Coordination Chemistry of Solvated Metal Ions in Soft Donor Solvents

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Supporting Material

Table S1. Summary of reported crystal structures of *N,N*-dimethylformamide solvated metal ions in the solid state. Citations in purple text have not been included in the calculated mean bond distances.

Lanthanum(III)

Eight-coordination, square antiprismatic configuration

CSD code	*d*(La-O)	Reference, compound formula
KIKVIK	2.456 Å	Yarovoi, S. S. ; Mironov, Y. V. ; Solodovnikov, S. F. ; Solodovnikova, Z. A. ; Naumov, D. Y. ; Fedorov, V. E. *Koord. Khim.* **2006**, *32*, 743. $[La(OCHN(CH_3)_2)_8][Re_6Br_8S_6]$
KIKWIL	2.459 Å	Yarovoi, S. S. ; Mironov, Y. V. ; Solodovnikov, S. F. ; Solodovnikova, Z. A. ; Naumov, D. Y. ; Fedorov, V. E. *Koord. Khim.* **2006**, *32*, 743. $[La(OCHN(CH_3)_2)_8][Re_6Br_6Se_8]$
HOXNIR	2.462 Å	Chen Ling; Wu Xin-tao; Gao Xian-cheng; Zhang Wen-jian; Lin Ping, *J. Chem. Soc., Dalton Trans.* **1999**, 4303. $[La(OCHN(CH_3)_2)_8]_{2n}[Ag_{10}S_{32}W_8]_n$
CUZYIH	2.467 Å	Saha, S. ; Jana, P. P. ; Gomez-Garcia, C. J. ; Harms, K. ; Nayek, H. P. *Polyhedron* **2016**, *104*, 58. $[La(OCHN(CH_3)_2)_8][W_{12}PO_{40}]$
DIQHUG	2.469 Å	Ling, C. ; Xintao, W. ; Ping, L. *J. Chem. Cryst.* **1999**, *29*, 629. $[La(OCHN(CH_3)_2)_6(OCHN(C_2H_5)_2)_2][La(OCHN(CH_3)_2)_4(OCHN(C_2H_5)_2)_4][Ag_{10}W_8S_{32}]$
AMOZOU	2.476 Å	Gao, Y.; Chen, N.; Tian, Y.; Zhang, J.; Jia, D. *Inorg. Chem.* **2021**, *60*, 3761. $[La(OCHN(CH_3)_2)_8][Ag_9I_{12}]\cdot 2H_2O$
NEQSUO	2.480 Å	Skelton, B. W. ; Harrowfield, J. M. CCDC deposition number 1589427, **2017**. $[La(OCHN(CH_3)_2)_8](ClO_4)_3$
KACDEB	2.482 Å	Chen, N.; Gao, Y. ; Tian, Y. ; Wu, B. ; Jia, D. ; Zhao, S. *New. J. Chem.* **2020**, *44*, 19166. $[La(OCHN(CH_3)_2)_8][Pb_3I_9]$
ODOLAY	2.482 Å	Zhang, J.; Yang, X.; Ren, T.; Jia, D. *Dalton Trans.* **2023**, *52*, 6804. $[La(OCHN(CH_3)_2)_8][Bi_2I_9]$
Mean	**2.470 Å/9 structures**	

Nine-coordination

ICSD/CSD code	*d*(La-O)	Reference, compound formula
YEKMUX	2.528 Å	Berthet, J.-C.; Thuery, P.; Ephritikhine, M. *Polyhedron* **2006**, *25*, 1700. $[La(OCHN(CH_3)_2)_9]I_3$
FEZCIX	2.546 Å	Liu, S.; Plecnik, C. E. ; Meyers, E. A.; Shore, S. G. *Inorg. Chem.* **2005**, *44*, 282. $[La(OCHN(CH_3)_2)_9][Cu_{12}(CN)_{18}]\cdot 2(CH_3)_2NCHO$
YELMUX01	2.548 Å	Hoch, C. *Z. Krist. Cryst. Mater.* **2020**, *235*, 401. $[La(OCHN(CH_3)_2)_9]I_3$
BOWGIF	2.557 Å	Danjo, H.; Nakagawa, T.; Katagiri, K.; Kawahata, M.; Yoshigai, S.; Miyazawa, T.; Yamaguchi, K. *Cryst. Growth Des.* **2015**, *15*, 384. $[La(OCHN(CH_3)_2)_9](C_{60}H_{30}B_3O_{12})\cdot(CH_3)_2NCHO$

Mean	**2.545 Å/4 structures**	
Cerium(III)		
Eight-coordination, square antiprismatic configuration		
ICSD/CSD code	*d*(Ce-O)	Reference, compound formula
XILJIN	2.423 Å	Fang, W.; Tang, C.; Chen, R.; Jia, D.; Jiang, W.; Zhang, Y. *Dalton Trans.* **2013**, *42*, 15150. $[Ce(OCHN(CH_3)_2)_8][Ag_6I_9]$
KIKVOQ	2.455 Å	Yarovoi, S. S. ; Mironov, Y. V. ; Solodovnikov, S. F. ; Solodovnikova, Z. A. ; Naumov, D. Y. ; Fedorov, V. E. *Koord. Khim.* **2006**, *32*, 743. $[Ce(OCHN(CH_3)_2)_8][Re_6Br_8S_6]$
KIKWOR	2.457 Å	Yarovoi, S. S. ; Mironov, Y. V. ; Solodovnikov, S. F. ; Solodovnikova, Z. A. ; Naumov, D. Y. ; Fedorov, V. E. *Koord. Khim.* **2006**, *32*, 743. $[Ce(OCHN(CH_3)_2)_8][Re_6Br_6Se_8]$
ATAPIW	2.461 Å	Huang, W.; Wei, H. ; Li, L.; Qian, J. ; Zhang, C. *J. Cluster Sci.* **2016**, *27*, 1463. $[Ce(OCHN(CH_3)_2)_8][Cu_8I_{11}]\cdot C_2H_5OH$
XILHUX	2.470 Å	Fang, W.; Tang, C.; Chen, R.; Jia, D.; Jiang, W.; Zhang, Y. *Dalton Trans.* **2013**, *42*, 15150. $[Ce(OCHN(CH_3)_2)_8]_2[Ag_{10}Pb_3I_{22}]$
OGICOW	2.471 Å	Jobic, S.; Poirier-Coutansais, S.; Evain, M.; Brec, R., *Mater. Res. Bull.* **2001**, *36*, 2637.
150811		$[Ce(OCHN(CH_3)_2)_8][WS_4]_3\cdot H_2O$
YEKMIL	2.472 Å	Berthet, J.-C.; Thuery, P., Ephritikhine, M.; *Polyhedron*, **2006**, *25*, 1700, $[Ce(OCHN(CH_3)_2)_8]I_3$
Mean	**2.464 Å/6 structures**	
Nine-coordination		
ICSD/CSD code	*d*(Ce-O)	Reference, compound formula
YEKNAE	2.507 Å	Berthet, J.-C.; Thuery, P.; Ephritikhine, M. *Polyhedron* **2006**, *25*, 1700. $[Ce(OCHN(CH_3)_2)_9]I_3$
Mean	**2.507 Å/1 structure**	
Praseodymium(III)		
Seven-coordination		
ICSD/CSD code	*d*(Pr-O)	Reference, compound formula
AMOZUA	2.426 Å	Gao, Y.; Chen, N.; Tian, Y.; Zhang, J.; Jia, D. *Inorg. Chem.* **2021**, *60*, 3761. $[Pr(OCHN(CH_3)_2)_7]_2[Ag_{16}I_{22}]$
Mean	**2.426 Å/1 structure**	

Eight- and nine-coordination

ICSD/CSD code	*d*(Pr-O)	Reference, compound formula
XILJAF	2.448 Å	Fang, W.; Tang, C.; Chen, R.; Jia, D.; Jiang, W.; Zhang, Y. *Dalton Trans.* **2013**, *42*, 15150. $[Pr(OCHN(CH_3)_2)_8]_2[Ag_{10}Pb_3I_{22}]$
XILJOT	2.449 Å (8) 2.500 Å (9)	Fang, W.; Tang, C.; Chen, R.; Jia, D.; Jiang, W.; Zhang, Y. *Dalton Trans.* **2013**, *42*, 15150. $[Pr(OCHN(CH_3)_2)_8]_2[Pr(OCHN(CH_3)_2)_9]_4[Pb_{22}I_{62}]$
KIKWUX	2.458 Å	Yarovoi, S. S. ; Mironov, Y. V. ; Solodovnikov, S. F. ; Solodovnikova, Z. A. ; Naumov, D. Y. ; Fedorov, V. E. *Koord. Khim.* **2006**, *32*, 743. $[Pr(OCHN(CH_3)_2)_8][Re_6Br_6Se_8]$
XILJEJ	2.505 Å	Fang, W.; Tang, C.; Chen, R.; Jia, D.; Jiang, W.; Zhang, Y. *Dalton Trans.* **2013**, *42*, 15150. $[Pr(OCHN(CH_3)_2)_8]_2[Ag_6I_9]$
Mean	**2.452 Å/3 structures eight-coordination** **2.500 Å/1 structure nine-coordination**	

Neodymium(III)

Eight-coordination, square antiprismatic configuration

ICSD/CSD code	*d*(Nd-O)	Reference, compound formula
KIKVUW	2.408 Å	Yarovoi, S. S. ; Mironov, Y. V. ; Solodovnikov, S. F. ; Solodovnikova, Z. A. ; Naumov, D. Y. ; Fedorov, V. E. *Koord. Khim.* **2006**, *32*, 743. $[Nd(OCHN(CH_3)_2)_8][Re_6Br_8S_6]$
HOXNOX	2.417 Å	Cheng Ling; Wu Xin-tao; Gao Xian-cheng; Zhang Wen-jian; Lin Ping, *J. Chem. Soc., Dalton Trans.* **1999**, 4303. $[Nd(OCHN(C_2H_5)_2)_8]_{2n}[Ag_{10}S_{32}W_8]_n$
YEKMOR01	2.430 Å	Hoch, C. *Z. Krist. Cryst. Mater.* **2020**, *235*, 401. $[Nd(OCHN(CH_3)_2)_9]I_3$
TAQZIU	2.433 Å	Huang, Q.; Wu, X.; Wang, Q.; Sheng, T.; Lu, J. *Angew. Chem., Int. Ed.* **1996**, *35*, 868. $[Nd(OCHN(CH_3)_2)_8[Ag_5W_4S_{16}]$
TAQSIU01	2.433 Å	Huang, Q.; Wu, X.; Lu, J. *Polyhedron* **1997**, *16*, 833. $[Nd(OCHN(CH_3)_2)_8[Ag_5W_4S_{16}]$
NEPSIN	2.436 Å	Skelton, B. W.; Harrowfield, J. M. CCDC deposit number 1589285, **2017**. $[Nd(OCHN(CH_3)_2)_8](ClO_4)_3$
YEKMOR	2.437 Å	Berthet, J.-C.; Thuery, P.; Ephritikhine, M. *Polyhedron* **2006**, *25*, 1700. $[Nd(OCHN(CH_3)_2)_9]I_3$
Mean	**2.428 Å/7 structures**	

Samarium(III)

Seven-coordination

ICSD/CSD code	*d*(Sm-O)	Reference, compound formula

AMUBAO	2.338 Å	Gao, Y.; Chen, N.; Tian, Y.; Zhang, J.; Jia, D. *Inorg. Chem.* **2021**, *60*, 3761. $[Sm(OCHN(CH_3)_2)_7]_2[Ag_{16}I_{22}]$
Mean	**2.338 Å/1 structure**	

Eight-coordination, square antiprismatic configuration

ICSD/CSD code	*d*(Sm-O)	Reference, compound formula
KACDIF	2.379 Å	Chen, N.; Gao, Y.; Tian, Y.; Wu, B.; Jia, D.; Zhao, S. *New J. Chem.* **2020**, *44*, 19166. $[Sm(OCHN(CH_3)_2)_8][Pb_5I_{13}]$
JABTOZ	2.398 Å	Hoch, C. *Z. Krist. Cryst. Mater.* **2020**, *235*, 401. $[Sm(OCHN(CH_3)_2)_9]I_3$
JABTOZ01	2.413 Å	Bokouende, S. S; Kajjam, A. B.; Ward, C. L.; Allen, M. J. CCDC deposition number 2026698, **2020** $[Sm(OCHN(CH_3)_2)_9]I_3$
Mean	**2.397 Å/3 structures**	

Europium(III)

Eight-coordination, square antiprismatic configuration

ICSD/CSD code	*d*(Eu-O)	Reference, compound formula
NIMFEX	2.325 Å	Zhang, D.; Xue, Z.-Z.; Pan, J.; Shang, M.-M.; Mu, Y.; Han, S.-D.; Wang, G.-M. *Cryst. Growth Des.* **2018**, *18*, 7041. $[Eu(OCHN(CH_3)_2)_8][Ag_6I_9]$
PAZGEG	2.365 Å	Pells, J. A.; Guan, D.; Leznoff, D. B. *Eur. J. Inorg. Chem.* **2022**, e202200049. $(C_4H_9)_4N[Eu(OCHN(CH_3)_2)_8][Au(S_2CC(CN)_2)_2]_2$
KIKWAD	2.384 Å	Yarovoi, S. S. ; Mironov, Y. V. ; Solodovnikov, S. F. ; Solodovnikova, Z. A. ; Naumov, D. Y. ; Fedorov, V. E. *Koord. Khim.* **2006**, *32*, 743. $[Eu(OCHN(CH_3)_2)_8][Re_6Br_8S_6]$
FEZCOD	2.386 Å	Liu, S.; Plecnik, C. E.; Meyers, E.A.; Shore, S. G.; Inorg. Chem. **2005**, 44, 282. $[Eu(OCHN(CH_3)_2)_8](Cu_6(CN)_9]\cdot 0.64(CH_3)_2NCHO$
BOWGOL	2.390 Å	Danjo, H.; Nakagawa, T.; Katagiri, K.; Kawahata, M.; Yoshigai, S.; Miyazawa, T.; Yamaguchi, K. *Cryst. Growth Des.* **2015**, *15*, 384. $[Eu(OCHN(CH_3)_2)_8](B_3C_{60}H_{30}O_{12})\cdot 0.64(CH_3)_2NCHO$
JABSUE	2.391 Å	Hoch, C. *Z. Krist. Cryst. Mater.* **2020**, *235*, 401. $[Eu(OCHN(CH_3)_2)_9]I_3$
VALZUG	2.394 Å	Ghandour, Y.; Hammami, I.; Najmudin, S.; Bonifacio, C.; Belkhiria, M. S. *Acta Crystallogr., Sect. E* **2016**, *72*, 448. $[Eu(OCHN(CH_3)_2)_8][Mo_{12}PO_{40}]$
ODONOO	2.400 Å	Zhang, J.; Yang, X.; Ren, T.; Jia, D. *Dalton Trans.* **2023**, *52*, 6804. $[Eu(OCHN(CH_3)_2)_8][Bi_2I_9]$
Mean	**2.387 Å/7 structures**	

Gadolinium(III)

Eight-coordination, square antiprismatic configuration

ICSD/CSD code	*d*(Gd-O)	Reference, compound formula
PAZGOQ	2.354 Å	Pells, J. A.; Guan, D.; Leznoff, D. B. *Eur. J. Inorg. Chem.* **2022**, e202200049. $(C_4H_9)_4N[Gd(OCHN(CH_3)_2)_8][Au(S_2CC(CN)_2)_2]_2$
OGOJOJ	2.377 Å	Liu Shengming; Meyers, E. A.; Shore, S. G., *Angew. Chem., Int. Ed. Engl.* **2002**, *41*, 3609. $[Gd(OCHN(CH_3)_2)_8]_n[Cu_6(CN)_9]_n \cdot 2(CH_3)NCHO$
PAZGIK	2.379 Å	Pells, J. A. Guan, D.; Leznoff, D. B. . *Eur. J. Inorg. Chem.* **2022**, e202200049. $(C_4H_9)_4N[Gd(OCHN(CH_3)_2)_8][Au(S_2CC(CN)_2)_2]_2 \cdot 2(CH_3)_2NHCO$
JABTAL	2.380 Å	Hoch, C. *Z. Krist. Cryst. Mater.* **2020**, *235*, 401. $[Gd(OCHN(CH_3)_2)_8]I_3$
IXOXOI	2.387 Å	Harrowfield, J.M.; Skelton, B.W.; White, A.H.; Wilner, F.R.; *Inorg.Chim.Acta.* **2004**, *357*, 2358.
110488		$(CH_3)_2NH_2$ $[Gd(OCHN(CH_3)_2)_8](ClO_4)_4$
Mean	**2.375 Å/5 structures**	

Terbium(III)

Eight-coordination, square antiprismatic configuration

ICSD/CSD code	*d*(Tb-O)	Reference, compound formula
PAZGAC	2.342 Å	Pells, J. A.; Guan, D.; Leznoff, D. B. *Eur. J. Inorg. Chem.* **2022**, e202200049. $(C_4H_9)_4N[Tb(OCHN(CH_3)_2)_8][Au(S_2CC(CN)_2)_2]$
NALDOW	2.354 Å	Zhang, J.; Liu, Y.; Gong, L.; Xu, G.; Zhang, C. *Polyhedron* **2016**, *109*, 67. $[Tb(OCHN(CH_3)_2)_8][Ag_3W_3S_{12}]$
RUNSOJ	2.361 Å	Mishra, S.; Jeanneau, E.; Ledoux, G.; Daniele, S. *Dalton Trans.* **2009**, 4954. $[Tb(OCHN(CH_3)_2)_8][Ag_6I_9]$
PARCOC	2.362 Å	Mishra, S.; Jeanneau, E.; Iasco, O.; Ledoux, G.; Luneau, D.; Daniele, S. *Eur. J. Inorg. Chem.* **2012**, 2749. $[Tb(OCHN(CH_3)_2)_8][Bi_2I_9]$
IXOYAV	2.363 Å	Harrowfield, J.M.; Skelton, B.W.; White, A.H.; Wilner, F.R.; *Inorg.Chim.Acta.* **2004**, *357*, 2358. $[Tb(OCHN(CH_3)_2)_8](ClO_4)_3$
PARTAF	2.363 Å	Mishra, S.; Jeanneau, E.; Ledoux, G.; Daniele, S. *CrystEngComm* **2012**, *14*, 3894. $[Tb(OCHN(CH_3)_2)_8][CuI_2]I$
PARCOC01	2.364 Å	Zhang, J.; Yang, X.; Ren, T.; Jia, D. *Dalton Trans.* **2023**, *52*, 6804. $[Tb(OCHN(CH_3)_2)_8][Bi_2I_9]$
PARCES	2.367 Å	Mishra, S.; Jeanneau, E.; Iasco, O.; Ledoux, G.; Luneau, D.; Daniele, S. *Eur. J. Inorg. Chem.* **2012**, 2749. $[Tb(OCHN(CH_3)_2)_8][Pb_3I_9] \cdot (CH_3)_2NCHO$
BOWGUR	2.368 Å	Danjo, H.; Nakagawa, T.; Katagiri, K.; Kawahata, M.; Yoshigai, S.; Miyazawa, T.; Yamaguchi, K. *Cryst. Growth Des.* **2015**, *15*, 384. $[Tb(OCHN(CH_3)_2)_8](B_3C_{60}H_{30}O_{12}) \cdot 3.42(CH_3)_2NCHO$
RUNSEZ	2.369 Å	Mishra, S.; Jeanneau, E.; Ledoux, G.; Daniele, S. *Dalton Trans.* **2009**, 4954. $[Tb(OCHN(CH_3)_2)_8]I_3$

NOCBUF	2.379 Å	Pan, J.; Zhang, D.; Han, S.-D.; Hu, J.-X.; Xue, Z.-Z.; Wang, G.-M. *Cryst. Growth Des.* **2019**, *19*, 1825. $[Tb(OCHN(CH_3)_2)_8][Cu_8I_{11}]$
Mean	**2.363 Å/11 structures**	

Dysprosium(III)

Eight-coordination, square antiprismatic configuration

ICSD/CSD code	*d*(Dy-O)	Reference, compound formula
XAXGOU	2.347 Å	Wang, M.; Huang, S.-W.; Li, J.-B.; Gong, A.-W.; Wu, H.-Y.; Li, H.-H.; Chen, Z.-R. *J. Cluster Sci.* **2012**, *23*, 383. $[Dy(OCHN(CH_3)_2)_9][Bi_2I_9]$
JABSIS	2.355 Å	Hoch, C. *Z. Krist. Cryst. Mater.* **2020**, *235*, 401. $[Dy(OCHN(CH_3)_2)_9]I_3$
CUZYON	2.363 Å	Saha, S.; Jana, P. P.; Gomez-Garcia, C. J.; Harms, K.; Nayek, H. P. *Polyhedron* **2016**, *104*, 58. $[Dy(OCHN(CH_3)_2)_9][W_{12}PO_{40}]$
Mean	**2.355 Å/3 structures**	

Erbium(III)

Eight-coordination, square antiprismatic configuration

ICSD/CSD code	*d*(Er-O)	Reference, compound formula
XAXGUA	2.324 Å	Wang, M.; Huang, S.-W.; Li, J.-B.; Gong, A.-W.; Wu, H.-Y.; Li, H.-H.; Chen, Z.-R. *J. Cluster Sci.* **2012**, *23*, 383. $[Dy(OCHN(CH_3)_2)_9][Bi_2I_9]$
JABSOY	2.331 Å	Hoch, C. *Z. Krist. Cryst. Mater.* **2020**, *235*, 401. $[Er(OCHN(CH_3)_2)_9]I_3$
LAZBIZ	2.332 Å	Li, H.-H.; Huang, S.-W.; Lian, Z.-X.; Liu, J.-B.; Wan, M.; Chen, Z.-R. *Z. Anorg. Allg. Chem.* **2012**, *638*, 851. $[Er(OCHN(CH_3)_2)_8][(Ag_6I_9]$
FEZCUJ	2.334 Å	Liu Shengming; Plecnik, C.E.; Meyers, E. A.; Shore, S. G., *Inorg Chem.* **2005**, *44*, 282. $[Er(OCHN(CH_3)_2)_8]_n[Cu_6(CN)_9]_n{\cdot}2(CH_3)_2NCHO$
BOWHAY	2.337 Å	Danjo, H.; Nakagawa, T.; Katagiri, K.; Kawahata, M.; Yoshigai, S.; Miyazawa, T.; Yamaguchi, K. *Cryst. Growth Des.* **2015**, *15*, 384. $[Er(OCHN(CH_3)_2)_8](B_3C_{60}H_{30}O_{12}){\cdot}3.47(CH_3)_2NCHO$
Mean	**2.332 Å/4 stgructures**	

Ytterbium(II)

Six-coordination, octahedral configuration

ICSD/CSD code	*d*(Yb-O)	Reference, compound formula
WOLFIP	2.351 Å	$[Yb(OCHN(CH_3)_2)_6](B(C_6H_5)_4)_2 \cdot (CH_3)_2NCHO$
Mean	**2.351 Å/1 structure**	

Ytterbium(III)

Eight-coordination, square antiprismatic configuration

ICSD/CSD code	*d*(Yb-O)	Reference, compound formula
OMAYAD	2.292 Å	Zhang, J.; Meng,S.; Song, Y.; Yang, J.; Wei, H.; Huang, W.; Cifuentes, M. P.; Humphrey, M. G.; Zhang, C. *New. J. Chem.* **2011**, *35*, 328. $[Yb(OCHN(CH_3)_2)_8][Ag_3W_3S_{12}]$
JABTUF	2.308 Å	Hoch, C. *Z. Krist. Cryst. Mater.* **2020**, *235*, 401. $[Yb(OCHN(CH_3)_2)_9]I_3$
BOWHEC	2.317 Å	Danjo, H.; Nakagawa, T.; Katagiri, K.; Kawahata, M.; Yoshigai, S.; Miyazawa, T.; Yamaguchi, K. *Cryst. Growth Des.* **2015**, *15*, 384. $[Yb(OCHN(CH_3)_2)_8](B_3C_{60}H_{30}O_{12}) \cdot 3.47(CH_3)_2NCHO$
CUZYUT	2.359 Å	Saha, S.; Jana, P. P.; Gomez-Garcia, C. J.; Harms, K.; Nayek, H. P. *Polyhedron* **2016**, *104*, 58. $[Yb(OCHN(CH_3)_2)_9][W_{12}PO_{40}]$
Mean	**2.306 Å/3 structures**	

Lutetium(III)

Eight-coordination, square antiprismatic configuration

ICSD/CSD code	*d*(U-O)	Reference, compound formula
KIKWEH	2.293 Å	Yarovoi, S. S. ; Mironov, Y. V. ; Solodovnikov, S. F. ; Solodovnikova, Z. A. ; Naumov, D. Y. ; Fedorov, V. E. *Koord. Khim.* **2006**, *32*, 743. $[Lu(OCHN(CH_3)_2)_8][Re_6Br_8S_6]$
KIKXAE	2.307 Å	Yarovoi, S. S. ; Mironov, Y. V. ; Solodovnikov, S. F. ; Solodovnikova, Z. A. ; Naumov, D. Y. ; Fedorov, V. E. *Koord. Khim.* **2006**, *32*, 743. $[Lu(OCHN(CH_3)_2)_8][Re_6Br_6Se_8]$
JABTEP	2.315 Å	Hoch, C. *Z. Krist. Cryst. Mater.* **2020**, *235*, 401. $[Lu(OCHN(CH_3)_2)_9]I_3$
Mean	**2.305 Å/3 structures**	

Table S2. Summary of structures of ammine solvated metal ions in the solid state, liquid ammonia and aqueous ammonia solution. Citations in purple text have not been included in the calculated mean bond distances.

Solid state
Lithium(I)
Four- coordination, tetrahedral configuration

ICSD/CSD	*d*(Li-N)	Reference and formula
NUCZIU	2.057 Å	Flacke, F.; Jacobs, H. *Eur. J. Solid State Inorg. Chem.* **1997**, *34*, 495. $[Li(NH_3)_4][Sn(SnC_6H_5)_3]\cdot C_6H_6$
54002	2.058 Å	Korber, N.; Richter, F. *Chem. Commun.* **1998**, 2023. $[Li(NH_3)_4]_3P_{11}\cdot 5NH_3$
XICMIH	2.058 Å	Michel, R.; Nack, T.; Neufeld, R.; Dieterich, J. M.; Mata, R. A.; Stalke, D. Angew. Chem., Int. Ed. 2013, 52, 734. $[Li(NH_3)_4]C_9H_7$
XAQMEI	2.059 Å	Wiesler, K.; Korber, N. *Z. Krist. Cryst. Mater.* **2005**, *220*, 188. $[Li(NH_3)_4]_4[Sn_3(C_6H_5)_6]\cdot C_{12}H_{24}O_6\cdot 4NH_3$
279632	2.063 Å	Korber, N.; Fleischmann, A. *J. Chem. Soc., Dalton Trans.* **2001**, 383. $[Li(NH_3)_4]_4Sn_9\cdot NH_3$
416230	2.064 Å	Hanauer, T.; Aschenbrenner, J.C.; Korber, N. *Inorg. Chem.* **2006**, *45*, 6723. $[Li(NH_3)_4]_2P_{14}\cdot 2NH_3$
414142	2.065 Å	Kraus, F.; Panda, M.; Müller, T.; Albert, B. *Inorg. Chem.* **2013**, *52*, 4692. $[Li(NH_3)_4]_2B_{12}H_{12}\cdot 2NH_3$
VIHGOK		
415257	2.067 Å	Hanauer, T.; Kraus, F.; Reil, M.; Korber, N. *Monatsh. Chem.* **2006**, *137*, 147. $[Li(NH_3)_4]_2As_4$
OKEMIB	2.067 Å	Michel, R.; Herbst-Irmer, R.; Stalke, D. *Organometallics* **2010**, *29*, 6169. . $[Li(NH_3)_4]C_5H_5\cdot NH_3$
279633	2.068 Å	Korber, N.; Fleischmann, A. *J. Chem. Soc., Dalton Trans.* **2001**, 383. $[Li(NH_3)_4]_4Pb_9\cdot NH_3$
415189	2.069 Å	Hanauer, T.; Grothe, M.; Reil, M.; Korber, N. *Helv. Chim. Acta* **2005**, *88*, 950. $[Li(NH_3)_4]_3As_7\cdot NH_3$
409556	2.074 Å	Korber, N. D.; Richter, F. *Z. Kristallogr. – New Cryst. Struct.* **2001**, *216*, 117. $[Li(NH_3)_4]_2Te_2$
412156	2.077 Å	Pfisterer, K.; Korber, N. *Z. Anorg. Allg. Chem.* **2002**, *628*, 762. $NH_4[Li(NH_3)_4](P(NH_2)_2S_3)\cdot NH_3$
413744	2.078 Å	Hanauer, T.; Kraus, F.; Korber, N. *Monatsh. Chem.* **2005**, *136*, 119. $[Li(NH_3)_4]RbSe_3$
RUJWIC	2.081 Å	Scotti, N.; Zachwieja, U.; Jacobs, H. Z. Anorg. Allg. Chem. 1997, 623, 1503. $[Li(NH_3)_4]_2[(H_5C_6)_2SnSnC_6H_5)_2]$
406510	2.082 Å	Korber, N. D.; Richter, F. D. C. *Angew. Chem., Int. Ed.* **1997**, *36*, 1512. $[Li(NH_3)_4]_3[Li(NH_3)_2Sb_5]\cdot 2NH_3$
263143	2.084 Å	Guentner, C.; Korber, N. *Acta Crystallogr., Sect. E* **2012**, *68*, i84. $[Li(NH_3)_4][Li(NH_3)_3S_3]$
425119	2.084 Å	Hamberger, M.; Liebig, S.; Friedrich, U.; Korber, N.; Ruschewitz, U. *Angew. Chem., Int. Ed.* **2012**, *51*, 13006. $[Li(NH_3)_4]C_2H$
CUGJAT	2.084 Å	Crumpton, A. E.; Heilmann, A.; Aldridge, S. *Angew. Chem., Int. Ed.* **2024**, *63*, e2024063. $[Li(NH_3)_4](C_{27}H_{28}BF_5OP)$
417846	2.087 Å	Panda, M.; Hofmann, K.; Prosenc, M. H.; Albert, B. *Dalton Trans.* **2008**, 3956. $[Li(NH_3)_4]_2(B_6H_6)\cdot 2NH_3$

COVLUV		
3708	2.088 Å	Lorenz, C.; Gaertner, S.; Korber, N. *Crystals* **2018**, *8*, 1. $[Li(NH_3)_4]_4[Sn_4(NH_3)_4]$
409539	2.091 Å	Korber, N.; Grothe, M. *Z. Kristallogr. – New Cryst. Struct.* **2001**, *216*, 117. $[Li(NH_3)_4]_3(AsSe_4)$
XUNYAH	2.092 Å	Huang, Z.; Gallucci, J.; Chen, X.; Yisgedu, T.; Lingam, H. K.; Shore, S. G.; Zhao, J.-C. *J. Mater. Chem.* **2010**, *20*, 2743. $[Li(NH_3)_4][Li(NH_3)_3]B_{12}H_{12}$
55079	2.094 Å	Jacobs, H.; Barlage, H.; Friedriszik, M. *Z. Anorg. Allg. Chem.* **2004**, *630*, 645. $Li(NH_3)_4]I$
55078	2.096 Å	Jacobs, H.; Barlage, H.; Friedriszik, M. *Z. Anorg. Allg. Chem.* **2004**, *630*, 645. $Li(NH_3)_4]B$**r**
Mean	**2.076 Å/25 structures**	

Sodium(I)

Five-coordination

ICSD/CSD	*d*(Na-N)	Reference and formula
172466	2.496 Å	Hanauer, T.; Kraus, F.; Reil, M.; Korber, N. *Monatsh. Chem.* **2006**, *137*, 147. $[Na(NH_3)_5]_2As_4{\cdot}3NH_3$
281007	2.496 Å	Korber, N.; Reil, M. *Chem. Commun.* **2002**, 84. $[Na(NH_3)_5]_2As_4{\cdot}3NH_3$
413743	2.500 Å	Hanauer, T.; Kraus, F.; Korber, N. *Monatsh. Chem.* **2005**, *136*, 136 $[Na(NH_3)_5]RbSe_3{\cdot}3NH_3$
Mean	**2.497 Å/3 structures**	

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Na-N)	Reference and formula
GUMLOT	2.604 Å	Friedrich, U.; Schmidt, F.; Korber, N. *Z. Anorg. Allg. Chem.* **2024**, *650*, e202400086. $[Na(NH_3)_6][Na(NH_3)_2(O_6C_{20}H_{24})]_2[Bi_3Sn_5]{\cdot}10NH_3$

Potassium(I)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(K-N)	Reference and formula
QOTQOH	2.758 Å	Yang, Y.; Liu, Y.; Wu, H.; Zhou, W.; Gao, M.; Pan, H. *Z. Phys. Chem. Chem. Phys.* **2014**, *16*, 135. $[K(NH_3)_6][K(NH_3)_2(C_{12}H_{24}O_6)][Ti(NH_3)_2(C_5H_5)_2]$ $[Ti(NH_3)(C_5H_5)_2Sn_9]{\cdot}14NH_3$

Dimeric $[(NH_3)_5K(NH_3)_2K(NH_3)_5]$, seven-coordination

XEJWAL	2.969 Å	Wiesler, K.; Suchentrunk, C.; Korber, N. *Helv. Chim. Acta* **2006**, *89*, 1158. $[(NH_3)_5K(NH_3)_2K(NH_3)_5][Sn_6(C_6H_5)_{12}]{\cdot}4NH_3$

Rubidium(I)

Six-coordination, dimeric

ICSD/CSD	*d*(Rb-N)	Reference and formula
VIHGUQ	3.179 Å	Yang, Y.; Liu, Y.; Wu, H.; Zhou, W.; Gao, M.; Pan, H. *Z. Phys. Chem. Chem. Phys.* **2014**, *16*, 135. $[Rb_2(NH_3)_8]B_{12}H_{12}$

Beryllium(II)

Four-coordination, tetrahedral configuration

ICSD/CSD	*d*(Rb-N)	Reference and formula
TOJFEH	1.726 Å	Augustinov, W.; Müller, M.; Thomas-Hargreaves, L. R.; Ivlev, S. I.; Buchner, M. R. *Inorg. Chem.* **2024**, *63*, 5208. $[Be(NH_3)_4]NH_4(CF_3SO_3)_3{\cdot}NH_3$

Magnesium(II)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Mg-N)	Reference and formula
290894	2.166 Å	Jones, M. O.; Royse, D. M.; Edwards, P. P.; David, W. I. F. *Chem. Phys.* **2013**, *427*, 38. $[Mg(NH_3)_6]Cl_2$
290895	2.167 Å	Jones, M. O.; Royse, D. M.; Edwards, P. P.; David, W. I. F. *Chem. Phys.* **2013**, *427*, 38. $[Mg(NH_3)_6]Br_2$
90154	2.172 Å	Hwang, I.-C.; Drews, T.; Seppelt, K. *J. Am. Chem. Soc.* **2000**, *122*, 8486. $[Mg(NH_3)_6]Hg_{22}$
290896	2.181 Å	Jones, M. O.; Royse, D. M.; Edwards, P. P.; David, W. I. F. *Chem. Phys.* **2013**, *427*, 38. $[Mg(NH_3)_6]I_2$
90156	2.197 Å	Hwang, I.-C.; Drews, T.; Seppelt, K. *J. Am. Chem. Soc.* **2000**, *122*, 8486. $[Mg(NH_3)_6]Cl_2$
Mean	**2.177 Å/5 structures**	
HIPFIX	2.128 + 2.291 Å (2.237 Å)	Yang, Y.; Liu, Y.; Wu, H.; Zhou, W.; Gao, M.; Pan, H. *Phys. Chem. Chem. Phys.* **2014**, *16*, 135. $Li_2[Mg(NH_3)_6](BH_4)_4$

Calcium(II)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Ca-N)	Reference and formula
427991	2.501 Å	Woidy, P.; Karttunen, A. J.; Müller, T. G.; Kraus, F. *Z. Naturforach., Teil B* **2014**, *69*, 1141. $[Ca(NH_3)_6]Cl_2$
QAKGAL	2.509 Å	Cremer, U.; Disch, S.; Ruschewitz, U. *Z. Anorg. Allg. Chem.* **2004**, *630*, 2304. $[Ca(NH_3)_6][Cu(CN)_3]$
Mean	**2.505 Å/2 structures**	

Seven-coordination

ICSD/CSD	*d*(Ca-N)	Reference and formula
87604	2.553 Å	Schimek, G. L.; Drake, G. W.; Kolis, J. W. *Acta Chem. Scand.* **1999**, *53*, 145. $[Ca(NH_3)_7]S_6$

Eight-coordination, square antiprismatic configuration

427511	2.610 Å	Woidy, P.; Karttunen, A. J.; Müller, T. G.; Kraus, F. *Z. Naturforach., Teil B* **2014**, *69*, 1141. $[Ca(NH_3)_8]Br_2$
427990	2.627 Å	Woidy, P.; Karttunen, A. J.; Müller, T. G.; Kraus, F. *Z. Naturforach., Teil B* **2014**, *69*, 1141. $[Ca(NH_3)_8]I_2$
Mean	**2.619 Å/2 structures**	

Strontium(II)

Eight-coordination, square antiprismatic configuration

ICSD/CSD	*d*(Sr-N)	Reference and formula
165624	2.740 Å	Korber, N.; Daniels, J. *Inorg. Chem.* **1997**, *36*, 4906. $[Sr(NH_3)_8]HP_{11}\cdot NH_3$
IFUZEO	2.748 Å	Wendig, U.; Brumm, H.; Jansen, M. *Chem.-Eur. J.* **2002**, *8*, 2769. $[Sr(NH_3)_8]C_{70}\cdot 3NH_3$
OBEFUX	2.750 Å	Panthofer, M.; Wedig, U.; Brumm, H.; Jansen, M. *Solid State Sci.* **2004**, *6*, 619. $[Sr(NH_3)_8]_3C_{140}\cdot 19NH_3$
194516	2.772 Å	Johnsen, R. E.; Jensen, P. B.; Norby, P.; Vegge, T. *J. Phys Chem.* 2014, *118*, 24349. $[Sr(NH_3)_8]Cl_2$
Mean	**2.753 Å/4 structures**	

Barium(II)

Seven-coordination; monocapped octahedral configuration

ICSD/CSD	*d*(Ba-N)	Reference and formula
NUSVAY	2.891 Å	Himmel, K.; Jansen, M. *Inorg. Chem.* **1998**, *37*, 3437. $[Ba(NH_3)_7]C_{60}\cdot NH_3$
NUSVA01	2.892 Å	Daniels, J.; Weigend, F.; Jansen, M. *Z. Anorg. Allg. Chem.* **2021**, *647*, 1132. $[Ba(NH_3)_7]C_{60}\cdot NH_3$
Mean	**2.892 Å/2 structures**	

Nine-coordination

ICSD/CSD	*d*(Ba-N)	Reference and formula
EBOYOJ	2.962 Å	Brumm, H.; Peters, E.; Jansen, M. *Z. Angew. Chem., Int. Ed.* **2001**, *40*, 2069. $[Ba(NH_3)_9]C_{70}\cdot 7NH_3$

Yttrium(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Y-N)	Reference and formula
251869 RURRUT	2.474 Å	Jepsen, L. H.; Ley, M. B.; Cerny, R.; Lee, Y.-S.; Cho, Y. W.; Ravnsbk, D.; Besenbacher, F.; Skibsted, J.; Jensen, T. R. *Inorg. Chem.* **2015**, *54*, 7402. $[Y(NH_3)_6](BH_4)_3$

Seven-coordination, monocapped octahedral configuration

RURSAA	2.487 Å	Jepsen, L. H.; Ley, M. B.; Cerny, R.; Lee, Y.-S.; Cho, Y. W.; Ravnsbk, D.; Besenbacher, F.; Skibsted, J.; Jensen, T. R. *Inorg. Chem.* **2015**, *54*, 7402. $[Y(NH_3)_7](BH_4)_3$

Lanthanum(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(La-N)	Reference and formula
13723	2.678 Å	Grinderslev, J. B.; Ley, M. B.; Lee, Y.-S.; Jepsen, L. H.; Jørgensen, M.; Cho, Y. W.; Skibsted, J.; Jensen, T. R. *Inorg. Chem.* **2020**, *59*, 7768. $[La(NH_3)_6](BH_4)_3$

Nine-coordination

ICSD/CSD	*d*(La-N)	Reference and formula
84283	2.706 Å	Schimek, G.L.; Young, D.M.; Kolis, J.W. *Eur. J. Inorg. Solid State Chem.* **1997**, *34*, 1037. $NH_4[La(NH_3)_9]S_5S$

Cerium(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Ce-N)	Reference and formula
13723	2.654 Å	Grinderslev, J. B.; Ley, M. B.; Lee, Y.-S.; Jepsen, L. H.; Jørgensen, M.; Cho, Y. W.; Skibsted, J.; Jensen, T. R. *Inorg. Chem.* **2020**, *59*, 7768. $[Ce(NH_3)_6](BH_4)_3$

Samarium(III)

Tricapped trigonal prismatic configuration

ICSD/CSD	*d*(Sm-N)	Reference and formula
FITSEH	2.605+2.687 Å	Quitmann, C. C.; Müller-Buschbaum, K. *Z. Anorg. Allg. Chem.* **2005**, *631*, 564. $[Sm(NH_3)_9][Sm(NC_4H_4)_6]$

Europium(0)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Eu-N)	Reference and formula
49648	2.865 Å	Oesterreicher, H.; Mammano, N.; Sienko, M. J *J. Solid State Chem.* **1969**, *1*, 10. $[Eu(NH_3)_6]$

Europium(II)

Eight-coordination, square antiprismatic configuration

ICSD/CSD	*d*(Eu-N)	Reference and formula
142663	2.752 Å	Rudel, S. S.; Graubner, T.; Karttunen, A. J.; Kraus, F. *Z. Anorg. Allg. Chem.* **2020**, *646*, 1396. $[Eu(NH_3)_8]I_2$

Ytterbium(II)

Eight-coordination, square antiprismatic configuration

ICSD/CSD	*d*(Yb-N)	Reference and formula
142664	2.648 Å	Rudel, S. S.; Graubner, T.; Karttunen, A. J.; Kraus, F. *Z. Anorg. Allg. Chem.* **2020**, *646*, 1396. $[Yb(NH_3)_8]I_2$

Ytterbium(III)

Eight-coordination, square antiprismatic configuration

ICSD/CSD	*d*(Yb-N)	Reference and formula
KIFPIZ	2.475 Å	Müller-Buschbaum, K. *Z. Anorg. Allg. Chem.* **2007**, *633*, 1403. $[Yb(NH_3)_8]Yb(NC_4H_4)_6]$

Zirconium(IV)

Eight-coordination, square antiprismatic configuration

ICSD/CSD	*d*(Zr-N)	Reference and formula
TOXPON	2.407 Å	Huang, J.; Tan, Y.; Su, J.; Gu, Q.; Cerny, R.; Ouyang, L.; Sun, D.; Yu, X.; Zhu, M. *Chem. Commun.* **2015**, *51*, 2794. $[Zr(NH_3)_8](BH_4)_4$

Vanadium(II)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(V-N)	Reference and formula
78859	2.225 Å	Essmann, R.; Kreiner, G.; Niemann, A.; Rechenbach, D.; Schmieding, A.; Sichla, T.; Zachwieja, U.; Jacobs, H. *Z. Anorg. Allg. Chem.* **1996**, *622*, 1161. $[V(NH_3)_6]I_2$

Chromium(II)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Cr-N)	Reference and formula
78860	2.224 Å	Essmann, R.; Kreiner, G.; Niemann, A.; Rechenbach, D.; Schmieding, A.; Sichla, T.; Zachwieja, U.; Jacobs, H. *Z. Anorg. Allg. Chem.* **1996**, *622*, 1161. $[Cr(NH_3)_6]I_2$

