

Supplementary data for article:

Milenković, M. R.; Bacchi, A.; Cantoni, G.; Radulović, S. S.; Gligorijević, N.; Arandžević, S.; Sladić, D.; Vujčić, M.; Mitić, D.; Anđelković, K. K. Synthesis, Characterisation and Biological Activity of Co(III) Complex with the Condensation Product of 2-(Diphenylphosphino)Benzaldehyde and Ethyl Carbazate. *Inorganica Chimica Acta* **2013**, 395, 33–43. <https://doi.org/10.1016/j.ica.2012.09.043>

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#####  
# Synthesis, characterisation and biological activity of Co(III)  
# complex with the condensation product of  
# 2-(diphenylphosphino)benzaldehyde and ethyl carbazate  
#  
# Milica Milenkovic, Alessia Bacchi, Giulia Cantoni, Katarina  
# Andjelkovic, Nevenka Gligorijevic, Sandra Aranjdlovic,  
# Dusan Sladic, Miroslava Vujcic, Dragana Mitic, Sinisa Radulovic  
#####  
data_1
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_chemical_name_systematic  
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?  
;  
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_chemical_melting_point         ?  
_chemical_formula_moiety        ?  
_chemical_formula_sum  
'C22 H21 N2 O2 P'  
_chemical_formula_weight        376.38
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_atom_type_scatter_source  
'C' 'C' 0.0181 0.0091  
'International Tables Vol C Tables 4.2.6.8 and 6.1.1.4'  
'H' 'H' 0.0000 0.0000  
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'N' 'N' 0.0311 0.0180  
'International Tables Vol C Tables 4.2.6.8 and 6.1.1.4'  
'O' 'O' 0.0492 0.0322  
'International Tables Vol C Tables 4.2.6.8 and 6.1.1.4'  
'P' 'P' 0.2955 0.4335  
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_symmetry_cell_setting          'monoclinic'  
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'x+1/2, y+1/2, z+1/2'  
'-x+1, y+1/2, -z+1/2'  
'-x, -y, -z'  
'x-1/2, -y, z'  
'-x+1/2, -y+1/2, -z+1/2'  
'x, -y+1/2, z+1/2'
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_cell_length_a	24.584 (3)
_cell_length_b	9.2487 (4)
_cell_length_c	36.028 (2)
_cell_angle_alpha	90.00
_cell_angle_beta	98.297 (6)
_cell_angle_gamma	90.00
_cell_volume	8106 (1)
_cell_formula_units_Z	16
_cell_measurement_temperature	293 (2)
_cell_measurement_reflns_used	48
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_cell_measurement_theta_max	45
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_exptl_crystal_size_max	0.08
_exptl_crystal_size_mid	0.07
_exptl_crystal_size_min	0.03
_exptl_crystal_density_meas	?
_exptl_crystal_density_diffn	1.234
_exptl_crystal_density_method	'not measured'
_exptl_crystal_F_000	3168
_exptl_absorpt_coefficient_mu	1.347
_exptl_absorpt_correction_type	'none'
_exptl_absorpt_correction_T_min	?
_exptl_absorpt_correction_T_max	?
_exptl_absorpt_process_details	?
_exptl_special_details	
;	
?	
;	
_diffn_ambient_temperature	293 (2)
_diffn_radiation_wavelength	1.54178
_diffn_radiation_type	CuK\alpha
_diffn_radiation_source	'fine-focus sealed tube'
_diffn_radiation_monochromator	graphite
_diffn_measurement_device_type	'Siemens AED diffractometer'
_diffn_measurement_method	'\q/2\q scan'
_diffn_detector_area_resol_mean	?
_diffn_standards_number	1
_diffn_standards_interval_count	100
_diffn_standards_interval_time	?
_diffn_standards_decay_%	0
_diffn_reflns_number	14815
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_diffn_reflns_av_sigmaI/netI	0.0245
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_diffn_reflns_limit_h_max	29
_diffn_reflns_limit_k_min	0
_diffn_reflns_limit_k_max	11
_diffn_reflns_limit_l_min	-43
_diffn_reflns_limit_l_max	43

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_diffn_reflns_theta_min      3.63
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_reflns_number_total        7669
_reflns_number_gt           7088
_reflns_threshold_expression >2sigma(I)

_computing_data_collection   ?
_computing_cell_refinement   ?
_computing_data_reduction    ?
_computing_structure_solution 'SIR2004 (Altomare et al. 2004)'
_computing_structure_refinement 'SHELXL-97 (Sheldrick, 1997)'
_computing_molecular_graphics ?
_computing_publication_material ?

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_refine_special_details
```

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Refinement of F^2 against ALL reflections. The weighted R-factor wR and goodness of fit S are based on F^2 , conventional R-factors R are based on F, with F set to zero for negative F^2 . The threshold expression of $F^2 > 2\sigma(F^2)$ is used only for calculating R-factors(gt) etc. and is

not relevant to the choice of reflections for refinement. R-factors based

on F^2 are statistically about twice as large as those based on F, and R-

factors based on ALL data will be even larger.

