Interrupted Pummerer reaction mediated glycosylations

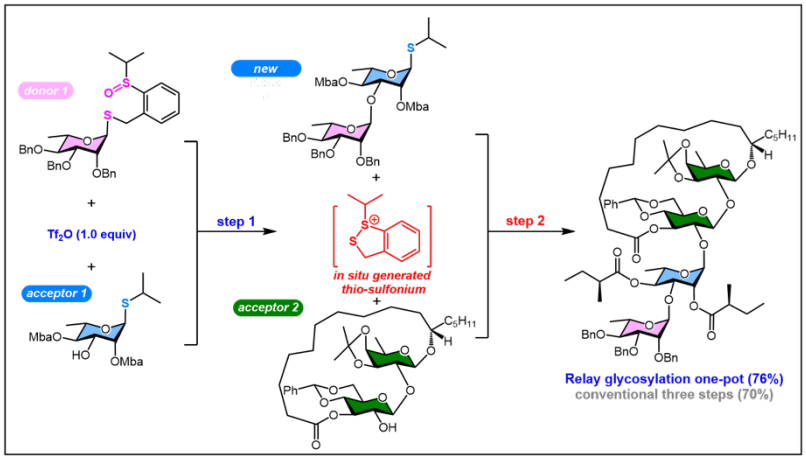
Qian WAN [1]

[1] Hubei Key Laboratory of Natural Medicinal Chemistry and Resource Evaluation, School of Pharmacy Huazhong University of Science and Technology, Wuhan, CHINA

wanqian@hust.edu.cn

Recently, we have developed two interrupted Pummerer reaction mediated (IPRm) glycosylations. These methods are convenient and efficient in synthesizing complex glycosides due to the allowance of employing latent-active glycosylation strategy. In the IPRm glycosylations, O/S-2-(2-propylthio)benzyl (O/S-PTB) glycosides were introduced as "latent" glycosyl donors, which are quite stable under most of glycosylation and many protection/deprotection conditions.

The latent O/S-PTB glycosides can be conveniently oxidized to their "active" counterparts, O/S-2-(2-propylsulfinyl)benzyl (O/S-PSB) glycosides to perform satisfying reactivity in the glycosylation process via an interrupted Pummerer reaction mechanism. In these reactions, the anomeric S-2-(2-propylsulfinyl)benzyl (SPSB) group was activated to form a cyclic-thiosulfonium ion which was able to active thioglycosides. Based on these observations, we developed a relay glycosylation strategy for the assembly of oligosaccharides.



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