



Received 1 March 2021
Accepted 9 June 2021

Edited by M. Weil, Vienna University of Technology, Austria

Keywords: crystal structure; silver carbonate iodide; layered structure.

CCDC reference: 2088991

Supporting information: this article has supporting information at journals.iucr.org/e

Crystal structure of silver carbonate iodide $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$

Ryoji Suzuki,^a Yuta Watanabe,^a Hisanori Yamane,^b Mamoru Kitaura,^c Kento Uchida^a and Yuta Matsushima^{a*}

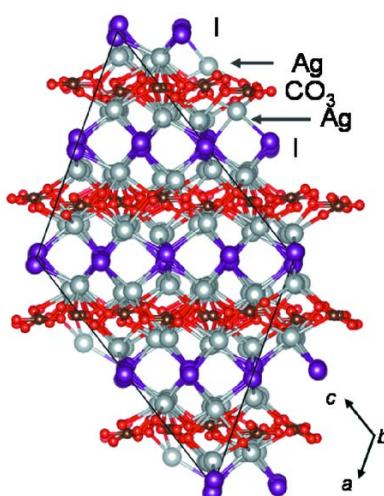
^aChemistry and Chemical Engineering, Yamagata University, 4-3-16 Jonan, Yonezawa, 992-8510, Japan, ^bInstitute of Multidisciplinary Research for Advanced Materials, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, 980- 8577, Japan, and ^cFaculty of Science, Yamagata University, 1-4-12 Kojirakawa-machi, Yamagata, 990-8560, Japan.

*Correspondence e-mail: ymatsush@yz.yamagata-u.ac.jp

The title silver carbonate iodide, $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$, decasilver(I) tris(carbonate) tetraiodide, was recently reported as a precursor of the new superionic conductor $\text{Ag}_{17}(\text{CO}_3)_3\text{I}_{11}$. $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$, was prepared by heating a stoichiometric powder mixture of AgI and Ag_2CO_3 at 430 K. A single-crystal suitable for X-ray diffraction analysis was obtained by slow cooling of a melt with an AgI -rich composition down from 453 K. $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ exhibits a layered crystal structure packed along $[10\bar{1}]$, in which Ag atoms are intercalated between the layers of hexagonally close-packed I atoms, and CO_3 groups. Up to now, $\text{Cs}_3\text{Pb}_2(\text{CO}_3)_3\text{I}$ is the only other compound containing carbonate groups and iodide ions registered in the Inorganic Crystal Structure Database.

1. Chemical context

$\alpha\text{-AgI}$ is a representative superionic conductor of silver ions (Tubandt & Lorenz, 1914; Boyce & Huberman, 1979), which is synthesized at 420 K from wurzite-type $\beta\text{-AgI}$ and is stable above the phase transition temperature. Many ternary and quaternary compounds containing Ag and I, such as $\beta\text{-Ag}_3\text{SI}$ (Takahashi & Yamamoto, 1966), Ag_4RbI_5 (Owens & Argue, 1967, 1970; Geller, 1967; Bradley & Greene, 1967*a,b*), Ag_4KI_5 (Owens & Argue, 1967; Bradley & Greene, 1966, 1967*b*), Ag_3KI_4 (Takahashi *et al.*, 1970), $\text{Ag}_{19}\text{I}_{15}\text{P}_2\text{O}_7$, $\text{Ag}_7\text{I}_4\text{PO}_4$ (Takahashi *et al.*, 1972), $\text{Ag}_6\text{I}_4\text{WO}_4$ (Takahashi *et al.*, 1973), and $\text{Ag}_7(\text{AsO}_4)\text{I}_4$ and $\text{Ag}_7\text{I}_4\text{VO}_4$ (Scrosati *et al.*, 1975) have been synthesized and investigated as silver ion conductors. The crystal structures and Ag^+ ionic conductivity of several silver compounds prepared by combining AgI and a silver oxyanion salt have also been reported (see *Database survey*). However, our recent report on the new superionic conductor $\text{Ag}_{17}(\text{CO}_3)_3\text{I}_{11}$ (Watanabe *et al.*, 2021) was the first example of a compound in the AgI – Ag_2CO_3 pseudo-binary system. The superionic conductor $\text{Ag}_{17}(\text{CO}_3)_3\text{I}_{11}$ was prepared by a reaction between AgI and another silver carbonate iodide, *i.e.*, $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$. Herein, we report the crystal structure analysis of $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ by single-crystal X-ray diffraction (XRD). It should be noted that $\text{Cs}_3\text{Pb}_2(\text{CO}_3)_3\text{I}$ (Liu *et al.*, 2016) is the only other compound containing carbonate groups and an iodide ion in its chemical composition that can be currently found in the Inorganic Crystal Structure Database (ICSD; Zagorac *et al.*, 2019).



OPEN ACCESS

A bulk $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ sample showed an ionic conductivity of 4.4×10^{-6} S cm $^{-1}$ at room temperature (RT) in the alternating-current impedance method using evaporated Au electrodes. This value is comparable with that of $\text{Ag}_{13}(\text{AsO}_4)_3\text{I}_4$ (6.4×10^{-6} S m $^{-1}$ at 303 K; Pitzschke *et al.*, 2009a) and Ag_4IPO_4 (3×10^{-6} S m $^{-1}$ at RT; Oleneva *et al.*, 2008).

2. Structural commentary

$\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ crystallizes in a monoclinic cell with the space group $P2_1/c$. The asymmetric unit of the structure comprises 40 sites for Ag, 16 for I, 12 for C, and 36 for O. The Ag atoms are aligned parallel to $(10\bar{1})$, and an Ag layer is sandwiched between a CO_3 layer and the hexagonally aligned I layer, as shown in Fig. 1. The atomic arrangement of Ag and I atoms and CO_3 groups in the layers is projected on $(10\bar{1})$ in Fig. 1, and along [101] and [010] in Fig. 2a and Fig. 2b, respectively. Reflecting the complexity of the crystal structure, there is a large variation in the interatomic distances. The shortest interatomic distance for each atom pair (Ag–O, Ag···Ag, Ag–I, etc.) is listed in Table 1.

Fundamental reflections in the XRD pattern were observed at every eight spots along the b^* axis in the reciprocal space (Fig. S1 in the supporting information), and a period of $b/8 = \sim 4.43$ Å corresponds to the average I···I distance in the layer of two-dimensionally closely packed I atoms along the b axis. The average I···I distance is slightly shorter than that of the

Table 1

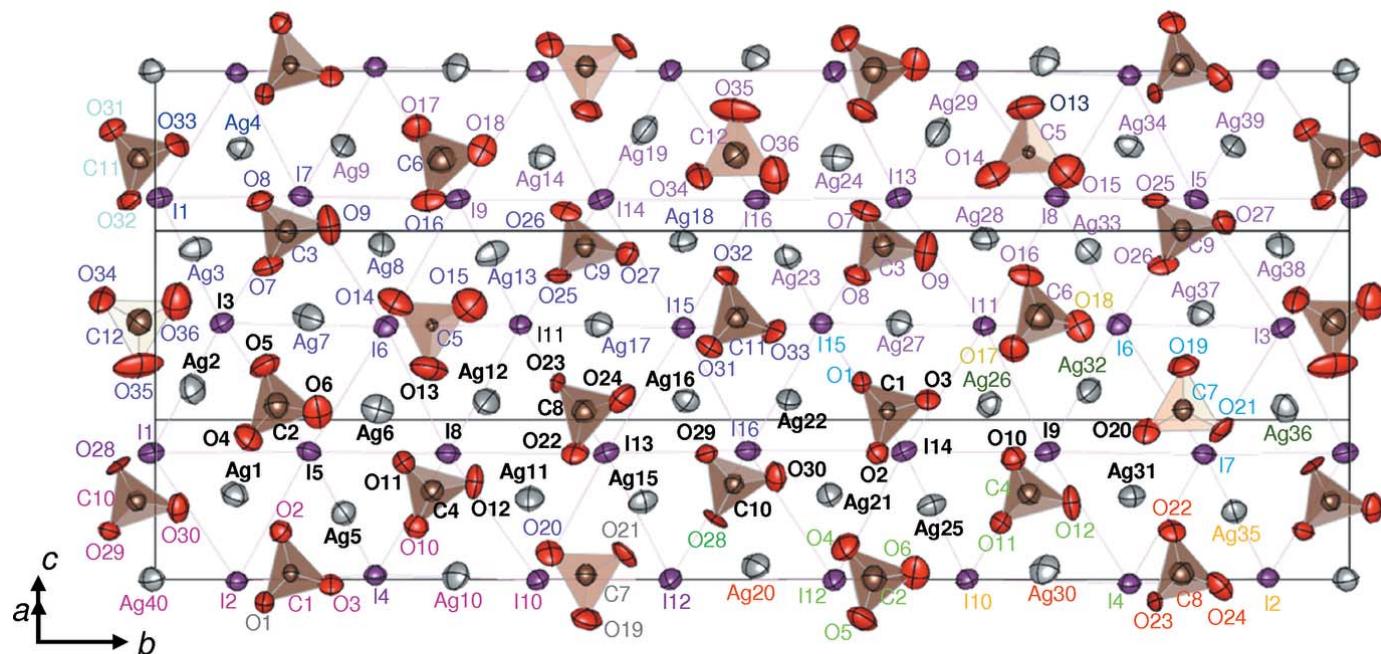
Shortest interatomic distances (Å) in the crystal structure of $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$.

Atom pair	Distance
Ag12–O23	2.252 (9)
Ag7–I6	2.7140 (14)
Ag26···Ag32 (in-layer)	2.9901 (15)
Ag13···Ag33 (out-of-layer; across CO_3 layer)	3.0620 (15)
Ag17···Ag27 ⁱ (out-of-layer; across I layer)	2.9507 (15)
I10···I12 ⁱⁱ	3.9564 (11)
C1–O1 ⁱⁱⁱ (within a CO_3 group)	1.251 (15)
O25···O26 (within a CO_3 group)	2.206 (14)
O15···O25 (between different CO_3 groups)	2.816 (15)

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

close-packed I atom layer of $\beta\text{-AgI}$ [4.5910 (11) Å; Yoshiasa *et al.*, 1987]. The shortest I···I length of 3.9564 (11) Å for I10–I12 in $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ lies between the values observed in $\text{Ag}_{13}(\text{AsO}_4)_3\text{I}_4$ [3.9063 (9) Å; Pitzschke *et al.*, 2009a] and $\text{Ag}_{26}\text{I}_{18}(\text{WO}_4)_4$ [4.03 (3) Å; Chan & Geller, 1977].

The CO_3 groups are aligned on approximately every $b/4$ period with the oxygen atoms oriented in different directions. The C–O bond lengths are in the range from 1.251 (15) Å for C1–O1 to 1.328 (15) Å for C1–O3, with the average length being 1.290 Å, which is longer than the C–O length in Ag_2CO_3 (1.274 Å; Norby *et al.*, 2002) but close to those in CaCO_3 (1.282 Å; Maslen *et al.*, 1995) and other calcite-type carbonates [1.2852 (4) Å in MgCO_3 , 1.2867 (5) Å in MnCO_3 ,



Symmetry codes: $x, y, z; x-1, y, z; -x+1, y+1/2, -z+3/2; 1-x, y-1/2, -z+3/2; 1-x, y+1/2, -z+1/2; -x+1, -y, -z+1; x, y-1/2, z+1/2; x, -y+1/2, z-1/2; -x, y-1/2, -z+1/2; -x+1, -y+1, -z+1; -x, y+1/2, -z+1/2; x, -y+3/2, z-1/2; x, -y+3/2, z+1/2; -x, -y+1, -z+1; -x, y+1/2, -z+1/2; -x+1, y+1/2, -z+1/2$

Figure 1

Arrangement of Ag and I atoms and CO_3 groups in the crystal structure of $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ projected on $(10\bar{1})$. Displacement ellipsoids are drawn at the 99% probability level.

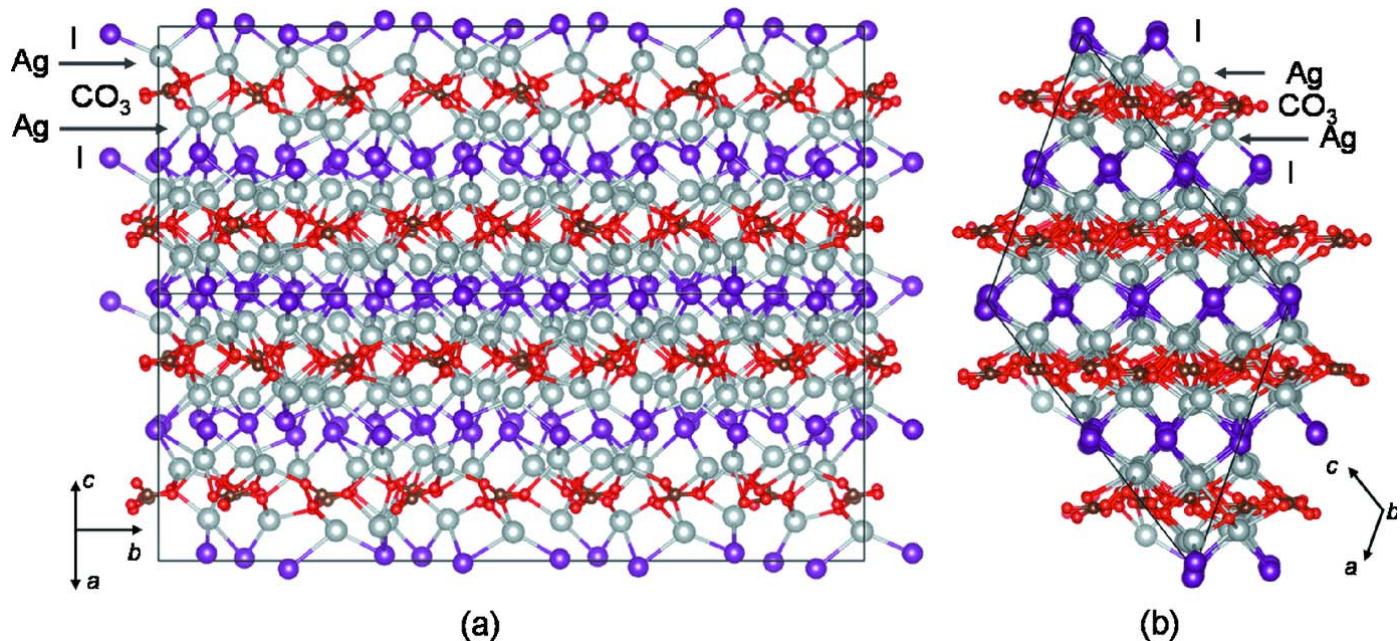


Figure 2
Projections of the crystal structure of $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ along [101] (a) and [010] (b).

1.2869 (5) Å in FeCO_3 , 1.2859 (6) Å in ZnCO_3 , and 1.2853 (4) Å in $\text{CaMg}(\text{CO}_3)_2$; Effenberger *et al.*, 1981]. The short O···O distance of 2.816 (15) Å for O15···O25 belonging to different CO₃ groups is close to 2.85 Å as observed in MgCO₃ and ZnCO₃ (Effenberger *et al.*, 1981).

The Ag atoms are coordinated by two or three I atoms, and two, three, or four O atoms of the CO₃ groups, with average distances of 3.20 Å for Ag—I and 2.85 Å for Ag—O. The shortest Ag—I bond length of 2.7140 (14) Å for Ag7—I6 is comparable with that found in $\text{Ag}_{13}(\text{AsO}_4)_3\text{I}_4$ [2.701 (1) Å; Pitzschke *et al.*, 2009a] but shorter than the Ag—I bond lengths in β -AgI [2.8112 (10) and 2.819 (3) Å; Yoshiasa *et al.*, 1987]. The shortest Ag—O length is 2.252 (9) Å for Ag12—O23, which is slightly longer than the shortest Ag—O length in Ag_2CO_3 (2.245 Å; Norby *et al.*, 2002).

The shortest Ag···Ag distance of 2.9507 (15) Å is observed between Ag17 and Ag27 generated in another Ag layer across the I layer by the symmetry operation $x, -y + \frac{1}{2}, z - \frac{1}{2}$. The second shortest Ag···Ag distance is 2.9901 (15) Å and corresponds to Ag26···Ag32 in the same Ag layer. The shortest Ag···Ag distance across the CO₃ layer is 3.0620 (15) Å for Ag13···Ag33. These distances are comparable with the Ag···Ag distances reported for Ag_2CO_3 [2.8731 (10) Å; Norby *et al.*, 2002], $\text{Ag}_8(\text{CrO}_4)_3\text{I}_2$ [2.8797 (8) Å; Pitzschke *et al.*, 2009b], and $\text{Ag}_3\text{I}(\text{NO}_3)_2$ [2.942 (8) Å; Birnstock & Britton, 1970]. Such short Ag···Ag distances are known to stem from the argentophilic $d^{10}\cdots d^{10}$ interactions between Ag⁺ cations (Schmidbaur & Schier, 2015; Jansen, 1987).

3. Database survey

The crystal structures of quaternary inorganic compounds composed of silver and iodide ions and oxyanionic groups,

such as $\text{Ag}_2\text{I}(\text{NO}_3)_2$ (Birnstock & Britton, 1970), $\text{Ag}_{16}\text{I}_{12}\text{P}_2\text{O}_7$ (Garrett *et al.*, 1982), $\text{Ag}_5\text{IP}_2\text{O}_7$ (Adams & Preusser, 1999), Ag_4IPO_4 (Oleneva *et al.*, 2008), $\text{Ag}_8(\text{CrO}_4)_3\text{I}_2$ (Pitzschke *et al.*, 2009b), $\text{Ag}_9(\text{GeO}_4)_2\text{I}$ (Pitzschke *et al.*, 2009c), $\text{Ag}_8\text{I}_4\text{V}_2\text{O}_7$ (Adams, 1996), $\text{Ag}_{13}(\text{AsO}_4)_3\text{I}_4$ (Pitzschke *et al.*, 2009a), $\text{Ag}_4\text{I}_2\text{SeO}_4$ (Pitzschke *et al.*, 2008a), Ag_3ITeO_4 (Pitzschke *et al.*, 2008a), $\text{Ag}_9\text{I}_3(\text{IO}_3)_2(\text{SeO}_4)_2$ (Pitzschke *et al.*, 2008b) and $\text{Ag}_{26}\text{I}_{18}(\text{WO}_4)_4$ (Chan & Geller, 1977) have been reported.