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_refine_ls_structure_factor_coef Fsqd
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_refine_ls_weighting_details
'calc w=1/[\s^2^(Fo^2^)+(0.0752P)^2^+3.1548P] where P=(Fo^2^+2Fc^2^)/3'
_atom_sites_solution_primary   direct
_atom_sites_solution_secondary difmap
_atom_sites_solution_hydrogens mixed
_refine_ls_hydrogen_treatment  mixed
_refine_ls_extinction_method    SHELXL
_refine_ls_extinction_coef      0.00061(4)
_refine_ls_extinction_expression
'Fc^*=kFc[1+0.001xFc^2^\l^3^/sin(2\q)]^-1/4^'
_refine_ls_number_reflns       7669
_refine_ls_number_parameters    498
_refine_ls_number_restraints    0
_refine_ls_R_factor_all         0.0452
_refine_ls_R_factor_gt         0.0425
_refine_ls_wR_factor_ref        0.1247
_refine_ls_wR_factor_gt        0.1219
_refine_ls_goodness_of_fit_ref  1.035
_refine_ls_restrained_S_all     1.035
_refine_ls_shift/su_max         0.001
_refine_ls_shift/su_mean        0.000

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  _atom_site_fract_y
  _atom_site_fract_z
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  _atom_site_adp_type
  _atom_site_occupancy
  _atom_site_symmetry_multiplicity
  _atom_site_calc_flag
  _atom_site_refinement_flags
  _atom_site_disorder_assembly
  _atom_site_disorder_group
P1 P 0.037071(16) 0.15008(4) 0.916922(10) 0.04482(12) Uani 1 1 d . . .
N1 N -0.09544(5) 0.36894(13) 0.85274(4) 0.0467(3) Uani 1 1 d . . .
N2 N -0.10516(6) 0.33389(14) 0.81547(4) 0.0488(3) Uani 1 1 d . . .
O1 O -0.12915(6) 0.38356(13) 0.75612(3) 0.0598(3) Uani 1 1 d . . .
O2 O -0.12630(6) 0.56581(12) 0.79786(4) 0.0655(3) Uani 1 1 d . . .
C1 C -0.01544(6) 0.24844(15) 0.93846(4) 0.0423(3) Uani 1 1 d . . .
C2 C -0.00875(7) 0.28240(17) 0.97643(4) 0.0492(3) Uani 1 1 d . . .
H2 H 0.0215 0.2464 0.9922 0.059 Uiso 1 1 calc R . .
C3 C -0.04624(8) 0.36871(18) 0.99130(5) 0.0555(4) Uani 1 1 d . . .
H3 H -0.0409 0.3906 1.0168 0.067 Uiso 1 1 calc R . .
C4 C -0.09127(8) 0.4219(2) 0.96846(5) 0.0603(4) Uani 1 1 d . . .
H4 H -0.1163 0.4805 0.9784 0.072 Uiso 1 1 calc R . .
C5 C -0.09927(7) 0.38825(18) 0.93084(5) 0.0562(4) Uani 1 1 d . . .
H5 H -0.1303 0.4230 0.9156 0.067 Uiso 1 1 calc R . .
C6 C -0.06171(6) 0.30308(16) 0.91519(4) 0.0452(3) Uani 1 1 d . . .
C7 C -0.07123(6) 0.27378(16) 0.87470(4) 0.0471(3) Uani 1 1 d . . .
H7 H -0.0597 0.1871 0.8653 0.057 Uiso 1 1 calc R . .
C8 C -0.12084(6) 0.44001(16) 0.79061(4) 0.0468(3) Uani 1 1 d . . .
C9 C -0.14456(12) 0.4840(3) 0.72573(6) 0.0855(7) Uani 1 1 d . . .
H9A H -0.1835 0.5062 0.7236 0.103 Uiso 1 1 calc R . .
H9B H -0.1240 0.5733 0.7304 0.103 Uiso 1 1 calc R . .
C10 C -0.13253(17) 0.4179(5) 0.69162(7) 0.1411(15) Uani 1 1 d . . .
H10A H -0.0934 0.4091 0.6926 0.212 Uiso 1 1 calc R . .
H10B H -0.1471 0.4769 0.6706 0.212 Uiso 1 1 calc R . .
H10C H -0.1491 0.3238 0.6890 0.212 Uiso 1 1 calc R . .
C11 C 0.08907(6) 0.11325(16) 0.95755(4) 0.0445(3) Uani 1 1 d . . .
C12 C 0.09381(7) -0.01670(19) 0.97713(5) 0.0556(4) Uani 1 1 d . . .
H12 H 0.0689 -0.0909 0.9701 0.067 Uiso 1 1 calc R . .
C13 C 0.13520(9) -0.0366(2) 1.00698(6) 0.0713(5) Uani 1 1 d . . .
H13 H 0.1379 -0.1238 1.0200 0.086 Uiso 1 1 calc R . .