Chromium(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Cr-N)	Reference and formula
22076	2.028 Å	Mori, M.; Saito, Y.; Watanabe, T. *Bull. Chem. Soc. Jpn.* **1961**, *34*, 295. $[Cr(NH_3)_6][CuCl_5]$
26063	2.059 Å	Goldfield, S. A.; Raymond, K. N. *Inorg. Chem.* **1971**, *10*, 2604. $[Cr(NH_3)_6][CuBr_5]$
10255	2.064 Å	Raymond, K. N.; Meek, D. W.; Ibers, J. A. *Inorg. Chem.* **1968**, *7*, 1111. $[Cr(NH_3)_6][CuCl_5]$
2728	2.067 Å	Wieghardt, K.; Weiss, J. *Acta Crystallogr., Sect. B* **1972**, *28*, 529. $[Cr(NH_3)_6][MnF_6]$
87620	2.067 Å	Reynolds, P. A.; Figgis, B. N.; Sobolev, A. N. *Aust. J. Chem.* **1999**, *52*, 219. $K[Cr(NH_3)_6](ClO_4)_2Cl_2$
280496	2.067 Å	Figgis, B. N.; Sobolev, A. N.; Reynolds, P. A. *Acta Crystallo., Sect B* **1998**, *54*, 613. $Cs[Cr(NH_3)_6](ClO_4)_2Cl_2$
201417	2.069 Å	Clegg, W. *J. Chem. Soc., Dalton Trans.* **1982**, 593. $[Cr(NH_3)_6][HgCl_5]$
631	2.071 Å	Clegg, W. *Acta Crystallogr., Sect. B* **1976**, *32*, 2907. $[Cr(NH_3)_6][ZnCl_4]Cl$
69045	2.071 Å	Moron, M. C.; Le Bail, A.; Pons, J. *J. Solid State Chem.* **1990**, *88*, 498. $[Cr(NH_3)_6][Ni(H_2O)_6]Cl_5{\cdot}0.5NH_4Cl$
2729	2.073 Å	Wieghardt, K.; Weiss, J. *Acta Crystallogr., Sect. B* **1972**, *28*, 529. $[Cr(NH_3)_6][FeF_6]$
80102	2.074 Å	Ohba, S.; Fujita, T.; Bernal, I. *Acta Crystallogr., Sect. C* **1995**, *51*, 1481. $[Cr(NH_3)_6][CuCl_5]$
161157	2.074 Å	Mikuli, E.; Gorska, N.; Wrobel, S.; Sciesinski, J.; Sciesinska, E. *Z. Naturforsch., Teil A* **2007**, *62*, 179. $[Cr(NH_3)_6](ClO_4)_3$
281758	2.077 Å	Alig, E.; Fink, L.; Bolte, M. *Acta Crystallo., Sect E* **2003**, *59*, i154. $[Na(H_2O)_2][Cr(NH_3)_6]Cl_4$
57271	2.078 Å	Bäucker, C.; Niewa, R. *Z. Anorg. Allg. Chem.* **2022**, *648*, e202200209. $[Cr(NH_3)_6][AlF_6]$
411105	2.078 Å	Göbbels, D.; Meyer, G. *Z. Anorg. Allg. Chem.* **2000**, *626*, 1499. $[Cr(NH_3)_6][Cr(NH_3)_2F_4](BF_4)_2$
4067	2.079 Å	Clegg, W.; Greenhalgh, D. A.; Straughan, B. P. *J. Chem. Soc., Dalton Trans.* **1975**, 2591. $[Cr(NH_3)_6][HgCl_5]$
408816	2.081 Å	Tebbe, K. F.; Gilles, T. *Z. Naturforsch., Teil B* **1998**, *53*, 1127. $[Cr(NH_3)_6]I_3I_4$
LEBRUF	2.081 Å	Dieterich, S.; Strahle, J. *Z. Naturforsch., Teil B* **1998**, *53*, 1127. $[Cr(NH_3)_6]I_3I_4$
80103	2.082 Å	Ohba, S.; Fujita, T.; Bernal, I. *Acta Crystallo., Sect C* **1993**, *48*, 1574. $NH_4[Cr(NH_3)_6](C_{14}H_{14}N_5)_4{\cdot}4H_2O$
157360	2.119 Å	Gorska, N.; Hetmanczyk, L.; Lasocha, W.; Mikuli, E. *J. Alloys Compd.* **2007**, *442*, 80. $[Cr(NH_3)_6](BF_4)_3$
Mean	**2.073 Å/20 structures**	

Manganese(II)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Mn-N)	Reference and formula
186767	2.240 Å	Reardon, H.; Hanlon, J. M.; Grant, M.; Fullbrook, I.; Gregory, D. H. *Crystals* **2012**, *2*, 193. $[Mn(NH_3)_6]Cl_2$
12921	2.263 Å	Li, S.; Han, J.; Zhang, L.; Jiang, W.; Jia, D. *J. Solid State Chem.* **2019**, *269*, 341. $[Mn(NH_3)_6][(Mn_2(Sb_2S_4)_2]\cdot 2N_2H_4$
78861	2.270 Å	Essmann, R.; Kreiner, G.; Niemann, A.; Rechenbach, D.; Schmieding, A.; Sichla, T.; Zachwieja, U.; Jacobs, H. *Z. Anorg. Allg. Chem.* **1996**, *622*, 1161. $[Mn(NH_3)_6]Cl_2$
426563	2.272 Å	Kysliak, O.; Beck, J. *Inorg. Chem. Commun.* **2013**, *38*, 146. $[Mn(NH_3)_6]S_6$
426402	2.274 Å	Kysliak, O.; Beck, J. *Z. Anorg. Allg. Chem.* **2013**, *639*, 2860. $[Mn(NH_3)_6][SbSe_2]_2$
426562	2.274 Å	Kysliak, O.; Beck, J. *Inorg. Chem. Commun.* **2013**, *38*, 146. $[Mn(NH_3)_6][S_{2.71}Se_{2.29}]$
425025	2.278 Å	Kysliak, O.; Beck, J. *Eur. J. Inorg. Chem.* **2013**, 124. $[Mn(NH_3)_6][TeS_3]$
193739	2.279 Å	Xiong, W.-W.; A., Eashwer U.; Ng, Y. T.; Ding, J.; Wu, T.; Zhang, Q. *J. Am. Chem. Soc.* **2013**, *135*, 1256. $[Mn(NH_3)_6][(Mn_2(As_2S_4)_2]\cdot 2N_2H_4$
202342	2.279 Å	Jacobs, H.; Bock, J.; Stuve, C. *J. Less-Common Met.* **1987**, *134*, 207. $[Mn(NH_3)_6]I_2$
426565	2.281 Å	Kysliak, O.; Beck, J. *Inorg. Chem. Commun.* **2013**, *38*, 146. $[Mn(NH_3)_6]Se_6$
12919	2.285 Å	Li, S.; Han, J.; Zhang, L.; Jiang, W.; Jia, D. *J. Solid State Chem.* **2019**, *269*, 341. $[Mn(NH_3)_6][(Mn(NH_4)_2)(Sb_2S_4)_2]\cdot H_2O$
425410	2.287 Å	Kysliak, O.; Marcus, M.; Bredow, T.; Beck, J. *Inorg. Chem.* **2013**, *52*, 8327. $[Mn(NH_3)_6]Te_4$
PUHJIL	2.287 Å	Himmel, K.; Jansen, M. *Eur. J. Inorg. Chem.* **1998**, 1183. $[Mn(NH_3)_6]C_{60}\cdot 6NH_3$
426564	2.288 Å	Kysliak, O.; Beck, J. *Inorg. Chem. Commun.* **2013**, *38*, 146. $[Mn(NH_3)_6]Se_3$
430316	2.288 Å	Müller, T. G.; Buchner, M. R.; Scheubeck, T. J.; Korber, N.; Kraus, F. *Z. Anorg. Allg. Chem.* **2016**, *642*, 796. $[Mn(NH_3)_6](N_3)_2\cdot 4NH_3$
429495	2.291 Å	Jepsen, L. H.; Ley, M. B.; Filinchuk, Y.; Besenbacher, F.; Jensen, T. R. *ChemSusChem* **2015**, *8*, 1452. $[Mn(NH_3)_6](BH_4)_2$
12918	2.293 Å	Li, S.; Han, J.; Zhang, L.; Jiang, W.; Jia, D. *J. Solid State Chem.* **2019**, *269*, 341. $[Mn(NH_3)_6][(Mn(NH_3)_3)(Sb_2S_4)_2]Cl_2$
186768	2.316 Å	Reardon, H.; Hanlon, J. M.; Grant, M.; Fullbrook, I.; Gregory, D. H. *Crystals* **2012**, *2*, 193. $[Mn(NH_3)_6]Br_2$
248621	2.328 Å	Xiong, W.-W.; Miao, J.; Li, P.-Z.; Zhao, Y.; Liu, B.; Zhang, Q. *J. Solid State Chem.* **2014**, *218*, 146. $[Mn(NH_3)_6][Ag_4Mn_4Sn_3Se_{13}]$
429496	2.342 Å	Jepsen, L. H.; Ley, M. B.; Filinchuk, Y.; Besenbacher, F.; Jensen, T. R. *ChemSusChem* **2015**, *8*, 1452. $Li_2[Mn(NH_3)_6](BH_4)_4$

Mean	**2.285 Å/18 structures**

Iron(II)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Fe-N)	Reference and formula
50465	2.152 Å	Schoening, R. A.; Meyer, G. . *Z. Anorg. Allg. Chem.* **1998**, *624*, 1389. $[Fe(NH_3)_6][TaF_6]_2$
84264	2.207 Å	Schimek, G. L.; Kolis, J. W.; Long, G.-J. *Chem. Mater.* **1997**, *9*, 2776. $[Fe(NH_3)_6][Cu_8Sb_3S_{13}]$
78862	2.207 Å	Essmann, R.; Kreiner, G.; Niemann, A.; Rechenbach, D.; Schmieding, A.; Sichla, T.; Zachwieja, U.; Jacobs, H. *Z. Anorg. Allg. Chem.* **1996**, *622*, 1161. $[Fe(NH_3)_6]Cl_2$
426558	2.211 Å	Kysliak, O.; Beck, J. *Inorg. Chem. Commun.* **2013**, *38*, 146. $[Fe(NH_3)_6]S_6$
425409	2.215 Å	Kysliak, O.; Beck, J. *Z. Inorg. Chem.* **2013**, *52*, 8327. $[Mn(NH_3)_6]Te_4{\cdot}NH_3$
78863	2.216 Å	Essmann, R.; Kreiner, G.; Niemann, A.; Rechenbach, D.; Schmieding, A.; Sichla, T.; Zachwieja, U.; Jacobs, H. *Z. Anorg. Allg. Chem.* **1996**, *622*, 1161. $[Fe(NH_3)_6]Br_2$
426559	2.216 Å	Kysliak, O.; Beck, J. *Inorg. Chem. Commun.* **2013**, *38*, 146. $[Fe(NH_3)_6]Se_6$
84265	2.218 Å	Schimek, G. L.; Kolis, J. W.; Long, G.-J. *Chem. Mater.* **1997**, *9*, 2776. $[Fe(NH_3)_6][AgSbS_4]$
84266	2.227 Å	Schimek, G. L.; Kolis, J. W.; Long, G.-J. *Chem. Mater.* **1997**, *9*, 2776. $[Fe(NH_3)_6][AgAsS_4]$
202343	2.229 Å	Jacobs, H.; Bock, J.; Stuve, C. *J. Less-Common Met.* **1987**, *134*, 207. $[Fe(NH_3)_6]I_2$
CACDIW	2.235 Å	Roedern, E.; Jensen, T. R. *Inorg. Chem.* **2015**, *54*, 10477. $[Fe(NH_3)_6](BH_4)_2$
430567	2.321 Å	Roedern, E.; Jensen, T. R. *Inorg. Chem.* **2015**, *54*, 10477. $[Fe(NH_3)_6](LiB_2H_8)_2$
CACDOC		
Mean	**2.218 Å/10 structures**	

Iron(III)

Six-coordination, octahedral configuration

412650	2.173 Å	Bremm, S.; Meyer, G. *Z. Anorg. Allg. Chem.* **2003**, *629*, 1875. $[Fe(NH_3)_6]_3[Fe_8Br_{14}]$

Ruthenium(II)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Ru-N)	Reference and formula
23456	2.137 Å	Trehoux, J.; Novogorocki, G.; Thomas, D. *Compt. Rend. Seanc l'Academ. Sciences, Serie C* **1972**, *274*, 1384. $[Ru(NH_3)_6]Cl_2$
26100	2.143 Å	Stynes, H. C.; Ibers, J. A. *Inorg. Chem.* **1971**, *10*, 2304. $[Ru(NH_3)_6]I_2$
Mean	**2.140 Å/2 structures**	

Ruthenium(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Ru-N)	Reference and formula
91763	2.075 Å	Subramanian, M. A.; Harlow, R. H.; Rao, V. N. M. *Mater. Res. Bull.* **2000**, *35*, 1587. $[Ru(NH_3)_6][AlCl_6]$
280494	2.086 Å	Figgis, B.; Sobolev, A.; Reynolds, P. *Acta Crystallogr., Sect. B* **1998**, *54*, 613. $Cs[Ru(NH_3)_6](ClO_4)_2Cl_2$
79696	2.091 Å	Engelhardt, L. M.; Reynolds, P. A.; Sobolev, A. N. *Acta Crystallogr., Sect. C* **1995**, *51*, 1045. $[Ru(NH_3)_6]Cl_3$
280491	2.094 Å	Figgis, B.; Sobolev, A.; Reynolds, P. *Acta Crystallogr., Sect. B* **1998**, *54*, 613. $Rb[Ru(NH_3)_6](ClO_4)_2Cl_2$
280489	2.097 Å	Figgis, B.; Sobolev, A.; Reynolds, P. *Acta Crystallogr., Sect. B* **1998**, *54*, 613. $K[Ru(NH_3)_6](ClO_4)_2Cl_2$
425255	2.098 Å	Khranenko; S. P.; Bykova; E. A.; Yusenko; K. V.; Tyutyunnik; A. P.; Gromilov, S. A. . *J. Struct. Chem.* **2013**, *54*, 931. $[Ru(NH_3)_6](ReO_4)_3 \cdot 2H_2O$
189227	2.101 Å	Dolega, D.; Mikuli, E.; Gorska, N.; Inaba, A.; Holderna-Natkaniec, K.; Nitek, W. *J. Solid State Chem.* **2013**, *204*, 233. $[Ru(NH_3)_6](ClO_4)_3$
26101	2.104 Å	Stynes, H. C.; Ibers, J. A. *Inorg. Chem.* **1971**, *10*, 2304. $[Ru(NH_3)_6](BF_4)_3$
73574	2.109 Å	Blake, A. B.; Delfs, C. D.; Engelhardt, L. M.; Figgis, B. N.; Reynolds, P. A.; White, A. H.; Moubaraki, B.; Murray, K. S. *J. Chem., Dalton Trans.* **1993**, 1417. $[Ru(NH_3)_6](SCN)_3$
67571	2.112 Å	Reynolds, P. A.; Delfs, C. D.; Figgis, B. N.; Engelhardt, L. M.; Moubaraki, B.; Murray, K. S. *J. Chem. Soc., Dalton Trans.* **1992**, 2029. $[Ru(NH_3)_6]Br(SO_4)$
425256	2.118 Å	Khranenko; S. P.; Bykova; E. A.; Yusenko; K. V.; Tyutyunnik; A. P.; Gromilov, S. A. *J. Struct. Chem.* **2013**, *54*, 931. $[Ru(NH_3)_6](MO_4)Cl \cdot 3H_2O$
Mean	**2.099 Å/11 structures**	

Osmium(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Ru-N)	Reference and formula
87617	2.111 Å	Reynolds, P. A.; Figgis, B. N.; Sobolev, A. N. *Aust. J. Chem.* **1999**, *52*, 219. $K[Os(NH_3)_6](ClO_4)Cl_2$

Cobalt(II)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Co-N)	Reference and formula
38257	2.113 Å	Barnet, M. T.; Craven, B. M.; Freeman, H. C.; Kime, N. E.; Ibers, J. A. *Chem. Commun.* **1966**, 307. $[Co(NH_3)_6]Cl_2$
430565	2.136 Å	Roedern, E.; Jensen, T. R. *Inorg. Chem.* **2015**, *54*, 10477. $[Co(NH_3)_6](BH_4)_{1.04}Cl_{0.96}$
CACDES		

74039	2.165 Å	Newman, J. M.; Binns, M.; Hambley, T. W.; Freeman, H. C. *Inorg. Chem.* **1991**, *30*, 3499. $[Co(NH_3)_6]Cl_2$
73346	2.170 Å	Newman, J. M.; Binns, M.; Hambley, T. W.; Freeman, H. C. *Inorg. Chem.* **1991**, *30*, 3499. $[Co(NH_3)_6]Cl_2$
279640	2.172 Å	Brumm, H.; Jansen, M. *Z. Anorg. Allg. Chem.* **2001**, *627*, 1433. $[Co(NH_3)_6]C_{60}\cdot 6NH_3$
RAJNIZ		
78864	2.176 Å	Essmann, R.; Kreiner, G.; Niemann, A.; Rechenbach, D.; Schmieding, A.; Sichla, T.; Zachwieja, U.; Jacobs, H. *Z. Anorg. Allg. Chem.* **1996**, *622*, 1161. $[Co(NH_3)_6]Br_2$
30703	2.183 Å	Kummer, S.; Babel, D. *Z. Naturforsch., Teil B* **1984**, *39*, 1118. $[Co(NH_3)_6](BF_4)_2$
430565	2.183 Å	Roedern, E.; Jensen, T. R. *Inorg. Chem.* **2015**, *54*, 10477. $[Co(NH_3)_6](BH_4)_2$
CACDAO		
30704	2.186 Å	Kummer, S.; Babel, D. *Z. Naturforsch., Teil B* **1984**, *39*, 1118. $[Co(NH_3)_6](PF_6)_2$
239009	2.188 Å	Müller, T. G.; Kraus, F. *Acta Crystallogr., Sect. E* **2015**, *71*, 1418. $[Co(NH_3)_6][Co(CO)_4]_2$
QUTGUJ		
412471	2.191 Å	Grothe, M.; Korber, N. *Z. Anorg. Allg. Chem.* **2003**, *629*, 399. $[Co(NH_3)_6)_2](As_{12}Se_4)\cdot 12NH_3$
203230	2.195 Å	Schiebel, P.; Prandl, W.; Papoular, R.; Paulus, W. *Acta Crystallogr., Sect. A* **1996**, *52*, 189. $[Co(NH_3)_6](PF_6)_2$
203231	2.199 Å	Schiebel, P.; Prandl, W.; Papoular, R.; Paulus, W. *Acta Crystallogr., Sect. A* **1996**, *52*, 189. $[Co(NH_3)_6](PF_6)_2$
Mean	**2.179 Å/12 structures**	

Cobalt(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Co-N)	Reference and formula
56126	1.855 Å	Hentschel, H.; Rinne, F. *Zentralblatt Mineral., Geolog. Palaeontolog, Abt. A* **1927**, 390-392. $[Co(NH_3)_6]I_3$
WEHBUH	1.932 Å	Charushnikova, I. A.; Krot, N. N.; Polyakova, I. N. *Radiokhim.* **2005**, *47*, 495.
155531		$[Co(NH_3)_6]_2[(NpO_2)_2C_8O_{16}]\cdot 3H_2O$
CITQOO	1.932 Å	Andreev, G.; Budantseva, N.; Fedoseev, A. *Inorg. Chem. Commun.* **2019**, *99*, 160.
		$(NH_4)_2[Co(NH_3)_6]_2[Am_3C_{24}H_{21}O_{31}]\cdot 35H_2O$
VUCDUU	1.933 Å	Charushnikova, L. A.; Krot, N. N.; Makarenkov, V. I.; Starikova, Z. A. *Radiochim.* **2014**, *56*, 364.
		$[Co(NH_3)_6]_2[Tm_3C_{24}H_{25}O_{36}]\cdot 6H_2O$
22133	1.936 Å	Kime, N. E.; Ibers, J. A. *Acta Crystallogr., Sect. B* **1969**, *25*, 168-169. $[Co(NH_3)_6]I_3$
QAGKAM	1.936 Å	Fedosseev, A. M.; Grigoriev, M. S.; Budantseva, N. A.; Guillaumont, D.; Le Naour, C.; Simoni, E.; Den Auwer, C.; Moisy, P. *Compt. Rend. Chim.* **2010**, *13*, 839. $K[Co(NH_3)_6]_2[Am_3C_{24}H_{22}O_{31}]\cdot 18H_2O$
JACREN	1.939 Å	Tian, R.; Wang, F.; Du, C.; Feng, L.; Liu, Y.; Zhang, C.; Pan, Q. *Chem. Res. Chin. Univ.* **2014**, *30*, 889.
		$[Co(NH_3)_6][C_6H_2O_{13}]\cdot H_2O$

175069	1.943 Å	Bernal, I.; Lalancette, R. A.; Syzdek, D.; Grebowicz, J. *J. Therm. Anal. Calorim.* **2022**, *147*, 11119. $[Co(NH_3)_6]Cl_3$
280487	1.946 Å	Figgis, B.; Sobolev, A.; Reynolds, P. *Acta Crystallogr., Sect. B* **1998**, *54*, 613. $Cs[Co(NH_3)_6](ClO_4)_2Cl_2$
FIRJIZ	1.947 Å	Zhang, Y.; Collison, D.; Livens, F. R.; Helliwell, M.; Eccles, H.; Tinker, N. *J. Alloys Compd.* **1998**, *271*, 139. $[Co(NH_3)_6]_2[U_2C_{20}H_{24}O_{20}]Cl_2 \cdot 7H_2O$
280334	1.949 Å	Clark, D. L.; Donohoe, R. J.; Gordon, J. C.; Gordon, P. L.; Webster Keogh, D.; Scott, B. L.; Drew Tait, C.; Watkin, J. G. *J. Chem. Soc., Dalton Trans.* **2000**, 1975. $[Co(NH_3)_6][Sm(CO_3)_3(H_2O)] \cdot 4H_2O$
189677	1.949 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Venugopalan, P. *CrystEngComm* **2006**, *8*, 215. $[Co(NH_3)_6]Cl_2(SeCN)$
QUTNIC	1.949 Å	Jiang, J.; Acunzo, A.; Koch, S. A. *J. Am. Chem. Soc.* **2001**, *123*, 12109. $[Co(NH_3)_6][Fe(CN)_5CO] \cdot 3H_2O$
AFIKUW	1.950 Å	Wang, X.-Y.; Justice, R.; Sevov, S. C. *Inorg. Chem.* **2007**, *46*, 4626. $[Co(NH_3)_6]_2(O_3SC_6H_4C_6H_4SO_3)_3 \cdot 2C_4H_8O \cdot 4H_2O$
35152	1.952 Å	Bernal, I.; Korp, J. D.; Schlemper, E. O.; Hussain, M. S. *Polyhedron* **1982**, *1*, 365. $[Co(NH_3)_6][CuCl_5]$
38258	1.953 Å	Barnet, M. T.; Craven, B. M.; Freeman, H. C.; Kime, N. E.; Ibers, J. A. *Chem. Commun.* **1966**, 307. $[Co(NH_3)_6]I_3$
201418	1.953 Å	Clegg, W. *J. Chem. Soc., Dalton Trans.* **1982**, 593. $[Co(NH_3)_6][HgCl_5]$
189678	1.953 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Venugopalan, P. *CrystEngComm* **2006**, *8*, 215. $[Co(NH_3)_6]_3Cl_4(N_3)_5$
NALCOT	1.953 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][Tm(C_7H_3NO_4)_3] \cdot 8.5H_2O$
VUCDOO	1.953 Å	Charushnikova, L. A.; Krot, N. N.; Makarenkov, V. I.; Starikova, Z. A. *Radiochim.* **2014**, *56*, 364. $[Co(NH_3)_6]_2[Er_3C_{24}H_{25}O_{36}] \cdot 6H_2O$
YUDJOY	1.954 Å	Pook, N.-P.; Adam, A. *Z. Anorg. Allg. Chem.* **2014**, *640*, 2931. $K[Co(NH_3)_6][Ce_2C_{20}H_{24}N_4O_{20}] \cdot 7H_2O$
92479	1.955 Å	Staehler, O.; Preetz, W. *Z. Anorg. Allg. Chem.* **2000**, *626*, 2077. $[Co(NH_3)_6][Os(SCN)_6]$
415361	1.955 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Venugopalan, P.; Salas, J. M.; Quiros, M. *J. Fluor. Chem.* **2005**, *126*, 1543. $[Co(NH_3)_6]Cl_2(BF_4)$
EXEHIY	1.955 Å	Abrahams, B. F.; Haywood, M. G.; Robson, R. *Chem.Commun.* **2004**, 938. $[[Co(NH_3)_6]3[NpO_2(SeO_4)_2(H_2O)_2] \cdot 2H_2O$
GEWNOP	1.955 Å	Fonari, M.; Kravtsov, V. CCDC deposition number 2167982, **2023**. $[Co(NH_3)_6](C_{15}H_{14}NO_2)_2Cl \cdot 2H_2O$
MEHSEB	1.955 Å	Darii, M.; Beleaev, E. S.; Kravtsov, V. C.; Bourosh, P.; Chumakov, Y.; Hauser, J.; Decurtins, S.; Liu, S.-X.; Sultanova, O.; Baca, S. G. *New J. Chem.* **2022**, *46*, 11404. $[Co(NH_3)_6](o\text{-}HOOCC_6H_4COO)Cl_2 \cdot 3H_2O$
66984	1.956 Å	Grigor'ev, M. S.; Plotnikova, T. E.; Budantseva, N. A.; Fedoseev, A. M.; Yanovskii, A. I.; Struchkov, Y. T. *Radiokhim.* **1992**, *34*, 1. $[Co(NH_3)_6][CuC_8HO_{25})] \cdot 2H_2O$
280485	1.956 Å	Figgis, B.; Sobolev, A.; Reynolds, P. *Acta Crystallogr., Sect. B* **1998**, *54*, 613. $NH_4[Co(NH_3)_6](ClO_4)_2Cl_2$

280860	1.956 Å	Jiang, J.-F.; Acunzo, A.; Koch, S. A. *J. Am. Chem. Soc.* **2001**, *123*, 12109. $[Co(NH_3)_6][Fe(CN)_5(CO)]\cdot 4H_2O$
AFIKOQ	1.956 Å	Wang, X.-Y.; Justice, R.; Sevov, S. C. *Inorg. Chem.* **2007**, *46*, 4626. $[Co(NH_3)_6]_2(O_3SC_6H_4C_6H_4SO_3)_3\cdot 2CH_3CN\cdot 5H_2O$
CAXYIM	1.956 Å	Harrowfield, J. M. Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, *70*, 485. $[Co(NH_3)_6][Gd(C_7H_3NO_4)_3]\cdot 8H_2O$
GEWNIJ	1.956 Å	Fonari, M.; Kravtsov, V. CCDC deposition number 2167981, **2023**. $[Co(NH_3)_6](C_3H_2N_3O_3)_2Cl\cdot H_2O$
PEWCOM	1.956 Å	Cindric, M.; Stilinovic, V.; Rubcic, M.; Medak, G.; Jung, D. S.; Vrdoljak, V. *CrystEngComm* **2018**, *20*, 1889. $[Co(NH_3)_6]_2[Mo_4O_{11}(H_2O)(C_2O_4)_4]\cdot 6H_2O$
PUJSIZ	1.956 Å	Engelberg, N.; Bino, A.; Tshuva, E. Y. *Inorg. Chim. Acta.* **2020**, *503*, 119429. $[Co(NH_3)_6]_3[Ti_4C_{24}H_{19}O_{34}]\cdot 20H_2O$
240985	1.957 Å	Gubanov, A. I.; Kuratieva, N. V. *Acta Crystallogr., Sect. C* **2007**, *63*, i83. $[Co(NH_3)_6]_2[Zr_3F_{18}]\cdot 2H_2O$
411630	1.957 Å	Seitz, K.; Peschel, S.; Babel, D. *Z. Anorg. Allg. Chem.* **2001,** *627*, 929. $[Co(NH_3)_6][Fe(CN)_6]$
427471	1.957 Å	Halevi, O.; Bogoslavsky, B.; Grinstein, D.; Tibika-Apfelbaum, F.; Bino, A. *Inorg. Chim. Acta* **2014**, *421*, 228. $[Co(NH_3)_6]_2[Ru_2N(N_3)_{10}]\cdot 9.75H_2O$
TAPWIR	1.957 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Bond, A. D. *Acta Crystallogr., Sect. C* **2005**, *61*, m356. $[Co(NH_3)_6](NaC_{21}H_{14}F_3O_7)](p\text{-}FC_6H_4COO)$
VUCDII	1.957 Å	Charushnikova, L. A.; Krot, N. N.; Makarenkov, V. I.; Starikova, Z. A. *Radiochim.* **2014**, *56*, 364. $[Co(NH_3)_6]_2[Tb_3C_{24}H_{25}O_{36}]\cdot 6H_2O$
8071	1.958 Å	Mauersberger, P.; Haupt, H. J.; Huber, F. *Acta Crystallogr., Sect. B* **1979**, *35*, 295. $[Co(NH_3)_6][Pb_4Cl_{11}]$
90931	1.958 Å	Reynolds, P. A.; Henning, R. W.; Schultz, A. J. *J. Solid State Chem.* **2000**, *149*, 60. $Cs[Co(ND_3)_6](ClO_4)_2Cl_2$
262783	1.958 Å	Wu Q.; Du C.; Lv Y.; Chen G.; Pan Q. *Acta Crystallogr., Sct. E* **2012**, *68*, i45. $[Co(NH_3)_6]_2Cl_5(NO_3)$
CANYEW	1.958 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Kariuki, B. M.; Rychlewska, U.; Warzajtis, B. *J. Mol. Struct.* **2005**, *748*, 143. $[Co(NH_3)_6][NaC_{21}H_{17}O_7])C_6H_5COO$
EYAQEA	1.958 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Venugopalan, P. *J. Mol. Struct.* **2004**, *694*, 229. $[Co(NH_3)_6](CH_3SO_3)_2Cl$
GEZZIU	1.958 Å	Takusagawa, F.; Shaw, J.; Everett, G. W. *Inorg. Chem.* **1988**, *27*, 3107. $[Co(NH_3)_6]_3(p\text{-}HOC_6H_4SO_3)_8Cl\cdot 13H_2O$
KEQGOD	1.958 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Bond, A. D. *Acta Crystallogr., Sect. E* **2006**, *62*, m2113. $[Co(NH_3)_6](C_{34}H_{53}O_8)_3\cdot 3.3H_2O$
MEHTAY	1.958 Å	Darii, M.; Beleaev, E. S.; Kravtsov, V. C.; Bourosh, P.; Chumakov, Y.; Hauser, J.; Decurtins, S.; Liu, S.-X.; Sultanova, O.; Baca, S. G. *New J. Chem.* **2022**, *46*, 11404. $[Co(NH_3)_6]_2(o\text{-}_3OSC_6H_4COO)_3)\cdot C_2H_5OH\cdot 2.5H_2O$

MEHTIG	1.958 Å	Darii, M.; Beleaev, E. S.; Kravtsov, V. C.; Bourosh, P.; Chumakov, Y.; Hauser, J.; Decurtins, S.; Liu, S.-X.; Sultanova, O.; Baca, S. G. *New J. Chem.* **2022**, *46*, 11404. $[Co(NH_3)_6]_{11}[Co(C_7H_3NO_4))_3]_8Cl{\cdot}84H_2O$
NALCUZ	1.958 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][Lu(C_7H_3NO_4)_3]{\cdot}8.5H_2O$
OTEXER	1.958 Å	Geisheimer, A. R.; Wren, J. E. C.; Michaelis, V. K.; Kobayashi, M.; Sakai, K.; Kroeker, S.; Leznoff, D. B. *Inorg. Chem.* **2011**, *50*, 1265. $[Co(NH_3)_6][Au(CN)_4]_3{\cdot}4H_2O$
QAGJUF	1.958 Å	Fedosseev, A. M.; Grigoriev, M. S.; Budantseva, N. A.; Guillaumont, D.; Le Naour, C.; Simoni, E.; Den Auwer, C.; Moisy, P. *Compt. Rend. Chim.* **2010**, *13*, 839. $K[Co(NH_3)_6]_2[Nd_3C_{24}H_{22}O_{31}]{\cdot}18H_2O$
REMMEC	1.958 Å	Bala, R.; Sharma, R. P.; Sharma, R.; Kariuki, B. M. *Inorg. Chem. Commun.* **2006**, *9*, 852. $[Co(NH_3)_6)_3][Hg_2(SCN)_7]$
83480	1.959 Å	Morgan, K. R.; Gainsford, G. J.; Milestone, N. B. *Chem. Commun.* **1997**, 61. $(NH_4)_3[Co(NH_3)_6)_3][Al_2(PO_4)_4]_2{\cdot}2H_2O$
90933	1.959 Å	Reynolds, P. A.; Henning, R. W.; Schultz, A. J. *J. Solid State Chem.* **2000**, *149*, 60. $Cs[Co(ND_3)_6](ClO_4)_2Cl_2$
170950	1.959 Å	Abrahams, B. F.; Haywood, M. G.; Robson, R. *Chem. Commun.* **2004**, 938. $[Co(NH_3)_6]_3[Cu_4(OH)(CO_3)_8]{\cdot}2H_2O$
415732	1.959 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Perez, J.; Miguel, D. *J. Mol. Struct.* **2006**, *788*, 49. $[Co(NH_3)_6](BrO_3)_3{\cdot}0.5H_2O$
MEHSOL	1.959 Å	Darii, M.; Beleaev, E. S.; Kravtsov, V. C.; Bourosh, P.; Chumakov, Y.; Hauser, J.; Decurtins, S.; Liu, S.-X.; Sultanova, O.; Baca, S. G. *New J. Chem.* **2022**, *46*, 11404. $[Co(NH_3)_6](C_7H_3NO_4)Cl{\cdot}2H_2O$
NAKZUV	1.959 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6](C_7H_3NO_4)Cl{\cdot}2H_2O$
NALBUY	1.959 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][Sm(C_7H_3NO_4)_3]{\cdot}10H_2O$
NALCAF	1.959 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][Tb(C_7H_3NO_4)_3]{\cdot}10H_2O$
NALCOT01	1.959 Å	Harrowfield, J. M.; Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, 70, 485. $[Co(NH_3)_6][Tm(C_7H_3NO_4)_3]{\cdot}8.5H_2O$
NEKHUK	1.959 Å	Pyrch, M. M. F.; Bjorklund, J. L.; Williams, J. M.; Kasperski, M.; Mason, S. E.; Forbes, T. Z. *Inorg. Chem.* **2023**, *62*, 15023. $[Co(NH_3)_6]_2[(UO_2)(CO_3)_3]CO_3{\cdot}3H_2O$
SANCOA	1.959 Å	Grigor'ev, M. S.; Charushnikova, I. A.; Starikova, Z. A.; Krot, N. N.; Polyakova, I. N. *Radiokhimiya* **2004**, *46*, 212. $[Co(NH_3)_6][NpO_2(C_3H_2O_4)](HOOCCH_2COO)$
SICHAO	1.959 Å	Klufers, P.; Mayer, P. *Z. Anorg. Allg. Chem.* **2007**, *633*, 903. $[Co(NH_3)_6][Bi(C_{10}H_{10}N_5O_5)_2]{\cdot}2H_2O$

SUTYUC	1.959 Å	Fedosseev, A. M.; Grigoriev, M. S.; Budantseva, N. A.; Guillaumont, D.; Le Naour, C.; Simoni, E.; Den Auwer, C.; Moisy, P. *Compt. Rendes Chim.* **2010**, *13*, 839. $[Co(NH_3)_6](Nd(C_6H_6NO_6)_2(H_2O)]\cdot 8H_2O$
VUCFAC	1.959 Å	Charushnikova, L. A.; Krot, N. N.; Makarenkov, V. I.; Starikova, Z. A. *Radiochim.* **2014**, *56*, 364. $[Co(NH_3)_6]_2[Ho_3C_{24}H_{25}O_{36}]\cdot 6H_2O$
WABYAA	1.959 Å	Reddy, D. S.; Duncan, S.; Shimizu, G. K. H. *Angew. Chem., Int. Ed.* **2003**, *42*, 1360. $[Co(NH_3)_6]_2(C_{10}H_6O_6S_2)_3\cdot 2C_4H_8O_2\cdot 2.5H_2O$
26068	1.960 Å	Epstein, E. F.; Bernal, I. *J. Chem. Soc. A* **1971**, 3628. $[Co(NH_3)_6][CdCl_5]$
59268	1.960 Å	Sobolev, A. N.; Figgis, B. N. *Acta Crystallogr., Sect. C* **1997**, *53*, 661. $[Co(NH_3)_6](S_2O_2)_3Cl\cdot H_2O$
154025	1.960 Å	Grigor'ev, M. S.; Antipin, M. Y.; Krot, N. N.; Bessonov, A. A. *Radiokhimiya* **2005**, *47*, 419. $[Co(NH_3)_6]_2[NpO_2(C_2O_4)_3]\cdot 3H_2O$
187076	1.960 Å	Khranenko, S. P.; Alexeyev, A. V.; Naumov, D. Y.; Plusnin, P. E.; Gromilov, S. A. *J. Struct. Chem.* **2012**, *53*, 748. $[Co(NH_3)_6](WO_4)Cl$
201236	1.960 Å	Figgis, B. N.; Skelton, B. W.; White, A. H. *Aust. J. Chem.* **1979**, *32*, 417. $[Co(NH_3)_6](CrO_4)Cl\cdot 3H_2O$
414607	1.960 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Ferretti, V. *Inorg. Chim. Acta* **2005**, *358*, 3457. $[Co(NH_3)_6]Cl_2(ClO_3)$
420455	1.960 Å	Filatov, E. Y.; Yusenko, K. V.; Vikulova, E. S.; Plyusnin, P. E.; Shubin, Y. V. *Z. Kristallogr., Suppl. Issue* **2009**, *30*, 263-268. $[Co(NH_3)_6][Ir(C_2O_4)_3]$
421211	1.960 Å	Sharma, R. P.; Singh, A.; Saini, A.; Venugopalan, P.; Ferretti, V. *Inorg. Chem. Commun.* **2011**, *14*, 1. $[Co(NH_3)_6][HgBr_4Cl]$
431385	1.960 Å	Charushnikov, I. A.; Krot, N. N.; Grigor'ev, M. S.; Makarenkov, V. I. *Radiochem.* **2017**, *59*, 124. $[Co(NH_3)_6]_3[NpO_4(OH)_2)_2]_3\cdot 4H_2O$
ADIYIW	1.960 Å	Wang, X.-Y.; Justice, R.; Sevov, S. C. *Inorg. Chem.* **2007**, *46*, 4626. $[Co(NH_3)_6]_2(O_3SC_6H_4C_6H_4SO_3)_3\cdot(CH_3)_2NCHO\cdot 2H_2O$
NALCIN	1.960 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][Y(C_7H_3NO_4)_3]\cdot 10H_2O$
NALCUZ01	1.960 Å	Harrowfield, J. M.; Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, 70, 485. $[Co(NH_3)_6][Lu(C_7H_3NO_4)_3]\cdot 8.5H_2O$
NEKJEW	1.960 Å	Pyrch, M. M. F.; Bjorklund, J. L.; Williams, J. M.; Kasperski, M.; Mason, S. E.; Forbes, T. Z. *Inorg. Chem.* **2023**, *62*, 15023. $[Co(NH_3)_6]_2[(UO_2)(CO_3)_3]Cl_2\cdot H_2O$
PEWCIG	1.960 Å	Cindric, M.; Stilinovic, V.; Rubcic, M.; Medak, G.; Jung, D. S.; Vrdoljak, V. *CrystEngComm* **2018**, *20*, 1889. $[Co(NH_3)_6]_4[MoO_2)_4(C_2O_4)_4][MoO_3(H_2O)(C_2O_4)]_2\cdot 10H_2O$
ADIYES	1.961 Å	Wang, X.-Y.; Justice, R.; Sevov, S. C. *Inorg. Chem.* **2007**, *46*, 4626. $[Co(NH_3)_6]_2(O_3SC_6H_4C_6H_4SO_3)_3\cdot 2(CH_3)_2SO\cdot 5H_2O$

ADIYOC	1.961 Å	Wang, X.-Y.; Justice, R.; Sevov, S. C. *Inorg. Chem.* **2007**, *46*, 4626. $[Co(NH_3)_6]_2(O_3SC_6H_4C_6H_4SO_3)_3 \cdot C_2H_{11}N \cdot 5H_2O$
CANYAS01	1.961 Å	Darii, M.; Beleaev, E. S.; Kravtsov, V. C.; Bourosh, P.; Chumakov, Y.; Hauser, J.; Decurtins, S.; Liu, S.-X.; Sultanova, O.; Baca, S. G. *New J. Chem.* **2022**, *46*, 11404. $[Co(NH_3)_6](o\text{-}HOOCC_6H_4COO)_2Cl \cdot 3H_2O$
CAXPUP	1.961 Å	Harrowfield, J. M. Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, *70*, 485. $[Co(NH_3)_6][Pu(C_7H_3NO_4)_3] \cdot 8.5H_2O$
DERYEF	1.961 Å	Grigoriev, M. S.; Krot, N. N.; Bessonov, A. A.; Lyssenko, K. A. *Acta Crystallogr., Sect. E* **2006**, *62*, m2889. $Li[Co(NH_3)_6][Pu(C_3H_2O_4)_4] \cdot 5H_2O$
NALBEI	1.961 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][Ce(C_7H_3NO_4)_3] \cdot 5H_2O$
MEHRUQ	1.961 Å	Darii, M.; Beleaev, E. S.; Kravtsov, V. C.; Bourosh, P.; Chumakov, Y.; Hauser, J.; Decurtins, S.; Liu, S.-X.; Sultanova, O.; Baca, S. G. *New J. Chem.* **2022**, *46*, 11404. $[Co(NH_3)_6]Cl_3 \cdot 2C_{12}H_8N_2 \cdot 3H_2O$
NALCIN01	1.961 Å	Harrowfield, J. M.; Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, 70, 485. $[Co(NH_3)_6][Y(C_7H_3NO_4)_3] \cdot 10H_2O$
OKOCAS	1.961 Å	Charushnikova, I. A.; Krot, N. N.; Starikova, Z. A. *Radiokhim.* **2001**, *43*, 438. $[Co(NH_3)_6][NpO_2C_{16}H_8O_8] \cdot 2H_2O$
SIWZAZ	1.961 Å	Chen Ming-Qin; Xu Jun-Xing; Zhang Hua-Ling *Jiegou Huaxue* **1991**, *10*, 1. $[Co(NH_3)_6][Co(C_9H_9NO_3)_2]Cl \cdot 10H_2O$
XECQUT	1.961 Å	Tian, R.; Yan, Y.; Zhang, C.; Wang, L. Pan, Q. *Acta Crystallogr., Sect. E* **2012**, *68*, m914. $[Co(NH_3)_6]_3[Co(C_2O_4)_3]_2Cl \cdot 12H_2O$
ZOSQAD	1.961 Å	Karn, L. M.; Britton, A.; Leznoff, D. B. *Inorg. Chem.* **2024**, *63*, 11977. $[Co(NH_3)_6]_2[Pt(SCN)_4]_3 \cdot 5H_2O$
15524	1.962 Å	Herlinger, A. W.; Brown, J. N.; Dwyer, M. A.; Pavkovic, S. F. *Inorg. Chem.* **1981**, *20*, 2366. $[Co(NH_3)_6][HgCl_5]$
90930	1.962 Å	Reynolds, P. A.; Henning, R. W.; Schultz, A. J. *J. Solid State Chem.* **2000**, *149*, 60. $Cs[Co(ND_3)_6](ClO_4)_2Cl_2$
414606	1.962 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Ferretti, V. *Inorg. Chim. Acta* **2005**, *358*, 3457. $[Co(NH_3)_6]Br_2(ClO_3)$
BEFWIW	1.962 Å	Tamain, C.; Autillo, M.; Guillaumont, D.; Guerin, L.; Wilson, R. E.; Berthon, C. *Inorg. Chem.* **2022**, *61*, 12337. $[Co(NH_3)_6]_2[Np(C_2O_4)_5] \cdot 4H_2O$
CAXQOQ	1.962 Å	Harrowfield, J. M. Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, *70*, 485. $[Co(NH_3)_6][Ce(C_7H_3NO_4)_3] \cdot 8.5H_2O$
DOGQUP	1.962 Å	Lagunova, V.; Rubilkin, P.; Filatov, E.; Plyusnin, P.; Kuratieva, N.; Korenev, S. *New. J. Chem.* **2024**, *48*, 1578. $[Co(NH_3)_6]_2[Cu_3C_{12}H_4O_{26}] \cdot 2H_2O$

HEQNAT	1.962 Å	Bernhardt, E.; Brauer, D. J.; Finze, M.; Willner, H. *Angew. Chem., Int. Ed.* **2006**, *45*, 6383. $[Co(NH_3)_6]B(COO)_2(COOH)_2 \cdot 2H_2O$
NALCEJ	1.962 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][Er(C_7H_3NO_4)_3] \cdot 10H_2O$
SUTYOW	1.962 Å	Fedosseev, A. M.; Grigoriev, M. S.; Budantseva, N. A.; Guillaumont, D.; Le Naour, C.; Simoni, E.; Den Auwer, C.; Moisy, P. *Compt. Rendes Chim.* **2010**, *13*, 839. $[Co(NH_3)_6](Yb(C_6H_6NO_6)_2(H_2O)] \cdot 8H_2O$
WUBDEF	1.962 Å	Altahan, M. A.; Beckett, M. A.; Coles, S. J.; Horton, P. N. *J. Mol. Struct.* **2020**, *1200*, 127071. $[Co(NH_3)_6]_2(H_4B_4O_9)_3 \cdot 11H_2O$
XATROA	1.962 Å	Charushnikova, I. A.; Krot, N. N.; Starikova, Z. A. *Radiokhimiya* **2004**, *46*, 521. $[Co(NH_3)_6][NpO_2(H_2O)_2(C_4H_4O_4)_2](OOCCHCHCOOH)_2 \cdot H_2O$
YOMNOF	1.962 Å	Halevi, O.; Bogoslavsky, B.; Grinstein, D.Tibika-Apfelbaum, F.; Bino, A. *Inorg. Chim. Acta* **2014**, *421*, 228. $[Co(NH_3)_6][RuN(O_2(CH_2)_2)_2]$
63358	1.963 Å	Grigor'ev, M. S.; Gulev, B. F.; Krot, N. N. *Radiokhimiya* **1986**, *28*, 690. $[Co(NH_3)_6][NpO_4(OH)_2] \cdot 2H_2O$
158113	1.963 Å	Bala, R.; Sharma, R. P.; Sharma, R.; Kariuki, B. M. *Inorg. Chem. Commun.* **2006**, *9*, 852. $[Co(NH_3)_6][(SCN)(Hg(SCN)_3)_2]$
162711	1.963 Å	Matikova-Malarova, M.; Cernak, J.; Massa, W.; Varret, F. *Inorg. Chim. Acta* **2009,** *362*, 443. $[Co(NH_3)_6]_2[Fe(CN)_6]Cl_2 \cdot 4H_2O$
411045	1.963 Å	Bond, D. L.; Clark, D. L.; Donohoe, R. J.; Gordon, J. C.; Gordon, P. L.; Keogh, D. W.; Scott, B. L.; Drew Tait, C.; Watkin, J. G. *Eur. J. Inorg. Chem.* **2001**, 2921. $[Co(NH_3)_6][Na(H_2O)(H_2O)_4]_2[Ho(CO_3)_4(H_2O)_4]$
411070	1.963 Å	Adam, A.; Dahm, M. *Z. Anorg. Allg. Chem.* **2000**, *626*, 494. $[Co(NH_3)_6]_2[Be_4O(CO_3)_6] \cdot 10H_2O$
415917	1.963 Å	Bala, R.; Sharma, R. M.A.Altahan, M.A.Beckett, S.J.Coles, P.N.Horton Sharma, U.; Burrows, A. D.; Cassar, K. *J. Mol. Struct.* **2007**, *832*, 156. $[Co(NH_3)_6]Br_2(BF_4)$
431384	1.963 Å	Charushnikov, I. A.; Krot, N. N.; Grigor'ev, M. S.; Makarenkov, V. I. *Radiochem.* **2017**, *59*, 124. $[Co(NH_3)_6][NpO_4(OH)_2)_2] \cdot H_2O_2$
BEFWES	1.963 Å	Tamain, C.; Autillo, M.; Guillaumont, D.; Guerin, L.; Wilson, R. E.; Berthon, C. *Inorg. Chem.* **2022**, *61*, 12337. $[Co(NH_3)_6]_2[U(C_2O_4)_5] \cdot 4H_2O$
BEFWOC	1.963 Å	Tamain, C.; Autillo, M.; Guillaumont, D.; Guerin, L.; Wilson, R. E.; Berthon, C. *Inorg. Chem.* **2022**, *61*, 12337. $[Co(NH_3)_6]_2[Pu(C_2O_4)_5] \cdot 4H_2O$
CAXQUQ	1.963 Å	Harrowfield, J. M. Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, *70*, 485. $[Co(NH_3)_6][Gd(C_7H_3NO_4)_3] \cdot 10H_2O$
CAXXEH	1.963 Å	Harrowfield, J. M. Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, *70*, 485. $[Co(NH_3)_6][Nd(C_7H_3NO_4)_3] \cdot 10H_2O$

