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## Nucleosides, Nucleotides and Nucleic Acids

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### Synthesis of 7-Glycopyranosyl-5-oxq-pyrrolo[2,3-d]Pyrimidine and 4-Glyco Pyranosylamino-Furo[2,3-d]Pyrimidine Derivatives

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SYNTHESIS OF 7-GLYCOPYRANOSYL-5-OXO-PYRROLO[2,3-d]PYRIMIDINE AND 4-GLYCOPYRANOSYLAMINO-FURO[2,3-d]PYRIMIDINE DERIVATIVES

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**Abstract:** The synthesis of some glycosyl derivatives of furo[2,3-d] and pyrrolo[2,3-d]pyrimidines is described.

The reactions of 4-glycosylaminopyrimidine derivatives 1 with chloroacetyl chloride drive to the compounds 2, 3 and 4, being the yields different depending on the solvents used (anhydrous chloroform or ethyl acetate). The compounds 2 are the main product of reaction in ethyl acetate whereas the compounds 3 are the minority in both solvents and the yield of the compounds 4 becomes higher in chloroform.

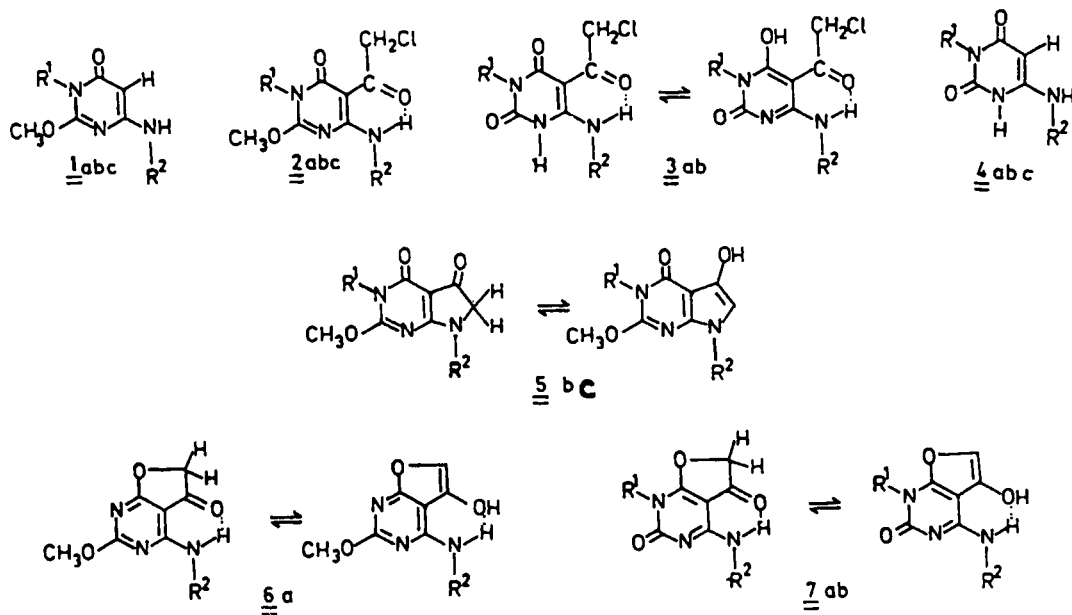
Furo[2,3-d]pyrimidine derivatives 6 and pyrrolo[2,3-d]pyrimidine 5 were obtained by reaction of the compounds 2 in anhydrous  $K_2CO_3$ /DMF solutions<sup>2</sup>.

It has been proved a higher reactivity of the  $C_6$ -OH group (which is present due to the tautomeric equilibrium when  $R^1 = H$ ) than  $C_4$ -NH group.

So, the reaction products are always furo[2,3-d]pyrimidine derivatives 6 and 7 when  $R^1 = H$ , whereas the pyrrolo[2,3-d]pyrimidine derivatives 5 are obtained when  $R^1 = CH_3$ .

All the compounds obtained were purified using column chromatography on silica gel and then by EtOH recrystallization. The proposed structures are in accordance with the spectroscopic data.

Using  $^1H$ -NMR spectroscopy the hydrogen bridge bonds drawn in the scheme have been detected and likewise the existence of the tautomeric equilibria showed in the scheme was proved.



COMPOUNDS	R <sup>1</sup>	R <sup>2</sup>
a	H	2,3,4,6-tetra-O-acetyl-β-D-glucopyranosyl
b	CH <sub>3</sub>	2,3,4-tri-O-acetyl-β-D-xylopyranosyl
c	CH <sub>3</sub>	2,3,4,6-tetra-O-acetyl-β-D-glucopyranosyl

SCHEME 1

## REFERENCES

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