

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: I

Bond precision:	= 0.0000 A	Wavelength=0.41029
Cell:	a=6.219 (9) b=6.4574 (12) c=6.0699 (12)	
	alpha=90 beta=102.91 (6) gamma=90	
Temperature:	293 K	
	Calculated	Reported
Volume	237.6 (4)	237.6 (4)
Space group	P 21/n	P 1 21/n 1
Hall group	-P 2yn	-P 2yabc
	As0.42 Dy0.29 Er0.16 Gd0.19	
Moiety formula	Ho0.15 O16 P3.58 Y3.07 ?	
	Yb0.14	
	As0.42 Dy0.29 Er0.16 Gd0.19	As0.11 Dy0.07 Er0.05 Gd0.05
Sum formula	Ho0.15 O16 P3.58 Y3.07 Yb0.14	Ho0.04 O4 P0.89 Y0.77 Yb0.03
Mr	824.33	207.70
Dx, g cm ⁻³	5.761	5.805
Z	1	4
Mu (mm ⁻¹)	6.627	6.777
F000	377.4	377.0
F000'	377.66	
h, k, lmax	10, 11, 10	4, 10, 10
Nref	1300	298
Tmin, Tmax		0.430, 1.000
Tmin'		
Correction method=	# Reported T Limits: Tmin=0.430 Tmax=1.000	
AbsCorr =	MULTI-SCAN	
Data completeness=	0.229	Theta (max)= 20.850

R(reflections)= 0.1146(205)

wR2(reflections)=

wR= 0.1318(298)

S = 3.170

Npar= 30

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

EXPT005_ALERT_1_A _exptl_crystal_description is missing

Crystal habit description.

The following tests will not be performed.

CRYSR_01

PLAT027_ALERT_3_A _diffrn_reflths_theta_full value (too) Low 12.46 Degree

PLAT029_ALERT_3_A _diffrn_measured_fraction_theta_full value Low . 0.390 Why?

PLAT699_ALERT_1_A Missing _exptl_crystal_description Value Please Do !

Alert level B

PLAT149_ALERT_3_B s.u. on the beta Angle is Too Large 0.06 Degree
P O1 O2 O3 O4

Alert level C

GOODF01_ALERT_2_C The least squares goodness of fit parameter lies
outside the range 0.80 <> 2.00

Goodness of fit given = 3.170

PLAT041_ALERT_1_C Calc. and Reported SumFormula Strings Differ Please Check

Calc.: As0.11 Dy0.07 Er0.04 Gd0.05 Ho0.04 O4 P0.89 Y0.77 Yb0.03

Rep.: As0.11 Dy0.07 Er0.05 Gd0.05 Ho0.04 O4 P0.89 Y0

.77 Yb0.03

PLAT043_ALERT_1_C Calculated and Reported Mol. Weight Differ by .. 6.47 Check

PLAT051_ALERT_1_C Mu(calc) and Mu(CIF) Ratio Differs from 1.0 by . 2.22 %

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

PLAT077_ALERT_4_C Unitcell Contains Non-integer Number of Atoms .. Please Check

PLAT082_ALERT_2_C High R1 Value 0.11 Report

PLAT127_ALERT_1_C Implicit Hall Symbol Inconsistent with Explicit -P 2yabc Check

PLAT148_ALERT_3_C s.u. on the a - Axis is (Too) Large 0.009 Ang.

PLAT241_ALERT_2_C High 'MainMol' Ueq as Compared to Neighbors of 03 Check

PLAT250_ALERT_2_C Large U3/U1 Ratio for <U(i,j)> Tensor(Resd 1) 2.8 Note

Alert level G

ABSMU01_ALERT_1_G Calculation of _exptl_absorpt_correction_mu
not performed for this radiation type.