4. Synthesis and crystallization

As starting materials, powders of AgI and Ag₂CO₃ were prepared by precipitation from aqueous solutions containing AgNO₃ (99.8%, Kanto Chemical) and KI (99.5%, Kanto Chemical) at 323 K, and aqueous solutions of AgNO₃ and (NH₄)₂CO₃ (>30%_{wt} as NH₃, Kanto Chemical) at RT, respectively. The obtained polycrystalline solids were thoroughly mixed in an agate mortar at a molar ratio of 4:3 using a small amount of water as a mixing medium.

A bulk brownish sample was prepared at 430 K in a glass tube with one end open. The sample was then powdered with an agate mortar and subjected to powder XRD analysis using a Rigaku MiniFlex 600 powder X-ray diffractometer with Cu K α radiation ($\lambda = 1.54183$ Å) and a 1D detector (Rigaku D/teX Ultra 250).

As for many other silver compounds, $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ is photo-sensitive. In contrast, $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ is thermally stable against heat treatment in air; no substantial mass change was observed up to 473 K in a thermogravimetric and differential thermal analysis (TG–DTA, Rigaku Thermo Evo) (Fig. S2), which was performed under a constant dry air flow of 100 sccm at a ramp rate of 3 K min^{−1}, indicating that neither a thermal decomposition nor oxidation occurred. An endothermic effect around 443 K, which can be attributed to the melting of

Table 2
Experimental details.

Crystal data	
Chemical formula	$\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$
M_r	1766.33
Crystal system, space group	Monoclinic, $P2_1/c$
Temperature (K)	90
a, b, c (Å)	14.2342 (11), 35.421 (3), 16.9683 (12)
β (°)	122.725 (3)
V (Å ³)	7197.3 (10)
Z	16
Radiation type	Mo $K\alpha$
μ (mm ⁻¹)	17.53
Crystal size (mm)	0.25 × 0.25 × 0.08
Data collection	
Diffractometer	Bruker D8 goniometer
Absorption correction	Multi-scan (<i>SADABS</i> ; Krause <i>et al.</i> , 2015)
T_{\min}, T_{\max}	0.376, 0.746
No. of measured, independent and observed [$I > 2\sigma(I)$] reflections	75437, 15568, 13140
R_{int}	0.043
(sin θ/λ) _{max} (Å ⁻¹)	0.649
Refinement	
$R[F^2 > 2\sigma(F^2)]$, $wR(F^2)$, S	0.057, 0.126, 1.14
No. of reflections	15568
No. of parameters	937
No. of restraints	90
$\Delta\rho_{\max}, \Delta\rho_{\min}$ (e Å ⁻³)	2.22, -2.62

Computer programs: *APEX3* (Bruker, 2017), *SAINT* (Bruker, 2017), *SHELXT* (Sheldrick, 2015a), *SHELXL* (Sheldrick, 2015b), *VESTA* (Momma & Izumi, 2011), and *pubCIF* (Westrip, 2010).

$\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$ was observed in the TG–DTA analysis. A sample suitable for single-crystal XRD was prepared by subjecting a mixture of the starting powders containing a slight AgI excess composition (AgI:Ag₂CO₃ = 4.2:3) to the following heat treatment: after heating to 453 K at a ramp rate of 300 K h⁻¹, this temperature was held for 15 min, followed by cooling to 373 K at 1 K h⁻¹. The solidified sample was soft and easy to cut with a knife; however, all specimens obtained by cutting showed diffuse XRD spots and were not suitable for single-crystal XRD measurement. Relatively sharp XRD spots were observed from a fragment with a size of 252 × 245 × 78 µm, which was spontaneously and accidentally separated by cracking. The surface of the fragment was black and covered with polycrystalline Ag, which was presumably formed by photodegradation during handling. The fragment was fixed on a glass fiber with an epoxy resin and mounted on a goniometer under red light through a color filter from an LED lamp, and the XRD data were collected at 90 K with an open-flow nitrogen gas cooler (Oxford Cobra) in the dark.

5. Refinement

Crystal data, data collection and structure refinement details are summarized in Table 2. The initial structure model of the space group $P2_1/c$ was obtained by intrinsic phasing in the *APEX3* package (Bruker, 2017). Large positive and negative difference-Fourier peaks were observed, a feature that was

probably caused by reflections overlapped with Debye–Scherrer rings from polycrystalline Ag metal on the surface of the crystal (Fig. S1). From the total independent 16240 reflections, 672 reflection data were excluded to lower the difference level within 2.6 e Å⁻³ with $R1 = 0.0573$ for 13157 [$F_o > 4\sigma(F_o)$] and 0.0689 for all 15568 data with $\text{GooF}(S) = 1.140$. The space groups $P2_1$, Pc , and $P1$ with twin models were also tested; however, neither further effective improvement of the R values nor reduction of the residual densities was achieved. The anisotropic displacement parameters of O2, O10, and O15 and the carbon sites were restrained with the ISOR command of *SHELXL* (Sheldrick, 2015b) in the final refinement. A Rietveld analysis (Rigaku, 2018) based on the structural model determined by single-crystal XRD led to monoclinic unit-cell parameters of $a = 14.2865$ (7), $b = 35.5959$ (18), $c = 17.0182$ (8) Å, and $\beta = 122.493$ (2)° at RT with $R_F/wR = 0.0294/0.0436$ (Fig. S3), which validates the structural model determined by single-crystal XRD analysis.

Acknowledgements

This work was performed under the Cooperative Research Program of Network Joint Research Center for Materials and Devices.

Funding information

Funding for this research was provided by: Murata Science Foundation (grant No. H30-95).

References

- Adams, S. (1996). *Z. Kristallogr.* **211**, 770–776.
- Adams, S. & Preusser, A. (1999). *Acta Cryst. C* **55**, 1741–1743.
- Birnstock, R. & Britton, D. (1970). *Z. Kristallogr.* **132**, 87–98.
- Boyce, J. B. & Huberman, B. A. (1979). *Phys. Rep.* **51**, 189–265.
- Bradley, J. N. & Greene, P. D. (1966). *Trans. Faraday Soc.* **62**, 2069–2075.
- Bradley, J. N. & Greene, P. D. (1967a). *Trans. Faraday Soc.* **63**, 424–430.
- Bradley, J. N. & Greene, P. D. (1967b). *Trans. Faraday Soc.* **63**, 2516–2521.
- Bruker (2017). *APEX3* and *SAINT*. Bruker AXS Inc., Madison, Wisconsin, USA.
- Chan, L. Y. Y. & Geller, S. (1977). *J. Solid State Chem.* **21**, 331–347.
- Effenberger, H., Mereiter, K. & Zemann, J. (1981). *Z. Kristallogr.* **156**, 233–243.
- Garrett, J. D., Greedan, J. E., Faggiani, R., Carbotte, S. & Brown, I. D. (1982). *J. Solid State Chem.* **42**, 183–190.
- Geller, S. (1967). *Science*, **157**, 310–312.
- Jansen, M. (1987). *Angew. Chem. Int. Ed. Engl.* **26**, 1098–1110.
- Krause, L., Herbst-Irmer, R., Sheldrick, G. M. & Stalke, D. (2015). *J. Appl. Cryst.* **48**, 3–10.
- Liu, L., Yang, Y., Dong, X., Zhang, B., Wang, Y., Yang, Z. & Pan, S. (2016). *Chem. Eur. J.* **22**, 2944–2954.
- Maslen, E. N., Streletsov, V. A., Streletsova, N. R. & Ishizawa, N. (1995). *Acta Cryst. B* **51**, 929–939.
- Momma, K. & Izumi, F. (2011). *J. Appl. Cryst.* **44**, 1272–1276.
- Norby, P., Dinnebier, R. & Fitch, A. N. (2002). *Inorg. Chem.* **41**, 3628–3637.
- Oleneva, O. S., Kirsanova, M. A., Shestimerova, T. A., Abramchuk, N. S., Davliatshin, D. I., Bykov, M. A., Dikarev, E. V. & Shevelkov, A. V. (2008). *J. Solid State Chem.* **181**, 37–44.
- Owens, B. B. & Argue, G. R. (1967). *Science*, **157**, 308–310.

- Owens, B. B. & Argue, G. R. (1970). *J. Electrochem. Soc.* **117**, 898–900.
- Pitzschke, D., Curda, J., Cakmak, G. & Jansen, M. (2008a). *Z. Anorg. Allg. Chem.* **634**, 1071–1076.
- Pitzschke, D., Curda, J., Cakmak, G. & Jansen, M. (2008b). *Z. Anorg. Allg. Chem.* **634**, 1907–1910.
- Pitzschke, D., Curda, J. & Jansen, M. (2009a). *Z. Naturforsch. Teil B*, **64**, 891–895.
- Pitzschke, D., Curda, J. & Jansen, M. (2009b). *Z. Anorg. Allg. Chem.* **635**, 926–930.
- Pitzschke, D., Curda, J. & Jansen, M. (2009c). *Z. Anorg. Allg. Chem.* **635**, 1106–1109.
- Rigaku (2018). *PDXL: Integrated X-ray Powder Diffraction Software*. Rigaku Co., Tokyo, Japan.
- Schmidbaur, H. & Schier, A. (2015). *Angew. Chem. Int. Ed.* **54**, 746–784.
- Scrosati, B., Papaleo, F., Pistoia, G. & Lazzari, M. (1975). *J. Electrochem. Soc.* **122**, 339–343.
- Sheldrick, G. M. (2015a). *Acta Cryst. A* **71**, 3–8.
- Sheldrick, G. M. (2015b). *Acta Cryst. C* **71**, 3–8.
- Takahashi, T., Ikeda, S. & Yamamoto, O. (1972). *J. Electrochem. Soc.* **119**, 477–482.
- Takahashi, T., Ikeda, S. & Yamamoto, O. (1973). *J. Electrochem. Soc.* **120**, 647–651.
- Takahashi, T. & Yamamoto, O. (1966). *Electrochim. Acta*, **11**, 779–789.
- Takahashi, T., Yamamoto, O. & Nomura, E. (1970). *Denki Kagaku*, **38**, 360–364.
- Tubandt, C. & Lorenz, E. (1914). *Z. Phys. Chem.* **87**, 513–542.
- Watanabe, Y., Suzuki, R., Kato, K., Yamane, H., Kitaura, M., Ina, T., Uchida, K. & Matsushima, Y. (2021). *Inorg. Chem.* **60**, 2931–2938.
- Westrip, S. P. (2010). *J. Appl. Cryst.* **43**, 920–925.
- Yoshiasa, A., Koto, K., Kanamaru, F., Emura, S. & Horiuchi, H. (1987). *Acta Cryst. B* **43**, 434–440.
- Zagorac, D., Müller, H., Ruehl, S., Zagorac, J. & Rehme, S. (2019). *J. Appl. Cryst.* **52**, 918–925.

supporting information

Acta Cryst. (2021). E77, 734-738 [https://doi.org/10.1107/S2056989021006022]

Crystal structure of silver carbonate iodide $\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$

Ryoji Suzuki, Yuta Watanabe, Hisanori Yamane, Mamoru Kitaura, Kento Uchida and Yuta Matsushima

Computing details

Data collection: *APEX3* (Bruker, 2017); cell refinement: *SAINT* (Bruker, 2017); data reduction: *SAINT* (Bruker, 2017); program(s) used to solve structure: *SHELXT* (Sheldrick, 2015a); program(s) used to refine structure: *SHELXL* (Sheldrick, 2015b); molecular graphics: *VESTA* (Momma & Izumi, 2011); software used to prepare material for publication: pubCIF (Westrip, 2010).

Decasilver(I) tris(carbonate) tetraiodide

Crystal data

$\text{Ag}_{10}(\text{CO}_3)_3\text{I}_4$
 $M_r = 1766.33$
Monoclinic, $P2_1/c$
 $a = 14.2342$ (11) Å
 $b = 35.421$ (3) Å
 $c = 16.9683$ (12) Å
 $\beta = 122.725$ (3)°
 $V = 7197.3$ (10) Å³
 $Z = 16$
 $F(000) = 12352$

$D_x = 6.520 \text{ Mg m}^{-3}$
Mo $K\alpha$ radiation, $\lambda = 0.71073$ Å
Cell parameters from 4917 reflections
 $\theta = 2.7\text{--}35.6^\circ$
 $\mu = 17.53 \text{ mm}^{-1}$
 $T = 90$ K
Platelet, brown transparent (black agi
precipitated on the surface)
0.25 × 0.25 × 0.08 mm

Data collection

Bruker D8 goniometer
diffractometer
Radiation source: micro focus sealed tube
Detector resolution: 7.3910 pixels mm⁻¹
 ω scans
Absorption correction: multi-scan
(SADABS; Krause *et al.*, 2015)
 $T_{\min} = 0.376$, $T_{\max} = 0.746$

75437 measured reflections
15568 independent reflections
13140 reflections with $I > 2\sigma(I)$
 $R_{\text{int}} = 0.043$
 $\theta_{\max} = 27.5^\circ$, $\theta_{\min} = 2.1^\circ$
 $h = -18\text{--}18$
 $k = -45\text{--}46$
 $l = -22\text{--}22$

Refinement

Refinement on F^2
Least-squares matrix: full
 $R[F^2 > 2\sigma(F^2)] = 0.057$
 $wR(F^2) = 0.126$
 $S = 1.14$
15568 reflections
937 parameters
90 restraints

Primary atom site location: structure-invariant
direct methods
 $w = 1/[\sigma^2(F_o^2) + (0.0103P)^2 + 615.6616P]$
where $P = (F_o^2 + 2F_c^2)/3$
 $(\Delta/\sigma)_{\max} = 0.001$
 $\Delta\rho_{\max} = 2.22 \text{ e \AA}^{-3}$
 $\Delta\rho_{\min} = -2.61 \text{ e \AA}^{-3}$

Special details

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

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

	<i>x</i>	<i>y</i>	<i>z</i>	$U_{\text{iso}}^*/U_{\text{eq}}$
Ag1	0.08682 (9)	0.06634 (3)	0.20445 (7)	0.0138 (2)
Ag2	0.27633 (10)	0.03132 (3)	0.41983 (8)	0.0169 (2)
Ag3	0.55662 (9)	0.46648 (3)	0.19380 (7)	0.0150 (2)
Ag4	0.26078 (8)	0.57090 (3)	0.60251 (7)	0.01221 (19)
Ag5	0.03496 (8)	0.15772 (3)	0.17435 (7)	0.0125 (2)
Ag6	0.23310 (9)	0.18599 (3)	0.38229 (8)	0.0156 (2)
Ag7	0.43490 (10)	0.37201 (3)	0.05335 (8)	0.0184 (2)
Ag8	0.57487 (9)	0.31065 (3)	0.19823 (7)	0.0148 (2)
Ag9	0.25196 (9)	0.84280 (3)	0.09874 (7)	0.0160 (2)
Ag10	0.07104 (9)	0.75160 (3)	0.45762 (8)	0.0156 (2)
Ag11	0.07064 (9)	0.31349 (3)	0.19972 (7)	0.0156 (2)
Ag12	0.24584 (10)	0.27747 (3)	0.39764 (8)	0.0180 (2)
Ag13	0.55343 (9)	0.21817 (3)	0.18150 (8)	0.0157 (2)
Ag14	0.27216 (9)	0.67637 (3)	0.12176 (7)	0.0126 (2)
Ag15	0.05820 (8)	0.40832 (3)	0.19626 (7)	0.0130 (2)
Ag16	0.24072 (8)	0.44444 (3)	0.40286 (7)	0.0129 (2)
Ag17	0.42669 (9)	0.12869 (3)	0.03557 (7)	0.0136 (2)
Ag18	0.58339 (9)	0.05792 (3)	0.20303 (7)	0.0132 (2)
Ag19	0.22274 (9)	0.59037 (3)	0.06770 (8)	0.0181 (2)
Ag20	0.04730 (9)	0.00277 (3)	0.43913 (7)	0.0156 (2)
Ag21	0.08463 (9)	0.56456 (3)	0.20467 (7)	0.0129 (2)
Ag22	0.24736 (9)	0.53034 (3)	0.40259 (7)	0.0143 (2)
Ag23	0.46246 (8)	0.47035 (3)	0.32099 (7)	0.0122 (2)
Ag24	0.27468 (9)	0.42928 (3)	0.12342 (8)	0.0154 (2)
Ag25	0.04870 (8)	0.65006 (3)	0.19101 (7)	0.0132 (2)
Ag26	0.76530 (9)	0.19821 (3)	0.10542 (7)	0.0129 (2)
Ag27	0.57192 (9)	0.37693 (3)	0.46144 (7)	0.0137 (2)
Ag28	0.41143 (9)	0.30561 (3)	0.29182 (7)	0.0141 (2)
Ag29	0.22283 (10)	0.34487 (3)	0.07409 (8)	0.0178 (2)
Ag30	0.05501 (9)	0.24478 (3)	0.44679 (8)	0.0165 (2)
Ag31	0.08436 (9)	0.81768 (3)	0.20002 (7)	0.0131 (2)
Ag32	0.73211 (9)	0.28175 (3)	0.08057 (7)	0.0157 (2)
Ag33	0.45882 (8)	0.21862 (3)	0.30624 (7)	0.0128 (2)
Ag34	0.26225 (8)	0.18464 (3)	0.09611 (7)	0.0134 (2)
Ag35	0.03659 (8)	0.59658 (3)	0.67807 (7)	0.0125 (2)
Ag36	0.77018 (9)	0.44587 (3)	0.11381 (8)	0.0152 (2)
Ag37	0.54741 (9)	0.12430 (3)	0.44344 (7)	0.0145 (2)
Ag38	0.42942 (9)	0.05817 (3)	0.30366 (7)	0.0153 (2)
Ag39	0.24947 (9)	0.09758 (3)	0.10141 (7)	0.0145 (2)