C14 C 0.17247(9) 0.0720(3) 1.01751(6) 0.0769(6) Uani 1 1 d . . .
H14 H 0.2003 0.0583 1.0376 0.092 Uiso 1 1 calc R . .
C15 C 0.16839(8) 0.2010(3) 0.99826(6) 0.0725(5) Uani 1 1 d . . .
H15 H 0.1934 0.2747 1.0055 0.087 Uiso 1 1 calc R . .
C16 C 0.12751(7) 0.2215(2) 0.96841(5) 0.0576(4) Uani 1 1 d . . .
H16 H 0.1255 0.3085 0.9553 0.069 Uiso 1 1 calc R . .
C17 C 0.00461(6) -0.02674(17) 0.90770(4) 0.0481(3) Uani 1 1 d . . .
C18 C 0.02178(9) -0.1097(2) 0.87931(5) 0.0680(5) Uani 1 1 d . . .
H18 H 0.0488 -0.0748 0.8660 0.082 Uiso 1 1 calc R . .
C19 C -0.00161(13) -0.2449(3) 0.87087(7) 0.0924(8) Uani 1 1 d . . .

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H19 H 0.0100 -0.3002 0.8519 0.111 Uiso 1 1 calc R . .
C20 C -0.04139(13) -0.2976(2) 0.89003(8) 0.0918(8) Uani 1 1 d
H20 H -0.0567 -0.3881 0.8842 0.110 Uiso 1 1 calc R . .
C21 C -0.05841(10) -0.2169(2) 0.91775(7) 0.0803(6) Uani 1 1 d
H21 H -0.0854 -0.2528 0.9309 0.096 Uiso 1 1 calc R . .
C22 C -0.03591(8) -0.08181(19) 0.92655(5) 0.0601(4) Uani 1 1 d
H22 H -0.0482 -0.0274 0.9454 0.072 Uiso 1 1 calc R . .
P2 P -0.228429(15) -0.37546(4) 0.880902(10) 0.04257(12) Uani 1 1 d
O3 O -0.04397(6) -0.14996(13) 0.76701(4) 0.0671(4) Uani 1 1 d
O4 O -0.06313(6) 0.07385(13) 0.78670(4) 0.0675(4) Uani 1 1 d
N3 N -0.13527(5) -0.05810(13) 0.82809(3) 0.0421(3) Uani 1 1 d
N4 N -0.10108(5) -0.12946(14) 0.80747(4) 0.0448(3) Uani 1 1 d
C23 C -0.24112(6) -0.17975(15) 0.88244(4) 0.0395(3) Uani 1 1 d
C24 C -0.28199(7) -0.12189(17) 0.90117(4) 0.0482(3) Uani 1 1 d
H24 H -0.3061 -0.1838 0.9110 0.058 Uiso 1 1 calc R . .
C25 C -0.28729(8) 0.02562(19) 0.90546(5) 0.0574(4) Uani 1 1 d
H25 H -0.3148 0.0622 0.9180 0.069 Uiso 1 1 calc R . .
C26 C -0.25168(9) 0.11849(18) 0.89117(6) 0.0634(5) Uani 1 1 d
H26 H -0.2548 0.2177 0.8945 0.076 Uiso 1 1 calc R . .
C27 C -0.21149(7) 0.06488(17) 0.87208(5) 0.0557(4) Uani 1 1 d
H27 H -0.1881 0.1285 0.8622 0.067 Uiso 1 1 calc R . .
C28 C -0.20539(6) -0.08388(15) 0.86737(4) 0.0418(3) Uani 1 1 d
C29 C -0.16399(6) -0.14077(15) 0.84587(4) 0.0419(3) Uani 1 1 d
H29 H -0.1585 -0.2402 0.8452 0.050 Uiso 1 1 calc R . .
C30 C -0.06922(6) -0.05532(17) 0.78702(5) 0.0481(3) Uani 1 1 d
C31 C -0.01147(10) -0.0926(3) 0.74038(7) 0.0852(7) Uani 1 1 d
H31A H 0.0197 -0.1557 0.7389 0.102 Uiso 1 1 calc R . .
H31B H 0.0026 0.0018 0.7487 0.102 Uiso 1 1 calc R . .
C32 C -0.04389(18) -0.0800(7) 0.70367(11) 0.172(2) Uani 1 1 d
H32A H -0.0542 -0.1746 0.6942 0.259 Uiso 1 1 calc R . .
H32B H -0.0226 -0.0327 0.6869 0.259 Uiso 1 1 calc R . .
H32C H -0.0764 -0.0243 0.7055 0.259 Uiso 1 1 calc R . .
C33 C -0.28375(7) -0.45660(16) 0.90307(5) 0.0520(4) Uani 1 1 d
C34 C -0.26980(10) -0.5227(2) 0.93740(5) 0.0706(5) Uani 1 1 d
H34 H -0.2341 -0.5143 0.9500 0.085 Uiso 1 1 calc R . .
C35 C -0.30840(17) -0.6017(3) 0.95343(8) 0.1010(10) Uani 1 1 d
H35 H -0.2986 -0.6453 0.9767 0.121 Uiso 1 1 calc R . .
