

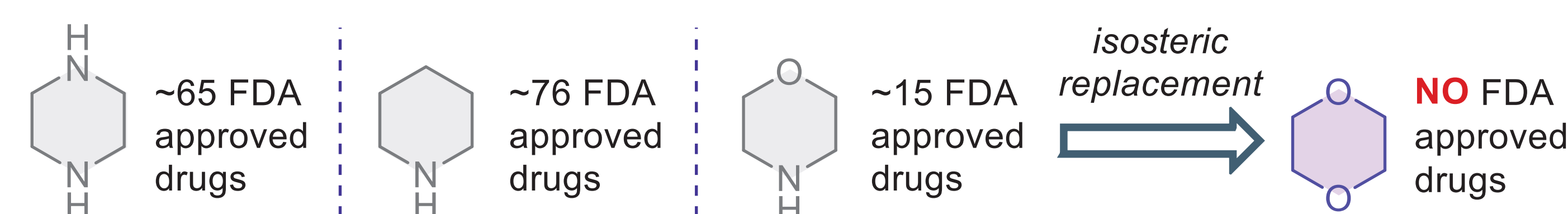
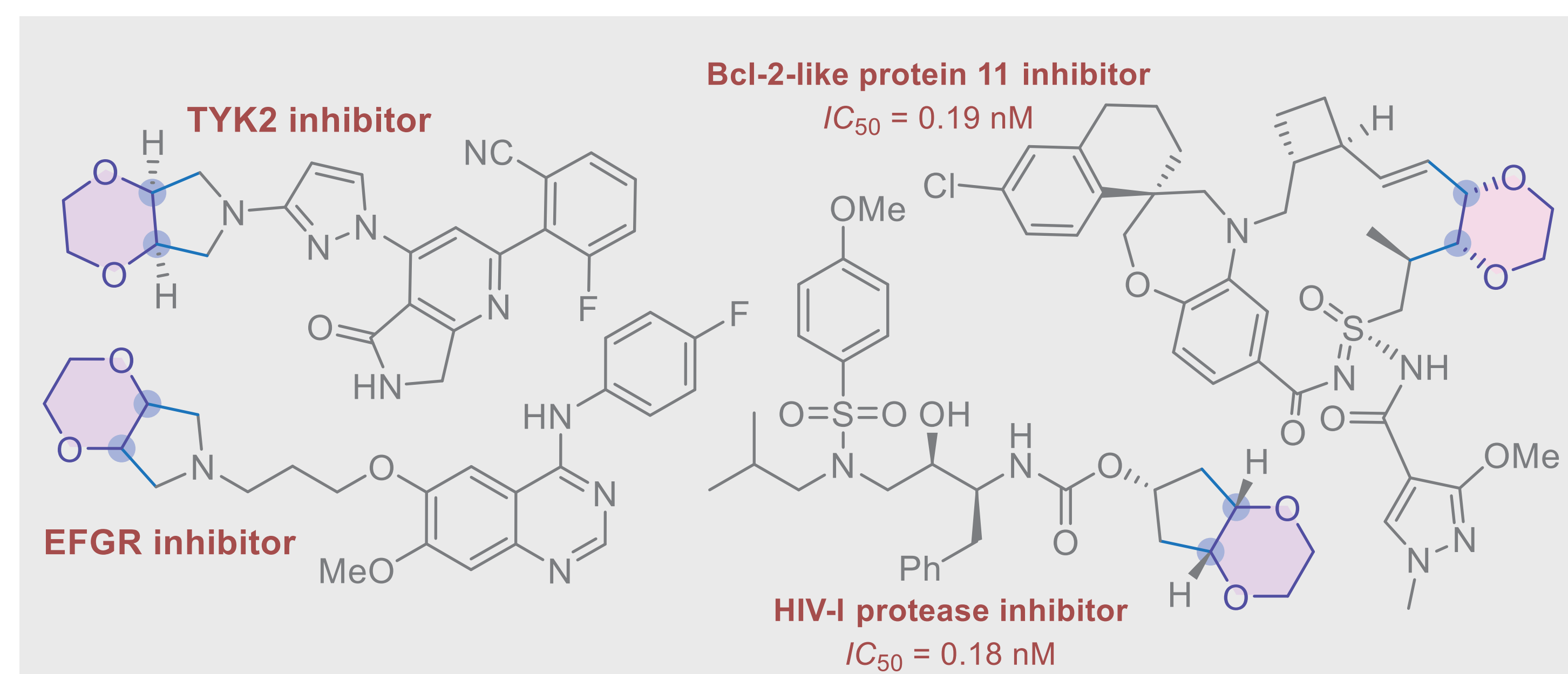
# Diastereoselective synthesis of 2,3-disubstituted 1,4-dioxanes



