# Letters to the Editor

## Synthesis and structure of bis(acetylacetonato)germanium(IV) diazide

*P. S. Koroteev,[a] M. P. Egorov,[a]* O. M. Nefedov,[a] G. G. Alexandrov,[b] S. E. Nefedov,[b] and I. L. Eremenko[b]*

*[a]N. D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, 47 Leninsky prosp., 117913 Moscow, Russian Federation. Fax: +7 (095) 135 5328. E-mail: mpe@cacr.ioc.ac.ru*

*[b]N. S. Kurnakov Institute of General and Inorganic Chemistry, Russian Academy of Sciences, 31 Leninsky prosp., 117907 Moscow, Russian Federation*

We found that refluxing of $(Acac)_2GeCl_2$ with $NaN_3$ (2 mol) in acetonitrile for 5 h gave bis(acetylacetonato)germanium(IV) diazide $(Acac)_2Ge(N_3)_2$ (**1**) in an 82% yield. Complex **1** was isolated as colorless crystals well soluble in organic solvents and readily hydrolyzed in air.

Single crystals of **1** were obtained by recrystallization from toluene. At −110 °C crystals **1** are monoclinic, space group *Cc*, $a$ = 9.199(2) Å, $b$ = 12.632(3) Å, $c$ = 12.532(3) Å, β = 93.70(3)°, $Z$ = 4, $V$ = 1453.3(5) Å$^3$, $R_1$ = 0.0320, w$R_2$ = 0.0716. According to X-ray structural analysis, the Ge atom in complex **1** (Fig. 1) is in the distorted octahedral environment of four O atoms (Ge—O(1) 1.891(9) Å, Ge—O(2) 1.935(9) Å, Ge—O(3) 1.889(9) Å, Ge—O(4) 1.898(9) Å), two Acac ligands, and N atoms of two azide fragments (Ge—N(1) 1.942(12) Å, Ge—N(4) 1.926(11) Å) arranged in *cis*-position with respect to each other and in the axial and equatorial positions of complex **1**, respectively.

Compound **1** is the first structurally characterized azide-containing β-diketonate of the hexacoordinate atom of Group IVB elements of the Periodic System.

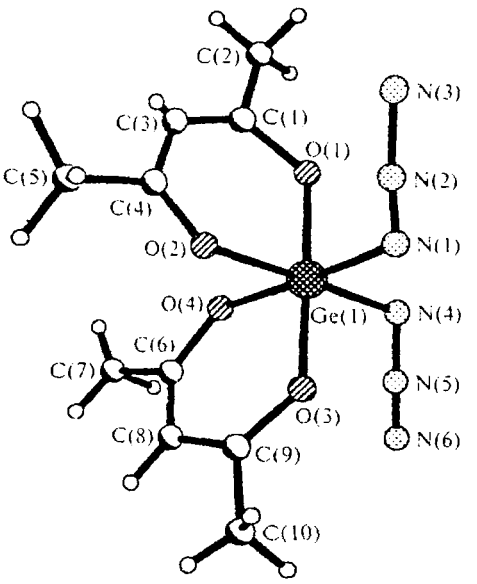


**Fig. 1.** Molecular structure of $(Acac)_2Ge(N_3)_2$.

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Since it is known that diazide-containing derivatives of Group IVB elements generate carbene analogs upon photolysis,[1,2] we studied the photochemical decomposition of complex **1** in benzene (20 °C, 20 h, a DRSh-1000 high-pressure mercury lamp). However, a poorly soluble germanium-containing polymer is formed under these conditions instead of the expected germanium(II) bis(acetylacetonate).

**Bis(acetylacetonato)germanium(IV) diazide (1).** M.p. 136—137 °C. IR (KBr), $\nu/cm^{-1}$: 1540 (C=O), 2113 ($N_3$). $^1H$ NMR: ($C_6D_6$), δ: 1.08 (s, 6 H, 2 $CH_3$); 1.13 (s, 6 H, 2 $CH_3$); 5.09 (s, 2 H, $CH_2$). MS (EI, 70 eV), $m/z$ ($I_{rel}$ (%)): 314 $[M - N_3]^+$ (41), 272 $[M - 2\ N_3]^+$ (3.5), 257 $[M - Acac]^+$ (17), 173 $[M - 2\ N_3 - Acac]^+$ (100).

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