Ag40	0.07517 (8)	0.49697 (3)	0.46486 (7)	0.0127 (2)
C1	0.1707 (10)	0.6132 (3)	0.4045 (9)	0.006 (2)
C2	0.1744 (11)	0.1016 (4)	0.4183 (10)	0.013 (3)
C3	0.5142 (11)	0.3904 (4)	0.2635 (9)	0.010 (2)
C4	0.0037 (11)	0.2318 (4)	0.2527 (9)	0.010 (2)
C5	0.3262 (9)	0.2685 (3)	0.0821 (8)	0.003 (2)
C6	0.6713 (12)	0.2601 (4)	0.3967 (10)	0.015 (3)
C7	0.8247 (11)	0.3606 (4)	0.0936 (9)	0.009 (2)
C8	0.1722 (11)	0.3591 (4)	0.4040 (10)	0.012 (2)
C9	0.4816 (11)	0.1403 (4)	0.2353 (9)	0.009 (2)
C10	0.0167 (10)	0.4843 (3)	0.2669 (9)	0.008 (2)
C11	0.3319 (11)	0.0134 (4)	0.0990 (9)	0.010 (2)
C12	0.3234 (12)	0.5137 (4)	0.0915 (10)	0.014 (3)
O1	0.7482 (8)	0.0913 (3)	0.0498 (6)	0.0107 (18)
O2	0.0858 (8)	0.6049 (3)	0.3234 (7)	0.0104 (18)
O3	0.1689 (8)	0.6468 (3)	0.4381 (6)	0.0117 (18)
O4	0.1132 (9)	0.0778 (3)	0.3555 (7)	0.016 (2)
O5	0.2745 (8)	0.0917 (3)	0.4871 (7)	0.018 (2)
O6	0.1392 (8)	0.1358 (3)	0.4168 (8)	0.017 (2)
O7	0.4765 (8)	0.4056 (3)	0.1825 (7)	0.0133 (19)
O8	0.5459 (8)	0.4123 (3)	0.3353 (7)	0.0127 (19)
O9	0.5252 (9)	0.3548 (3)	0.2765 (8)	0.019 (2)
O10	0.0376 (8)	0.7185 (3)	0.3300 (7)	0.0116 (18)
O11	0.0329 (8)	0.2081 (3)	0.3213 (7)	0.0116 (18)
O12	0.0199 (8)	0.2671 (3)	0.2713 (7)	0.0129 (19)
O13	0.2394 (9)	0.2290 (3)	0.4959 (7)	0.021 (2)
O14	0.3574 (9)	0.2988 (3)	0.1329 (7)	0.020 (2)
O15	0.3718 (10)	0.2370 (3)	0.1167 (8)	0.024 (2)
O16	0.5860 (8)	0.2710 (3)	0.3183 (7)	0.015 (2)
O17	0.2442 (8)	0.7812 (3)	0.0509 (7)	0.016 (2)
O18	0.3342 (8)	0.7264 (3)	0.0741 (7)	0.0137 (19)
O19	0.7387 (8)	0.3610 (3)	0.0068 (7)	0.016 (2)
O20	0.1418 (8)	0.8301 (3)	0.3600 (7)	0.0126 (19)
O21	0.8723 (8)	0.3927 (3)	0.1296 (7)	0.0128 (19)
O22	0.0857 (8)	0.3514 (3)	0.3222 (7)	0.0122 (19)
O23	0.2538 (8)	0.3370 (2)	0.4474 (7)	0.0122 (19)
O24	0.1684 (8)	0.3910 (3)	0.4422 (7)	0.015 (2)
O25	0.4524 (8)	0.1625 (3)	0.1640 (6)	0.0125 (19)
O26	0.5245 (8)	0.1561 (3)	0.3156 (6)	0.0116 (18)
O27	0.4623 (8)	0.1051 (3)	0.2223 (7)	0.0138 (19)
O28	0.0239 (8)	0.5311 (3)	0.8153 (6)	0.0119 (19)
O29	0.0494 (8)	0.4614 (3)	0.3380 (6)	0.0100 (18)
O30	0.0301 (8)	0.5192 (3)	0.2810 (7)	0.0135 (19)
O31	0.2471 (8)	0.0360 (3)	0.0549 (7)	0.0116 (18)
O32	0.4167 (8)	0.0220 (3)	0.1802 (7)	0.0128 (19)
O33	0.3297 (8)	0.5180 (3)	0.5604 (7)	0.015 (2)
O34	0.3586 (9)	0.5446 (3)	0.1375 (7)	0.017 (2)
O35	0.2370 (9)	0.5143 (4)	0.0050 (8)	0.026 (3)

O36	0.3710 (9)	0.4821 (3)	0.1274 (8)	0.023 (2)
I1	0.23839 (7)	0.50353 (2)	0.75382 (6)	0.01089 (16)
I2	0.02321 (7)	0.56825 (2)	0.49450 (6)	0.00922 (16)
I3	0.51853 (7)	0.05568 (2)	0.49871 (6)	0.01051 (16)
I4	0.02890 (7)	0.31583 (2)	0.49893 (6)	0.00977 (16)
I5	0.24870 (7)	0.12856 (2)	0.25332 (6)	0.01133 (17)
I6	0.48805 (7)	0.30683 (2)	0.00222 (6)	0.01024 (16)
I7	0.74654 (7)	0.37823 (2)	0.25684 (6)	0.01038 (16)
I8	0.24565 (7)	0.24507 (2)	0.24870 (6)	0.01053 (16)
I9	0.23835 (7)	0.74699 (2)	0.25736 (6)	0.01027 (16)
I10	0.01605 (7)	0.82021 (2)	0.49369 (6)	0.01008 (16)
I11	0.52303 (7)	0.30574 (2)	0.49127 (6)	0.00945 (16)
I12	0.00636 (7)	0.06869 (2)	0.49831 (6)	0.01186 (17)
I13	0.26024 (7)	0.37760 (2)	0.24425 (6)	0.01006 (16)
I14	0.26343 (7)	0.62687 (2)	0.24731 (6)	0.01021 (16)
I15	0.47596 (7)	0.05766 (2)	0.00446 (6)	0.00997 (16)
I16	0.24648 (7)	0.49627 (2)	0.25586 (6)	0.01117 (16)

Atomic displacement parameters (\AA^2)

	U^{11}	U^{22}	U^{33}	U^{12}	U^{13}	U^{23}
Ag1	0.0155 (5)	0.0147 (5)	0.0103 (5)	-0.0023 (4)	0.0063 (4)	-0.0016 (4)
Ag2	0.0214 (5)	0.0133 (5)	0.0163 (5)	0.0022 (4)	0.0104 (4)	-0.0014 (4)
Ag3	0.0117 (5)	0.0200 (5)	0.0125 (5)	-0.0045 (4)	0.0060 (4)	-0.0011 (4)
Ag4	0.0085 (4)	0.0131 (5)	0.0127 (5)	0.0004 (3)	0.0041 (4)	-0.0010 (4)
Ag5	0.0108 (4)	0.0120 (5)	0.0137 (5)	0.0006 (3)	0.0060 (4)	-0.0007 (4)
Ag6	0.0137 (5)	0.0197 (5)	0.0153 (5)	-0.0005 (4)	0.0092 (4)	-0.0015 (4)
Ag7	0.0198 (5)	0.0203 (5)	0.0127 (5)	0.0083 (4)	0.0073 (4)	-0.0013 (4)
Ag8	0.0201 (5)	0.0124 (5)	0.0097 (5)	0.0007 (4)	0.0066 (4)	0.0005 (4)
Ag9	0.0224 (5)	0.0119 (5)	0.0095 (5)	0.0014 (4)	0.0060 (4)	-0.0018 (4)
Ag10	0.0169 (5)	0.0145 (5)	0.0146 (5)	0.0022 (4)	0.0080 (4)	-0.0036 (4)
Ag11	0.0204 (5)	0.0155 (5)	0.0095 (5)	0.0008 (4)	0.0073 (4)	0.0005 (4)
Ag12	0.0237 (6)	0.0148 (5)	0.0121 (5)	0.0031 (4)	0.0074 (4)	-0.0013 (4)
Ag13	0.0123 (5)	0.0210 (5)	0.0145 (5)	-0.0065 (4)	0.0076 (4)	-0.0026 (4)
Ag14	0.0134 (5)	0.0141 (5)	0.0109 (5)	-0.0013 (4)	0.0070 (4)	0.0019 (4)
Ag15	0.0089 (4)	0.0159 (5)	0.0133 (5)	0.0027 (4)	0.0053 (4)	0.0013 (4)
Ag16	0.0093 (4)	0.0139 (5)	0.0136 (5)	-0.0010 (4)	0.0050 (4)	0.0005 (4)
Ag17	0.0133 (5)	0.0155 (5)	0.0114 (5)	0.0023 (4)	0.0063 (4)	-0.0016 (4)
Ag18	0.0139 (5)	0.0148 (5)	0.0088 (5)	-0.0009 (4)	0.0048 (4)	-0.0010 (4)
Ag19	0.0187 (5)	0.0147 (5)	0.0185 (5)	0.0036 (4)	0.0085 (4)	0.0055 (4)
Ag20	0.0173 (5)	0.0161 (5)	0.0111 (5)	0.0035 (4)	0.0063 (4)	-0.0024 (4)
Ag21	0.0158 (5)	0.0117 (5)	0.0106 (5)	0.0003 (4)	0.0066 (4)	0.0006 (4)
Ag22	0.0182 (5)	0.0115 (5)	0.0082 (5)	0.0014 (4)	0.0038 (4)	-0.0006 (4)
Ag23	0.0084 (4)	0.0128 (5)	0.0138 (5)	-0.0004 (3)	0.0049 (4)	-0.0011 (4)
Ag24	0.0138 (5)	0.0197 (5)	0.0133 (5)	-0.0020 (4)	0.0077 (4)	0.0005 (4)
Ag25	0.0104 (5)	0.0155 (5)	0.0107 (5)	0.0027 (4)	0.0039 (4)	0.0023 (4)
Ag26	0.0112 (5)	0.0116 (4)	0.0144 (5)	0.0005 (3)	0.0060 (4)	-0.0025 (4)
Ag27	0.0142 (5)	0.0138 (5)	0.0125 (5)	-0.0017 (4)	0.0069 (4)	0.0019 (4)

Ag28	0.0154 (5)	0.0153 (5)	0.0095 (5)	-0.0011 (4)	0.0053 (4)	0.0002 (4)
Ag29	0.0236 (6)	0.0136 (5)	0.0159 (5)	0.0048 (4)	0.0105 (5)	0.0039 (4)
Ag30	0.0190 (5)	0.0178 (5)	0.0148 (5)	0.0010 (4)	0.0106 (4)	-0.0034 (4)
Ag31	0.0131 (5)	0.0140 (5)	0.0091 (5)	-0.0003 (4)	0.0040 (4)	0.0004 (4)
Ag32	0.0208 (5)	0.0124 (5)	0.0113 (5)	-0.0035 (4)	0.0071 (4)	-0.0011 (4)
Ag33	0.0106 (5)	0.0134 (5)	0.0147 (5)	0.0006 (4)	0.0069 (4)	-0.0015 (4)
Ag34	0.0085 (4)	0.0161 (5)	0.0132 (5)	-0.0008 (4)	0.0043 (4)	-0.0014 (4)
Ag35	0.0087 (4)	0.0123 (5)	0.0142 (5)	-0.0008 (3)	0.0047 (4)	0.0003 (4)
Ag36	0.0128 (5)	0.0136 (5)	0.0185 (5)	0.0020 (4)	0.0081 (4)	0.0008 (4)
Ag37	0.0155 (5)	0.0150 (5)	0.0119 (5)	-0.0021 (4)	0.0066 (4)	0.0020 (4)
Ag38	0.0213 (5)	0.0147 (5)	0.0094 (5)	-0.0013 (4)	0.0080 (4)	-0.0011 (4)
Ag39	0.0175 (5)	0.0120 (5)	0.0097 (5)	0.0002 (4)	0.0046 (4)	-0.0025 (4)
Ag40	0.0119 (5)	0.0134 (5)	0.0113 (5)	0.0021 (4)	0.0052 (4)	-0.0010 (4)
C1	0.006 (2)	0.006 (2)	0.006 (2)	0.0001 (10)	0.0032 (14)	-0.0001 (10)
C2	0.013 (3)	0.013 (3)	0.013 (3)	0.0002 (10)	0.0069 (16)	-0.0003 (10)
C3	0.010 (3)	0.010 (3)	0.010 (3)	-0.0003 (10)	0.0053 (15)	0.0001 (10)
C4	0.010 (3)	0.010 (3)	0.010 (3)	0.0001 (10)	0.0054 (15)	0.0003 (10)
C5	0.003 (2)	0.003 (2)	0.003 (2)	0.0000 (10)	0.0019 (14)	0.0001 (10)
C6	0.016 (3)	0.016 (3)	0.015 (3)	0.0000 (10)	0.0085 (17)	-0.0001 (10)
C7	0.009 (2)	0.009 (2)	0.009 (2)	0.0004 (10)	0.0048 (15)	-0.0003 (10)
C8	0.012 (3)	0.012 (3)	0.011 (3)	-0.0003 (10)	0.0063 (16)	0.0000 (10)
C9	0.009 (2)	0.009 (2)	0.009 (2)	0.0002 (10)	0.0048 (15)	-0.0002 (10)
C10	0.008 (2)	0.008 (2)	0.008 (2)	-0.0001 (10)	0.0041 (15)	0.0006 (10)
C11	0.010 (3)	0.010 (3)	0.010 (3)	-0.0002 (10)	0.0054 (15)	-0.0001 (10)
C12	0.014 (3)	0.014 (3)	0.014 (3)	0.0001 (10)	0.0079 (16)	-0.0003 (10)
O1	0.013 (4)	0.007 (4)	0.009 (4)	0.001 (3)	0.004 (4)	0.000 (3)
O2	0.010 (2)	0.010 (2)	0.010 (2)	0.0000 (10)	0.0052 (13)	-0.0005 (10)
O3	0.016 (5)	0.012 (4)	0.006 (4)	0.000 (4)	0.006 (4)	0.000 (3)
O4	0.021 (5)	0.015 (5)	0.013 (5)	-0.001 (4)	0.009 (4)	-0.004 (4)
O5	0.012 (5)	0.018 (5)	0.016 (5)	0.002 (4)	0.002 (4)	0.006 (4)
O6	0.010 (5)	0.016 (5)	0.027 (6)	0.001 (4)	0.011 (4)	-0.001 (4)
O7	0.012 (5)	0.018 (5)	0.008 (5)	-0.003 (4)	0.004 (4)	-0.003 (4)
O8	0.013 (5)	0.014 (5)	0.008 (5)	-0.002 (4)	0.004 (4)	-0.002 (4)
O9	0.025 (6)	0.010 (5)	0.030 (6)	0.003 (4)	0.018 (5)	0.003 (4)
O10	0.012 (2)	0.012 (2)	0.011 (2)	-0.0003 (10)	0.0060 (13)	0.0002 (10)
O11	0.012 (4)	0.009 (4)	0.010 (5)	0.000 (3)	0.004 (4)	-0.001 (3)
O12	0.018 (5)	0.006 (4)	0.021 (5)	0.001 (4)	0.015 (4)	0.002 (4)
O13	0.013 (5)	0.029 (6)	0.014 (5)	0.000 (4)	0.002 (4)	-0.005 (4)
O14	0.020 (5)	0.024 (6)	0.014 (5)	0.004 (4)	0.009 (5)	0.006 (4)
O15	0.023 (3)	0.024 (3)	0.024 (3)	0.0003 (10)	0.0129 (15)	0.0003 (10)
O16	0.012 (5)	0.023 (5)	0.009 (5)	0.001 (4)	0.006 (4)	-0.004 (4)
O17	0.010 (5)	0.016 (5)	0.019 (5)	0.001 (4)	0.005 (4)	0.001 (4)
O18	0.017 (5)	0.016 (5)	0.016 (5)	0.003 (4)	0.014 (4)	0.001 (4)
O19	0.016 (5)	0.019 (5)	0.009 (5)	0.001 (4)	0.004 (4)	-0.004 (4)
O20	0.019 (5)	0.014 (5)	0.009 (5)	0.001 (4)	0.010 (4)	0.001 (4)
O21	0.007 (4)	0.012 (4)	0.016 (5)	-0.005 (3)	0.004 (4)	-0.007 (4)
O22	0.016 (5)	0.014 (5)	0.007 (4)	0.001 (4)	0.007 (4)	0.001 (4)
O23	0.011 (4)	0.005 (4)	0.011 (5)	0.003 (3)	0.000 (4)	-0.001 (3)

O24	0.013 (5)	0.015 (5)	0.017 (5)	0.005 (4)	0.007 (4)	0.005 (4)
O25	0.009 (4)	0.014 (5)	0.006 (4)	-0.004 (3)	-0.001 (4)	0.002 (4)
O26	0.013 (5)	0.018 (5)	0.005 (4)	0.003 (4)	0.006 (4)	0.001 (4)
O27	0.012 (5)	0.011 (4)	0.014 (5)	0.001 (4)	0.004 (4)	-0.003 (4)
O28	0.013 (5)	0.011 (4)	0.006 (4)	-0.003 (3)	0.001 (4)	-0.006 (3)
O29	0.008 (4)	0.010 (4)	0.008 (4)	-0.001 (3)	0.002 (4)	0.002 (3)
O30	0.013 (5)	0.009 (4)	0.019 (5)	-0.002 (3)	0.009 (4)	0.000 (4)
O31	0.011 (4)	0.013 (4)	0.010 (5)	0.002 (3)	0.005 (4)	0.003 (4)
O32	0.009 (4)	0.012 (4)	0.011 (5)	-0.003 (3)	0.001 (4)	0.005 (4)
O33	0.018 (5)	0.012 (5)	0.010 (5)	-0.003 (4)	0.005 (4)	0.006 (4)
O34	0.029 (6)	0.013 (5)	0.008 (5)	-0.004 (4)	0.009 (4)	-0.001 (4)
O35	0.010 (5)	0.048 (7)	0.016 (5)	-0.011 (5)	0.004 (4)	-0.002 (5)
O36	0.022 (6)	0.017 (5)	0.031 (6)	-0.002 (4)	0.015 (5)	-0.001 (5)
I1	0.0093 (4)	0.0134 (4)	0.0081 (4)	-0.0014 (3)	0.0035 (3)	-0.0009 (3)
I2	0.0090 (4)	0.0099 (4)	0.0070 (4)	-0.0008 (3)	0.0032 (3)	0.0001 (3)
I3	0.0110 (4)	0.0106 (4)	0.0087 (4)	0.0012 (3)	0.0045 (3)	0.0018 (3)
I4	0.0097 (4)	0.0107 (4)	0.0075 (4)	-0.0008 (3)	0.0037 (3)	0.0001 (3)
I5	0.0087 (4)	0.0119 (4)	0.0092 (4)	-0.0005 (3)	0.0022 (3)	-0.0018 (3)
I6	0.0119 (4)	0.0114 (4)	0.0086 (4)	-0.0006 (3)	0.0063 (3)	-0.0012 (3)
I7	0.0087 (4)	0.0119 (4)	0.0082 (4)	-0.0006 (3)	0.0029 (3)	0.0009 (3)
I8	0.0087 (4)	0.0124 (4)	0.0079 (4)	0.0002 (3)	0.0028 (3)	-0.0004 (3)
I9	0.0094 (4)	0.0129 (4)	0.0071 (4)	0.0016 (3)	0.0035 (3)	0.0010 (3)
I10	0.0107 (4)	0.0102 (4)	0.0080 (4)	0.0001 (3)	0.0041 (3)	-0.0010 (3)
I11	0.0103 (4)	0.0097 (4)	0.0069 (4)	0.0007 (3)	0.0037 (3)	0.0003 (3)
I12	0.0153 (4)	0.0096 (4)	0.0087 (4)	-0.0010 (3)	0.0052 (3)	-0.0010 (3)
I13	0.0080 (4)	0.0126 (4)	0.0083 (4)	0.0012 (3)	0.0035 (3)	0.0019 (3)
I14	0.0087 (4)	0.0124 (4)	0.0085 (4)	0.0014 (3)	0.0040 (3)	0.0025 (3)
I15	0.0094 (4)	0.0109 (4)	0.0082 (4)	-0.0002 (3)	0.0038 (3)	0.0000 (3)
I16	0.0087 (4)	0.0136 (4)	0.0081 (4)	0.0011 (3)	0.0025 (3)	-0.0001 (3)