CAXXIL	1.963 Å	Harrowfield, J. M. Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, *70*, 485. $[Co(NH_3)_6][Eu(C_7H_3NO_4)_3]\cdot 10H_2O$
MEHSUR	1.963 Å	Darii, M.; Beleaev, E. S.; Kravtsov, V. C.; Bourosh, P.; Chumakov, Y.; Hauser, J.; Decurtins, S.; Liu, S.-X.; Sultanova, O.; Baca, S. G. *New J. Chem.* **2022**, *46*, 11404. $[Co(NH_3)_6](o\text{-}O_3SC_6H_4COO)Cl\cdot 4H_2O$
NALCAF01	1.963 Å	Harrowfield, J. M.; Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, 70, 485. $[Co(NH_3)_6][Tb(C_7H_3NO_4)_3]\cdot 10H_2O$
NEKJAS	1.963 Å	Pyrch, M. M. F.; Bjorklund, J. L.; Williams, J. M.; Kasperski, M.; Mason, S. E.; Forbes, T. Z. *Inorg. Chem.* **2023**, *62*, 15023. $[Co(NH_3)_6](CO_3)Cl$
RENVIQ	1.963 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Perez, J.; Miguel, D. *J. Mol. Struct.* **2006**, *979*, 49. $[Co(NH_3)_6](p\text{-}O_2NC_6H_4COO)_2Cl$
TUTMAZ	1.963 Å	Wang, F.-X.; Ren, G.-J.; Tian, R.-J.; Feng, L-.J.; Yang, Y.-H.; Deng, Y-Y.; Pan, Q.-H. *Chin. J. Struct. Chem.* **2020**, *39*, 1337. $[Co(NH_3)_6][Cd_2C_{18}H_6ClO_{12}]\cdot 3H_2O$
WABXUT	1.963 Å	Reddy, D. S.; Duncan, S.; Shimizu, G. K. H. *Angew. Chem., Int. Ed.* **2003**, *42*, 1360. $[Co(NH_3)_6](C_8H_{16}N_2O_6S_2)Cl\cdot 6H_2O$
WEHBIV	1.963 Å	Grigor'ev, M. S.; Antipin, M. Y.; Krot, N. N.; Bessonov, A. A. *Radiokhimiya* **2005**, *47*, 419. $[Co(NH_3)_6][(PuO_2)_2C_8O_{16}]\cdot 6H_2O$
YAVZUR	1.963 Å	Kurachi, S.; Ohba, S. *Bull. Chem. Soc. Jpn.* **1992**, *65*, 3033. $[Co(NH_3)_6](OC_6H_4NO_2)_3\cdot 4H_2O$
806	1.964 Å	Iwata, M. *Acta Crystallogr., Sect. B* **1977**, *33*, 59. $[Co(NH_3)_6][Cr(CN)_6]$
2560	1.964 Å	Iwata, M.; Saito, Y. *Acta Crystallogr., Sect. B* **1973**, *29*, 822. $[Co(NH_3)_6][Co(CN)_6]$
39550	1.964 Å	Grigor'ev, M. S.; Fedoseev, A. M.; Budantseva, N. A.; Yanovskii, A. I.; Struchkov, Y. T.; Krot, N. N. *Radiokhimiya* **1991**, *33*, 54. $[Co(NH_3)_6](H_8O_3)[NpO_2SO_4)_3]$
109859	1.964 Å	Grigor'ev, M. S.; Baturin, N. A.; Regel', L. L.; Krot, N. N. *Radiokhimiya* **1991**, *33*, 19. $[Co(NH_3)_6]_2[NpO_2(C_2O_4)_2]_2\cdot 6H_2O$
109860	1.964 Å	Grigor'ev, M. S.; Baturin, N. A.; Regel', L. L.; Krot, N. N. *Radiokhimiya* **1991**, *33*, 19. $[Co(NH_3)_6]_2[NpO_2(C_2O_4)_2H_2O]_2\cdot 3H_2O$
109997	1.964 Å	Gorol, M.; Mosch-Zanetti, N. C.; Noltemeyer, M.; Roesky, H. W. *Z. Anorg. Allg. Chem.* **2000**, *626*, 2318. $[Co(NH_3)_6]_2[NpO_2(C_2O_4)_3]\cdot 4H_2O$
161487	1.964 Å	Makotchenko, E. V.; Baidina, I. A.; Plyusnin, P. E. *Zh. Strukt. Khim.* **2007**, *48*, 282. $[Co(NH_3)_6][AuCl_4]Cl_2$
262942	1.964 Å	Tian R.; Yan Y.; Zhang C.; Wang L.; Pan Q. *Acta Crystallogr., Sect. E* **2012**, *68*, m914. $[Co(NH_3)_6]_3[Co(C_2O_4)_3]_2Cl_2\cdot 12H_2O$
280486	1.964 Å	Figgis, B.; Sobolev, A.; Reynolds, P. *Acta Crystallogr., Sect. B* **1998**, *54*, 613. $NH_4[Co(NH_3)_6](ClO_4)_2Cl_2$

416414	1.964 Å	Bala, R.; Sharma, R. P.; Sharma, R.; Salas, J. M.; Quiros, M.; Harrison, W. T. A. *J. Mol. Struct.* **2007**, *828*, 174-180. $[Co(NH_3)_6]_2(HAsO_4)_3 \cdot 4H_2O$
411631	1.964 Å	Seitz, K.; Peschel, S.; Babel, D. *Z. Anorg. Allg. Chem.* **2001,** *627*, 929. $[Co(NH_3)_6]_2[Ni(CN)_6] \cdot 2H_2O$
421686	1.964 Å	Baidina, I. A.; Filatov, E. Y.; Makotchenko, E. V.; Smolentsev, A. I. *J. Struct. Chem.* **2012**, *53*, 112. $[Co(NH_3)_6]_2(ReO_4)_3 \cdot 2H_2O$
KUTCEH	1.964 Å	Grigor'ev, M. S.; Baturin, N. A.; Regel', L. L.; Krot, N. N. *Radiokhimiya* **1991**, *33*, 19. $[Co(NH_3)_6]_2[Np_2O_4C_8O_{16}] \cdot 6H_2O$
SEDFEP	1.964 Å	Heering, C.; Nateghi, B.; Janiak, C. *Crystals* **2016**, *6*, 22. $[Co(NH_3)_6]_2[C_{13}C_8O_5P] \cdot 4H_2O$
UHUXII	1.964 Å	B.Pramanik, R.Sahoo, Y.Yoshida, A.K.Manna, H.Kitagawa, M.C.Das, M. C. Cjhem. Eur. J. 2024, 30, e2024002896. $[Co(NH_3)_6]_2(C_{10}H_6(SO_3)_2)_3 \cdot 3H_2O$
XEDNAV	1.964 Å	Gorol, M.; Mosch-Zanetti, N. C.; Noltemeyer, M.; Roesky, H. W. *Z. Anorg. Allg. Chem.* **2000**, *626*, 2318. $[Co(NH_3)_6]_2(C_2O_4)_3 \cdot 4H_2O$
28153	1.965 Å	Murray-Rust, P. *Acta Crystallogr., Sect. B* **1973**, *29*, 2559. $[Co(NH_3)_6]_4[Cu_5Cl_{17}]$
94486	1.965 Å	Bernal, I.; Yufit, D. S.; Howard, J. A. K. *Z. Kristallogr.* **2001**, *216*, 413. $[Co(NH_3)_6][CuCl_5]$
101232	1.965 Å	Louis–Jean, J.; Balasekaran, S. M.; Hagenbach, A.; Poineau, F. *Acta Crystallogr., Sect E* **2019**, *75*, 1158. $[Co(NH_3)_6][ReO_4][ReF_6] \cdot 6H_2O$
137752	1.965 Å	Filatov, Evgeny; Lagunova, Varvara; Kochetygov, Ilia; Plyusnin, Pavel; Kuratieva, Natalia; Kostin, Gennadiy; Korenev, S. *Acta Crystallogr., Sect. B* **2022**, *78*, 537. $K_3[Co(NH_3)_6][Ir(C_2O_4)_3] \cdot 6H_2O$
413593	1.965 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Salas, J. M.; Quiros, M. *J. Coord. Chem.* **2005**, *58*, 217. $[Co(NH_3)_6]Cl(Cr_2O_7) \cdot H_2O$
421508	1.965 Å	Domonov, D. P.; Kuratieva, N. V.; Pechenyuk, S. I. *J. Struct. Chem.* **2011**, *52*, 358. $[Co(NH_3)_6]_2(C_2O_4)_3 \cdot 4H_2O$
427577	1.965 Å	Avisar-Levy, M.; Levy, O.; Ascarelli, O.; Popov, I.; Bino, A. *J. Alloys Comp.* **2015**, *635*, 48. $[Co(NH_3)_6]_2[PtCl_4]_3$
ADIYUI	1.965 Å	Wang, X.-Y.; Justice, R.; Sevov, S. C. *Inorg. Chem.* **2007**, *46*, 4626. $[Co(NH_3)_6]_2(O_3SC_6H_4C_6H_4SO_3)_3 \cdot 2(CH_3)_2CO \cdot 4H_2O$
GEFGOO	1.965 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Venugopalan, P. *Cryst. Eng. Comm.* **2006**, *8*, 215. $[Co(NH_3)_6]Cl_2(SeCN)$
MEHSAX	1.965 Å	Darii, M.; Beleaev, E. S.; Kravtsov, V. C.; Bourosh, P.; Chumakov, Y.; Hauser, J.; Decurtins, S.; Liu, S.-X.; Sultanova, O.; Baca, S. G. *New J. Chem.* **2022**, *46*, 11404. $[Co(NH_3)_6](C_{14}H_8O_4)(C_{14}HO_4) \cdot 3H_2O$
MIWTUJ	1.965 Å	Seidel, R. W.; Goddard, R.; Gramm, V.; Ruschewitz, U. *Z. Naturforsch., Teil B* **2014**, *69*, 277. $[Co(NH_3)_6]_2(OOCCCCOO)_3 \cdot 3H_2O$

NALBIM	1.965 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][Pr(C_7H_3NO_4)_3]\cdot 5H_2O$
NANDAI	1.965 Å	Charushnikova, I. A.; Krot, N. N.; Polyakova, I. N. *Radiokhimiya* **2004**, *46*, 318. $[Co(NH_3)_6][(NpO_2)_2C_6H_4O_8]OH\cdot H_2O$
NEKHOE	1.965 Å	Pyrch, M. M. F.; Bjorklund, J. L.; Williams, J. M.; Kasperski, M.; Mason, S. E.; Forbes, T. Z. *Inorg. Chem.* **2023**, *62*, 15023. $[Co(NH_3)_6]_4[(UO_2)(CO_3)_3]_3\cdot 11.67H_2O$
QECTOL	1.965 Å	Filatov, E.; Lagunova, V.; Kochetygov, I.; Plyusnin, P.; Kuratieva, N.; Kostin, G.; Korenev, S. *Acta Crystallogr., Sect. E* **2022**, *78*, 537. $K_3[Co(NH_3)_6][Ir(C_2O_4)_3]_2\cdot 6H_2O$
RATDUL	1.965 Å	Kofod, P.; Harris, P.; Larsen, S. *Inorg. Chem.* **1997**, *36*, 2258. $[Co(NH_3)_6][FeCl_6]$
VAFKOD	1.965 Å	Dalrymple, S. A.; Parvez, M.; Shimizu, G. K. H. *Inorg. Chem.* **2002**, *41*, 6986. $[Co(NH_3)_6]$(*1,3,5*-$C_6H_3(CH_2SO_3)_3\cdot 3H_2O$
1694	1.966 Å	Kruger, G. J.; Reynhardt, E. C. *Acta Crystallogr., Sect. B* **1978**, *34*, 915. $[Co(NH_3)_6]Cl_3$
32718	1.966 Å	Beattie, J. K.; Moore, C. J. *Inorg. Chem.* **1982**, *21*, 1292. $[Co(NH_3)_6][Co(NH_3)_2(NO_2)_4][CoCH_3(NH_3)_2(NO_2)_3]_2$
35153	1.966 Å	Bernal, I.; Korp, J. D.; Schlemper, E. O.; Hussain, M. S. *Polyhedron* **1982**, *1*, 365. $[Co(NH_3)_6][CuCl_5]$
243806	1.966 Å	Poineau, F.; Mausolf, E.; Kerlin, W.; Czerwinski, K. *J. Radioanal. Nucl. Chem.* **2017**, *311*, 775. $[Co(NH_3)_6](TcO_4)_3\cdot 2H_2O$
415187	1.966 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Rychlewska, U.; Warzajtis, B. *J. Fluor. Chem.* **2005**, *126*, 967. $[Co(NH_3)_6]Cl_2[SiF_6]\cdot 2H_2O$
417161	1.966 Å	Sharma, R. P.; Bala, R.; Pretto, L.; Ferretti, V.; Du Y.; Yu J. H. *J. Mol. Struct.* **2007**, *842*, 6. $[Co(NH_3)_6]Br(S_2O_3)\cdot H_2O$
ASAWUN	1.966 Å	Stein, I.; Ruschewitz, U. *Z. Naturforsch., Teil B* **2011**, *66*, 471. $[Co(NH_3)_6](HOOCCCCOO)Cl_2\cdot 2H_2O$
CAXQEA	1.966 Å	Harrowfield, J. M. Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, *70*, 485. $[Co(NH_3)_6][Cu(C_7H_3NO_4)_3]\cdot 8.5H_2O$
EGUQAC	1.966 Å	Lu, X.; Liu, C.; Xiao, X.; Nguyen, T. S.; Xiang, Z.; Chen, C.; Cui, S.;Yavuz, C. T.; Xu, Q.; Liu, B. *ACS Appl. Mater. Interfaces* **2023**, *15*, 54458. $[Co(NH_3)_6](HSO_4)_2]\cdot CO_2$
NALBAE	1.966 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][La(C_7H_3NO_4)_3]\cdot 5H_2O$
NEKJAS01	1.966 Å	Zhang, B.; Weberg, A. B.; Ahn, A. J.; Guron, M.; Jones, L. O.; Gau, M. R.; Schatz, G. C.; Schelter, E. J. *Chem. (Cell Press)* **2025**, *11*, 102361. $[Co(NH_3)_6]CO_3Cl$
NEYBUQ	1.966 Å	Gorska, N.; Inaba, A.; Hirao, Y.; Mikuli, E. *J. Coord. Chem.* **2013**, *66*, 1238. $[Co(NH_3)_6](BF_4)_3$

WIRLAM	1.966 Å	Pascu, G.; Deville, C.; Clifford, S. E.; Guenee, L.; Besnard, C.; Kramer, K. W.; Liu, S.-X.; Decurtins, S.; Tuna, F.; McInnes, E. J. L.; Winpenny, R. E. P.; Williams, A. F. *Dalton Trans.* **2014**, *43*, 656. $[Co(NH_3)_6][CuCl(H_2O)(C_3H_3O_5)]$
16067	1.967 Å	Meek, D. W.; Ibers, J. A. *Inorg. Chem.* **1970**, *9*, 465. $[Co(NH_3)_6][ZnCl_4]Cl$
177746	1.967 Å	Avisar, S.; Shner, Y.; Abu-Rezi, R.; Popov, I.; Bino, A. *J. Alloys Compds.* **2022**, *891*, 161936. $[Co(NH_3)_6]_2[PdCl_4]_3\cdot 8H_2O$
414608	1.967 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Ferretti, V. *Inorg. Chim. Acta* **2005**, *358*, 3457. $[Co(NH_3)_6]Cl_2(IO_3)\cdot H_2O$
ASAWOH01	1.967 Å	Seidel, R. W.; Goddard, R.; Gramm, V.; Ruschewitz, U. *Z. Naturforsch., Teil B* **2014**, *69*, 277. $[Co(NH_3)_6](OOCCCCOO)(HOOCCCCOO)\cdot 2H_2O$
CANYAS	1.967 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Kariuki, B. M.; Rychlewska, U.; Warzajtis, B. *J. Mol. Struct.* **2005**, *748*, 143. $[Co(NH_3)_6](o\text{-}COOH(COO)C_6H_4)_2Cl\cdot 3H_2O$
DAJWAM	1.967 Å	Clegg, W. *Acta Crystallogr., Sect. C* **1985**, *41*, 1164. $[Co(NH_3)_6][Fe(O_2C_3H_2O_2)_3]Cl\cdot 3H_2O$
LECKIO	1.967 Å	Dalrymple, S. A.; Shimizu, G. K. H. *Chem. Commun.* **2006**, 956. $[Co(NH_3)_6](C_9H_{11}SO_3)_2)_2Cl$
PEFRIC	1.967 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Singh, K. N.; Ferretti, V. *J. Mol. Struct.* **2006**, *784*, 117. $[Co(NH_3)_6]_2(p\text{-}C_6H_4(CH_2SO_3)_2)_3\cdot 4H_2O$
SUTZAJ	1.967 Å	Fedosseev, A. M.; Grigoriev, M. S.; Budantseva, N. A.; Guillaumont, D.; Le Naour, C.; Simoni, E.; Den Auwer, C.; Moisy, P. *Compt. Rendes Chim.* **2010**, *13*, 839. $[Co(NH_3)_6](Am(C_6H_6NO_6)_2(H_2O)]\cdot 8H_2O$
2561	1.968 Å	Iwata, M.; Saito, Y. *Acta Crystallogr., Sect. B* **1973**, *29*, 822. $[Co(NH_3)_6][Co(CN)_6]$
66321	1.968 Å	Aoyama, T.; Ohba, S.; Saito, Y.; Bernal, I. *Acta Crystallogr., Sect. C* **1992**, *48*, 246. $[Co(NH_3)_6][CuCl_5]$
161488	1.968 Å	Makotchenko, E. V.; Baidina, I. A.; Plyusnin, P. E. *Zh. Strukt. Khim.* **2007**, *48*, 282. $[Co(NH_3)_6][AuBr_4]Br_2$
262513	1.968 Å	Han Y.; Li Y.; Yu J.; Pan Q.; Xu R. *Eur. J. Inorg. Chem.* **2012**, 36. $[Co(NH_3)_6][Zn_8(HPO_4)_8(PO_4)_2]PO_4$
380345	1.968 Å	Sharma, R. P.; Sharma, R.; Singh, A.; Saini, A.; Gubanov, A. I.; Smolentsev, A. I.; Venugopalan, P. *J. Mol. Struct.* **2010**, *980*, 261. $[Co(NH_3)_6]_2[Cd_3Br_{10}(H_2O)_2]Br_2\cdot 2H_2O$
391436	1.968 Å	Bala, R.; Sharma, R. P.; Sharma, U.; Burrows, A. D.;Cassar, K. *J. Mol. Struc.* **2007**, *832*, 156. $[Co(NH_3)_6]Cl_2(HC_2O_4)\cdot H_2O$
413763	1.968 Å	Sharma, R. P.; Bala, R.; Sharma, R.; Venugopalan, P. *J. Coord. Chem.* **2004**, *57*, 1563. $[Co(NH_3)_6]Cl(MoO_4)\cdot 3H_2O$
BEFWAO	1.968 Å	Tamain, C.; Autillo, M.; Guillaumont, D.; Guerin, L.; Wilson, R. E.; Berthon, C. *Inorg. Chem.* **2022**, *61*, 12337. $[Co(NH_3)_6]_2[Th(C_2O_4)_5]\cdot 4H_2O$
EGABAR	1.968 Å	Qin-He Pan, Q.-H.; Tian, R.-J.; Liu, S.-J.; Wu, Q.-H.; Zhu, Y.-Y.; Chen,Q.; Ren, X.-Y.; Hu, T.-L. *Chin. Chem. Lett.* **2013**, *24*, 861. $[Co(NH_3)_6][Cd_4C_{12}O_{24}]\cdot 4H_2O$

NALBOS	1.968 Å	Brayshaw, P. A.; Hall, A. K.; Harrison, W. T. A.; Harrowfield, J. M.; Pearce, D.; Shand, T. M.; Skelton, B. W.; Whitaker, C. R.; White, A. H. *Eur. J. Inorg. Chem.* **2005**, 1127. $[Co(NH_3)_6][Pr(C_7H_3NO_4)_3]\cdot 10H_2O$
NEYHOP	1.968 Å	Bala, R.; Sharma, R. P.; Sharma, U.; Burrows, A. D.; Cassar, K. *J. Mol. Struct.* **2007**, *832*, 156. $[Co(NH_3)_6](HC_2O_4)Cl_2\cdot H_2O$
VUCCON	1.968 Å	Charushnikova, L. A.; Krot, N. N.; Makarenkov, V. I.; Starikova, Z. A. *Radiochim.* **2014**, *56*, 364. $[Co(NH_3)_6][La_3C_{18}H_{12}O_{24}]\cdot 6H_2O$
VUCDEE	1.968 Å	Charushnikova, L. A.; Krot, N. N.; Makarenkov, V. I.; Starikova, Z. A. *Radiochim.* **2014**, *56*, 364. $[Co(NH_3)_6][Pr_3C_{18}H_{12}O_{24}]\cdot 6H_2O$
WEXRIB	1.968 Å	Bala, R.; Sharma, R. P.; Bond, A. D. *J. Mol. Struct.* **2007**, *830*, 198. $[Co(NH_3)_6](CH_3SO_3)_3$
WEXTID	1.968 Å	Bala, R.; Sharma, R. P.; Venugopalan, P.; Harrison, W. T.A. *J. Mol. Struct.* **2007**, *830*, 8. $[Co(NH_3)_6](HO(OOC)CHCH(COO)OH)Cl\cdot H_2O$
117	1.969 Å	Haupt, H. J.; Huber, F.; Preut, H. *Z. Anorg. Allg. Chem.* **1976**, *422*, 97. $[Co(NH_3)_6][SnCl_4]Cl$
137751	1.969 Å	Filatov, Evgeny; Lagunova, Varvara; Kochetygov, Ilia; Plyusnin, Pavel; Kuratieva, Natalia; Kostin, Gennadiy; Korenev, S. *Acta Crystallogr., Sect. B* **2022**, *78*, 537. $[Co(NH_3)_6][Co(C_2O_4)_3]\cdot 3H_2O$
420661	1.969 Å	Sharma, R. P.; Sharma, R.; Kumar, A.; Venugopalan, P.; Brando, P.; Felix, V. *Inorg. Chem. Commun.* **2009**, *12*, 945. $[Co(NH_3)_6][HgBr_5]$
BAKMAF	1.969 Å	Li, X.; Lu, J.; Mu, W.; Chen, B.; Luo, D.; Liu, B.; Yang, Y.; Wei, H.; Peng, S. *Inorg. Chim. Acta* **2022**, *530*, 120675. $[Co(NH_3)_6][U_5C_{54}H_{84}N_6O_{51}]$
NALBEI01	1.969 Å	Harrowfield, J. M.; Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, 70, 485. $[Co(NH_3)_6][Ce(C_7H_3NO_4)_3]\cdot 5H_2O$
NALBIM01	1.969 Å	Harrowfield, J. M.; Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, 70, 485. $[Co(NH_3)_6][Pr(C_7H_3NO_4)_3]\cdot 5H_2O$
QECTEB	1.969 Å	Filatov, E.; Lagunova, V.; Kochetygov, I.; Plyusnin, P.; Kuratieva, N.; Kostin, G.; Korenev, S. *Acta Crystallogr., Sect. E* **2022**, *78*, 537. $[Co(NH_3)_6][Co(C_2O_4)_3]\cdot 3H_2O$
VUCCUT	1.969 Å	Charushnikova, L. A.; Krot, N. N.; Makarenkov, V. I.; Starikova, Z. A. *Radiochim.* **2014**, *56*, 364. $[Co(NH_3)_6][Ce_3C_{18}H_{12}O_{24}]\cdot 6H_2O$
380346	1.970 Å	Sharma, R. P.; Singh, A.; Venugopalan, P.; Smolentsev, A. I.; Gubanov, A. I. *J. Mol. Struct.* **2010**, *975*, 1. $[Co(NH_3)_6]_2[HgI_4]I\cdot H_2O$
421507	1.970 Å	Domonov, D. P.; Kuratieva, N. V.; Pechenyuk, S. I. *J. Struct. Chem.* **2011**, *52*, 358. $[Co(NH_3)_6][Fe(CN)_6]$
CAXYAE	1.970 Å	Harrowfield, J. M. Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, *70*, 485. $[Co(NH_3)_6][Ho(C_7H_3NO_4)_3]\cdot 10H_2O$

KUTCIL	1.970 Å	Grigor'ev, M. S.; Baturin, N. A.; Regel', L. L.; Krot, N. N. *Radiokhimiya* **1991**, *33*, 19. $[Co(NH_3)_6]_2[Np_2O_4C_8O_{16}]\cdot 6H_2O$
67551	1.971 Å	Wen, H.; Miller, S. E.; House, D. A.; McKee, V.; Robinson, W. T. *Inorg. Chim. Acta* **1992**, *193*, 77. $[Co(NH_3)_6]$ $[HgCl_3)Cl(HgCl_2)Cl(HgCl_2)]\cdot H_2O$
411774	1.971 Å	Boudin, S.; Chardon, J.; Daturi, M.; Raveau, B. *J. Solid State Chem.* **2001**, *159*, 239. $[Co(NH_3)_6][(V_{1.5}P_{0.5}O_6(OH)]$
412059	1.971 Å	Dahm, M.; Adam, A. *Z. Naturforsch., Teil B* **2001**, *56*, 1117-1122. $[Co(NH_3)_6]ClCO_3$
CAXXOR	1.971 Å	Harrowfield, J. M. Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, *70*, 485. $[Co(NH_3)_6][Gd(C_7H_3NO_4)_3]\cdot 10H_2O$
HOSFUS	1.971 Å	Pook, N.-P.; Adam, A. *Z. Anorg. Allg. Chem.* **2014**, *640*, 2931. $[Co(NH_3)_6]_4[Ce_2C_6O_{22}](CO_3)_2\cdot 12H_2O$
NANCUB	1.971 Å	Charushnikova, I. A.; Krot, N. N.; Polyakova, I. N. *Radiokhimiya* **2004**, *46*, 318. $[Co(NH_3)_6][(NpO_2)_2C_6H_4O_8]NO_3\cdot 5H_2O$
10190	1.972 Å	Burns, J. H.; Baldwin, W. H.; Stokely, J. R. *Inorg. Chem.* **1973**, *12*, 466. $Li[Co(NH_3)_6][Np_2O_8](OH)_2\cdot 2H_2O$
39640	1.972 Å	Rakov, I. E.; Gorbunova, Y. E.; Mikhailov, Y. N.; Kokunov, Y. V. *Dokl. Akad. Nauk SSSR* **1992**, *322*, 906. $K[Co(NH_3)_6][SnF_3]_2(NO_3)_2\cdot 0.5H_2O$
66322	1.972 Å	Aoyama, T.; Ohba, S. Saito, Y.; Bernal, I. *Acta Crystallogr., Sect. C* **1992**, *48*, 246. $[Co(NH_3)_6][CuCl_5]$
260055	1.972 Å	Visser, H. G.; Purcell, W. *Acta Crystallogr., Sect. E* **2008**, *64*, i76. $[Co(NH_3)_6][Mn(CN)_6]$
WUYVET		
CAFWEM	1.972 Å	Zhang, Y.; Collison, D.; Livens, F. R.; Helliwell, M.; Heatley, F.; Powell, A. K.; Wocadlo, S.; Eccles, H. *Polyhedron* **2002**, *21*, 81. $[Co(NH_3)_6]_2[UC_{18}H_{20}O_{20}]Cl_2\cdot 6H_2O$
RORNER	1.973 Å	Klufers, P.; Mayer, P. *Z. Anorg. Allg. Chem.* **1997**, *623*, 1496. $[Co(NH_3)_6](SbC_{20}H_{20}N_{10}O_{10})\cdot 9H_2O$
60839	1.974 Å	Schulz, F.; Jansen, M. *Z. Anorg. Allg. Chem.* **1986**, *543*, 152. $[Co(NH_3)_6]_2(P_4O_{13})\cdot 5H_2O$
AHIKUX	1.974 Å	Baldwin, S. M.; Kastner, M. E. *Acta Crystallogr., Sect. XAT*
EDTACO	1.974 Å	Schlemper, E. O. *J. Cryst. Mol. Struct.* **1977**, *7*, 81. $Na[Co(NH_3)_6]((OOCCH_2)_2NCH_2N(CH_2COO)_2\cdot 3.5\ H_2O$
FECGAX	1.974 Å	Gorska, N.; Inaba, A.; Hirao, Y.; Mikuli, E.; Holderna-Natkaniec, K. *RSC Adv.* **2012**, *2*, 4283. $[Co(NH_3)_6](ClO_4)_3$
23144	1.975 Å	Atoji, M.; Watanabe, T. *J. Chem. Phys.* **1952**, *20*, 1045. $[Co(NH_3)_6][BiCl_6]$
MANGUF	1.976 Å	Han, Y.; Li, Y.; Yu, J.; Pan, Q.; Xu, R. *Eur. J. Inorg. Chem.* **2012**, 36. $[Co(NH_3)_6]_3[Zn_8H_8O_{40}P_{10}]PO_4$
MEHTEC	1.976 Å	Darii, M.; Beleaev, E. S.; Kravtsov, V. C.; Bourosh, P.; Chumakov, Y.; Hauser, J.; Decurtins, S.; Liu, S.-X.; Sultanova, O.; Baca, S. G. *New J. Chem.* **2022**, *46*, 11404. $[Co(NH_3)_6][Co(H_2O)_4(NC_5H_3(COO)_2)_2]Cl\cdot 3H_2O$
805	1.977 Å	Iwata, M. *Acta Crystallogr., Sect. B* **1977**, *33*, 59. $[Co(NH_3)_6][Cr(CN)_6]$

251045	1.977 Å	Clark, D. L.; Conradson, S. D.; Donohoe, R. J.; Gordon, P. L.; Keogh, D. W.; Palmer, P. D.; Scott, B. L.; Tait, C. D. Inporg. Chem. 2013, 52, 3547. $[Co(NH_3)_6][NpO_2(OH)_4]_3 \cdot H_2O$
LECKOU	1.977 Å	Dalrymple, S. A.; Shimizu, G. K. H. *Chem.Commun.* **2006**, 956. $[Co(NH_3)_6](1,4\text{-}C_6H_4(CH_2SO_3)_2) \cdot C_6H_5NH_2 \cdot 6H_2O$
39549	1.980 Å	Grigor'ev, M. S.; Fedoseev, A. M.; Budantseva, N. A.; Yanovskii, A. I.; Struchkov, Y. T.; Krot, N. N. *Radiokhimiya* **1991**, *33*, 54. $[Co(NH_3)_6][NpO_2SO_4)_2] \cdot 2H_2O$
NALBAE01	1.980 Å	Harrowfield, J. M.; Ling, I.; Skelton, B. W.; Sobolev, A. N.; White, A. H. *Aust. J. Chem.* **2017**, 70, 485. $[Co(NH_3)_6][La(C_7H_3NO_4)_3] \cdot 5H_2O$
VUCDAA	1.980 Å	Charushnikova, L. A.; Krot, N. N.; Makarenkov, V. I.; Starikova, Z. A. *Radiochim.* **2014**, *56*, 364. $[Co(NH_3)_6][Nd_3C_{18}H_{12}O_{24}] \cdot 6H_2O$
65765	1.981 Å	du Bois, A.; Abriel, W. *Acta Crystallogr., Sect. C* **1989**, *45*, 1986. $[Co(NH_3)_6][TeCl_6]Cl \cdot 1.64H_2O$
37075	1.982 Å	Tebbe, K. F. *Acta Crystallogr., Sect. C* **1983**, *39*, 154. $[Co(NH_3)_6]I_3 \cdot 2I_2$
10183	1.985 Å	Schroeder, D. R.; Jacobson, R. A. *Inorg. Chem.* **1973**, *12*, 515. $[Co(NH_3)_6][Sb_2F_9]$
10178	1.989 Å	Schroeder, D. R.; Jacobson, R. A. *Inorg. Chem.* **1973**, *12*, 210. $[Co(NH_3)_6][SbCl_6]$
1920	2.011 Å	Murray-Rust, P. *Acta Crystallogr., Sect. B* **1975**, *31*, 978. $[Co(NH_3)_6][CuCl_5]$
31568	2.018 Å	Watanabe, T.; Atoji, M.; Okazaki, C. *Acta Crystallogr.* **1950**, *3*, 405. $[Co(NH_3)_6][TlBr_6]$
31567	2.046 Å	Watanabe, T.; Atoji, M.; Okazaki, C. *Acta Crystallogr.* **1950**, *3*, 405. $[Co(NH_3)_6][TlCl_6]$
56127	2.166 Å	Wyckoff, R. W. G.; Hendriks, S. B.; McCutcheon, T. P. *Am. J. Sci., Serie 5* **1927**, *13*, 388. $[Co(NH_3)_6](ClO_4)_3$
35539	2.176 Å	Wyckoff, R. W. G. *Am. J. Sci., Ser. 5* **1927**, *13*, 223. $[Co(NH_3)_6]I_3$
BANXOD	2.234 Å	Birker, P. J. M. W. L..; Reedijk, J.; Verschoor, G. C. *Inorg. Chem.* **1981**, *20*, 2877. $[Co(NH_3)_6]_5[Ag_8C_{60}H_{108}ClN_{12}O_{24}S_{12}]_3 \cdot 197H_2O$
Mean	**1.964 Å/228 structures**	

Rhodium(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Rh-N)	Reference and formula
187075	2.043 Å	Khranenko, S. P.; Bykova, E. A.; Alexeyev, A. V.; Tyutyunnik, A. P.; Gromilov, S. A. *J. Solid State Chem.* **2012**, *53*, 521. $[Rh(NH_3)_6](ReO_4)_3 \cdot 2H_2O$
187073	2.061 Å	Khranenko, S. P.; Bykova, E. A.; Alexeyev, A. V.; Tyutyunnik, A. P.; Gromilov, S. A. *J. Solid State Chem.* **2012**, *53*, 521. $[Rh(NH_3)_6]Cl_3$
5826	2.062 Å	Bykov, Maxim; Yusenko, Kirill V.; Bykova, Elena; Pakhomova, Anna; Kraus, Werner; Dubrovinskaia, Natalia; Dubrovinsky, L. *Eur. J. Inorg. Chem.* **2019**, 3667. $[Rh(NH_3)_6]Cl_4(N_3)_5$

187074	2.071 Å	Khranenko, S. P.; Bykova, E. A.; Alexeyev, A. V.; Tyutyunnik, A. P.; Gromilov, S. A. *J. Solid State Chem.* **2012**, *53*, 521. $[Rh(NH_3)_6](MoO_4)Cl\cdot 3H_2O$
23398	2.071 Å	Kimura, T.; Sakurai, T. *J. Solid State. Chem.* **1980**, *34*, 369. $[Rh(NH_3)_6]_3[Rh(SnCl_3)_4(SnCl_4)][SnCl_6]\cdot 4H_2O$
109998	2.073 Å	Gorol, M.; Mosch-Zanetti, N. C.; Noltemeyer, M.; Roesky, H. W. *Z. Anorg. Allg. Chem.* **2019**, *60*, 1062.
XEDNEZ		$[Rh(NH_3)_6][Fe(C_2O_4)_3]\cdot 4H_2O$
Mean	**2.064 Å/6 structures**	

Iridium(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Ir-N)	Reference and formula
424948	2.010 Å	Khranenko; S. P.; Bykova; E. A.; Yusenko; K. V.; Tyutyunnik; A. P.; Gromilov, S. A. *J. Struct. Chem.* **2013**, *54*, 931. $[Ir(NH_3)_6](ReO_4)_3\cdot 2H_2O$
123881	2.060 Å	Vasilchenko, D.; Berdyugin, S.; Komarov, V.; Sheven, D.; Kolesov, B.; Filatov, E.; Tkachev, S. *Inorg.Chem* **2022**, *61*, 5926. $[Rh(NH_3)_6][Pt(OH)_5Cl]Cl\cdot H_2O$
123879	2.067 Å	Vasilchenko, D.; Berdyugin, S.; Komarov, V.; Sheven, D.; Kolesov, B.; Filatov, E.; Tkachev, S. *Inorg.Chem* **2022**, *61*, 5926. $[Rh(NH_3)_6][Pt(OH)_5Cl]_{0.75}[Pt(OH)_4Cl_2]_{0.25}\cdot 1.5H_2O$
QRCTIF	2.078 Å	Filatov, E.; Lagunova, V.; Kochetygov, I.; Plyusnin, P.; Kuratieva, N.; Kostin, G.; Korenev, S. *Acta Crystallogr., Sect. B* **2022**, *78*, 537. $[Ir(NH_3)_6][Ir(C_2O_4)_3]$
419315	2.082 Å	Filatov, E. Y.; Yusenko, K. V.; Vikulova, E. S.; Plyusnin, P. E.; Shubin, Y. V. *Z. Kristallogr. Suppl. Issue* **2009**, *30*, 263. $[Ir(NH_3)_6][Co(C_2O_4)_3]\cdot H_2O$
109999	2.088 Å	Gorol, M.; Mosch-Zanetti, N. C.; Noltemeyer, M.; Roesky, H. W. *Z. Anorg. Allg. Chem.* **2019**, *60*, 1062.
XEDNID		$[Ir(NH_3)_6][Fe(C_2O_4)_3]\cdot 4H_2O$
QOWHOC	2.091 Å	Yusenko, K. V.; Pechenyuk, S. I.; Vikulova, E. S.; Semushina, Y. P.; Baidina, I. A.; Filatov, E. Y. *Zh. Strukt. Khim.* **2019**, *60*, 1062. $[Ir(NH_3)_6][Fe(C_2O_4)_3]\cdot 3H_2O$
BIWHEY	2.094 Å	Varygin, A. D.; Popov, A. A.; Gromilov, S. A.; Plyusnin, P. E.; Korenev, S. V. *J. Struct. Chem.* **2023**, *64*, 1261. $[Ir(NH_3)_6][Fe(CN)_6]$
Mean	**2.080 Å/7 structures**	

Nickel(II)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Ni-N)	Reference and formula
429169	2.055 Å	Breternitz, J.; Farrugia, L. J.; Godula-Jopek, A.; Saremi-Yarahmadi, S.; Malka, I. E.; Hoang, T. K. A.; Gregory, D. H. *J. Cryst. Growth* **2015**, *412*, 1. $[Ni(NH_3)_6](NO_3)_2$

RAFLIX	2.082 Å	Nefedov, S. E.; Eremenko, I. L. *Zh. Neorg. Khim.* **2021**, *66*, 1380. $[Ni(NH_3)_6](OOC(CH_3)_3)_2$
433371	2.089 Å	Daigre, G.; Costuas, K.; Tarasenko, M. S.; Ledneva, A. Y.; Naumov, N. G.; Lemoine, P.; Guizouarn, T.; Molard, Y.; Amela-Cortes, M.; Audebrand, N.; Cordier, S. *Dalton Trans.* **2018**, *47*, 1122. $[Ni(NH_3)_6)_4][Ni_2(NH_3)_8][Mo_6Br_6S_2(CN)_6]_3{\cdot}12H_2O$
433370	2.112 Å	Daigre, G.; Costuas, K.; Tarasenko, M. S.; Ledneva, A. Y.; Naumov, N. G.; Lemoine, P.; Guizouarn, T.; Molard, Y.; Amela-Cortes, M.; Audebrand, N.; Cordier, S. *Dalton Trans.* **2018**, *47*, 1122. $[Ni(NH_3)_6)_4](C_2(NO_2)_4)$
MOXPUO	2.119 Å	Dong, W.-S.; Mei, H.-Z.; Yu, Q.-Y.; Xu, M.-Q.; Li, Z.-Y.; Zhang, J.-G. *Dalton Trans.* **2024**, *53*, 13925. $[Ni(NH_3)_6)_4][Ni_2(NH_3)_8][Mo_6Br_6Se_2(CN)_6]_3{\cdot}12H_2O$
78865	2.120 Å	Essmann, R.; Kreiner, G.; Niemann, A.; Rechenbach, D.; Schmieding, A.; Sichla, T.; Zachwieja, U.; Jacobs, H. *Z. Anorg. Allg. Chem.* **1996**, *622*, 1161. $[Ni(NH_3)_6]Cl_2$
424257	2.123 Å	Gaifulin, Y. M.; Smolentsev, A. I.; Mironov, Y. V. *J. Struct. Chem.* **2013**, *54*, 459. $(NH_4)_2[Ni(NH_3)_6]_5[(Re_{12}CS_{17}(CN)_6]_2{\cdot}17H_2O$
TOQPEJ	2.123 Å	Szimhardt, N.; Bolter, M. F.; Born, M.; Klapotke, T. M.; Stierstorfer, J. *Dalton Trans.* **2017**, *46*, 5033. $[Ni(NH_3)_6](C_2N_{12}O_4)$
170748	2.126 Å	Wagner, M.; Lerner, H.W.; Bolte, M. *Acta Crystallogr., Sect. C* **2000**, *56*, e77. $[Ni(NH_3)_6]Cl_2$
KAKZAX	2.127 Å	Hummel, H.-U.; Beiler, F. *Z. Anorg. Allg. Chem.* **1988**, *565*, 147. $[Ni(NH_3)_6]((NC)_2CCS(O)){\cdot}1.5H_2O$
410301	2.128 Å	Mockenhaupt, C.; Essmann, R.; Lutz, H. D. *Naturforsch., Teil B* **1999**, *54*, 843. $[Ni(NH_3)_6]SO_4$
JIRDOG	2.128 Å	Gayfulin, Y. M.; Smolentsev, A I.; Mironov, Y. V. *Zh. Strukt. Khim.* **2018**, *59*, 669. $K_2[Ni(NH_3)_6]_5[ReC_7N_6O_4S_{15}]_2{\cdot}16H_2O$
FOPJEB	2.132 Å	Oelkers, B. *Eur. J. Inorg. Chem.* **2014**, 5838. $[Ni(NH_3)_6](C_{12}H_{10}N_2O_6S_2)$
426457	2.136 Å	Ledneva, A. Y.; Smolentsev, A. I.; Naumov, N. G. *J. Coord. Chem.* **2013**, *66*, 4363. $[Ni(NH_3)_6][Re_6S_8(CN)_4(NH_3)_2]{\cdot}2H_2O$
BICSIQ	2.136 Å	Paul, B.; Nather, C.; Walfort, B.; Fromm, K. M.; Zimmermann, B.; Lang, H.; Janiak, C. *CrystEngComm* **2004**, *6*, 293. $[Ni(NH_3)_6]C_{20}H_{12}O_2{\cdot}2C_{20}H_{14}O_2$
NUHJUV	2.139 Å	Himmel, K.; Jansen, M. *Chem. Commun.* **1998**, 1205. $[Ni(NH_3)_8]C_{60}{\cdot}6NH_3$
BAWLIW	2.143 Å	Mironov, Y. V.; Gayfulin, Y. M.; Kozlova, S. G.; Smolentsev, A I.; Tarasenko, M. S.; Nizovtsev, A. S.; Fedorov, V. E. *Inorg. Chem.* **2012**, *51*, 4359. $[Ni(NH_3)_6]_3[Re_{12}C_7H_6S_{17}]{\cdot}4H_2O$
407672	2.144 Å	Tebbe, K.F.; Gilles, T.; Radke, B. *Z. Naturforsch., Teil B* **1998**, *53*, 87. $[Ni(NH_3)_6](I_3)_2$
407673	2.148 Å	Tebbe, K.F.; Gilles, T.; Radke, B. *Z. Naturforsch., Teil B* **1998**, *53*, 87. $[Ni(NH_3)_6](I_5)_2$
UCASEY	2.150 Å	Gayfulin, Y. M.; Smolentsev, A. I.; Mironov, Y. V. *J. Coord. Chem.* **2011**, *64*, 3832. $[Ni(NH_3)_6][Ni(NH_3)_4(NCRe_6C_3N_2S_8)_2]{\cdot}8H_2O$

83756 XIRNUI	2.158 Å	Podberezskaya, N. V.; Doronina, V. P.; Bakakin, V. V.; Yakovlev, I. I. *Zh. Strukt. Khim.* **1984**, *25*, 182. $[Ni(NH_3)_6](C(NO_2)_3)_2$
50466	2.164 Å	Schoening, R. A.; Meyer, G. . *Z. Anorg. Allg. Chem.* **1998**, *624*, 1389. $[Ni(NH_3)_6][TaF_6]_2$
81376	2.167 Å	Riou, A.; Cudennec, Y.; Gerault, Y.; Lecerf, A. *Compt. Rend. l'Akademie Sci., Serie IIb* **1996**, *322*, 247. $[Ni(NH_3)_6](NO_3)_2$
Mean	**2.132 Å/22 structures**	

