SYNTHESIS OF NOVEL HETERO-FUSED 7-DEAZAPURINE RIBONUCLEOSIDES

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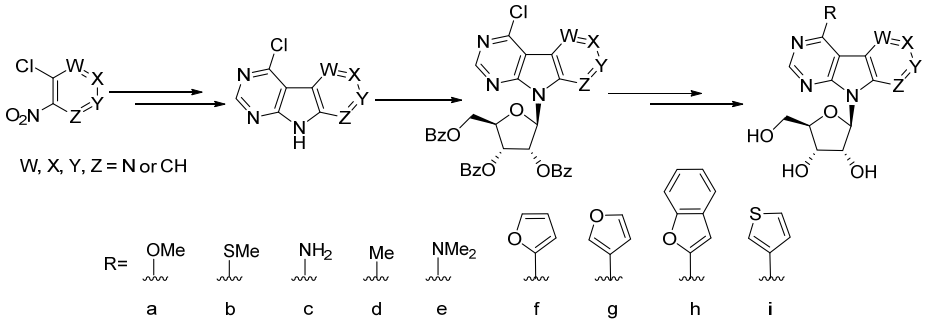
Many substituted 7-deazapurine ribonucleosides and their analogs displayed various biological activities, and some are even used as clinical antiviral drugs.[1] Systematic study of our group of modified 7-deazapurine ribonucleosides resulted in the discovery of different classes of potent cytostatic compounds – substituted 7-deazapurine ribonucleosides with a fused benzene, furan, thiophene, or 5-methylpyrrole ring. Some of these compounds showed nanomolar cytostatic or cytotoxic activities against cancer cells and promising antiviral activities against Dengue and HCV viruses.[2]

These results inspired us to design synthesis and investigate biological activities of pyrido-fused 7-deazapurine ribonucleosides possessing nitrogen atom in different positions in the fused pyridine ring. The final modified ribonucleosides were synthesised in 6–7 steps starting from corresponding chloro-nitropyridines. All final nucleosides were tested for their biological activities.



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