Synthesis of glycoconjugates for BNCT

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Boron neutron capture therapy (BNCT) is a non-invasive targeted radiotherapy form which has been applied to the treatment of high-grade gliomas, recurrent cancers in the head and neck region and primary/metastatic melanomas. While BNCT is a promising selective anti-cancer therapeutic modality [1], the lack of non-toxic highly-selective boron delivery agents has in the past hampered potential breakthroughs and the widespread use of this technique. The quest for superior delivery agents has been ongoing since the 1960s [2], however, boronophenylalanine (BPA) and sodium borocaptate (BSH) are still the delivery agents used in the clinics despite the significant number of drawbacks associated with them.
In our team, we are developing novel carbohydrate delivery agents for the treatment of head and neck cancers. The delivery agents have been designed to target pre-existing bioaccumulation routes. At the conference, our latest work on the synthesis and biological evaluation of a set of glycoconjugates will be presented.

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References

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