Efficient synthesis of glycomimetics with potential biological activity.

Pierina Schiappapietra*, Estefanía Dibello and Daniela Gamenara.
Departamento de Química Orgánica, Facultad de Química UDELAR.
***e-mail:** pierina@fq.edu.uy*

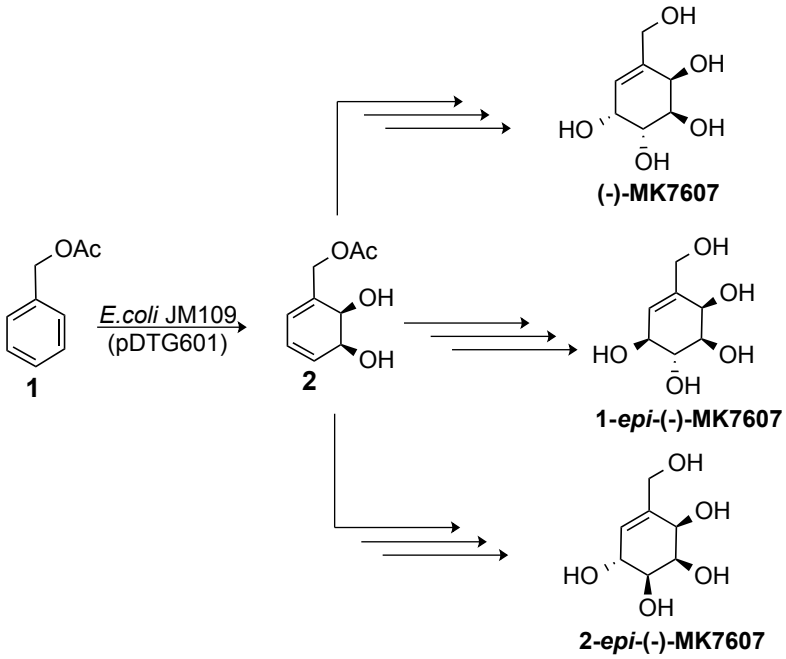
Keywords: *glycomimetics, stereoselective synthesis*

ABSTRACT

Glycomimetics are compounds structurally analogous to natural sugars, which have shown better metabolic stability and greater selectivity for target proteins. Particularly, carbasugars are glycomimetics in which the oxygen atom in the closed form of the carbohydrate, is replaced by a carbon atom.

Here, we present a concise synthesis of the carbasugar (-)-MK7607 and two of its epimers (1-*epi*-(-)-MK7607 and 2-*epi*-(-)-MK7607), stereoisomers of the natural herbicide isolated from *Curvularia eragrostidis* D2452, (+)-MK7607.[1]

Cis-cyclohexadienediol (**2**), obtained by enzymatic dihydroxylation of benzyl acetate with the recombinant strain *E. coli* JM109 (pDTG601) which expresses a toluene dioxygenase (TDO),[2] was used as starting material.



ACKNOWLEDGEMENTS

ANII – PEDECIBA - Facultad de Química UDELAR

REFERENCES

(1) Mondal, S.; Sureshan, K. M. *J. Org. Chem.* **2016**, *81* (*23*), 11635–11645.
(2) Vila, M. A.; Brovetto, M.; Gamenara, D.; Bracco, P.; Zinola, G.; Seoane, G.; Rodríguez, S.; Carrera, I. *J. Mol. Catal. B: Enzym.* **2013**, (*96*), 14-20.