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Crystallographic report

Bis[*N*,*N*-dimethyl-*N*′-(pyrid-2-ylmethyl)-ethylenediamine]zinc(II) diperchlorate

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The zinc(II) atom in the centrosymmetric complex is in a distorted N_6 octahedral geometry defined by two tridentate ligands. Copyright © 2004 John Wiley & Sons, Ltd.

KEYWORDS: crystal structure; zinc(II); coordination complex

COMMENT

Zinc(II) complexes have received considerable attention in recent years because of their potential in optical applications.[1,2] In this context, the mononuclear zinc(II) complex with *N*,*N*-dimethyl-*N*′-(pyrid-2-ylmethyl)-ethylenediamine (L) has been synthesized and shown to feature a distorted N_6 octahedral geometry, with the Zinc(II) atom being coordinated by two tridentate ligands (Fig. 1).

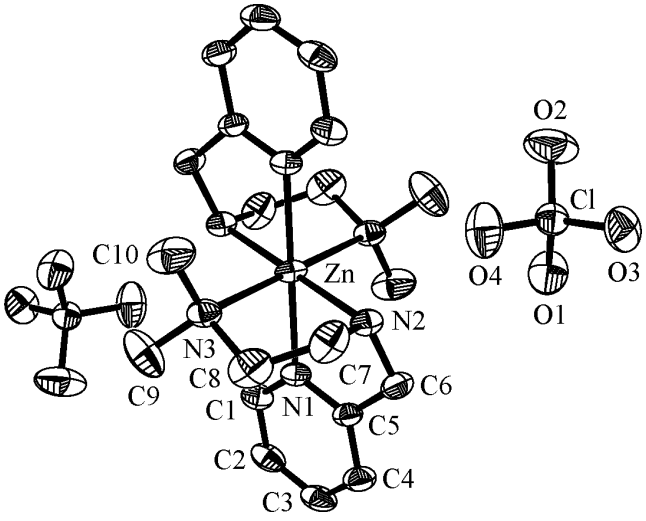

Figure 1. Molecular structure of $[ZnL](ClO_4)_2$; hydrogen atoms have been omitted for clarity. Key geometric parameters: Zn–N1 2.158(3), Zn–N2 2.132(3), Zn–N3 2.374(3) Å; N1–Zn–N2 79.34(11), N1–Zn–N3 89.93(11), N2–Zn–N3 81.30(12)°. Symmetry operation *i*: $-x$, $-y$, $1-z$.

EXPERIMENTAL

The ligand L was prepared using the published procedure.[3] The complex was synthesized by adding the ligand L (1 mmol) in methanol (10 ml) to a methanol (10 ml) solution of $Zn(ClO_4)_2 \cdot 5H_2O$ (0.5 mmol). The mixture was stirred for 0.5 h. After filtration, the solution was allowed to stand at room temperature for several days, from which colorless crystals of the title complex were obtained. Anal. Found: C, 39.23; H, 5.12; N, 12.95. Calc.: C, 38.57; H, 5,50; N, 13.49%. Intensity data was collected at 293 K on a Bruker SMART 1000 CCD diffractometer for a rhombic block $0.20 \times 0.25 \times 0.30$ mm^3. $C_{20}H_{34}Cl_2N_6O_8Zn$, $M = 622.80$, monoclinic, $P2_1/c$, $a = 9.513(3)$, $b = 12.487(4)$, $c = 12.288(4)$ Å, $\beta = 109.150(5)°$, $V = 1378.9(7)$Å^3, $Z = 2$, 2439 unique data ($\theta_{max} = 25.0°$), $R = 0.042$ (1452 data with $I \geq 2\sigma(I)$), $wR = 0.098$ (all data).

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