0.0306 (19)	0.046 (2)	0.0061 (14)	0.0134 (16)	0.0060 (15)
C4	0.021 (2)	0.026 (2)	0.0181 (17)	−0.0007 (15)	0.0052 (15)	0.0010 (14)
C3	0.044 (3)	0.042 (3)	0.024 (2)	0.010 (2)	0.0148 (19)	0.0092 (17)
C1	0.023 (2)	0.032 (2)	0.032 (2)	0.0064 (16)	0.0126 (17)	0.0080 (17)
C2	0.032 (3)	0.037 (2)	0.034 (2)	0.0069 (19)	0.005 (2)	0.0100 (18)
C6	0.0167 (19)	0.0244 (19)	0.0190 (17)	0.0007 (15)	0.0027 (15)	−0.0008 (14)
C5	0.026 (2)	0.035 (2)	0.027 (2)	0.0038 (17)	0.0124 (17)	0.0024 (17)
O3	0.0231 (15)	0.0376 (16)	0.0205 (13)	0.0005 (11)	0.0066 (11)	0.0056 (11)
O2	0.0161 (14)	0.0495 (17)	0.0254 (14)	0.0082 (12)	0.0070 (11)	0.0042 (12)
N2	0.0314 (19)	0.0210 (17)	0.048 (2)	0.0001 (14)	0.0188 (16)	0.0057 (15)
C7	0.024 (2)	0.023 (2)	0.041 (2)	0.0007 (16)	0.0171 (18)	0.0021 (16)
C9	0.036 (3)	0.037 (3)	0.053 (3)	0.0067 (19)	0.029 (2)	0.005 (2)
C8	0.044 (3)	0.031 (2)	0.053 (3)	−0.0032 (19)	0.026 (2)	0.010 (2)
O7	0.0179 (14)	0.0232 (13)	0.0326 (14)	0.0020 (11)	0.0097 (11)	0.0017 (11)
C10	0.022 (2)	0.0234 (19)	0.0251 (18)	0.0017 (15)	0.0098 (16)	−0.0018 (15)
C12	0.041 (3)	0.051 (3)	0.071 (3)	−0.002 (2)	0.040 (3)	0.011 (2)

C13	0.0181 (19)	0.0234 (19)	0.0239 (19)	0.0007 (14)	0.0126 (16)	0.0006 (14)
O8	0.0291 (15)	0.0218 (13)	0.0221 (13)	0.0012 (11)	0.0088 (11)	0.0022 (10)
O6	0.0179 (14)	0.0271 (14)	0.0371 (15)	−0.0011 (11)	0.0109 (12)	−0.0066 (11)
O1W	0.120 (4)	0.060 (3)	0.108 (3)	0.008 (3)	0.062 (3)	−0.012 (2)
O2W	0.147 (5)	0.100 (4)	0.106 (4)	0.027 (4)	0.056 (4)	0.012 (3)
C11	0.024 (2)	0.0162 (18)	0.0233 (18)	0.0018 (14)	0.0045 (16)	−0.0033 (14)
O4	0.0308 (16)	0.0235 (14)	0.0488 (17)	−0.0014 (11)	0.0239 (14)	0.0039 (12)
O5	0.0417 (18)	0.0265 (15)	0.0296 (14)	0.0111 (12)	0.0092 (13)	−0.0050 (11)
C14	0.021 (2)	0.025 (2)	0.0208 (18)	−0.0003 (15)	0.0115 (16)	−0.0035 (14)

Geometric parameters (Å, º)

Sm1—O5^{i}	2.340 (3)	N2—C7	1.334 (5)
Sm1—O2^{ii}	2.414 (2)	N2—C8	1.342 (5)
Sm1—O4^{iii}	2.420 (3)	C7—C10	1.386 (5)
Sm1—O3^{iv}	2.424 (2)	C7—H7	0.9300
Sm1—O6^{iv}	2.425 (2)	C9—C12	1.372 (6)
Sm1—O1	2.444 (2)	C9—C10	1.381 (5)
Sm1—O7	2.464 (2)	C9—H9	0.9300
Sm1—O8^{v}	2.496 (2)	C8—C12	1.366 (6)
Ag2—N2	2.168 (3)	C8—H8	0.9300
Ag2—N1	2.174 (3)	O7—C14	1.251 (4)
Ag2—O1	2.497 (2)	C10—C11	1.498 (5)
O1—C13	1.257 (4)	C12—H12	0.9300
N1—C2	1.344 (5)	C13—O8	1.249 (4)
N1—C1	1.346 (5)	C13—C13^{v}	1.537 (7)
C4—C1	1.378 (5)	O8—Sm1^{v}	2.496 (2)
C4—C5	1.385 (5)	O6—C14	1.249 (4)
C4—C6	1.504 (5)	O6—Sm1^{iv}	2.425 (2)
C3—C2	1.361 (6)	O1W—H1W	0.8624
C3—C5	1.376 (5)	O1W—H2W	0.8612
C3—H3	0.9300	O2W—H3W	0.8629
C1—H1	0.9300	O2W—H4W	0.8667
C2—H2	0.9300	C11—O4	1.249 (4)
C6—O2	1.251 (4)	C11—O5	1.253 (4)
C6—O3	1.254 (4)	O4—Sm1^{vii}	2.420 (3)
C5—H5	0.9300	O5—Sm1^{viii}	2.340 (3)
O3—Sm1^{iv}	2.424 (2)	C14—C14^{iv}	1.559 (7)
O2—Sm1^{vi}	2.414 (2)		
O5^{i}—Sm1—O2^{ii}	78.29 (10)	N1—C2—C3	123.2 (4)
O5^{i}—Sm1—O4^{iii}	123.28 (10)	N1—C2—H2	118.4
O2^{ii}—Sm1—O4^{iii}	76.96 (9)	C3—C2—H2	118.4
O5^{i}—Sm1—O3^{iv}	73.05 (9)	O2—C6—O3	126.2 (3)
O2^{ii}—Sm1—O3^{iv}	129.50 (9)	O2—C6—C4	115.9 (3)
O4^{iii}—Sm1—O3^{iv}	85.19 (9)	O3—C6—C4	117.9 (3)
O5^{i}—Sm1—O6^{iv}	88.09 (10)	C3—C5—C4	119.2 (4)
O2^{ii}—Sm1—O6^{iv}	144.58 (9)	C3—C5—H5	120.4