Geometric parameters (\AA , $^{\circ}$)

Ag1—O4	2.416 (10)	Ag30—I4	2.7587 (14)
Ag1—O30 ⁱ	2.462 (10)	Ag30—O12	2.852 (10)
Ag1—O2 ⁱ	2.621 (9)	Ag30—I10 ^{ix}	2.9063 (14)
Ag1—I2 ⁱ	2.8525 (13)	Ag30—Ag10 ^{ix}	3.0022 (15)
Ag1—I5	2.9644 (13)	Ag30—Ag31 ⁱ	3.3862 (15)
Ag1—I1 ⁱⁱ	3.0865 (13)	Ag31—O20	2.415 (9)
Ag1—Ag5	3.2978 (15)	Ag31—O12 ^x	2.536 (10)
Ag1—Ag2	3.3930 (16)	Ag31—O22 ^x	2.538 (10)
Ag2—O35 ⁱⁱⁱ	2.427 (13)	Ag31—I4 ^x	2.8487 (13)
Ag2—O5	2.432 (11)	Ag31—I7 ^{vi}	3.0043 (13)
Ag2—O4	2.561 (10)	Ag31—I9	3.1169 (13)
Ag2—I1 ⁱⁱ	2.8469 (14)	Ag31—Ag35 ^{viii}	3.0904 (14)
Ag2—I3	3.0712 (14)	Ag31—Ag30 ^x	3.3862 (15)
Ag2—Ag36 ^{iv}	3.0846 (15)	Ag32—O18 ^{xi}	2.277 (10)
Ag3—O36	2.310 (11)	Ag32—O20 ^{iv}	2.284 (10)
Ag3—O7	2.398 (10)	Ag32—I9 ^{iv}	2.8293 (14)

Ag3—I1 ^v	2.7620 (13)	Ag32—I6	3.1036 (14)
Ag3—O32 ^{vi}	2.777 (9)	Ag32—Ag10 ^{iv}	3.3724 (16)
Ag3—I3 ⁱⁱ	3.1508 (14)	Ag33—O26	2.376 (10)
Ag3—Ag23	3.0984 (15)	Ag33—O16	2.522 (10)
Ag3—Ag38 ^{vi}	3.2525 (15)	Ag33—O18 ^{iv}	2.532 (10)
Ag3—Ag4 ^v	3.2774 (15)	Ag33—I8	2.7989 (13)
Ag4—O33	2.395 (11)	Ag33—O15	2.827 (12)
Ag4—O8 ^v	2.430 (10)	Ag33—I6 ⁱⁱⁱ	3.2480 (14)
Ag4—O1 ^{vi}	2.620 (10)	Ag34—O15	2.323 (11)
Ag4—I2	2.8465 (13)	Ag34—O25	2.429 (10)
Ag4—I7 ^v	3.0366 (13)	Ag34—O23 ⁱⁱ	2.577 (10)
Ag4—Ag9 ^{vii}	3.0588 (15)	Ag34—I4 ⁱⁱ	2.7982 (13)
Ag4—Ag3 ^v	3.2774 (15)	Ag34—I5	3.4141 (14)
Ag5—O10 ⁱ	2.372 (9)	Ag34—Ag39	3.0935 (15)
Ag5—O3 ⁱ	2.495 (10)	Ag35—O29 ^{ix}	2.330 (9)
Ag5—O2 ⁱ	2.556 (9)	Ag35—O22 ^{ix}	2.534 (10)
Ag5—I5	2.7769 (13)	Ag35—O24 ^{ix}	2.536 (10)
Ag5—I4 ⁱⁱ	3.0768 (14)	Ag35—I7 ^v	2.8033 (13)
Ag5—Ag25 ⁱ	3.1071 (15)	Ag35—O21 ^v	2.811 (10)
Ag5—Ag6	3.2630 (15)	Ag35—I2	3.1788 (14)
Ag6—O13	2.420 (11)	Ag35—Ag15 ^{ix}	3.0836 (15)
Ag6—O6	2.478 (10)	Ag35—Ag31 ^{vii}	3.0902 (14)
Ag6—O11	2.572 (10)	Ag36—O21	2.303 (10)
Ag6—I6 ⁱⁱⁱ	3.0645 (14)	Ag36—O35 ^{xi}	2.417 (12)
Ag6—I5	3.0827 (14)	Ag36—O28 ^v	2.626 (10)
Ag6—I8	3.1602 (14)	Ag36—I1 ^v	2.9272 (14)
Ag6—Ag12	3.2479 (16)	Ag36—I3 ⁱⁱ	3.0141 (13)
Ag7—O7	2.273 (10)	Ag36—Ag2 ^{vi}	3.0847 (15)
Ag7—O5 ⁱⁱ	2.313 (10)	Ag36—Ag19 ^{xi}	3.3882 (16)
Ag7—I6	2.7140 (14)	Ag37—O26	2.304 (9)
Ag7—I3 ⁱⁱ	3.1669 (15)	Ag37—O19 ⁱⁱⁱ	2.383 (10)
Ag7—Ag37 ⁱⁱ	3.0480 (16)	Ag37—I3	2.7154 (13)
Ag7—Ag8	3.0725 (15)	Ag37—I6 ⁱⁱⁱ	2.9276 (14)
Ag8—O9	2.393 (11)	Ag37—Ag7 ⁱⁱⁱ	3.0479 (16)
Ag8—O16	2.408 (10)	Ag37—Ag38	3.1027 (15)
Ag8—O14	2.698 (11)	Ag38—O27	2.364 (10)
Ag8—I6	2.8571 (14)	Ag38—O32	2.377 (10)
Ag8—I7	3.1721 (13)	Ag38—O34 ^{iv}	2.660 (11)
Ag8—I9 ^{iv}	3.2491 (14)	Ag38—I3	2.8340 (14)
Ag8—Ag9 ^{iv}	3.1717 (15)	Ag38—I1 ⁱⁱ	3.2245 (14)
Ag8—Ag13	3.2882 (15)	Ag38—I5	3.3447 (14)
Ag9—O17	2.308 (10)	Ag38—Ag3 ^{iv}	3.2525 (15)
Ag9—O3 ^{viii}	2.340 (9)	Ag38—Ag39	3.2837 (15)
Ag9—O9 ^{vi}	2.732 (11)	Ag39—O31	2.312 (9)
Ag9—I7 ^{vi}	2.7431 (14)	Ag39—O24 ⁱⁱ	2.329 (10)
Ag9—Ag4 ^{viii}	3.0588 (14)	Ag39—O27	2.596 (10)
Ag9—Ag8 ^{vi}	3.1717 (15)	Ag39—I5	2.8069 (14)
Ag9—Ag27 ^{vi}	3.3996 (16)	Ag40—O29	2.346 (9)

Ag10—O10	2.274 (10)	Ag40—O31 ⁱⁱⁱ	2.376 (10)
Ag10—O17 ^{vii}	2.391 (10)	Ag40—I2	2.7526 (13)
Ag10—I10	2.7225 (13)	Ag40—I2 ^{ix}	2.9693 (13)
Ag10—I4 ^{ix}	3.0668 (14)	Ag40—Ag40 ^{ix}	2.968 (2)
Ag10—Ag30 ^{ix}	3.0022 (16)	Ag40—O30	2.932 (10)
Ag10—Ag11 ^x	3.1906 (15)	C1—O1 ^{vi}	1.251 (15)
Ag10—Ag32 ^{vi}	3.3724 (16)	C1—O2	1.282 (15)
Ag11—O12	2.377 (9)	C1—O3	1.328 (15)
Ag11—O22	2.384 (9)	C2—O4	1.264 (17)
Ag11—O20 ⁱ	2.684 (10)	C2—O6	1.305 (17)
Ag11—I10 ⁱ	2.8234 (13)	C2—O5	1.310 (17)
Ag11—I8	3.2455 (14)	C3—O9	1.272 (16)
Ag11—I13	3.2872 (14)	C3—O7	1.293 (16)
Ag11—Ag12	3.1734 (15)	C3—O8	1.302 (16)
Ag11—Ag10 ⁱ	3.1905 (15)	C4—O12	1.279 (16)
Ag11—Ag15	3.3624 (15)	C4—O10 ⁱ	1.283 (16)
Ag12—O23	2.252 (9)	C4—O11	1.307 (16)
Ag12—O13	2.428 (12)	C5—O15	1.267 (16)
Ag12—O12	2.761 (10)	C5—O14	1.295 (16)
Ag12—I8	2.7745 (14)	C5—O13 ⁱⁱ	1.312 (15)
Ag13—O15	2.294 (12)	C6—O17 ^{iv}	1.281 (17)
Ag13—O25	2.363 (9)	C6—O16	1.283 (17)
Ag13—I9 ^{iv}	2.7529 (13)	C6—O18 ^{iv}	1.310 (17)
Ag13—O16	2.817 (10)	C7—O20 ^{iv}	1.267 (16)
Ag13—I11 ⁱⁱ	3.1325 (14)	C7—O21	1.297 (15)
Ag13—Ag33	3.0620 (15)	C7—O19	1.311 (16)
Ag13—Ag14 ^{iv}	3.2462 (15)	C8—O23	1.256 (16)
Ag14—O18	2.313 (10)	C8—O22	1.291 (17)
Ag14—O19 ^{xi}	2.484 (10)	C8—O24	1.319 (17)
Ag14—O26 ^{vi}	2.589 (10)	C9—O27	1.272 (16)
Ag14—I14	2.8131 (13)	C9—O26	1.282 (16)
Ag14—I10 ^{viii}	3.0760 (13)	C9—O25	1.306 (16)
Ag14—Ag19	3.1494 (15)	C10—O30	1.256 (15)
Ag14—Ag13 ^{vi}	3.2463 (15)	C10—O28 ^{ix}	1.305 (16)
Ag15—O21 ^{xii}	2.313 (9)	C10—O29	1.312 (15)
Ag15—O28 ^{ix}	2.400 (9)	C11—O33 ⁱⁱ	1.284 (16)
Ag15—I13	2.7543 (13)	C11—O32	1.284 (16)
Ag15—O22	2.808 (9)	C11—O31	1.297 (16)
Ag15—I12 ⁱⁱ	3.1320 (14)	C12—O36	1.279 (18)
Ag15—Ag35 ^{ix}	3.0836 (15)	C12—O34	1.280 (17)
Ag15—Ag16	3.2907 (15)	C12—O35	1.310 (18)
Ag16—O29	2.397 (9)	O1—C1 ^{iv}	1.251 (15)
Ag16—O24	2.415 (10)	O1—Ag22 ^{iv}	2.294 (9)
Ag16—O31 ⁱⁱⁱ	2.625 (10)	O1—Ag27 ⁱⁱ	2.396 (9)
Ag16—I15 ⁱⁱⁱ	2.8193 (13)	O2—Ag ^{5x}	2.555 (9)
Ag16—I16	3.1336 (13)	O3—Ag9 ^{vii}	2.340 (9)
Ag16—Ag22	3.0444 (14)	O3—Ag26 ^{vi}	2.342 (9)
Ag17—O25	2.336 (10)	O3—Ag ^{5x}	2.495 (10)

Ag17—O23 ⁱⁱ	2.407 (9)	O4—Ag21 ⁱ	2.467 (11)
Ag17—I15	2.7388 (13)	O5—Ag7 ⁱⁱⁱ	2.312 (10)
Ag17—I11 ⁱⁱ	2.9924 (13)	O5—Ag24 ⁱⁱⁱ	2.429 (11)
Ag17—Ag27 ⁱⁱ	2.9507 (15)	O6—Ag25 ⁱ	2.338 (10)
Ag18—O34 ^{iv}	2.409 (10)	O6—Ag29 ⁱⁱⁱ	2.362 (11)
Ag18—O32	2.530 (9)	O8—Ag4 ^v	2.430 (10)
Ag18—O27	2.545 (10)	O10—C4 ^x	1.283 (16)
Ag18—I15	2.8498 (13)	O10—Ag5 ^x	2.373 (9)
Ag18—I16 ^{iv}	3.0485 (13)	O10—Ag26 ^{vi}	2.503 (10)
Ag18—I14 ^{iv}	3.0730 (13)	O11—Ag25 ⁱ	2.314 (9)
Ag18—Ag23 ^{iv}	3.1508 (14)	O12—Ag31 ⁱ	2.536 (9)
Ag19—O34	2.300 (11)	O13—C5 ⁱⁱⁱ	1.312 (15)
Ag19—O19 ^{xi}	2.370 (11)	O17—C6 ^{vi}	1.281 (17)
Ag19—O21 ^{xi}	2.915 (10)	O17—Ag10 ^{viii}	2.391 (10)
Ag19—I12 ^x	2.9205 (15)	O18—C6 ^{vi}	1.310 (17)
Ag19—O35	2.944 (13)	O18—Ag32 ^{xi}	2.277 (10)
Ag19—I14	3.0637 (15)	O18—Ag33 ^{vi}	2.532 (10)
Ag19—Ag36 ^{xi}	3.3883 (16)	O19—Ag19 ^{xi}	2.370 (11)
Ag20—O28 ⁱⁱ	2.282 (10)	O19—Ag37 ⁱⁱ	2.383 (10)
Ag20—O35 ⁱⁱⁱ	2.376 (10)	O19—Ag14 ^{xi}	2.484 (10)
Ag20—I12	2.7264 (13)	O20—C7 ^{vi}	1.267 (16)
Ag20—I12 ^{xiii}	2.9991 (14)	O20—Ag32 ^{vi}	2.284 (10)
Ag20—Ag20 ^{xiii}	3.021 (2)	O21—Ag15 ^{xiv}	2.313 (9)
Ag20—Ag21 ⁱ	3.0523 (15)	O22—Ag35 ^{ix}	2.535 (10)
Ag21—O30	2.440 (10)	O22—Ag31 ⁱ	2.538 (10)
Ag21—O2	2.462 (9)	O23—Ag17 ⁱⁱⁱ	2.407 (9)
Ag21—O4 ^x	2.467 (11)	O23—Ag34 ⁱⁱⁱ	2.577 (10)
Ag21—I12 ^x	2.9562 (13)	O24—Ag39 ⁱⁱⁱ	2.329 (10)
Ag21—I16	3.1225 (13)	O24—Ag35 ^{ix}	2.536 (10)
Ag21—I14	3.1435 (13)	O26—Ag14 ^{iv}	2.589 (10)
Ag21—Ag20 ^x	3.0524 (15)	O28—C10 ^{ix}	1.305 (16)
Ag21—Ag25	3.0592 (14)	O28—Ag20 ⁱⁱⁱ	2.282 (10)
Ag21—Ag22	3.1148 (14)	O28—Ag15 ^{ix}	2.400 (9)
Ag22—O1 ^{vi}	2.294 (9)	O29—Ag35 ^{ix}	2.330 (9)
Ag22—O33	2.311 (10)	O30—Ag1 ^x	2.462 (10)
Ag22—O30	2.661 (10)	O31—Ag40 ⁱⁱ	2.376 (10)
Ag22—I16	2.7609 (14)	O32—Ag23 ^{iv}	2.520 (10)
Ag22—Ag40	3.3647 (16)	O33—C11 ⁱⁱⁱ	1.284 (16)
Ag23—O8	2.321 (10)	O33—Ag23 ^v	2.556 (10)
Ag23—O32 ^{vi}	2.520 (10)	O34—Ag18 ^{vi}	2.410 (10)
Ag23—O33 ^v	2.556 (10)	O35—Ag20 ⁱⁱ	2.376 (10)
Ag23—I16	2.8004 (13)	O35—Ag36 ^{xi}	2.417 (12)
Ag23—O36	2.835 (12)	O35—Ag2 ⁱⁱ	2.427 (13)
Ag23—I15 ⁱⁱⁱ	3.1727 (14)	I1—Ag3 ^v	2.7620 (13)
Ag23—Ag18 ^{vi}	3.1507 (14)	I1—Ag2 ⁱⁱⁱ	2.8470 (14)
Ag23—Ag24	3.2879 (15)	I1—Ag36 ^v	2.9272 (14)
Ag24—O36	2.299 (11)	I1—Ag1 ⁱⁱⁱ	3.0867 (13)
Ag24—O5 ⁱⁱ	2.429 (11)	I1—Ag38 ⁱⁱⁱ	3.2246 (14)