Palldium(II)

Four-coordination, square-planar configuration

ICSD/CSD	*d*(Pd-N)	Reference and formula
428068	1.987 Å	Mulagaleev, R. F.; Soloviev, L. A.; Blokhin, A. I.; Kirik, S. D. *Russ. J. Coord. Chem.* **2003**, *29*, 256. $[Pd(NH_3)_4][Pd(NH_3)_2(SO_3)_2][Pd(NH_3)_3(SO_3)]\cdot H_2O$
89696	2.015 Å	Gromilov, S. A.; Baidina, I. A.; Tatarchuk, V. V.; Virovets, A. V.; Druzhinina, I. A. *Z. Strukt. Khim.* **1999**, *40*, 777. $[Pd(NH_3)_4]_3[Pd(NH_3)_3Cl]_2Cl_8$
15990	2.018 Å	Dickinson, B. N. *Z. Kristallogr.* **1934**, *88*, 281. $[Pd(NH_3)_4]_2Cl_2\cdot H_2O$
430363	2.023 Å	Gubanov, A. I.; Danilenko, A. M.; Smolentsev, A. I.; Kuratieva, N. V.; Venediktov, A. B.; Korenev, S. V. *J. Struct. Chem.* **2016**, *57*, 1606. $[Pd(NH_3)_4]_3[IrF_6]_2Cl_2\cdot H_2O$
ODETAT	2.026 Å	Hirai, Y.; Igashira-Kamiyama, A.; Kawamoto, T.; Konno, T. *Chem. Lett.* **2007**, *36*, 434. $NH_4[Pd(NH_3)_4]_6[HgBr_3(NH_3)][HgBr_2(S_2C_{15}H_{30}N_4O_6S)]\cdot 30H_2O$
JONTEH	2.028 Å	Oliveira, W. X. C.; da Costa, M. M.; Pinheiro, C. B.; Fontes, A. P. S.; de Paula, F. C. S.; Jaimes, E. H. L.; de Souza, P. P.; Pereira-Maia, E. C.; Pereira, C. L. M. *Polyhedron* **2014**, *76*, 16. $[Pd(NH_3)_4][PdC_{10}C_4N_2O_6]$
32615	2.031 Å	Tebbe, K.F.; Freckmann, B. *Z. Naturforsch., Teil B* **1982**, *37*, 542. $[Pd(NH_3)_4](I_5)(I_3)$
APDPZC	2.032 Å	Harlow, R. L.; Simonsen, S. H. *Acta Crystallogr., Sect. B* **1974**, *30*, 1370. $[Pd(NH_3)_4](C_6H_2N_2O_4)$
169808	2.033 Å	Smolentsev, A. I.; Gubanov, A. I.; Zadesenets, A. V.; Plyusnin, P. E.; Baidina, I. A.; Korenev, S. V. *Z. Neorg. Khim.* **2010**, *51*, 736. $[Pd(NH_3)_4](NO_3)_2$
109471	2.034 Å	Solovyov, L. A.; Blochina, M. L.; Kirik, S. D.; Blochin, A. I.; Derikova, M. G. *Powder Diffr.* **1996**, *11*, 13. $[Pd(NH_3)_4]C_2O_4$
ZAKWIR	2.037 Å	Mealli, C.; Pichierri, F.; Randaccio, L.; Zangrando, E.; Krumm, M.; Holtenrich, D.; Lippert, B. *Inorg. Chem.* **1995**, *34*, 3418. $[Pd(NH_3)_4][PdPtC_{10}H_{21}N_9O_2]_2(NO_3)_6\cdot 6H_2O$
74028	2.038 Å	Laligant, Y. *Eur. J. Solid State Inorg. Chem.* **1993**, *30*, 1017. $[Pd(NH_3)_4]MoO_4$
425507	2.038 Å	Gubanov, A. I.; Filatov, E. Y.; Semitut, E. Y..; Smolentsev, A. I.; Snytnikov, P. V.; Potemkin, D. I.; Korenev, S. V. *Thermochim. Acta* **2013**, *566*, 100. $[Pd(NH_3)_4]MoO_4$

DEKLIS	2.038 Å	Gladysheva, M. V.; Plyusnin, P. E.; Komarov, V. Y.; Tsygankova, A. R.; Gerasimov, E. Y.; Shubin, Y. V.; Korenev, S. V. *J. Struct. Chem.* **2022**, *63*, 556. $[Pt(NH_3)_4][Pt(NH_3)_3(NO_2)][Cr(C_2O_4)_3]\cdot 0.8H_2O$
RIFPEF	2.039 Å	Mikhailov, A.; Konieczny, K. A.; Gladysheva, M.; Plyusnin, P.; Pillet, S.; Schaniel, D. *Inorg. Chem.* **2023**, *62*, 5531. $[Pd(NH_3)_4][Pd(NH_3)_3NO_2][Co(O_2C_2O_2)_3]\cdot 0.72\ H_2O$
410384	2.039 Å	Beck, W.; Klapoetke, T. M.; Knizek, J.; Noeth, H.; Schuett, T. *Eur. J. Inorg. Chem.* **1999**, 523. $[Pd(NH_3)_4][Pd(N_3)_4]$
72997	2.040 Å	Laligant, Y. *Eur. J. Solid State Inorg. Chem.* **1993**, *30*, 681. $[Pd(NH_3)_4]CrO_4$
248717	2.040 Å	Grassl, T.; Korber, N. *Acta Crystallogr., Sect. E* **2014**, *70*, i32. $[Pd(NH_3)_4]Cl_2\cdot 4NH_3$
DEKLEO	2.040 Å	Gladysheva, M. V.; Plyusnin, P. E.; Komarov, V. Y.; Tsygankova, A. R.; Gerasimov, E. Y.; Shubin, Y. V.; Korenev, S. V. *J. Struct. Chem.* **2022**, *63*, 556. $[Pt(NH_3)_4][Pt(NH_3)_3(NO_2)][Co(C_2O_4)_3]\cdot 0.83H_2O$
TEPZUM	2.040 Å	Xianqiang Huang, X.; Li, J.; Shen, G.; Xin, N.; Lin, Z.; Chi, Y.; Dou, J.; Li, D.; Hu, C. *Dalton Trans.* **2018**, *47*, 726. $[Pd(NH_3)_4]_3[V_{10}O_{28}]\cdot 8H_2O$
412607	2.041 Å	Ang, H.-G.; Fraenk, W.; Karaghiosoff, K.; Klapoetke, T. M.; Mayer, P.; Noeth, H.; Sprott, J.; Warchhold, M. *Z. Anorg. Allg. Cherm.* **2002**, *628*, 2894. $[Pd(NH_3)_4](N(NO_2)_2)_2$
417074 SOPKOY	2.041 Å	Yusenko, K. V.; Filatov, E. Y.; Vasilchenko, D. B.; Baidina, I. A.; Zadesenez, A. V.; Shubin, Y. V. *Z. Krist. Cryst. Mater*. **2007**, *222*, 289. $[Pd(NH_3)_4][Cu(H_2O)_2(C_2O_4)_2]$
417562 XIXXOS	2.041 Å	Zadesenets, A. V.; Filatov, E. Y.; Yusenko, K. V.; Shubin, Y. V.; Korenev, S. V.; Baidina, I. A. *Inorg. Chim. Acta* **2008**, *361*, 199. $[Pd(NH_3)_4][Ni(H_2O)_2(C_2O_4)_2]\cdot 2H_2O$
421898	2.042 Å	Rybinskaya, A. A.; Shusharina, E. A.; Plyusnin, P. E.; Shubin, Y. V.; Korenev, S. V.; Gromilov, S. A. *J. Struct. Chem.* **2011**, *52*, 816. $[Pd(NH_3)_4]_3[Ir(NO_2)_6]_2\cdot H_2O$
156506 KIYVUK	2.043 Å	Plyusnin, P. E.; Baidina, I. A.; Shubin, Y. V.; Korenev, S. V. *Zh. Neorg. Khim.* **2007**, *52*, 421. $[Pd(NH_3)_4][AuCl_4]_2$
185538	2.043 Å	Shusharina, E. A.; Rybinskaya, A. A.; Plyusnin, P. E.; Shubin, Y. V.; Korenev, S. V.; Gromilov, S. *J. Struct. Chem.* **2011**, *52*, 621. $[Pd(NH_3)_4][Rh(NH_3)(NO_2)_5]$
420432	2.045 Å	Zadesenets, A.; Filatov, E.; Plyusnin, P.; Baidina, I.; Dalezky, V.; Shubin, Y..; Korenev, S.; Bogomyakov, A. *Polyhedron* **2011**, *30*, 1305. $[Pd(NH_3)_4][Co(H_2O)_2(C_2O_4)_2]$
OQIDUO	2.045 Å	Zadesenets, A.; Filatov, E.; Plyusnin, P.; Baidina, I.; Dalezky, V.; Shubin, Y.; Korenev, S.; Bogomyakov, A. *Polyhedron* **2011**, *30*, 1305. $[Pd(NH_3)_4][Co(H_2O)_2(C_2O_4)_2]$
169809	2.046 Å	Smolentsev, A. I.; Gubanov, A. I.; Zadesenets, A. V.; Plyusnin, P. E.; Baidina, I. A.; Korenev, S. V. *Z. Neorg. Khim.* **2010**, *51*, 736. $[Pd(NH_3)_4]F_2\cdot H_2O$
DEKLOY	2.046 Å	Gladysheva, M. V.; Plyusnin, P. E.; Komarov, V. Y.; Tsygankova, A. R.; Gerasimov, E. Y.; Shubin, Y. V.; Korenev, S. V. *J. Struct. Chem.* **2022**, *63*, 556. $K_5[Pd(NH_3)_4][Cr(C_2O_4)_3]_2(NO_3)\cdot 6H_2O$

417563 XIXXUY	2.047 Å	Zadesenets, A. V.; Filatov, E. Y.; Yusenko, K. V.; Shubin, Y. V.; Korenev, S. V.; Baidina, I. A. *Inorg. Chim. Acta* **2008**, *361*, 199. $[Pd(NH_3)_4][Zn(H_2O)_2(C_2O_4)_2]\cdot 2H_2O$
430362	2.047 Å	Gubanov, A. I.; Danilenko, A. M.; Smolentsev, A. I.; Kuratieva, N. V.; Venediktov, A. B.; Korenev, S. V. *J. Struct. Chem.* **2016**, *57*, 1606. $[Pd(NH_3)_4][IrF_6]\cdot H_2O$
75383	2.052 Å	Laligant, Y. *Eur. J. Solid State Inorg. Chem.* **1994**, *31*, 211. $[Pd(NH_3)_4]Mo_7O_{24}\cdot 3NH_3$
78663	2.052 Å	Laligant, Y.; Le Bail, A. *Powder Diffr.* **1995**, *10*, 159. $[Pd(NH_3)_4]Cr_2O_7$
23	2.056 Å	Bell, J. D.; Bowles, J. C.; Cumming, H. J.; Hall, D.; Holland, R. V. *Acta Crystallogr., Sect. B* **1976**, *32*, 634. $[Pd(NH_3)_4]_2Cl_2\cdot H_2O$
Mean	**2.039 Å/33 structures**	

Platinum(II)

Four-coordination, square-planar configuration

ICSD/CSD	*d*(Pt-N)	Reference and formula
FOBLOX	2.033 Å	Alston, D. R.; Slawin, A. M. Z.; Stoddart, J. F.; Williams, D. J.; Zarzycki, R. *Angew. Chem., Int Ed.* **1987**, *26*, 692. $[Pt(NH_3)_4](PF_6)_2\cdot 2C_{50}H_{50}N_2O_{12}\cdot 2(CH_3)_2CO$
49913	2.035 Å	Toffoli, P.; Khodadad, P.; Rodier, N. *Acta Crystallogr., Sect. C* **1987**, *43*, 2048. $[Pt(NH_3)_4]_3[PtCl(NH_3)_3]_2Cl_8$
FUTHAF	2.035 Å	Stender, M.; White-Morris, R. L.; Olmstead, M. M.; Balch, A. L. *Inorg. Chem.* **2003**, *42*, 4505. $[Pt(NH_3)_4][Ag(CN)_2]_2\cdot 1.4H_2O$
FICXAQ	2.036 Å	Alston, D. R.; Slawin, A. M. Z.; Stoddart, J. F.; Williams, D. J.; Zarzycki, R. *Angew. Chem., Int Ed.* **1987**, *26*, 693. $[Pt(NH_3)_4](PF_6)_2\cdot C_{30}H_{42}O_{10}\cdot 0.25C_2H_5OH$
KANXON	2.036 Å	Sadler, P.; Müller, P.; Parsons, S.; Messenger, D. CCDC deposition number 276862, **2005**. $[Pt(NH_3)_4]_2[(NC)_5CNPt(NH_3)_4FeNPt(CN)_5)]\cdot 12H_2O$
156511	2.037 Å	Korolkov, I. V.; Gubanov, A. I.; Gromilov, S. A. *Zh. Strukt. Khim.* **2005**, *46*, 492. $[Pt(NH_3)_4][ReCl_6]$
169807	2.037 Å	Smolentsev, A. I.; Gubanov, A. I.; Zadesenets, A. V.; Plyusnin, P. E.; Baidina, I. A.; Korenev, S. V. *Zh. Strukt. Khim.* **2010**, *51*, 736. $[Pt(NH_3)_4](NO_3)_2$
175609	2.037 Å	Lagunova, V.; Filatov, E.; Plyusnin, P.; Kostin, G.; Urlukov, A.; Potemkin, D.; Korenev, S. *Int. J. Hydrogen Energy* **2023**, *48*, 25133. $[Pt(NH_3)_4]WO_4$
74556	2.038 Å	Garnier, E.; El Mouahid, A.; Cernak, J. *Acta Crystallogr., Sect. C* **1994**, *50*, 845. $[Pt(NH_3)_4][SnCl_6]$
131445	2.038 Å	Brieger, L.; Henke, S.; Said Mohamed, A.; Jourdain, I.; Knorr, M.; Strohmann, C. *Inorg. Chim. Acta* **2019**, *495*, 119002. $[Pt(NH_3)_4]Cl_2$
TCQWMPT	2.038 Å	Endres, H.; Keller, H. J.; Moroni, W.; Nothe, D.; Dong, V. *Acta Crystallogr., Sect. B* **1978**, *34*, 1703. $[Pt(NH_3)_4](C_{12}H_4N_4)_2$

1960	2.041 Å	Morosin, B.; Fallon, P.; Valentine, J. S. *Acta Crystallogr., Sect. B* **1975**, *31*, 2220. $[Pt(NH_3)_4][CuCl_4]$
XOMVEC	2.041 Å	Jinzhen, L.; Abrahams, B. F.;Winther-Jensen, B.; Martin, L. L.; Bond, A. M. *ChemCatChem* **2014**, *6*, 2345. $[Pt(NH_3)_4](C_{12}F_4N_4)_2\cdot(C_2H_5)_2O\cdot 1.33\ CH_3OH$
75276	2.042 Å	Garnier, E.; Bele, M. *Acta Crystallogr., Sect. C* **1994**, *50*, 994. $[Pt(NH_3)_4][IrCl_5(H_2O)]\cdot 2H_2O$
175610	2.043 Å	Lagunova, V.; Filatov, E.; Plyusnin, P.; Kostin, G.; Urlukov, A.; Potemkin, D.; Korenev, S. Int. J. Hydrogen Energy 2023, 48, 25133. $[Pt(NH_3)_4]MoO_4$
417564	2.043 Å	Zadesenets, A. V.; Filatov, E. Y.; Yusenko, K. V.; Shubin, Y. V.; Korenev, S. V.; Baidina, I. A. *Inorg. Chim. Acta* **2008**, *361*, 199. $[Pt(NH_3)_4][Zn(H_2O)_2(C_2O_4)_2]\cdot 2H_2O$
SEKVIQ	2.043 Å	Lu, J.; Nafady, A.; Abrahams, B. F.; Abdulhamid, M.; Winther-Jensen, B.; Bond, A. M.; Martin. L. L. *Aust. J. Chem.* **2017**, *70*, 997. $[Pt(NH_3)_4](C_{12}H_4N_4)_2\cdot 2(CH_3)_2NCHO$
XIXXIM	2.043 Å	Zadesenets, A. V.; Filatov, E. Y.; Yusenko, K. V.; Shubin, Y. V.; Korenev, S. V.; Baidina, I. A. *Inorg. Chim. Acta* **2008**, *361*, 199. $[Pt(NH_3)_4][Zn(H_2O)_2(C_2O_4)_2]\cdot 2H_2O$
162189	2.046 Å	Korol'kov, I. V.; Gubanov, A. I.; Yusenko, K. V.; Baidina, I. A.; Gromilov, S. A. *Zh. Strukt. Khim.* **2007**, *48*, 530. $[Pt(NH_3)_4][OsCl_6]$
417564	2.046 Å	Zadesenets, A. V.; Filatov, E. Y.; Yusenko, K. V.; Shubin, Y. V.; Korenev, S. V.; Baidina, I. A. *Inorg. Chim.*
XIXXEI	2.046 Å	*Acta* **2008**, *361*, 199. $[Pt(NH_3)_4][Ni(H_2O)_2(C_2O_4)_2]\cdot 2H_2O$
158875	2.047 Å	Korolkov, I. V.; Zadesenets, A. V.; Gromilov, S. A.; Yusenko, K. V.; Baldina, I. A.; Korenev, S. V. *Zh. Strukt. Khim.* **2006**, *47*, 503. $[Pt(NH_3)_4](ReO_4)_2$
158876	2.047 Å	Korolkov, I. V.; Zadesenets, A. V.; Gromilov, S. A.; Yusenko, K. V.; Baldina, I. A.; Korenev, S. V. *Zh. Strukt. Khim.* **2006**, *47*, 503. $[Pt(NH_3)_4](ReO_4)_2$
413829	2.047 Å	Casas, J. S.; Parajo, Y.; Romero, Y.; Sanchez-Gonzalez, A.; Sordo, J.; Vazquez-Lopez, E. M. *Z. Anorg. Allg. Chem.* **2004**, *630*, 980. $[Pt(NH_3)_4][PtI_4]$
XIXXOS	2.047 Å	Zadesenets, A. V.; Filatov, E. Y.; Yusenko, K. V.; Shubin, Y. V.; Korenev, S. V.; Baidin, I. A. *Inorg. Chim. Acta* **2008**, *361*, 199. $[Pt(NH_3)_4][Ni(H_2O)_2(C_2O_4)_2]\cdot 2H_2O$
HOTVET	2.047 Å	Avisar-Levy, M.; Levy, O.; Ascarelli, O.; Popov, I.; Bino, A. *J. Alloys Compd.* **2015**, *635*, 48. $[Pt(NH_3)_4][CoC_{10}H_{12}N_2O_8]_2\cdot 2H_2O$
VAFDOV	2.047 Å	Khodadad, N.; Rodier, N. *Acta Crystallogr., Sect. B* **1989**, *45*, 208. $[Pt(NH_3)_4](CH_3SO_3)_2$
20464	2.048 Å	Mironov, Y. I.; Bakakin, V. V.; Zemskov, S. V.; Neronova, N. N. *Zh. Strukt. Khim.* **1968**, *9*, 707. $[Pt(NH_3)_4]SO_4$
417075	2.048 Å	Yusenko, K. V.; Filatov, E. Y.; Vasil'chenko, D. B.; Baidina, I. A.; Zadesenetz, A. V.; Shubin, Y. V. *Z. Kristallogr.* **2007**, *26*, 289. $[Pt(NH_3)_4][Cu(C_2O_4)_2]\cdot 3H_2O$

FICXEU	2.049 Å	Alston, D. R.; Slawin, A. M. Z.; Stoddart, J. F.; Williams, D. J.; Zarzycki, R. *Angew. Chem., Int Ed.* **1987**, *26*, 693. $[Pt(NH_3)_4](PF_6)_2 \cdot 2C_{34}H_{50}O_{10}$
ROXQUU	2.049 Å	Vorobyeva, S. N.; Rudzis, Z. V.; Sukhikh, T. S.; Filatov, E. Y.; Plusnin, P. E.; Nadolinny,V. A.; Bogomyakov, A. S.; Korenev, S. V. New. J. Chem. 2024, 48, 15894. $[Pt(NH3)_4][VO(H_2O)(O_2C_2O_2)_2] \cdot 2H_2O$
248716	2.050 Å	Grassl, T.; Korber, N. *Acta Crystallogr., Sect. E* **2014**, *70*, i31. $[Pt(NH_3)_4]Cl_2] \cdot 4NH_3$
26224	2.052 Å	Shandles, R.; Schlemper, E. O.; Murmann, R. K. *Inorg. Chem.* **1971**, *10*, 2785. $[Pt(NH_3)_4][O(Re(CN)_4)_2]$
60668	2.052 Å	Tanaka, M.; Tsujikawa, I.; Toriumi, K.; Ito, T. *Acta Crystallogr., Sect. C* **1986**, *42*, 1105. $[Pt(NH_3)_4][PtI_2(NH_3)_4](HSO_4)_4 \cdot 2H_2O$
420437 OQIFAW	2.052 Å	Zadesenets, A.; Filatov, E.; Plyusnin, P.; Baidina, I.; Dalezky, V.; Shubin, Y..; Korenev, S.; Bogomyakov, A. *Polyhedron* **2011**, *30*, 1305. $[Pt(NH_3)_4][Co(H_2O)_2(C_2O_4)_2] \cdot 2H_2O$
APTCPT	2.052 Å	Rochon, F. D.; Melanson, R. *Acta Crystallogr., Sect. B* **1980**, *36*, 691. $[Pt(NH_3)_4][PtCl_3(2,6\text{-}NC_5H_3(CH_3)_2)] \cdot 2H_2O$
FORJOL	2.052 Å	Khodadad, P.; Rodier, N. *Acta Crystallogr., Sect. C* **1987**, *43*, 1690. $[Pt(NH_3)_4][PtCl_3(SO_3)]_2$
UFEJOG	2.052 Å	Parsons, S.; Zhu, M.; Sadler, P.; Wood, P. CCDC deposition number 247846, **2004**. $[Pt(NH_3)_4]_2[Ru(CN)_6] \cdot 4H_2O$
ROXRAB	2.053 Å	Vorobyeva, S. N.; Rudzis, Z. V.; Sukhikh, T. S.; Filatov, E. Y.; Plusnin, P. E.; Nadolinny,V. A.; Bogomyakov, A. S.; Korenev, S. V. New. J. Chem. 2024, 48, 15894. $[Pt(NH3)_4][VO(O_2C_2O_2)_2]_n$
65766	2.054 Å	Rochon, F.D.; Kong, P.C.; Melanson, R. *Acta Crystallogr., Sect. C* **1990**, *46*, 8. $[Pt(NH_3)_4]TcO_4$
JIYWOD	2.056 Å	Rochon, F. D.; Melanson, R. *Acta Crystallogr., Sect. C* **1991**, *47*, 2300. $[Pt(NH_3)_4][PtCl_3(NH_2CH(CH_3)_2)]_2$
QUDSAJ	2.057 Å	Williams, A. R.; Hall, L. A.; White, A. J. P.; Williams, D. J. *Inorg. Chim. Acta* **2001**, *314*, 117. $[Pt(NH_3)_4](C_{10}H_5O_3)_2 \cdot H_2O$
SIDROM	2.057 Å	Zhou, M.; Pfennig, B. W.; Steiger, J.; Van Engen, D.; Bocarsly, A. B. *Inorg. Chem.* **1990**, *29*, 2456. $Pt(NH_3)_4]_2[(NC)_5CNPt(NH_3)_4FeNPt(CN)_5)] \cdot 9H_2O$
SOPKUE	2.057 Å	Yusenko, K. V.; Filatov, E. Y.; Vasilchenko, D. B.; Baidina, I. A.; Zadesenez, A. V.; Shubin, Y. V. *Z. Krist. Cryst. Mater*. **2007**, *222*, 289. $[Pd(NH_3)_4][Cu(H_2O)_2(C_2O_4)_2]$
XOMSOJ	2.057 Å	Jinzhen, L.; Abrahams, B. F.;Winther-Jensen, B.; Martin, L. L.; Bond, A. M. *ChemCatChem* **2014**, *6*, 2345. $[Pt(NH_3)_4](C_{12}F_4N_4)_2 \cdot 2(CH_3)_2NCHO$
15711	2.058 Å	Richardson, J. G.; Benjamin, H.; Moggach, S. A.; Warren, L. R.; Warren, M. R.; Allan, D. R.; Saunders, L. K.; Morrison, C. A.; Robertson, N. *Phys. Chem. Chem. Phys.* **2020**, *22*, 17668. $[Pt(NH_3)_4][PtCl_4]$
35199	2.059 Å	Tanaka, M.; Tsujikawa, I.; Toriumi, K.; Ito, T. *Acta Crystallogr., Sect. B* **1982**, *38*, 2793. $[Pt(NH_3)_4][PtBr_2(NH_3)_4](HSO_4)_4$

194210	2.060 Å	Lucier, B. E. G.; Johnston, K. E.; Xu, W.; Hanson, J. C.; Senanayake, S. D.; Yao, S.; Bourassa, M. W.; Srebro, M.; Autschbach, J.; Schurko, R. W. *J. Am. Chem. Soc.* **2014**, *136*, 1333. $[Pt(NH_3)_4][PtCl_4]$
26615	2.063 Å	Atoji, M.; Richardson, Jr., J. W.; Rundle, R. E. *J. Am. Chem. Soc.* **1957**, *79*, 3017. $[Pt(NH_3)_4][PtCl_4]$
Mean	**2.047 Å/49 structures**	

Copper(I)

Two-coordinatioon, linear configuration

YAMTIT	1.872 Å	Ermolaev, A. V.; Smolentsev, A. I.; Mironov, Y. V *J. Struct. Chem.* **2021**, *62*, 585. $[Cu(NH_3)_2]_2[Cu_3Re_6C_6H_{10}N_9OSe_8]$
428698	1.885 Å	Woidy, P.; Karttunen, A. J.; Widenmeyer, M.; Niewa, R.; Kraus, F. *Chem. – Eur. J.* **2015**, *21*, 3290. $[Cu(NH_3)_2]F{\cdot}NH_3$
428697	1.893 Å	Woidy, P.; Karttunen, A. J.; Widenmeyer, M.; Niewa, R.; Kraus, F. *Chem. – Eur. J.* **2015**, *21*, 3290. $[Cu(NH_3)_3]_2[Cu_2(NH_3)_4]F_4{\cdot}4NH_3$
170947	1.898 Å	Margraf, G.; Bats, J. W.; Bolte, M.; Lerner, H. W.; Wagner, M. *Chem. Commun.* **2003**, 956. $[[Cu(NH_3)_2]Br$
410751	1.945 Å	Cascales, C.; Gutierrez Puebla, E.; Iglesias, M.; Monge, M. A.; Ruiz Valero, C. *Angew. Chem., Int. Ed.* **1999**, *38*, 2436. $NH_4[Cu(NH_3)_2][Ge_9O_{19}]$
Mean	**1.887 Å/4 structures**	

Three-coordinatioon, T-shaped configuration

428697	1.937 + 2.257 Å	Woidy, P.; Karttunen, A. J.; Widenmeyer, M.; Niewa, R.; Kraus, F. *Chem. – Eur. J.* **2015**, *21*, 3290. $[Cu(NH_3)_3]_2[Cu_2(NH_3)_4]F_4{\cdot}4NH_3$

Copper(II)

Four-coordinatioon, square-planar configuration

1961	1.997 Å	Morosin, B.; Fallon, P.; Valentine, J. S. *Acta Crystallogr., Sect E* **1975**, *31*, 2220. $[Cu(NH_3)_4][PtCl_4]$
14222	1.997 Å	Baglio, J.A.; Vaughan, P.A. *J. Inorg. Nucl. Chem.* **1970**, *32*, 803. $[Cu(NH_3)_4][CuBr_2]_2$
14223	1.997 Å	Baglio, J.A.; Vaughan, P.A. *J. Inorg. Nucl. Chem.* **1970**, *32*, 803. $[Cu(NH_3)_4][CuCl_2]_2{\cdot}H_2O$
TIBWUX	2.007 Å	Peng, S.-W.; Miao, Y.-L.; Song, W.-D. *Acta Crystallogr., Sect E* **2007**, *63*, m1145. $[Cu(NH_3)_4](C_5H_3N_2O_2)_2$
DAXXEG	2.012 Å	Suzuki, S.; Morita, Y.; Fukui, K.; Sato, K.; Shiomi, D.; Takui, T.; Nakasuji, K. *Inorg. Chem.* **2005**, *44*, 8197. $[Cu(NH_3)_4](C_7H_3N_4)_2$
XEGZUI	2.015 Å	Das, J.; Shem-Tov, D.; Zhang, S.; Gao, C.-Z.; Zhang, L.; Yao, C.; Flaxer, E.; Stierstorfer, J.; Wurzenberger, M.; Rahinov, I.; Gozin, M. *Chem. Eng. J.* **2022**, *443*, 136246. $[Cu(NH_3)_4](C_2N_5O_4S)_2$

XAQTOA	2.019 Å	Jia, L.-N.; Hou, L. *Acta Crystallogr., Sect C* **2012**, *68*, m45. $[Cu(NH_3)_4]_n[Cu_4(CN)_6]_n$
XAQTOA01	2.020 Å	Grifasi, F.; Priola, E.; Chierotti, M. R.; Diana, E.; Garino, C.; Gobetto, R. *Eur. J. Inorg. Chem.* **2016**, 2975. $[Cu(NH_3)_4]_n[Cu_4(CN)_6]_n$
Mean	**2.008 Å/8 structures**	

Five-coordination, square pyramidal configuration

ONEVIN	2.028+2.267 Å	Mironov, Y. V.; Brylev, K. A.; Kim, S.-J.; Kozlova, S. G.; Kitamura, N.; Fedorov, V. E. *Inorg. Chim. Acta* **2011**, *370*, 363. $[Cu(NH_3)_5]_2[Re_6Se_8(CN)_4(OH)_2]\cdot 8H_2O$
201229	2.029+2.192 Å	Duggan, M.; Ray, N.; Hathaway, B. J.; Tomlinson, G.; Brint, P.; Pelin, K. *J. Chem. Soc., Dalton Trans.* **1980**, 1342. $K[Cu(NH_3)_5](PF_6)_3$
262582 BAWLOC	2.031+2.282 Å	Mironov, Y. V.; Gayfulin, Y. M.; Kozlova, S. G.; Smolentsev, A. I.; Tarasenko, M. S.; Nizovtsev, A. S.; Fedorov, V. E. *Inorg., Chem.* **2012**, *51*, 4359. $[Cu(NH_3)_5]_{2.6}[Re_{12}CS_{14}(SO_2)_3(CN)_6]_{0.6}[Re_{12}CS_{14}(SO_2)_2(SO_3)(CN)_5(CN)][Cu(NH_3)_4]_{0.4}\cdot 5H_2O$
262580 BAWLES	2.032+2.262 Å	Mironov, Y. V.; Gayfulin, Y. M.; Kozlova, S. G.; Smolentsev, A. I.; Tarasenko, M. S.; Nizovtsev, A. S.; Fedorov, V. E. *Inorg., Chem.* **2012**, *51*, 4359. $[Cu(NH_3)_5][Re_{12}CS_{14}(SO_2)_3(CN)_6]\cdot 9.5H_2O$
ROPROH	2.039+2.211 Å	Breen, O. D.; Keene, T. D. *Acta Crystallogr., Sect. E* **2024**, *80*, 596. $[Cu(NH_3)_5]Cl_2\cdot H_2NC(O)NH_2$
GUSMIT	2.040+2.143 Å	Wisser, B.; Labahn, A.; Nather, C.; Janiak, C. *Z. Anorg. Allg. Chem.* **2020**, *646*, 734. $[Cu(NH_3)_5](C_{20}H_{12}O_2)\cdot 2C_{20}H_{14}O_2$
GUSMOZ	2.054+2.151 Å	Wisser, B.; Labahn, A.; Nather, C.; Janiak, C. *Z. Anorg. Allg. Chem.* **2020**, *646*, 734. $[Cu(NH_3)_5](C_{20}H_{12}O_2)\cdot 2C_{20}H_{14}O_2$
Mean	**2.036 + 2.215 Å/7 structures**	

Six-coordination, Jahn-Teller distorted octahedral configuration

ICSD/CSD	*d*(Cu-N)	Reference and formula
HEKDEJ	1.867+1.939+2.382 Å	Gayfulin, Y. M.; Smolentsev, A. I.; Kozlova, S. G.; Novozhilov, I. N.; Plyusnin, P. E.; Kompankov, N. B.; Mironov, Y. V. *Inorg. Chem.* **2017**, *56*, 12389. $K_2[Cu(NH_3)_6][Cu(NH_3)(H_2O)_5]_2[CuRe_{12}C_7H_{12}N_{10}O_3S_{14}]_2\cdot 10H_2O$
OLELEW	2.048+2.156 Å	Shmilovits, M.; Diskin-Posner, Y.; Vinodu, M.; Goldberg, I. *Cryst. Growth Des.* **2003**, *3*, 855. $[Cu(NH_3)_6][PtC_{48}H_{24}N_4O_8]\cdot 4H_2O$
22239	2.075+2.615 Å	Distler, T.; Vaughan, P. A. *Inorg. Chem.* **1967**, *6*, 126. $[Cu(NH_3]_6]Cl_2$
419094	2.093+2.340 Å	Woidy; P.; Meng, W.; Kraus, F. *Z. Naturforsch., Teil B* **2014**, *69*, 1. $[Cu(NH_3]_6]F_2\cdot 10H_2O$
22240	2.149+2.448 Å	Distler, T.; Vaughan, P. A. *Inorg. Chem.* **1967**, *6*, 126. $[Cu(NH_3]_6]Br_2$

Mean	**2.091+2.390 Å/4 structures**	
Six-coordination, octahedral configuration		
10255	2.064 Å	Raymond, K. N.; Meek, D. W.; Ibers, J. A. *Inorg. Chem.* **1968**, *7*, 1111. $[Cu(NH_3)_6][CuCl_5]$
35153	1.966 Å	Bernal, I.; Korp, J. D.; Schlemper, E. O.; Hussain, M. S. *Polyhedron* **1982**, *1*, 365. $[Cu(NH_3)_6][CuCl_5]$
Copper(III)		
Four-coordination square-planar configuration		
YIZGIZ	2.239 Å	Eschenroeder, E. C.V.; Turrina, A.; Picone, A. L.; Cinque, G.; Frogley, M. D.; Cox, P. A.; Howe, R. F.; Wright, P. A. *Chem. Mater.* **2014**, *26*, 1434. $(C_2H_5)_4N)_n[Cu(NH_3)_4]_n[Al_3(PO_4)_3]_{4n}$
YIZGOF	2.239 Å	Eschenroeder, E. C.V.; Turrina, A.; Picone, A. L.; Cinque, G.; Frogley, M. D.; Cox, P. A.; Howe, R. F.; Wright, P. A. *Chem. Mater.* **2014**, *26*, 1434. $(C_2H_5)_4N)_n[Cu(NH_3)_4]_n[Al_3(PO_4)_3]_{4n}\cdot nH_2O$
Silver(I)		
Two-coordination, linear configuration		
TACKUH	2.032 Å	Chen, G.-H.; He, Y.-P.; Liang, F.-P.; Zhang, L.; Zhang, J. *Dalton Trans.* **2020**, *49*, 17194. $((CH_3)_4N)((CH_3)_2NH_2)[Ag(NH_3)_2]_6[Ti_4C_{138}H_{72}O_{36}]\cdot 28H_2O$
LURDIM	2.090 Å	Sun, D.; Zhang, N.; Luo, G.-G.; Xu, Q.-J.; Huang, R.-B.; Zheng, L.-S. *Polyhedron* **2010**, *29*, 1842. $[Ag(NH_3)_2]_4(C_6H_2(COO)_4)\cdot 5H_2O$
419924	2.095 Å	Kraus, F.; Baer, S. A.; Fichtl, M. B. *Eur. J. Inorg. Chem.* **2009**, 441. $[Ag(NH_3)_2]F\cdot 2NH_3$
KIMZOY	2.098 Å	Zhu, Y.; Li, X.; Li, Y.; Wang, Q.; Lu, X. *Inorg. Chim. Acta* **2019**, *484*, 42. $[Ag(NH_3)_2](C_8H_5Cl_2O_2)$
TACKIV	2.099 Å	Chen, G.-H.; He, Y.-P.; Liang, F.-P.; Zhang, L.; Zhang, J. *Dalton Trans.* **2020**, *49*, 17194. $((CH_3)_2NH_2)_5[Ag(NH_3)_2]_3[Ti_4C_{138}H_{72}O_{36}]$
GAPDEI	2.100 Å	Deng, Z.-P.;, S. G.; Ng, S. W. *Acta Crystallogr,, Sect. E* **2012**, *68*, m225. $NH_4[Ag(NH_3)_2]_2[Ag_2C_{12}H_{24}N_8](C_6H_4ClO_4S)_2\cdot 3H_2O$
TACKOB	2.100 Å	Chen, G.-H.; He, Y.-P.; Liang, F.-P.; Zhang, L.; Zhang, J. *Dalton Trans.* **2020**, *49*, 17194. $((CH_3)_4N)((CH_3)_2NH_2)_4[Ag(NH_3)_2]_3[Ti_4C_{138}H_{72}O_{36}]\cdot 1.5H_2O$
69986	2.106 Å	Zak, Z.; Ruzicka, A.; Glovyak, T. *Can. J. Chem.* **1991**, *69*, 1080. $[Ag(NH_3)_2][Ag(SeO_3N)Ag(NH_3)]\cdot 2H_2O$
125310	2.107 Å	Yang, Y.-C.; Liu, X.; Deng, X.-B.; Wu, L.-M.; Chen. L. *JACS Au* **2022**, *2*, 2059. $[Ag(NH_3)_2]_2SO_4$
WIKDIF	2.107 Å	Haiges, R.; Christe, K. O. *Inorg. Chem.* **2013**, *52*, 7249. $[Ag(NH_3)_2]_2[Ag_4C_{12}N_{42}O_{36}]$
KURTAT	2.108 Å	Sun, D.; Luo, G.-G.; Zhang, N.; Huang, R.-B. *Acta Crystallogr., Sect. E* **2010**, *66*, m406. $[Ag(NH_3)_2]_2(C_8H_3NO_6)\cdot H_2O$

36585	2.110 Å	Zachwieja, U.; Jacobs, H. *Z. Kristallogr.* **1992**, *201*, 207. $[Ag(NH_3)_2]_2SO_4$
433114	2.110 Å	Sun, C.; Zhang, C.; Jiang, C.; Yang, C.; Du, Y.; Zhao, Y.; Hu, B.; Zheng, Z. *Nature Commun.* **2018**, *9*, 1269. $[Ag(NH_3)_2][Ag_3(N_5)_4]$
VUSQUW	2.111 Å	Sun, D.; Luo, G.-G.; Zhang, N.; Wei, Z.-H.; Yang, C.-F.; Huang, R.-B.; Zheng, L.-S. *Chem. Lett.* **2010**, *39*, 190. $[Ag(NH_3)_2][Ag(C_{12}H_9N_5O_8)Ag(NH_3)_2]$
78195	2.112 Å	Yang, Y.-C.; Liu, Xi.; Zhu, C.-F.; Zhu, L.; Wu, L.-M.; Chen, L. *Angew. Chem.* **2023**, *62*, e202301404. $[Ag(NH_3)_2]_2SO_4$
111796	2.113 Å	Fogaca, L. A.; Kováts, É.; Németh, G.; Kamarás, K.; Béres, K. A.; Németh, P.; Petruševski, V.; Bereczki, L.; Holló, B. B.; Sajó, I. E.; Klébert, S; Farkas, A.; Szilágyi, I. M.; Kótai, L. *Inorg. Chem.* **2021**, *60*, 3749. $[Ag(NH_3)_2]MnO_4$
LAJWAV	2.113 Å	You, Z.-L.; Zhu, H.-L.; Liu, W.-S. *Acta Crystallogr., Sect. E* **2004**, *60*, m1624. $[Ag(NH_3)_2](C_6H_2(NO_2)_3O)$
77995	2.114 Å	Yang, Y.-C.; Liu, Xi.; Zhu, C.-F.; Zhu, L.; Wu, L.-M.; Chen, L. *Angew. Chem.* **2023**, *62*, e202301404. $[Ag(NH_3)_2]_2SeO_4$
100238	2.114 Å	Maurer, H. M.; Wiess, A. *Z. Kristallogr.* **1977**,*146*, 227. $[Ag(NH_3)_2][Ag(NO_2)_2]$
250264	2.114 Å	Kokunov, Y. V.; Gorbunova, Y. E.; Khmelevskaya, L. V. *Zh. Neorg. Khim.* **2005**, *50*, 304. $[Ag(NH_3)_2]PF_6$
HAMMIS	2.114 Å	Zhong-Lu You, Z.-L.; Zhu, H.-L.; Liu,. W.-S. *Acta Crystallogr., Sect. E* **2004**, *60*, m1903. $[Ag(NH_3)_2](p\text{-}O_2NC_6H_4(COO))$
JEHWOJ	2.114 Å	Nygren, C. L.; Coppens, P. CCDC deposition number 604898, **2006**. $[Ag(NH_3)_2][AgC_{12}H_4N_6O_{14})$
253559	2.117 Å	Kraus, F.; Fichtl, M.; Baer, S. *Acta Crystallogr., Sect. E* **2016**, *72*, 1860. $[Ag(NH_3)_2]_2[Ag(NH_3)_3][SnF_6]F_2$
LELNUN	2.117 Å	Sun, D.; Liu, F.-J.; Huang, R.-B.; Zheng, L.-S. *CrystEngComm* **2013**, *15*, 1185. $[Ag(NH_3)_2][AgC_8H_3NO_6]$
AWEHUG	2.118 Å	Deng, Z.-P.; Huo, L.-H.; Li, M.-S.; Zhang, L.-W. Zhu, Z.-B.; Zhao, H.; Gao, S. *Cryst. Growth Des.* **2011**, *11*, 3090. $(NH_4)_2[Ag(NH_3)_2]2(C_6H_4O_8S_2)\cdot 5H_2O$
35735	2.119 Å	Yamaguchi, T.; Lindqvist, O. *Acta Chem. Scand., Ser. A* **1983**, *37*, 685. $[Ag(NH_3)_2]NO_3$
QUWVEK	2.119 Å	Sun, D.; Zhang, N.; Huang, R.-B.; Zheng, L.-S. *Acta Crystallogr., Sect. C* **2010**, *66*, m174. $[Ag(NH_3)_2][Ag(C_7H_5N_2O_4)_2]$
TEJKOJ	2.120 Å	Wu, G.-Q.; Chen, W.-Z. *Acta Crystallogr., Sect. E* **2006**, *62*, m1144. $[Ag(NH_3)_2]_2[Pt(C_2O_4)_2]$
BADGET	2.121 Å	Zheng, S.-L.; Tong, M.-L.; Chen, X.-M.; Ng, S.-W. *J. Soc. Chem., Dalton Trans.* **2002**, 360. $[Ag(NH_3)_2]_2[Ag_2C_{12}H_{24}N_8](C_6H_2(COO)_4)\cdot 3H_2O$
WIJVUG	2.121 Å	Pajunen, A.; Pajunen, S. *Acta Crystallogr., Sect. C* **1994**, *50*, 1884. $[Ag(NH_3)_2]_2[Ni(C_2H_3N_3O_2)_2]$
426384	2.122 Å	Woidy, P.; Kraus, F. *Z. Anorg. Allg. Chem.* **2013**, *639*, 2643. $[Ag(NH_3)_2]CH_3COO$

