

checkCIF/PLATON report

Structure factors have been supplied for datablock(s) 1, 2, 3, 4, 5, 6

THIS REPORT IS FOR GUIDANCE ONLY. IF USED AS PART OF A REVIEW PROCEDURE FOR PUBLICATION, IT SHOULD NOT REPLACE THE EXPERTISE OF AN EXPERIENCED CRYSTALLOGRAPHIC REFEREE.

No syntax errors found. CIF dictionary Interpreting this report

Datablock: 1

Bond precision: C-C = 0.0064 Å Wavelength=0.71073

Cell: a=10.1482(9) b=11.1855(10) c=11.7055(11)
 alpha=111.285(3) beta=97.429(3) gamma=108.425(3)
Temperature: 296 K

	Calculated	Reported
Volume	1128.98(18)	1128.97(18)
Space group	P -1	P -1
Hall group	-P 1	-P 1
Moiety formula	C23 H18 Cu N4 O8, H2 O	?
Sum formula	C23 H20 Cu N4 O9	C23 H20 Cu N4 O9
Mr	559.98	559.97
Dx, g cm ⁻³	1.647	1.647
Z	2	2
Mu (mm ⁻¹)	1.032	1.032
F000	574.0	574.0
F000'	574.92	
h, k, lmax	12, 13, 14	12, 13, 14
Nref	4437	4415
Tmin, Tmax	0.899, 0.961	0.591, 0.746
Tmin'	0.801	

Correction method= # Reported T Limits: Tmin=0.591 Tmax=0.746
AbsCorr = MULTI_SCAN

Data completeness= 0.995 Theta(max)= 25.997

R(reflections)= 0.0555(3489)	wR2(reflections)=
S = 1.054	0.1668(4415)
Npar= 338	

The following ALERTS were generated. Each ALERT has the format

test-name_ALERT_alert-type_alert-level.

Click on the hyperlinks for more details of the test.

● Alert level C

PLAT341_ALERT_3_C	Low Bond Precision on C-C Bonds	0.00645 Ang.
PLAT369_ALERT_2_C	Long C(sp ²)-C(sp ²) Bond C7 - C8 .	1.55 Ang.
PLAT905_ALERT_3_C	Negative K value in the Analysis of Variance ...	-1.362 Report
PLAT911_ALERT_3_C	Missing FCF Refl Between Thmin & STh/L= 0.600	19 Report

● Alert level G

PLAT004_ALERT_5_G	Polymeric Structure Found with Maximum Dimension	2 Info
PLAT007_ALERT_5_G	Number of Unrefined Donor-H Atoms	4 Report
PLAT154_ALERT_1_G	The s.u.'s on the Cell Angles are Equal ..(Note)	0.003 Degree
PLAT232_ALERT_2_G	Hirshfeld Test Diff (M-X) Cu --O4_e .	5.1 s.u.
PLAT794_ALERT_5_G	Tentative Bond Valency for Cu (II) .	2.20 Info
PLAT804_ALERT_5_G	Number of ARU-Code Packing Problem(s) in PLATON	17 Info
PLAT883_ALERT_1_G	No Info/Value for _atom_sites_solution_primary .	Please Do !
PLAT912_ALERT_4_G	Missing # of FCF Reflections Above STh/L= 0.600	4 Note
PLAT967_ALERT_5_G	Note: Two-Theta Cutoff Value in Embedded .res ..	52.0 Degree
PLAT978_ALERT_2_G	Number C-C Bonds with Positive Residual Density.	4 Info

0 **ALERT level A** = Most likely a serious problem - resolve or explain
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10 **ALERT level G** = General information/check it is not something unexpected

2 ALERT type 1 CIF construction/syntax error, inconsistent or missing data
3 ALERT type 2 Indicator that the structure model may be wrong or deficient
3 ALERT type 3 Indicator that the structure quality may be low
1 ALERT type 4 Improvement, methodology, query or suggestion
5 ALERT type 5 Informative message, check

Datablock: 2

Bond precision: C-C = 0.0050 A

Wavelength=0.71073

Cell: a=8.9062(2) b=11.2565(3) c=22.7418(5)
alpha=99.7718(14) beta=94.3827(15) gamma=105.8728(14)

