



Universiteit  
Leiden  
The Netherlands

## Exploring chemical space in covalent and competitive glycosidase inhibitor design

Chen, Y.

### Citation

Chen, Y. (2022, October 13). *Exploring chemical space in covalent and competitive glycosidase inhibitor design*. Retrieved from <https://hdl.handle.net/1887/3480333>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3480333>

**Note:** To cite this publication please use the final published version (if applicable).

# **Exploring chemical space in covalent and competitive glycosidase inhibitor design**

Proefschrift

ter verkrijging van  
de graad van doctor aan de Universiteit Leiden,  
op gezag van rector magnificus prof.dr.ir. H. Bijl,  
volgens besluit van het college voor promoties  
te verdedigen op donderdag 13 oktober 2022

klokke 10:00 uur

door

**Yurong Chen**  
geboren te Yunnan, China  
in 1992

**Promotores**

Prof. dr. H. S. Overkleeft

Prof. dr. J. D. C. Codée

**Co-promotor**

Dr. M. E. Artola Perez de Azanza

**Promotiecommissie**

Prof. dr. G. A. van der Marel

Prof. dr. J. M. F. G. Aerts

Prof. dr. M. van der Stelt

Dr. Z. W. B. Armstrong

Prof. dr. G. J. Davies (University of York)

Dr. L. I. Willems (University of York)

# **Table of Contents**

<b>Chapter 1</b>	<b>1</b>
General introduction	
<b>Chapter 2</b>	<b>17</b>
Activity-based protein profiling of retaining $\alpha$ -amylases in complex biological samples	
<b>Chapter 3</b>	<b>75</b>
A new generation of fluorescent activity-based probes targeting starch-degrading glycosidases	
<b>Chapter 4</b>	<b>107</b>
Synthesis and biochemical evaluation of bifunctional cyclophellitol aziridines as selective GBA inhibitors and activity-based probes	
<b>Chapter 5</b>	<b>135</b>
Novel uronic acid-type 1- <i>N</i> -iminosugars derived from siastatin B as competitive heparanase inhibitors	
<b>Chapter 6</b>	<b>179</b>
Summary and future prospects	
<b>Nederlandse Samenvatting</b>	<b>215</b>
<b>Summary in Chinese</b>	<b>219</b>
<b>List of Publications</b>	<b>221</b>
<b>Curriculum vitae</b>	<b>223</b>