Ag24—O7	2.617 (10)	I2—Ag1 ^x	2.8525 (13)
Ag24—I13	2.8377 (14)	I2—Ag40 ^{ix}	2.9692 (13)
Ag24—Ag29	3.0848 (15)	I3—Ag36 ⁱⁱⁱ	3.0141 (13)
Ag24—I12 ⁱⁱ	3.2144 (14)	I3—Ag3 ⁱⁱⁱ	3.1509 (14)
Ag25—O11 ^x	2.314 (9)	I3—Ag7 ⁱⁱⁱ	3.1669 (15)
Ag25—O6 ^x	2.338 (10)	I4—Ag34 ⁱⁱⁱ	2.7982 (13)
Ag25—O2	2.569 (9)	I4—Ag31 ⁱ	2.8487 (13)
Ag25—I14	2.7879 (13)	I4—Ag10 ^{ix}	3.0670 (14)
Ag25—I10 ^{viii}	3.2942 (13)	I4—Ag5 ⁱⁱⁱ	3.0769 (14)
Ag25—Ag5 ^x	3.1070 (15)	I6—Ag37 ⁱⁱ	2.9276 (14)
Ag26—O3 ^{iv}	2.342 (9)	I6—Ag6 ⁱⁱ	3.0645 (14)
Ag26—O10 ^{iv}	2.503 (10)	I6—Ag33 ⁱⁱ	3.2478 (14)
Ag26—O17 ^{xi}	2.683 (11)	I7—Ag9 ^{iv}	2.7430 (14)
Ag26—I11 ⁱⁱ	2.9055 (13)	I7—Ag35 ^v	2.8034 (13)
Ag26—I9 ^{iv}	2.9222 (13)	I7—Ag31 ^{iv}	3.0042 (13)
Ag26—Ag32	2.9901 (15)	I7—Ag4 ^v	3.0367 (13)
Ag27—O8	2.330 (10)	I9—Ag13 ^{vi}	2.7528 (13)
Ag27—O1 ⁱⁱⁱ	2.396 (9)	I9—Ag32 ^{vi}	2.8294 (14)
Ag27—I11	2.7347 (13)	I9—Ag26 ^{vi}	2.9223 (13)
Ag27—O9	2.941 (11)	I9—Ag8 ^{vi}	3.2491 (14)
Ag27—I15 ⁱⁱⁱ	2.9739 (13)	I10—Ag11 ^x	2.8234 (13)
Ag27—Ag17 ⁱⁱⁱ	2.9508 (15)	I10—Ag30 ^{ix}	2.9062 (14)
Ag27—Ag9 ^{iv}	3.3997 (16)	I10—Ag29 ^x	3.0691 (15)
Ag28—O14	2.383 (11)	I10—Ag14 ^{vii}	3.0759 (13)
Ag28—O9	2.488 (11)	I11—Ag26 ⁱⁱⁱ	2.9055 (13)
Ag28—O16	2.584 (10)	I11—Ag17 ⁱⁱⁱ	2.9925 (13)
Ag28—I11	2.8574 (13)	I11—Ag13 ⁱⁱⁱ	3.1326 (14)
Ag28—I8	2.9725 (13)	I12—Ag19 ⁱ	2.9205 (15)
Ag28—I13	3.1476 (13)	I12—Ag21 ⁱ	2.9562 (13)
Ag28—Ag33	3.1352 (15)	I12—Ag20 ^{xiii}	2.9990 (14)
Ag29—O14	2.292 (11)	I12—Ag15 ⁱⁱⁱ	3.1320 (14)
Ag29—O6 ⁱⁱ	2.362 (11)	I12—Ag24 ⁱⁱⁱ	3.2144 (14)
Ag29—I13	2.8812 (14)	I14—Ag18 ^{vi}	3.0729 (13)
Ag29—O5 ⁱⁱ	2.989 (11)	I15—Ag16 ⁱⁱ	2.8192 (13)
Ag29—I10 ⁱ	3.0690 (15)	I15—Ag27 ⁱⁱ	2.9741 (13)
Ag29—O13 ⁱⁱ	3.001 (12)	I15—Ag23 ⁱⁱ	3.1726 (14)
Ag30—O13	2.352 (11)	I16—Ag18 ^{vi}	3.0486 (13)
Ag30—O11	2.366 (10)		
O4—Ag1—O30 ⁱ	74.6 (3)	O20—Ag31—I7 ^{vi}	81.7 (2)
O4—Ag1—I2 ⁱ	157.3 (3)	O12 ^x —Ag31—I7 ^{vi}	158.8 (2)
O30 ⁱ —Ag1—I2 ⁱ	99.6 (2)	O22 ^x —Ag31—I7 ^{vi}	106.0 (2)
O4—Ag1—I5	85.8 (2)	I4 ^x —Ag31—I7 ^{vi}	99.83 (4)
O30 ⁱ —Ag1—I5	160.3 (2)	O20—Ag31—Ag35 ^{viii}	82.8 (2)
I2 ⁱ —Ag1—I5	99.20 (4)	O12 ^x —Ag31—Ag35 ^{viii}	127.2 (2)
O4—Ag1—I1 ⁱⁱ	99.3 (2)	O22 ^x —Ag31—Ag35 ^{viii}	52.4 (2)
O30 ⁱ —Ag1—I1 ⁱⁱ	80.8 (2)	I4 ^x —Ag31—Ag35 ^{viii}	86.17 (4)
I2 ⁱ —Ag1—I1 ⁱⁱ	101.31 (4)	I7 ^{vi} —Ag31—Ag35 ^{viii}	54.75 (3)

I5—Ag1—I1 ⁱⁱ	101.33 (4)	O20—Ag31—I9	92.4 (2)
O4—Ag1—Ag5	83.8 (2)	O12 ^x —Ag31—I9	76.0 (2)
O30 ⁱ —Ag1—Ag5	125.1 (2)	O22 ^x —Ag31—I9	151.3 (2)
I2 ⁱ —Ag1—Ag5	81.94 (4)	I4 ^x —Ag31—I9	101.74 (4)
I5—Ag1—Ag5	52.32 (3)	I7 ^{vi} —Ag31—I9	99.32 (4)
I1 ⁱⁱ —Ag1—Ag5	153.39 (4)	Ag35 ^{viii} —Ag31—I9	154.01 (4)
O35 ⁱⁱⁱ —Ag2—O5	104.0 (4)	O18 ^{xi} —Ag32—O20 ^{iv}	110.0 (3)
O35 ⁱⁱⁱ —Ag2—O4	103.6 (3)	O18 ^{xi} —Ag32—I9 ^{iv}	144.7 (3)
O5—Ag2—O4	52.9 (3)	O20 ^{iv} —Ag32—I9 ^{iv}	103.2 (2)
O35 ⁱⁱⁱ —Ag2—I1 ⁱⁱ	108.6 (3)	O18 ^{xi} —Ag32—Ag26	88.4 (2)
O5—Ag2—I1 ⁱⁱ	143.3 (2)	O20 ^{iv} —Ag32—Ag26	130.8 (3)
O4—Ag2—I1 ⁱⁱ	102.4 (2)	I9 ^{iv} —Ag32—Ag26	60.21 (3)
O35 ⁱⁱⁱ —Ag2—I3	119.6 (3)	O18 ^{xi} —Ag32—I6	82.7 (2)
O5—Ag2—I3	80.9 (2)	O20 ^{iv} —Ag32—I6	113.9 (2)
O4—Ag2—I3	123.4 (2)	I9 ^{iv} —Ag32—I6	94.86 (4)
I1 ⁱⁱ —Ag2—I3	96.94 (4)	Ag26—Ag32—I6	113.49 (4)
O35 ⁱⁱⁱ —Ag2—Ag36 ^{iv}	50.3 (3)	O18 ^{xi} —Ag32—Ag10 ^{iv}	66.9 (2)
O5—Ag2—Ag36 ^{iv}	153.5 (3)	O20 ^{iv} —Ag32—Ag10 ^{iv}	77.7 (2)
O4—Ag2—Ag36 ^{iv}	119.9 (2)	I9 ^{iv} —Ag32—Ag10 ^{iv}	110.28 (4)
I1 ⁱⁱ —Ag2—Ag36 ^{iv}	58.98 (3)	Ag26—Ag32—Ag10 ^{iv}	68.25 (3)
I3—Ag2—Ag36 ^{iv}	115.74 (4)	I6—Ag32—Ag10 ^{iv}	149.57 (4)
O36—Ag3—O7	78.9 (4)	O26—Ag33—O16	116.2 (3)
O36—Ag3—I1 ^v	142.7 (3)	O26—Ag33—O18 ^{iv}	78.6 (3)
O7—Ag3—I1 ^v	138.2 (2)	O16—Ag33—O18 ^{iv}	51.8 (3)
O36—Ag3—Ag23	61.2 (3)	O26—Ag33—I8	130.4 (2)
O7—Ag3—Ag23	74.3 (2)	O16—Ag33—I8	112.2 (2)
I1 ^v —Ag3—Ag23	122.58 (4)	O18 ^{iv} —Ag33—I8	144.6 (2)
O36—Ag3—I3 ⁱⁱ	92.6 (3)	O26—Ag33—Ag13	74.8 (2)
O7—Ag3—I3 ⁱⁱ	83.5 (2)	O16—Ag33—Ag13	59.7 (2)
I1 ^v —Ag3—I3 ⁱⁱ	89.18 (4)	O18 ^{iv} —Ag33—Ag13	78.4 (2)
Ag23—Ag3—I3 ⁱⁱ	148.13 (4)	I8—Ag33—Ag13	124.03 (5)
O36—Ag3—Ag38 ^{vi}	79.2 (3)	O26—Ag33—Ag28	169.0 (2)
O7—Ag3—Ag38 ^{vi}	157.2 (2)	O16—Ag33—Ag28	53.0 (2)
I1 ^v —Ag3—Ag38 ^{vi}	64.24 (3)	O18 ^{iv} —Ag33—Ag28	93.6 (2)
Ag23—Ag3—Ag38 ^{vi}	89.60 (4)	I8—Ag33—Ag28	59.80 (3)
I3 ⁱⁱ —Ag3—Ag38 ^{vi}	103.73 (4)	Ag13—Ag33—Ag28	96.18 (4)
O36—Ag3—Ag4 ^v	131.1 (3)	O26—Ag33—I6 ⁱⁱⁱ	81.0 (2)
O7—Ag3—Ag4 ^v	78.0 (2)	O16—Ag33—I6 ⁱⁱⁱ	115.6 (2)
I1 ^v —Ag3—Ag4 ^v	73.65 (4)	O18 ^{iv} —Ag33—I6 ⁱⁱⁱ	76.1 (2)
Ag23—Ag3—Ag4 ^v	71.24 (3)	I8—Ag33—I6 ⁱⁱⁱ	87.98 (4)
I3 ⁱⁱ —Ag3—Ag4 ^v	126.53 (4)	Ag13—Ag33—I6 ⁱⁱⁱ	147.73 (4)
Ag38 ^{vi} —Ag3—Ag4 ^v	112.42 (4)	Ag28—Ag33—I6 ⁱⁱⁱ	104.82 (4)
O33—Ag4—O8 ^v	76.7 (3)	O26—Ag33—Ag34	78.9 (2)
O33—Ag4—I2	108.5 (2)	O16—Ag33—Ag34	120.0 (2)
O8 ^v —Ag4—I2	163.8 (2)	O18 ^{iv} —Ag33—Ag34	146.5 (2)
O33—Ag4—I7 ^v	153.1 (2)	I8—Ag33—Ag34	67.94 (3)
O8 ^v —Ag4—I7 ^v	91.4 (2)	Ag13—Ag33—Ag34	71.85 (4)
I2—Ag4—I7 ^v	89.55 (4)	Ag28—Ag33—Ag34	104.45 (4)

O33—Ag4—Ag9 ^{vii}	142.6 (2)	I6 ⁱⁱⁱ —Ag33—Ag34	124.16 (4)
O8 ^v —Ag4—Ag9 ^{vii}	77.8 (2)	O15—Ag34—O25	72.6 (4)
I2—Ag4—Ag9 ^{vii}	89.91 (4)	O15—Ag34—O23 ⁱⁱ	93.3 (4)
I7 ^v —Ag4—Ag9 ^{vii}	53.49 (3)	O25—Ag34—O23 ⁱⁱ	79.6 (3)
O33—Ag4—Ag3 ^v	77.3 (2)	O15—Ag34—I4 ⁱⁱ	125.4 (3)
O8 ^v —Ag4—Ag3 ^v	64.8 (2)	O25—Ag34—I4 ⁱⁱ	160.2 (2)
I2—Ag4—Ag3 ^v	130.88 (4)	O23 ⁱⁱ —Ag34—I4 ⁱⁱ	90.5 (2)
I7 ^v —Ag4—Ag3 ^v	75.85 (3)	O15—Ag34—Ag39	146.7 (3)
Ag9 ^{vii} —Ag4—Ag3 ^v	115.22 (4)	O25—Ag34—Ag39	74.4 (2)
O10 ⁱ —Ag5—O3 ⁱ	79.0 (3)	O23 ⁱⁱ —Ag34—Ag39	76.1 (2)
O10 ⁱ —Ag5—O2 ⁱ	112.3 (3)	I4 ⁱⁱ —Ag34—Ag39	86.64 (4)
O3 ⁱ —Ag5—O2 ⁱ	52.0 (3)	O15—Ag34—Ag33	56.4 (3)
O10 ⁱ —Ag5—I5	134.3 (2)	O25—Ag34—Ag33	62.3 (2)
O3 ⁱ —Ag5—I5	146.0 (2)	O23 ⁱⁱ —Ag34—Ag33	136.0 (2)
O2 ⁱ —Ag5—I5	106.9 (2)	I4 ⁱⁱ —Ag34—Ag33	132.24 (4)
O10 ⁱ —Ag5—I4 ⁱⁱ	84.8 (2)	Ag39—Ag34—Ag33	110.85 (4)
O3 ⁱ —Ag5—I4 ⁱⁱ	83.9 (2)	O29 ^{ix} —Ag35—O22 ^{ix}	108.9 (3)
O2 ⁱ —Ag5—I4 ⁱⁱ	124.8 (2)	O29 ^{ix} —Ag35—O24 ^{ix}	75.8 (3)
I5—Ag5—I4 ⁱⁱ	91.75 (4)	O22 ^{ix} —Ag35—O24 ^{ix}	51.8 (3)
O10 ⁱ —Ag5—Ag25 ⁱ	76.6 (2)	O29 ^{ix} —Ag35—I7 ^v	136.3 (2)
O3 ⁱ —Ag5—Ag25 ⁱ	78.4 (2)	O22 ^{ix} —Ag35—I7 ^v	112.2 (2)
O2 ⁱ —Ag5—Ag25 ⁱ	52.9 (2)	O24 ^{ix} —Ag35—I7 ^v	143.6 (2)
I5—Ag5—Ag25 ⁱ	111.60 (4)	O29 ^{ix} —Ag35—Ag15 ^{ix}	68.4 (2)
I4 ⁱⁱ —Ag5—Ag25 ⁱ	156.42 (4)	O22 ^{ix} —Ag35—Ag15 ^{ix}	59.0 (2)
O10 ⁱ —Ag5—Ag6	82.1 (2)	O24 ^{ix} —Ag35—Ag15 ^{ix}	79.8 (2)
O3 ⁱ —Ag5—Ag6	147.4 (2)	I7 ^v —Ag35—Ag15 ^{ix}	123.08 (4)
O2 ⁱ —Ag5—Ag6	113.8 (2)	O29 ^{ix} —Ag35—Ag31 ^{vii}	161.4 (2)
I5—Ag5—Ag6	60.75 (3)	O22 ^{ix} —Ag35—Ag31 ^{vii}	52.5 (2)
I4 ⁱⁱ —Ag5—Ag6	120.56 (4)	O24 ^{ix} —Ag35—Ag31 ^{vii}	90.5 (2)
Ag25 ⁱ —Ag5—Ag6	71.49 (3)	I7 ^v —Ag35—Ag31 ^{vii}	61.06 (3)
O10 ⁱ —Ag5—Ag1	162.4 (2)	Ag15 ^{ix} —Ag35—Ag31 ^{vii}	97.01 (4)
O3 ⁱ —Ag5—Ag1	92.1 (2)	O29 ^{ix} —Ag35—I2	81.8 (2)
O2 ⁱ —Ag5—Ag1	51.3 (2)	O22 ^{ix} —Ag35—I2	123.4 (2)
I5—Ag5—Ag1	57.66 (3)	O24 ^{ix} —Ag35—I2	80.4 (2)
I4 ⁱⁱ —Ag5—Ag1	109.61 (4)	I7 ^v —Ag35—I2	87.50 (4)
Ag25 ⁱ —Ag5—Ag1	86.73 (4)	Ag15 ^{ix} —Ag35—I2	147.46 (4)
Ag6—Ag5—Ag1	98.25 (4)	Ag31 ^{vii} —Ag35—I2	108.73 (4)
O13—Ag6—O6	93.2 (4)	O21—Ag36—O35 ^{xi}	108.3 (4)
O13—Ag6—O11	71.7 (3)	O21—Ag36—I1 ^v	134.1 (3)
O6—Ag6—O11	72.0 (3)	O35 ^{xi} —Ag36—I1 ^v	106.4 (3)
O13—Ag6—I6 ⁱⁱⁱ	84.1 (3)	O21—Ag36—I3 ⁱⁱ	121.0 (2)
O6—Ag6—I6 ⁱⁱⁱ	119.9 (2)	O35 ^{xi} —Ag36—I3 ⁱⁱ	88.3 (3)
O11—Ag6—I6 ⁱⁱⁱ	154.0 (2)	I1 ^v —Ag36—I3 ⁱⁱ	88.88 (4)
O13—Ag6—I5	174.2 (3)	O21—Ag36—Ag2 ^{vi}	151.9 (2)
O6—Ag6—I5	87.1 (2)	O35 ^{xi} —Ag36—Ag2 ^{vi}	50.6 (3)
O11—Ag6—I5	113.8 (2)	I1 ^v —Ag36—Ag2 ^{vi}	56.46 (3)
I6 ⁱⁱⁱ —Ag6—I5	90.70 (4)	I3 ⁱⁱ —Ag36—Ag2 ^{vi}	80.62 (4)
O13—Ag6—I8	99.3 (3)	O26—Ag37—O19 ⁱⁱⁱ	82.2 (3)