Temperature: 296 K

	Calculated	Reported
Volume	2142.96(9)	2142.95(9)
Space group	P -1	P -1
Hall group	-P 1	-P 1
Moiety formula	C72 H88 Cu3 N12 O26, 10(H O0.50)	?
Sum formula	C72 H106 Cu3 N12 O35	C36 H53 Cu1.50 N6 O17.50
Mr	1890.34	945.15
Dx, g cm ⁻³	1.465	1.465
Z	1	2
Mu (mm ⁻¹)	0.831	0.831
F000	989.0	989.0
F000'	990.46	
h, k, lmax	11, 15, 30	11, 15, 30
Nref	10661	10315
Tmin, Tmax	0.819, 0.920	0.685, 0.746
Tmin'	0.717	

Correction method= # Reported T Limits: Tmin=0.685 Tmax=0.746
AbsCorr = MULTI_SCAN

Data completeness= 0.968 Theta(max)= 28.310

R(reflections)= 0.0550(6028) wR2(reflections)=
S = 1.015 Npar= 556 0.1452(10315)

The following ALERTS were generated. Each ALERT has the format
test-name_ALERT_alert-type_alert-level.
Click on the hyperlinks for more details of the test.

● Alert level C

PLAT220_ALERT_2_C	NonSolvent	Resd 1	O	Ueq(max)/Ueq(min)	Range	3.2	Ratio
PLAT260_ALERT_2_C	Large Average Ueq of Residue Including				O18	0.181	Check
PLAT314_ALERT_2_C	Small Angle for H2O: Metal-O12		-H12D		.	90.63	Degree
PLAT314_ALERT_2_C	Small Angle for H2O: Metal-O15		-H15D		.	47.99	Degree
PLAT314_ALERT_2_C	Small Angle for H2O: Metal-O15		-H15E		.	87.51	Degree
PLAT906_ALERT_3_C	Large K Value in the Analysis of Variance				3.190	Check
PLAT911_ALERT_3_C	Missing FCF Refl Between Thmin & STh/L=			0.600		66	Report
PLAT975_ALERT_2_C	Check Calcd Resid. Dens.	0.41Ang	From	O14	.	0.52	eA-3
PLAT976_ALERT_2_C	Check Calcd Resid. Dens.	0.57Ang	From	O13	.	-0.53	eA-3
PLAT976_ALERT_2_C	Check Calcd Resid. Dens.	0.97Ang	From	O16	.	-0.46	eA-3
PLAT976_ALERT_2_C	Check Calcd Resid. Dens.	1.07Ang	From	O16	.	-0.44	eA-3
PLAT976_ALERT_2_C	Check Calcd Resid. Dens.	0.92Ang	From	O11	.	-0.42	eA-3
PLAT977_ALERT_2_C	Check Negative Difference Density on	H11D			.	-0.32	eA-3
PLAT977_ALERT_2_C	Check Negative Difference Density on	H16B			.	-0.42	eA-3
PLAT977_ALERT_2_C	Check Negative Difference Density on	H16C			.	-0.44	eA-3

● Alert level G

PLAT004_ALERT_5_G	Polymeric Structure Found with Maximum Dimension	2	Info
PLAT007_ALERT_5_G	Number of Unrefined Donor-H Atoms	21	Report
PLAT045_ALERT_1_G	Calculated and Reported Z Differ by a Factor ...	0.500	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of O18	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H18D	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H18E	Constrained at	0.5 Check
PLAT302_ALERT_4_G	Anion/Solvent/Minor-Residue Disorder (Resd 6)	100%	Note
PLAT415_ALERT_2_G	Short Inter D-H..H-X	H18D ..H26A	2.07 Ang.
		1-x,2-y,2-z =	2_677 Check
PLAT417_ALERT_2_G	Short Inter D-H..H-D	H14B ..H18E	2.11 Ang.
		x,y,z =	1_555 Check
PLAT794_ALERT_5_G	Tentative Bond Valency for Cu1	(II)	2.04 Info
PLAT794_ALERT_5_G	Tentative Bond Valency for Cu2	(II)	2.10 Info
PLAT804_ALERT_5_G	Number of ARU-Code Packing Problem(s) in PLATON		9 Info
PLAT883_ALERT_1_G	No Info/Value for _atom_sites_solution_primary		Please Do !
PLAT899_ALERT_4_G	SHELXL2018 is Deprecated and Succeeded by SHELXL	2019/3	Note
PLAT910_ALERT_3_G	Missing # of FCF Reflection(s) Below Theta(Min).	1	Note
PLAT912_ALERT_4_G	Missing # of FCF Reflections Above STh/L= 0.600	280	Note
PLAT933_ALERT_2_G	Number of HKL-OMIT Records in Embedded .res File	2	Note
PLAT941_ALERT_3_G	Average HKL Measurement Multiplicity	3.1	Low
PLAT978_ALERT_2_G	Number C-C Bonds with Positive Residual Density.	0	Info

