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ABSTRACTS

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Contents

2,6-Diazidopurine *Deoxyribo*-nucleoside as Substrate for the *Click* Reaction

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***Keywords* –Deoxyribonucleosides, *click* chemistry.**

I. Introduction

The chemistry of triazolyl-substituted purine nucleosides is attractive since some of them exhibit antiviral, anticancer or fluorescent properties [1].

Our group has reported the synthesis of 2,6-bistriazolyl purine *arabino*- and *ribo*-nucleosides using Cu(I) catalysed azide - alkyne 1,3-dipolar cycloaddition reaction. Various nucleophilic substitution reactions with the obtained products were carried out [2].

In addition to our previous work, herein we report the synthesis of the novel bis-triazolyl purine *deoxyribo*-nucleosides and their reactions with *N*-nucleophiles.

II. Results and Discussion

Azide-alkyne cycloaddition

Click reactions between diazido purine derivative **1** and different terminal alkynes were performed in *t*-BuOH/H_2O solution with addition of a small amount of acetic acid (Fig. 1). Five-fold excess of alkyne was used. To obtain the Cu(I) source in reaction media, several portions containing 5 mol% of $CuSO_4 \cdot 5H_2O$ and 10 mol% of sodium L-ascorbate were added during reaction. After purification on silica gel column, products **2a-g** were obtained in 35–70 % yields.

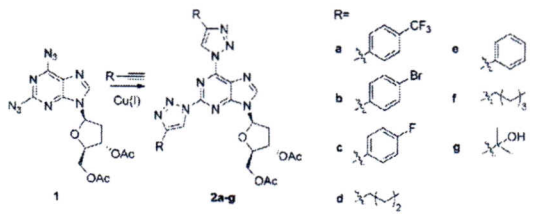

Figure 1. Synthesis of Bis-triazolyl Purine *Deoxyribo*-nucleosides.

Heteroaromatic nucleophilic substitution

The acquired bistriazoles **2a-d** were reacted with either piperidine or pyrrolidine in THF/H_2O solution to give monosubstituted derivatives **3a-d** (Fig. 2) [2]. After the purification process products were isolated in 36–88 % yields.

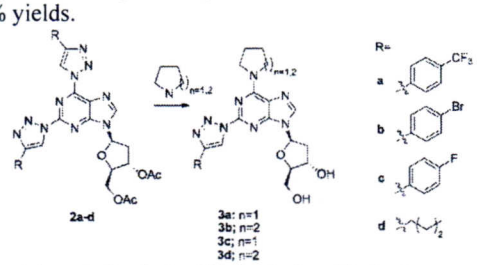

Figure 2. Synthesis of Monosubstituted Derivatives.

Substances **3a-d** possess fluorescent properties, represented by emission spectra in Fig. 3.

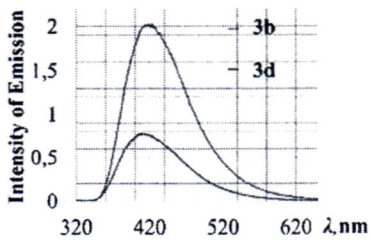

Figure 3. Emission Spectra for Compounds **3b** and **3d**.

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