checkCIF/PLATON report

Structure factors have been supplied for datablock(s) shelx

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: shelx

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Bond precision:  C-C = 0.0123 A          Wavelength=0.71073

Cell:            a=19.485(2)    b=18.109(2)          c=14.165(1)
                 alpha=90       beta=130.850(2)      gamma=90
Temperature:     150 K

                Calculated                Reported
Volume          3780.7(6)                 3780.7(6)
Space group     C c                       C c
Hall group      C -2yc                    C -2yc
Moiety formula  C38 H64 N4 O2 Zr          C38 H64 N4 O2 Zr
Sum formula     C38 H64 N4 O2 Zr          C38 H64 N4 O2 Zr
Mr              700.15                    700.15
Dx,g cm-3       1.230                     1.230
Z               4                         4
Mu (mm-1)       0.327                     0.327
F000            1504.0                    1504.0
F000'           1492.46
h,k,lmax        23,21,17                  23,21,17
Nref            6918[ 3464]               6687
Tmin,Tmax       0.962,0.974               0.937,0.974
Tmin'           0.937

Correction method= # Reported T Limits: Tmin=0.937 Tmax=0.974
AbsCorr = MULTI-SCAN

Data completeness= 1.93/0.97      Theta(max)= 25.387

R(reflections)= 0.0463( 5324)     wR2(reflections)= 0.0996( 6687)

S = 1.028                 Npar= 413
```

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 B

PLAT360_ALERT_2_B Short C(sp3)-C(sp3) Bond C33 - C34 . 1.31 Ang.

Alert level C

PLAT218_ALERT_3_C Constrained U(ij) Components(s) for C34 . 3 Check
PLAT220_ALERT_2_C NonSolvent Resd 1 C Ueq(max)/Ueq(min) Range 3.7 Ratio
PLAT222_ALERT_3_C NonSolvent Resd 1 H Uiso(max)/Uiso(min) Range 4.4 Ratio
PLAT230_ALERT_2_C Hirshfeld Test Diff for O2 --C36 . 5.3 s.u.
PLAT234_ALERT_4_C Large Hirshfeld Difference C29 --C31 . 0.19 Ang.
PLAT242_ALERT_2_C Low 'MainMol' Ueq as Compared to Neighbors of C18 Check
PLAT242_ALERT_2_C Low 'MainMol' Ueq as Compared to Neighbors of C29 Check
PLAT342_ALERT_3_C Low Bond Precision on C-C Bonds ..... 0.01234 Ang.
PLAT911_ALERT_3_C Missing FCF Refl Between Thmin & STh/L= 0.600 3 Report

Alert level G

PLAT066_ALERT_1_G Predicted and Reported Tmin&Tmax Range Identical ? Check
PLAT128_ALERT_4_G Alternate Setting for Input Space Group Cc Ic Note
PLAT792_ALERT_1_G Model has Chirality at N1 (Polar SPGR) S Verify
PLAT792_ALERT_1_G Model has Chirality at N3 (Polar SPGR) S Verify
PLAT794_ALERT_5_G Tentative Bond Valency for Zr1 (IV) . 4.34 Info
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). 3 Note
PLAT912_ALERT_4_G Missing # of FCF Reflections Above STh/L= 0.600 3 Note
PLAT933_ALERT_2_G Number of OMIT Records in Embedded .res File ... 12 Note
PLAT961_ALERT_5_G Dataset Contains no Negative Intensities ..... Please Check
PLAT978_ALERT_2_G Number C-C Bonds with Positive Residual Density. 0 Info

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

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

PLATON version of 13/07/2021; check.def file version of 13/07/2021

Datablock shelx - ellipsoid plot