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Datablock: 3

Bond precision: C-C = 0.0047 A Wavelength=0.71073

Cell: a=18.8531(6) b=25.8032(8) c=17.4503(6)
 alpha=90 beta=99.4362(19) gamma=90

Temperature: 191 K

	Calculated	Reported
Volume	8374.2(5)	8374.2(5)
Space group	C 2/c	C 2/c
Hall group	-C 2yc	-C 2yc
Moiety formula	C36 H27 Cu N2 O7 [+ solvent]	?
Sum formula	C36 H27 Cu N2 O7 [+ solvent]	C36 H27 Cu N2 O7
Mr	663.15	663.13
Dx, g cm ⁻³	1.052	1.052
Z	8	8
Mu (mm ⁻¹)	0.561	0.561
F000	2736.0	2736.0
F000'	2739.75	
h,k,lmax	25,34,23	25,34,23
Nref	10430	10067
Tmin,Tmax	0.935,0.945	0.674,0.746
Tmin'	0.845	

Correction method= # Reported T Limits: Tmin=0.674 Tmax=0.746

AbsCorr = MULTI_SCAN

Data completeness= 0.965

Theta(max)= 28.311

R(reflections)= 0.0536(6062)

wR2(reflections)=
0.1345(10067)

S = 0.990

Npar= 432

The following ALERTS were generated. Each ALERT has the format

test-name_ALERT_alert-type_alert-level.

Click on the hyperlinks for more details of the test.

Alert level C

PLAT213_ALERT_2_C	Atom C35	has ADP max/min Ratio	3.2	prolat
PLAT213_ALERT_2_C	Atom C36	has ADP max/min Ratio	3.9	prolat
PLAT220_ALERT_2_C	NonSolvent Resd 1 C	Ueq(max)/Ueq(min) Range	4.6	Ratio
PLAT220_ALERT_2_C	NonSolvent Resd 1 O	Ueq(max)/Ueq(min) Range	4.1	Ratio
PLAT222_ALERT_3_C	NonSolvent Resd 1 H	Uiso(max)/Uiso(min) Range	5.0	Ratio
PLAT241_ALERT_2_C	High 'MainMol'	Ueq as Compared to Neighbors of	N2	Check
PLAT242_ALERT_2_C	Low 'MainMol'	Ueq as Compared to Neighbors of	N1	Check
PLAT242_ALERT_2_C	Low 'MainMol'	Ueq as Compared to Neighbors of	C4	Check
PLAT242_ALERT_2_C	Low 'MainMol'	Ueq as Compared to Neighbors of	C27	Check
PLAT250_ALERT_2_C	Large U3/U1 Ratio for Average U(i,j) Tensor		2.3	Note
PLAT360_ALERT_2_C	Short C(sp3)-C(sp3) Bond C8 - C9 .		1.42	Ang.
PLAT420_ALERT_2_C	D-H Bond Without Acceptor N2 --H2A .			Please Check
PLAT905_ALERT_3_C	Negative K value in the Analysis of Variance ...		-2.133	Report
PLAT911_ALERT_3_C	Missing FCF Refl Between Thmin & STh/L= 0.600		144	Report

