Exploring chemical space in covalent and competitive glycosidase inhibitor design

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Propositions

Accompanying the thesis

Exploring chemical space in covalent and competitive glycosidase inhibitor design

1. The position of the fluorophore on a glycosidase probe to a large extend determines its potency.
   This thesis, **chapter 2**.

2. Prior reduction of the azido group into an amine can be key for successful, reproducible palladium(0)-catalyzed hydrogenolysis of benzylated *epi*-cyclophellitols bearing a 4'-azidooctyl chain.
   This thesis, **chapter 2 and 3**.

3. Structurally simple molecules are often the most difficult ones to synthesize.
   This thesis, **chapter 5**.

4. The stability of fluorescent 1,6-*epi*-cyclophellitol cyclosulfate based probes needs to be further explored.
   This thesis, **chapter 6**.

5. X-ray crystallography studies can provide straightforward evidence to ascertain if a molecule is a ‘true’ enzyme inhibitor.
   This thesis, **chapter 5**.

6. Even the best glycosidase inhibitors are imperfect transition-state analogues.
   Bols *et al*., *Chem. Rev.* **2002**, *102,* 515−553.

7. Transferring the structural characteristics of a highly potent glycosidase inhibitor to differently configured structural analogues may not yield covalent inhibitors of the targeted glycosidases with equal potency and selectivity.
   Artola *et al*., *Chem. Sci.*, **2019**, *10*, 9233–9243.

8. Choosing appropriate protecting groups can save a lot of efforts in the process of synthesis.

9. Working efficiently is much more important than working hard.

10. Chemistry — Chem is to try.