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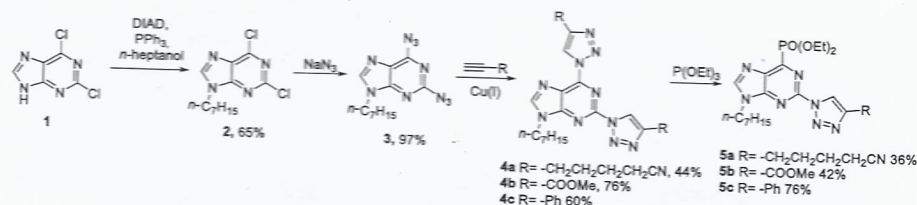
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Synthesis of C6-phosphonated purine derivatives

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Purine derivatives are widely studied due to their biological activity. They are used as anticancer and antiviral drugs, and as agonists and antagonists of adenosine receptors.^{1,2} Using previously discovered conditions³ compound **3** was synthesized. Then in CuAAC reaction bistrizolyl purine derivatives **4** were obtained in yields up to 76%. Next, Arbuzov type reaction has been done using phosphites and *bis*-triazolylpurine derivatives **4**, resulting C6-phosphonated purines **5** with yields up to 67% (Scheme 1). The structure of compound **5** was proved by X-ray analysis (Figure 1).



Scheme 1. Synthesis of C6-phosphonated purine derivatives **5**.

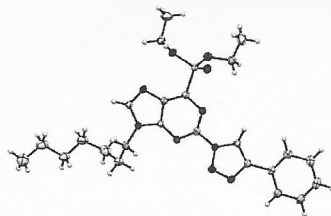


Figure 1. X-ray structure of diethyl (9-heptyl-2-(4-phenyl-1H-1,2,3-triazol-1-yl)-9H-purin-6-yl) phosphonate.

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