C36 C -0.36011(16) -0.6156(3) 0.93536(10) 0.1076(12) Uani 1 1 d
H36 H -0.3855 -0.6714 0.9458 0.129 Uiso 1 1 calc R . .
C37 C -0.37533(12) -0.5480(4) 0.90186(9) 0.1093(11) Uani 1 1 d
H37 H -0.4114 -0.5553 0.8899 0.131 Uiso 1 1 calc R . .
C38 C -0.33720(9) -0.4681(3) 0.88548(7) 0.0804(6) Uani 1 1 d
H38 H -0.3478 -0.4224 0.8626 0.096 Uiso 1 1 calc R . .
C39 C -0.25272(6) -0.42238(16) 0.83204(4) 0.0435(3) Uani 1 1 d
C40 C -0.24495(9) -0.56482(18) 0.82182(5) 0.0609(4) Uani 1 1 d
H40 H -0.2266 -0.6288 0.8392 0.073 Uiso 1 1 calc R . .
C41 C -0.26440(10) -0.6122(2) 0.78592(6) 0.0751(6) Uani 1 1 d
H41 H -0.2604 -0.7089 0.7797 0.090 Uiso 1 1 calc R . .
C42 C -0.28946(9) -0.5182(2) 0.75948(6) 0.0720(5) Uani 1 1 d
H42 H -0.3023 -0.5505 0.7354 0.086 Uiso 1 1 calc R . .
C43 C -0.29548(9) -0.3759(2) 0.76883(6) 0.0703(5) Uani 1 1 d
H43 H -0.3116 -0.3110 0.7508 0.084 Uiso 1 1 calc R . .
C44 C -0.27769(8) -0.32847(19) 0.80499(5) 0.0573(4) Uani 1 1 d
H44 H -0.2826 -0.2322 0.8111 0.069 Uiso 1 1 calc R . .

H2N H -0.0977(8) 0.251(2) 0.8079(6) 0.062(5) Uiso 1 1 d . . .
H4N H -0.1035(7) -0.216(2) 0.8050(5) 0.046(5) Uiso 1 1 d . . .

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_atom_site_aniso_U_23
_atom_site_aniso_U_13
_atom_site_aniso_U_12
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N1 0.0578(7) 0.0365(6) 0.0463(7) -0.0038(5) 0.0089(6) 0.0018(5)
N2 0.0669(8) 0.0335(6) 0.0454(7) -0.0040(5) 0.0066(6) 0.0090(5)
O1 0.0808(8) 0.0535(7) 0.0454(6) 0.0054(5) 0.0100(5) 0.0144(6)
O2 0.0917(9) 0.0317(6) 0.0765(8) 0.0032(5) 0.0234(7) 0.0048(5)
C1 0.0508(7) 0.0335(6) 0.0443(7) -0.0012(6) 0.0128(6) -0.0030(6)
C2 0.0572(8) 0.0471(8) 0.0446(8) -0.0024(6) 0.0115(6) -0.0043(7)
C3 0.0705(10) 0.0525(9) 0.0474(8) -0.0092(7) 0.0216(8) -0.0069(8)
C4 0.0713(10) 0.0520(9) 0.0630(10) -0.0073(8) 0.0275(8) 0.0082(8)
C5 0.0627(9) 0.0490(9) 0.0592(10) -0.0001(7) 0.0158(8) 0.0110(7)
C6 0.0547(8) 0.0348(7) 0.0471(8) -0.0008(6) 0.0107(6) 0.0006(6)
C7 0.0555(8) 0.0366(7) 0.0493(8) -0.0040(6) 0.0079(6) 0.0047(6)
C8 0.0534(8) 0.0369(7) 0.0522(8) 0.0018(6) 0.0148(6) 0.0025(6)
C9 0.1047(16) 0.0920(16) 0.0615(12) 0.0318(11) 0.0177(11) 0.0259(13)
C10 0.163(3) 0.205(4) 0.0553(14) 0.026(2) 0.0161(17) 0.016(3)
C11 0.0444(7) 0.0461(8) 0.0451(7) -0.0021(6) 0.0135(6) 0.0000(6)
C12 0.0594(9) 0.0509(9) 0.0556(9) 0.0027(7) 0.0056(7) -0.0029(7)
C13 0.0773(12) 0.0667(12) 0.0659(11) 0.0095(9) -0.0024(9) 0.0046(10)
C14 0.0644(11) 0.0941(16) 0.0670(12) -0.0057(11) -0.0085(9) 0.0039(11)
C15 0.0560(10) 0.0787(13) 0.0814(13) -0.0171(11) 0.0050(9) -0.0143(9)
C16 0.0539(9) 0.0545(10) 0.0662(10) -0.0017(8) 0.0149(7) -0.0079(7)
C17 0.0552(8) 0.0418(8) 0.0455(8) -0.0060(6) 0.0011(6) 0.0082(6)
C18 0.0789(12) 0.0663(11) 0.0577(10) -0.0179(9) 0.0058(9) 0.0199(9)
C19 0.126(2) 0.0639(13) 0.0774(14) -0.0333(12) -0.0174(14) 0.0381(14)
C20 0.127(2) 0.0420(10) 0.0926(17) -0.0081(11) -0.0328(16) 0.0004(12)
C21 0.0946(15) 0.0538(11) 0.0862(15) 0.0037(10) -0.0087(12) -0.0167(10)