O6—Ag6—I8	153.1 (3)	O26—Ag37—I3	142.3 (2)
O11—Ag6—I8	89.4 (2)	O19 ⁱⁱⁱ —Ag37—I3	112.9 (2)
I6 ⁱⁱⁱ —Ag6—I8	85.16 (3)	O26—Ag37—I6 ⁱⁱⁱ	89.6 (2)
I5—Ag6—I8	82.76 (3)	O19 ⁱⁱⁱ —Ag37—I6 ⁱⁱⁱ	97.7 (3)
O13—Ag6—Ag12	48.0 (3)	I3—Ag37—I6 ⁱⁱⁱ	120.18 (5)
O6—Ag6—Ag12	135.3 (2)	O26—Ag37—Ag7 ⁱⁱⁱ	134.5 (2)
O11—Ag6—Ag12	74.4 (2)	O19 ⁱⁱⁱ —Ag37—Ag7 ⁱⁱⁱ	124.4 (3)
I6 ⁱⁱⁱ —Ag6—Ag12	82.49 (4)	I3—Ag37—Ag7 ⁱⁱⁱ	66.37 (4)
I5—Ag6—Ag12	133.87 (4)	I6 ⁱⁱⁱ —Ag37—Ag7 ⁱⁱⁱ	53.98 (3)
I8—Ag6—Ag12	51.29 (3)	O26—Ag37—Ag38	84.6 (2)
O13—Ag6—Ag5	133.8 (3)	O19 ⁱⁱⁱ —Ag37—Ag38	121.6 (3)
O6—Ag6—Ag5	76.9 (3)	I3—Ag37—Ag38	57.84 (3)
O11—Ag6—Ag5	62.4 (2)	I6 ⁱⁱⁱ —Ag37—Ag38	138.84 (5)
I6 ⁱⁱⁱ —Ag6—Ag5	139.87 (4)	Ag7 ⁱⁱⁱ —Ag37—Ag38	104.70 (4)
I5—Ag6—Ag5	51.81 (3)	O27—Ag38—O32	79.0 (3)
I8—Ag6—Ag5	77.20 (3)	O27—Ag38—I3	126.8 (2)
Ag12—Ag6—Ag5	111.78 (4)	O32—Ag38—I3	141.8 (2)
O7—Ag7—O5 ⁱⁱ	81.5 (4)	O27—Ag38—Ag37	73.7 (2)
O7—Ag7—I6	141.4 (3)	O32—Ag38—Ag37	146.3 (2)
O5 ⁱⁱ —Ag7—I6	133.6 (3)	I3—Ag38—Ag37	54.21 (3)
O7—Ag7—Ag37 ⁱⁱ	128.2 (3)	O27—Ag38—I1 ⁱⁱ	136.8 (2)
O5 ⁱⁱ —Ag7—Ag37 ⁱⁱ	112.7 (3)	O32—Ag38—I1 ⁱⁱ	75.7 (2)
I6—Ag7—Ag37 ⁱⁱ	60.75 (3)	I3—Ag38—I1 ⁱⁱ	93.83 (4)
O7—Ag7—Ag8	83.1 (3)	Ag37—Ag38—I1 ⁱⁱ	138.02 (4)
O5 ⁱⁱ —Ag7—Ag8	145.5 (3)	O27—Ag38—Ag3 ^{iv}	132.8 (2)
I6—Ag7—Ag8	58.78 (3)	O32—Ag38—Ag3 ^{iv}	56.6 (2)
Ag37 ⁱⁱ —Ag7—Ag8	101.07 (4)	I3—Ag38—Ag3 ^{iv}	88.16 (4)
O7—Ag7—I3 ⁱⁱ	85.2 (3)	Ag37—Ag38—Ag3 ^{iv}	137.71 (5)
O5 ⁱⁱ —Ag7—I3 ⁱⁱ	80.6 (3)	I1 ⁱⁱ —Ag38—Ag3 ^{iv}	50.48 (3)
I6—Ag7—I3 ⁱⁱ	112.37 (5)	O27—Ag38—Ag39	51.6 (2)
Ag37 ⁱⁱ —Ag7—I3 ⁱⁱ	51.77 (3)	O32—Ag38—Ag39	70.3 (2)
Ag8—Ag7—I3 ⁱⁱ	128.50 (5)	I3—Ag38—Ag39	146.88 (5)
O7—Ag7—Ag29	80.2 (2)	Ag37—Ag38—Ag39	105.78 (4)
O5 ⁱⁱ —Ag7—Ag29	60.2 (3)	I1 ⁱⁱ —Ag38—Ag39	86.75 (4)
I6—Ag7—Ag29	102.20 (4)	Ag3 ^{iv} —Ag38—Ag39	116.48 (4)
Ag37 ⁱⁱ —Ag7—Ag29	151.00 (5)	O31—Ag39—O24 ⁱⁱ	82.0 (3)
Ag8—Ag7—Ag29	86.82 (4)	O31—Ag39—O27	99.3 (3)
I3 ⁱⁱ —Ag7—Ag29	139.69 (4)	O24 ⁱⁱ —Ag39—O27	122.3 (3)
O9—Ag8—O16	79.4 (3)	O31—Ag39—I5	132.5 (2)
O9—Ag8—I6	127.2 (3)	O24 ⁱⁱ —Ag39—I5	138.8 (3)
O16—Ag8—I6	138.3 (2)	O27—Ag39—I5	79.4 (2)
O9—Ag8—Ag7	73.9 (3)	O31—Ag39—Ag34	157.0 (2)
O16—Ag8—Ag7	143.8 (2)	O24 ⁱⁱ —Ag39—Ag34	78.1 (2)
I6—Ag8—Ag7	54.33 (3)	O27—Ag39—Ag34	81.9 (2)
O9—Ag8—Ag9 ^{iv}	56.8 (3)	I5—Ag39—Ag34	70.52 (3)
O16—Ag8—Ag9 ^{iv}	68.5 (2)	O31—Ag39—Ag38	79.3 (2)
I6—Ag8—Ag9 ^{iv}	150.99 (5)	O24 ⁱⁱ —Ag39—Ag38	154.6 (3)
Ag7—Ag8—Ag9 ^{iv}	113.71 (4)	O27—Ag39—Ag38	45.6 (2)

O9—Ag8—I7	75.0 (3)	I5—Ag39—Ag38	66.08 (3)
O16—Ag8—I7	119.2 (2)	Ag34—Ag39—Ag38	115.42 (4)
I6—Ag8—I7	100.13 (4)	O29—Ag40—O31 ⁱⁱⁱ	85.5 (3)
Ag7—Ag8—I7	76.91 (4)	O29—Ag40—I2	137.4 (2)
Ag ^{9iv} —Ag8—I7	51.24 (3)	O31 ⁱⁱⁱ —Ag40—I2	128.2 (2)
O9—Ag8—I9 ^{iv}	140.8 (3)	O29—Ag40—Ag40 ^{ix}	128.2 (2)
O16—Ag8—I9 ^{iv}	74.2 (2)	O31 ⁱⁱⁱ —Ag40—Ag40 ^{ix}	119.5 (2)
I6—Ag8—I9 ^{iv}	91.25 (4)	I2—Ag40—Ag40 ^{ix}	62.40 (4)
Ag7—Ag8—I9 ^{iv}	140.53 (5)	O29—Ag40—I2 ^{ix}	86.3 (2)
Ag ^{9iv} —Ag8—I9 ^{iv}	86.51 (4)	O31 ⁱⁱⁱ —Ag40—I2 ^{ix}	85.3 (2)
I7—Ag8—I9 ^{iv}	93.21 (4)	I2—Ag40—I2 ^{ix}	117.65 (4)
O9—Ag8—Ag13	131.2 (3)	Ag40 ^{ix} —Ag40—I2 ^{ix}	55.24 (4)
O16—Ag8—Ag13	56.8 (2)	O29—Ag40—Ag22	71.3 (2)
I6—Ag8—Ag13	83.73 (4)	O31 ⁱⁱⁱ —Ag40—Ag22	72.7 (2)
Ag7—Ag8—Ag13	130.23 (5)	I2—Ag40—Ag22	92.77 (4)
Ag ^{9iv} —Ag8—Ag13	115.64 (4)	Ag40 ^{ix} —Ag40—Ag22	155.05 (6)
I7—Ag8—Ag13	143.00 (4)	I2 ^{ix} —Ag40—Ag22	149.47 (4)
I9 ^{iv} —Ag8—Ag13	49.81 (3)	O1 ^{vi} —C1—O2	122.8 (11)
O17—Ag9—O3 ^{viii}	80.9 (3)	O1 ^{vi} —C1—O3	121.0 (11)
O17—Ag9—I7 ^{vi}	136.2 (3)	O2—C1—O3	116.1 (11)
O3 ^{viii} —Ag9—I7 ^{vi}	136.3 (2)	O4—C2—O6	121.2 (13)
O17—Ag9—Ag4 ^{viii}	160.9 (3)	O4—C2—O5	119.7 (12)
O3 ^{viii} —Ag9—Ag4 ^{viii}	81.7 (2)	O6—C2—O5	119.1 (12)
I7 ^{vi} —Ag9—Ag4 ^{viii}	62.84 (3)	O9—C3—O7	122.6 (12)
O17—Ag9—Ag8 ^{vi}	84.5 (3)	O9—C3—O8	118.7 (12)
O3 ^{viii} —Ag9—Ag8 ^{vi}	158.1 (2)	O7—C3—O8	118.7 (12)
I7 ^{vi} —Ag9—Ag8 ^{vi}	64.39 (3)	O12—C4—O10 ⁱ	122.9 (12)
Ag4 ^{viii} —Ag9—Ag8 ^{vi}	109.69 (4)	O12—C4—O11	118.7 (12)
O10—Ag10—O17 ^{vii}	89.4 (4)	O10 ⁱ —C4—O11	118.4 (11)
O10—Ag10—I10	137.4 (2)	O15—C5—O14	121.2 (11)
O17 ^{vii} —Ag10—I10	127.2 (2)	O15—C5—O13 ⁱⁱ	120.8 (11)
O10—Ag10—Ag30 ^{ix}	131.1 (2)	O14—C5—O13 ⁱⁱ	117.7 (11)
O17 ^{vii} —Ag10—Ag30 ^{ix}	111.5 (3)	O17 ^{iv} —C6—O16	123.4 (13)
I10—Ag10—Ag30 ^{ix}	60.78 (4)	O17 ^{iv} —C6—O18 ^{ivw}	119.7 (13)
O10—Ag10—I4 ^{ix}	86.7 (2)	O16—C6—O18 ^{iv}	116.7 (13)
O17 ^{vii} —Ag10—I4 ^{ix}	84.7 (2)	O20 ^{iv} —C7—O21	122.0 (12)
I10—Ag10—I4 ^{ix}	114.46 (4)	O20 ^{iv} —C7—O19	121.1 (12)
Ag30 ^{ix} —Ag10—I4 ^{ix}	54.06 (3)	O21—C7—O19	116.9 (12)
O10—Ag10—Ag11 ^x	81.1 (2)	O23—C8—O22	122.7 (12)
O17 ^{vii} —Ag10—Ag11 ^x	147.9 (3)	O23—C8—O24	121.1 (12)
I10—Ag10—Ag11 ^x	56.37 (3)	O22—C8—O24	116.2 (12)
Ag30 ^{ix} —Ag10—Ag11 ^x	97.51 (4)	O27—C9—O26	123.0 (12)
I4 ^{ix} —Ag10—Ag11 ^x	124.80 (4)	O27—C9—O25	119.9 (12)
O10—Ag10—Ag32 ^{vi}	75.4 (2)	O26—C9—O25	117.0 (11)
O17 ^{vii} —Ag10—Ag32 ^{vi}	67.4 (3)	O30—C10—O28 ^{ix}	123.3 (12)
I10—Ag10—Ag32 ^{vi}	97.49 (4)	O30—C10—O29	119.4 (12)
Ag30 ^{ix} —Ag10—Ag32 ^{vi}	153.06 (5)	O28 ^{ix} —C10—O29	117.2 (11)
I4 ^{ix} —Ag10—Ag32 ^{vi}	146.54 (4)	O33 ⁱⁱ —C11—O32	120.2 (12)

Ag11 ^x —Ag10—Ag32 ^{vi}	80.60 (4)	O33 ⁱⁱ —C11—O31	118.9 (12)
O12—Ag11—O22	81.5 (3)	O32—C11—O31	120.9 (12)
O12—Ag11—I10 ⁱ	126.1 (3)	O36—C12—O34	121.8 (13)
O22—Ag11—I10 ⁱ	138.0 (2)	O36—C12—O35	118.8 (13)
O12—Ag11—Ag12	57.5 (3)	O34—C12—O35	119.4 (13)
O22—Ag11—Ag12	69.8 (2)	C1 ^{iv} —O1—Ag22 ^{iv}	121.6 (8)
I10 ⁱ —Ag11—Ag12	149.72 (5)	C1 ^{iv} —O1—Ag27 ⁱⁱ	113.6 (8)
O12—Ag11—Ag10 ⁱ	73.9 (2)	Ag22 ^{iv} —O1—Ag27 ⁱⁱ	118.9 (4)
O22—Ag11—Ag10 ⁱ	146.6 (2)	C1—O2—Ag21	126.6 (8)
I10 ⁱ —Ag11—Ag10 ⁱ	53.41 (3)	C1—O2—Ag5 ^x	93.9 (7)
Ag12—Ag11—Ag10 ⁱ	112.89 (4)	Ag21—O2—Ag5 ^x	136.9 (4)
O12—Ag11—I8	75.9 (2)	C1—O2—Ag25	115.2 (8)
O22—Ag11—I8	120.1 (2)	Ag21—O2—Ag25	74.9 (3)
I10 ⁱ —Ag11—I8	98.81 (4)	Ag5 ^x —O2—Ag25	74.6 (2)
Ag12—Ag11—I8	51.20 (3)	C1—O3—Ag9 ^{vii}	121.8 (8)
Ag10 ⁱ —Ag11—I8	75.62 (3)	C1—O3—Ag26 ^{vi}	117.3 (8)
O12—Ag11—Ag15	132.2 (2)	Ag9 ^{vii} —O3—Ag26 ^{vi}	102.1 (4)
O22—Ag11—Ag15	55.4 (2)	C1—O3—Ag5 ^x	95.5 (7)
I10 ⁱ —Ag11—Ag15	84.82 (4)	Ag9 ^{vii} —O3—Ag5 ^x	120.9 (4)
Ag12—Ag11—Ag15	115.09 (4)	Ag26 ^{vi} —O3—Ag5 ^x	97.8 (3)
Ag10 ⁱ —Ag11—Ag15	131.93 (4)	C2—O4—Ag1	130.4 (9)
I8—Ag11—Ag15	140.93 (4)	C2—O4—Ag21 ⁱ	126.0 (9)
O23—Ag12—O13	114.7 (4)	Ag1—O4—Ag21 ⁱ	92.3 (3)
O23—Ag12—I8	134.8 (3)	C2—O4—Ag2	90.9 (8)
O13—Ag12—I8	110.6 (3)	Ag1—O4—Ag2	85.9 (3)
O23—Ag12—Ag11	82.6 (2)	Ag21 ⁱ —O4—Ag2	128.5 (4)
O13—Ag12—Ag11	135.3 (2)	C2—O5—Ag7 ⁱⁱⁱ	126.7 (9)
I8—Ag12—Ag11	65.74 (4)	C2—O5—Ag24 ⁱⁱⁱ	111.7 (9)
O23—Ag12—Ag6	162.5 (3)	Ag7 ⁱⁱⁱ —O5—Ag24 ⁱⁱⁱ	102.4 (4)
O13—Ag12—Ag6	47.8 (3)	C2—O5—Ag2	95.7 (8)
I8—Ag12—Ag6	62.72 (3)	Ag7 ⁱⁱⁱ —O5—Ag2	117.3 (4)
Ag11—Ag12—Ag6	109.78 (4)	Ag24 ⁱⁱⁱ —O5—Ag2	100.5 (4)
O15—Ag13—O25	74.4 (4)	C2—O6—Ag25 ⁱ	118.7 (9)
O15—Ag13—I9 ^{iv}	141.1 (3)	C2—O6—Ag29 ⁱⁱⁱ	107.0 (9)
O25—Ag13—I9 ^{iv}	144.6 (2)	Ag25 ⁱ —O6—Ag29 ⁱⁱⁱ	119.1 (4)
O15—Ag13—Ag33	61.7 (3)	C2—O6—Ag6	114.9 (8)
O25—Ag13—Ag33	68.0 (3)	Ag25 ⁱ —O6—Ag6	101.2 (4)
I9 ^{iv} —Ag13—Ag33	121.59 (5)	Ag29 ⁱⁱⁱ —O6—Ag6	93.0 (4)
O15—Ag13—I11 ⁱⁱ	95.3 (3)	C3—O7—Ag7	123.3 (8)
O25—Ag13—I11 ⁱⁱ	84.8 (2)	C3—O7—Ag3	112.6 (8)
I9 ^{iv} —Ag13—I11 ⁱⁱ	90.54 (4)	Ag7—O7—Ag3	114.4 (4)
Ag33—Ag13—I11 ⁱⁱ	147.81 (4)	C3—O8—Ag23	122.1 (8)
O15—Ag13—Ag14 ^{iv}	131.5 (3)	C3—O8—Ag27	110.0 (8)
O25—Ag13—Ag14 ^{iv}	79.8 (2)	Ag23—O8—Ag27	113.0 (4)
I9 ^{iv} —Ag13—Ag14 ^{iv}	73.29 (4)	C3—O8—Ag4 ^v	106.9 (8)
Ag33—Ag13—Ag14 ^{iv}	70.68 (4)	Ag23—O8—Ag4 ^v	102.9 (4)
I11 ⁱⁱ —Ag13—Ag14 ^{iv}	122.63 (4)	Ag27—O8—Ag4 ^v	98.8 (3)
O15—Ag13—Ag8	77.3 (3)	C3—O9—Ag8	126.6 (9)

