

# Synthesis, Polarity, and Structure of 2-Chloro-*N*-[2-(methylsulfanyl)phenyl]- and 2-(Diphenylthiophosphoryl)-*N*-[2-(methylsulfanyl)phenyl]acetamides

E. A. Ishmaeva<sup>a</sup>, A. Z. Alimova<sup>a</sup>, Ya. A. Vereshchagina<sup>a</sup>, D. V. Chachkov<sup>b</sup>,  
O. I. Artyushin<sup>c</sup>, and E. V. Sharova<sup>c</sup>

<sup>a</sup> Kazan (Volga Region) Federal University, ul. Kremlevskaya 18, Kazan, 420008 Tatarstan, Russia  
e-mail: elenishmaeva@gmail.com

<sup>b</sup> Kazan Branch, Joint Supercomputer Center, Russian Academy of Sciences,  
ul. Lobachevskogo 2/31, Kazan, 420111 Tatarstan, Russia

<sup>c</sup> Nesmeyanov Institute of Organoelement Compounds, Russian Academy of Sciences,  
ul. Vavilova 28, Moscow, 119991 Russia

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**Abstract**—Conformations of 2-chloro-*N*-[2-(methylsulfanyl)phenyl]- and 2-(diphenylthiophosphoryl)-*N*-[2-(methylsulfanyl)phenyl]acetamides have been studied by the dipole moment method and quantum chemical calculations. 2-(Diphenylthiophosphoryl)-*N*-[2-(methylsulfanyl)phenyl]acetamide has been found to exist as an equilibrium mixture of two conformers with *synclinal* and *anticlinal* orientations of the C<sub>sp<sup>3</sup></sub>–C<sub>sp<sup>2</sup></sub> and P=S bonds. 2-Chloro-*N*-[2-(methylsulfanyl)phenyl]acetamide is represented by one preferred conformer.

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