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.

Datablock: hanahanite

Bond precision:	Zn- O = 0.0405 A	Wavelength:	=0.71075
Cell:		b=8.312(2)	c=15.295(2)
Temperature:	alpha=90 293 K	beta=90	gamma=120
	Calculated	Reported	
Volume	915.2(5)	915.2(5)	
Space group	P 63	P 63	
Hall group	P 6c	P 6c	
Moiety formula	O36 S2 Zn15.62, 6(O)	?	
Sum formula	O42 S2 Zn15.62	H20 O21 S	Zn7.82
Mr	1757.64	899.09	
Dx,g cm-3	3.189	3.263	
Z	1	2	
Mu (mm-1)	10.268	10.276	
F000	836.7	877.0	
F000'	841.85		
	9,9,18	9,9,18	
Nref	1076[560]	1074	
Tmin, Tmax	0.698,0.735	0.286,1.0	00
Tmin'	0.354		
Correction method= # Reported T Limits: Tmin=0.286 Tmax=1.000 AbsCorr = MULTI-SCAN			
Data completeness= 1.92/1.00 Theta(max) = 24.988			
R(reflections) =	0.0650(772)		wR2(reflections) = 0.2007(1074)
S = 1.043	Npar= 94		2220. (20.2)

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.

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🥯 Alert level B
PLAT043_ALERT_1_B Calculated and Reported Mol. Weight Differ by ..
                                                                     40.54 Check
PLAT090_ALERT_3_B Poor Data / Parameter Ratio (Zmax > 18) ......
                                                                      5.96 Note
PLAT213_ALERT_2_B Atom Oh1
                                     has ADP max/min Ratio .....
                                                                        4.7 oblate
                      'MainMol' Ueq as Compared to Neighbors of
PLAT241_ALERT_2_B High
                                                                       Oh1 Check
PLAT306_ALERT_2_B Isolated Oxygen Atom (H-atoms Missing ?) ......
                                                                        Ow Check
   Alert level C
DIFMX02_ALERT_1_C The maximum difference density is > 0.1*ZMAX*0.75
           The relevant atom site should be identified.
PLAT041_ALERT_1_C Calc. and Reported SumFormula
                                                                     Please Check
                                                 Strings Differ
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
PLAT094_ALERT_2_C Ratio of Maximum / Minimum Residual Density ....
                                                                       2.46 Report
                                                                      2.74 eA-3
PLAT097_ALERT_2_C Large Reported Max. (Positive) Residual Density
PLAT220_ALERT_2_C NonSolvent Resd 1 O Ueq(max)/Ueq(min) Range
                                                                       5.0 Ratio
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: H20 O21 S1 Zn7.82
           Atom count from the atom site data: O21 S1 Zn7.811
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
                                                 2
          From the CIF: _chemical_formula_sum H20 O21 S Zn7.82
          TEST: Compare cell contents of formula and atom_site data
          atom
                  Z*formula cif sites diff
          Η
                    40.00
                              0.00
                                    40.00
          0
                    42.00
                              42.00
                                      0.00
                     2.00
                              2.00
                                       0.00
          S
                    15.64
                              15.62
                                       0.02
          Zn
PLAT004_ALERT_5_G Polymeric Structure Found with Maximum Dimension
                                                                          3 Info
PLAT045_ALERT_1_G Calculated and Reported Z Differ by a Factor ...
                                                                     0.5000 Check
PLAT199_ALERT_1_G Reported _cell_measurement_temperature .... (K)
                                                                        293 Check
PLAT200_ALERT_1_G Reported __diffrn_ambient_temperature .... (K)
                                                                        293 Check
PLAT301_ALERT_3_G Main Residue Disorder ......(Resd 1 )
                                                                        17% Note
PLAT720_ALERT_4_G Number of Unusual/Non-Standard Labels .....
                                                                          7 Note
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- 0 ALERT level A = Most likely a serious problem resolve or explain
- 5 ALERT level B = A potentially serious problem, consider carefully

PLAT883_ALERT_1_G No Info/Value for _atom_sites_solution_primary .

7 ALERT level C = Check. Ensure it is not caused by an omission or oversight

Please Do !

- 10 ALERT level G = General information/check it is not something unexpected
- 10 ALERT type 1 CIF construction/syntax error, inconsistent or missing data

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7 ALERT type 2 Indicator that the structure model may be wrong or deficient 2 ALERT type 3 Indicator that the structure quality may be low 2 ALERT type 4 Improvement, methodology, query or suggestion 1 ALERT type 5 Informative message, check
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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.

PLATON version of 20/01/2022; check.def file version of 19/01/2022