O25—Ag13—Ag8	149.8 (3)	C3—O9—Ag28	133.2 (9)
I9 ^{iv} —Ag13—Ag8	64.36 (3)	Ag8—O9—Ag28	90.2 (3)
Ag33—Ag13—Ag8	89.43 (4)	C4 ^x —O10—Ag10	126.1 (8)
I11 ⁱⁱ —Ag13—Ag8	108.24 (4)	C4 ^x —O10—Ag5 ^x	111.3 (8)
Ag14 ^{iv} —Ag13—Ag8	112.45 (4)	Ag10—O10—Ag5 ^x	111.1 (4)
O18—Ag14—O19 ^{xi}	87.5 (3)	C4 ^x —O10—Ag26 ^{vi}	109.1 (8)
O18—Ag14—O26 ^{vi}	78.6 (3)	Ag10—O10—Ag26 ⁱ	97.1 (3)
O19 ^{xi} —Ag14—O26 ^{vi}	74.8 (3)	Ag5 ^x —O10—Ag26 ^{vi}	96.8 (3)
O18—Ag14—I14	157.5 (3)	C4—O11—Ag25 ⁱ	126.0 (8)
O19 ^{xi} —Ag14—I14	109.0 (2)	C4—O11—Ag30	105.8 (8)
O26 ^{vi} —Ag14—I14	90.8 (2)	Ag25 ⁱ —O11—Ag30	112.6 (4)
O18—Ag14—I10 ^{viii}	104.7 (3)	C4—O11—Ag6	107.7 (8)
O19 ^{xi} —Ag14—I10 ^{viii}	85.0 (2)	Ag25 ⁱ —O11—Ag6	99.2 (3)
O26 ^{vi} —Ag14—I10 ^{viii}	159.4 (2)	Ag30—O11—Ag6	103.0 (3)
I14—Ag14—I10 ^{viii}	92.23 (4)	C4—O12—Ag11	127.9 (9)
O18—Ag14—Ag19	135.0 (2)	C4—O12—Ag31 ⁱ	133.8 (8)
O19 ^{xi} —Ag14—Ag19	48.0 (2)	Ag11—O12—Ag31 ⁱ	88.9 (3)
O26 ^{vi} —Ag14—Ag19	82.8 (2)	C5 ⁱⁱⁱ —O13—Ag30	125.2 (9)
I14—Ag14—Ag19	61.53 (3)	C5 ⁱⁱⁱ —O13—Ag6	122.5 (8)
I10 ^{viii} —Ag14—Ag19	80.76 (4)	Ag30—O13—Ag6	108.3 (4)
O18—Ag14—Ag13 ^{vi}	77.6 (3)	C5 ⁱⁱⁱ —O13—Ag12	110.9 (8)
O19 ^{xi} —Ag14—Ag13 ^{vi}	142.8 (2)	Ag30—O13—Ag12	92.2 (4)
O26 ^{vi} —Ag14—Ag13 ^{vi}	69.0 (2)	Ag6—O13—Ag12	84.1 (4)
I14—Ag14—Ag13 ^{vi}	80.08 (4)	C5—O14—Ag29	113.3 (8)
I10 ^{viii} —Ag14—Ag13 ^{vi}	131.61 (4)	C5—O14—Ag28	128.4 (8)
Ag19—Ag14—Ag13 ^{vi}	131.82 (4)	Ag29—O14—Ag28	96.0 (4)
O21 ^{xii} —Ag15—O28 ^{ix}	78.2 (3)	C5—O15—Ag13	129.8 (9)
O21 ^{xii} —Ag15—I13	141.8 (2)	C5—O15—Ag34	120.1 (9)
O28 ^{ix} —Ag15—I13	139.6 (2)	Ag13—O15—Ag34	109.4 (5)
O21 ^{xii} —Ag15—Ag35 ^{ix}	60.8 (3)	C6—O16—Ag8	130.2 (9)
O28 ^{ix} —Ag15—Ag35 ^{ix}	74.4 (2)	C6—O16—Ag33	95.6 (9)
I13—Ag15—Ag35 ^{ix}	123.41 (4)	Ag8—O16—Ag33	130.1 (4)
O21 ^{xii} —Ag15—I12 ⁱⁱ	89.6 (3)	C6—O16—Ag28	127.2 (9)
O28 ^{ix} —Ag15—I12 ⁱⁱ	81.8 (2)	Ag8—O16—Ag28	87.6 (3)
I13—Ag15—I12 ⁱⁱ	91.30 (4)	Ag33—O16—Ag28	75.8 (3)
Ag35 ^{ix} —Ag15—I12 ⁱⁱ	144.96 (4)	C6 ^{vi} —O17—Ag9	117.4 (9)
O21 ^{xii} —Ag15—Ag16	130.5 (2)	C6 ^{vi} —O17—Ag10 ^{viii}	114.8 (9)
O28 ^{ix} —Ag15—Ag16	79.0 (2)	Ag9—O17—Ag10 ^{viii}	121.9 (4)
I13—Ag15—Ag16	75.04 (3)	C6 ^{vi} —O18—Ag32 ^{xi}	118.7 (9)
Ag35 ^{ix} —Ag15—Ag16	70.96 (3)	C6 ^{vi} —O18—Ag14	116.9 (9)
I12 ⁱⁱ —Ag15—Ag16	129.35 (4)	Ag32 ^{xi} —O18—Ag14	107.9 (4)
O21 ^{xii} —Ag15—Ag11	78.8 (2)	C6 ^{vi} —O18—Ag33 ^{vi}	94.4 (8)
O28 ^{ix} —Ag15—Ag11	156.0 (2)	Ag32 ^{xi} —O18—Ag33 ^{vi}	119.2 (4)
I13—Ag15—Ag11	64.11 (3)	Ag14—O18—Ag33 ^{vi}	97.7 (4)
Ag35 ^{ix} —Ag15—Ag11	88.30 (4)	C7—O19—Ag19 ^{xi}	105.2 (8)
I12 ⁱⁱ —Ag15—Ag11	104.95 (4)	C7—O19—Ag37 ⁱⁱ	130.9 (9)
Ag16—Ag15—Ag11	111.47 (4)	Ag19 ^{xi} —O19—Ag37 ⁱⁱ	97.9 (4)
O29—Ag16—O24	77.0 (3)	C7—O19—Ag14 ^{xi}	123.9 (8)

O29—Ag16—I15 ⁱⁱⁱ	165.1 (2)	Ag19 ^{xi} —O19—Ag14 ^{xi}	80.9 (3)
O24—Ag16—I15 ⁱⁱⁱ	110.7 (2)	Ag37 ⁱⁱ —O19—Ag14 ^{xi}	101.9 (4)
O29—Ag16—Ag22	77.1 (2)	C7 ^{vi} —O20—Ag32 ^{vi}	115.0 (8)
O24—Ag16—Ag22	143.3 (2)	C7 ^{vi} —O20—Ag31	129.7 (8)
I15 ⁱⁱⁱ —Ag16—Ag22	89.99 (4)	Ag32 ^{vi} —O20—Ag31	93.9 (3)
O29—Ag16—I16	90.0 (2)	C7—O21—Ag36	121.8 (8)
O24—Ag16—I16	151.4 (3)	C7—O21—Ag15 ^{xiv}	127.4 (8)
I15 ⁱⁱⁱ —Ag16—I16	88.21 (4)	Ag36—O21—Ag15 ^{xiv}	110.2 (4)
Ag22—Ag16—I16	53.06 (3)	C8—O22—Ag11	129.8 (9)
O29—Ag16—Ag15	64.0 (2)	C8—O22—Ag35 ^{ix}	95.9 (8)
O24—Ag16—Ag15	77.3 (2)	Ag11—O22—Ag35 ^{ix}	132.0 (4)
I15 ⁱⁱⁱ —Ag16—Ag15	129.34 (4)	C8—O22—Ag31 ⁱ	122.5 (8)
Ag22—Ag16—Ag15	113.22 (4)	Ag11—O22—Ag31 ⁱ	88.7 (3)
I16—Ag16—Ag15	74.05 (3)	Ag35 ^{ix} —O22—Ag31 ⁱ	75.1 (3)
O25—Ag17—O23 ⁱⁱ	85.0 (3)	C8—O23—Ag12	121.3 (9)
O25—Ag17—I15	136.3 (2)	C8—O23—Ag17 ⁱⁱⁱ	111.2 (8)
O23 ⁱⁱ —Ag17—I15	128.8 (2)	Ag12—O23—Ag17 ⁱⁱⁱ	122.2 (4)
O25—Ag17—Ag27 ⁱⁱ	129.8 (2)	C8—O23—Ag34 ⁱⁱⁱ	107.3 (9)
O23 ⁱⁱ —Ag17—Ag27 ⁱⁱ	119.1 (2)	Ag12—O23—Ag34 ⁱⁱⁱ	93.1 (3)
I15—Ag17—Ag27 ⁱⁱ	62.90 (3)	Ag17 ⁱⁱⁱ —O23—Ag34 ⁱⁱⁱ	92.9 (3)
O25—Ag17—I11 ⁱⁱ	88.6 (2)	C8—O24—Ag39 ⁱⁱⁱ	126.3 (8)
O23 ⁱⁱ —Ag17—I11 ⁱⁱ	84.6 (2)	C8—O24—Ag16	113.6 (8)
I15—Ag17—I11 ⁱⁱ	117.69 (4)	Ag39 ⁱⁱⁱ —O24—Ag16	99.6 (4)
Ag27 ⁱⁱ —Ag17—I11 ⁱⁱ	54.79 (3)	C8—O24—Ag35 ^{ix}	95.1 (8)
O34 ^{iv} —Ag18—O32	78.3 (3)	Ag39 ⁱⁱⁱ —O24—Ag35 ^{ix}	122.4 (4)
O34 ^{iv} —Ag18—O27	80.2 (3)	Ag16—O24—Ag35 ^{ix}	96.8 (3)
O32—Ag18—O27	72.9 (3)	C9—O25—Ag17	111.5 (8)
O34 ^{iv} —Ag18—I15	165.0 (3)	C9—O25—Ag13	121.2 (8)
O32—Ag18—I15	87.6 (2)	Ag17—O25—Ag13	108.8 (4)
O27—Ag18—I15	100.7 (2)	C9—O25—Ag34	110.4 (8)
O34 ^{iv} —Ag18—I16 ^{iv}	81.7 (2)	Ag17—O25—Ag34	98.7 (3)
O32—Ag18—I16 ^{iv}	103.8 (2)	Ag13—O25—Ag34	103.7 (4)
O27—Ag18—I16 ^{iv}	161.8 (2)	C9—O26—Ag37	122.2 (8)
I15—Ag18—I16 ^{iv}	96.91 (4)	C9—O26—Ag33	113.0 (8)
O34 ^{iv} —Ag18—I14 ^{iv}	94.9 (3)	Ag37—O26—Ag33	111.7 (4)
O32—Ag18—I14 ^{iv}	155.4 (2)	C9—O26—Ag14 ^{iv}	109.9 (8)
O27—Ag18—I14 ^{iv}	82.7 (2)	Ag37—O26—Ag14 ^{iv}	101.0 (3)
I15—Ag18—I14 ^{iv}	100.05 (4)	Ag33—O26—Ag14 ^{iv}	94.6 (3)
I16 ^{iv} —Ag18—I14 ^{iv}	98.54 (4)	C9—O27—Ag38	133.0 (9)
O34 ^{iv} —Ag18—Ag23 ^{iv}	82.8 (2)	C9—O27—Ag18	124.7 (8)
O32—Ag18—Ag23 ^{iv}	51.3 (2)	Ag38—O27—Ag18	88.6 (3)
O27—Ag18—Ag23 ^{iv}	123.8 (2)	C9—O27—Ag39	106.7 (8)
I15—Ag18—Ag23 ^{iv}	84.41 (4)	Ag38—O27—Ag39	82.8 (3)
I16 ^{iv} —Ag18—Ag23 ^{iv}	53.68 (3)	Ag18—O27—Ag39	114.4 (4)
I14 ^{iv} —Ag18—Ag23 ^{iv}	152.21 (4)	C10 ^{ix} —O28—Ag20 ⁱⁱⁱ	121.7 (8)
O34—Ag19—O19 ^{xi}	114.5 (4)	C10 ^{ix} —O28—Ag15 ^{ix}	111.8 (8)
O34—Ag19—I12 ^x	117.8 (3)	Ag20 ⁱⁱⁱ —O28—Ag15 ^{ix}	111.6 (4)
O19 ^{xi} —Ag19—I12 ^x	121.3 (2)	C10—O29—Ag35 ^{ix}	122.2 (8)

O34—Ag19—I14	97.5 (2)	C10—O29—Ag40	108.3 (8)
O19 ^{xi} —Ag19—I14	104.5 (2)	Ag35 ^{ix} —O29—Ag40	113.1 (4)
I12 ^x —Ag19—I14	93.67 (4)	C10—O29—Ag16	109.1 (8)
O34—Ag19—Ag14	122.6 (3)	Ag35 ^{ix} —O29—Ag16	103.1 (3)
O19 ^{xi} —Ag19—Ag14	51.1 (2)	Ag40—O29—Ag16	97.9 (3)
I12 ^x —Ag19—Ag14	113.16 (4)	C10—O30—Ag21	127.3 (9)
I14—Ag19—Ag14	53.82 (3)	C10—O30—Ag1 ^x	130.3 (8)
O28 ⁱⁱ —Ag20—O35 ⁱⁱⁱ	82.1 (4)	Ag21—O30—Ag1 ^x	91.9 (3)
O28 ⁱⁱ —Ag20—I12	146.7 (2)	C11—O31—Ag39	123.2 (8)
O35 ⁱⁱⁱ —Ag20—I12	117.4 (3)	C11—O31—Ag40 ⁱⁱ	112.4 (8)
O28 ⁱⁱ —Ag20—I12 ^{xiii}	86.8 (2)	Ag39—O31—Ag40 ⁱⁱ	120.2 (4)
O35 ⁱⁱⁱ —Ag20—I12 ^{xiii}	93.5 (3)	C11—O32—Ag38	130.8 (9)
I12—Ag20—I12 ^{xiii}	116.52 (4)	C11—O32—Ag23 ^{iv}	93.9 (8)
O28 ⁱⁱ —Ag20—Ag20 ^{xiii}	134.3 (3)	Ag38—O32—Ag23 ^{iv}	132.2 (4)
O35 ⁱⁱⁱ —Ag20—Ag20 ^{xiii}	118.4 (3)	C11—O32—Ag18	122.9 (8)
I12—Ag20—Ag20 ^{xiii}	62.66 (4)	Ag38—O32—Ag18	88.6 (3)
I12 ^{xiii} —Ag20—Ag20 ^{xiii}	53.86 (4)	Ag23 ^{iv} —O32—Ag18	77.2 (3)
O28 ⁱⁱ —Ag20—Ag21 ⁱ	85.4 (2)	C11 ⁱⁱⁱ —O33—Ag22	127.7 (9)
O35 ⁱⁱⁱ —Ag20—Ag21 ⁱ	127.6 (3)	C11 ⁱⁱⁱ —O33—Ag4	115.3 (9)
I12—Ag20—Ag21 ⁱ	61.23 (3)	Ag22—O33—Ag4	99.5 (4)
I12 ^{xiii} —Ag20—Ag21 ⁱ	136.37 (5)	C11 ⁱⁱⁱ —O33—Ag23 ^v	92.3 (8)
Ag20 ^{xiii} —Ag20—Ag21 ⁱ	106.51 (5)	Ag22—O33—Ag23 ^v	121.9 (4)
O30—Ag21—O2	79.1 (3)	Ag4—O33—Ag23 ^v	97.2 (3)
O30—Ag21—O4 ^x	74.1 (3)	C12—O34—Ag19	110.2 (9)
O2—Ag21—O4 ^x	74.3 (3)	C12—O34—Ag18 ^{vi}	129.5 (9)
O30—Ag21—I12 ^x	125.9 (2)	Ag19—O34—Ag18 ^{vi}	97.1 (4)
O2—Ag21—I12 ^x	136.8 (2)	C12—O35—Ag20 ⁱⁱ	131.5 (9)
O4 ^x —Ag21—I12 ^x	79.9 (2)	C12—O35—Ag36 ^{xi}	122.3 (9)
O30—Ag21—Ag20 ^x	73.6 (2)	Ag20 ⁱⁱ —O35—Ag36 ^{xi}	103.4 (4)
O2—Ag21—Ag20 ^x	143.1 (2)	C12—O35—Ag2 ⁱⁱ	106.1 (9)
O4 ^x —Ag21—Ag20 ^x	74.6 (2)	Ag20 ⁱⁱ —O35—Ag2 ⁱⁱ	96.9 (4)
I12 ^x —Ag21—Ag20 ^x	53.94 (3)	Ag36 ^{xi} —O35—Ag2 ⁱⁱ	79.1 (4)
O30—Ag21—Ag25	127.2 (2)	C12—O36—Ag24	123.0 (9)
O2—Ag21—Ag25	54.2 (2)	C12—O36—Ag3	127.8 (9)
O4 ^x —Ag21—Ag25	70.9 (2)	Ag24—O36—Ag3	109.0 (4)
I12 ^x —Ag21—Ag25	84.99 (4)	Ag3 ^v —I1—Ag2 ⁱⁱⁱ	104.24 (4)
Ag20 ^x —Ag21—Ag25	130.08 (4)	Ag3 ^v —I1—Ag36 ^v	89.58 (4)
O30—Ag21—Ag22	55.6 (2)	Ag2 ⁱⁱⁱ —I1—Ag36 ^v	64.56 (4)
O2—Ag21—Ag22	70.8 (2)	Ag3 ^v —I1—Ag1 ⁱⁱⁱ	149.04 (4)
O4 ^x —Ag21—Ag22	122.5 (2)	Ag2 ⁱⁱⁱ —I1—Ag1 ⁱⁱⁱ	69.62 (4)
I12 ^x —Ag21—Ag22	151.34 (5)	Ag36 ^v —I1—Ag1 ⁱⁱⁱ	112.72 (4)
Ag20 ^x —Ag21—Ag22	111.13 (4)	Ag3 ^v —I1—Ag38 ⁱⁱⁱ	65.28 (4)
Ag25—Ag21—Ag22	117.60 (4)	Ag2 ⁱⁱⁱ —I1—Ag38 ⁱⁱⁱ	76.39 (4)
O30—Ag21—I16	75.0 (2)	Ag36 ^v —I1—Ag38 ⁱⁱⁱ	126.35 (4)
O2—Ag21—I16	123.0 (2)	Ag1 ⁱⁱⁱ —I1—Ag38 ⁱⁱⁱ	83.94 (4)
O4 ^x —Ag21—I16	140.2 (2)	Ag40—I2—Ag4	78.75 (4)
I12 ^x —Ag21—I16	98.92 (4)	Ag40—I2—Ag1 ^x	77.99 (4)
Ag20 ^x —Ag21—I16	73.11 (3)	Ag4—I2—Ag1 ^x	117.64 (4)