C22 0.0723(11) 0.0466(9) 0.0614(10) -0.0054(7) 0.0097(8) -0.0076(8)
P2 0.0507(2) 0.03242(19) 0.0452(2) 0.00362(13) 0.00867(16) 0.00094(14)
O3 0.0773(8) 0.0501(7) 0.0844(9) -0.0088(6) 0.0471(7) 0.0016(6)
O4 0.0787(8) 0.0398(6) 0.0937(9) -0.0049(6) 0.0452(7) -0.0063(5)
N3 0.0478(6) 0.0358(6) 0.0446(6) -0.0039(5) 0.0128(5) 0.0006(5)
N4 0.0524(7) 0.0312(6) 0.0544(7) -0.0048(5) 0.0193(6) 0.0009(5)
C23 0.0466(7) 0.0336(6) 0.0388(7) -0.0010(5) 0.0071(5) 0.0007(5)
C24 0.0527(8) 0.0456(8) 0.0490(8) 0.0000(6) 0.0170(7) -0.0001(6)
C25 0.0668(10) 0.0512(9) 0.0594(9) -0.0032(7) 0.0264(8) 0.0118(7)
C26 0.0874(12) 0.0335(8) 0.0753(12) -0.0042(7) 0.0323(10) 0.0081(8)
C27 0.0711(10) 0.0349(7) 0.0662(10) -0.0021(7) 0.0277(8) -0.0021(7)
C28 0.0485(7) 0.0352(7) 0.0429(7) -0.0006(5) 0.0108(6) 0.0001(6)
C29 0.0480(7) 0.0320(7) 0.0469(7) -0.0022(5) 0.0108(6) -0.0002(5)
C30 0.0495(8) 0.0390(8) 0.0589(9) -0.0049(6) 0.0184(7) 0.0002(6)
C31 0.0868(14) 0.0794(14) 0.1032(18) -0.0057(13) 0.0602(14) -0.0039(12)
C32 0.142(3) 0.279(6) 0.103(2) 0.074(3) 0.039(2) 0.004(4)
C33 0.0734(10) 0.0356(7) 0.0507(8) -0.0030(6) 0.0218(7) -0.0082(7)

C34 0.1098(15) 0.0510(10) 0.0581(10) 0.0063(8) 0.0359(10) 0.0052(10)
C35 0.175(3) 0.0588(13) 0.0868(16) 0.0138(12) 0.080(2) 0.0030(16)
C36 0.159(3) 0.0651(14) 0.122(2) -0.0224(14) 0.100(2) -0.0416(16)
C37 0.1062(19) 0.118(2) 0.117(2) -0.0415(18) 0.0604(17) -0.0637(18)
C38 0.0784(13) 0.0944(16) 0.0727(12) -0.0068(11) 0.0255(10) -0.0347(12)
C39 0.0495(7) 0.0371(7) 0.0461(7) -0.0019(6) 0.0146(6) -0.0020(6)
C40 0.0898(12) 0.0398(8) 0.0571(10) -0.0016(7) 0.0241(9) 0.0052(8)
C41 0.1103(16) 0.0504(10) 0.0700(12) -0.0198(9) 0.0315(12) -0.0044(10)
C42 0.0833(13) 0.0762(13) 0.0568(10) -0.0199(10) 0.0105(9) -0.0085(10)
C43 0.0791(12) 0.0705(12) 0.0567(10) -0.0022(9) -0.0061(9) 0.0033(10)
C44 0.0680(10) 0.0443(8) 0.0565(9) -0.0039(7) -0.0020(8) 0.0057(7)

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All esds (except the esd in the dihedral angle between two l.s. planes) are estimated using the full covariance matrix. The cell esds are taken into account individually in the estimation of esds in distances, angles and torsion angles; correlations between esds in cell parameters are only

used when they are defined by crystal symmetry. An approximate (isotropic)

treatment of cell esds is used for estimating esds involving l.s. planes.

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F^2^ > 2sigma(F^2^) is used only for calculating R-factors(gt) etc. and
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not relevant to the choice of reflections for refinement. R-factors
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P2 P 0.69604(2) 0.28308(3) 1.082497(17) 0.03027(8) Uani 1 1 d . . .
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O2 O 0.42784(7) 0.31955(9) 1.03181(7) 0.0490(3) Uani 1 1 d . . .
O3 O 0.59106(6) 0.13305(8) 0.91518(5) 0.0385(2) Uani 1 1 d . . .
O4 O 0.57622(9) 0.14899(11) 0.80585(6) 0.0563(3) Uani 1 1 d . . .
