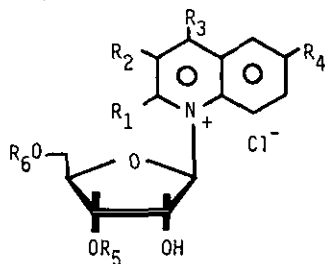


SYNTHESIS AND SPECTROSCOPIC DATA OF SOME QUINOLINIUM NUCLEOSIDES

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It is a well known fact that some metabolic enzymatic processes in biosynthesis (glycolysis, nucleoside biosynthesis) are NAD^+ -dependent. The observations that cytostatic activity of a nucleoside analog sometimes can be explained in terms of an inhibition of an NAD^+ -dependent dehydrogenase after biochemical conversion into the corresponding NAD-analog prompted the synthesis of a series of quinolinium nucleosides I to VI.



I: $\text{R}_1=\text{R}_2=\text{R}_3=\text{H}$; $\text{R}_4=\text{H}$; $\text{R}_5=\text{H}$; $\text{R}_6=\text{H}$

II: $\text{R}_1=\text{H}$; $\text{R}_2=\text{H}$; $\text{R}_3=\text{H}$; $\text{R}_4=\text{CH}_3$; $\text{R}_5=\text{H}$; $\text{R}_6=\text{H}$

III: $\text{R}_1=\text{CH}_3$; $\text{R}_2=\text{H}$; $\text{R}_3=\text{H}$; $\text{R}_4=\text{H}$; $\text{R}_5=\text{H}$; $\text{R}_6=\text{H}$

IV: $\text{R}_1=\text{COOBu}$; $\text{R}_2=\text{H}$; $\text{R}_3=\text{H}$; $\text{R}_4=\text{H}$; $\text{R}_5=\text{Bz}$; $\text{R}_6=\text{Bz}$

V: $\text{R}_1=\text{H}$; $\text{R}_2=\text{COOBu}$; $\text{R}_3=\text{H}$; $\text{R}_4=\text{H}$; $\text{R}_5=\text{Bz}$; $\text{R}_6=\text{Bz}$

VI: $\text{R}_1=\text{H}$; $\text{R}_2=\text{CONH}_2$; $\text{R}_3=\text{H}$; $\text{R}_4=\text{H}$; $\text{R}_5=\text{H}$; $\text{R}_6=\text{H}$

Bz : benzoyl

These quinolinium nucleosides, some of which show a structure relationship with the active nicotinamide part in NAD^+ itself were obtained in 80-90% yield by direct condensation of 3,5-di-O-benzoyl- β -D-furanosyl chloride with the corresponding quinoline derivative in dry acetonitrile at 0°C . Debenzoylation was performed using methanolic ammonia. The structure of these compounds was investigated by ^1H - and ^{13}C -NMR and D/CI mass spectrometry.