

**DYSPROSIUM(III) COMPLEX WITH 1,3,5-BENZENETRICARBOXYLIC ACID
AND 3-METHYL-1-PHENYL-4-FORMYLPYRAZOL-5-ONE ACYL
HYDRAZONE**

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Dysprosium complex of 1,3,5-benzentricarboxylic and 3-methyl-1-phenyl-4-formylpyrazole-5-one's triacyl hydrazine was synthesized at 65-70 °C from 3-Methyl-1-phenyl-4-formylpyrazole-5-one added into suspension of 0.32 g (1.27 mmol) of 1,3,5-

benzentricarboxylic trihydrazide with 15 mL DMFA. The mixture was stirred on 30 min and 1.28 mmol of dysprosium chloride in ethanol (15 mL) and 0.8 mL of pyridine. Solution stored a few days. Crystals were collected by filtration, washed with ethanol and dried on air.

The crystal structure of complex $C_{164}H_{132}Dy_4N_{48}O_{24} \cdot 9C_3H_7NO \cdot 18H_2O$ was solved by the direct methods and refined with $R_1 = 0.071$ by means of Agilent Technologies SuperNova diffractometer (100K, using, $CuK\alpha$ radiation) for 6156 unique reflections with $|F_o| \geq 4\sigma_F$ in the 2θ range of 6.18 – 139.90. The complex based on Dy-tetrahedra with Dy1...Dy1 and Dy1...Dy2 distances 9.996 and 9.917 Å, respectively. Dysprosium polyhedra consist of combination of Dy-N₃ triangle and DyO₆ trigonal prism. The triacyl hydrazones are coordinated as a «tritopic» ligands, placed on faces of Dy-tetrahedron.

According to X-ray powder diffraction similar complexes of the lanthanum and some lanthanides (Nd, Sm, Eu, Gd, Tb, Ho, Er, Yb) with 1,3,5-benzentricarboxylic and 3-methyl-1-phenyl-4-formyl-pyrazole-5-one's triacyl hydrazone are isostructural with the test compound.

Keywords: 1,3,5-benzentricarboxylic acid, acylhydrazone, 3-methyl-1-phenyl-4-formyl-pyrazole-5-one, X-Ray study

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