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Preparation of novel nucleoside analogues from cyclobutane precursors as potential antiviral agents

Cyclobutanes represent strained compounds which exhibit chemical reactivity not encountered with unstrained ring systems. These properties have been exploited in their capacity as synthetic intermediates. Cyclobutane nucleosides as oxetanocin analogs have been shown to exhibit antiviral and other biological activities. Our interests in cyclobutanone chemistry has prompted investigations into the preparation of novel cyclobutane nucleoside analogs. We report in this paper the synthesis of novel cyclobutanols2 and 3 from its precursor 1. The coupling of 6-chloropurine with 1 gives two regioisomers consisting of the N-9 and N-7 ketones with the latter formed as the major product.

Biography

Edward Lee-Ruff has received his B.Sc. and Ph.D. degree from McGill University. He was the NRC Post-Doctoral Fellow Columbia University under Professor Nick Turro. Since 1969 –present he is a full Professor at York University. He is also a fellow of Chemical Institute of Canada. His main research interest is in Photochemistry, Mechanisms and Organic Synthesis. He has over 120 publications and 2 patents. Also involved in outreach public presentations on brand name vs generic pharmaceutical products.

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