● Alert level G

PLAT007_ALERT_5_G	Number of Unrefined Donor-H Atoms		1	Report
PLAT171_ALERT_4_G	The CIF-Embedded .res File Contains EADP Records		2	Report
PLAT301_ALERT_3_G	Main Residue Disorder(Resd 1)		20%	Note
PLAT410_ALERT_2_G	Short Intra H...H Contact H18A ..H31A .		2.14	Ang.
	x,y,z =	1_555	Check	
PLAT410_ALERT_2_G	Short Intra H...H Contact H18A ..H31B .		1.98	Ang.
	x,y,z =	1_555	Check	
PLAT410_ALERT_2_G	Short Intra H...H Contact H20A ..H36A .		1.93	Ang.
	x,y,z =	1_555	Check	
PLAT606_ALERT_4_G	Solvent Accessible VOID(S) in Structure		!	Info
PLAT720_ALERT_4_G	Number of Unusual/Non-Standard Labels		3	Note
PLAT773_ALERT_2_G	Check long C-C Bond in CIF: C2 --C3		1.90	Ang.
PLAT804_ALERT_5_G	Number of ARU-Code Packing Problem(s) in PLATON		1	Info
PLAT869_ALERT_4_G	ALERTS Related to the Use of SQUEEZE Suppressed		!	Info
PLAT883_ALERT_1_G	No Info/Value for _atom_sites_solution_primary .		Please	Do !
PLAT899_ALERT_4_G	SHELXL2018 is Deprecated and Succeeded by SHELXL		2019/3	Note
PLAT910_ALERT_3_G	Missing # of FCF Reflection(s) Below Theta(Min).		2	Note
PLAT912_ALERT_4_G	Missing # of FCF Reflections Above STh/L= 0.600		217	Note
PLAT913_ALERT_3_G	Missing # of Very Strong Reflections in FCF		1	Note
PLAT941_ALERT_3_G	Average HKL Measurement Multiplicity		3.0	Low
PLAT978_ALERT_2_G	Number C-C Bonds with Positive Residual Density.		3	Info

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Datablock: 4

Bond precision: C-C = 0.0032 A Wavelength=0.71073

Cell: a=16.5969(4) b=13.9067(4) c=17.6110(5)
alpha=90 beta=90.2248(9) gamma=90

Temperature: 296 K

PLAT300_ALERT_4_G	Atom Site Occupancy of C10	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C10'	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C11	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C11'	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H10A	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H10B	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H10C	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H10D	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H11A	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H11B	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H11C	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H11D	Constrained at	0.5	Check
PLAT301_ALERT_3_G	Main Residue Disorder	(Resd 1)	6%	Note
PLAT303_ALERT_2_G	Full Occupancy Atom H8C	with # Connections	2.00	Check
PLAT367_ALERT_2_G	Long? C(sp?)-C(sp?) Bond	C8 - C9	1.52	Ang.
PLAT410_ALERT_2_G	Short Intra H...H Contact	H9B ..H10C	1.99	Ang.
		x,y,z =	1_555	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact	O4 ..C1	2.86	Ang.
		1+x,y,z =	1_655	Check
PLAT764_ALERT_4_G	Overcomplete CIF Bond List Detected (Rep/Expd)	.	1.20	Ratio
PLAT794_ALERT_5_G	Tentative Bond Valency for Cu1	(II)	2.13	Info
PLAT794_ALERT_5_G	Tentative Bond Valency for Cu2	(II)	2.12	Info
PLAT883_ALERT_1_G	No Info/Value for _atom_sites_solution_primary	.		Please Do !
PLAT912_ALERT_4_G	Missing # of FCF Reflections Above STh/L=	0.600	1	Note
PLAT913_ALERT_3_G	Missing # of Very Strong Reflections in FCF		3	Note
PLAT965_ALERT_2_G	The SHELXL WEIGHT Optimisation has not Converged			Please Check
PLAT978_ALERT_2_G	Number C-C Bonds with Positive Residual Density.		10	Info

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Datablock: 5

Bond precision:	C-C = 0.0114 A	Wavelength=0.71073
Cell:	a=20.9682(10)	b=25.3489(11)
	alpha=90	beta=90
		c=18.1699(8)
Temperature:	165 K	gamma=90

	Calculated	Reported
Volume	9657.7(8)	9657.7(8)
Space group	P n a 21	P n a 21
Hall group	P 2c -2n	P 2c -2n
Moiety formula	2(C98 H84 Cu3 N8 O16), 6(C0.50 H2 O0.50), 4(H2 O)	?
Sum formula	C201 H196 Cu6 N16 O41	C100.50 H104 Cu3 N8 O20.50
Mr	3873.05	1942.53
Dx, g cm ⁻³	1.332	1.336
Z	2	4
Mu (mm ⁻¹)	0.728	0.728
F000	4032.0	4056.0
F000'	4037.53	
h,k,lmax	25,31,22	25,31,22
Nref	19005[9820]	18994
Tmin,Tmax	0.840,0.930	0.672,0.746
Tmin'	0.695	

