BOSS XIII

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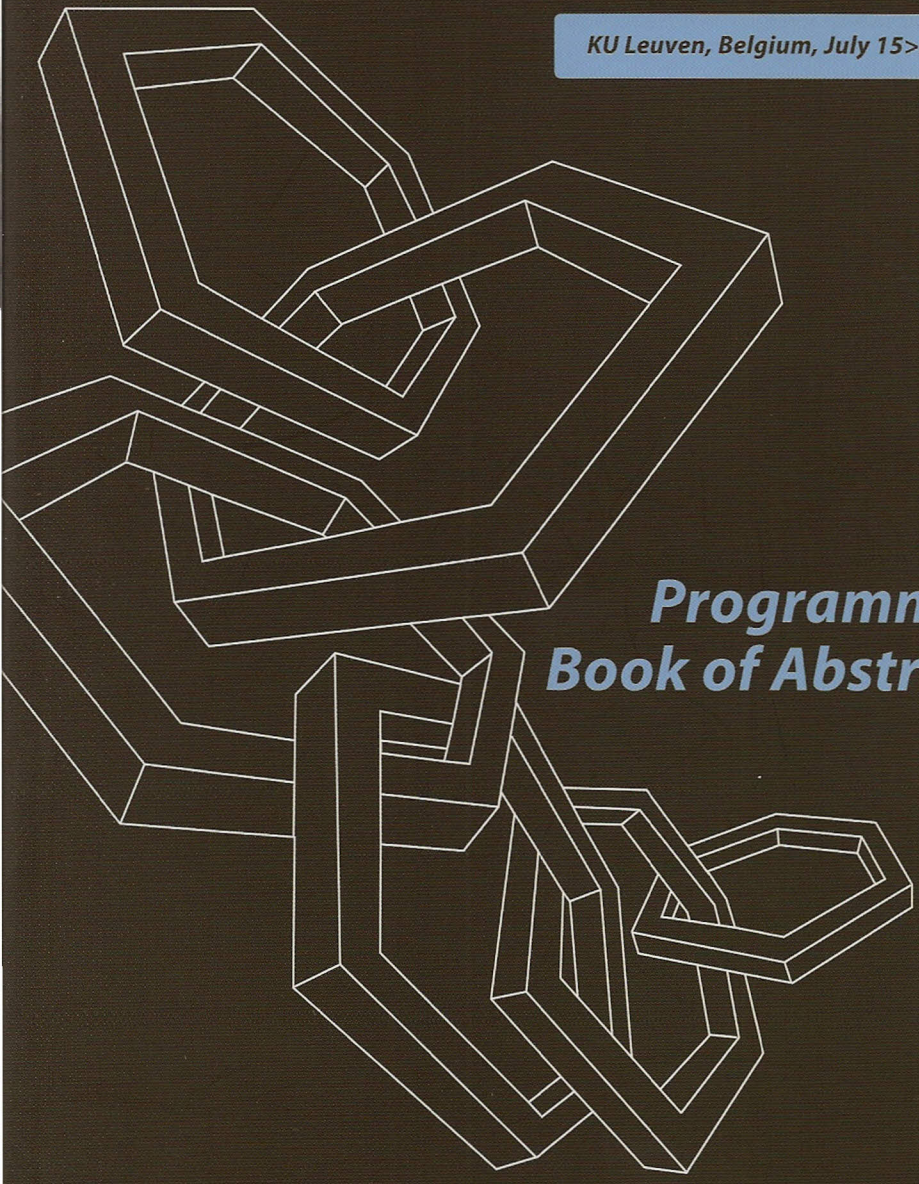

Programme & Book of Abstracts

STRUCTURAL HYBRIDS: COMBINING THE BEST OF SUGARS, PEPTIDES, AND HETEROCYCLES

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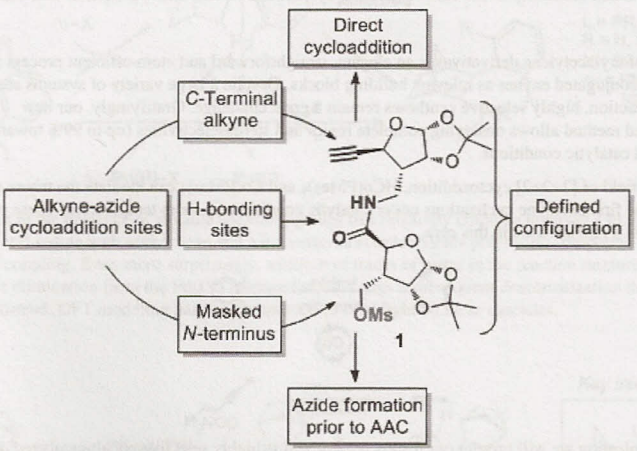
Over time, 1,2,3-triazoles as well as sugar amino acids were addressed to mimic both the amide bonds of peptides and the foldamer abilities of the latter [1-3].

Herein, we present synthesis and synthetic applications of hybrid building blocks of type **1** containing carbohydrate core, amide junction, and functionalities that allow to easily make 1,2,3-triazole linkages. Acetonide protected pento- and hexofuranoses are stereochemically defined molecular scaffolds that impose certain rigidity to the oligomeric structures made from them. Connection with an amide linkage provides open sites for the formation of intramolecular hydrogen bonds when incorporated in the larger molecules. Additional functional groups such as *C*-terminal alkyne can be directly utilized in copper-catalyzed alkyne-azide dipolar cycloaddition to form *C*-terminal 1,2,3-triazole – a peptide mimic itself [4]. Whereas *N*-terminal carbamate or a mesylate precursor must be converted to an azide prior to 1,2,3-triazole synthesis at the *N*-terminus. If necessary, with minor transformations *N*-terminal amide bond can be formed.



Along with the aforementioned hybrid **1**, triazole- or amide-bridged disaccharides of other types can be used to form homo- or heterooligocarbopeptoids or their 1,2,3-triazole isosteres.

References

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