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C5 C 0.68055(16) -0.20960(15) 1.10406(13) 0.0710(6) Uani 1 1 d . . .
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C6 C 0.62372(13) -0.13205(14) 1.10303(10) 0.0555(4) Uani 1 1 d . . .
H6 H 0.5734 -0.1387 1.1253 0.067 Uiso 1 1 calc R . .
C7 C 0.57174(9) 0.03068(11) 1.07085(8) 0.0396(3) Uani 1 1 d . . .
H7 H 0.5233 0.0105 1.0922 0.047 Uiso 1 1 calc R . .
C8 C 0.49324(9) 0.25679(11) 1.02635(8) 0.0380(3) Uani 1 1 d . . .
C9 C 0.36647(12) 0.29514(15) 1.08140(13) 0.0640(6) Uani 1 1 d . . .
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C10 C 0.30561(16) 0.3812(2) 1.08257(18) 0.0966(10) Uani 1 1 d . . .
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C11 C 0.85542(10) 0.10367(13) 1.02351(9) 0.0442(3) Uani 1 1 d
C12 C 0.89224(12) 0.05194(19) 1.07848(10) 0.0624(5) Uani 1 1 d
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C14 C 1.02382(13) 0.1384(2) 1.06910(14) 0.0813(8) Uani 1 1 d
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C15 C 0.98880(14) 0.19291(18) 1.01569(14) 0.0701(6) Uani 1 1 d
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C16 C 0.90412(11) 0.17550(14) 0.99279(11) 0.0530(4) Uani 1 1 d
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C18 C 0.81645(12) 0.06013(17) 0.86287(9) 0.0569(5) Uani 1 1 d
H18 H 0.8564 0.1080 0.8770 0.068 Uiso 1 1 calc R . . .
C19 C 0.81790(15) 0.0202(2) 0.79880(11) 0.0779(7) Uani 1 1 d
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C21 C 0.69749(17) -0.08081(16) 0.81866(11) 0.0681(6) Uani 1 1 d
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C22 C 0.69446(12) -0.04132(13) 0.88266(9) 0.0509(4) Uani 1 1 d
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C23 C 0.79750(9) 0.38831(11) 0.99267(7) 0.0350(3) Uani 1 1 d
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C25 C 0.81824(11) 0.42638(13) 1.11077(9) 0.0470(4) Uani 1 1 d
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C26 C 0.87837(12) 0.49873(15) 1.09763(10) 0.0548(4) Uani 1 1 d
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C34 C 0.58396(11) 0.35816(13) 1.17858(9) 0.0470(4) Uani 1 1 d
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H37 H 0.5232 0.5777 1.0743 0.062 Uiso 1 1 calc R . . .
C38 C 0.59647(10) 0.45410(12) 1.07810(8) 0.0421(3) Uani 1 1 d
H38 H 0.6206 0.4641 1.0370 0.051 Uiso 1 1 calc R . . .

C39 C 0.73811(10) 0.20957(11) 1.15322(7) 0.0373(3) Uani 1 1 d . . .
C40 C 0.68150(11) 0.14820(12) 1.18597(8) 0.0452(3) Uani 1 1 d . . .
H40 H 0.6240 0.1468 1.1718 0.054 Uiso 1 1 calc R . .
C41 C 0.71069(14) 0.08937(15) 1.23948(9) 0.0575(5) Uani 1 1 d . . .
H41 H 0.6728 0.0481 1.2607 0.069 Uiso 1 1 calc R . .
C42 C 0.79552(15) 0.09167(17) 1.26138(10) 0.0646(5) Uani 1 1 d . . .
H42 H 0.8148 0.0526 1.2976 0.077 Uiso 1 1 calc R . .
C43 C 0.85173(13) 0.15206(19) 1.22934(10) 0.0644(5) Uani 1 1 d . . .
H43 H 0.9090 0.1536 1.2442 0.077 Uiso 1 1 calc R . .
C44 C 0.82385(11) 0.21041(15) 1.17539(9) 0.0500(4) Uani 1 1 d . . .
H44 H 0.8625 0.2503 1.1538 0.060 Uiso 1 1 calc R . .
B1 B 0.4750(2) 0.2035(3) 0.32032(18) 0.0831(9) Uani 1 1 d . . .
F4 F 0.51382(17) 0.1506(2) 0.27533(13) 0.1622(10) Uani 1 1 d . A .