Correction method= # Reported T Limits: Tmin=0.672 Tmax=0.746
AbsCorr = MULTI_SCAN

Data completeness= 1.93/1.00 Theta(max)= 25.999

R(reflections)= 0.0526(15949) wR2(reflections)=
S = 1.026 Npar= 1157 0.1503(18994)

The following ALERTS were generated. Each ALERT has the format
test-name_ALERT_alert-type_alert-level.
Click on the hyperlinks for more details of the test.

● Alert level C

PLAT041_ALERT_1_C	Calc. and Reported SumFormula	Strings Differ	Please Check
PLAT043_ALERT_1_C	Calculated and Reported Mol. Weight Differ by ..	12.01	Check
PLAT068_ALERT_1_C	Reported F000 Differs from Calcd (or Missing)...		Please Check
PLAT214_ALERT_2_C	Atom C99 (Anion/Solvent) ADP max/min Ratio	4.1	prolat
PLAT220_ALERT_2_C	NonSolvent Resd 1 C Ueq(max)/Ueq(min) Range	5.1	Ratio
PLAT220_ALERT_2_C	NonSolvent Resd 1 N Ueq(max)/Ueq(min) Range	3.2	Ratio
PLAT220_ALERT_2_C	NonSolvent Resd 1 O Ueq(max)/Ueq(min) Range	4.6	Ratio
PLAT222_ALERT_3_C	NonSolvent Resd 1 H Uiso(max)/Uiso(min) Range	4.2	Ratio
PLAT241_ALERT_2_C	High 'MainMol' Ueq as Compared to Neighbors of	C8	Check
PLAT241_ALERT_2_C	High 'MainMol' Ueq as Compared to Neighbors of	C39	Check
PLAT242_ALERT_2_C	Low 'MainMol' Ueq as Compared to Neighbors of	N7	Check
PLAT242_ALERT_2_C	Low 'MainMol' Ueq as Compared to Neighbors of	N8	Check
PLAT260_ALERT_2_C	Large Average Ueq of Residue Including	017	0.205 Check
PLAT260_ALERT_2_C	Large Average Ueq of Residue Including	018	0.121 Check
PLAT260_ALERT_2_C	Large Average Ueq of Residue Including	021	0.102 Check
PLAT309_ALERT_2_C	Single Bonded Oxygen (C-O > 1.3 Ang)	02	Check

PLAT341_ALERT_3_C Low Bond Precision on C-C Bonds 0.01138 Ang.
 PLAT911_ALERT_3_C Missing FCF Refl Between Thmin & STh/L= 0.600 5 Report
 PLAT975_ALERT_2_C Check Calcd Resid. Dens. 0.81Ang From O19 . 0.88 eA-3
 PLAT975_ALERT_2_C Check Calcd Resid. Dens. 1.03Ang From O4 . 0.43 eA-3

Alert level G

FORMU01_ALERT_2_G There is a discrepancy between the atom counts in the
 _chemical_formula_sum and the formula from the _atom_site* data.
 Atom count from _chemical_formula_sum: C100.5 H104 Cu3 N8 O20.5
 Atom count from the _atom_site data: C100.5 H98 Cu3 N8 O20.5
 CELLZ01_ALERT_1_G Difference between formula and atom_site contents detected.
 CELLZ01_ALERT_1_G WARNING: H atoms missing from atom site list. Is this intentional?
 From the CIF: _cell_formula_units_Z 4
 From the CIF: _chemical_formula_sum C100.50 H104 Cu3 N8 O20.50
 TEST: Compare cell contents of formula and atom_site data

atom	Z*formula	cif sites	diff
C	402.00	402.00	0.00
H	416.00	392.00	24.00
Cu	12.00	12.00	0.00
N	32.00	32.00	0.00
O	82.00	82.00	0.00

