

checkCIF/PLATON report

You have not supplied any structure factors. As a result the full set of tests cannot be run.

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: MUF-93-84h-67pc

Bond precision: C-C = 0.0030 Å

Wavelength=0.71092

Cell: a=17.09(3) b=17.09(3) c=17.09(3)
 alpha=90 beta=90 gamma=90
Temperature: 100 K

	Calculated	Reported
Volume	4991(26)	4992(24)
Space group	P -4 3 m	P -4 3 m
Hall group	P -4 2 3	P -4 2 3
Moiety formula	0.447(C10.50 H6 Co 03.25), 2(C3.50 H 01.08 Zn0.33), 4(C1.75 H1.	1(C84 H48 N6 O13 Zn4), 1(C27.99 H16 Co2.67 O8.66)
Sum formula	C18.69 H10.68 Co0.45 N 03.62 Zn0.67	C111.98 H63.98 Co2.67 N6 021.66 Zn4
Mr	377.05	2258.76
Dx, g cm-3	0.753	0.751
Z	6	1
Mu (mm-1)	0.728	0.727
F000	1145.0	1143.0
F000'	1147.48	
h, k, lmax	15, 15, 15	15, 15, 15
Nref	786[446]	785
Tmin, Tmax		0.540, 0.746
Tmin'		

Correction method= # Reported T Limits: Tmin=0.540 Tmax=0.746
AbsCorr = MULTI-SCAN

Data completeness= 1.76/1.00 Theta(max)= 18.837

R(reflections)= 0.1548(451) wR2(reflections)= 0.3831(785)

S = 1.390 Npar= 55

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 A

THETM01_ALERT_3_A The value of $\sin(\theta_{\max})/\lambda$ is less than 0.550
Calculated $\sin(\theta_{\max})/\lambda = 0.4542$
PLAT601_ALERT_2_A Structure Contains Solvent Accessible Voids of . 1611 Ang**3

Alert level B

PLAT049_ALERT_1_B Calculated Density Less Than 1.0 gcm⁻³ 0.7530 Check
PLAT084_ALERT_3_B High wR2 Value (i.e. > 0.25) 0.38 Report
PLAT234_ALERT_4_B Large Hirshfeld Difference Zn1 --01 . 0.26 Ang.
PLAT315_ALERT_2_B Singly Bonded Carbon Detected (H-atoms Missing). C15 Check
PLAT987_ALERT_1_B The Flack x is >> 0 - Do a BASF/TWIN Refinement Please Check

Alert level C

RADNW01_ALERT_1_C The radiation wavelength lies outside the expected range
for the supplied radiation type. Expected range 0.71065-0.71075
Wavelength given = 0.71092
RINTA01_ALERT_3_C The value of Rint is greater than 0.12
Rint given 0.160
STRVA01_ALERT_4_C Flack test results are ambiguous.
From the CIF: _refine_ls_abs_structure_Flack 0.380
From the CIF: _refine_ls_abs_structure_Flack_su 0.050
PLAT020_ALERT_3_C The Value of Rint is Greater Than 0.12 0.160 Report
PLAT041_ALERT_1_C Calc. and Reported SumFormula Strings Differ Please Check
PLAT043_ALERT_1_C Calculated and Reported Mol. Weight Differ by .. 0.59 Check
PLAT053_ALERT_1_C Minimum Crystal Dimension Missing (or Error) ... Please Check
PLAT054_ALERT_1_C Medium Crystal Dimension Missing (or Error) ... Please Check
PLAT055_ALERT_1_C Maximum Crystal Dimension Missing (or Error) ... Please Check
PLAT068_ALERT_1_C Reported F000 Differs from Calcd (or Missing)... Please Check
PLAT077_ALERT_4_C Unitcell Contains Non-integer Number of Atoms .. Please Check
PLAT082_ALERT_2_C High R1 Value 0.15 Report
PLAT148_ALERT_3_C s.u. on the a - Axis is (Too) Large 0.030 Ang.
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . C12 Check
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . C13 Check
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . N1 Check
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . C15 Check
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . C16 Check
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . C17 Check
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . C18 Check
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . C19 Check
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . C20 Check
PLAT161_ALERT_4_C Missing or Zero s.u. (esd) on x-coordinate for . C21 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . C12 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . C13 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . N1 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . C15 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . C16 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . C17 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . C18 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . C19 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . C20 Check
PLAT162_ALERT_4_C Missing or Zero s.u. (esd) on y-coordinate for . C21 Check
PLAT163_ALERT_4_C Missing or Zero s.u. (esd) on z-coordinate for . C12 Check
PLAT163_ALERT_4_C Missing or Zero s.u. (esd) on z-coordinate for . C13 Check