F1 F 0.5366(5) 0.2613(8) 0.3415(3) 0.261(5) Uani 0.705(7) 1 d P A 1
F2 F 0.4142(3) 0.2513(3) 0.2845(2) 0.141(2) Uani 0.705(7) 1 d P A 1
F3 F 0.4455(5) 0.1432(5) 0.3643(4) 0.216(5) Uani 0.705(7) 1 d P A 1
F12 F 0.4736(11) 0.3063(6) 0.3288(7) 0.165(8) Uani 0.295(7) 1 d P A 2
F11 F 0.5076(15) 0.1888(12) 0.3828(5) 0.204(9) Uani 0.295(7) 1 d P A 2
F31 F 0.4028(11) 0.1824(13) 0.3407(11) 0.225(10) Uani 0.295(7) 1 d P A 2

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0.00344(13)
P2 0.03008(16) 0.03274(17) 0.02835(16) 0.00241(12) 0.00504(12)
0.00016(12)
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O2 0.0331(5) 0.0433(6) 0.0716(8) 0.0052(5) 0.0125(5) 0.0075(4)
O3 0.0362(5) 0.0427(5) 0.0365(5) -0.0009(4) 0.0008(4) -0.0039(4)
O4 0.0618(8) 0.0699(8) 0.0360(6) -0.0046(6) -0.0078(5) -0.0095(6)
N1 0.0286(5) 0.0347(6) 0.0377(6) 0.0024(5) 0.0045(4) -0.0014(4)
N2 0.0302(6) 0.0403(6) 0.0561(8) 0.0042(6) 0.0119(5) 0.0018(5)
N3 0.0353(6) 0.0381(6) 0.0290(5) 0.0027(4) 0.0042(4) 0.0011(5)
N4 0.0484(7) 0.0511(8) 0.0287(6) 0.0033(5) -0.0001(5) -0.0047(6)
C1 0.0411(7) 0.0359(7) 0.0419(8) 0.0070(6) 0.0008(6) -0.0013(6)
C2 0.0465(8) 0.0360(7) 0.0415(8) 0.0059(6) 0.0059(6) 0.0065(6)
C3 0.0650(12) 0.0502(10) 0.0689(12) 0.0130(9) 0.0178(9) 0.0212(9)
C4 0.0834(16) 0.0497(11) 0.0936(17) 0.0230(11) 0.0163(13) 0.0260(10)
C5 0.0796(15) 0.0472(10) 0.0863(16) 0.0306(10) 0.0070(12) 0.0082(10)
C6 0.0555(10) 0.0472(9) 0.0640(11) 0.0194(8) 0.0052(8) -0.0012(8)
C7 0.0343(7) 0.0380(7) 0.0469(8) 0.0070(6) 0.0066(6) -0.0044(6)
C8 0.0293(6) 0.0387(7) 0.0461(8) -0.0006(6) 0.0035(5) 0.0021(5)
C9 0.0424(9) 0.0559(11) 0.0963(16) 0.0059(10) 0.0290(10) 0.0057(8)
C10 0.0577(13) 0.0804(17) 0.156(3) 0.0041(17) 0.0449(16) 0.0221(12)
C11 0.0325(7) 0.0525(9) 0.0476(8) -0.0099(7) 0.0023(6) 0.0089(6)
C12 0.0452(9) 0.0880(15) 0.0534(10) 0.0012(10) -0.0012(8) 0.0135(10)
C13 0.0465(11) 0.126(2) 0.0649(13) -0.0065(14) -0.0079(10) 0.0215(13)

C14 0.0373(10) 0.118(2) 0.0878(17) -0.0322(16) -0.0084(10) 0.0126(12)
C15 0.0446(10) 0.0703(13) 0.0958(18) -0.0204(12) 0.0064(10) -0.0060(9)
C16 0.0395(8) 0.0490(9) 0.0705(12) -0.0106(8) 0.0018(8) 0.0009(7)
C17 0.0377(7) 0.0403(7) 0.0385(7) -0.0026(6) 0.0076(6) 0.0049(6)
C18 0.0436(9) 0.0804(13) 0.0479(9) -0.0076(9) 0.0137(7) -0.0079(9)
C19 0.0620(13) 0.126(2) 0.0478(11) -0.0161(12) 0.0200(9) -0.0036(13)
C20 0.0892(16) 0.0969(18) 0.0433(10) -0.0189(11) 0.0053(10) 0.0108(14)
C21 0.0892(16) 0.0574(12) 0.0568(11) -0.0142(9) -0.0055(11) -0.0083(11)
C22 0.0583(10) 0.0444(9) 0.0504(9) -0.0040(7) 0.0078(8) -0.0066(7)
C23 0.0308(6) 0.0348(7) 0.0401(7) 0.0018(5) 0.0081(5) -0.0007(5)
C24 0.0315(6) 0.0354(7) 0.0388(7) -0.0010(5) 0.0060(5) -0.0027(5)
C25 0.0469(9) 0.0523(9) 0.0424(8) -0.0074(7) 0.0073(7) -0.0112(7)
C26 0.0477(9) 0.0565(10) 0.0604(11) -0.0142(8) 0.0057(8) -0.0153(8)
C27 0.0395(8) 0.0483(9) 0.0692(11) -0.0070(8) 0.0140(8) -0.0138(7)
C28 0.0388(8) 0.0437(8) 0.0514(9) 0.0019(7) 0.0153(6) -0.0062(6)
C29 0.0395(7) 0.0407(7) 0.0342(7) 0.0064(6) 0.0089(5) -0.0030(6)
C30 0.0403(7) 0.0484(8) 0.0333(7) -0.0019(6) -0.0021(6) 0.0025(6)
C31 0.0931(17) 0.0945(17) 0.0355(9) 0.0017(10) -0.0052(10) -0.0132(13)
C32 0.148(3) 0.120(2) 0.0462(12) -0.0094(14) -0.0193(15) -0.010(2)
C33 0.0343(6) 0.0346(7) 0.0355(7) -0.0008(5) 0.0052(5) 0.0009(5)
C34 0.0519(9) 0.0459(9) 0.0449(8) 0.0039(7) 0.0183(7) 0.0046(7)
C35 0.0570(11) 0.0643(12) 0.0588(11) -0.0032(9) 0.0261(9) 0.0084(9)