PLAT002_ALERT_2_G	Number of Distance or Angle Restraints on AtSite	12	Note
PLAT003_ALERT_2_G	Number of Uiso or Uij Restrained non-H Atoms ...	110	Report
PLAT004_ALERT_5_G	Polymeric Structure Found with Maximum Dimension	3	Info
PLAT007_ALERT_5_G	Number of Unrefined Donor-H Atoms	11	Report
PLAT045_ALERT_1_G	Calculated and Reported Z Differ by a Factor ...	0.500	Check
PLAT083_ALERT_2_G	SHELXL Second Parameter in WGHT Unusually Large	10.24	Why ?
PLAT171_ALERT_4_G	The CIF-Embedded .res File Contains EADP Records	2	Report
PLAT172_ALERT_4_G	The CIF-Embedded .res File Contains DFIX Records	4	Report
PLAT178_ALERT_4_G	The CIF-Embedded .res File Contains SIMU Records	1	Report
PLAT188_ALERT_3_G	A Non-default SIMU Restraint Value has been used	0.0100	Report
PLAT300_ALERT_4_G	Atom Site Occupancy of O2	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of O2'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C9	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C9'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C10	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C10'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C11	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C11'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C12	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C12'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C13	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C13'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C14	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C14'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C15	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C15'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C16	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C16'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C33	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C33'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C34	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C34'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C35	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C35'	Constrained at	0.5 Check

[illegible]

PLAT413_ALERT_2_G Short Inter XH3 .. XHn	H10E ..H14D	.	2.12 Ang.
	-1/2+x,-1/2-y,1+z =	3_446	Check
PLAT414_ALERT_2_G Short Intra D-H..H-X	H7A ..H36D	.	1.95 Ang.
	x,y,z =	1_555	Check
PLAT417_ALERT_2_G Short Inter D-H..H-D	H6A ..H190	.	2.08 Ang.
	x,y,z =	1_555	Check
PLAT417_ALERT_2_G Short Inter D-H..H-D	H190 ..H21B	.	1.92 Ang.
	-x,-y,3/2+z =	2_556	Check
PLAT417_ALERT_2_G Short Inter D-H..H-D	H190 ..H21D	.	2.12 Ang.
	-x,-y,3/2+z =	2_556	Check
PLAT720_ALERT_4_G Number of Unusual/Non-Standard Labels			2 Note
PLAT773_ALERT_2_G Check long C-C Bond in CIF: C34'	--C35'		1.71 Ang.
PLAT794_ALERT_5_G Tentative Bond Valency for Cu1	(II)	.	2.14 Info
PLAT794_ALERT_5_G Tentative Bond Valency for Cu2	(II)	.	2.20 Info
PLAT804_ALERT_5_G Number of ARU-Code Packing Problem(s) in PLATON			16 Info
PLAT860_ALERT_3_G Number of Least-Squares Restraints			2119 Note
PLAT883_ALERT_1_G No Info/Value for _atom_sites_solution_primary			Please Do !
PLAT910_ALERT_3_G Missing # of FCF Reflection(s) Below Theta(Min).			1 Note
PLAT933_ALERT_2_G Number of HKL-OMIT Records in Embedded .res File			5 Note
PLAT965_ALERT_2_G The SHELXL WEIGHT Optimisation has not Converged			Please Check
PLAT967_ALERT_5_G Note: Two-Theta Cutoff Value in Embedded .res ..			52.0 Degree
PLAT978_ALERT_2_G Number C-C Bonds with Positive Residual Density.			1 Info

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7 ALERT type 1 CIF construction/syntax error, inconsistent or missing data
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 7 ALERT type 3 Indicator that the structure quality may be low
 81 ALERT type 4 Improvement, methodology, query or suggestion
 6 ALERT type 5 Informative message, check

Datablock: 6

Bond precision:	C-C = 0.0107 A	Wavelength=0.71073
Cell:	a=22.0739(18)	b=24.3392(18) c=17.9481(15)
	alpha=90	beta=90 gamma=90
Temperature:	293 K	