111795	2.123 Å	Fogaca, L. A.; Kováts, É.; Németh, G.; Kamarás, K.; Béres, K. A.; Németh, P.; Petruševski, V.; Bereczki, L.; Holló, B. B.; Sajó, I. E.; Klébert, S; Farkas, A.; Szilágyi, I. M.; Kótai, L. *Inorg. Chem.* **2021**, *60*, 3749. $[Ag(NH_3)_2]MnO_4$
RIVTUM	2.123 Å	Whitcomb, D. R.; Rajeswaran, M. *Inorg. Chim. Acta* **2008**, *361*, 1357. $[Ag(NH_3)_2][Ag(NH_3)(OC_8Cl_4O_4)]\cdot H_2O$
LELNUN01	2.124 Å	Zhang, T.; Wang, D.-F.; Huang, R.-B.; Zheng, L.-S. *Inorg. Chim. Acta* **2015**, *427*, 299. $[Ag(NH_3)_2][AgC_8H_3NO_6]$
LELPID	2.125 Å	Sun, D.; Liu, F.-J.; Huang, R.-B.; Zheng, L.-S. *CrystEngComm* **2013**, *15*, 1185. $[Ag(NH_3)_2][Ag_5C_{32}H_{18}N_6O_{24}]$
412419	2.127 Å	Nockemann, P.; Meyer, G. *Z. Anorg. Allg. Chem.* **2002**, *628*, 1636. $[Ag(NH_3)_2]ClO_4$
XIFKOE	2.129 Å	Zheng, S.-L.; Volkov, A.; Nygren, C. L.; Coppens, P. *Chem. Eur. J.* **2007**, *13*, 8583. $[Ag(NH_3)_2](C_{20}H_{17}O_3)\cdot C_{20}H_{18}O_3\cdot CH_3CN$
JEHWUP	2.132 Å	Nygren, C. L.; Coppens, P. CCDC deposition number 604912, **2006**. $[Ag(NH_3)_2](C_{29}H_{27}O_3)\cdot C_{29}H_{28}O_3\cdot 4H_2O$
XUSFAT	2.132 Å	Gerasimchuk, N.; Esaulenko, A. N.; Dalley, N. K.; Moore, C. *Dalton Trans.* **2010**, *39*, 749. $[Ag(NH_3)_2][C_3H_2N_3O_2]$
252664	2.134 Å	Kravchenko, E. A.; Gippius, A. A.; Korlyukov, A. A.; Vologzhanina, A. V.; Avdeeva, V. V.; Malinina, E. A.; Ulitin, E. O.; Kuznetsov, N. T. *Inorg. Chim. Acta* **2016**, *447*, 22. $[Ag(NH_3)_2]_2B_{10}Cl_{10}$
JEHXEA	2.134 Å	Nygren, C. L.; Coppens, P. CCDC deposition number 604909, **2006**. $[Ag(NH_3)_2](C_{19}H_{15}O_3)\cdot 3H_2O$
UBEFUF	2.134 Å	Kravchenko, E. A.; Gippius, A. A.; Korlyukov, A. A.; Vologzhanina, A. V.; Avdeeva, V. V.; Malinina, E. A.; Ulitin, E. O.; Kuznetsov, N. T. *Inorg. Chim. Acta* **2016**, *447*, 22. $[Ag(NH_3)_2]_2(B_{10}Cl_{10})$
XOBDOI	2.134 Å	Zheng, G.-L.; Li, Y.-Y.; Deng, R.-P.; Song, S.-Y.; Zhang, H.-J. *CrystEngComm* **2008**, *10*, 658. $[Ag(NH_3)_2]_{2n}[Ag_{12}K_4C_{150}H_{132}N_4O_{52}]_nCl_{2n}\cdot 11nH_2O$
AWEGOZ	2.135 Å	Deng, Z.-P.; Huo, L.-H.; Li, M.-S.; Zhang, L.-W. Zhu, Z.-B.; Zhao, H.; Gao, S. *Cryst. Growth Des.* **2011**, *11*, 3090. $[Ag(NH_3)_2](C_7H_7O_4S)$
99527	2.140 Å	Wickleder, M.S.; Pley, M. *J. Solid State Chem.* **2004**, *177*, 2073. $[Ag(NH_3)_2]Ag[OsO_3N]_2$
JEHWID	2.140 Å	Nygren, C. L.; Coppens, P. CCDC deposition number 604899, **2006**. $[Ag(NH_3)_2](C_{19}H_{15}O_3)\cdot C_{19}H_{16}O_3\cdot C_{10}H_8O_2\cdot 4H_2O$
JAQPEX	2.141 Å	Paul, B.; Nather, C.; Fromm, K. M.; Janiak, C. *CrystEngComm* **2005**, *7*, 309. $[Ag(NH_3)_2](C_{20}H_{13}O_2)\cdot C_{20}H_{14}O_2\cdot 2CH_3OH\cdot H_2O$
XIWXUY	2.143 Å	Galassi, R.; Ricci, S.; Burini, A.; Macchioni, A.; Rocchigiani, L.; Marmottini, F.; Tekarli, S. M.; Nesterov, V. N.; Omary, M. A. *Inorg. Chem.* **2013**, *52*, 14124. $[Ag(NH_3)_2][Ag_3C_{12}H_4N_{16}O_{16}]$

XOBDIC	2.144 Å	Zheng, G.-L.; Li, Y.-Y.; Deng, R.-P.; Song, S.-Y.; Zhang, H.-J. *CrystEngComm* **2008**, *10*, 658. $[Ag(NH_3)_2](C_{28}H_{23}O_4]$
JAQPOH	2.149 Å	Paul, B.; Nather, C.; Fromm, K. M.; Janiak, C. *CrystEngComm* **2005**, *7*, 309. $[Ag(NH_3)_2](C_{20}H_{13}O_2)\cdot C_{20}H_{14}O_2\cdot 2CH_3OH\cdot 2H_2O$
TACKUQ	2.154 Å	Chen, G.-H.; He, Y.-P.; Liang, F.-P.; Zhang, L.; Zhang, J. *Dalton Trans.* **2020**, *49*, 17194. $((CH_3)_2NH_2)_2[Ag(NH_3)_2]_6[Ti_4C_{138}H_{72}O_{36}]$
64628	2.158 Å	Ziegler, B.; Seitz, K.; Babel, D. *Z. Naturforsch., Teil B* **1988**, *43*, 1589. $[Ag(NH_3)_2]Ag_2[Co(CN)_6]$
65949	2.164 Å	Zachwieja, U.; Jacobs, H. *Z. Anorg. Allg. Chem.* **1989**, *571*, 37. $[Ag(NH_3)_2]NO_3$
64627	2.165 Å	Ziegler, B.; Seitz, K.; Babel, D. *Z. Naturforsch., Teil B* **1988**, *43*, 1589. $[Ag(NH_3)_2]Ag_2[Fe(CN)_6]$
410752	2.170 Å	Cascales, C.; Gutierrez Puebla, E.; Iglesias, M.; Monge, M. A.; Ruiz Valero, C. *Angew. Chem., Int. Ed.* **1999**, *38*, 2436. $NH_4[Ag(NH_3)_2][Ge_9O_{19}]$
Mean	**2.124 Å/54 structures**	

Three-coordination, triangular configuration

240350	2.263 Å	Nilsson, K. B.; Persson, I.; Kessler, V. G. *Inorg. Chem.* **2006**, *45*, 6912. $[Ag(NH_3)_3]ClO_4\cdot 0.47NH_3$
430314	2.274 Å	Müller, T. G.; Buchner, M. R.; Scheubeck, T. J.; Korber, N.; Kraus, F. *Z. Anorg. Allg. Chem.* **2016**, *642*, 796. $[Ag(NH_3)_3]N_3$
65948	2.283 Å	Zachwieja, U.; Jacobs, H. *Anorg. Allg. Chem.* **1989**, *571*, 37. $[Ag(NH_3)_3]NO_3$
253559	2.299 Å	Kraus, F.; Fichtl, M.; Baer, S. *Acta Crystallogr., Sect. E* **2016**, *72*, 1860. $[Ag(NH_3)_2]_2[Ag(NH_3)_3][SnF_6]F_2$
Mean	**2.280 Å/4 structures**	

Four-coordination, tetrahedral configuration

430315	2.348 Å	Müller, T. G.; Buchner, M. R.; Scheubeck, T. J.; Korber, N.; Kraus, F. *Z. Anorg. Allg. Chem.* **2016**, *642*, 796. $[Ag(NH_3)_4]N_3\cdot NH_3$
Mean	**2.348 Å/1 structure**	

Dimeric $[(NH_3)_3AgAg(NH_3)_4]$ complex

418758	2.277+2.342 Å 3.141 Å	Meng W.; Kraus, F. *Eur. J. Inorg. Chem.* **2008**, 3068. $[(NH_3)_3AgAg(NH_3)_4][HfF_6]\cdot NH_3$
418759	2.279+2.350 Å 3.132 Å	Meng W.; Kraus, F. *Eur. J. Inorg. Chem.* **2008**, 3068. $[(NH_3)_3AgAg(NH_3)_4][ZrF_6]\cdot NH_3$
Mean	**2.278+2.346 Å/2 structures**	

Gold(I)

Two-coordination, linear configuration

80216	2.020 Å	Mingos, D. M. P.; Yau, J.; Menzer, S.; Williams, D. J. *J. Chem. Soc., Dalton Trans.* **1995**, 319. $[Au(NH_3)_2]_2Br_2$
425324	2.032 Å	Scherf, L. M.; Baer, S. A.; Kraus, F.; Bawaked, S. M.; Schmidbaur, H. *Inorg. Chem.* **2013**, *52*, 2157. $[Au(NH_3)_2]Cl{\cdot}4NH_3$
DIWZOB	2.038 Å	Strey, M.; Doring, C.; Jones, P. G. *Z. Naturforsch.,Teil B* **2018**, *73*, 125. $[Au(NH_3)_4][Au(SCN)_2]$
249444	2.046 Å	Zheng S.; Nygren, C. L.; Messerschmidt, M.; Coppens, P. *Chem. Commun.* **2006**, 3711. $[Au(NH_3)_2]NO_3$
249443	2.053 Å	Zheng S.; Nygren, C. L.; Messerschmidt, M.; Coppens, P. *Chem. Commun.* **2006**, 3711. $[Au(NH_3)_2]ClO_4$
Mean	**2.038 Å/5 structures**	

Gold(III)

Four-coordination, square planar configuration

420	2.024 Å	Weishaupt, M.; Straehle, J. *Z. Naturforsch.,Teil B* **1976**, *31*, 554. $[Au(NH_3)_4](NO_3)_3$
Mean	**2.024 Å/1 structure**	

Zinc(II)

Four-coordination, tetrahedral configuration

ICSD/CSD	*d*(Zn-N)	Reference and formula
NUPDEJ	2.006 Å	Virovets, A. V.; Gayfulin, Y. M.; Peresypkina, E. V.; Mironov, Y. V.; Naumov, N. G. *CrystEngComm* **2015**, *17*, 1477. $[Zn(NH_3)_4]_2[Mo_{12}Re_6ZnS_{24}(CN)_{18}]{\cdot}2H_2O$
425027	2.007 Å	Kysliak, O.; Beck, J. *Eur. J. Inorg. Chem.* **2013**, 124. $[Zn(NH_3)_6][Zn(NH_3)_4]_2(TeSe_3)_3$
YAGGET	2.007 Å	Yang Qu, Y.; Liu, Z.-D.; Tan, M.-Y.; Zhu, H.-L. *Acta Crystallogr, Sect. E* **2004**, *60*, m1343. $[Zn(NH_3)_6](C_6H_2(NO_2)_3O)_2{\cdot}3H_2O$
TAQPIN	2.010 Å	Szimhardt, N.; Bolter, M. F.; Born, M.; Klapotke, T. M.; Stierstorfer, J. *Dalton Trans.* **2017**, *46*, 5033. $[Zn(NH_3)_6](C_2N_{12}O_4)_2$
31874	2.011 Å	Yamaguchi, T.; Lindqvist, O. *Acta Chem. Scand., Ser. A* **1981**, *35*, 811. $[Zn(NH_3)_4]I_2$
ZEHPUA	2.011 Å	Imer, M. R.; Gonzalez, M.; Veiga, N.; Kremer, C.; Suescun, L.; Arizaga, L. *Dalton Trans.* **2017**, *46*, 15736. $[Zn(NH_3)_6](H_4B_4O_9)$
74790	2.015 Å	Hillebrecht, H.; Thiele, G.; Koppenhoefer, A.; Vahrenkamp, H. *Z. Naturforsch., Teil B* **1994**, *49*, 1163. $[Zn(NH_3)_4](ClO_4)_2$
425027	2.016 Å	Kysliak, O.; Beck, J. *Eur. J. Inorg. Chem.* **2013**, 124. $[Zn(NH_3)_4]TeSe_3$

97431	2.016 Å	Migdal-Mikuli, A.; Mikuli, E.; Hetmanczyk, L.; Natkaniec, I.; Holderna-Natkaniec, K.; Lasocha, W. *J. Solid State Chem.* **2003**, *174*, 357. $[Zn(NH_3)_4](BF_4)_2$
162384	2.016 Å	Sajo, I.E.; Kotai, L.; Keresztury, G.; Gacs, I.; Pokol, G.; Kristof, J.; Soptrajanov, B.; Petrusevski, V. M.; Timpu, D.; Sharma, P. K. *Helv. Chim. Acta* **2008**, *91*, 1646. $[Zn(NH_3)_4](MnO_4)_2$
CEKDAB	2.020 Å	Kalinina, I. V.; Pervukhina, N.V.; Podberezskaya, N. V.; Fedin, V. P. Russ. *J. Coord. Chem.* **2002**, *29*, 389. $[Zn(NH_3)_4][(Mo_4Te_4(CN)_{12}]$
426403	2.034 Å	Kysliak, O.; Beck, J. *Z. Anorg. Allg. Chem.* **2013**, *639*, 2860. $[Zn(NH_3)_4][(NH_3)_3ZnSbSe_3]\cdot 3NH_3$
SOTSOJ	2.037 Å	Klufers, P.; Wilhelm, U. *J. Organometal. Chem.* **1991**, *421*, 39. $[Zn(NH_3)_4][(CO)_5CrHCr(CO)_5]_2$
4421	2.047 Å	Stomberg, R. Acta Chem. Scand. 1969, 23, 2755. $[Zn(NH_3)_4][Mo(O_2)_4]$
165104	2.048 Å	Skogareva, L. S.; Minaeva, N. A.; Filippova, T. V. *Zh. Neorg. Khim.* **2009**, *54*, 1411. $[Zn(NH_3)_4]S_2O_8$
4399	2.052 Å	Guggenberg, G. J. *Inorg. Chem.* **1969**, *8*, 2771. $[Zn(NH_3)_4]B_8H_8$
FUZCUY		
25305	2.052 Å	Müller, A.; Boeschen, I.; Sievert, W. *Z. Naturforsch., Teil B* **1970**, *25*, 311. $[Zn(NH_3)_4][OsO_3N]_2$
100307	2.057 Å	Tebbe, K. F. *Z. Kristallogr.* **1980**, *153*, 297. $[Zn(NH_3)_4](I_3)_2$
NUNPOD	2.162 Å	Virovets, A. V.; Gayfulin, Y. M.; Peresypkina, E. V.; Mironov, Y. V.; Naumov, N. G. *CrystEngComm* **2015**, *17*, 1477. $[Zn(NH_3)_4]_2[Mo_3Re_3ZnS_8(CN)_6]\cdot 2H_2O$
Mean	**2.022 Å/18 structures**	

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Zn-N)	Reference and formula
426566	2.187 Å	Kysliak, O.; Beck, J. *Inorg. Chem. Commun.* **2013**, *38*, 146. $[Zn(NH_3)_6]S_6$
425027	2.189 Å	Kysliak, O.; Beck, J. *Eur. J. Inorg. Chem.* **2013**, 124. $[Zn(NH_3)_6][Zn(NH_3)_4]_2(TeSe_3)_3$
426394	2.189 Å	Kysliak, O.; Beck, J. *Z. Anorg. Allg. Chem.* **2013**, *639*, 2860. $[Zn(NH_3)_6]Sb_4S_7$
430318	2.192 Å	Müller, T. G.; Buchner, M. R.; Scheubeck, T. J.; Korber, N.; Kraus, F. *Z. Anorg. Allg. Chem.* **2016**, *642*, 796. $[Zn(NH_3)_6](N_3)_2\cdot 4NH_3$
RAJNOF	2.207 Å	Brumm, H.; Jansen, M. *Z. Anorg. Allg. Chem.* **2001**, *627*, 1433. $[Zn(NH_3)_6]C_{60}\cdot 6NH_3$
426401	2.232 Å	Kysliak, O.; Beck, J. *Z. Anorg. Allg. Chem.* **2013**, *639*, 2860. $[Zn(NH_3)_6][(NH_3)_3ZnSbS_4]\cdot 2NH_3$
248620	2.276 Å	Xiong, W.-W.; Miao, J.; Li, P.-Z.; Zhao, Y.; Liu, B.; Zhang, Q. *J. Solid State Chem.* **2014**, *218*, 146. $[Zn(NH_3)_6][Ag_3Zn_4Sn3Se_{13}]$
Mean	**2.199 Å/6 structures**	

Cadmium(II)

Four-coordination, tetrahedral configuration

ICSD/CSD	*d*(Cd-N)	Reference and formula
CEKDEF	2.289 Å	Kalinina, I. V.; Pervukhina, N. V.; Podberezskaya, N. V.; .Fedin, V. P *Russ. J. Coord. Chem.* **2002**, *29*, 389. $[Cd(NH_3)_4][(Mo_4Te_4(CN)_{12}]$
Mean	**2.289 Å/1 structure**	

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Cd-N)	Reference and formula
426458	2.346 Å	Ledneva, A. Y.; Smolentsev, A. I.; Naumov, N. G. *J. Coord. Chem.* **2013**, *66*, 4363. $[Cd(NH_3)_6][(NH_3)_5CdOHRe_6S_8(CN)_4NH_3]_2 \cdot 5H_2O$
408602	2.372 Å	Himmel, K.; Jansen, M. *Eur. J. Inorg. Chem.* **1998**, 1183. $[Cd(NH_3)_6]C_{60} \cdot 6NH_3$
PUHJOR		
BICSOW	2.375 Å	Paul, B.; Nather, C.; Walfort, B.; Fromm, K. M.; Zimmermann, B.; Lang, H.; Janiak, C. *CrystEngComm* **2004**, *6*, 293. $[Cd(NH_3)_6]C_{20}H_{12}O_2 \cdot 2C_{20}H_{14}O_2$
424362	2.375 Å	Kraus, F. *Monatsh. Chem.* **2012**, *143*, 1097. $[Cd(NH_3)_6]F_2 \cdot H_2O$
Mean	**2.367 Å/4 structures**	

Mercury(II)

Two-coordination, linear configuration

412828	2.074 Å	Nockemann, P.; Meyer, G. *Z. Anorg. Allg. Chem.* **2003**, *629*, 123. $[Hg(NH_3)_2][HgCl_3]_2$

Four-coordination, tetrahedral configuration

ICSD/CSD	*d*(Cd-N)	Reference and formula
412829	2.265 Å	Nockemann, P.; Meyer, G. *Z. Anorg. Allg. Chem.* **2003**, *629*, 123. $[Hg(NH_3)_4](ClO_4)_2$
173286	2.346 Å	Nilsson, K. B.; Maliarik, M.; Persson, I.; Fischer, A.; Ullström, A.-S.; Eriksson, L.; Sandström, M. *Inorg. Chem.* **2008**, *47*, 1953. $[Hg(NH_3)_4](ClO_4)_2$
Mean	**2.306 Å/2 structures**	

Aluminum(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Cd-N)	Reference and formula
203004	2.044 Å	Peters, K.; Bock, J.; Jacobs, H. *J. Less-Common Metal.* **1989**, *154*, 243. $[Al(NH_3)_6]I_3 \cdot NH_3$
UVIDAF	2.049 Å	Guo, Y.; Wu, H.; Zhou, W.; Yu, X. *J. Am. Chem. Soc.* **2011**, *133*, 4690. $[Al(NH_3)_6](BH_4)_2[Li_2B_3H_{12}]$
JERGOF	2.050 Å	Tang, Z.; Tan, Y.; Wu, H.; Gu, Q.; Zhou, W.; Jensen, C. M.; Yu, X. *Acta Mater.* **2013**, *61*, 4787. $[Al(NH_3)_6](BH_4)_3$
Mean	**2.048 Å/3 structures**	

Gallium(III)

Six-coordination, octahedral configuration

ICSD/CSD	*d*(Cd-N)	Reference and formula
426497	2.081 Å	Zhang, S.; Hintze, F.; Schnick, W.; Niewa, R. *J. Less-Common Metal.* **1989**, *154*, 243. $[Ga(NH_3)_6]I_3 \cdot NH_3$
Mean	**2.081 Å/1 structure**	

Structures of ammine solvated metal ions in liquid ammonia solution

	d(M-N)	*N*	Reference and formula
Copper(I)	2.00 Å	3	Nilsson, K. B.; Persson, I. *Dalton. Trans*. **2004**, 1312.
Silver(I)	2.26 Å	3	Nilsson, K. B.; Kessler, V. G.; Persson, I. *Inorg. Chem.* **2006**, *45*, 6912.
Gold(I)	2.022 Å	2	Nilsson, K. B.; Kessler, V. G.; Persson, I. *Inorg. Chem.* **2006**, *45*, 6912.
Copper(II)	2.065+2.29 Å	4+2	Nilsson, K. B.; Eriksson, L.; Kessler, V. G.; Persson, I. *J. Mol. Liq.* **2007**, *131-132*, 113.
	2.00 +2.19	4+1	Valli, M.; Matsuo, S.; Wakita, H.; Yamaguchi, T.; Nomura, M. *Inorg. Chem.* **1996**, *35*, 5642.
Zinc(II)	2.117 Å	5	Nilsson, K. B.; Eriksson, L.; Kessler, V. G.; Persson, I. *J. Mol. Liq.* **2007**, *131-132*, 113.
Cadmium(II)	2.347	6	Nilsson, K. B.; Eriksson, L.; Kessler, V. G.; Persson, I. *J. Mol. Liq.* **2007**, *131-132*, 113.
Mercury(II)	2.225	4	Nilsson, K. B.; Maliarik, M.; Persson, I.; Fischer, A.; Ullström, A.-S.; Eriksson, L.; Sandström, M. *Inorg. Chem.* **2008**, *47*, 1953.

Structures of ammine solvated metal ions in aqueous ammonia solution

Silver(I)	2.15 Å	2	Nilsson, K. B.; Kessler, V. G.; Persson, I. *Inorg. Chem.* **2006**, *45*, 6912.
Gold(I)	2.025 Å	2	Nilsson, K. B.; Kessler, V. G.; Persson, I. *Inorg. Chem.* **2006**, *45*, 6912.
Copper(II)	2.051+2.29 Å	4+2	Nilsson, K. B.; Eriksson, L.; Kessler, V. G.; Persson, I. *J. Mol. Liq.* **2007**, *131-132*, 113.
Zinc(II)	2.028 Å	4	Nilsson, K. B.; Eriksson, L.; Kessler, V. G.; Persson, I. *J. Mol. Liq.* **2007**, *131-132*, 113.
Cadmium(II)	2.347	6	Nilsson, K. B.; Eriksson, L.; Kessler, V. G.; Persson, I. *J. Mol. Liq.* **2007**, *131-132*, 113.
Mercury(II)	2.226	4	Nilsson, K. B.; Maliarik, M.; Persson, I.; Fischer, A.; Ullström, A.-S.; Eriksson, L.; Sandström, M. *Inorg. Chem.* **2008**, *47*, 1953.

Table S3. Structure of *N,N'*-dimethylthioformamide solvated metal ions in the solid state and *N,N'*-dimethylthioformamide solution.

Solid state

Iron(II)

Six-coordination, octahedral configuration

CSD	*d*(Fe-S)	Reference and formula
FAVDOV	2.541 Å	Baumgartner, O. *Acta Crystallogr., Sect. C* **1986**, *42*, 1723. $[Fe(SHCN(CH_3)_2)_6](ClO_4)_2$

Nickel(II)

Six-coordination, octahedral configuration

CSD	*d*(Ni-S)	Reference and formula
RUZBUJ	2.459 Å	Kristiansson, O.; Persson, I.; Bobicz, D.; Xu, D. *Inorg. Chim. Acta* **2003**, *344*, 15. $[Ni(SHCN(CH_3)_2)_6](ClO_4)_2$

Copper(I)

Four-coordination, tetrahedral configuration

CSD	*d*(Cu-S)	Reference and formula
MERZOY	2.337 Å	Stålhandske, C. M. V.; Stålhandske, C. I.; Persson, I.; Sandström, M.; Jalilehvand, F. *Inorg. Chem.* **2001**, *40*, 6684. $[Cu(SHCN(CH_3)_2)_4](ClO_4)_2$

Zinc(II)

Four-coordination, tetrahedral configuration

CSD	*d*(Zn-S)	Reference and formula
NEFXAX	2.240 Å	Stålhandske, C. M. V.; Stålhandske, C. I.; Sandström, M.; Persson, I. *Inorg. Chem.* **1997**, *36*, 3167. $[Zn(SHCN(CH_3)_2)_4](CF_3SO_3)_2$

Cadmium(II)

Six-coordination, octahedral configuration

CSD	*d*(Cd-S)	Reference and formula
NEFXEB	2.714 Å	Stålhandske, C. M. V.; Stålhandske, C. I.; Sandström, M.; Persson, I. *Inorg. Chem.* **1997**, *36*, 3167. $[Cd(SHCN(CH_3)_2)_6](ClO_4)_2$

Mercury(II)

Two-coordination, linear configuration

CSD	*d*(Hg-S)	Reference and formula
NEFXOL	2.351 Å	Stålhandske, C. M. V.; Stålhandske, C. I.; Sandström, M.; Persson, I. *Inorg. Chem.* **1997**, *36*, 3167. $[Hg(SHCN(CH_3)_2)_2](ClO_4)_2$

DMTF solution

Iron(III)

Four-coordination, tetrahedral configuration

d(Fe-S)	Reference and formula
2.206 Å	Lundberg, D.; Ullström, A.-S.; D'Angelo, P.; I. Persson, I. *Inorg. Chim. Acta* 2007, **360**, 1809. $[Fe(SHCN(CH_3)_2)_6]^{3+}$

Nickel(II)

Six-coordination, octahedral configuration

d(Ni-S)	Reference and formula
2.459 Å	Kristiansson, O.; Persson, I.; Bobicz, D.; Xu, D. *Inorg. Chim. Acta* **2003**, *344*, 15. $[Ni(SHCN(CH_3)_2)_6]^{2+}$

Copper(I)

Four-coordination, tetrahedral configuration

d(Cu-S)	Reference and formula
2.36 Å	Stålhandske, C. M. V.; Stålhandske, C. I.; Persson, I.; Sandström, M.; Jalilehvand, F. *Inorg. Chem.* **2001**, *40*, 6684. $[Cu(SHCN(CH_3)_2)_4]^{+}$

Silver(I)

Four-coordination, tetrahedral configuration

d(Ag-S)	Reference and formula
2.48 Å	Stålhandske, C. M. V.; Stålhandske, C. I.; Persson, I.; Sandström, M.; Jalilehvand, F. *Inorg. Chem.* **2001**, *40*, 6684. $[Ag(SHCN(CH_3)_2)_4]^{+}$

Gold(I)

Two-coordination, linear configuration

d(Cu-S)	Reference and formula
2.290 Å	Stålhandske, C. M. V.; Stålhandske, C. I.; Persson, I.; Sandström, M.; Jalilehvand, F. *Inorg. Chem.* **2001**, *40*, 6684. $[Cu(SHCN(CH_3)_2)_4]^+$

Zinc(II)

Four-coordination, tetrahedral configuration

d(Zn-S)	Reference and formula
2.362 Å	Stålhandske, C. M. V.; Persson, I.; Sandström, M.; Kamienska-Piotrowicz, E. *Inorg. Chem.* **1997**, *36*, 3174. $[Zn(SHCN(CH_3)_2)_4]^{2+}$

Cadmium(II)

Six-coordination, octahedral configuration

d(Zn-S)	Reference and formula
2.69 Å	Stålhandske, C. M. V.; Persson, I.; Sandström, M.; Kamienska-Piotrowicz, E. *Inorg. Chem.* **1997**, *36*, 3174. $[Zn(SHCN(CH_3)_2)_4]^{2+}$

Mercury(II)

Two-coordination, linear configuration

d(Hg-S)	Reference and formula
2.362 Å	Stålhandske, C. M. V.; Persson, I.; Sandström, M.; Kamienska-Piotrowicz, E. *Inorg. Chem.* **1997**, *36*, 3174. $[Hg(SHCN(CH_3)_2)_2]^{2+}$

Gallium(III)

Four-coordination, tetrahedral configuration

d(Ga-S)	Reference and formula
2.333 Å	Ö. Topel, I. Persson, D. Lundberg and A.-S. Ullström, A.-S. *Inorg. Chim. Acta* 2010, **363**. 988. $[Ga(SHCN(CH_3)_2)_4]^{3+}$

Bismuth(III)

Six-coordination, octahedral configuration

d(Bi-S)	Reference and formula
2.794 Å	Näslund, J.; Persson, I.; Sandström, M. *Inorg. Chim. Acta* 2000, **39**, 4012. $[Bi(SHCN(CH_3)_2)_6]^{3+}$

Table S4. Summary of structures of homoleptic copper(I), silver(I) and gold(I) complexes with phosphorus donor ligands in the solid state and solution. Citations with purple colour are not included the mean M-P bond distances.

Phosphorus donor solvents

Phoshite solvents

Trimethylphosphite

Copper(I)

Four-coordination, tetrahedral configuration

CSD code	*d*(Cu-P)	Reference, compound formula
SIYSIC	2.242 Å	Fuchs, R.; Klufers, P. *Z. Naturforsch., Sect B* **1991**, *46*, 507. $[Cu(P(OCH_3)_3)_4][Cu(Co(CO)_4)_2]$

Phosphine solvents

Copper(I)

Two-coordination, linear configuration

CSD code	*d*(Cu-P)	Reference, compound formula
Tri(iso-propyl)phosphine		
GOXLOX	2.206 Å	Jiang, T.; Zhang, K.; Shen, Y.; Hamdaoui, M.; Dontha, R.; Liu, J.; Spingler, B.; Duttwyler, S. *Dalton Trans.* **2019**, *48*, 17192. $[Cu(P(CH(CH_3)_2)_2](C_3H_{12}B_{11})$
Tri(t-butyl)phosphine		
LACNIP	2.212 Å	Oeschger, R.; Chen, P.; Trapp, N. CCDC deposition number 1453515, **2016**. $[Cu(P(C(CH_3)_3)_2]CF_3SO_3{\cdot}2C_4H_8O$
NOGZER	2.218 Å	Ho, C. C.; Ariafard, A.; Hyland, C. J. T; Bissember, A. C. *Organometallics* **2019**, *38*, 2683. $[Cu(P(C(CH_3)_3)_2]PF_6{\cdot}2C_4H_8O$
Tris(benzyl)phosphine		
BALMOQ	2.190 Å	Ainscough, E. W.; Brodie, A. M.; Burrell, A. K.; Hanna, J. V.; Healy, P. C.; Waters , J. M. *Inorg. Chem.* **1999**, *38*, 201. $[Cu(P(CH_2C_6H_5)_3)_2]PF_6$
TETJAD	2.196 Å	Akrivos, P. D.; Karagiannidis, P. P.; Raptopoulou, C. P.; Terzis, A.; Stoyanov, S. *Inorg. Chem.* **1996**, *35*, 4082. $[Cu(P(CH_2C_6H_5)_3)_2]$ $[CuBr_2]$
QEDHEM	2.205 Å	Ainscough, E. W. ; Brodie, A. M.; Burrell, A. K.; Freeman, G. H.; Jameson, G. B.; Bowmaker, G. A.; Hanna, J. V.; Healy, P. C. *J. Chem. Soc., Dalton Trans.* **2001**, 144. $[Cu(P(CH_2C_6H_5)_3)_2][CuCl_2]$

Mean **2.197 Å/3 structures**
Mean all **2.205 Å/6 structures**
Four-coordination, tetrahedral configuration

CSD code	*d*(Cu-P)	Reference, compound formula
Trimethylphosphine		
WADFOW	2.251 Å	Eichhofer, A.; Fenske, D.; Holstein, W. *Angew. Chem., Int. Ed.* **1993**, *32*, 242. $[Cu(P(CH_3)_3)_4]_2[Cu_{13}C_{18}H_{54}Cl_6P_9]$
PIJTOS	2.263 Å	Schneider, S.; Dzudza, A.; Raudaschl-Sieber, G.; Marks, T. J. *Chem. Mater.* **2007**, *19*, 2768. $[Cu(P(CH_3)_3)_4][Cu_5C_{12}H_{36}S]\cdot 2C_4H_8O$
MUQHEL	2.264 Å	Patow, R. ; Fenske, D. *Z. Anorg. Allg. Chem.* **2002**, *628*, 1279. $[Cu(P(CH_3)_3)_4]_3[CuTa_6C_3H_9PS_{17}]\cdot 2CH_3CN$
GAXSUT	2.265 Å	Dempsey, D. F.; Girolami, G. S. *Organometallics* **2019**, *38*, 2683. $[Cu(P(CH_3)_3)_4][Cu(CH_3)_2]$
VIVVON	2.265 Å	Kischel, M.; Dornberg, G.; Krautscheid, H. *Inorg. Chem.* **2014**, *53*, 1614. $[Cu(P(CH_3)_3)_4][(CH_3)_2Al(SC_6H_5)_2]$
MOMJON	2.266 Å	Patow, R. ; Fenske, D. *Z. Anorg. Allg. Chem.* **2002**, *628*, 1279. $[Cu(P(CH_3)_3)_4]_2[Cu_6Ta_2C_{24}H_{54}N_6P_6S_6Se_6]\cdot 2(CH_3)_2NCHO$
QEGFIT	2.266 Å	Kluge, O.; Krautscheid, H. *Inorg. Chem.* **2012**, *51*, 6655. $[Cu(P(CH_3)_3)_4][(CH_3)_2Ga(SC_6H_5)_2]$
QEGFUF	2.266 Å	Kluge, O.; Krautscheid, H. *Inorg. Chem.* **2012**, *51*, 6655. $[Cu(P(CH_3)_3)_4][CH_3Ga(SC_6H_5)_3]\cdot 3CH_3OH$
KOTLOW	2.267 Å	Kociok-Kohn, G.; Mahon, M. F.; Molloy, K. C.; Sudlow, A. L. *Main Group Met. Chem.* **2014**, *37*, 11. $[Cu(P(CH_3)_3)_4][(CH_3)_3PSbCl_4SbCl_4(P(CH_3)_3]$
KURTIA	2.267 Å	Chi, K.-M.; Farkas, J.; Hampden-Smith, M. J.; Kodas, T. T.; Duesler, E. N. *J. Chem. Soc., Dalton Trans.* **1992**, 3111. $[Cu(P(CH_3)_3)_4][CuCl_2]$
KURTIA01	2.267 Å	Margraf, G.; Lerner, H.-W.; Wagner, M.; Bolte, M. *Acta Crystallogr., Sect. E* **2004**, *60*, m186. $[Cu(P(CH_3)_3)_4][CuCl_2]$
QEGFOZ	2.267 Å	Kluge, O.; Krautscheid, H. *Inorg. Chem.* **2012**, *51*, 6655. $[Cu(P(CH_3)_3)_4][(CH_3)_2Ga(SeC_6H_5)_2]$
RAHZOS	2.267 Å	Kluge, O.; Krautscheid, H. CCDC deposition number 907038, **2016**. $[Cu(P(CH_3)_3)_4][CH_3)_2Ga(S_2C_2H_4)]$
KOTKIP	2.270 Å	Kociok-Kohn, G.; Mahon, M. F.; Molloy, K. C.; Sudlow, A. L. *Main Group Met. Chem.* **2014**, *37*, 11. $[Cu(P(CH_3)_3)_4][Cl_2ZnCl_2Cu(P(CH_3)_3)_2]$
KURTOG	2.270 Å	Chi, K.-M.; Farkas, J.; Hampden-Smith, M. J.; Kodas, T. T.; Duesler, E. N. *J. Chem. Soc., Dalton Trans.* **1992**, 3111. $[Cu(P(CH_3)_3)_4][CF_3COCHCOCF_3]$
KIDFEI	2.271 Å	Bowmaker, G. A.; Healy, P. C.; Engelhardt, L. M.; Kildea, J. D.; Skelton, B. W.; White, A. H. *Aust. J. Chem.* **1990**, *43*, 1697. $[Cu(P(CH_3)_3)_4]Cl$
KIDFIM	2.271 Å	Bowmaker, G. A.; Healy, P. C.; Engelhardt, L. M.; Kildea, J. D.; Skelton, B. W.; White, A. H. *Aust. J. Chem.* **1990**, *43*, 1697. $[Cu(P(CH_3)_3)_4]Br\cdot C_6H_6$

VIVTEB	2.271 Å	Kischel, M.; Dornberg, G.; Krautscheid, H. *Inorg. Chem.* **2014**, *53*, 1614. $[Cu(P(CH_3)_3)_4][Cu_5C_{15}H_{39}P_3S_6]\cdot 1.5C_4H_8O$
GOFYAE	2.272 Å	Zhang, K.; Shen, Y.; Yang, X.; Liu, J.; Jiang, T.; Finney, N.; Spingler, B.; Duttwyler, S. *Chem. – Eur. J.* **2019**, *25*, 8754. $[Cu(P(CH_3)_3)_4]_2[CuC_{27}H_{89}B_{44}P_5]$
VIVWAA	2.272 Å	Kischel, M.; Dornberg, G.; Krautscheid, H. *Inorg. Chem.* **2014**, *53*, 1614. $[Cu(P(CH_3)_3)_4][(CH(CH_3)_2)_2Al(SC_6H_5)_2]$
MOMJAZ	2.274 Å	Patow, R. ; Fenske, D. *Z. Anorg. Allg. Chem.* **2002**, *628*, 1279. $[Cu(P(CH_3)_3)_4]_2[Cu_6Ta_2C_{24}H_{54}N_6P_6S_{12}]\cdot 4CH_3CN$
QEGGAM	2.276 Å	Kluge, O.; Krautscheid, H. *Inorg. Chem.* **2012**, *51*, 6655. $[Cu(P(CH_3)_3)_4][CH_3Ga(SeC_6H_5)_3]\cdot 4CH_3OH$
RAHZIM	2.276 Å	Kluge, O.; Krautscheid, H. CCDC deposition number 907039, **2016**. $[Cu(P(CH_3)_3)_4][(CH_3)_2In(S_2C_2H_4)]$
PECFIQ	2.277 Å	Liebing, P.; Merzweiler, K. *Z. Anorg. Allg. Chem.* **2022**, *648*, e02100339. $[Cu(P(CH_3)_3)_4][Cu_5C_{36}H_{52}N_4P_2S_4Si_2]$
KIDFOS	2.278 Å	Bowmaker, G. A.; Healy, P. C.; Engelhardt, L. M.; Kildea, J. D.; Skelton, B. W.; White, A. H. *Aust. J. Chem.* **1990**, *43*, 1697. $[Cu(P(CH_3)_3)_4]I\cdot C_6H_6$
QEGGEQ	2.281 Å	Kluge, O.; Krautscheid, H. *Inorg. Chem.* **2012**, *51*, 6655. $[Cu(P(CH_3)_3)_4][CH_3Ga(TeC_6H_5)_3]$
JASTON	2.282 Å	Wagner, M.; Margraf, G.; Lerner, H.-W.; Bolte, M. CCDC deposition number 199144, 2005. . $[Cu(P(CH_3)_3)_4]Br$
Mean	**2.270 Å/27 structures**	

Phosphinetriyl)triethanol

NENFER	2.281 Å	Bharathi, D. S.; Sridhar, M. A.; Prasad, J. S.; Samuelson, A. G. *Inorg. Chem. Commun.* **2001**, *4*, 490. $[Cu(P(C_2H_4OH)_3)P(C_2H_4O)]$
Mean all	**2.270 Å/28 structures**	

Silver(I)

Two-coordination, linear configuration

CSD code	*d*(Ag-P)	Reference, compound formula
Trimethylphosphine		
MOPCAV	2.377 Å	Alyea, E. C.; Kannan, S.; Meehan, P. R. *Acta Crystallogr., Sect. C* **2002**, *58*, m365. $[Ag(P(CH_3)_3)_2]PF_6$

Tri(tert-butyl)phosphine

UHAPAW	2.394 Å	Zopes, D.; Hegemann, C.; Schlafer, J.; Tyrra, W.; Mathur, S. *Inorg. Chem.* **2015**, *54*, 3781. $[Ag(P(C(CH_3)_3)_2][Au(CF_3)_2]$
GEQHOB	2.397 Å	Higelin, A.; Krossing, I. CCDC deposition number 912619, **2012**. $[Ag(P(C(CH_3)_3)_2][Al(OC(CF_3)_3)_4]$
GEQHOB01	2.405 Å	Bolte, M. CCDC deposition number 1027889, **2014**. $[Ag(P(C(CH_3)_3)_2][Al(OC(CF_3)_3)_4]$
Mean	**2.393 Å/3 structures**	

Tricyclohexylphosphine

LUTDUA	2.376 Å	Altaf, M.; Stoeckli-Evans, H. *Polyhedron* **2010**, *29*, 701. $[Ag(P(C_6H_{11})_3)_2]SbF_6$
LUTDIO	2.379 Å	Altaf, M.; Stoeckli-Evans, H. *Polyhedron* **2010**, *29*, 701. $[Ag(P(C_6H_{11})_3)_2]PF_6$
KUVVON01	2.382 Å	Fraga, J.; Schmalle, H. W.; Berke, H. CCDC deposition number 621764, **2016**. $[Ag(P(C_6H_{11})_3)_2][AgSO_3CF_3(P(C_6H_{11})_3)_2]$
QIQGUW	2.386 Å	Demonti, L.; Tabikh, H.; Saffon-Merceron, N.; Nebra, N. *Eur. J. Inorg. Chem.* **2023**, *26*, e202300042. $[Ag(P(C_6H_{11})_3)_2][Ag(CF_3)_4]$
KUVVON	2.395 Å	Partyka, D. V.; Deligonul, N. *Inorg. Chem.* **2009**, *48*, 9463. $[Ag(P(C_6H_{11})_3)_2]CF_3SO_3$
QAZKAG	2.403 Å	Blacque, O.; Fraga-Hernandez, J.; Berke, H. CCDC deposition number 1502022, **2017**. $[Ag(P(C_6H_{11})_3)_2][W(NO)_2(NCCH_3)Cl(OSO_2CF_3)_2]$
Mean	**2.387 Å/6 structrures**	

Tris(2-Cyanoethyl)phosphine

TILTAJ	2.383 Å	Liu, C. W.; Pan, H.; Fackler Jr., J. P.; Wu, G.; Wasylishen, R. E. ; Shang, M. *J. Chem. Soc., Dalton Trans.* **1995**, 3691. $[Ag(P(C_2H_4CN)_3)_2]NO_3$

Tris(benzyl)phosphine

EPUDEZ	2.374 Å	Ainscough, E. W.; Brodie, A. M.; Burrell, A. K.; Hanna, J. V.; Healy, P. C.; Waters , J. M. *Inorg. Chem.* **1999**, *38*, 201. $[Ag(P(CH_2C_6H_5)_3)_2]PF_6$
EPUDID	2.376 Å	Ainscough, E. W.; Brodie, A. M.; Burrell, A. K.; Hanna, J. V.; Healy, P. C.; Waters , J. M. *Inorg. Chem.* **1999**, *38*, 201. $[Ag(P(CH_2C_6H_5)_3)_2]BF_4$
EPUCUO	2.381 Å	Ainscough, E. W.; Brodie, A. M.; Burrell, A. K.; Hanna, J. V.; Healy, P. C.; Waters , J. M. *Inorg. Chem.* **1999**, *38*, 201. $[Ag(P(CH_2C_6H_5)_3)_2]_8[AgCl_3]Cl_6{\cdot}6H_2O$
EPUDAV	2.403 Å	Ainscough, E. W.; Brodie, A. M.; Burrell, A. K.; Hanna, J. V.; Healy, P. C.; Waters , J. M. *Inorg. Chem.* **1999**, *38*, 201. $[Ag(P(CH_2C_6H_5)_3)_2]_2[AgBr_3]{\cdot}1.38H_2O$
Mean	**2.384 Å/4 structures**	

Mean all **2.386 Å/15 structures**

Four-coordination, tetrahedral configuration

CSD code	*d*(Ag-P)	Reference, compound formula
Phosphinetriyl)trimethanol		
UBOPUZ	2.486 Å	Tapanelli, S.; Habluetzel, A.; Pellei, M.; Marchio, L.; Tombesi, A.; Cappare, A.; Santini, C. *J. Inorg. Biochem.* **2017**, 1*66*, 1. $[Ag(P(CH_2OH)_3)_4]PF_6 \cdot H_2O$
GEQHOB02	2.603 Å	Schwab, M. M.; Himmel, D.; Kacprzak, S.; Radtke, V.; Kratzert, D.; Weis, P.; Wernet, M.; Peter, A.; Yassine, Z.; Schmitz, D.; Scheidt, E.-W.; Scherer, W.; Weber, S.; Feuerstein, W.; Breher, F.; Higelin, A.; Krossing, I. *Chem. – Eur. J.* **2017**, *24*, 918. $[Ag(P(C(CH_3)_3)_2][Al(OC(CF_3)_3)_4]$
Mean	**2.603 Å/1 structure**	

Gold(I)

Two-coordination, linear configuration

CSD code	*d*(Au-O)	Reference, compound formula
Trimethylphosphine		
QAKCEN	2.301 Å	Lasanta, T.; Lopez-de-Luzuriaga, J. M.; Monge, M.; Olmos, M. E.; Pascual, D. *Dalton Trans.* **2016**, *45*, 6334. $[Au(P(CH_3)_3)_2][AuHg_5C_{36}F_{24}]$
KIMXUD	2.301 Å	Zapf, L.; Radius, U.; Finze, M. *Dalton Trans.* **2023**, *52*, 9553. $[Au(P(CH_3)_3)_2][Au(C_{10}H_5F_{17}N_2P)_2]$
JEVYEP01	2.302 Å	Khairul, W. M.; Fox, M. A.; Zaitseva, N. N.; Gaudio, M.; Yufit, D. S.; Skelton, B. W.; White, A. H.; Howard, J. A. K; Bruce, M. I.; Low, P. J. *Dalton Trans.* **2009**, 610. $[Au(P(CH_3)_3)_2]PF_6$
JEVYEP	2.303 Å	Horvath, U. E. I.; Raubenheimer, H. G. *Acta Crystallogr., Sect. E* **2007**, *63*, m567. $[Au(P(CH_3)_3)_2]PF_6$
LEXJAZ	2.304 Å	Angermaier, K.; Zeller, E.; Schmidbaur, H. *J. Organometal. Chem.* **1994**, *472*, 371. $[Au(P(CH_3)_3)_2]Cl \cdot 2CHCl_3$
Mean	**2.302 Å/5 structures**	

Triethylphosphine

TOVWOQ	2.295 Å	Hanna, S. D.; Khan, S. I.; Zink, J. I. *Inorg. Chem.* **1996**, *35*, 5813. $[Au(P(C_2H_5)_3)_2][Au_3C_{20}H_{30}N_4P_2S_4]$
LASVEG	2.297 Å	Nakamoto, M.; Koijman, H.; Paul, M.; Hiller, W.; Schmidbaur, H. *Z. Anorg. Allg. Chem.* **1993**, *619*, 1341. $[Au(P(C_2H_5)_3)_2][Au(S_2C_6H_4)_2]$
JOTLAI	2.300 Å	Glodek, M.; Pawledzio, S.; Makal, A.; Plazuk, D. *Chem. – Eur. J.* **2019**, *25*, 13131. $[Au(P(C_2H_5)_3)_2][Au(C_2COC_6H_5)_2]$