C36 0.0458(9) 0.0515(10) 0.0745(13) -0.0135(9) 0.0108(8) 0.0108(8)
C37 0.0511(9) 0.0409(8) 0.0623(11) -0.0015(7) -0.0040(8) 0.0090(7)
C38 0.0452(8) 0.0398(8) 0.0415(8) 0.0024(6) 0.0029(6) 0.0027(6)
C39 0.0427(7) 0.0396(7) 0.0296(6) 0.0017(5) 0.0019(5) 0.0066(6)
C40 0.0534(9) 0.0439(8) 0.0380(8) 0.0079(6) 0.0004(7) -0.0010(7)
C41 0.0739(12) 0.0546(10) 0.0440(9) 0.0159(8) 0.0021(8) 0.0016(9)
C42 0.0785(14) 0.0714(13) 0.0431(9) 0.0166(9) -0.0028(9) 0.0202(11)
C43 0.0537(11) 0.0885(15) 0.0498(10) 0.0108(10) -0.0089(8) 0.0173(10)
C44 0.0416(8) 0.0644(11) 0.0439(9) 0.0071(7) 0.0016(7) 0.0072(7)
B1 0.0761(19) 0.092(2) 0.083(2) 0.0218(16) 0.0261(16) 0.0183(16)
F4 0.152(2) 0.199(2) 0.1449(19) 0.0139(18) 0.0889(17) 0.0496(19)
F1 0.252(7) 0.386(10) 0.139(4) 0.017(6) -0.041(4) -0.214(7)
F2 0.140(3) 0.097(3) 0.182(4) 0.008(2) -0.038(3) 0.043(2)
F3 0.235(8) 0.180(5) 0.253(7) 0.150(5) 0.190(7) 0.092(5)
F12 0.261(16) 0.065(4) 0.182(12) 0.044(5) 0.148(12) 0.059(7)
F11 0.37(2) 0.158(12) 0.087(6) 0.002(6) 0.007(10) 0.135(13)
F31 0.185(13) 0.187(15) 0.32(2) -0.064(14) 0.188(14) -0.064(11)

_geom_special_details

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All esds (except the esd in the dihedral angle between two l.s. planes) are estimated using the full covariance matrix. The cell esds are taken into account individually in the estimation of esds in distances, angles and torsion angles; correlations between esds in cell parameters are only

used when they are defined by crystal symmetry. An approximate (isotropic)

treatment of cell esds is used for estimating esds involving l.s. planes.

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Co1 O3 1.9283(10) . ?
Co1 P2 2.2404(4) . ?
Co1 P1 2.2541(4) . ?
P1 C2 1.8136(16) . ?
P1 C11 1.8301(16) . ?
P1 C17 1.8301(15) . ?
P2 C24 1.8142(14) . ?
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P2 C33 1.8315(14) . ?
O1 C8 1.2782(17) . ?
O2 C8 1.3350(18) . ?
O2 C9 1.453(2) . ?
O3 C30 1.2758(19) . ?
O4 C30 1.3372(19) . ?
O4 C31 1.445(3) . ?
N1 C7 1.2933(19) . ?
N1 N2 1.4002(17) . ?
N2 C8 1.310(2) . ?
N3 C29 1.2886(19) . ?
N3 N4 1.3994(17) . ?
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C1 C2 1.402(2) . ?
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C2 C3 1.400(2) . ?
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C5 C6 1.368(3) . ?
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C14 C15 1.382(4) . ?
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C39 C40 1.397(2) . ?
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C42 C43 1.378(3) . ?
C43 C44 1.383(3) . ?
B1 F31 1.255(11) . ?
B1 F1 1.292(6) . ?
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N3 Co1 O3 83.23(5) . . ?
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P2 Co1 P1 99.417(15) . . ?
C2 P1 C11 104.60(8) . . ?
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C8 O1 Co1 108.43(9) . . ?
C8 O2 C9 116.90(13) . . ?
C30 O3 Co1 107.95(9) . . ?
C30 O4 C31 117.89(15) . . ?
C7 N1 N2 113.81(12) . . ?
C7 N1 Co1 133.40(10) . . ?
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C8 N2 N1 109.26(12) . . ?
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C27 C26 C25 118.95(16) . . ?
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 F1 B1 F3 116.1(6) . . ?
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 F1 B1 F12 51.8(7) . . ?
 F3 B1 F12 121.8(6) . . ?
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