

## 5-Methoxy-3,4-di[(4-methylphenyl)sulfanyl]-2(5H)-furanone in the reactions with nitrogen-containing nucleophiles

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### Abstract

The chemical behavior of 5-methoxy-3,4-di[(4-methylphenyl)sulfanyl]-2(5H)-furanone in the reactions with nitrogen-containing nucleophiles was characterized. Depending on the reagents and the reaction conditions used, the nucleophilic attack can be directed both at the carbonyl carbon atom and at C<sup>4</sup> carbon atom of the lactone ring. Novel sulfur-containing derivatives of 3-pyrrolin-2-one, 2(5H)-furanone and pyridazin-3(2H)-one are obtained by interaction of 5-methoxy-3,4-di[(4-methylphenyl)sulfanyl]-2(5H)-furanone with ammonia, benzylamine and hydrazine. The structure of all synthesized compounds was confirmed by IR, <sup>1</sup>H and <sup>13</sup>C NMR spectroscopy; the molecular and crystal structure of three new heterocycles were characterized by single crystal X-ray diffraction.