JOTJIO	2.305 Å	Glodek, M.; Pawledzio, S.; Makal, A.; Plazuk, D. *Chem. – Eur. J.* **2019**, *25*, 13131. $[Au(P(C_2H_5)_3)_2][Au(C_4COC_6H_4OCH_3)_2]$
NIBMOD02	2.306 Å	Jastrzebska, R.; Poreba, T.; Cova, F.; Tchon, D. M.; Makal, A. *IUCrJ* **2024**, *11*, 737. $[Au(P(C_2H_5)_3)_2][Au(C_2COC_{16}H_9)_2]$
JOTKUB	2.308 Å	Glodek, M.; Pawledzio, S.; Makal, A.; Plazuk, D. *Chem. – Eur. J.* **2019**, *25*, 13131. $[Au(P(C_2H_5)_3)_2][Au(C_2COC_6H_5)_2]$
NIBMOD03	2.309 Å	Jastrzebska, R.; Poreba, T.; Cova, F.; Tchon, D. M.; Makal, A. *IUCrJ* **2024**, *11*, 737. $[Au(P(C_2H_5)_3)_2][Au(CCCOC_{16}H_8)_2]$
JOTJOU	2.311 Å	Glodek, M.; Pawledzio, S.; Makal, A.; Plazuk, D. *Chem. – Eur. J.* **2019**, *25*, 13131. $[Au(P(C_2H_5)_3)_2][Au(C_4COC_6H_5)_2]$
NIBMOD	2.312 Å	Glodek, M.; Makal, A.; Paluch, P.; Kadziolka-Gawel, M.; Kobayashi, Y.; Zakrzewski, J.; Plazuk, D. *Dalton Trans.* **2018**, *47*, 6702. $[Au(P(C_2H_5)_3)_2][Au(C_2COC_{16}H_9)_2]$
LASVEG01	2.313 Å	Davila, R. M.; Staples, R. P.; Fackler, Jr., J. P. *Z. Anorg. Allg. Chem.* **1993**, *619*, 1341. $[Au(P(C_2H_5)_3)_2][Au(S_2C_6H_4)_2]$
NIBLUI	2.313 Å	Glodek, M.; Makal, A.; Paluch, P.; Kadziolka-Gawel, M.; Kobayashi, Y.; Zakrzewski, J.; Plazuk, D. *Dalton Trans.* **2018**, *47*, 6702. $[Au(P(C_2H_5)_3)_2][Au(C_2COC_5H_5FeC_5H_5)_2]$
JOTKEL	2.314 Å	Glodek, M.; Pawledzio, S.; Makal, A.; Plazuk, D. *Chem. – Eur. J.* **2019**, *25*, 13131. $[Au(P(C_2H_5)_3)_2][Au(C_2COC_6H_2F_3)_2]$
JOTKIP	2.318 Å	Glodek, M.; Pawledzio, S.; Makal, A.; Plazuk, D. *Chem. – Eur. J.* **2019**, *25*, 13131. $[Au(P(C_2H_5)_3)_2][Au(C_2COC_6H_4OC_3)_2]$
JOTKAH	2.319 Å	Glodek, M.; Pawledzio, S.; Makal, A.; Plazuk, D. *Chem. – Eur. J.* **2019**, *25*, 13131. $[Au(P(C_2H_5)_3)_2][Au(C_4COC_6H_2F_3)_2]$
Mean	**2.309 Å/14 structures**	

Tri-iso-propylphosphine

TEQNEM	2.315 Å	D.Fuhrmann, H.Krautscheid, H. *A. Anorg. Allg. Chem.* **2022**, *648*, e202200099. $[Au(P(CH(CH_3)_2)_3)_2][(CH_3)_2ClSnCl(S)SnCl(CH_3)_2]$

Tri-n-butylphosphine

HATPUN	2.308 Å	Staples, R. J.; Fackler, Jr., J. P; Khan, M. N. I.; Winpenny, R. E. P. *Acta Crystallogr., Sect. C* **1994**, *50*, 191. $[Au(P(C_4H_9)_3)_2]B(C_6H_5)_4$

Tri-tert-butylphosphine

ZAJZIT01	2.307 Å	Marsch, R. E. *Acta Crystallogr., Sect. B* **2002**, *58*, 893. $[Au(P(C(CH_3)_3))_2]BF_4 \cdot 2CHCl_3$
ZAJZIT	2.310 Å	Sladek, A.; Schmidbauer, H. *Z. Naturforsch., Sect. B* **1995**, *50*, 859. $[Au(P(C(CH_3)_3))_2]BF_4 \cdot 2CHCl_3$
WILZIA01	2.319 Å	Touil, M.; Bechem, B.; Hashmi, A. S. K.; Engels, B.; Omary, M. A.; Rabaa, H. *J. Mol. Struct.* **2010**, *957*, 21. $[Au(P(C(CH_3)_3))_2]Cl$
SAQVAI	2.321 Å	Schneider, D.; Schuster, O.; Schmidbaur, H. *Dalton Trans.* **2005**, 1940. $[Au(P(C(CH_3)_3))_2]Br_3 \cdot Br_2$
WILZIA	2.322 Å	Zeller, E.; Schier, A.; Schmidbaur, H. *Z. Naturforsch., Sect. B* **1994**, *49*, 1243. $[Au(P(C(CH_3)_3))_2]Cl$
NOGZAN	2.333 Å	Ho, C. C.; Ariafard, A.; Hyland, C. J. T; Bissember, A. C. *Organometallics* **2019**, *38*, 2683. $[Au(P(C(CH_3)_3))_2]N(SO_2CF_3)_2$
Mean	**2.319 Å/6 structures**	

Tricyclohexylphosphine

ZEMPEM	2.311 Å	Staples, R. J.; Fackler, Jr., J. P. *Z. Krist. Cryst. Mater.* **1995**, *210*, 696. $[Au(P(C_6H_{11})_3)_2]_2[Au(S_2C_2(CN)_2)_2]$
FIVLEB	2.312 Å	A.J.Wynd, A.J.Welch, A. J. Chem. Commun. 1987, 1174. $[Au(P(C_6H_{11})_3)_2]_2[AuB_{20}H_{25}] \cdot 4CH_2Cl_2$
FAXHER	2.313 Å	Bowmaker, G. A.; Brown, C. L.; Hart, R. D.; Healy, P. C.; Rickard, C. E. F.; White, A. H. *J. Chem. Soc., Dalton Trans.* **1999**, 881. $[Au(P(C_6H_{11})_3)_2]I \cdot P(C_6H_{11})_3$
FAQBEF	2.314 Å	Anandhi, U.; Sharp, P. R. *Angew. Chem., Int. Ed.* **2004**, *43*, 6128. $[Au(P(C_6H_{11})_3)_2][GaI_3(C_{10}H_{15})]$
FAXCAI01	2.316 Å	Bowmaker, G. A.; Brown, C. L.; Hart, R. D.; Healy, P. C.; Rickard, C. E. F.; White, A. H. *J. Chem. Soc., Dalton Trans.* **1999**, 881. $[Au(P(C_6H_{11})_3)_2]Br$
KARCAI	2.316 Å	N.W.Alcock, M.G.H.Wallbridge, M.Jasztal, M. CCDC deposition number 271188, **2005**. $[Au(P(C_6H_{11})_3)_2]_2[Au(CB_8H_{12})_2] \cdot 2CH_2Cl_2$
BOPLOH01	2.318 Å	Bowmaker, G. A.; Brown, C. L.; Hart, R. D.; Healy, P. C.; Rickard, C. E. F.; White, A. H. *J. Chem. Soc., Dalton Trans.* **1999**, 881. $[Au(P(C_6H_{11})_3)_2]Cl$
BOPLOH10	2.321 Å	J.A.Muir, M.M.Muir, L.B.Pulgar, P.G.Jones, G.M.Sheldrick, G. M. *Acta Crystallogr., Sect. C* **1985**, *41*, 1174. $[Au(P(C_6H_{11})_3)_2]Cl$
Mean	**2.315 Å/8 structures**	

Tris(2-Cyanoethyl)phosphine

PERFEX	2.314 Å	Khan, Md. N. I.; King, C.; Fackler, Jr., J. P.; Winpenny, R. E. W. *Inorg. Chem.* **1993**, *32*, 2502. $[Au(P(C_2H_4CN)_3)_2]Cl$

Tris(benzyl)phosphine

KAFZOI	2.298 Å	Ainscough, E. W.; Bowmaker, G. A.; Brodie, A. M.; Freeman, G. H.; Hanna, J. V.; Healey, P. C.; Robinson, W. T.; Skelton, B. W.; Smith, M. E.; Sobolev, A. N.; White, A. H. *Eur. J. Inorg. Chem.* **2010**, 2044. $[Au(P(CH_2C_6H_5)_3)_2]BF_4$
KAFZIC	2.301 Å	Ainscough, E. W.; Bowmaker, G. A.; Brodie, A. M.; Freeman, G. H.; Hanna, J. V.; Healey, P. C.; Robinson, W. T.; Skelton, B. W.; Smith, M. E.; Sobolev, A. N.; White, A. H. *Eur. J. Inorg. Chem.* **2010**, 2044. $[Au(P(CH_2C_6H_5)_3)_2]Cl{\cdot}H_2O$
Mean	**2.300 Å/2 structures**	
Mean all	**2.311 Å/38 structures**	

Four-coordination, tetrahedral configuration

CSD code	*d*(Au-P)	Reference, compound formula
Trimethylphosphine		
FESLUM	2.388 Å	Malberg, J.; Wiegand, T.; Eckert, H.; Bodensteiner, M.; Wolf, R. *Chem. – Eur. J.* **2013**, *19*, 2356. $[Au(P(CH_3)_3)_4][AuCo_2C_{88}H_{120}P_8]{\cdot}2C_4H_8O$

Triphenylphosphine
Copper(I)
Three-coordination, triangular configuration

CSD code	*d*(Cu-P)	Reference, compound formula
LIVNUC	2.270 Å	Lee, G. M.; Bowes, E. G.; Vogels, C. M.; Decken, A.; Westcott, S. A. *Tetrahedron* **2019**, *75*, 2106. $[Cu(P(C_6H_5)_3)_3](B(O_2C_6H_3ONO_2)_2)$
GOFYUY	2.276 Å	Zhang, K.; Shen, Y.; Yang, X.; Liu, J.; Jiang, T.; Finney, N.; Spingler, B.; Duttwyler, S. *Chem. – Eur. J.* **2019**, *25*, 8754. $[Cu(P(C_6H_5)_3)_3][Cu_3C_{78}H_{82}B_{22}P_4]$
EDICOL	2.277 Å	Eckenhoff, W. T.; Biernesser, A. B.; Pintauer, T. *Inorg. Chem.* **2012**, *51*, 11917. $[Cu(P(C_6H_5)_3)_3]B(C_6H_5)_4$
GOXLIR	2.278 Å	Jiang, T.; Zhang, K.; Shen, Y.; Hamdaoui, M.; Dontha, R.; Liu, J.; Spingler, B.; Duttwyler, S. *Dalton Trans.* **2019**, *48*, 17192. $[Cu(P(C_6H_5)_3)_3]C_3H_{12}B_{11}$
OKAXOP	2.280 Å	Balagurova, E. V.; Pisareva, I. V.; Godovikov, I. A.; Smol'yakov, A. F.; Dolgushin, F. M.; Chizhevsky, I. T. *Izv. Akad. Nauk SSSR, Ser.Khim.* **2013**, 548. $[Cu(P(C_6H_5)_3)_3][CoC_4H_{22}B_{18}]\cdot 2CH_2Cl_2$
SUXCIX	2.286 Å	Li, D.; Li, R.; Qi, Z.; Feng, X.; Cai, J.; Shi, X. *Inorg. Chem. Commun.* **2001**, *4*, 483. $[Cu(P(C_6H_5)_3)_3][Cu_4C_{90}H_{72}N_9P_4](BF_4)_2$
SUXCIX	2.286 Å	Li, D.; Li, R.; Qi, Z.; Feng, X.; Cai, J.; Shi, X. *Inorg. Chem. Commun.* **2001**, *4*, 483. $[Cu(P(C_6H_5)_3)_3][Cu_4C_{90}H_{72}N_9P_4](BF_4)_2$
WIMLEK	2.287 Å	Du, S.; Hodson, D. E.; Lei, P.; McGrath, T. D.; Stone, F. G. A. *Inorg. Chem.* **2007**, *46*, 6613. $[Cu(P(C_6H_5)_3)_3][Ru_6C_{16}H_9B_8O_{15}]\cdot 2CH_2Cl_2$
SOTSID	2.292 Å	Klufers, P.; Wilhelm, U. *J. Organometal. Chem.* **1991**, *421*, 39. $[Cu(P(C_6H_5)_3)_3][(CO)_5CrHCr(CO)_5]$
DEZYUC	2.295 Å	Doyle, G.; Eriksen, K. A.; Van Engen, D. *Organometallics* **1985**, *4*, 2201. $[Cu(P(C_6H_5)_3)_3][V(CO)_6]$
ZEPYEY	2.296 Å	Davidson, J. L.; Lindsell, W. E.; McCullough, K. J.; McIntosh, C. H. *Organometallics* **1995**, *14*, 3497. $[Cu(P(C_6H_5)_3)_3][Mo(SC_6F_5)_4(C_5H_5)]\cdot 0.5(CH_2Cl_2$
EDIDAY	2.314 Å	Eckenhoff, W. T.; Biernesser, A. B.; Pintauer, T. *Inorg. Chem.* **2012**, *51*, 11917. $[Cu(P(C_6H_5)_3)_3]\cdot P(C_6H_5)_3\cdot (CH_3)_2CO$
Mean	**2.286 Å/12 structures**	

Silver(I)
Three-coordination, triangular configuration

CSD code	*d*(Ag-P)	Reference, compound formula
ASIZUX	2.410 Å	Clarke, A. J.; Ingleson, M. J.; Kociok-Kohn, G.; Mahon, M. F.; Patmore, N. J.; Rourke, J. P.; Ruggiero, G. D.; Weller, A. S. *J. Am. Chem. Soc.* **2004**, *126*, 1503. $[Ag(P(CH_3)_3)_2]B_{11}C_{12}H_{34}$

PAGMNT	2.485 Å	Coucouvanis, D.; Baenziger, N. C.; Johnson, S. M. *Inorg. Chem.* **1974**, *13*, 1191. $[Ag(P(CH_3)_3)_2][Ni(S_2C_2(CN)_2)_2]$
JOBQAS01	2.493 Å	Kuprat, M.; Schulz, A.; Thomas, M.; Villinger, A. *Can. J. Chem.* **2018**, *96*, 502. $[Ag(P(C_6H_5)_3)_3]CF_3SO_3\cdot 2CH_2Cl_2$ JOBQAS 2.495 Å Nieger, M.; Hupfer, H.; Niecke, E.; Radseck, J. CCDC deposition number 112920, **1998**. $[Ag(P(C_6H_5)_3)_3]CF_3SO_3\cdot 2CH_2Cl_2$
SAXLIN	2.502 Å	Franken, A.; McGrath, T. D.; Stone, F. G. A. *Organometallics* **2005**, *24*, 5157. $[Ag(P(C_6H_5)_3)_3][FeC_4H_8B_7O_3]$
Mean	**2.493 Å/3 structures**	

Four-coordination, tetragonal configuration

CSD code	*d*(Ag-P)	Reference, compound formula
TACXAZ	2.599 Å	Noll, J.; Korb, M.; Lang, H. *Acta Crystallogr., Sect. E* **2016**, *72*, 318. $[Ag(P(C_6H_5)_3)_4][Ag(P(C_6H_5)_3)(C_6H_{61}NO_6)]\cdot 18CH_3OH$
ANOXUZ	2.600 Å	Exner, R. M.; Jenne, C.; Wegener, B. *Z. Anorg. Allg. Chem.* **2021**, *547*, 500. $[Ag(P(C_6H_5)_3)_4]_2(B_{12}H_{12})\cdot P(C_6H_5)_3$
QEKWAH	2.603 Å	Schwab, M. M.; Himmel, D.; Kacprzak, S.; Radtke, V.; Kratzert, D.; Weis, P.; Wernet, M.; Peter, A.; Yassine, Z.; Schmitz, D. ; Scheidt, E.-W.; Scherer, W.; Weber, S.; Feuerstein, W.; Breher, F.; Higelin, A.; Krossing, I. *Chem. – Eur. J.* **2017**, *24*, 918. $[Ag(P(C_6H_5)_3)_4][Al(OCF_3)_4]\cdot C_6H_4F_2$
SULXOP	2.603 Å	Sun, Q.; Nie, H.-H.; Su, H.-F.; Yang, S.-Y.;.; Teo, B. K. *Inorg. Chem.* **2020**, *59*, 8836. $[Ag(P(C_6H_5)_3)_4]_2[Ag_{14}C_{192}H_{202}O_{12}P_8S_{12}]\cdot 12CH_3OH\cdot 43.7H_2O$
GORPUB	2.611 Å	Zhdanov, A. P.; Voinova, V. V.; Klyukin, I. N.; Buzanov, G. A.; Grigorev, M. S.; Zhizhin, K. Y.; Kuznetsov, N. T. *Koord. Khim.* **2019**, *45*, 563. $[Ag(P(C_6H_5)_3)_4](B_{10}H_{12}N)\cdot 2(CH_3)_2NCHO$
OTAHOH	2.611 Å	Bowmaker, G. A.; Effendy; Hanna, J. V.; Healy, P. C.; King, S. P.; Pettinari, C.; Skelton, B. W.; White, A. H. *Dalton Trans.* **2011**, *40*, 7210. $[Ag(P(C_6H_5)_3)_4](HOCOO)\cdot 2C_2H_5OH\cdot 3H_2O$
JAJFAF	2.614 Å	Mobs, J.; Luy, J.-N.; Shlyaykher, A.; Tonner, R.; Heine, J. *Dalton Trans.* **2021**, *50*, 15855. $[Ag(P(C_6H_5)_3)_4]_3(HP(C_6H_5)_3)_2[Bi_7I_{26}]\cdot 2CH_3CN$
VUFXOM	2.616 Å	Malinina, E. A.; Korolenko, S. E.; Kubasov, A. S.; Goeva, L. V.; Avdeeva, V. V.; Kuznetsov, N. T. *Polyhedron* **2020**, *184*, 114566. $[Ag(P(C_6H_5)_3)_4]$ $[Ag(P(C_6H_5)_3)_2(B_{12}H_{12})$
ANOYIO	2.617 Å	Exner, R. M.; Jenne, C.; Wegener, B. *Z. Anorg. Allg. Chem.* **2021**, *547*, 500. $[Ag(P(C_6H_5)_3)_4]_2(B_{12}I_{12})\cdot 2CH_3CN$
DERYUX	2.618 Å	Avdeeva, V. V.: Buzin, M. I.; Dmitrienko, A. O.; Dorovatovskii, P. V.; Malinina, E. A.; Kuznetsov, N. T.; Voronova, E. D.; Zubavichus, Y. V.; Vologzhanina, A. V. *Chem. – Eur. J.* **2017**, *23*, 16819.

JUPDEG	2.618 Å	Avdeeva, V. V.; Buzanov, G. A.; Malinina, E. A.; Kuznetsov, N. T.; Vologzhanina, A. V. *Crystals* **2020**, *10*, 389. $[Ag(P(C_6H_5)_3)_4](C_4B_{10}H_{17}O_2)[Ag(P(C_6H_5)_3)_2(C_{24}H_{30}B_{10}P_2]\cdot 0.1H_2O$
IBOJOB	2.620 Å	Avdeeva, V. V; Polyakova, I. N.; Vologzhanina, A. V; Malinina, E. A; Zhizhin, K. Y.; Kuznetsov, N. T. *Polyhedron* **2017**, *123*, 396. $[Ag(P(C_6H_5)_3)_4][AgC_{36}H_{40}B_{10}ClP_2]$
UZUKAE	2.620 Å	Schneider, L. N.; Krauel, E.-M. T.; Deutsch, C.; Urbahns, K.; Bischof, T.; Maibom, K. A. M.; Landmann, J.; Keppner, K.; Kerpen, C.; Hailmann, M.; Zapf, L.; Knuplez, T.; Bertermann, R.; Ignat'ev, N. V.; Finze, M. *Chem. -Eur. J.* **2021**, *27*, 10973. $[Ag(P(C_6H_5)_3)_4]N(CF_3)_2)\cdot CH_2Cl_2$
PITMEN	2.622 Å	Jenne, C.; Wegener, B. *Z. Anorg. Allg. Chem.* **2018**, *644*, 1123. $[Ag(P(C_6H_5)_3)_4](C_3B_{12}H_9Cl_{11}N)\cdot 5.35C_2Cl_2$
XEGQIJ	2.623 Å	Ellis, D. D.; Spek, A. L. *Acta Crystallogr., Sect. C* **2000**, *56*, e547. $[Ag(P(C_6H_5)_3)_4]B(C_6H_5)_4\cdot CH_3CN$
LUTDUO	2.625 Å	Altaf, M.; Stoeckli-Evans, H. *Polyhedron* **2010**, *29*, 701. $[Ag(P(C_6H_5)_3)_4]SbF_6\cdot CHCl_3$
SUXLEF	2.625 Å	Golubev, A. V.; Kubasov, A. S.; Turyshev, E. S; Bykov, A. Y.; Zhizhin, K. Y.; Kuznetsov, N. T. *Zh. Neorg. Khim.* **2020**, *65*, 1333. $[Ag(P(C_6H_5)_3)_4](C_{72}H_{60}B_{10}N_2O_4S_2)$
DUQGII	2.626 Å	A.S.Kubasov, E.Yu.Matveev, I.N.Klyukin, A.I.Nichugovskiy, K.Yu Zhizhin, N.T.Kuznetsov, N. T. *Inorg. Chim. Acta* **2020**, *510*, 119749. $[Ag(P(C_6H_5)_3)_4](C_5B_{10}H_{19}O)\cdot CH_2Cl_2$
AROVEI	2.628 Å	Yang, S.-Y.; Xie, Z.-X.; Ng, S. W. *Acta Crystallogr., Sect. C* **2004**, *60*, m123. $[Ag(P(C_6H_5)_3)_4][Sn_2(CF_3COO)_6]$
USUMAY	2.629 Å	Priola, E.; Bonometti, E.; Rabezzana, R.; Buscaino, R.; Chierotti, M. R.; Operti, L.; Diana, E. *Inorg. Chem. Commun.* **2016**, *70*, 35. $[Ag(P(C_6H_5)_3)_4][Cd(P(C_6H_5)Cl_3]$
EDUVAC	2.631 Å	Ng, S. W. *Acta Crystallogr., Sect. E* **2012**, *68*, m1536. $[Ag(P(C_6H_5)_3)_4](CF_3COO)\cdot C_2H_5OH$
VUFYAZ	2.631 Å	Malinina, E. A.; Korolenko, S. E.; Kubasov, A. S.; Goeva, L. V.; Avdeeva, V. V.; Kuznetsov, N. T. *Polyhedron* **2020**, *184*, 114566. $[Ag(P(C_6H_5)_3)_4](B_{12}H_{12})\cdot P(C_6H_5)_3$
UHANOI	2.633 Å	Zopes, D.; Hegemann, C.; Schlafer, J.; Tyrra, W.; Mathur, S. *Inorg. Chem.* **2015**, *54*, 3781. $[Ag(P(C_6H_5)_3)_4][Au(CF_3)_2]$
RUGTOC	2.635 Å	Long, D.-L.; Xin, X.-Q.; Chen, X.-M.; Kang, B.-S. *Polyhedron* **1997**, *16*, 1259. $[Ag(P(C_6H_5)_3)_4]_2[Mo_6O_{19}]\cdot 3CH_2Cl_2$
IBOTEB	2.637 Å	Avdeeva, V. V; Polyakova, I. N.; Vologzhanina, A. V; Malinina, E. A; Zhizhin, K. Y.; Kuznetsov, N. T. *Polyhedron* **2017**, *123*, 396. $[Ag(P(C_6H_5)_3)_4][AgC_{36}H_{39}B_{10}ClP_2]$
HILKAS	2.643 Å	Sun, S. B.; Dong, Y. J.; Lai, X. L.; Yuan, Z. Y.; Zhang, H.; Xie, J. L.; Wang, L. S.; Lei, P. X. *J. Coord. Chem.* **2023**, *49*, 176. $[Ag(P(C_6H_5)_3)_4](C_{40}H_{47}O_4S_4)\cdot(CH_3)_2NCHO$
YADQEB	2.646 Å	Jiang, Y.-H.; Cui, L.-N.; Huang, X.; Jin, Q.-H.; Zhang, C.-L. *Acta Crystallogr., Sect. E* **2011**, *67*, m1499. $[Ag(P(C_6H_5)_3)_4]CF_3SO_3\cdot CH_2Cl_2$

ISEMUP	2.647 Å	Jin Wen, Yu-Han Jiang, Man-Hua Wu, Qiong-Hua Jin, Hui-Li Gong, H.-L. *Z. Kristallogr. – New Cryst Struct.* **2011**, *226*, 269. $[Ag(P(C_6H_5)_3)_4]CF_3SO_3$
OFOYAJ	2.647 Å	Romualdo, L. L.; Bessler, K. E.; Deflon, V. M.; Niquet, E. *Z. Anorg. Allg. Chem.* **2002**, *628*, 1098. $[Ag(P(C_6H_5)_3)_4](C_6H_5NNC(CN)_2)$
CUGYIM	2.659 Å	Pelizzi, C.; Pelizzi, G.; Tarasconi, P. *J. Organometal. Chem.* **1984**, *277*, 29. $[Ag(P(C_6H_5)_3)_4][Sn(O_2NO)_2(C_6H_5)_2Cl]\cdot[Sn(O_2NO)_3(C_6H_5)_2]$
NOPMIO	2.666 Å	Bowmaker, G. A.; Effendy; Hart, R. D.; Kildea, J. D.; de Silva, E. N.; Skelton, B. W.; White, A. H. *Aust. J. Chem.* **1997**, *50*, 539. $[Ag(P(C_6H_5)_3)_4]_2SiF_6\cdot C_5H_5N$
IXINEI	2.678 Å	Ng, S. W.; Rae, A. D. *Z. Kristallogr. Cryst. Mater.* **2003**, *218*, 581. $[Ag(P(C_6H_5)_3)_4][Sn(C_6H_5)_3(OOCCF_3)_2]$
DUQGOO	2.685 Å	Kubasov, A. S.; Matveev, E. Y.; Klyukin, I. N.; Nichugovskiy, A. I; Zhizhin, K. Y.; Kuznetsov, N. T. *Inorg. Chim. Acta* **2020**, *510*, 119749. $[Ag(P(C_6H_5)_3)_4](C_4B_{10}H_{17}O_2)$
Mean	**2.629 Å/33 structures**	

Gold(I)

Two-coordination, linear configuration

CSD code	*d*(Au-O)	Reference, compound formula
KASXUX01	2.295 Å	Wang, J.-C.; Wang, Y. *Acta Crystallogr., Sect. B* **1993**, *49*, 131. $[Au(P(CH_3)_3)_2](C(CN)_3)$
TEZYOO	2.297 Å	Hofer, M.; Nevado, C. **2012**, 1338. $[Au(P(CH_3)_3)_2][Au(C_6F_5)_4]$
BUJXEJ	2.300 Å	Bruce, M. I.; Walton, J. K.; Skelton, B. W.; White, A. H. *J. Chem. Soc., Dalton Trans.* **1983**, 809. $[Au(P(CH_3)_3)_2](C_5(COOCH_3)_5)\cdot CH_3OH$
IMIJEU	2.300 Å	Savjani, N.; Lancaster, S. J.; Bew, S.; Hughes, D. L.; Bochmann, M. *Dalton Trans.* **2011**, *40*, 1079. $[Au(P(CH_3)_3)_2](C_{44}B_2F_{34}NO_2)\cdot C_4H_8O$
VUXHED	2.305 Å	Hueber, D.; Hoffmann, M.; de Fremont, P.; Pale, P.; Blanc, A. O*rganometallics* **2015**, *34*, 5065. $[Au(P(CH_3)_3)_2]_2[NCCH_3Au(P(CH_3)_3)_2]_2[W_{12}SiO_{40}]$
WAGFUH	2.305 Å	Seidel, G.; Lehmann, C. W.; Furstner, A. *Angew. Chem., Int. Ed.* **2010**, *49*, 8466. $[Au(P(CH_3)_3)_2]N(SO_2CF_3)_2$
WEVZAY01	2.306 Å	Marsh, R. E.; Spek, A. L. *Acta Crystallogr., Sect. B* **2001**, 57, 800. $[Au(P(CH_3)_3)_2]((NC)_2C_2(CN)_2)\cdot(C_2H_5)_2O$
WEVZAY	2.307 Å	Alonso, P. J.; Cerrada, E.; Garin, J.; Gimeno, M. C.; Laguna, A.; Laguna, M.; Jones, P. G. *Synth. Met.* **1993**, *55*, 1772. $[Au(P(CH_3)_3)_2]\ ]((NC)_2C_2(CN)_2)\cdot(C_2H_5)_2O$
BOSLON	2.309 Å	Weis, P.; Riddlestone, I. M.; Scherer, H.; Krossing, I. *Chem. – Eur. J.* **2019**, *25*, 12159. $[Au(P(CH_3)_3)_2][Al(OC(CF)_3)_4]$

GACRAD	2.310 Å	Baenziger, N. C.; Bennett, W. E.; Soboroff, D. M.; O'Donnell, P. S.; Doyle, J. R. *Polyhedron* **1998**, *17*, 2379. $[Au(P(CH_3)_3)_2]((NC)_2CC_6H_4C(CN)_2)$
WIMLUA	2.311 Å	Du, S.; Hodson, B. E.; Lei, P.; McGrath, T. D.; Stone, F. G. A. *Inorg. Chem.* **2007**, *46*, 6613. $[Au(P(CH_3)_3)_2][Ru_5C_{53}H_{43}B_8O_{10}P_2]\cdot 3CH_2Cl_2$
SUBSIT	2.312 Å	Braunschweig, H.; Radacki, K.; Shang, R. *Chem. Sci.* **2015**, *6*, 2989. $[Au(P(CH_3)_3)_2]B(C_6H_2F_3)_4\cdot C_6H_5OH$
QICVOO	2.313 Å	Mohamed, A. A.; Burini, A.; Galassi, R.; Paglialunga, D.; Galan-Mascaros, J.-R.; Dunbar, K. R.; Fackler, Jr., J. P. *Inorg. Chem.* **2007**, *46*, 2348. $[Au(P(CH_3)_3)_2][Cu_6C_{30}H_{12}F_{36}N_{12}O_6]\cdot 2CH_3CN$
SOSTAV	2.313 Å	Baukova, T. V.; Ellert, O. G.; Kuz'mina, L. G.; Dvortsova, N. V.; Lemenovskii, D. A.; Rubezhov, A. Z. *Mendeleev Commun.* **1991**, 22. $[Au(P(CH_3)_3)_2]((NC)_2C_2(CN)_2)$
KUJPAK	2.314 Å	Wang, M.; Zhang, S.; Gong, Y.; Zhang, W.; Wang, Y.; Chen, Y.; Zheng, Q.; Liu, Z.; Tang, C. *Angew. Chem., Int. Ed.* **2024**, *63*, e202409283. $[Au(P(CH_3)_3)_2]C_3B_{10}H_{13})_2]$
BARBUT	2.315 Å	Less, R. J.; Guan, B.; Muresan, N. M.; McPartlin, M.; Reisner, E.; Wilson, T. C.; Wright, D. S. *Dalton Trans.* **2012**, *41*, 5919. $[Au(P(CH_3)_3)_2](C_5(CN)_5)$
UXITUS	2.315 Å	Jones, P. G. CCDC deposition number 1508593, **2016**. $[Au(P(CH_3)_3)_2](CF_3SO_3$
KASXUX	2.316 Å	Baukova, T. V.; Kravtsov, D. N.; Kuz'mina, L. G.; Dvortsova, N. V.; Porai-Koshits, M. A.; Perevalova, E. G. *J. Organometal. Chem.* **1989**, *372*, 465. $[Au(P(CH_3)_3)_2](C(CN)_3)$
WAGFUH01	2.320 Å	Grirrane, A.; Garcia, H.; Corma, A.; Alvarez, E. *Chem. – Eur. J.* **2013**, *19*, 12239. $[Au(P(CH_3)_3)_2]N(SO_2CF_3)_2$
ZEPYIC	2.322 Å	Anderson, S.; Mullica, D. F.; Sappenfield, E. L.; Stone F. G. A. *Organometallics* **1995**, *14*, 3516. $[Au(P(CH_3)_3)_2][RuC_4H_1B_9ClO_2]$
Mean	**2.309 Å/20 structures**	

Three-coordination, triangular configuration

CSD code	*d*(Au-O)	Reference, compound formula
ANOYUA	2.367 Å	Exner, R. M.; Jenne, C.; Wegener, B. *Z. Anorg. Allg. Chem.* **2021**, *647*, 500. $[Au(P(C_6H_5)_3)_3]B_{12}I_{12}$
TPAWTB10	2.373 Å	Guggenberger, L. J. *J. Organometal. Chem.* **1974**, *81*, 271. $[Au(P(C_6H_5)_3)_3](B_9H_{12}S)$
NODZUD	2.375 Å	Konarev, D. V.; Khasanov, S. S.; Otsuka, A.; Ishikawa, M.; Yamochi, H.; Saito, G.; Lyubovskaya, D. R. N. *Inorg. Chem.* **2014**, *53*, 6850. $[Au(P(C_6H_5)_3)_3]_2(C_{60})_2\cdot C_6H_4Cl_{12}$
ZETBIJ	2.377 Å	Olbrich, F.; Lagow, R. J. *Z. Anorg. Allg. Chem.* **1995**, *621*, 1929. $[Au(P(C_6H_5)_3)_3]SiF_5\cdot 0.5CH_2Cl_2$
CUHDEQ	2.378 Å	Hashimoto, A.; Yoshinari, N.; Konno, T. *Chem. Lett.* **2015**, *44*, 749. $[Au(P(C_6H_5)_3)_3]NO_3$
EGUSAA	2.379 Å	Hamel, A.; Schier, A.; Schmidbaur, H. *Z. Naturforsch., Sect. B* **2002**, *57*, 877. $[Au(P(C_6H_5)_3)_3]Cl\cdot 2CH_2Cl_2$
NIWKOV	2.381 Å	Malberg, J.; Bodensteiner, M.; Paul, D.; Wiegand, T.; Eckert, H.; Wolf, R. *Angew. Chem., Int. Ed.* **2014**, *53*, 2771. $[Au(P(C_6H_5)_3)_3][AuCo_2C_{40}H_{72}P_8]\cdot P(C_6H_5)_3\cdot C_6H_{14}$

TPAUPB	2.384 Å	Jones, P. G. *Acta Crystallogr., Sect. B* **1980**, *36*, 3105. $[Au(P(C_6H_5)_3)]B(C_6H_5)_3)_4$
ZEPYAU	2.386 Å	Davidson, J. L.; Lindsell, W. E.; McCullough, K. J.; McIntosh, C. H. *Organometallics* **1995**, *14*, 3497. $[Au(P(C_6H_5)_3)_3][MoC_{29}H_5F_{20}S_4]\cdot 0.5CH_2Cl_2$
AUBPHA	2.402 Å	Jones, P. G. *J. Chem. Soc., Chem. Commun.* **1980**, 1031. $[Au(P(C_6H_5)_3)]B(C_6H_5)_4\cdot P(C_6H_5)_3\cdot CHCl_3$
BIVRUT	2.403 Å	Beurskens, P. T.; Pet, R.; Noordik, J. H.; van der Velden, J. W. A.; Bour, J. J. *Cryst. Struct. Commun.* **1982**, *11*, 1039. $[Au(P(C_6H_5)_3)_3]_2[Ag(P(C_6H_5)_3)]NO_3$
Mean	**2.382 Å/11 structures**	

Four-coordination, tetrahedral configuration

CSD code	*d*(Au-O)	Reference, compound formula
KICLOX10	2.523 Å	Lansun, Z.; Huahui, Y.; Wenbing, Y.; Qianer, Z. *J. Xiamen Univ.* **1990**, *29*, 421. $[Au(P(C_6H_5)_3)_4]ClO_4$
AUBPHC	2.533 Å	Jones, P. G. *J. Chem. Soc., Chem. Commun.* **1980**, 1031. $[Au(P(C_6H_5)_3)_4]B(C_6H_5)_4\cdot CH_3CN$
AUBPHB	2.606 Å	Jones, P. G. *J. Chem. Soc., Chem. Commun.* **1980**, 1031. $[Au(P(C_6H_5)_3)_4]B(C_6H_5)_4$
Mean	**2.528 Å/2 structures**	

Structures of trialkyl phosphite and phosphine solvated metal ions in liquid ammonia solution

	d(M-P)	*N*	Reference and formula
Copper(I)			
Trimethyl phosphite	2.245 Å	4	Nilsson, K. B.; Persson, I. *Dalton. Trans*. **2004**, 1312.
Triethyl phosphite	2.258 Å	4	Nilsson, K. B.; Persson, I. *Dalton. Trans*. **2004**, 1312.
Tri(iso-propyl) phosphite	2.258 Å	4	Nilsson, K. B.; Persson, I. *Dalton. Trans*. **2004**, 1312.
Tri(*n*-butyl) phosphite	2.249 Å	4	Nilsson, K. B.; Persson, I. *Dalton. Trans*. **2004**, 1312.
Tri(*n*-butyl) phosphine	2.278 Å	4	Nilsson, K. B.; Persson, I. *Dalton. Trans*. **2004**, 1312.
Silver(I)			
Triethyl phosphite	2.482 Å	3	Nilsson, K. B.; Persson, I.; Kessler, V. G *Inorg. Chem.* **2006**, 45, 6912.
Tri(*n*-butyl) phosphite	2.513 Å	3	Nilsson, K. B.; Persson, I.; Kessler, V. G *Inorg. Chem.* **2006**, 45, 6912.
Tri(*n*-butyl) phosphine	2.528 Å	3	Nilsson, K. B.; Persson, I.; Kessler, V. G *Inorg. Chem.* **2006**, 45, 6912.
Gold(I)			
Triethyl phosphite	2.367 Å	3	Nilsson, K. B.; Persson, I.; Kessler, V. G *Inorg. Chem.* **2006**, 45, 6912.
Tri(*n*-butyl) phosphine	2.399 Å	3	Nilsson, K. B.; Persson, I.; Kessler, V. G *Inorg. Chem.* **2006**, 45, 6912.

Table S5. Summary of structures of acetonitrile solvated metal ions in the solid state. Citations in purple text have not been included in the calculated mean bond distances.

Lithium(I)

Four-coordination, tetrahedral configuration

CSD code	*d*(Li-O)	Reference, compound formula
YADTUS	1.996 Å	Hoyer, M.; Hartl, H. *Z. Anorg. Allg. Chem.* **1992**, *612*, 45. $[Li(NCCH_3)_4](Cu_2I_3)$
IDILEO	2.004 Å	Breunig, J. M.; Wietelmann, U. ; Lerner, H.-W.; Bolte, M. *Acta Crystallogr., Sect. E* **2013**, *69*, m253. $[Li(NCCH_3)_4]B(NCS)_4$
SUVXEM	2.012 Å	Yokota, Y.; Young Jr., V. G.; Verkade, J. G. *Acta Crystallogr., Sect. C* **1999**, *55*, 196. $[Li(NCCH_3)_4]ClO_4$
NIXSES	2.013 Å	Bach, A.; Hoyer, M.; Hartl, H. *Z. Naturforsch., Teil B* **1997**, *52*, 1497. $[Li(NCCH_3)_4]_4[Cd_6I_{16}]\cdot 1.5CH_3CN$
QIXXON	2.015 Å	Møller, K. T.; Paskevicius, M.; Andreasen, J. G.; Lee, J.; Chen-Tan, N.; Overgaard, J.; Payandeh, S.; Silvester, D. S.; Buckley, C. E.; Jensen, T. R. *Chem. Commun.* **2019**, *55*, 3410.
RUFQUG	2.017 Å	Redshaw, C.; Walton, M. J.; Michiue, K.; Chao, Y.; Walton, A.; Elo, P.; Sumerin, V.; Jiang, C.; Elsegood, M. R. J. *Dalton Trans.* **2015**, *44*, 12292. $[Li(NCCH_3)_4][V_2LiC_{134}H_{163}NO_{14}]\cdot 9.67CH_3CN$
RUFQOA	2.021 Å	Redshaw, C.; Walton, M. J.; Michiue, K.; Chao, Y.; Walton, A.; Elo, P.; Sumerin, V.; Jiang, C.; Elsegood, M. R. J. *Dalton Trans.* **2015**, *44*, 12292. $[Li(NCCH_3)_4][V_2LiC_{134}H_{163}NO_{14}]\cdot 8CH_3CN$
CAYMIB	2.024 Å	Suzuki, Y. ; Ishida, S. ; Sato, S. ; Isobe, H. ; Iwamoto, T. *Angew. Chem., Int. Ed.* **2017**, *56*, 4593. $[Li(NCCH_3)_4](C_{26}H_{54}BSi_5)$
AWOXIU	2.027 Å	Seo, D. M.; Boyle, P. D.; Henderson, W. A. *Acta Crystallogr., Sect. E* **2011**, *67*, m1148. $[Li(NCCH_3)_4]PF_6\cdot CH_3CN$
VIXVUU	2.027 Å	Rotter, O.; Schuster, M.; Kidik, M.; Schon, O.; Klapotke, T. M.; Karaghiosoff, K. *Inorg. Chem.* **2008**, *47*, 1663. $[Li(NCCH_3)_4]_2(P_2Se_8)$
PENZIT	2.032 Å	Seo, D. M.; Boyle, P. D.; Borodin, O.; Henderson, W. A. *RSC Adv.* **2012**, *2*, 8014. $[Li(NCCH_3)_4]PF_6\cdot 2CH_3CN$
SAWTAL	2.032 Å	Raston, C. L.; Whitaker, C. R.; White, A. H. *Aust. J. Chem.* **1989**, *42*, 201. $[Li(NCCH_3)_4]I$
YENMIP	2.032 Å	Zhang, B.; Koberl, M.; Pothig, A.; Cokoja, M.; Herrmann, W. A.; Kuhn, F. E. *Z. Naturforsch., Teil B* **2012**, *67*, 1030. $[Li(NCCH_3)_4](B(C_6F_5)_4$ [
VIPTUJ	2.034 Å	Jacoby, D.; Floriani, C.; Chiesi-Villa, A.; Rizzoli, C. *Chem. Commun.* **1991**, 220. $[Li(NCCH_3)_4][FeN_4C_{28}H_{32}]$
JISBOF	2.037 Å	Ebner, F. ; Greb, L. *J. Am. Chem. Soc.* **2018**, *140*, 17409. $[Li(NCCH_3)_4](C_{28}H_{33}N_4Si)$
KUGJIH	2.038 Å	Redshaw, C.; Walton, M. J.; Lee, D. S.; Jiang, C. ; Elsegood, M. R. J.; Michiue, K. *Chem. Eur. J.* **2015**, *21*, 5199. $[Li(NCCH_3)_4][V_2C_{88}H_{105}O_{10}]\cdot 8CH_3CN$

QABKIQ	2.039 Å	Blasing, K.; Ellinger, S.; Harloff, J.; Schulz, A.; Sievert, K.; Taschler, AC.; Villinger, A.; Taschler, C. Z. *Chem. Eur. J.* **2016**, *22*, 4175. $[Li(NCCH_3)_4][Li(CN)_6P_2F_6]$
Mean	**2.024 Å/17 structures**	

Sodium(I)

Five-coordination, square-pyramidal configuration

GUQZEY	2.388 Å	Arbaoui, A.; Redshaw, C.; Elsegood, M. R. J.; Wright, V. E.; Yoshizawa, A.; Yamato, T. *Chem. Asian J.* **2010**, *5*, 621. $[Na(NCCH_3)_5]_2[Fe_4Na_2C_{136}H_{166}N_2O_{16}]\cdot[Fe_4Na_4C_{144}H_{178}N_6O_{16}]\cdot 9.46CH_3CN$
KUGHIF	2.445 Å	Redshaw, C.; Walton, M. J.; Lee, D. S.; Jiang, C.; Elsegood, M. R. J.; Michiue, K. *Chem. Eur. J.* **2015**, *21*, 5199. $[Na(NCCH_3)_5]_2[V_4C_{88}H_{105}O_{10}]\cdot 4CH_3CN$
KAWMUS	2.458 Å	Ceriotti, A.; Daghetta, M.; El Afefey, S. ; Ienco, A.; Longoni, G.; Manca, G.; Mealli, C.; Zacchini, S.; Zarra, S. *Inorg. Chem.* **2011**, *50*, 12553. $((n\text{-}C_4H9)_4N)_2[Na(NCCH_3)_5][Pt_5Sn_6C_5H_3Cl_{12}O_8]\cdot 2CH_3CN$
Mean	**2.452 Å/2 structures**	

Six-coordination, octahedral configuration

CSD code	d(Na-O)$_b$	Reference, compound formula
FUMQUZ	2.499 Å	Müller, U. ; Noll, A. *Z. Kristallogr.-New Struct.* **2000**, *215*, 191. $[Na(NCCH_3)_6][TaCl_6]$

Potassium(I)

Six-coordination, octahedral configuration

CSD code	d(Na-O)$_b$	Reference, compound formula
MEKNAU	2.838 Å	Müller, U. ; Noll, A. *Z. Kristallogr.-New Struct.* **2000**, *215*, 191. $[K(NCCH_3)_6]_2[U(OC_{19}H_{22}N)_6]$

Magnesium(II)

Six-coordination, octahedral configuration

CSD code	d(Mg-O)	Reference, compound formula
ERALAM	2.144 Å	Keyzer, E. N.; Glass, H. F. J.; Liu, Z.; Bayley, P. M.; Dutton, S. E.; Grey, C. P.; Wright, D. S. *J. Am. Chem. Soc.* **2016**, *138*, 8682. $[Mg(NCCH_3)_6](PF_6)_2$
OKUPER	2.148 Å	Levason, W.; Pugh, D.; Purkis, J. M.; Reid, G. *Dalton Trans.* **2016**, *45*, 7900. $[Mg(NCCH_3)_6](B(2,4\text{-}(CF_3)_2C_6H_3)_4)_2$
FUNJAZ	2.149 Å	Drew, M. G. B.; Claire, P. P. K.; Willey, G. R. *J. Cherm. Soc., Dalton Trans.* **1988**, 215. . $[Mg(NCCH_3)_6](SbCl_4)_2$