PLAT163_ALERT_4_C	Missing or Zero s.u. (esd) on z-coordinate for .	N1	Check
PLAT163_ALERT_4_C	Missing or Zero s.u. (esd) on z-coordinate for .	C15	Check
PLAT163_ALERT_4_C	Missing or Zero s.u. (esd) on z-coordinate for .	C16	Check
PLAT163_ALERT_4_C	Missing or Zero s.u. (esd) on z-coordinate for .	C17	Check
PLAT163_ALERT_4_C	Missing or Zero s.u. (esd) on z-coordinate for .	C18	Check
PLAT163_ALERT_4_C	Missing or Zero s.u. (esd) on z-coordinate for .	C19	Check
PLAT163_ALERT_4_C	Missing or Zero s.u. (esd) on z-coordinate for .	C20	Check
PLAT163_ALERT_4_C	Missing or Zero s.u. (esd) on z-coordinate for .	C21	Check
PLAT234_ALERT_4_C	Large Hirshfeld Difference Zn1 --O2 .	0.19	Ang.
PLAT241_ALERT_2_C	High 'MainMol' Ueq as Compared to Neighbors of	C10	Check
PLAT242_ALERT_2_C	Low 'MainMol' Ueq as Compared to Neighbors of	Zn1	Check
PLAT250_ALERT_2_C	Large U3/U1 Ratio for Average U(i,j) Tensor	2.1	Note
PLAT260_ALERT_2_C	Large Average Ueq of Residue Including Co2	0.267	Check
PLAT260_ALERT_2_C	Large Average Ueq of Residue Including Zn1	0.259	Check

● Alert level G

FORMU01_ALERT_1_G There is a discrepancy between the atom counts in the
 _chemical_formula_sum and _chemical_formula_moiety. This is
 usually due to the moiety formula being in the wrong format.
 Atom count from _chemical_formula_sum: C111.98 H63.98 Co2.67 N6 O21.
 Atom count from _chemical_formula_moiety:C111.99 H64 Co2.67 N6 O21.66

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:C111.98 H63.98 Co2.67 N6 O21.66
 Atom count from the _atom_site data: C112.1310 H64.07487 Co2.679785 N

CELLZ01_ALERT_1_G Difference between formula and atom_site contents detected.
 CELLZ01_ALERT_1_G ALERT: check formula stoichiometry or atom site occupancies.
 From the CIF: _cell_formula_units_Z 1
 From the CIF: _chemical_formula_sum C111.98 H63.98 Co2.67 N6 O21.66 Zn
 TEST: Compare cell contents of formula and atom_site data

atom	Z*formula	cif sites	diff
C	111.99	112.14	-0.15
H	63.99	64.08	-0.09
Co	2.67	2.68	-0.01
N	6.00	6.00	0.00
O	21.66	21.71	-0.05
Zn	4.00	4.00	0.00

