

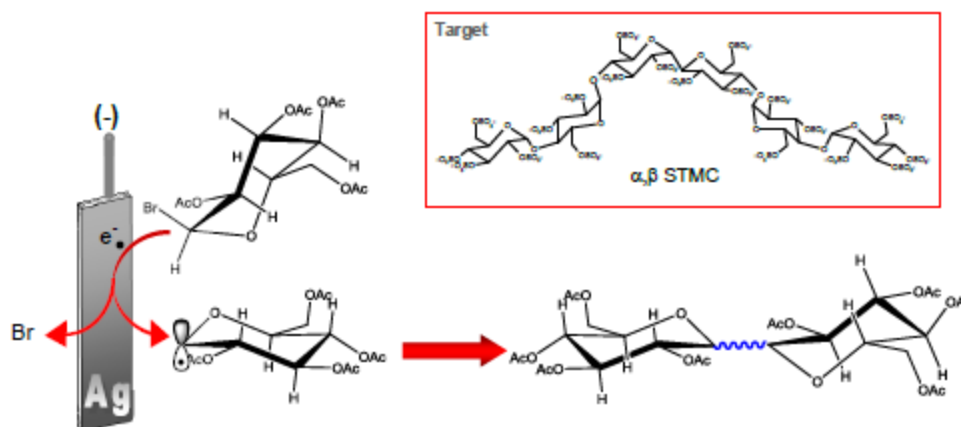
Electrochemical synthesis of C-glycosides as non-natural mimetics of biologically active oligosaccharides

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Natural oligosaccharides inhibitors of heparanase and selectins are emerging as promising drugs for cancer therapy. As an alternative tool to the natural ones, sulfated tri maltose C-C-linked dimers (α,α , α,β and β,β STMCs) were prepared by bromo-maltotriose electroreduction on silver cathode,¹ followed by sulfation. The presence of an interglycosidic C-C bond makes STMCs less vulnerable to metabolic processing than their O-analogues. For this reason, STMCs have been studied as drug candidates and inhibitors of carbohydrate processing enzymes. Their activity as inhibitor of P-selectin *in vivo* and in the attenuation of metastasis both on B16-BL6 melanoma cells and on MC-38 carcinoma cells² prompted to the optimization of their synthetic process. Therefore, the electrochemical process for the C-C coupling of the model molecule acetobromoglucose has been investigated by changing various reaction conditions such as solvent and arrangement of the electrolytic cell, aiming at the final scale-up of the reaction.



- (1) Guerrini, M.; Guglieri, S.; Santarsiero, R.; Vismara, E. *Tetrahedron Asymmetry*, **2005**, *16*, 243-253.
(2) Borsig, L.; Vlodaysky, I.; I-Michaeli, R.; Torri, G.; Vismara, E. *Neoplasia*, **2011**, *13*, 445-452.