GADPOT	2.149 Å	Veryasov, G.; Matsumoto, K.; Hagiwara, R. *Dalton Trans.* **2016**, *45*, 2810. $[Mg(NCCH_3)_6](N(SO_2CF_3)_2)_2$
WIBJOG	2.151 Å	Willey, G. R.; Palin, J.; Drew, M. G. B. *J. Chem. Soc., Dalton Trans.* **1994**, 1799. $[Mg(NCCH_3)_6][CH_3CNTiCl_4)O]\cdot 4CH_3CN$
LOQQEQ	2.154 Å	Rodl, C.; Schwedtmann, K.; Weigand, J. J.; Wolf, R. *Chem. Eur. J.* **2019**, *25*, 6180. $[Mg(NCCH_3)_6][Co(C_{10}H_{18}P_2)_2]\cdot 2CH_3CN$
DOTZIV	2.155 Å	Rabe, S.; Müller, U. *Z. Naturforsch., Teil B* **2000**, *55*, 553. $[Mg(NCCH_3)_6](AsCl_3)_2\cdot 2AsCl_4$
POBROP	2.155 Å	Chitnis, S.S.; Burford, N.; McDonald, R.; Ferguson, M. J. *Inorg. Chem.* **2014**, *53*, 5359. $[Mg(NCCH_3)_6](SbCl_4(P(CH_3)_3)_2$
XUHJIW	2.155 Å	Schorpp, M.; Krossing, I. *Chem. Sci.* **2020**, *11*, 2068. $[Mg(NCCH_3)_6][Al(OC(CF_3)_3)_4]_2\cdot C_6H_4F_2$
TANQEE	2.157 Å	Waters, A. F.; White, A. H. *Aust. J. Chem.* **1996**, *49*, 27. $[Mg(NCCH_3)_6][MgBr_4]$
HAVLOG	2.160 Å	Cheung, M.-S.; Chan, H.-S.; Xie, Z. *Organometallics* **2005**, *24*, 4468. $[Mg(NCCH_3)_6][ErC_{16}H_{48}B_{20}N_4]\cdot CH_3CN$
KIPWUB	2.233 Å	Willey, G. R.; Collins, H.; Drew, M. G. B. *J. Chem. Soc., Dalton Trans.* **1991**, 961. $[Mg(NCCH_3)_6]_2[Bi_4Cl_{16}]$
Mean	**2.152 Å/11 structures**	

Calcium(II)

Eight-coordination, square antiprismatic configuration

CSD code	*d*(Ca-O)	Reference, compound formula
OKUPOB	2.514 Å	Levason, W.; Pugh, D.; Purkis, J. M.; Reid, G. *Dalton Trans.* **2016**, *45*, 7900. $[Ca(NCCH_3)_8](B(2,4\text{-}(CF_3)_2C_6H_3)_4)_2$
Mean	**2.514 Å/1 structures**	

Strontium(II)

Eight-coordination, square antiprismatic configuration

CSD code	*d*(Sr-O)	Reference, compound formula
OKUQIW	2.682 Å	Levason, W.; Pugh, D.; Purkis, J. M.; Reid, G. *Dalton Trans.* **2016**, *45*, 7900. $[Sr(NCCH_3)_8](B(2,4\text{-}(CF_3)_2C_6H_3)_4)_2$
Mean	**2.682 Å/1 structure**	

Barium(II)

Eight-coordination, square antiprismatic configuration

CSD code	*d*(Ba-N)+*d*(Ba-O)	Reference, compound formula
PUWKUQ	2.917 + 2.716 Å	Asmis, K. R.; Beele, B. B.; Jenne, C.; Kawa, S.; Knorke, H.; Nierstenhofer, M. C.; Wang, X.-B.; Warneke, J. ; Warneke, Z. ; Yuan, Q. *Chem. Eur. J.* **2020**, *26*, 14594. $[Ba(NCCH_3)_8(H_2O)]\cdot(B_{12}Cl_{11}NO_2)\cdot(C_2H_5)_2O\cdot CH_3CN$

Yttrium(III)

Eight-coordination, square antiprismatic configuration

CSD code	*d*(Y-O)	Reference, compound formula
PAPXOW	2.482 Å	Zhu, X.; Li, G.; Xu, F.; Zhang, Y.; Xue, M. Shen, Q. *Tetrahedron* **2017**, *73*, 1451. $[Y(NCCH_3)_9][AlCl_4]_3\cdot CH_3CN$
Mean	**2.482 Å/1 structures**	

Lanthanum(III)

Nine-coordination, tricapped prismatic configuration

CSD code	*d*(La-N)	Reference, compound formula
GIWVUD	2.628 Å	Deacon, G. B.; Gortler, B.; Junk, P. C.; Lork, E.; Mews, R.; Petersen, J.; Zemva, B. *J. Chem. Soc., Dalton Trans.* **1998**, 3887. $[La(NCCH_3)_9](AsF_6)_3\cdot CH_3CN$
ZACWIM	2.639 Å	Brown, J. L.; Davis, B. L.; Scott, B. L.; Gaunt, A. J. *Inorg. Chem.* **2015**, *54*, 11958. $[La(NCCH_3)_9][LaI_6]\cdot CH_3CN$
ZACWOS	2.642 Å	Brown, J. L.; Davis, B. L.; Scott, B. L.; Gaunt, A. J. *Inorg. Chem.* **2015**, *54*, 11958. $[La(NCCH_3)_9][AlCl_4]_3\cdot CH_3CN$
Mean	**2.636 Å/3 structures**	

Cerium(III)

Eight-coordination, square antiprismatic configuration

CSD code	*d*(Ce-N)	Reference, compound formula
ZACWUY	2.611 Å	Brown, J. L.; Davis, B. L.; Scott, B. L.; Gaunt, A. J. *Inorg. Chem.* **2015**, *54*, 11958. $[Ce(NCCH_3)_9][AlCl_4]_3\cdot CH_3CN$
Mean	**2.611 Å/1 structure**	

Praseodymium(III)

Nine-coordination, tricapped prismatic configuration

CSD code	*d*(Pr-N)	Reference, compound formula
OBUHOI	2.553 Å	Willey, G. R.; Aris, D. R.; Errington, W. *Inorg. Chim. Acta* **2001**, *318*, 97. $[Pr(NCCH_3)_9][SnCl_5(NCCH_3)]_3$
GIWWEO	2.591 Å	Deacon, G. B.; Gortler, B.; Junk, P. C.; Lork, E.; Mews, R.; Petersen, J.; Zemva, B. *J. Chem. Soc., Dalton Trans.* **1998**, 3887. $[Pr(NCCH_3)_9](AsF_6)_3{\cdot}CH_3CN$
OBUHIC	2.600 Å	Willey, G. R.; Aris, D. R.; Errington, W. *Inorg. Chim. Acta* **2001**, *318*, 97. $[Pr(NCCH_3)_9]_2[SnCl_5(OC_4H_8)]_5[SnCl_5(NCCH_3)]$
Mean	**2.581 Å/3 structures**	

Neodymium(III)

Nine-coordination, tricapped prismatic configuration

CSD code	*d*(Nd-N)	Reference, compound formula
ZACWEI	2.571 Å	Brown, J. L.; Davis, B. L.; Scott, B. L.; Gaunt, A. J. *Inorg. Chem.* **2015**, *54*, 11958. $[Nd(NCCH_3)_9]_2[NdI_5(NCCH_3)][NdI_6]I{\cdot}3CH_3CN$
ZACXAF	2.571 Å	Brown, J. L.; Davis, B. L.; Scott, B. L.; Gaunt, A. J. *Inorg. Chem.* **2015**, *54*, 11958. $[Ce(NCCH_3)_9][AlCl_4]_3{\cdot}CH_3CN$
PAPXUC	2.574 Å	Zhu, X.; Li, G.; Xu, F.; Zhang, Y.; Xue, M. Shen, Q. *Tetrahedron* **2017**, *73*, 1451. $[Nd(NCCH_3)_9][FeCl_4]_3{\cdot}CH_3CN$
ZACXAF01	2.575 Å	Zhu, X.; Li, G.; Xu, F.; Zhang, Y.; Xue, M.; Shen Q. *Tetrahedron* **2017**, *73*, 1451. $[Ce(NCCH_3)_9][AlCl_4]_3{\cdot}CH_3CN$
Mean	**2.573 Å/4 structures**	

Samarium(III)

Nine-coordination, tricapped prismatic configuration

CSD code	*d*(Sm-N)	Reference, compound formula
GIWVUD	2.534 Å	Deacon, G. B.; Gortler, B.; Junk, P. C.; Lork, E.; Mews, R.; Petersen, J.; Zemva, B. *J. Chem. Soc., Dalton Trans.* **1998**, 3887. $[Sm(NCCH_3)_9](AsF_6)_3{\cdot}CH_3CN$
Mean	**2.534 Å/1 structure**	

Terbium(III)

Nine-coordination, tricapped prismatic configuration

CSD code	*d*(Tb-N)	Reference, compound formula
LILVIO	2.503 Å	Zottnick, S. H.; Daul, W. G.; Kerpen, C.; Finze, M.; Müller-Buschbaum, K. *Chem. Eur. J.* **2018**, *24*, 15287. $[Tb(NCCH_3)_9][Tb_2C_{18}H_{18}B_9N_{18}]$
Mean	**2.503 Å/1 structure**	

Thulium(III)

Eight-coordination, square antiprismatic configuration

CSD code	*d*(Er-O)	Reference, compound formula
KUBMUQ	2.411 Å	Bodizs, G.; Raabe, I.; Scopelliti, R.; Krossing, I.; Helm, L. *Dalton Trans.* **2009**, 5137. $[Tm(NCCH_3)_8][Al(OC(CF_3)_3)_4]$
Mean	**2.411 Å/1 structure**	

Ytterbium(II)

Seven-coordination

CSD code	*d*(Yb-N)	Reference, compound formula
WIJZOH	2.525 Å	Xemard, M.; Zimmer, S.; Cordier, M.; Goudy, V.; Ricard, L.; Clavaguera, C.; Nocton, G. *J. Am. Chem. Soc.* **2018**, *140*, 14433. $[Yb(NCCH_3)_7](C_9H_9)_2$
Mean	**2.525 Å/1 structures**	

Ytterbium(III)

Eight-coordination, square antiprismatic configuration

CSD code	*d*(Yb-N)	Reference, compound formula
AJOWIF	2.556 Å	Evans, W. J.; Johnston, M. A.; Greci, M. A.; Gummersheimer, T. S. ; Ziller, J. W. *Polyhedron* **2003**, *22*, 119. $[Yb(NCCH_3)_8](B(C_6H_5)_4)_2{\cdot}2CH_3CN$
GIWWIS	2.395 Å	Deacon, G. B.; Gortler, B.; Junk, P. C.; Lork, E.; Mews, R.; Petersen, J.; Zemva, B. *J. Chem. Soc., Dalton Trans.* **1998**, 3887. $[Yb(NCCH_3)_9](AsF_6)_3{\cdot}CH_3CN$
Mean	**2.xxx Å/x structures**	

Uranium(III)

Nine-coordination

CSD code	*d*(U-N)	Reference, compound formula
AJEKEF	2.614 Å	Enriquez, A. E.; Matonic, J. H.; Scott, B. L.; Neu, N. P. *Chem. Commun.* **2003**, 1892. $[U(NCCH_3)_9]I_3$
Mean	**2.614 Å/1 structure**	

Plutonium(III)

Nine-coordination

CSD code	*d*(Pu-N)	Reference, compound formula
AJEKEF	2.572 Å	Enriquez, A. E.; Matonic, J. H.; Scott, B. L.; Neu, N. P. *Chem. Commun.* **2003**, 1892. $[Pu(NCCH_3)_9](PF_6)_3 \cdot CH_3CN$
Mean	**2.572 Å/1 structure**	

Vanadium(II)

Six-coordination, octahedral configuration

CSD code	*d*(V-O)	Reference, compound formula
BEQQIX	2.109 Å	Janas, Z.; Jerzykiewicz, L. B.; Przybylak, S.; Richards, R. L.; Sobota, P. *Organometallics* **2000**, *19*, 4252. $[V(NCCH_3)_6][VCl_2(S(CH_2)_2O(CH_2)_2S)]_2$
CUPYER	2.109 Å	Chandrasekhar, P.; Bird, P. H. *Inorg. Chim. Acta* **1985**, *97*, L31. $[V(NCCH_3)_6][ZnCl_4]$
CUPYER01	2.113 Å	Clemente, D. A. *Inorg. Chim. Acta* **2005**, *358*, 1725. $[V(NCCH_3)_6][ZnCl_4]$
YIRLOA	2.116 Å	Hitchcock, P. B.; Hughes, D. L.; Leigh, G. J.; Sanders, J. R.; de Souza, J.; McGarry, C. J.; Larkworthy, L. F. *J. Chem. Soc., Dalton Trans.* **1994**, 3683. $[V(NCCH_3)_6]I_4$
TOQYUW	2.117 Å	Rheingold, A. L.; Miller, J. S. CCDC deposition number 1961260, **2019**. $[V(NCCH_3)_6]I_2 \cdot CH_3CN$
Mean	**2.113 Å/5 structures**	

Chromium(II)

Four-coordination, square-planar configuration

CSD code	*d*(Cr-N)	Reference, compound formula
NOFKYUO	2.066 Å	Henriques, R. T.; Herdtweck, E.; Kuhn, F. E.; Lopes, A. D.; Mink, J.; Romao, C. C *J. Chem. Soc., Dalton Trans.* **1998**, 1293. $[Cr(NCCH_3)_2)_4](BF_4)_2$

Six-coordination, Jahn-Teller distorted octahedral configuration

CSD code	*d*(Cr-N)	Reference, compound formula
WUTDEW	2.079 + 2.423 Å	Thangavel, A.; Wieliczko, M.; Scarborough, C.; Dittrich, B.; Bacsa, J. *Acta Crystallogr., Sect. C* **2015**, *71*, 936. $[Cr(NCCH_3)_2)_6][Cr(NCCH_3)_2)_6](B(C_6H_5)_4)_2]\cdot 2CH_3CN$
Mean	**2.079+2.423 Å/1 structure**	

Chromium(III)

Six-coordination, octahedral configuration

CSD code	*d*(Cr-N)	Reference, compound formula
ACALEW	2.000 Å	Hatlevik, O.; Arif, A. M.; Miller, J. S. *J. Phys. Chem. Solids* **2004**, *65*, 61. $[Cr(NCCH_3)_2)_6](BF_4)_2$
Mean	**2.000 Å/1 structure**	

Manganese(II)

Six-coordination, octahedral configuration

CSD code	*d*(Mn-O)	Reference, compound formula
ZOTYAI	2.222 Å	Weller, F.; Mai, H.-J.; Dehnicke, K. *Z. Naturforsch. Teil B* **1996**, *51*, 298. $[Mn(NCCH_3)_6][MnI_4]$
ZOTYAI01	2.222 Å	Rheingold, A. L.; Miller, J. S. CCDC deposition number 1961270, **2016**. $[Mn(NCCH_3)_6][MnI_4]$
ZOWPEJ	2.223 Å	Sarbajna, A.; He, Y.-T.; Dinh, M. H.; Gladkovskaya, O.; Wahidur Rahaman, S. M.; Karimata, A.; Khaskin, E. M.; Lapointe, S.; Fayzullin, R. R.; Khusnutdinova, J. R. *Organometallics* **2019**, *38*, 4409. $(NO)[Mn(NCCH_3)_6](C_{23}H_{32}BrN_3)_2(BF_4)_6$
UPIBAY	2.227 Å	Ilyukhin, A.; Gavrikov, A. CCDC deposition number 1476232, **2016**. $[Mn(NCCH_3)_6][Dy(O_2NO)_4]$
DADYEP	2.228 Å	Gavrikov, A.; Koroteev, P.; Ilyukhin, A.; Efimov, N.; Kostopoulos, A. K.;Baranchikov, A.; Tyurin, A.; Kirdyankin, D.; Gavrichev, K.; Tuna, F.; Dobrokhotova, Z. *Polyhedron* **2017**, *122*, 184. $[Mn(NCCH_3)_6][Tm(O_2NO)_4]$
DADYIT	2.228 Å	Gavrikov, A.; Koroteev, P.; Ilyukhin, A.; Efimov, N.; Kostopoulos, A. K.;Baranchikov, A.; Tyurin, A.; Kirdyankin, D.; Gavrichev, K.; Tuna, F.; Dobrokhotova, Z. *Polyhedron* **2017**, *122*, 184. $[Mn(NCCH_3)_6][Yb(O_2NO)_4]$
IQUVAU	2.228 Å	Schmucker, M. CCDC deposition number 2073096, **2021**. $[Mn(NCCH_3)_6](N(SO_2CF_3)_2)_2]\cdot CH_3CN$
IQUVEY	2.228 Å	Schmucker, M. CCDC deposition number 2073097, **2021**. $[Mn(NCCH_3)_6][Mn_2(CF_3COO)_6]\cdot 0.36CH_3CN$
HASBUA	2.249 Å	Lei, Z.; Clerac, R.; Heijboer, P.; Schmitt, W. *Angew, Chem. Int. Ed.* **2012**, *51*, 3007. $[Mn(NCCH_3)_6][Mn_{13}C_{32}H_{72}Cl_6O_{32}P_8]Cl_2\cdot 6CH_3CN\cdot 2.25H_2O$
Mean	**2.228 Å/9 structures**	

Technetium(II)

Six-coordination, octahedral configuration

CSD code	*d*(Tc-N)	Reference, compound formula
TEQNAE	2.062 Å	Cotton, F. A.; Haefner, S. C.; Sattelberger, A. P. *J. Am. Chem. Soc.* **1996**, 118, 5486. $[Tc(NCCH_3)_6](BF_4)_2$
Mean	**2.062 Å/1 structure**	

Rhenium(II)

Six-coordination, octahedral configuration

CSD code	*d*(Rh-O)	Reference, compound formula
LADJEJ	2.055 Å	Bolliger, R.; Meola, G.; Braband, H.; Blacque, O.; Siebenmann, L.; Nadeem, Q.; Alberto, R. *Inorg. Chem.* **2021**, 50, 17600. $[Re(NCCH_3)_6](CF_3SO_3)_2$
Mean	**2.055 Å/1 structure**	

Iron(II)

Six-coordination, octahedral configuration

CSD code	*d*(Fe-O)	Reference, compound formula
NUQDEL	2.144 Å	Brake, H.; Peresypkina, E.; Virovets, A. V.; Piesch, M.; Kremer, W.; Zimmermann, L.; Klimas, C.; Scheer, M. *Angew. Chem., Int. Ed.* **2020**, *59*, 16241. $[Fe(NCCH_3)_6][As_4I_{14}]$
DEQDOV	2.145 Å	Musgrave, R. A.; Hailes, R. L. N.; Schafer, A.; Russell, A. D.; Gates, P. J.; Manners, I. *Dalton Trans.* **2018**, *47*, 2759. $[Fe(NCCH_3)_6]B_{12}Cl_{12}$
SUZRUC	2.150 Å	Itazaki, M.; Ito, M.; Nakashima, S.; Nakazawa, H. *Dalton Trans.* **2016**, *45*, 1327. $[Fe(NCCH_3)_6][Fe(CO)_4(In(Br_3)_2]$
NUBTOW	2.151 Å	Rheingold, A. L.; Miller, J. S. CCDC deposition number 1961180, **2019**. $[Fe(NCCH_3)_6][FeBr_4]$
NUQQAU	2.151 Å	Brake, H.; Peresypkina, E.; Virovets, A. V.; Piesch, M.; Kremer, W.; Zimmermann, L.; Klimas, C.; Scheer, M. *Angew. Chem., Int. Ed.* **2020**, *59*, 16241. $[Fe(NCCH_3)_6][As_6I_8]$
RAPXOY01	2.151 Å	Ito, M.; Itazaki, M.; Nakazawa, H. *ChemCatChem* **2016**, *8*, 3323. $[Fe(NCCH_3)_6](PF_6)_2$
RAPXOY	2.152 Å	Clegg, J. K.; Cremers, J.; Hogben, A. J.; Breiner, B.; Smulders, M. M. J.; Thoburn, J. D.; Nitschke, J. R. *Chem. Sci.* **2013**, *4*, 68. $[Fe(NCCH_3)_6](PF_6)_2$
ACEYOW01	2.153 Å	Lutz, M.; Spek, A. L. ; Gosiewska, S. ; Klein Gebbink, R. J. M. ; van Koten, G. CCDC deposition number 235737, **2004**. $[Fe(NCCH_3)_6](SbF_6)_2$

SUZSAJ	2.153 Å	Itazaki, M.; Ito, M.; Nakashima, S.; Nakazawa, H. *Dalton Trans.* **2016**, *45*, 1327. $[Fe(NCCH_3)_6][Fe(CO)_4(In(I_3)_2]$
NOZZOU	2.154 Å	Rheingold, A. L.; Miller, J. S. CCDC deposition number 1961020, **2019**. $[Fe(NCCH_3)_6][FeI_4]$
ACEYOW	2.154 Å	Brennessel, W. W.; Brooks, N. R. ; Mehn, M. P. ; Que Jr., L.; Young Jr., V. G. Acta Crystallogr., Sect. E. **2001**, *57*, m545. $[Fe(NCCH_3)_6](SbF_6)_2$
DEQDIP	2.155 Å	Musgrave, R. A.; Hailes, R. L. N.; Schafer, A.; Russell, A. D.; Gates, P. J.; Manners, I. *Dalton Trans.* **2018**, *47*, 2759. $[Fe(NCCH_3)_6](B(C_6F_5)_4)_2$
SUZROW	2.160 Å	Itazaki, M.; Ito, M.; Nakashima, S.; Nakazawa, H. *Dalton Trans.* **2016**, *45*, 1327. $[Fe(NCCH_3)_6][Fe(CO)_4(In(Cl_3)_2]$
HIRTIL01	2.161 Å	Lutz, M.; Spek, A. L.; Gosiewska, S.; Klein Gebbink, R. J. M.; van Koten, G. CCDC deposition number 235634, **2004**. $[Fe(NCCH_3)_6][Cl_3FeOFeCl_3]$
HMCIFE15	2.161 Å	Lavrent'ev, I. P.; Korableva, L. G.; Lavrent'eva, E. A.; Nifontova, G. A.; Khidekel, M. L.; Gusakovskaya, I. G.; Larkina, T. I.; Arutyunyan, L. D.; Filipenko, O. S.; Ponomarev, V. I.; Atovmyan, L. O. *Transition Met. Chem.* **1980**, *5*, 193. $[Fe(NCCH_3)_6][FeCl_4]$
ZUKCEP	2.161 Å	Wright, M. A. ; Wright, J. A. CCDC deposition number 1057431, **2015** $[Fe(NCCH_3)_6][Br_3FeOFeBr_3]$
ZUKCEP01	2.161 Å	Wang, K. ; Prior, T. J. ; Hughes, D. L. ; Arbaoui, A. ; Redshaw, C. *Dalton Trans.*. **2021**, *50*, 8057. $[Fe(NCCH_3)_6][Br_3FeOFeBr_3]$
HIRTIL	2.165 Å	Kuhn, N.; Kotowski, H.; Maichle-Moessmer, C.; Abram, U. *Z. Anorg. Allg. Chem.* **1998**, *624*, 1653. $[Fe(NCCH_3)_6][Cl_3FeOFeCl_3]$
HMCIFE01	2.191 Å	Constant, G.; Daran, J.-C.; Jeannin, Y. *J. Organometal. Chem.* **1972**, *44*, 353. $[Fe(NCCH_3)_6][FeCl_4]$
Mean	**2.155/18 structures**	

Ruthenium(II)

Six-coordination, octahedral configuration

CSD code	*d*(Ru-N)	Reference, compound formula
FEWRII	2.013 Å	Brown, M.; Fontaine, X. L. R.; Greenwood, N. N.; Kennedy, J. D.; Thornton-Pett, M. *J. Chem. Soc., Dalton Trans.* **1987**, 1169. $[Ru(NCCH_3)_6][RuH_2(B_{10}H_{11})(C_6(CH_3)_6]_2$
FILDEL	2.022 Å	Underwood, C. C.; Stadelman, B. S.; Sleeper, M. L.; Brumaghim, J. L. *Inorg. Chim. Acta* **2013**, *405*, 470. $[Ru(NCCH_3)_6](BF_4)_2$
FILDEL01	2.022 Å	Abbas, M. A.; McMillen, C. D.; Brumaghim, J. L. *Inorg. Chim. Acta* **2013**, *468*, 308. $[Ru(NCCH_3)_6](BF_4)_2$
PUHSOB	2.025 Å	Masland, J.; Diaz, J.; Eady, S.; Lobkovsky, E.; Larsen, A. *Acta Crystallogr., Sect. E* **2010**, *66*, m325. $[Ru(NCCH_3)_6](B_{11}CH_6Br_6)_2{\cdot}CH_3CN$

VIYMIZ	2.025 Å	Zhilyaev, A. N.; Fomina, T. A.; Kuz'menko, I. V.; Katser, S. B.; Baranovskii, I. B. *Zh. Neorg. Khim.* **1990**, *35*, 2253. $[Ru(NCCH_3)_6](PF_6)_2$
GEQPEZ	2.028 Å	Haddow, M.; Russell, A.; Manners, I. CCDC deposition number 880469, **2012**. $[Ru(NCCH_3)_6](CF_3SO_3)_2$
VARWIU	2.028 Å	Luginbuhl, W.; Ludi, A.; Raselli, A.; Bürgi, H.-B. *Acta Crystallogr., Sect. C* **1989**, *45*, 1428. $[Ru(NCCH_3)_6](p\text{-}CH_3C_6H_4SO_3)_2{\cdot}2H_2O$
ACEYAI	2.033 Å	Anzellotti, A.; Briceno, A. *Acta Crystallogr., Sect. E* **2001**, *57*, m538. $[Ru(NCCH_3)_6][ZnCl_4]{\cdot}2.55H_2O$
Mean	**2.025 Å/8 structures**	

Cobalt(II)

Six-coordination, octahedral configuration

CSD code	*d*(Co-N)	Reference, compound formula
XIFMUW	2.085 Å	Mondal, A.; Durdevik, S.; Chamoreau, L.-M.; Journaux, Y.; Julve, M.; Lisnard, L.; Lescouezec, R. *Chem. Commun.* **2013**, *49*, 1181. $[Co(NCCH_3)_6][Co_{12}C_{150}H_{231}B_4F_4N_{37}O_{44}]{\cdot}9CH_3CN{\cdot}1.5H_2O$
CAKTER	2.103 Å	Keler, M.; Stammler, H.-G.; Neumann, B.; Roschenthaler, G.-V.; Hoge, B. *Inorg. Chem.* **2021**, *60*, 16466. $[Co(NCCH_3)_6][Ag(PF_2(CF_2(CF_3))_3)_3]{\cdot}2CH_3CN$
ESUCON	2.107 Å	Wang, K.; Prior, T. J.; Hughes, D. L.; Arbaoui, A.; Redshaw, C. *Dalton Trans.* **2021**, *50*, 8057. $[Co(NCCH_3)_6][CoBr_3(NCCH_3)]_2{\cdot}2CH_3CN$
DAGRUB	2.110 Å	Fernandez, I. I. L.; Donaldson, S.; Schipper, D. E.; Andleeb, S.; Whitmire, K. *Inorg. Chem.* **2016**, *55*, 11560. $[Co(NCCH_3)_6][Bi_4C_{12}H_{18}F_{30}O_{22}]$
UMEKUV	2.111 Å	Avdeeva, V. V.; Vologzhanina, A. V.; Ugolkova, E. A.; Minin, V. V.; Malinina, E. A.; Kuznetsov, N. T. *J. Solid State Chem.* **2021**, *296*, 121989. $[Co(NCCH_3)_6]B_{10}Cl_{10}$
JOYPUI01	2.113 Å	Malkov, A. E.; Fomina, I. G.; Sidorov, A. A.; Aleksandrov, G. G.; Egorov, I. M.; Latosh, N. I.; Chupakhin, O. N.; Rusinov, G. L.; Rakitin, Y. V.; Novotortsev, V. M.; Ikorskii, V. N.; Eremenko, I. L.; Moiseev, I. I. *J. Mol. Struct.* **2003**, *656*, 207. $[Co(NCCH_3)_6][CoCl_3(NCCH_3)]_2{\cdot}2CH_3CN$
OCELIS	2.113 Å	Parsons, S.; Tan, X.; Winpenny, R.; Wood, P. A. CCDC deposition number 248191, **2004**. $[Co(NCCH_3)_6][Gd(O_2NO)_5]$
OFINAT	2.113 Å	Hijazi, A. K.; Al Hmaideen, A.; Syukri, S.; Radhakrishnan, N.; Herdtweck, E.; Voit, B.; Kuhn, F. E. *Eur. J. Inorg. Chem.* **2008**, 2892. $[Co(NCCH_3)_6](B(C_6F_5)_4)_2$
PUYCUK	2.113 Å	Xue, T.; Vicic, D. A. *Organometallics* **2020**, *39*, 3715. $[Co(NCCH_3)_6](PF_6)_2$
SURQAA	2.113 Å	Saber, M. R.; Singh, M. K.; Dunbar, K. R. *Chem. Commun.* **2020**, *56*, 8492. $[Co(NCCH_3)_6](BF_4)_2$
JOYPUI	2.114 Å	Cotton, F. A.; Daniels, L. M.; Jordan IV, G. T.; Murillo, C. A. *Polyhedron* **1998**, *17*, 589. $[Co(NCCH_3)_6][CoCl_3(NCCH_3)]_2{\cdot}2CH_3CN$

SIGMEA	2.114 Å	Veith, M.; Godicke, B.; Huch, V. *Z. Anorg. Allg. Chem.* **1989**, *579*, 99. $[Co(NCCH_3)_6][SnCl_3]_2 \cdot 2CH_3CN$
GUDTEH	2.117 Å	Gavrikov, A. V.; Ilyukhin, A. B.; Belova, E. V.; Yapryntsev, A. D.; Dobrokhotova, Z. V.; Khrushcheva, A. V.; Efimov, N. N. *Ceramics Int.* **2020**, *46*, 13014. $[Co(NCCH_3)_6][Sm(O_2NO)_5]$
JOYPUI02	2.117 Å	Winpenny, R.; Marshall, P.; Parsons, S.; Messenger, D. CCDC deposition number 278257, **2005**. $[Co(NCCH_3)_6][CoCl_3(NCCH_3)]_2 \cdot 2CH_3CN$
GOJLEY	2.123 Å	Ariyananda, P. W. G.; Guardino, E. T.; Rosenthal, J.; Yap, G. P. A. CCDC deposition number 865171, **2012**. $[Co(NCCH_3)_6][CoBr_4]$
Mean	**2.112 Å/14 structures**	

Rhodium(III)

Six-coordination, octahedral configuration

CSD code	*d*(Rh-N)	Reference, compound formula
VENYAO	1.987 Å	Prater, M. E.; Pence, L. E.; Clerac, R.; Finniss, G. M.; Campana, C.; Auban-Senzier, P.; Jerome, D.; Canadell, E.; Dunbar, K. R *J. Am. Chem. Soc.* **1999**, *121*, 8005. $[Rh(NCCH_3)_6](BF_4)_3$
Mean	**1.987 Å/1 structure**	

Nickel(II)

Six-coordination, octahedral configuration

CSD code	*d*(Ni-N)	Reference, compound formula
XEQNEO	2.051 Å	Bernardi, A.; Ciabatti, I.; Femoni, C.; Iapalucci, M. C.; Longoni, G.; Zacchini, S. *Dalton Trans.* **2013**, *42*, 407. $[Ni(NCCH_3)_6][Cu_2Ni_{29}C_{44}H_{14}N_4O_{32}] \cdot 4CH_3CN$
SIGNIF	2.059 Å	Veith, M.; Godicke, B.; Huch, V. *Z. Anorg. Allg. Chem.* **1989**, *579*, 99. $[Ni(NCCH_3)_6][Sn_2Cl_5][SnCl_3] \cdot 0.5CH_3CN$
XENBIE	2.065 Å	Kawazu, Y.; Hoke, H.; Yamada, Y.; Umecky, T.; Ozutsumi, K.; Takamuku, T. *Phys. Chem. Chem. Phys.* **2017**, *19*, 31335. $[Ni(NCCH_3)_6](N(SO_2CF_3)_2)_2$
FUJVAH01	2.067 Å	Bougon, R.; Charpin, P.; Christe, K. O.; Isabey, J.; Lance, M.; Nierlich, M.; Vigner, J.; Wilson W. W. *Inorg. Chem.* **1988**, *27*, 1389. $[Ni(NCCH_3)_6][SbF_6]_2$
OCELAK	2.068 Å	Parsons, S.; Tan, X.; Winpenny, R.; Wood, P. A. CCDC deposition number 248070, **2004**. $[Ni(NCCH_3)_6][Gd(O_2NO)_5]$
ACNNIZ	2.070 Å	Søtofte, I.; Hazell, R. G. ; Rasmussen, S. E. *J. Acta Crystallogr., Sect. B* **1976**, *32*, 1692. $[Ni(NCCH_3)_6][ZnCl_4]$

SICSEF	2.072 Å	Shmakova, A. A.; Akhmetova, M. M.; Volchek, V. V.; Romanova, T. E.; Korolkov, I.; Sheven, D. G.; Adonin, S. A.; Abramov, P. A.; Sokolov, M. N. *New. J. Chem.* **2018**, *42*, 7940. $[Ni(NCCH_3)_6]_2[NbW_{11}O_{40}]\cdot 1.7CH_3CN$
XUGBIK	2.072 Å	Pietikainen, J.; Maaninen, A.; Laitinen, R. S.; Oilunkaniemi, R.; Valkonen, J. *Polyhedron* **2002**, *21*, 1089. $[Ni(NCCH_3)_6][Te_2Cl_{10}]$
FUJVAH	2.075 Å	Leban, I.; Gantar, D.; Frlec, B.; Russell, D. R.; Holloway, J. H. *Acta Crystallogr., Sect. C* **1987**, *43*, 1888. $[Ni(NCCH_3)_6][SbF_6]_2$
Mean	**2.067 Å/9 structures**	

Palladium(II)

Four-coordination, square-planar configuration

CSD code	*d*(Pd-N)	Reference, compound formula
KUXSIF	1.956 Å	T.Gebauer, G.Frenzen, K.Dehnicke, K. *Z. Naturforsch., Teil B* **1992**, *47*, 1505. $[Pd(NCCH_3)_4]BF_4)_2$
ZOYFUO	1.968 Å	Massa, W; Wocadlo, S.; Dehnicke, K.; Gebauer, T. *Z. Krist. Cryst. Mater.* **1996**, *211*, 120. $[Pd(NCCH_3)_4][SnCl_5(NCCH_3)]_2$
NUYWAF	1.976 Å	v.Ahsen, B.; Bley, B.; Proemmel, S.; Wartchow, R.; Willner, H.; Aubke, F. *Z. Anorg. Allg. Chem.* **1992**, *47*, 1505. $[Pd(NCCH_3)_4](SbF_6)_2$
Mean	**1.967 Å/3 structures**	

Platinum(II)

Four-coordination, square-planar configuration

CSD code	*d*(Pd-N)	Reference, compound formula
NUYVUY	1.972 Å	v. Ahsen, B.; Bley, B.; Proemmel, S.; Wartchow, R.; Willner, H.; Aubke, F. *Z. Anorg. Allg. Chem.* **1992**, *47*, 1505. $[Pd(NCCH_3)_4](SbF_6)_2$
Mean	**1.972 Å/1 structure**	

Copper(I)

Two-coordination, linaear fashion

CSD code	$d(Cu\text{-}N)_{eq}$	Reference, compound formula
MIZBAY	1.844 Å	Liang, H.-C.; Kim, E.; Incarvito, C. D.; Rheingold, A. L.; Karlin, K. D. *Inorg. Chem.* **2002**, *41*, 2209. $[Cu(NCCH_3)_2]B(C_6F_5)_4$
Mean	**1.844 Å/1 structure**	

Three-coordination, triangular fashion (often distorted)

CSD code	d(Cu-N)$_{eq}$	Reference, compound formula
IRUNIS	1.933 Å	Malinina, E. A.; Zhizhin, K. Y; Mustyatsa, V. N.; Goeva, L. V.; Polyakova, I. N.; Kuznetsov, N. T. *Zh. Neorg. Khim.* **2003**, *48*, 1102. $[Cu(NCCH_3)_3][AgB_{10}H_{10}]$
LIHYIN	1.942 Å	Moussa, M. E.; Piesch, M.; Fleischmann, M.; Schreiner, A.; Seidl, M.; Scheer, M. *Dalton Trans*. **2018**, *47*, 16031. $[Cu(NCCH_3)_3][Cu(NCCH_3)_4][Al(OC(CF_3)_3)_4]_2{\cdot}2.98CH_2Cl_2$
Mean	**1.938 Å/2 structures**	

Four-coordination, tetrahedral configuration,

CSD code	d(Cu-N)$_{eq}$+ d(Cu-N)$_{ax}$	Reference, compound formula
EMUBOF	1.922 Å	Demir, S.; Cepni, H. M.; Bilgin, N.; Holynska, M.; Yilmaz, F. *Polyhedron* **2016**, *115*, 236. $[Cu(NCCH_3)_4][Cu_3C_{14}H_9IN_2O_{10}]{\cdot}[Cu_3C_{14}H_{10}IN_2O_{10}]{\cdot}CH_3CN{\cdot}CH_3COOH{\cdot}8H_2O$
GUHTAG	1.967 Å	Becker, S.; Behrens, U.; Schindler, S. *Eur. J. Inorg. Chem.* **2015**, 2437. $[Cu(NCCH_3)_4][Cu_2Br_4]_n$
USEVOF01	1.976 Å	He, H.; Sun. F.; Ma, S.; Zhu, G. *Inorg. Chem.* **2016**, *55*, 9071. $[Cu(NCCH_3)_4][Cu_3C_{14}H_{10}IN_2O_{10}]2I{\cdot}(CH_3)_2NCHO$
HIWSIS	1.984 Å	Dehnhardt, N.; Both, A.; Heine, J. *Dalton Trans.* **2019**, *48*, 5222. $[Cu(NCCH_3)_4]_4[Sb_{10}I_{34}]$
TACNCU11	1.985 Å	Cao, B.; Wei, Y.; Shi, M. *Org. Chem. Front.* **2018**, *5*, 423. $[Cu(NCCH_3)_4]ClO_4$
NAQMUN02	1.986 Å	Clegg, W.; Harrington, P. W. CCDC deposition number 2051675, **2020**. $[Cu(NCCH_3)_4]BF_4$
WAWQAQ01	1.987 Å	Peloquin, A. J. CCDC deposition number 2165642, **2022**. $[Cu(NCCH_3)_4]I_3{\cdot}I_2$
HIWSOY	1.988 Å	Dehnhardt, N.; Both, A.; Heine, J. *Dalton Trans.* **2019**, *48*, 5222. $[Cu(NCCH_3)_4][Sb_2I_7]$
HIWSUE	1.989 Å	Dehnhardt, N.; Both, A.; Heine, J. *Dalton Trans.* **2019**, *48*, 5222. $[Cu(NCCH_3)_4]_4[Sb_6I_{22}]{\cdot}2CH_3CN$
NIXSIW	1.989 Å	Bach, A.; Hoyer, M.; Hartl. H. *Z. Naturfosch., Teil B* **1997**, *52*, 1497. $[Cu(NCCH_3)_4]_4[Cd_6I_{16}]{\cdot}1.5CH_3CN$
QIFXIO	1.989 Å	Zhang, C.-P.; Vicic, D. A. *Organometallics* **2012**, *31*, 7812. $[Cu(NCCH_3)_4](CF_3O)$
TACNCU	1.989 Å	Csöregh, I.; Kierkegaard, P.; Norrestam, R. *Acta Crystallogr., Sect. C* **1975**, *31*, 314. $[Cu(NCCH_3)_4]ClO_4$
TACNCU01	1.989 Å	Rheingold, A. L. CCDC deposition number 155071, **2000**. $[Cu(NCCH_3)_4]ClO_4$
TACNCU13	1.989 Å	Rukk, N. S.; Buzanov, G. A.; Kabernik, N. S.; Kuzmina, L. G.; Davydova, G. A.; Efimov, N. N.; Shamsiev, R. S.; Belus, S. K.; Kozhukhova, E. I.; Retivov, V. M.; Ivanova, T. V. *Mendeleev Commun.* **2022**, *32*, 123. $[Cu(NCCH_3)_4]ClO_4$
TIWRIA	1.989 Å	Chambers, R. D.; Gray, W. K.; Vaughan, J. F. S.; Medebielle, M.; Korn, S. R.; Batsanov, A. S.; Lehmann, C. W.; Howard, J. A. K. *J. Chem. Soc., Perkin Trans. 1* **1997**, 135. $[Cu(NCCH_3)_4](C_5(CF_3)_5)$
YIBYOZ	1.989 Å	M.Kleinwachter, L.Vendier, C.Dinoi, M.Etienne, M. *Dalton Trans.* **2013**, *42*, 10102. $[Cu(NCCH_3)_4]BF_4$
NAQMUN04	1.900 Å	Fronczek, F. R. CCDC deposition number 2172363, **2022**. $[Cu(NCCH_3)_4]BF_4$

NUFSEN	1.990 Å	Fielden, J.; Long, D.-L.; Cronin, L.; Kogerler, P. *Polyhedron* **2009**, *28*, 2803. $[Cu(NCCH_3)_4]_2[Cu_2Mo_6C_8H_{12}N_4O_{26}]$
TACNCU03	1.990 Å	Bolte, M. ; Scheuermann, S. CCDC deposition number 717648, **2009**. $[Cu(NCCH_3)_4]ClO_4$
TACNCU09	1.990 Å	Yao, B.; Wang, Z.-L.; Zhang, H.; Wang, D.-X.; Zhao, L.; Wang, M.-X. *J. Org. Chem.* **2012**, *77*, 3336. $[Cu(NCCH_3)_4]ClO_4$
TACNCU06	1.991 Å	Hao, H.-G.; Zheng, X.-D.; Lu, T.-B. *Angew. Chem, Int. Ed.* **2010**, *49*, 8148. $[Cu(NCCH_3)_4]ClO_4$
TACNCU07	1.991 Å	Fallis, I. A.; Coles, S. J.; Hursthouse, M. B. *Univ. Southampton, Cryst. Struct. Report Archive* **2001**, 1044. $[Cu(NCCH_3)_4]ClO_4$
OYAMAF	1.993 Å	Haupt, A.; Duvinage, D. Lork, E.; Ponomarenko, M.; Roschenthaler, G.-V. *Angew, Chem., Int. Ed.* **2021**, *60*, 17866. $[Cu(NCCH_3)_4](SF_5O)\cdot CH_3CN$
TACNCU10	1.993 Å	Brotherton, W. S.; Clark, R. J.; Zhu, L. *J. Org. Chem.* **2012**, *77*, 6443. $[Cu(NCCH_3)_4]ClO_4$
TACNCU12	1.993 Å	Kiriakopoulos, R.; Boyle, P. D.; Dawe, L. N. CCDC deposition number 1968554, **2019**. $[Cu(NCCH_3)_4]ClO_4$
PAGSEZ	1.994 Å	Gorbachev, V.; Trapp, N.; Chen, P. CCDC deposition number 2038420, **2020**. $[Cu(NCCH_3)_4]PF_6$
HIWSEO	1.994 Å	Dehnhardt, N.; Both, A.; Heine, J. *Dalton Trans.* **2019**, *48*, 5222. $[Cu(NCCH_3)_4]_4[Sb_7I_{25}]\cdot CH_3CN$
HUJWIU	1.994 Å	Pineda, E. M.; Heesing, C.; Tuna, F.; Zheng, Y.-Z.; McInnes, E. J. L.; Schnack, J; Winpenny, R. E. P. *Inorg. Chem.* **2015**, *54*, 6331. $[Cu(NCCH_3)_4][Cu_3Tb_9C_{99}H_{189}O_{55}P_6]$
IGIWAZ	1.994 Å	Nouch, R.; Woodward, S.; Willcox, D.; Robinson, D.; Lewis, W. *Organometallics* **2020**, *39*, 834. $[Cu(NCCH_3)_4]_2[Cu_4(CF_3COO)_{10}]\cdot C_2H_2Cl_2$
NAQMUN	1.994 Å	Jones, P. J.; Crespo, O. *Acta Crystallogr., Sect. C* **1998**, *54*, 18. $[Cu(NCCH_3)_4]BF_4$
NAQMUN01	1.994 Å	Bats, J. W.; Kretz, T.; Lerner, H.-W. *Acta Crystallogr., Sect. C* **2009**, *65*, m94. $[Cu(NCCH_3)_4]BF_4$
QINTEO	1.994 Å	Royappa, A. T.; Stepherson, J. R.; Vu, O. D.; Royappa, A. D.; Stern, C. L.; Müller, P.
TACNCU02	1.994 Å	Bowmaker, G. A.; Gill, D. S.; Skelton, B. W.; Somers, N.; White, A. H. *Z. Naturforsch., Teil B* **2004**, *59*, 1307. $[Cu(NCCH_3)_4]ClO_4$
LIHYOT	1.995 Å	Moussa, M. E.; Piesch, M.; Fleischmann, M.; Schreiner, A.; Seidl, M.; Scheer, M. *Dalton Trans.* **2018**, *47*, 16031. $[Cu(NCCH_3)_4][Al(OC(CF_3)_3)_4]\cdot CH_3CN$
LIMXUA03	1.995 Å	Lutz, M.;Tazelaar, J.C. G. J.; Slootweg, J. C.; Lammertsma, K. CCDC deposition number 815342, **2011**. $[Cu(NCCH_3)_4]PF_6\cdot CH_3CN$
TACNCU08	1.995 Å	Sarma, M.; Mondal, B. *Inorg. Chem.* **2011**, *50*, 3206. $[Cu(NCCH_3)_4]ClO_4$
HUJVUF	1.996 Å	Pineda, E. M.; Heesing, C.; Tuna, F.; Zheng, Y.-Z.; McInnes, E. J. L.; Schnack, J; Winpenny, R. E. P. *Inorg. Chem.* **2015**, *54*, 6331. $[Cu(NCCH_3)_4][Cu_3Dy_9C_{99}H_{189}O_{55}P_6]$
LIMXUA01	1.996 Å	Dakin, L. A.; Ong, P. C.; Panek, J. S.; Staples, R. J.; Stavropoulos, P. *Organometallics* **2000**, *19*, 2896. $[Cu(NCCH_3)_4]PF_6\cdot CH_3CN$

