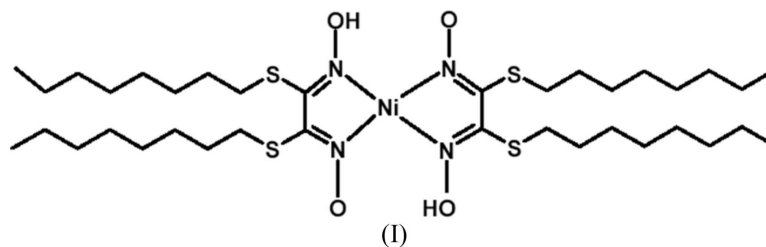


Ilke Gurol,^a Gulay Gumus,^a
Fatma Yuksel,^b Erwann
Jeanneau^{c*} and Vefa Ahsen^d^aTUBITAK Marmara Research Centre, Materials Institute, PO Box 21, 41470 Gebze, Kocaeli, Turkey, ^bUniversité Lyon 1, Laboratoire Multimatériaux et Interfaces - UMR 5615, 69622 Villeurbanne Cedex, France, ^cUniversité Lyon 1, Centre de Diffractométrie Henri Longchambon, 69622 Villeurbanne Cedex, France, and ^dGebze Institute of Technology, Department of Chemistry, PO Box 141, 41400 Gebze, Kocaeli, TurkeyCorrespondence e-mail:
erwann.jeanneau@univ-lyon1.fr**Key indicators**Single-crystal X-ray study
 $T = 293$ K
Mean $\sigma(\text{C}-\text{C}) = 0.010$ Å
 R factor = 0.059
 wR factor = 0.066
Data-to-parameter ratio = 10.3For details of how these key indicators were automatically derived from the article, see <http://journals.iucr.org/e>.**Bis[*N,N'*-bis(octylsulfanyl)glyoximato]nickel(II)**

In the title compound, $[\text{Ni}(\text{C}_{18}\text{H}_{35}\text{N}_2\text{O}_2\text{S}_2)_2]$, the coordination geometry around the Ni atom, lying on a centre of symmetry, is square planar, consisting of four N atoms from the two *vic*-dioxime ligands. The O atoms are intramolecularly hydrogen bonded, as is usually observed for *anti*-isomer metal complexes of *vic*-dioximes.

Received 18 October 2006
Accepted 6 November 2006**Comment**

Vicinal dioximes and their complexes have undergone numerous investigations in the past decades because of their various properties (Chakravorty, 1974). The exceptional stability and unique electronic properties of *vic*-dioxime complexes can be attributed to their planar structure, which is stabilized by two hydrogen bonds (Voter *et al.*, 1951). The presence of mildly acidic hydroxyl groups and slightly basic N atoms makes *vic*-dioxime an amphoteric ligand which forms complexes with transition metal ions such as Ni^{II} , Cu^{II} , Co^{II} and Co^{III} . We present here the title complex, (I), of Ni^{II} with a *vic*-dioxime.



In complex (I), the Ni^{II} atom is coordinated by the four N atoms of the two *vic*-dioxime ligands and is in a square-planar environment (Fig. 1). The Ni atom lies on a centre of symmetry. The plane of the octyl carbon chains forms an angle of 64.05 (9) $^\circ$ with respect to the perfectly planar central core containing the metal atom. The mean Ni—N distance and the N1—Ni1—N2 angle (Table 1) are similar to those reported for related compounds (Gumus *et al.*, 2004).

Intramolecular O—H...O hydrogen bonding is observed, as expected. In the crystal structure the metal coordination planes lie parallel to the *bc* plane. The distance between two of these planes is approximately 16 Å and the octyl chains occupy the available space between the planes in a tail-to-tail fashion (Fig. 2).

Experimental

The oxime ligand was obtained in absolute ethanol at room temperature by reaction of dichloroglyoxime (Ponzio & Baladro,

- Betteridge, P. W., Carruthers, J. R., Cooper, R. I., Prout, K. & Watkin, D. J. (2003). *J. Appl. Cryst.* **36**, 1487.
- Brandenburg, K. (1996). *DIAMOND*. University of Bonn, Germany.
- Chakravorty, A. (1974). *Coord. Chem. Rev.* **13**, 1–46.
- Gumus, G., Ahsen, V., Lebrun, C., Luneau, D. & Pécaut, J. (2004). *New J. Chem.* **28**, 177–179.
- Kesimli, B., Topaçli, A., Topaçli, C., Gumus, G., Gurol, I. & Ahsen, V. (2005). *Colloids Surf. A Physicochem. Eng. Asp.*, **256**, 137–143.
- Meulenaer, J. de & Tompa, H. (1965). *Acta Cryst.* **19**, 1014–1018.
- Nonius (2001). *COLLECT*. Nonius BV, Delft, The Netherlands.
- Otwinowski, Z. & Minor, W. (1997). *Methods in Enzymology*, Vol. 276, *Macromolecular Crystallography*, Part A, edited by C. W. Carter Jr & R. M. Sweet, pp. 307–326. New York: Academic Press.
- Ponzio, G. & Baldrice, F. (1930). *Gazz. Chim. Ital.* **60**, 415–429.
- Prince, E. (1982). *Mathematical Techniques in Crystallography and Materials Science*. New York: Springer-Verlag.
- Voter, R. C., Banks, C. V., Fassel, V. A. & Kehres, P. W. (1951). *Anal. Chem.* **23**, 1730–1735.
- Watkin, D. (1994). *Acta Cryst.* **A50**, 411–437.