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# 12<sup>th</sup> Paul Walden Symposium on Organic Chemistry



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## **PROGRAM AND ABSTRACT BOOK**

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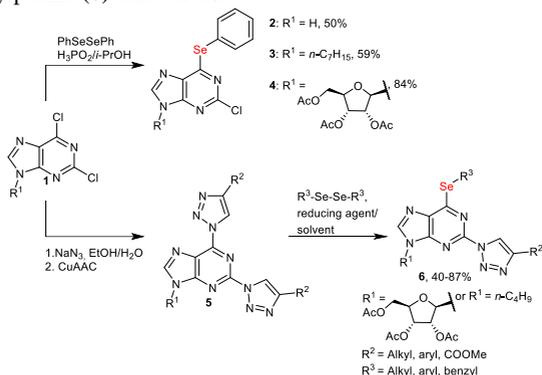
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# Synthesis of Purine Based Organoselenium Compounds

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The importance of modified purine bases and purine nucleosides in medicine, biochemistry and biology is well recognized. Additionally, the interest in the organoselenium compounds has increased in the last two decades due to their various biological activities. The combination of purine scaffold with selenium moieties can lead to the compounds with interesting properties.<sup>1</sup> Here we report the synthesis of 2-chloro-6-selanylpurine (**2-4**) and 2-triazolyl-6-selanylpurine (**6**) derivatives.



**Figure 1.** Synthesis of 2-chloro-6-selanylpurine (**2-4**) and 2-triazolyl-6-selanylpurine (**6**) derivatives.

Earlier we demonstrated that 1,2,3-triazole moiety at C(6) position of purine is a good leaving group in S<sub>N</sub>Ar reactions with *N*-, *S*-, *O*-, *C*- and *P*-nucleophiles.<sup>2</sup> In this study we extended the range of nucleophiles with selenols. The synthetic routes to 6-selanyl-2-triazolylpurine nucleosides and 2-chloro-6-selanylpurines will be discussed.

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## References

1. a) Duarte, L.F.B.; Oliveira, R. L.; et al. *Bioorg. Med. Chem.* **2017**, *25*, 6718. b) Salon, J.; Gan, J.; Abdur, R.; Liu, H.; Huang Z. *Org. Lett.* **2013**, *15*, 3934.
2. Cirule, D.; Novosjolova, I.; Bizdēna, E.; Turks, M. *Belstein J. Org. Chem.* **2021**, *17*, 410, and references cited therein.