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SYNTHESIS OF SPIRO-OXAZOLIDINONE DERIVATIVES FROM DIACETONE-D-GLUCOSE

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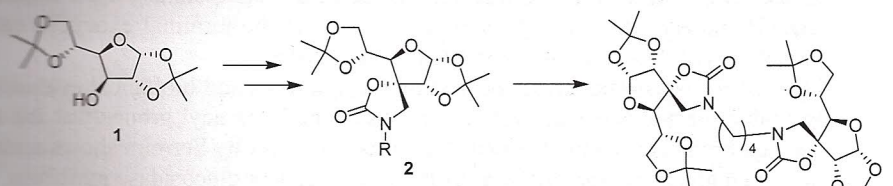
Spiro-heterocyclic sugar derivatives were first discovered in 1979, which led to the formation of a whole family of antibiotic compounds – orthosomycins[1]. Further researches have found other biologically potent natural spiro-heterocyclic carbohydrate derivatives, such as hydantocydin – an effective herbicide with practically no toxicity to microorganisms and animals[2].



R = H, Me, Et, Bn, methallyl-, propargyl-, 2,4-dinitrophenyl-, acetyl-, 4-bromobutyl-

We have worked out a convenient way to synthesize a spiro-oxazolidinone compound **2** (R=H) from cheap and available diacetone-D-glucose **1**. Synthesis of compound **2** (R=H) was reported recently[3]. However, the proposed synthetic route makes use of triphosgene and offers low yields under unpleasant conditions. Our strategy allows easy access to spirocyclic compound **2** (R=H), as well as its alkylated, arylated and acylated products with good to excellent yields. Also, *N*-4-bromobutylsubstituted compounds make it possible to create dimer **3**.

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