Ag25—Ag21—I16	148.87 (4)	Ag40—I2—Ag40 ^{ix}	62.35 (4)
Ag22—Ag21—I16	52.54 (3)	Ag4—I2—Ag40 ^{ix}	114.93 (4)
O30—Ag21—I14	142.3 (2)	Ag1 ^x —I2—Ag40 ^{ix}	103.32 (4)
O2—Ag21—I14	76.0 (2)	Ag40—I2—Ag35	126.08 (4)
O4 ^x —Ag21—I14	124.2 (2)	Ag4—I2—Ag35	86.42 (3)
I12 ^x —Ag21—I14	91.35 (4)	Ag1 ^x —I2—Ag35	150.55 (4)
Ag20 ^x —Ag21—I14	139.39 (4)	Ag40 ^{ix} —I2—Ag35	78.70 (3)
Ag25—Ag21—I14	53.40 (3)	Ag37—I3—Ag38	67.95 (4)
Ag22—Ag21—I14	89.28 (4)	Ag37—I3—Ag36 ⁱⁱⁱ	83.76 (4)
I16—Ag21—I14	95.52 (4)	Ag38—I3—Ag36 ⁱⁱⁱ	112.46 (4)
O1 ^{vi} —Ag22—O33	82.5 (3)	Ag37—I3—Ag2	116.41 (4)
O1 ^{vi} —Ag22—I16	135.6 (2)	Ag38—I3—Ag2	79.14 (4)
O33—Ag22—I16	135.6 (3)	Ag36 ⁱⁱⁱ —I3—Ag2	159.74 (4)
O1 ^{vi} —Ag22—Ag16	159.3 (2)	Ag37—I3—Ag3 ⁱⁱⁱ	127.86 (4)
O33—Ag22—Ag16	78.8 (2)	Ag38—I3—Ag3 ⁱⁱⁱ	161.60 (4)
I16—Ag22—Ag16	65.13 (3)	Ag36 ⁱⁱⁱ —I3—Ag3 ⁱⁱⁱ	81.11 (4)
O1 ^{vi} —Ag22—Ag21	82.9 (2)	Ag2—I3—Ag3 ⁱⁱⁱ	84.43 (4)
O33—Ag22—Ag21	159.8 (3)	Ag37—I3—Ag7 ⁱⁱⁱ	61.85 (3)
I16—Ag22—Ag21	63.87 (3)	Ag38—I3—Ag7 ⁱⁱⁱ	108.36 (4)
Ag16—Ag22—Ag21	112.64 (4)	Ag36 ⁱⁱⁱ —I3—Ag7 ⁱⁱⁱ	109.16 (4)
O1 ^{vi} —Ag22—Ag40	96.1 (2)	Ag2—I3—Ag7 ⁱⁱⁱ	81.01 (3)
O33—Ag22—Ag40	64.5 (3)	Ag3 ⁱⁱⁱ —I3—Ag7 ⁱⁱⁱ	76.84 (3)
I16—Ag22—Ag40	118.73 (4)	Ag30—I4—Ag34 ⁱⁱⁱ	81.99 (4)
Ag16—Ag22—Ag40	67.66 (3)	Ag30—I4—Ag31 ⁱ	74.28 (4)
Ag21—Ag22—Ag40	103.41 (4)	Ag34 ⁱⁱⁱ —I4—Ag31 ⁱ	115.44 (4)
O8—Ag23—O32 ^{vi}	109.4 (3)	Ag30—I4—Ag10 ^{ix}	61.77 (3)
O8—Ag23—O33 ^v	75.6 (3)	Ag34 ⁱⁱⁱ —I4—Ag10 ^{ix}	114.25 (4)
O32 ^{vi} —Ag23—O33 ^v	52.0 (3)	Ag31 ⁱ —I4—Ag10 ^{ix}	105.30 (4)
O8—Ag23—I16	136.2 (2)	Ag30—I4—Ag5 ⁱⁱⁱ	130.53 (4)
O32 ^{vi} —Ag23—I16	111.5 (2)	Ag34 ⁱⁱⁱ —I4—Ag5 ⁱⁱⁱ	91.62 (4)
O33 ^v —Ag23—I16	144.5 (2)	Ag31 ⁱ —I4—Ag5 ⁱⁱⁱ	147.28 (4)
O8—Ag23—Ag3	69.2 (2)	Ag10 ^{ix} —I4—Ag5 ⁱⁱⁱ	77.21 (3)
O32 ^{vi} —Ag23—Ag3	58.2 (2)	Ag5—I5—Ag39	104.44 (4)
O33 ^v —Ag23—Ag3	78.6 (2)	Ag5—I5—Ag1	70.03 (4)
I16—Ag23—Ag3	122.38 (4)	Ag39—I5—Ag1	80.84 (4)
O8—Ag23—Ag18 ^{vi}	160.8 (2)	Ag5—I5—Ag6	67.44 (3)
O32 ^{vi} —Ag23—Ag18 ^{vi}	51.5 (2)	Ag39—I5—Ag6	161.34 (4)
O33 ^v —Ag23—Ag18 ^{vi}	90.8 (2)	Ag1—I5—Ag6	110.23 (4)
I16—Ag23—Ag18 ^{vi}	61.30 (3)	Ag7—I6—Ag8	66.89 (4)
Ag3—Ag23—Ag18 ^{vi}	95.20 (4)	Ag7—I6—Ag37 ⁱⁱ	65.28 (4)
O8—Ag23—I15 ⁱⁱⁱ	82.2 (2)	Ag8—I6—Ag37 ⁱⁱ	109.53 (4)
O32 ^{vi} —Ag23—I15 ⁱⁱⁱ	123.7 (2)	Ag7—I6—Ag6 ⁱⁱ	72.96 (4)
O33 ^v —Ag23—I15 ⁱⁱⁱ	81.2 (2)	Ag8—I6—Ag6 ⁱⁱ	112.38 (4)
I16—Ag23—I15 ⁱⁱⁱ	87.77 (4)	Ag37 ⁱⁱ —I6—Ag6 ⁱⁱ	99.26 (4)
Ag3—Ag23—I15 ⁱⁱⁱ	148.22 (4)	Ag7—I6—Ag32	123.20 (4)
Ag18 ^{vi} —Ag23—I15 ⁱⁱⁱ	109.47 (4)	Ag8—I6—Ag32	80.53 (4)
O8—Ag23—Ag24	78.6 (2)	Ag37 ⁱⁱ —I6—Ag32	85.53 (4)
O32 ^{vi} —Ag23—Ag24	119.7 (2)	Ag6 ⁱⁱ —I6—Ag32	163.28 (4)

O33 ^v —Ag23—Ag24	146.2 (2)	Ag7—I6—Ag33 ⁱⁱ	131.29 (4)
I16—Ag23—Ag24	68.21 (3)	Ag8—I6—Ag33 ⁱⁱ	160.12 (4)
Ag3—Ag23—Ag24	71.92 (3)	Ag37 ⁱⁱ —I6—Ag33 ⁱⁱ	77.48 (3)
Ag18 ^{vi} —Ag23—Ag24	107.84 (4)	Ag6 ⁱⁱ —I6—Ag33 ⁱⁱ	83.85 (3)
I15 ⁱⁱⁱ —Ag23—Ag24	116.54 (4)	Ag32—I6—Ag33 ⁱⁱ	81.56 (3)
O36—Ag24—O5 ⁱⁱ	88.3 (4)	Ag9 ^{iv} —I7—Ag35 ^v	108.57 (4)
O36—Ag24—I13	141.2 (3)	Ag9 ^{iv} —I7—Ag31 ^{iv}	80.64 (4)
O5 ⁱⁱ —Ag24—I13	121.8 (3)	Ag35 ^v —I7—Ag31 ^{iv}	64.19 (3)
O36—Ag24—Ag29	148.0 (3)	Ag9 ^{iv} —I7—Ag4 ^v	63.67 (3)
O5 ⁱⁱ —Ag24—Ag29	64.4 (3)	Ag35 ^v —I7—Ag4 ^v	89.99 (4)
I13—Ag24—Ag29	58.04 (3)	Ag31 ^{iv} —I7—Ag4 ^v	126.55 (4)
O36—Ag24—I12 ⁱⁱ	118.6 (3)	Ag9 ^{iv} —I7—Ag8	64.37 (3)
O5 ⁱⁱ —Ag24—I12 ⁱⁱ	89.4 (2)	Ag35 ^v —I7—Ag8	149.45 (4)
I13—Ag24—I12 ⁱⁱ	88.12 (4)	Ag31 ^{iv} —I7—Ag8	85.27 (4)
Ag29—Ag24—I12 ⁱⁱ	79.51 (4)	Ag4 ^v —I7—Ag8	110.26 (4)
O36—Ag24—Ag23	57.8 (3)	Ag12—I8—Ag33	110.71 (4)
O5 ⁱⁱ —Ag24—Ag23	133.5 (2)	Ag12—I8—Ag28	82.39 (4)
I13—Ag24—Ag23	83.41 (4)	Ag33—I8—Ag28	65.73 (3)
Ag29—Ag24—Ag23	130.45 (4)	Ag12—I8—Ag6	65.99 (4)
I12 ⁱⁱ —Ag24—Ag23	133.17 (4)	Ag33—I8—Ag6	89.96 (4)
O11 ^x —Ag25—O6 ^x	79.4 (3)	Ag28—I8—Ag6	130.27 (4)
O11 ^x —Ag25—O2	119.2 (3)	Ag12—I8—Ag11	63.06 (3)
O6 ^x —Ag25—O2	99.0 (3)	Ag33—I8—Ag11	151.23 (4)
O11 ^x —Ag25—I14	134.1 (2)	Ag28—I8—Ag11	85.50 (4)
O6 ^x —Ag25—I14	141.5 (3)	Ag6—I8—Ag11	110.18 (4)
O2—Ag25—I14	81.2 (2)	Ag13 ^{vi} —I9—Ag32 ^{vi}	103.36 (4)
O11 ^x —Ag25—Ag21	160.3 (2)	Ag13 ^{vi} —I9—Ag26 ^{vi}	87.69 (4)
O6 ^x —Ag25—Ag21	85.3 (2)	Ag32 ^{vi} —I9—Ag26 ^{vi}	62.62 (3)
O2—Ag25—Ag21	51.0 (2)	Ag13 ^{vi} —I9—Ag31	147.96 (4)
I14—Ag25—Ag21	64.85 (3)	Ag32 ^{vi} —I9—Ag31	70.35 (3)
O11 ^x —Ag25—Ag5 ^x	67.4 (2)	Ag26 ^{vi} —I9—Ag31	114.28 (4)
O6 ^x —Ag25—Ag5 ^x	82.1 (3)	Ag13 ^{vi} —I9—Ag8 ^{vi}	65.83 (4)
O2—Ag25—Ag5 ^x	52.5 (2)	Ag32 ^{vi} —I9—Ag8 ^{vi}	78.44 (4)
I14—Ag25—Ag5 ^x	123.97 (4)	Ag26 ^{vi} —I9—Ag8 ^{vi}	126.18 (4)
Ag21—Ag25—Ag5 ^x	98.37 (4)	Ag31—I9—Ag8 ^{vi}	82.18 (3)
O3 ^{iv} —Ag26—O10 ^{iv}	79.4 (3)	Ag10—I10—Ag11 ^x	70.22 (4)
O3 ^{iv} —Ag26—I11 ⁱⁱ	106.6 (2)	Ag10—I10—Ag30 ^{ix}	64.37 (4)
O10 ^{iv} —Ag26—I11 ⁱⁱ	162.0 (2)	Ag11 ^x —I10—Ag30 ^{ix}	108.77 (4)
O3 ^{iv} —Ag26—I9 ^{iv}	153.3 (2)	Ag10—I10—Ag29 ^x	124.39 (4)
O10 ^{iv} —Ag26—I9 ^{iv}	88.8 (2)	Ag11 ^x —I10—Ag29 ^x	83.63 (4)
I11 ⁱⁱ —Ag26—I9 ^{iv}	91.93 (4)	Ag30 ^{ix} —I10—Ag29 ^x	80.35 (4)
O3 ^{iv} —Ag26—Ag32	141.6 (2)	Ag10—I10—Ag14 ^{vii}	79.57 (4)
O10 ^{iv} —Ag26—Ag32	80.3 (2)	Ag11 ^x —I10—Ag14 ^{vii}	115.52 (4)
I11 ⁱⁱ —Ag26—Ag32	85.04 (4)	Ag30 ^{ix} —I10—Ag14 ^{vii}	106.73 (4)
I9 ^{iv} —Ag26—Ag32	57.17 (3)	Ag29 ^x —I10—Ag14 ^{vii}	154.60 (4)
O8—Ag27—O1 ⁱⁱⁱ	85.1 (3)	Ag27—I11—Ag28	79.43 (4)
O8—Ag27—I11	137.3 (2)	Ag27—I11—Ag26 ⁱⁱⁱ	80.72 (4)
O1 ⁱⁱⁱ —Ag27—I11	127.0 (2)	Ag28—I11—Ag26 ⁱⁱⁱ	119.27 (4)

O8—Ag27—Ag17 ⁱⁱⁱ	128.9 (2)	Ag27—I11—Ag17 ⁱⁱⁱ	61.83 (3)
O1 ⁱⁱⁱ —Ag27—Ag17 ⁱⁱⁱ	120.2 (2)	Ag28—I11—Ag17 ⁱⁱⁱ	105.19 (4)
I11—Ag27—Ag17 ⁱⁱⁱ	63.38 (3)	Ag26 ⁱⁱⁱ —I11—Ag17 ⁱⁱⁱ	114.20 (4)
O8—Ag27—I15 ⁱⁱⁱ	86.6 (2)	Ag27—I11—Ag13 ⁱⁱⁱ	122.19 (4)
O1 ⁱⁱⁱ —Ag27—I15 ⁱⁱⁱ	86.8 (2)	Ag28—I11—Ag13 ⁱⁱⁱ	153.98 (4)
I11—Ag27—I15 ⁱⁱⁱ	118.44 (4)	Ag26 ⁱⁱⁱ —I11—Ag13 ⁱⁱⁱ	81.20 (3)
Ag17 ⁱⁱⁱ —Ag27—I15 ⁱⁱⁱ	55.06 (3)	Ag17 ⁱⁱⁱ —I11—Ag13 ⁱⁱⁱ	77.16 (3)
O14—Ag28—O9	77.4 (4)	Ag20—I12—Ag19 ⁱ	120.04 (4)
O14—Ag28—O16	80.8 (3)	Ag20—I12—Ag21 ⁱ	64.83 (3)
O9—Ag28—O16	74.4 (3)	Ag19 ⁱ —I12—Ag21 ⁱ	82.59 (4)
O14—Ag28—I11	166.7 (3)	Ag20—I12—Ag20 ^{xiii}	63.48 (4)
O9—Ag28—I11	98.4 (3)	Ag19 ⁱ —I12—Ag20 ^{xiii}	84.97 (4)
O16—Ag28—I11	85.9 (2)	Ag21 ⁱ —I12—Ag20 ^{xiii}	109.61 (4)
O14—Ag28—I8	85.5 (3)	Ag20—I12—Ag15 ⁱⁱⁱ	130.11 (4)
O9—Ag28—I8	162.8 (3)	Ag19 ⁱ —I12—Ag15 ⁱⁱⁱ	84.83 (4)
O16—Ag28—I8	105.2 (2)	Ag21 ⁱ —I12—Ag15 ⁱⁱⁱ	164.41 (4)
I11—Ag28—I8	98.73 (4)	Ag20 ^{xiii} —I12—Ag15 ⁱⁱⁱ	78.30 (3)
O14—Ag28—Ag33	85.1 (3)	Ag20—I12—Ag24 ⁱⁱⁱ	81.27 (4)
O9—Ag28—Ag33	124.9 (2)	Ag19 ⁱ —I12—Ag24 ⁱⁱⁱ	158.30 (4)
O16—Ag28—Ag33	51.2 (2)	Ag21 ⁱ —I12—Ag24 ⁱⁱⁱ	112.73 (4)
I11—Ag28—Ag33	87.18 (4)	Ag20 ^{xiii} —I12—Ag24 ⁱⁱⁱ	102.95 (4)
I8—Ag28—Ag33	54.47 (3)	Ag15 ⁱⁱⁱ —I12—Ag24 ⁱⁱⁱ	77.23 (3)
O14—Ag28—I13	91.9 (3)	Ag15—I13—Ag24	90.20 (4)
O9—Ag28—I13	78.4 (2)	Ag15—I13—Ag29	105.36 (4)
O16—Ag28—I13	152.8 (2)	Ag24—I13—Ag29	65.28 (4)
I11—Ag28—I13	99.65 (4)	Ag15—I13—Ag28	148.85 (4)
I8—Ag28—I13	100.34 (4)	Ag24—I13—Ag28	113.66 (4)
Ag33—Ag28—I13	154.77 (4)	Ag29—I13—Ag28	70.21 (3)
O14—Ag29—O6 ⁱⁱ	119.4 (4)	Ag25—I14—Ag14	92.63 (4)
O14—Ag29—I13	101.0 (3)	Ag25—I14—Ag19	101.58 (4)
O6 ⁱⁱ —Ag29—I13	136.3 (3)	Ag14—I14—Ag19	64.65 (3)
O14—Ag29—I10 ⁱ	117.1 (3)	Ag25—I14—Ag18 ^{vi}	144.30 (4)
O6 ⁱⁱ —Ag29—I10 ⁱ	83.1 (2)	Ag14—I14—Ag18 ^{vi}	112.82 (4)
I13—Ag29—I10 ⁱ	93.27 (4)	Ag19—I14—Ag18 ^{vi}	70.24 (3)
O14—Ag29—Ag24	123.4 (3)	Ag25—I14—Ag21	61.75 (3)
O6 ⁱⁱ —Ag29—Ag24	85.7 (2)	Ag14—I14—Ag21	128.69 (4)
I13—Ag29—Ag24	56.68 (3)	Ag19—I14—Ag21	77.33 (3)
I10 ⁱ —Ag29—Ag24	115.57 (4)	Ag18 ^{vi} —I14—Ag21	82.60 (3)
O14—Ag29—Ag7	70.3 (3)	Ag17—I15—Ag16 ⁱⁱ	78.40 (4)
O6 ⁱⁱ —Ag29—Ag7	74.4 (2)	Ag17—I15—Ag18	78.39 (4)
I13—Ag29—Ag7	107.45 (4)	Ag16 ⁱⁱ —I15—Ag18	115.08 (4)
I10 ⁱ —Ag29—Ag7	156.56 (5)	Ag17—I15—Ag27 ⁱⁱ	62.03 (3)
Ag24—Ag29—Ag7	69.80 (4)	Ag16 ⁱⁱ —I15—Ag27 ⁱⁱ	114.94 (4)
O13—Ag30—O11	76.6 (3)	Ag18—I15—Ag27 ⁱⁱ	105.28 (4)
O13—Ag30—I4	114.9 (3)	Ag17—I15—Ag23 ⁱⁱ	126.19 (4)
O11—Ag30—I4	144.5 (2)	Ag16 ⁱⁱ —I15—Ag23 ⁱⁱ	88.27 (4)
O13—Ag30—I10 ^{ix}	102.7 (3)	Ag18—I15—Ag23 ⁱⁱ	150.50 (4)
O11—Ag30—I10 ^{ix}	88.6 (2)	Ag27 ⁱⁱ —I15—Ag23 ⁱⁱ	78.17 (3)

I4—Ag30—I10 ^{ix}	118.60 (5)	Ag22—I16—Ag23	108.58 (4)
O13—Ag30—Ag10 ^{ix}	134.2 (3)	Ag22—I16—Ag18 ^{vi}	82.22 (4)
O11—Ag30—Ag10 ^{ix}	133.0 (2)	Ag23—I16—Ag18 ^{vi}	65.03 (3)
I4—Ag30—Ag10 ^{ix}	64.17 (3)	Ag22—I16—Ag21	63.58 (3)
I10 ^{ix} —Ag30—Ag10 ^{ix}	54.85 (3)	Ag23—I16—Ag21	148.35 (4)
O20—Ag31—O12 ^x	77.9 (3)	Ag18 ^{vi} —I16—Ag21	83.34 (4)
O20—Ag31—O22 ^x	78.3 (3)	Ag22—I16—Ag16	61.81 (3)
O12 ^x —Ag31—O22 ^x	75.6 (3)	Ag23—I16—Ag16	89.39 (4)
O20—Ag31—I4 ^x	165.3 (2)	Ag18 ^{vi} —I16—Ag16	126.65 (4)
O12 ^x —Ag31—I4 ^x	101.3 (2)	Ag21—I16—Ag16	110.02 (4)
O22 ^x —Ag31—I4 ^x	87.2 (2)		

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