checkCIF/PLATON report

Structure factors have been supplied for datablock(s) 1

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: P- O = 0.0014 A   Wavelength=0.71073

Cell: a=27.6942(3)   b=27.6942(3)   c=27.6942(3)
                   alpha=90   beta=90   gamma=90
Temperature: 293 K

	Calculated	Reported
Volume	21240.6(7)	21240.7(6)
Space group	F d -3 c	F d -3 c
Hall group	-F 4cvw 2vw	-F 4cvw 2vw
Moiety formula	2(O4 P), F, 12(H2 O), 7.06(O), 6.94(Na)	0.06(F16 H384 Na111.04 O320 P8), 1.5(O4 P), 1.06(O)
Sum formula	F H24 Na6.94 O27.06 P2	F H24 Na6.94 O27.06 P2
Mr	697.64	697.63
Dx,g cm-3	1.745	1.745
Z	32	32
Mu (mm-1)	0.387	0.387
F000	11386.2	11386.0
F000'	11408.20	
h,k,lmax	38,38,38	37,37,37
Nref	1221	1176
Tmin,Tmax	0.947,0.962	0.940,1.000
Tmin'	0.947	

Correction method= # Reported T Limits: Tmin=0.940 Tmax=1.000
AbsCorr = MULTI-SCAN

Data completeness= 0.963   Theta(max)= 29.261

R(reflections)= 0.0431(1009)   wR2(reflections)= 0.1367(1176)

S = 1.106   Npar= 79

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

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PLAT306_ALERT_2_B Isolated Oxygen Atom (H-atoms Missing ?) .......        O5 Check
PLAT430_ALERT_2_B Short Inter D...A Contact  O2        ..O5       .      2.72 Ang.
                                  1/2+z,3/4-y,3/4-x  =    191_566 Check
PLAT430_ALERT_2_B Short Inter D...A Contact  O5        ..O5       .      2.76 Ang.
                                  1/4+y,-1/4+x,-z  =      85_445 Check
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🟡 Alert level C

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PLAT094_ALERT_2_C Ratio of Maximum / Minimum Residual Density ....      2.08 Report
PLAT939_ALERT_3_C Large Value of Not (SHELXL) Weight Optimized S .     10.15 Check
PLAT975_ALERT_2_C Check Calcd Resid. Dens.  0.90A    From O5           0.57 eA-3
PLAT975_ALERT_2_C Check Calcd Resid. Dens.  0.61A    From O5           0.46 eA-3
PLAT975_ALERT_2_C Check Calcd Resid. Dens.  0.77A    From O5           0.46 eA-3
PLAT975_ALERT_2_C Check Calcd Resid. Dens.  0.82A    From O5           0.40 eA-3
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⚪ Alert level G

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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:   H24 F1 Na6.94 O27.06 P2
           Atom count from _chemical_formula_moiety:H23.04 F0.96 Na6.662399 O26.2
PLAT002_ALERT_2_G Number of Distance or Angle Restraints on AtSite        6 Note
PLAT042_ALERT_1_G Calc. and Reported MoietyFormula Strings  Differ    Please Check
PLAT068_ALERT_1_G Reported F000 Differs from Calcd (or Missing)...    Please Check
PLAT083_ALERT_2_G SHELXL Second Parameter in WGHT  Unusually Large     81.38 Why ?
PLAT168_ALERT_4_G The CIF-Embedded .res File Contains EXYZ Records        1 Report
PLAT171_ALERT_4_G The CIF-Embedded .res File Contains EADP Records        1 Report
PLAT172_ALERT_4_G The CIF-Embedded .res File Contains DFIX Records        1 Report
PLAT199_ALERT_1_G Reported _cell_measurement_temperature ..... (K)     293 Check
PLAT200_ALERT_1_G Reported  _diffrn_ambient_temperature ..... (K)     293 Check
PLAT300_ALERT_4_G Atom Site Occupancy of O1        Constrained at  0.3333 Check
PLAT300_ALERT_4_G Atom Site Occupancy of O6        Constrained at    0.53 Check
PLAT300_ALERT_4_G Atom Site Occupancy of Na2       Constrained at    0.47 Check
PLAT301_ALERT_3_G Main Residue  Disorder ..............(Resd  1  )      80% Note
PLAT302_ALERT_4_G Anion/Solvent/Minor-Residue Disorder (Resd  7  )     100% Note
PLAT302_ALERT_4_G Anion/Solvent/Minor-Residue Disorder (Resd  9  )     100% Note
PLAT304_ALERT_4_G Non-Integer Number of Atoms in ..... (Resd  3  )    0.17 Check
PLAT304_ALERT_4_G Non-Integer Number of Atoms in ..... (Resd  7  )    0.18 Check
PLAT304_ALERT_4_G Non-Integer Number of Atoms in ..... (Resd  9  )    0.16 Check
PLAT311_ALERT_2_G Isolated Disordered Oxygen Atom (No H's ?) .....      O6 Check
PLAT860_ALERT_3_G Number of Least-Squares Restraints ............       4 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       37 Note
PLAT933_ALERT_2_G Number of OMIT Records in Embedded .res File ...        1 Note
PLAT960_ALERT_3_G Number of Intensities with I  <   - 2*sig(I) ...        1 Check
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   0 ALERT level A = Most likely a serious problem - resolve or explain
   3 ALERT level B = A potentially serious problem, consider carefully
   6 ALERT level C = Check. Ensure it is not caused by an omission or oversight
  25 ALERT level G = General information/check it is not something unexpected

   5 ALERT type 1 CIF construction/syntax error, inconsistent or missing data
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12 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
12 ALERT type 4 Improvement, methodology, query or suggestion
 0 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 05/12/2020; check.def file version of 05/12/2020

Datablock 1 - ellipsoid plot