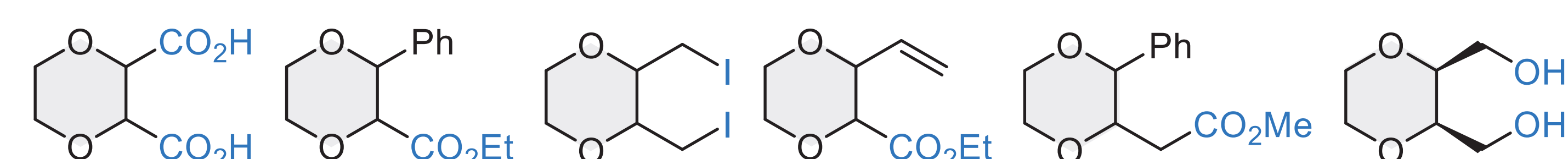
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## Background of the project

- **1,4-dioxane moiety is an integral part of several reported bioactive molecules** demonstrating antiviral and anticancer properties
- **wide application of the core in MedChem projects is currently limited** by commercial availability and synthetic protocols often offering either symmetric 1,4-dioxanes only or unsymmetric ones with low yield.

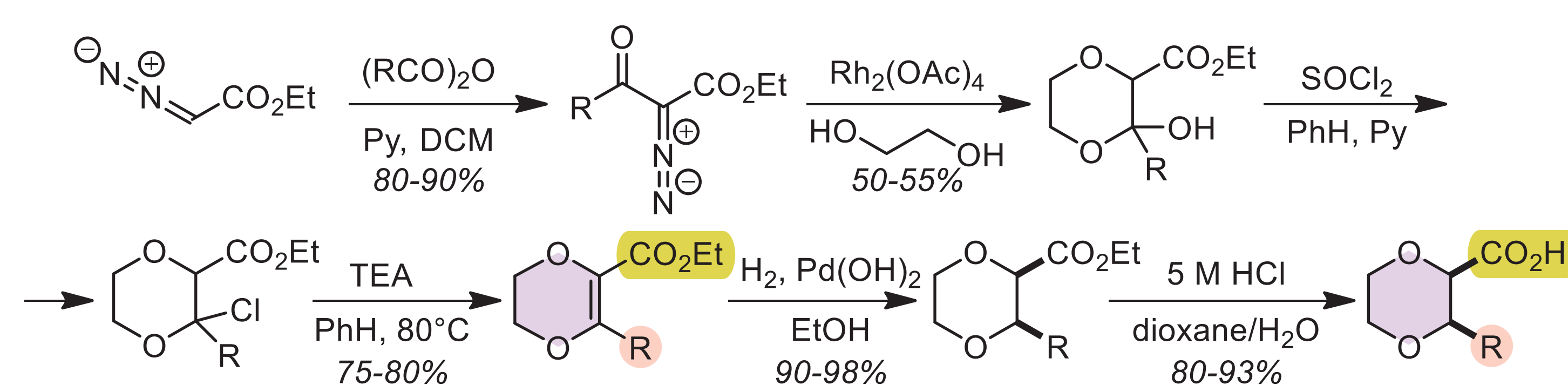


Pool of commercially available 2,3-substituted functionalized 1,4-dioxanes



## Route to key dioxane building blocks

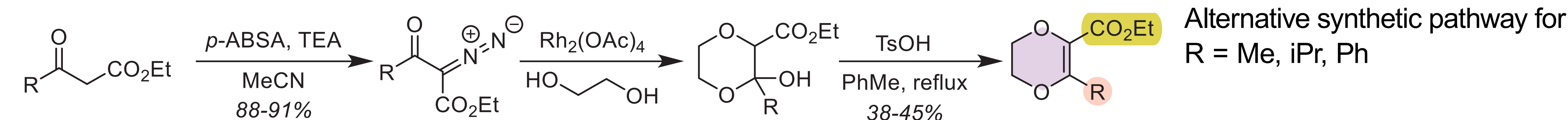
**OBJECT IN FOCUS:** a concise route to 2,3-disubstituted functionalized dioxanes exploiting readily available commercial substances



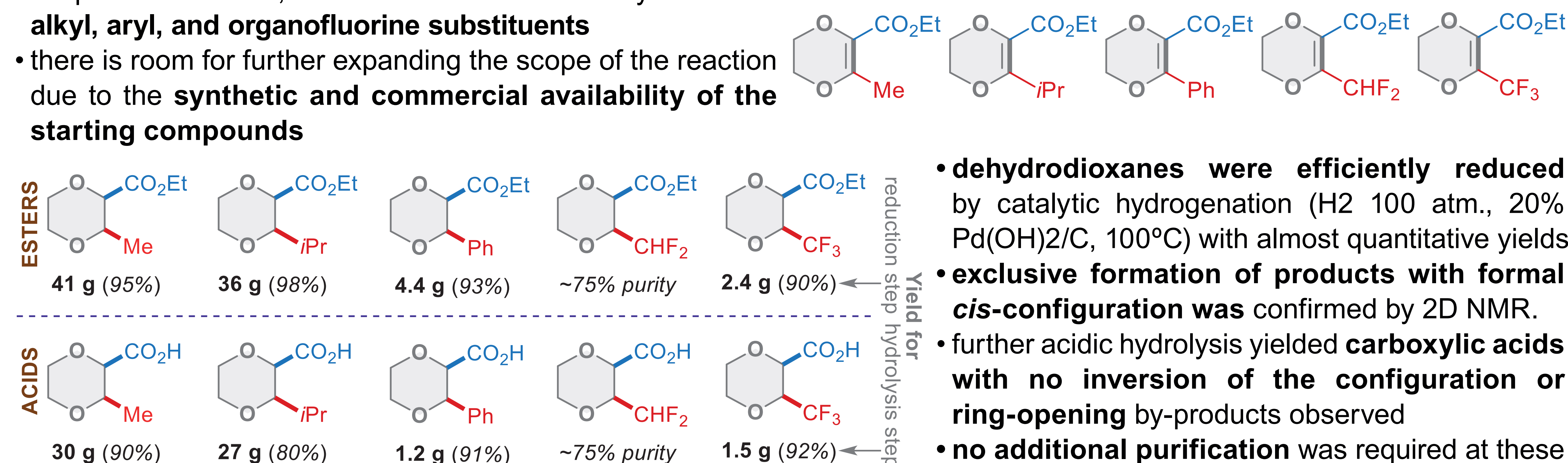
## Contact

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## Diversity of products supplied by the synthetic strategy



- the protocol toward 1,4-dioxanes works well for anhydrides with **alkyl, aryl, and organofluorine substituents**
- there is room for further expanding the scope of the reaction due to the **synthetic and commercial availability of the starting compounds**



## Further functionalization of the constructed dioxanes

- **chemical and stereochemical stability of the core was proven** during amidation, dehydration, and Grignard synthesis
- a set of non-symmetrical **MedChem-relevant 1,4-dioxane-based building blocks**, including amides, amines, and ketones was obtained
- **currently, we are expanding the range of 1,4-dioxanes** bearing a functionalized fragment in position 2 and various substituents in position 3 or 2,3-bifunctional counterparts, including organofluorine building blocks