NUFSIR	1.996 Å	Fielden, J.; Long, D.-L.; Cronin, L.; Kogerler, P. *Polyhedron* **2009**, *28*, 2803. $[Cu(NCCH_3)_4]_4[Mo_8O_{26}]\cdot 2CH_3CN$
LIMXUA02	1.999 Å	Bak, J. M.; Effendy, S.; Grabowsky, S.; Lindoy, L. F.; Price, J. R.; Skelton, B. W.; White, A. H. *CrystEngComm* **2013**, *15*, 1125. $[Cu(NCCH_3)_4]PF_6\cdot CH_3CN$
TACNCU04	1.999 Å	Beloglazkina, E. K.; Shimorsky, A. V.; Mazhuga, A. G.; Shilova, O. V.; Tafeenko, V. A.; Zyk , N. V. *Zh. Obshch. Khim.* **2009**, *79*, 1147. $[Cu(NCCH_3)_4]ClO_4$
TIRDOO	1.999 Å	Chai, W.-X.; Wu, L.-M.; Li, J.-Q.; Che, L. *Inorg. Chem.* **2007**, *46*, 8698. $[Cu(NCCH_3)_4][BiCuI_5]$
ENEPOC	2.000 Å	Knaust, J. M.; Knight, D. A.; Keller, S. W. *J. Chem. Cryst.* **2003**, *33*, 813. $[Cu(NCCH_3)_4]CF_3SO_3$
HUJVOZ	2.000 Å	Pineda, E. M.; Heesing, C.; Tuna, F.; Zheng, Y.-Z.; McInnes, E. J. L.; Schnack, J; Winpenny, R. E. P. *Inorg. Chem.* **2015**, *54*, 6331. $[Cu(NCCH_3)_4][Cu_3Er_9C_{99}H_{189}O_{55}P_6]$
BANMOU	2.001 Å	Gill, D. S.; Singh, R.; Rana, D. S.; Wagler, J.; Kroke, E. *Z. Naturforsch., Teil B* **2011**, *66*, 1042. $[Cu(NCCH_3)_4]HSO_4$
DAGFAV	2.001 Å	Fernandez, I. I. L.; Donaldson, S.; Schipper, D. E.; Andleeb, S.; Whitmire, K. *Inorg. Chem.* **2016**, *55*, 11560. $[Cu(NCCH_3)_4][Bi_2C_{10}F_{15}O_{11}\cdot CF_3COOH$
IWAHAQ01	2.001 Å	Brooks, N. R.; Schaltin, S.; Van Hecke, K.; Van Meervelt, L.; Binnemans, K.; Fransaer, J. *Chem. Eur. J.* **2011**, *17*, 5054. $[Cu(NCCH_3)_4](N(SO_2CF_3)$
ENEPOC01	2.002 Å	Irangu, J.; Ferguson, M. J.; Jordan, R. B. *Inorg. Chem.* **2005**, *44*, 1619. $[Cu(NCCH_3)_4]CF_3SO_3$
HUJWAM	2.003 Å	Pineda, E. M.; Heesing, C.; Tuna, F.; Zheng, Y.-Z.; McInnes, E. J. L.; Schnack, J; Winpenny, R. E. P. *Inorg. Chem.* **2015**, *54*, 6331. $[Cu(NCCH_3)_4][Cu_3Gd_9C_{99}H_{189}O_{55}P_6]$
BOSYEQ	2.006 Å	Yan-Ling Li, Y.-L.; Wang, J.; Luo, P.; Ma, X.-H.; Dong, X.-Y.; Wang, Z.-Y.; Du, C.-X.; Zang, S.-Q.; Mak, T. C. W. *Adv. Sci.* **2019**, 1900833. $[Cu(NCCH_3)_4]B_{19}C_4H_{20}S\cdot[Cu(NCCH_3)_4]\cdot CH_3CN$
LIMXUA	2.006 Å	Black, J. R.; Levason, W.; Webster, M. *Acta Crystallogr., Sect. C* **1995**, *51*, 623. $[Cu(NCCH_3)_4]PF_6\cdot CH_3CN$
EDEJIG	2.010 Å	Llewellyn, D. B.; Adamson, D.; Arndtsen, B. A. *Org. Lett.* **2000**, *2*, 4165. $[Cu(NCCH_3)_4](B(O_2C_{20}H_5)_2)\cdot[Cu(CH_3CN)(B(O_2C_{20}H_5)_2)]\cdot CH_3CN$
VEHXAJ	2.010 Å	Fielden, J.; Quasdorf, K.; Cronin, L.; Kogerler, P. *Dalton Trans.* **2012**, *41*, 9876. $H_3[Cu(NCCH_3)_4][Mo_{12}F_4O_{46}P_4]\cdot 4CH_3CN\cdot 32H_2O$
OQIZUL	2.011 Å	Tahli, A.; Elshaarawy, R. F. M.; Koc, U.; Kautz, A. C.; Janiak, C. *Polyhedron* **2016**, *17*, 579. $[Cu(NCCH_3)_4][Cu_3C_{22}H_{14}NO_{15}]$
TEQSUE	2.013 Å	Zhang, Y.; Sun, W.; Freund, C.; Santos, A. M.; Herdtweck, E.; Mink, J.; Kuhn, F. E. *Inorg. Chim. Acta* **2006**, *359*, 4723. $[Cu(NCCH_3)_4]B(C_6F_5)_4$
HUJWEQ	2.057 Å	Pineda, E. M.; Heesing, C.; Tuna, F.; Zheng, Y.-Z.; McInnes, E. J. L.; Schnack, J; Winpenny, R. E. P. *Inorg. Chem.* **2015**, *54*, 6331. $[Cu(NCCH_3)_4][Cu_3Ho_9C_{99}H_{189}O_{55}P_6]$

Mean **1.995 Å/54 structures**

Copper(II)

Six-coordination, centrosymmetric Jahn-Teller distorted octahedral fashion,

CSD code	d(Cu-N)$_{eq}$+ d(Cu-N)$_{ax}$	Reference, compound formula
NIHCIR	1.993 + 2.386 Å	Hijazi, A. K.; Yeong, H. Y.; Zhang, Y.; Herdtweck, E.; Nuyken, O.; Kuhn, F. E. *Macromol. Rapid Commun.* **2007**, *28*, 670. $[Cu(NCCH_3)_6](B(C_6F_4)_2$
XAYFAG	2.001 + 2.370 Å	Rabeah, J.; Stosser, R.; Jiao, H.; Troyanov, S. I.; Radnik, J.; Dwelk, H.; Meisel, M.; Bruckner, A. *Chem. Eur. J.* **2012**, *18*, 6433. $[Cu(NCCH_3)_6]F_2{\cdot}2[V_4C_{24}H_{20}O_{18}P_4]{\cdot}2CH_3CN$

Mean **1.997 + 2.378 Å/2 structures**

Silver(I)

Two-coordination, linear configuration

CSD code	d(Ag-N)$_{eq}$	Reference, compound formula
FILTEA	2.082 Å	Zhang, Y.; Santos, A. M.; Herdtweck, E.; Mink, J.; Kuhn, F. E. *New J. Chem.* **2005**, *29*, 366. $[Ag(NCCH_3)_2](B(3,5\text{-}C_6H_4(CF_3)_2)_4$
ZOLKUJ	2.085 Å	Monticelli, M.; Baron, M.; Tubaro, C.; Bellemin-Laponnaz, S.; Graiff, C.; Bottaro, G.; Armelao, L.; Orian, L. *ACS Omega* **2019**, *4*, 4192. $[Ag(NCCH_3)_4][Au_2C_{34}F_{42}N_{10}](PF_6)_3{\cdot}(C_2H_5)_2O$
EWIYUG	2.096 Å	Pliquett, D.; Schulz, P. S.; Heinemann, F. W.; Bause, A.; Wasserscheid, P. *Dalton Trans.* **2016**, *18*, 28242. $[Ag(NCCH_3)_2](PF_3(CF(CF_3)_3)$
COWFIG	2.105 Å	Tang, Y.; Yu, B. *Eur. J,. Inorg. Chem.* **2019**, 107. $[Ag(NCCH_3)_2]_2[Ag(N(SO_2CF_3)_2)_2]$
EQEQOH	2.110 Å	Raducan, M.; Rodriquez-Escrich, C.; Cambeiro, X. C.; Escudero-Adan, E. C.; Pericas, M. A.; Echavarren, A. M. *Chem. Commun.* **2011**, *47*, 4893. $[Ag(NCCH_3)_2]SbF_6$
RIQYAU	2.123 Å	Louise M.; Heinekey, G. D. M. CCDC deposition number 1882471, **2018**. $[Ag(NCCH_3)_2]BF_4$
KADCOI	2.150 Å	Ahmad, R.; Hardie, M. J. *Cryst. Growth Des.* **2003**, *3*, 493. $[Ag(NCCH_3)_2][CoB_{18}C_4H_{22}]$
AWAJAK	2.151 Å	McGlone, T.; Streb, C.; Busquets-Fite, M.; Yan, J.; Gabb, D.; Long, D.-L.; Cronin, L. *Cryst. Growtrh Des.* **2011**, *11*, 2471. $[Ag(NCCH_3)_2]_2[Ag_2W_{10}(C_{12}H_{18}N_6O_{32}S_2)_2]$
XOCGOL	2.153 Å	Karpova, E. V.; Boltalin, A. I.; Korenev, Y. M.; Zakharov, M. A.; Troyanov, S. I. *Koord. Khim.* **2001**, *28*, 311. $[Ag(NCCH_3)_4][Ag_2(CF_3COO)_3]$
AWAJEO	2.195 Å	McGlone, T.; Streb, C.; Busquets-Fite, M.; Yan, J.; Gabb, D.; Long, D.-L.; Cronin, L. *Cryst. Growtrh Des.* **2011**, *11*, 2471. $[Ag(NCCH_3)_2]_2[Ag_2W_{10}(C_{12}H_{18}N_6O_{32}S_2)_2]$

XAHKEY	2.237 Å	McGlone, T.; Streb, C.; Long, D.-L.; Cronin, L. *Adv. Mater.* **2010**, *22*, 4275. $[Ag(NCCH_3)_4][Ag(NCCH_3)_2][Ag_4W_{19}C_{16}H_{28}N_8O_{62}]\cdot 6CH_3CN$ (bent coordination)
Mean	**2.117 Å/9 structures**	

Three-coordination, triangular fashion (often distorted)

CSD code	d(Ag-N)$_{eq}$	Reference, compound formula
YUJKAQ	2.214 Å	Wolper, C.; Rodriguez-Gimeno, A.; Iborra, K. C.; Kuhn, H.; Luttig, A. K.; Moll, S.; Most, C.; Freytag, M.; Dix, I.; Jones, P. G.; Blaschette, A. *Z. Naturforch., Teil B* **2009**, *64*, 952. $[Ag(NCCH_3)_3][Ag(C_{12}H_8F_2NO_4S_2)_2]\cdot CH_3CN$
WIJQAI	2.215 Å	J.K.Jabor, R.Stosser, Nguyen Huu Thong, B.Ziemer, M.Meisel, M. Angew. Chem., Int. Ed. 2007, 46, 6354. $[Ag(NCCH_3)_3]F\cdot[V_4P_4O_8(C_6H_5)_4]$
SULNAR	2.236 Å	Shmakova, A. A.; Berezin, A. S.; Abramov, P. A.; Sokolov, M. N. *Inorg. Chem.* **2020**, *59*, 1853. $[Ag(NCCH_3)_4]_2[Ag(NCCH_3)_3]_2[NbW_{11}PO_{40}]$
KEWWER	2.252 Å	Clegg, W.; Harrington, R. W. CCDC deposition number 1836903, **2018**. $[Ag(NCCH_3)_3]_2[Ag(NC_6H_4N)_2][Mo_{12}PO_{40}]$
SAPRIM	2.256 Å	McGlone, T.; Thiel, J.; Streb, C.; Long, D.-L.; Cronin, L. *Chem. Commun.* **2012**, *48*, 359. $[Ag(NCCH_3)_3]_3[H_3V_{10}O_{28}]\cdot CH_3CN$
QUTNOI	2.279 Å	Rhule, J. T.; Neiwert, W. A.; Hardcastle, K. I.; Do, B. T.; Hill, C. L. *J. Am. Chem. Soc.* **2001**, *123*, 12101. $[Ag(NCCH_3)_3]_2Ag_{2.4}[Ag_6Mo_{24}C_{20}H_{30}N_2O_{80}P_2](NO_3)_{0.4}\cdot 1.3CH_3CN\cdot 1.5H_2O$
Mean	**2.242 Å/6 structures**	

$[Ag_2(NCCH_3)_2]$ dimer

CSD code	d(Ag-N)/d(Ag···Ag)	Reference, compound formula
YAWCOR	2.251 Å 3.548 Å	Peryshkov, D. V.; Strauss, S. H. *Inorg. Chem.* **2017**, *56*, 4072. $[(CH_3CN)_2AgCH_3CNAg(NCCH_3)_2]$

Four-coordination, tetrahedral fashion (often distorted)

CSD code	d(Cu-N)	Reference, compound formula
GUHMOL	2.244 Å	Tsang, C.-T.; Sun, J.; Xie, Z. *J. Organometal. Chem.* **2000**, *613*, 99. $[Ag(NCCH_3)_4][CoB_{18}C_4H_{16}Br_6]$
WAKLUP	2.255 Å	Blaschette, A.; Jones, P. G.; Hamman, T.; Naveke, M.; Schomburg, D.; Cammenga, H. K.; Epple, M.; Steppuhn, I. *Z. Anorg. Allg. Chem.* **1993**, *619*, 912. $[Ag(NCCH_3)_4][Ag(N(SO_2CH_3)_2)_2]$

MUTGUD	2.259 Å	Ang, H.-G.; Fraenk, W.; Karaghiosoff, K.; Klapotke, T. M.; Mayer, P.; Noth, N.; Sprott, J.; Warchhold, M. *Z. Anorg. Allg. Chem.* **2002**, *628*, 2894. $[Ag(NCCH_3)_4][Ag_3N_{12}O_{16}]$
CETMOD	2.261 Å	Nilsson, K.; Oskarsson, Å. *Acta Chem. Scand., Ser. A* **1984**, *38*, 79. $[Ag(NCCH_3)_4]ClO_4$
FIXMIJ02	2.264 Å	Parsons, S.; McCormack, C.; Bailey, P. CCDC deposition number 1419678, **2015**. $[Ag(NCCH_3)_4]BF_4$
CETMOD01	2.266 Å	Jones, P. G.; Bembenek, E. *Z. Krist. Cryst. Mater.* **1993**, *208*, 213. $[Ag(NCCH_3)_4]ClO_4$
FIXMIJ01	2.267 Å	Müller-Bunz, H.; Farrel, K.; Albrech, M. CCDC deposition number 1029404, **2014**. $[Ag(NCCH_3)_4]BF_4$
CETMOD02	2.268 Å	Bak, J. M.; Effendy; Grabowsky, S.; Lindoy, L. F.; Price, J. R.; Skelton, B. W.; White, A. H. *CrystEngComm* **2013**, *15*, 1125. $[Ag(NCCH_3)_4]ClO_4$
YOLCUZ	2.268 Å	Goettel, J. T.; Turnbull, D.; Gerken, M. *J. Flourine Chem.* **2015**, *174*, 8. $[Ag(NCCH_3)_4]$ $[ReF_4O_2]\cdot 2CH_3CN$
FIXMIJ	2.269 Å	Aly, A. A. M.; Walfort, B.; Lang, H. *Z. Kristallogr.-New Cryst. Struct.* **2004**, *219*, 489. $[Ag(NCCH_3)_4]BF_4$
WUZJUY	2.270 Å	Zhang, Y.; Liu, J.; Duttwyler, S. *Eur. J. Inorg. Chem.* **2015**, 5158. $[Ag(NCCH_3)_4]B_{12}H_{11}(NH_3)\cdot 3CH_3CN$
MIXFIK	2.272 Å	Dortbudak, C.-C.; Lux, K.; Kornath, A. *Z. Naturforsch., Teil B* **2014**, *69*, 373. $[Ag(NCCH_3)_4](FSO_3)$
XASBUQ	2.274 Å	Lutz, M.; Spannring, P.; Gebbink, R. J. M. K. CCDC deposition number 859179, **2011**. $[Ag(NCCH_3)_4]PF_6$
XASBUQ01	2.276 Å	Bak, J. M.; Effendy; Grabowsky, S.; Lindoy, L. F.; Price, J. R.; Skelton, B. W.; White, A. H. *CrystEngComm* **2013**, *15*, 1125. $[Ag(NCCH_3)_4]PF_6$
KADDEZ	2.280 Å	Ahmad, R.; Hardie, M. J. *Cryst. Growth. Des.* **2003**, *3*, 493. $[Ag(NCCH_3)_4]_2[CoB_{18}C_{27}H_{30}]\cdot C_{27}H_{30}O_6\cdot 0.25CH_3CN$
XAHKEY	2.281 Å	McGlone, T.; Streb, C.; Long, D.-L.; Cronin, L. *Adv. Mater.* **2010**, *22*, 4275. $[Ag(NCCH_3)_4][Ag(NCCH_3)_2][Ag_4W_{19}C_{16}H_{28}N_8O_{62}]\cdot 6CH_3CN$
EWIYOA	2.285 Å	Pliquett, D.; Schulz, P. S.; Heinemann, F. W.; Bause, A.; Wasserscheid, P. *Phys. Chem. Chem. Phys.* **2016**, *18*, 28242. $[Ag(NCCH_3)_4](PF_3(CF_2(CF_3))_3)$
EFACUO01	2.288 Å	Khan, E. S. T.; Waldbusser, A. L.; Carrasco, M. C.; Pourhadi, H.; Hematian, S. *Dalton Trans.* **2021**, *50*, 7433. $[Ag(NCCH_3)_4]B(C_6F_5)_4$
IKIQOK	2.291 Å	He, X.; Liu, H.-X.; Zhao, L. *Chem. Commun.* **2016**, *52*, 5682. $[Ag(NCCH_3)_4]_2[AgC_{38}H_{12}F_{30}N_4O_{20}]$
EFAQOU	2.293 Å	Kim, E. H.; Lee, H. M.; Jeong, M. S.; Ryu, J. Y.; Lee, J.; Lee, B. Y. *ACS Omega* **2017**, *2*, 765. $[Ag(NCCH_3)_4]B(C_6F_5)_4$
OPARED	2.298 Å	Dang, D.-B.; Gao, H.; Bai, Y.; Hu, X.-F.; Yang, F.; Chen, Y.; Niu, J.-Y. *Inorg. Chem. Commun.* **2010**, *13*, 37. $[Ag(NCCH_3)_4][Ag_3Mo_{12}SiC_{16}H_{24}N_8O_{40}]$
SULNAR	2.311 Å	Shmakova, A. A.; Berezin, A. S.; Abramov, P. A.; Sokolov, M. N. *Inorg. Chem.* **2020**, *59*, 1853. $[Ag(NCCH_3)_4]_2[Ag(NCCH_3)_3]_2[NbW_{11}PO_{40}]$
YAWCUX	2.345 Å	Peryshkov, D. V.; Strauss, S. H. *Inorg. Chem.* **2017**, *56*, 4072. $[Ag(NCCH_3)_4]B_{12}F_{12}$
Mean	**2.275 Å/22 structures**	

Gold(I)

Two-coordination, linear configuration

CSD code	d(Au-N)$_{eq}$	Reference, compound formula,
PANCUC	1.936 Å	Willner, H.; Schaebs, J.; Hwang, G.; Mistry, F.; Jones, R.; Trotter, J.; Aubke, F. *J. Am. Chem. Soc.* **1992**, *114*, 8972. $[Au(NCCH_3)_2]SbF_6$
ROQQEV	1.960 Å	Shehadi, I.; Abla, F.; Wakefield, B.; Reibenspies, J.; Arooj, M.; Mohamed, A. A. *Res. Chem. Intermed.* **2020**, *46*, 593. $[Au(NCCH_3)_2][AuCl_4]$
UWISAW	1.962 Å	Engesser, T. A.; Friedmann, C.; Martens, A.; Kratzert, D.; Malinowski, P. J.; Krossing, I. *Chem. Eur. J.* **2016**, *22*, 15085. $[Au(NCCH_3)_2][GaCl_4]$
PITMOX	1.966 Å	Jenne, C.; Wegener, B. *Z. Anorg. Allg. Chem.* **2018**, *644*, 1123. $[Au(NCCH_3)_2](B_{12}Cl_{11}(NH(CH_3)_2)$
UNISEA	1.967 Å	Engesser, T. A.; Friedmann, C.; Martens, A.; Kratzert, D.; Malinowski, P. J.; Krossing, I. *Chem. Eur. J.* **2016**, *22*, 15085. $[Au(NCCH_3)_2][Al(OC(CF_3)_3)_4]$
UNISOK	1.970 Å	Engesser, T. A.; Friedmann, C.; Martens, A.; Kratzert, D.; Malinowski, P. J.; Krossing, I. *Chem. Eur. J.* **2016**, *22*, 15085. $[Au(NCCH_3)_2][Au(NCB(CF_3)_3]$
Mean	**1.960 Å/6 structures**	

Zinc(II)

Four-coordination, tetrahedral configuration

CSD code	d(Zn-N)	Reference, compound formula
USALUW	1.976 Å	Rach, S. F.; Herdtweck, E.; Kuhn, F. E. *J. Organomet. Chem.* **2011**, *696*, 1817. $[Zn(NCCH_3)_4](B(C_6F_5)_4)_2$
DAMQAK	1.999 Å	Yang, H.-L.; Yang, F.; Zhu, H.-L. *Z. Kristallogr.-New Struct.* **2004**, *219*, 349. $[Zn(NCCH_3)_4]SO_4$
Mean	**1.988 Å/2 structures**	

Six-coordination, octahedral configuration

CSD code	d(Zn-N)	Reference, compound formula
UWEMIV	2.132 Å	Groutchik, K.; Jaiswal, K.; Dobrovetsky, R. *Org. Biomol. Chem.* **2021**, *19*, 5544. $[Zn(NCCH_3)_6]B_{12}I_{12}$
JEPKEV	2.133 Å	Akkus, O. N.; Decken, A.; Knapp, C.; Passmore, J. *J. Chem. Cryst.* **2006**, *36*, 321. $[Zn(NCCH_3)_6][AsF_6]_2$

Mean **2.133 Å/2 structures**

Aluminum(III)

Six-coordination, octahedral configuration

CSD code	*d*(Al-N)	Reference, compound formula
REVSOA	1.932 Å	Babian-Kibala, E.; Chen, H.; Cotton, F. A.; Daniels, L. M.; Falvello, L. R.; Schmid, G.; Yao, Z. *Inorg. Chim. Acta* **1996**, *250*, 359. $[Al(NCCH_3)_6][TaCl_6]_3 \cdot 3CH_3CN$
REVSIU	1.943 Å	Babian-Kibala, E.; Chen, H.; Cotton, F. A.; Daniels, L. M.; Falvello, L. R.; Schmid, G.; Yao, Z. *Inorg. Chim. Acta* **1996**, *250*, 359. $[Al(NCCH_3)_6][NbCl_6]_3 \cdot 3CH_3CN$
RIWDUW	1.954 Å	Favier, F.; Pascal, J. L.; Belin, C.; Tillard-Charbonnel, M. *Acta Crystallogr., Sect. C* **1997**, *53*, 1234. $[Al(NCCH_3)_6][Te_3Cl_{15}]_3 \cdot CH_3CN$
REVSUG	1.955 Å	Babian-Kibala, E.; Chen, H.; Cotton, F. A.; Daniels, L. M.; Falvello, L. R.; Schmid, G.; Yao, Z. *Inorg. Chim. Acta* **1996**, *250*, 359. $[Al(NCCH_3)_6][SbCl_6]_3 \cdot 3CH_3CN$
Mean	**1.946 Å/4 structures**	

Tin(II)

Five-coordination, square-pyramidal configuratrion with gap for anti-bonding orbital

CSD code	*d*(Sn-N)	Reference, compound formula
VUHQUN	2.264+2.480 Å	Schorpp, M.; Heizmann, T.; Schmucker, M.; Rein, S.; Weber, S.; Krossing, I. *Angew. Chem., Int. Ed.* **2020**, *59*, 9453. $[Sn(NCCH_3)_5][Al(OC(CF_3)_3)_4]_2 \cdot$ *1,2*-$C_6H_4F_2$

Six-coordination, very distorted with gap for anti-bonding orbital

CSD code	*d*(Sn-N)	Reference, compound formula
HEDYUN	2.530 Å	Schleep, M.; Hettich, C.; Kratzert, D.; Scherer, H.; Krossing, I. *Chem. Commun.* **2017**, *53*, 10914. $[Sn(NCCH_3)_6][Al(OC(CF_3)_3)_4]_2$

Table S6. Summary of structures of pyridine solvated metal ions in the solid state. Citations in purple text have not been included in the calculated mean bond distances.

Copper(I)

Two-coordination, linear configuration,

CSD code	*d*(Cu-N)	Reference, compound formula
OGEJEP	1.901 Å	Yang, W.; Lu, C.; Zhuang, H. *J. Chem. Soc., Dalton Trans.* **2002**, 2879. $[Cu(NC_5H_5)_4]_4[Mo_{12}O_{40}S]$

Four-coordination, tetrahedral configuration,

CSD code	*d*(Cu-N)	Reference, compound formula
YAGMAX	1.903 Å	Al Shamaileh, E.; Al-Far, R. CCDC deposition number 665843, **2016**. $[Cu(NC_5H_5)_4]I$
ABAFER	2.045 Å	Royappa, A. T.; Royappa, A. D.; Moral, R. F.; Rheingold, A. L.; Papoular, R. J.; Blum, D. M.; Duong, T. Q.; Stepherson, J. R.; Vu, O. D.; Chen, B.; Suchomel, M. R.; Golen, J. A.; Andre, G.; Kourkoumelis, N.; Mercer, A. D. ; Pekarek, A. M. ; Kelly, D. C. *Polyhedron* **2016**, 119, 563. $[Cu(NC_5H_5)_4](O_2CCO_2H)$
BADTAB10	2.046 Å	Nilsson, K. ; Oskarsson, Å. *Acta Chem. Scand.* **1982**, *36*, 605. $[Cu(NC_5H_5)_4]ClO_4$
GIGXOK01	2.046 Å	Coles, S. J.; Hursthouse, M. B.; Sengul, A.; Altin, S.; Kurt, O. *Acta Crystallogr., Sect. E* **2007**, *63*, m1734. $[Cu(NC_5H_5)_4]PF_6$
GIGXOK	2.062 Å	Horvat, G.; Portada, T.; Stilinovic, V.; Tomisic, V. *Acta Crystallogr., Sect. E* **2007**, *63*, m1734. $[Cu(NC_5H_5)_4]PF_6$
Mean	**2.050 Å/4 structures**	

Silver(I)

Two-coordination, linear configuration,

CSD code	*d*(Ag-N)	Reference, compound formula
EWIZAN	2.106 Å	Pliquett, D.; Schulz, P. S.; Heinemann, F. W.; Bause, A.; Wasserscheid, P. *Phys Chem. Chem. Phys.* **2016**, *18*, 28242. $[Ag(NC_5H_5)_2](PF_3(CF_3)_3)$
NEVREM	2.125 Å	Chen, C. Y.; Zeng, J. Y.; Lee, H. M. *Inorg, Chim. Acta* **2007**, *360*, 21. $[Ag(NC_5H_5)_2]BF_4$
NEVRIQ	2.129 Å	Chen, C. Y.; Zeng, J. Y.; Lee, H. M. *Inorg, Chim. Acta* **2007**, *360*, 21. $[Ag(NC_5H_5)_2]PF_6$
LUKZAU	2.130 Å	Bedin, M.; Karim, A.; Reitti, M; Carlsson, A.-C. C.; Topic, F.; Cetina, M.; Pan, F.; Havel, V.; Al-Ameri, F.; Sindelar, V.; Rissanen, J. K; Grafenstein, J.; Erdelyi, M. *Chem. Sci.* **2015**, *6*, 3746. $[Ag(NC_5H_5)_2]PF_6{\cdot}C_2H_2Cl_2$
NEVRAI	2.130 Å	Chen, C. Y.; Zeng, J. Y.; Lee, H. M. *Inorg, Chim. Acta* **2007**, *360*, 21. $[Ag(NC_5H_5)_2]ClO_4$

LULNOX	2.132 Å	Bedin, M.; Karim, A.; Reitti, M; Carlsson, A.-C. C.; Topic, F.; Cetina, M.; Pan, F.; Havel, V.; Al-Ameri, F.; Sindelar, V.; Rissanen, J. K; Grafenstein, J.; Erdelyi, M. *Chem. Sci.* **2015**, *6*, 3746. $[Ag(NC_5H_5)_2]ClO_4{\cdot}CH_2Cl_2$
ILUJOO	2.134 Å	Ruiz, J.; Mosquera, M. E. G.; Garcia, G.; Patron, E.; Riera, V.; Garcia-Granda, S.; Van der Maelen, F. *Angew. Chem., Int. Ed.* **2003**, *42*, 4767. $[Ag(NC_5H_5)_2][Ru(CN(C(CH_3)_3)_4(P(C_6H_5)_2C(NC_5H_5)P(C_6H_5)_2)]_2(BF_4)_5{\cdot}3CH_2Cl_2{\cdot}2H_2O$
QOCKID	2.134 Å	Wang, G.-M.; Li, J.-H.; Li, Z.-X.; Wang, P.; Li, H. *Z. Anorg. Allg. Chem.* **2008**, *634*, 1192. $[Ag(NC_5H_5)_2]_2(H_4B_{10}O_{18})$
LUKZIC	2.137 Å	Bedin, M.; Karim, A.; Reitti, M; Carlsson, A.-C. C.; Topic, F.; Cetina, M.; Pan, F.; Havel, V.; Al-Ameri, F.; Sindelar, V.; Rissanen, J. K; Grafenstein, J.; Erdelyi, M. *Chem. Sci.* **2015**, *6*, 3746. $[Ag(NC_5H_5)_2]SbF_6{\cdot}C_2H_2Cl_2$
LULNIR	2.138 Å	Bedin, M.; Karim, A.; Reitti, M; Carlsson, A.-C. C.; Topic, F.; Cetina, M.; Pan, F.; Havel, V.; Al-Ameri, F.; Sindelar, V.; Rissanen, J. K; Grafenstein, J.; Erdelyi, M. *Chem. Sci.* **2015**, *6*, 3746. $[Ag(NC_5H_5)_2]BF{\cdot}C_2H_2Cl_2$
IZEYAP	2.141 Å	Jones, P. G.; Zerbe, E.-M. CCDC deposition number 1517185, **2016**. $[Ag(NC_5H_5)_2][Ag(N(SO_2CH_3)_2)_2]$
IZEYUJ	2.147 Å	Jones, P. G.; Zerbe, E.-M. CCDC deposition number 1517206, **2016**. $[Ag(NC_5H_5)_2](C_5H_6N)[Ag_2(N(SO_2C_6H_4)_4)_2$
DITCEO	2.153 Å	Dyason, J. C.; Healy, P. C.; Engelhardt, L. M.; White, A. H. *Aust. J. Chem.* **1985**, *38*, 1325. $[Ag(NC_5H_5)_2]_4[Ag(NC_5H_5)_4](ClO_4)_5$
RAYWOE	2.153 Å	Bowmaker, G. A.; Effendy; Lim, K. C.; Skelton, B. W.; Sukarianingsih, D.; White, A. H. *Inorg. Chim. Acta* **2005**, *358*, 4342. $[Ag(NC_5H_5)_2]_2(H_4B_{10}O_{18})$
KELDAK	2.160 Å	May, N. V.; Bayat, N.; Beres, K. A.; Bombicz, P.; Petrusevski, V. M.; Lendvay, G.; Farkas, A.; Kotai, L. *Inorganics* **2022**, *10*, 123. $[Ag(NC_5H_5)_2]ClO_4{\cdot}C_5H_5N$
AGPYNO	2.162 Å	Menchetti, S.; Rossi, G.; Tazzoli, V. *Rend. Ist. Lomb. Acc. Sci. Lett. A* **1970**, *104*, 309. $[Ag(NC_5H_5)_2]NO_3$
BISVAC	2.164 Å	Pouessel, J.; Thuery, P.; Berthet, J.-C.; Cantat, T. *Dalton Trans.* **2016**, *43*, 4415. $[Ag(NC_5H_5)_2]((C_6H_5)_4P)_2[Y(NO_2)_6]$
BISTUU	2.165 Å	Pouessel, J.; Thuery, P.; Berthet, J.-C.; Cantat, T. *Dalton Trans.* **2016**, *43*, 4415. $[Ag(NC_5H_5)_2]((C_6H_5)_4P)_2[Sm(NO_2)_6]$
AGPYNO02	2.176 Å	Bedin, M.; Karim, A.; Reitti, M; Carlsson, A.-C. C.; Topic, F.; Cetina, M.; Pan, F.; Havel, V.; Al-Ameri, F.; Sindelar, V.; Rissanen, J. K; Grafenstein, J.; Erdelyi, M. *Chem. Sci.* **2015**, *6*, 3746. $[Ag(NC_5H_5)_2]NO_3$
Mean	**2.143 Å/19 structures**	

Three-coordination, distorted triangular configuration,

CSD code	*d*(Ag-N)	Reference, compound formula
WEFHUM	2.307 Å	Costa, R.; Engle, J. T.; Ziegler, C. J. .*Porphyrins Phthalocyanines* **2012**, *16*, 175. $[Ag(NC_5H_5)_3][AgC_{35}H_{19}F_6N_7](NO_3)_2$

Four-coordination, tetrahedral configuration,

CSD code	*d*(Ag-N)	Reference, compound formula
DITCEO	2.294 Å	Dyason, J. C.; Healy, P. C.; Engelhardt, L. M.; White, A. H. *Aust. J. Chem.* **1985**, *38*, 1325. $[Ag(NC_5H_5)_2]_4[Ag(NC_5H_5)_4](ClO_4)_5$
POXREC	2.304 Å	Kovacs, G. B.; May, N. V.; Bombicz, P. A.; Klebert, S.; Nemeth, P.; Menyhard, A.; Novodarszki, G.; Petrusevski, V.; Franguelli, F. P.; Magyari, J.; Beres, K.; Szilagyi, I. M.; Kotai, L. *RSC Adv.* **2019**, *9*, 28387. . $[Ag(NC_5H_5)_4][Ag(NC_5H_5)_2(OMnO_3)]MnO_4$
IWOYIE	2.310 Å	Hailmann, M.; Wolf, N.; Renner, R.; Schafer, T.; Hupp, B.; Steffen, A.; Finze, M. *Angew. Chem., Int. Ed.* **2016**, *55*, 10507. $[Ag(NC_5H_5)_4][Ag_7C_{67}H_{99}B_{44}N_{11}]\cdot 2C_5H_5N$
BADTEF10	2.322 Å	Nilsson, K. ; Oskarsson, Å. *Acta Crystallogr., Sect. A* **1981**, *37*, C227b. $[Ag(NC_5H_5)_4]ClO_4$
LUJLIP	2.322 Å	McNelly, A. G.; Christensen, K. E.; Thompson, A. L. *Acta Crystallogr., Sect. E* **2024**, *80*, 1326. $[Ag(NC_5H_5)_4]PF_6$
LUJLUB	2.324 Å	McNelly, A. G.; Christensen, K. E.; Thompson, A. L. *Acta Crystallogr., Sect. E* **2024**, *80*, 1326. $[Ag(NC_5H_5)_4]SbF_6$
PITLOW	2.353 Å	Jenne, C.; Wegenerm B. *Z. Anorg. Allg. Chem.* **2018**, *644*, 1123. $[Ag(NC_5H_5)_4](C_3H_9B_{12}Cl_{11}N)$
Mean	**2.318 Å/7 structures**	

Gold(I)

Two-coordination, linear configuration,

CSD code	*d*(Ag-N)	Reference, compound formula
UJOQAN	2.021 Å	Corbo, R.; Ryan, G. F.; Haghighatbin, M. A.; Hogan, C. F.; Wilson, D. J. D.; Hulett, M. D.; Barnard, P. J.; Dutton, J. L. *Inorg. Chem.* **2016**, *55*, 2830. $[Au(NC_5H_5)_2]BF_4$
AXENUO01	2.025 Å	Doring, C.; Jones, P. G. *Z. Naturforsch., Sect. B* **2014**, *69*, 1315. $[Au(NC_5H_5)_2][Au(SCN)_2]$
Mean	**2.023 Å/2 structures**	

Mercury(II)

Six-coordination, second order Jahn-Teller distorted octahedral configuration,

CSD code	*d*(Ag-N)	Reference, compound formula
VINKEI01	2.445 Å	Åkesson, R.; Sandström, M.; Stålhandske, C. I.; Persson, I. *Acta Chem. Scand.* **1991**, *45*, 2830. $[Hg(NC_5H_5)_6](CF_3SO_3)_2$

Table S7. Summary of M-P bond distances homoleptic copper(I), silver(I) and gold(I) complexes of trialkyl- and triphenyl phosphites and phosphines in the solid state and solution. The value within parenthesis denotes the number of reported structures.

Phosphites

	Copper(I)		Silver(I)		Gold(I)	
	Solid state	Solution	Solid state	Solution	Solid state	Solution
Methyl phosphite	2.244	2.245				
Ethyl phosphite	2.245	2.258		2.483		2.367
Iso-Propyl phosphite	2.279	2.258				
n-Butyl phosphite		2.249		2.513		
Phenyl phosphite	2.255		2.495	2.485		

Phosphines

		Copper(I)		Silver(I)		Gold(I)	
	N	Solid state	Solution	Solid state	Solution	Solid state	Solution
Trialkyl phosphines	2	2.205 (6)	-	2.386 (15)	-	2.311 (38)	-
	3	-		-	2.528	-	2.399
	4	2.270 (28)	2.278	2.603 (1)	-	-	
Triphenyl phosphine	2	-	-	-	-	2.309 (20)	-
	3	2.286 (12)	-	2.493 (3)	-	2.382 (11)	-
	4	-	-	2.629 (33)	-	2.528 (2)	-

Table S8. Electronegativity values, χ_m, from ref. 1, ionic radius, r/Å, from ref. 2, and the calculated covalent index, $(\chi_m)^2 r$, of metal ions.

Metal ion	χ_m	r	$(\chi_m)^2 r$
Li^+	0.98	0.59	0.57
Na^+	0.93	1.02	0.88
Mg^{2+}	1.31	0.72	1.24
Ca^{2+}	1.00	1.12	1.12
Sr^{2+}	0.95	1.26	1.14
Ba^{2+}	0.89	1.47	1.16
La^{3+}	1.10	1.216	1.47
Sm^{3+}	1.17	1.125	1.54
Zr^{4+}	1.33	0.84	1.49
V^{2+}	1.63	0.79	2.10
Cr^{3+}	1.66	0.615	1.69
Mn^{2+}	1.55	0.83	1.99
Fe^{2+}	1.83	0.78	2.61
Ru^{2+}	2.2	0.77	3.73
Co^{2+}	1.88	0.745	2.63
Rh^{3+}	2.28	0.665	3.46
Ir^{3+}	2.2	0.68	3.29
Ni^{2+}	1.91	0.69	2.52
Pd^{2+}	2.2	0.64	3.10
Pt^{2+}	2.2	0.60	2.90
Cu^{2+}	1.90	0.73	2.63
Ag^+	1.93	1.00	3.72
Zn^{2+}	1.65	0.74	2.01
Cd^{2+}	1.69	0.95	2.71
Al^{3+}	1.61	0.535	1.39
Ga^{3+}	1.81	0.62	2.03
In^{3+}	1.78	0.80	2.53
Tl^{3+}	1.80	0.885	2.87

Ref. 1. *Handbook of Chemistry and Physics*, Ed. Haynes, W. M. CRC Press, Taylor and Francis Group, Boca Raton, USA, p. 9-97.
Ref. 2 Shannon, R. D. Revised Effective Ionic Radii and Systematic Studies of Interatomic Distances in Halides and Calcogenides. *Acta Crystallogr., Sect. A* **1976**, *32*, 751-767. https://doi.org/10.1107/S0567739476001551

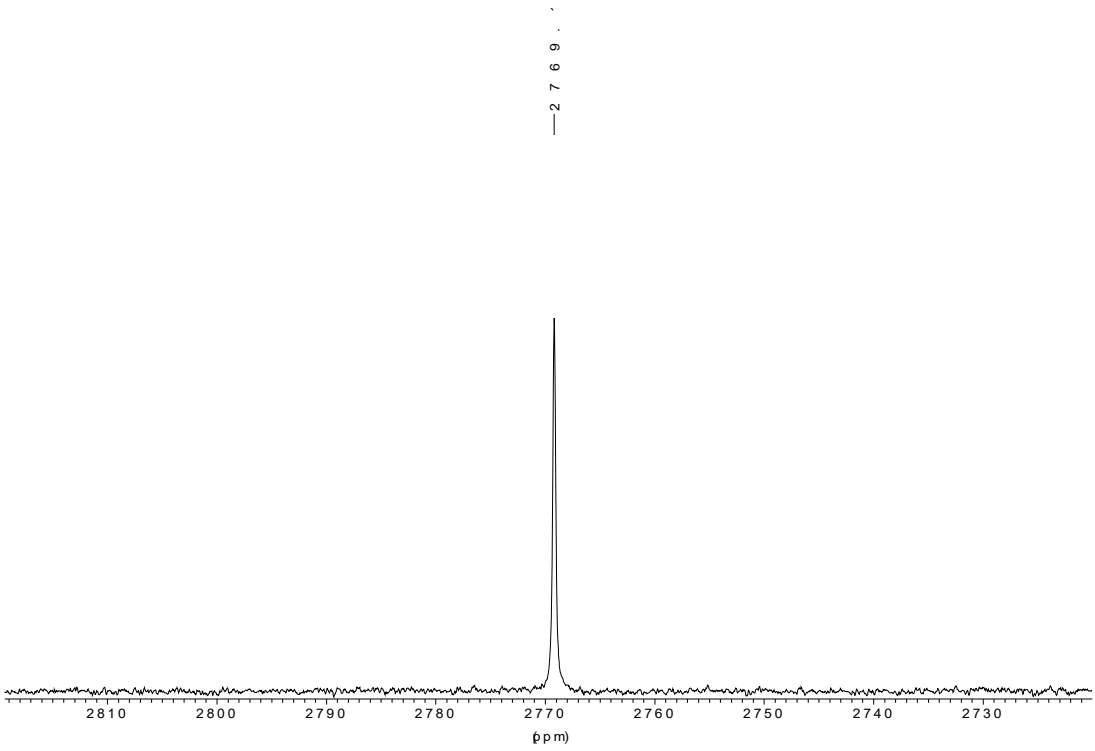


Figure S1. ^{205}Tl NMR spectrum of a 0.046 M solution of hexaamminethallium(III) perchlorate in liquid ammonia at room temperature.

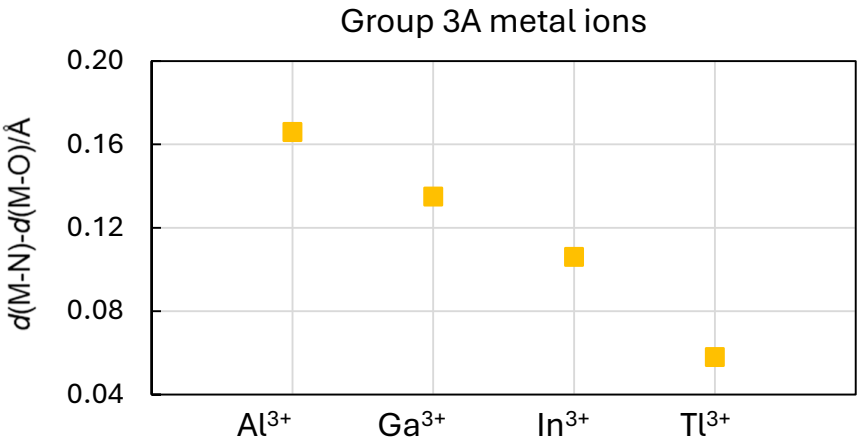


Figure S2. Difference in M-N and M-O bond distances in group 3A metal ion ammine solvates and hydrates.

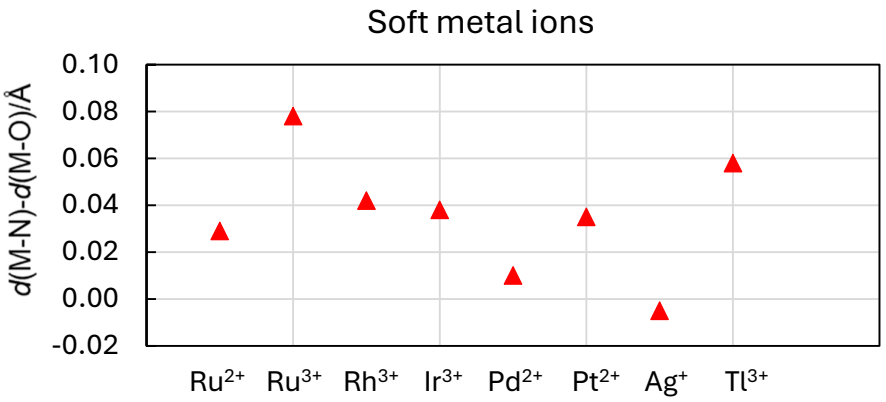


Figure S3. Difference in M-N and M-O bond distances in the softest metal ion ammine solvates and hydrates.