

checkCIF/PLATON report

Structure factors have been supplied for datablock(s) JD_shikongduiwang_Apatite_20230726_S1

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: JD_shikongduiwang_Apatite_20230726_S1

Bond precision:	P- O = 0.0025 A	Wavelength=0.71073	
Cell:	a=9.3849(3)	b=9.3849(3)	c=6.8814(3)
	alpha=90	beta=90	gamma=120
Temperature:	300 K		
	Calculated	Reported	
Volume	524.89(4)	524.89(4)	
Space group	P 63/m	P 63/m	
Hall group	-P 6c	-P 6c	
Moiety formula	3(O4 P), F, 5(Ca)	?	
Sum formula	Ca5 F O12 P3	Ca1.25 H0 F0.25 O3 P0.75	
Mr	504.31	126.08	
Dx, g cm-3	3.191	3.191	
Z	2	8	
Mu (mm-1)	3.095	3.095	
F000	500.0	500.0	
F000'	503.16		
h,k,lmax	13,13,9	13,13,9	
Nref	585	586	
Tmin,Tmax	0.800,0.831	0.605,0.746	
Tmin'	0.734		

Correction method= # Reported T Limits: Tmin=0.605 Tmax=0.746
AbsCorr = MULTI-SCAN

Data completeness= 1.002 Theta(max)= 30.516

R(reflections)= 0.0265(490)	wR2(reflections)= 0.0571(586)
S = 1.049	Npar= 40

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test-name_ALERT_alert-type_alert-level.
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- Alert level C

● Alert level G

atom	z*formula	cif sites	diff
Ca	10.00	10.00	0.00
H	8.00	0.00	8.00
F	2.00	2.00	0.00
O	24.00	24.00	0.00
P	6.00	6.00	0.00

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0 ALERT level A = Most likely a serious problem - resolve or explain
0 ALERT level B = A potentially serious problem, consider carefully
2 ALERT level C = Check. Ensure it is not caused by an omission or oversight
8 ALERT level G = General information/check it is not something unexpected
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5 ALERT type 1 CIF construction/syntax error, inconsistent or missing data
0 ALERT type 2 Indicator that the structure model may be wrong or deficient
1 ALERT type 3 Indicator that the structure quality may be low
3 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.

