



**LATVIJAS
UNIVERSITĀTE**

78.

**Latvijas
Universitātes
starptautiskā
zinātniskā
konference**

ĶĪMIJAS SEKCIJA

2020. gada 6. marts

Tēžu krājums

LATVIJAS UNIVERSITĀTES
78. STARPTAUTISKĀ ZINĀTNISKĀ
KONFERENCE

KĪMIJAS SEKCIJA

Tēžu krājums

Book of Abstracts

The 78th International Scientific Conference
of the University of Latvia

Chemistry Section

2020

Latvijas Universitātes 78. starptautiskā zinātniskā konference. Ķīmijas sekcija. Tēžu krājums = The 78th International Scientific Conference of the University of Latvia. Chemistry Section. Book of Abstracts. Rīga: Latvijas Universitāte, 2020. 58 lpp.

Redkolēģija:
prof. Edgars Sūna
prof. Arturs Vīksna

Tēžu krājums publicēts autoru redakcijā

Maketētāja Andra Liepiņa

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<https://doi.org/10.22364/iscul.78.cs.ba>
ISBN 978-9934-18-511-3

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ORGANISKĀS KĪMIJAS SEKCIJA

AZIDE-TETRAZOLE EQUILIBRIUM MEDIATED S_NAr REACTIONS OF ARYLTHIOPURINE DERIVATIVES

Andris Jeminejs

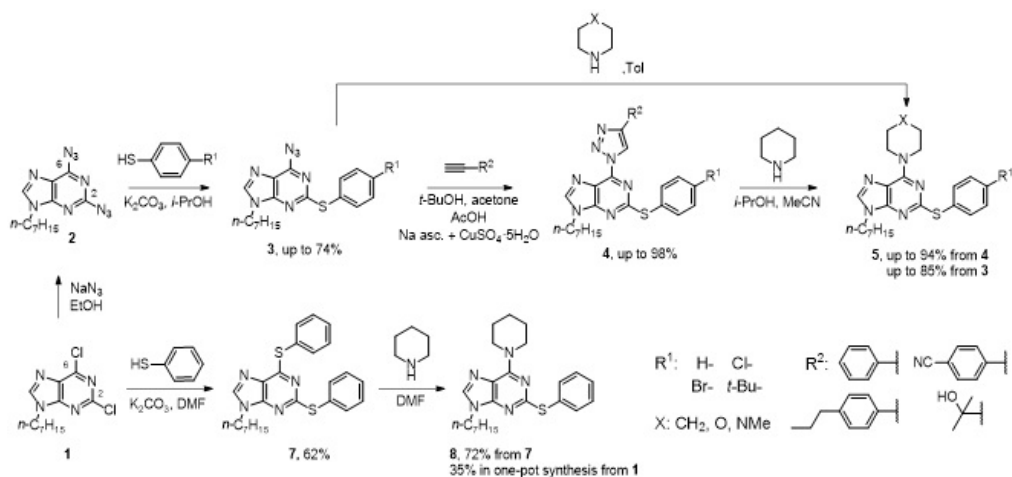
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Several purine based compounds that contain both arylthio and amino moieties have been established as potential medicine in the treatment of adenocarcinoma, chronic lymphocytic leukemia and other carcinogenic disorders [1, 2]. Till now purine derivatives with arylthio and amino groups at C(2) and C(6) positions were not synthesized.

Several synthetic approaches for the synthesis of 6-amino-2-arylthiopurine derivatives **5** and **8** were developed. 2,6-Diazidopurine derivative **2** was proven to be a valuable starting material for introduction of arylthio group at C(2) position of purine. Both triazoles and thiophenolates can be used as good leaving groups in nucleophilic aromatic substitution reactions with amines giving products in yields up to 94% and 85%, respectively.



Compound **3** exists in a broad, easily shifted azide-tetrazole equilibrium that affects the regioselectivity of S_NAr reaction with amines, providing the target products **5** with good yields up to 85%.

This work was supported by the Latvian Council of Science grant No. LZP-2018/2-0037.

Supervisor: Dr. chem. Ē. Bizdēna, Dr. chem. I. Novosjolova

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