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 4

From the CIF: _chemical_formula_sum As0.11 Dy0.07 Er0.05 Gd0.05 Ho0.04

TEST: Compare cell contents of formula and atom_site data

atom	Z*formula	cif sites	diff
As	0.44	0.42	0.02
Dy	0.28	0.29	-0.01
Er	0.20	0.16	0.04
Gd	0.20	0.19	0.01
Ho	0.16	0.15	0.01
O	16.00	16.00	0.00
P	3.56	3.58	-0.02
Y	3.08	3.07	0.01
Yb	0.12	0.14	-0.02

PLAT004_ALERT_5_G	Polymeric Structure Found with Maximum Dimension	3	Info
PLAT005_ALERT_5_G	No Embedded Refinement Details Found in the CIF		Please Do !
PLAT045_ALERT_1_G	Calculated and Reported Z Differ by a Factor ...	0.250	Check
PLAT068_ALERT_1_G	Reported F000 Differs from Calcd (or Missing)...		Please Check
PLAT092_ALERT_4_G	Check: Wavelength Given is not Cu,Ga,Mo,Ag,In Ka	0.41029	Ang.
PLAT199_ALERT_1_G	Reported _cell_measurement_temperature (K)	293	Check
PLAT200_ALERT_1_G	Reported _diffn_ambient_temperature (K)	293	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of Yb Constrained at	0.0343	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of Er Constrained at	0.0408	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of Ho Constrained at	0.038	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of Dy Constrained at	0.0734	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of Gd Constrained at	0.0464	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of Y Constrained at	0.7671	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of As Constrained at	0.106	Check
PLAT300_ALERT_4_G	Atom Site Occupancy of P Constrained at	0.894	Check
PLAT301_ALERT_3_G	Main Residue Disorder (Resd 1)	33%	Note
PLAT432_ALERT_2_G	Short Inter X...Y Contact As ..O4 .	2.96	Ang.
	1/2-x,-1/2+y,3/2-z =	2_546	Check
PLAT432_ALERT_2_G	Short Inter X...Y Contact P ..O4 .	2.96	Ang.
	1/2-x,-1/2+y,3/2-z =	2_546	Check
PLAT808_ALERT_5_G	No Parseable SHELXL Style Weighting Scheme Found		Please Check
PLAT811_ALERT_5_G	No ADDSYM Analysis: Too Many Excluded Atoms		! Info
PLAT883_ALERT_1_G	No Info/Value for _atom_sites_solution_primary .		Please Do !
PLAT950_ALERT_5_G	Calculated (ThMax) and CIF-Reported Hmax Differ	6	Units
PLAT966_ALERT_5_G	Note: Non-Standard (i.e. 2.0) OMIT Threshold of	3.0	Sig(I)
PLAT984_ALERT_1_G	The As-f' = 0.2876 Deviates from the B&C-Value	0.2862	Check
PLAT984_ALERT_1_G	The Dy-f' = -0.7013 Deviates from the B&C-Value	-0.6931	Check
PLAT984_ALERT_1_G	The Er-f' = -0.6345 Deviates from the B&C-Value	-0.6220	Check
PLAT984_ALERT_1_G	The Gd-f' = -0.7818 Deviates from the B&C-Value	-0.7795	Check
PLAT984_ALERT_1_G	The Ho-f' = -0.6662 Deviates from the B&C-Value	-0.6559	Check
PLAT984_ALERT_1_G	The Y-f' = 0.2101 Deviates from the B&C-Value	0.2121	Check
PLAT984_ALERT_1_G	The Yb-f' = -0.5816 Deviates from the B&C-Value	-0.5663	Check
PLAT985_ALERT_1_G	The As-f" = 0.7656 Deviates from the B&C-Value	0.7629	Check
PLAT985_ALERT_1_G	The Dy-f" = 1.7265 Deviates from the B&C-Value	1.7135	Check
PLAT985_ALERT_1_G	The Er-f" = 1.9539 Deviates from the B&C-Value	1.9391	Check
PLAT985_ALERT_1_G	The Gd-f" = 1.5201 Deviates from the B&C-Value	1.5073	Check
PLAT985_ALERT_1_G	The Ho-f" = 1.8377 Deviates from the B&C-Value	1.8236	Check
PLAT985_ALERT_1_G	The Yb-f" = 2.2018 Deviates from the B&C-Value	2.1850	Check

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

30 ALERT type 1 CIF construction/syntax error, inconsistent or missing data

6 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
10 ALERT type 4 Improvement, methodology, query or suggestion
6 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 13/05/2024; check.def file version of 04/05/2024

Datablock 1 - ellipsoid plot