PLAT002_ALERT_2_G	Number of Distance or Angle Restraints on AtSite	11	Note
PLAT003_ALERT_2_G	Number of Uiso or Uij Restrained non-H Atoms ...	16	Report
PLAT004_ALERT_5_G	Polymeric Structure Found with Maximum Dimension	3	Info
PLAT012_ALERT_1_G	No _shelx_res_checksum Found in CIF		Please Check
PLAT042_ALERT_1_G	Calc. and Reported MoietyFormula Strings Differ		Please Check
PLAT045_ALERT_1_G	Calculated and Reported Z Differ by a Factor ...	6.00	Check
PLAT072_ALERT_2_G	SHELXL First Parameter in WGHT Unusually Large	0.20	Report
PLAT152_ALERT_1_G	The Supplied and Calc. Volume s.u. Differ by ...	2	Units
PLAT172_ALERT_4_G	The CIF-Embedded .res File Contains DFIX Records	11	Report
PLAT174_ALERT_4_G	The CIF-Embedded .res File Contains FLAT Records	2	Report
PLAT178_ALERT_4_G	The CIF-Embedded .res File Contains SIMU Records	2	Report
PLAT186_ALERT_4_G	The CIF-Embedded .res File Contains ISOR Records	3	Report
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 H12 Constrained at	0.5	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C15 Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C16 Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C17 Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C18 Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C19 Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C20 Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of C21 Constrained at	0.25	Check

PLAT300_ALERT_4_G	Atom Site Occupancy of H17	Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H18	Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H19	Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H20	Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H21	Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of N1	Constrained at	0.25	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of H13	Constrained at	0.25	Check
PLAT301_ALERT_3_G	Main Residue Disorder(Resd 1)		100%	Note
PLAT302_ALERT_4_G	Anion/Solvent/Minor-Residue Disorder (Resd 2)		39%	Note
PLAT302_ALERT_4_G	Anion/Solvent/Minor-Residue Disorder (Resd 3)		100%	Note
PLAT302_ALERT_4_G	Anion/Solvent/Minor-Residue Disorder (Resd 4)		100%	Note
PLAT367_ALERT_2_G	Long? C(sp?)-C(sp?) Bond C14 - C14_b .		1.50	Ang.
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..N1		2.52	Ang.
		x,y,z =	1_555	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..N1		2.52	Ang.
		y,x,z =	20_555	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..N1		2.52	Ang.
		1-x,1-y,z =	3_665	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..N1		2.52	Ang.
		1-y,1-x,z =	19_665	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..N1		3.00	Ang.
		1-y,x,2-z =	4_657	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..N1		3.00	Ang.
		y,1-x,2-z =	2_567	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..N1		3.00	Ang.
		1-x,y,2-z =	9_657	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..N1		3.00	Ang.
		x,1-y,2-z =	6_567	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..C15		3.17	Ang.
		1-x,1-y,z =	3_665	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..C15		3.17	Ang.
		1-y,1-x,z =	19_665	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..C15		3.17	Ang.
		y,x,z =	20_555	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact C14 ..C15		3.17	Ang.
		x,y,z =	1_555	Check
PLAT779_ALERT_4_G	Suspect or Irrelevant (Bond) Angle(s) in CIF . #		36	Check
	C12 -C11 -C12 20.555 1.555 1.555		21.26	Deg.
PLAT779_ALERT_4_G	Suspect or Irrelevant (Bond) Angle(s) in CIF . #		40	Check
	C12 -C11 -C12 19.665 1.555 3.665		21.26	Deg.
PLAT789_ALERT_4_G	Atoms with Negative _atom_site_disorder_group #		17	Check
PLAT794_ALERT_5_G	Tentative Bond Valency for Zn1 (II) .		2.17	Info
PLAT811_ALERT_5_G	No ADDSYM Analysis: Too Many Excluded Atoms		!	Info
PLAT860_ALERT_3_G	Number of Least-Squares Restraints		223	Note
PLAT883_ALERT_1_G	No Info/Value for _atom_sites_solution_primary .		Please Do !	
PLAT933_ALERT_2_G	Number of OMIT Records in Embedded .res File ...		3	Note

2 **ALERT level A** = Most likely a serious problem - resolve or explain
 5 **ALERT level B** = A potentially serious problem, consider carefully
 49 **ALERT level C** = Check. Ensure it is not caused by an omission or oversight
 58 **ALERT level G** = General information/check it is not something unexpected

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

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.