	Calculated	Reported
Volume	9642.8(13)	9642.8(13)
Space group	P n a 21	P n a 21
Hall group	P 2c -2n	P 2c -2n
Moiety formula	C98 H88 Cu3 N8 O16, C3 H7 N O, 2(H2 O)	?
Sum formula	C101 H99 Cu3 N9 O19	C101 H101 Cu3 N9 O19
Mr	1933.55	1935.52
Dx, g cm ⁻³	1.332	1.333
Z	4	4
Mu (mm ⁻¹)	0.728	0.728
F000	4028.0	4036.0
F000'	4033.48	
h,k,lmax	29,32,23	29,32,23
Nref	24020[12386]	20288
Tmin,Tmax	0.840,0.930	0.690,0.746
Tmin'	0.747	

Correction method= # Reported T Limits: Tmin=0.690 Tmax=0.746
AbsCorr = MULTI_SCAN

Data completeness= 1.64/0.84 Theta(max)= 28.316

R(reflections)= 0.0571(11504) wR2(reflections)=
0.1244(20288)
S = 1.002 Npar= 1181

The following ALERTS were generated. Each ALERT has the format
test-name_ALERT_alert-type_alert-level.
Click on the hyperlinks for more details of the test.

Alert level C

PLAT041_ALERT_1_C	Calc. and Reported SumFormula	Strings Differ	Please Check
PLAT068_ALERT_1_C	Reported F000 Differs from Calcd (or Missing)...		Please Check
PLAT213_ALERT_2_C	Atom N4	has ADP max/min Ratio	3.1 prolat
PLAT214_ALERT_2_C	Atom C99	(Anion/Solvent) ADP max/min Ratio	4.4 prolat
PLAT220_ALERT_2_C	NonSolvent Resd 1 C	Ueq(max)/Ueq(min) Range	5.9 Ratio
PLAT220_ALERT_2_C	NonSolvent Resd 1 O	Ueq(max)/Ueq(min) Range	3.8 Ratio
PLAT222_ALERT_3_C	NonSolvent Resd 1 H	Uiso(max)/Uiso(min) Range	5.0 Ratio
PLAT241_ALERT_2_C	High 'MainMol'	Ueq as Compared to Neighbors of	C11 Check
PLAT241_ALERT_2_C	High 'MainMol'	Ueq as Compared to Neighbors of	C15 Check
PLAT241_ALERT_2_C	High 'MainMol'	Ueq as Compared to Neighbors of	C59 Check
PLAT241_ALERT_2_C	High 'MainMol'	Ueq as Compared to Neighbors of	C93 Check
PLAT242_ALERT_2_C	Low 'MainMol'	Ueq as Compared to Neighbors of	C7 Check
PLAT242_ALERT_2_C	Low 'MainMol'	Ueq as Compared to Neighbors of	C12 Check
PLAT242_ALERT_2_C	Low 'MainMol'	Ueq as Compared to Neighbors of	C16 Check
PLAT242_ALERT_2_C	Low 'MainMol'	Ueq as Compared to Neighbors of	C56 Check
PLAT242_ALERT_2_C	Low 'MainMol'	Ueq as Compared to Neighbors of	C91 Check

PLAT244_ALERT_4_C	Low	'Solvent' Ueq as Compared to Neighbors of	N9	Check
PLAT244_ALERT_4_C	Low	'Solvent' Ueq as Compared to Neighbors of	C101	Check
PLAT245_ALERT_2_C	U(iso) H97A	Smaller than U(eq) C98	by	0.038 Ang**2
PLAT245_ALERT_2_C	U(iso) H97B	Smaller than U(eq) C98	by	0.038 Ang**2
PLAT260_ALERT_2_C	Large Average Ueq of Residue Including	O19		0.242 Check
PLAT329_ALERT_4_C	Carbon Atom Hybridisation Unclear for			C60 Check
PLAT341_ALERT_3_C	Low Bond Precision on C-C Bonds			0.01069 Ang.

● Alert level G

FORMU01_ALERT_2_G There is a discrepancy between the atom counts in the
 _chemical_formula_sum and the formula from the _atom_site* data.
 Atom count from _chemical_formula_sum: C101 H101 Cu3 N9 O19
 Atom count from the _atom_site data: C101 H99 Cu3 N9 O19

CELLZ01_ALERT_1_G Difference between formula and atom_site contents detected.
 CELLZ01_ALERT_1_G WARNING: H atoms missing from atom site list. Is this intentional?
 From the CIF: _cell_formula_units_Z 4
 From the CIF: _chemical_formula_sum C101 H101 Cu3 N9 O19
 TEST: Compare cell contents of formula and atom_site data

atom	Z*formula	cif sites	diff
C	404.00	404.00	0.00
H	404.00	396.00	8.00
Cu	12.00	12.00	0.00
N	36.00	36.00	0.00
O	76.00	76.00	0.00

