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Inhibitors and probes targeting endo-glycosidases

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Citation

Boer, C. de. (2021, February 11). *Inhibitors and probes targeting endo-glycosidases*. Retrieved from <https://hdl.handle.net/1887/3135040>

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Author: Boer, C. de

Title: Inhibitors and probes targeting endo-glycosidases

Issue Date: 2021-02-11

List of publications

Mechanism-based heparanase inhibitors based on the cyclophellitol scaffold

de Boer, C.; Schröder, S. P.; Armstrong, Z.; Lit, V.; Ruijgrok, G.; Boyango, I.; Barash, U.; Kayal, Y.; Ilan, N.; Vlodavsky, I.; Wu, L.; Overkleeft, H. S. and Davies, G. J.
manuscript in preparation.

Activity-based protein profiling of retaining α -amylases in complex biological samples

Chen, Y.*; Armstrong, Z.*; Artola, M.; de Boer, C.; Florea B. I.; Aerts, J. M. F. G.; Overkleeft, H. S. and Davies, G. J.
manuscript in preparation.

On the origin of regioselectivity in palladium-catalyzed oxidation of glucosides

Wan, I. C.; Hamlin, T. A.; Eisink, N. N. H. M.; Marinus, N.; de Boer, C.; Vis, C.; Codée, J. D. C. Witte, M. D.; Minnaard, A. J. and Bickelhaupt, M. F.
manuscript in preparation.

Glycosylated cyclophellitol-derived activity-based probes and inhibitors for cellulases

de Boer, C.*; McGregor, N. G. S.*; Peterse, E.; Schröder, S. P.; Jiang, J.; Reijngoud, J.; Ram, A. F. J.; van Wezel, G. P.; van der Marel, G. A.; Codée, J. D. C.; Overkleeft, H. S. and Davies, G. J.
RSC Chem. Biol. **2020**, 1, 148-155.

An overview of activity-based probes for glycosidases

Wu, L.; Armstrong, Z.; Schröder, S. P.; de Boer, C.; Artola, M.; Aerts, J. M. F. G.; Overkleeft, H. S. and Davies, G. J.
Curr. Opin. Chem. Biol. **2019**, 53, 25–36.

Direct stereoselective aziridination of cyclohexenols with 3-amino-2-(trifluoromethyl)quinazolin-4(3H)-one in the synthesis of cyclitol aziridine glycosidase inhibitors

Artola, M.; Wouters, S.; Schröder, S. P.; de Boer, C.; Chen, Y.; Petracca, R.; van den Nieuwendijk, A. M. C. H.; Aerts, J. M. F. G.; van der Marel, G. A.; Codée, J. D. C. and Overkleeft, H. S.
Eur. J. Org. Chem. **2019**, 6, 1397–1404.

Dynamic and functional profiling of xylan-degrading enzymes in aspergillus secretomes using activity-based probes

Schröder, S. P.*; de Boer, C.*; McGregor, N. G. S.; Rowland, R. J.; Moroz, O.; Blagova, E.; Reijngoud, J.; Arentshorst, M.; Osborn, D.; Morant, M. D.; Abbate, E.; Stringer, M. A.; Krogh, K. B. R. M.; Raich, L.; Rovira, C.; Berrin, J.; van Wezel, G. P.; Ram, A. F. J.; Florea, B. I.; van der Marel, G. A.; Codée, J. D. C.; Wilson, K. S.; Wu, L.; Davies, G. J. and Overkleeft, H. S.
ACS Cent. Sci. **2019**, 5, (6), 1067–1078.

The synthesis of cyclophellitol-aziridine and its configurational and functional isomers

Jiang, J.; Artola, M.; Beenakker, T. J. M.; Schröder, S. P.; Petracca, R.; de Boer, C.; Aerts, J. M. F. G.; van der Marel, G. A.; Codée, J. D. C. and Overkleeft, H. S.
Eur. J. Org. Chem. **2016**, 22, 3671–3678.

*equal contribution

Curriculum vitae

Casper de Boer was born in 1991 in Heemskerk, the Netherlands. He attended high school at the Kennemer College in Beverwijk. After graduating with the specialization 'Natuur en Techniek' in 2009, he started the bachelor Molecular Science and Technology at Leiden University and Delft University of Technology. His chemistry major was finalized with a thesis on the chemical synthesis of oligorhamnosides using new pivaloate-ester-like protecting groups. The thesis work was performed in the Bio-organic chemistry group under supervision of dr. Riccardo Castelli, dr. Jeroen Codée and prof. dr. Gijs van der Marel. During his minor he studied organic chemistry at the Eidgenössische Technische Hochschule in Zürich, Switzerland, in the context of the Erasmus exchange programme.

After obtaining his bachelor degree in 2012, he spend one year as a board member of the chemistry study association, Chemisch Dispuut Leiden (CDL). He continued his education with the master program Chemistry at Leiden University and he obtained his Master's degree in 2015 (cum laude). During the master program he participated in the Netherlands Research School for Chemical Biology honours program. He also performed an internship at the University of Groningen on the total synthesis of Taiwaniaquinoids under supervision of Jeffrey Buter in the group of prof. dr. Adriaan Minnaard. In the summer of 2014 he participated in the NWO student competition and was awarded a grant with two colleagues to perform a research project on the enzymatic reduction of CO₂. His master thesis, on the chemical synthesis of a fragment of the capsular polysaccharide of *Enterococcus faecalis*, was performed in the Bio-organic synthesis group at Leiden University under supervision of Qingju Zhang, dr. Jeroen Codée and prof. dr. Gijs van der Marel.

In 2015 he started the research described in this thesis in the same group under supervision of prof. dr. Overkleeft, prof. dr. Jeroen Codée and prof. dr. Gijs van der Marel in close collaboration with the group of prof. dr. Gideon Davies at the University of York, United Kingdom. Parts of the research were presented at NWO Chains 2016 and 2017 in Veldhoven, the Netherlands, the European Carbohydrate Symposium 2017 in Barcelona, Spain, and 2019 in Leiden, the Netherlands, the Annual ABPP meeting 2018 in Oxford, United Kingdom and 2019 in Leuven, Belgium, and at the Molecular Machines Nobel Prize Conference 2017, Groningen, The Netherlands.