

DSM Science & Technology Awards (SOUTH) 2009	
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Furanosides are original glycosides which are present in significant proportion in certain protozoae, fungi, bacteria, archaeobacteria and plants but are completely absent in mammals. The interest for such carbohydrates arises from the fact that the microorganisms able to produce them are sometimes highly pathogenic such as those responsible for tuberculosis, leprae, Chagas diseases....The fact that those glycoconjugates are completely absent in mammal makes those five-membered ring sugars valuable synthetic targets of great interest in order to increase understanding of their biology and to design new pharmacophores, more especially in the context of increased resistance against antibiotics. My PhD work was the direct synthesis of nucleotides glycofuranosides either by a chemical way or by chemo-enzymatic approaches. Moreover, biological impacts of these new compounds on isolated enzymes, purified cellular membranes as well as whole microorganisms were demonstrated. These first results appeared to be so encouraging that they were patented.