PLAT004_ALERT_5_G	Polymeric Structure Found with Maximum Dimension	3	Info
PLAT007_ALERT_5_G	Number of Unrefined Donor-H Atoms	8	Report
PLAT199_ALERT_1_G	Reported _cell_measurement_temperature	293	Check
PLAT200_ALERT_1_G	Reported _diffrn_ambient_temperature	293	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C19	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C19'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C20	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C20'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C21	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C21'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C60	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C60'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C95	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C95'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C96	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C96'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C97	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C97'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C98	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C98'	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H19A	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H19B	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H20A	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H20B	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H21A	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H21B	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H60A	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H60B	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H60C	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H60D	Constrained at	0.5 Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H95A	Constrained at	0.5 Check

PLAT300_ALERT_4_G	Atom Site Occupancy of H95B	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H95C	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H95D	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H96A	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H96B	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H96C	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H96D	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H97A	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H97B	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H97C	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H97D	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H98A	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H98B	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H98C	Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H98D	Constrained at	0.5	Check
PLAT301_ALERT_3_G	Main Residue Disorder(Resd 1)		6%	Note
PLAT367_ALERT_2_G	Long? C(sp?)-C(sp?) Bond C58 - C59		1.52	Ang.
PLAT380_ALERT_4_G	Incorrectly? Oriented X(sp2)-Methyl Moiety		C99	Check
PLAT380_ALERT_4_G	Incorrectly? Oriented X(sp2)-Methyl Moiety		C100	Check
PLAT410_ALERT_2_G	Short Intra H...H Contact H17B ..H19A		2.09	Ang.
		x,y,z =	1_555	Check
PLAT773_ALERT_2_G	Check long C-C Bond in CIF: C59 --C60		1.90	Ang.
PLAT794_ALERT_5_G	Tentative Bond Valency for Cu2 (II)		2.20	Info
PLAT794_ALERT_5_G	Tentative Bond Valency for Cu3 (II)		2.16	Info
PLAT804_ALERT_5_G	Number of ARU-Code Packing Problem(s) in PLATON		17	Info
PLAT850_ALERT_4_G	Check Flack Parameter Exact Value 0.00 with s.u.		0.01	Check
PLAT883_ALERT_1_G	No Info/Value for _atom_sites_solution_primary			Please Do !
PLAT910_ALERT_3_G	Missing # of FCF Reflection(s) Below Theta(Min).		1	Note
PLAT912_ALERT_4_G	Missing # of FCF Reflections Above STh/L= 0.600		46	Note
PLAT915_ALERT_3_G	No Flack x Check Done: Low Friedel Pair Coverage		68	%
PLAT978_ALERT_2_G	Number C-C Bonds with Positive Residual Density.		2	Info

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It is advisable to attempt to resolve as many as possible of the alerts in all categories. Often the minor alerts point to easily fixed oversights, errors and omissions in your CIF or refinement strategy, so attention to these fine details can be worthwhile. In order to resolve some of the more serious problems it may be necessary to carry out additional measurements or structure refinements. However, the purpose of your study may justify the reported deviations and the more serious of these should normally be commented upon in the discussion or experimental section of a paper or in the "special_details" fields of the CIF. checkCIF was carefully designed to identify outliers and unusual parameters, but every test has its limitations and alerts that are not important in a particular case may appear. Conversely, the absence of alerts does not guarantee there are no aspects of the results needing attention. It is up to the individual to critically assess their own results and, if necessary, seek expert advice.

Publication of your CIF in IUCr journals

A basic structural check has been run on your CIF. These basic checks will be run on all CIFs submitted for publication in IUCr journals (*Acta Crystallographica*, *Journal of Applied Crystallography*, *Journal of Synchrotron Radiation*); however, if you intend to submit to *Acta Crystallographica Section C* or *E* or *IUCrData*, you should make sure that full publication checks are run on the final version of your CIF prior to submission.

Publication of your CIF in other journals

Please refer to the *Notes for Authors* of the relevant journal for any special instructions relating to CIF submission.