O4^{iii}—Sm1—O6^{iv}	136.12 (9)	C4—C5—H5	120.4
O3^{iv}—Sm1—O6^{iv}	75.08 (9)	C6—O3—Sm1^{iv}	132.3 (2)
O5^{i}—Sm1—O1	137.60 (8)	C6—O2—Sm1^{vi}	143.9 (2)
O2^{ii}—Sm1—O1	74.16 (9)	C7—N2—C8	117.1 (4)
O4^{iii}—Sm1—O1	80.84 (9)	C7—N2—Ag2	118.6 (3)
O3^{iv}—Sm1—O1	148.63 (9)	C8—N2—Ag2	124.2 (3)
O6^{iv}—Sm1—O1	96.06 (9)	N2—C7—C10	123.6 (4)
O5^{i}—Sm1—O7	144.52 (9)	N2—C7—H7	118.2
O2^{ii}—Sm1—O7	136.44 (9)	C10—C7—H7	118.2
O4^{iii}—Sm1—O7	70.86 (9)	C12—C9—C10	118.5 (4)
O3^{iv}—Sm1—O7	76.49 (9)	C12—C9—H9	120.7
O6^{iv}—Sm1—O7	66.61 (8)	C10—C9—H9	120.7
O1—Sm1—O7	72.42 (8)	N2—C8—C12	122.8 (4)
O5^{i}—Sm1—O8^{v}	75.15 (9)	N2—C8—H8	118.6
O2^{ii}—Sm1—O8^{v}	70.51 (9)	C12—C8—H8	118.6
O4^{iii}—Sm1—O8^{v}	138.13 (9)	C14—O7—Sm1	117.7 (2)
O3^{iv}—Sm1—O8^{v}	136.13 (8)	C9—C10—C7	118.1 (4)
O6^{iv}—Sm1—O8^{v}	74.44 (8)	C9—C10—C11	123.5 (3)
O1—Sm1—O8^{v}	65.62 (8)	C7—C10—C11	118.4 (3)
O7—Sm1—O8^{v}	117.85 (8)	C8—C12—C9	119.8 (4)
N2—Ag2—N1	153.35 (12)	C8—C12—H12	120.1
N2—Ag2—O1	104.18 (11)	C9—C12—H12	120.1
N1—Ag2—O1	100.77 (11)	O8—C13—O1	125.9 (3)
C13—O1—Sm1	116.9 (2)	O8—C13—C13^{v}	117.5 (4)
C13—O1—Ag2	98.2 (2)	O1—C13—C13^{v}	116.6 (4)
Sm1—O1—Ag2	144.02 (10)	C13—O8—Sm1^{v}	115.2 (2)
C2—N1—C1	117.2 (4)	C14—O6—Sm1^{iv}	118.5 (2)
C2—N1—Ag2	120.9 (3)	H1W—O1W—H2W	106.9
C1—N1—Ag2	121.7 (3)	H3W—O2W—H4W	106.8
C1—C4—C5	118.1 (3)	O4—C11—O5	123.4 (3)
C1—C4—C6	121.2 (3)	O4—C11—C10	118.0 (3)
C5—C4—C6	120.7 (3)	O5—C11—C10	118.7 (3)
C2—C3—C5	119.1 (4)	C11—O4—Sm1^{vii}	112.3 (2)
C2—C3—H3	120.5	C11—O5—Sm1^{viii}	179.0 (3)
C5—C3—H3	120.5	O6—C14—O7	126.5 (3)
N1—C1—C4	123.1 (4)	O6—C14—C14^{iv}	117.3 (4)
N1—C1—H1	118.4	O7—C14—C14^{iv}	116.2 (4)
C4—C1—H1	118.4		

Symmetry codes: (i) $-x+2, y+1/2, -z+1/2$; (ii) $x+1, y, z$; (iii) $x, -y+3/2, z-1/2$; (iv) $-x+1, -y+2, -z$; (v) $-x+2, -y+2, -z+1$; (vi) $x-1, y, z$; (vii) $x, -y+3/2, z+1/2$; (viii) $-x+2, y-1/2, -z+1/2$.

Hydrogen-bond geometry (Å, º)

D—H···*A*	*D*—H	H···*A*	*D*···*A*	*D*—H···*A*
O1*W*—H1*W*···O7^{vii}	0.86	2.10	2.960 (5)	175

O1*W*—H2*W*···O2*W*	0.86	2.06	2.892 (7)	161
O2*W*—H4*W*···O1*W*^{vii}	0.87	1.92	2.780 (7)	171

Symmetry code: (vii) $x, -y+3/2, z+1/2$.