

ORGANIC CHEMISTRY

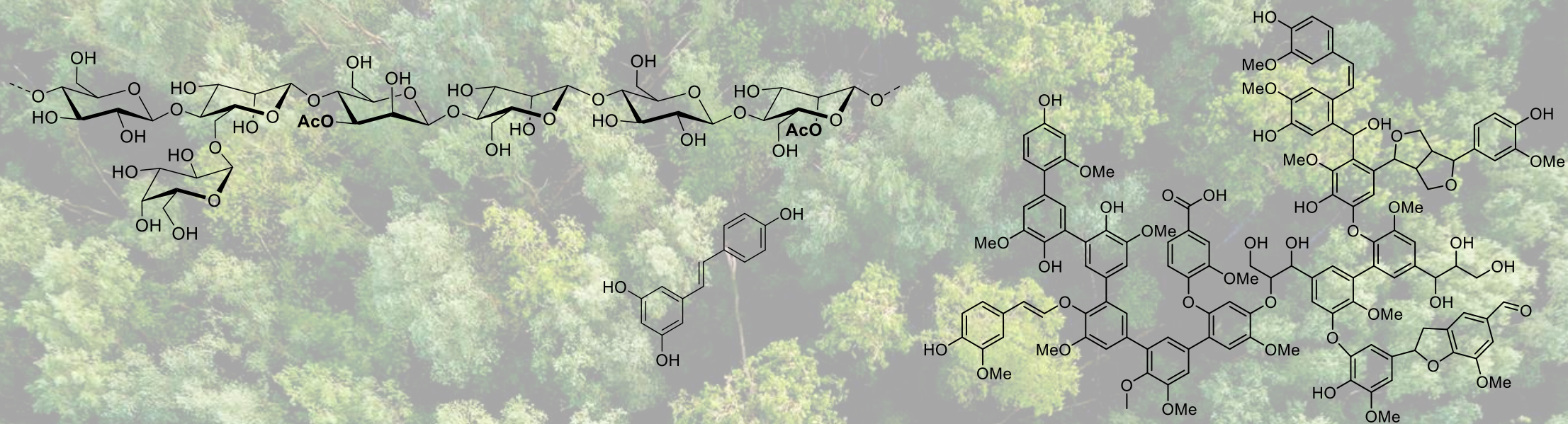
ÅBO AKADEMI UNIVERSITY

SmastBIO Primary Members:

Patrik Eklund

Tiina Saloranta-Simell





Structural analysis: NMR, LC-MS, including method development

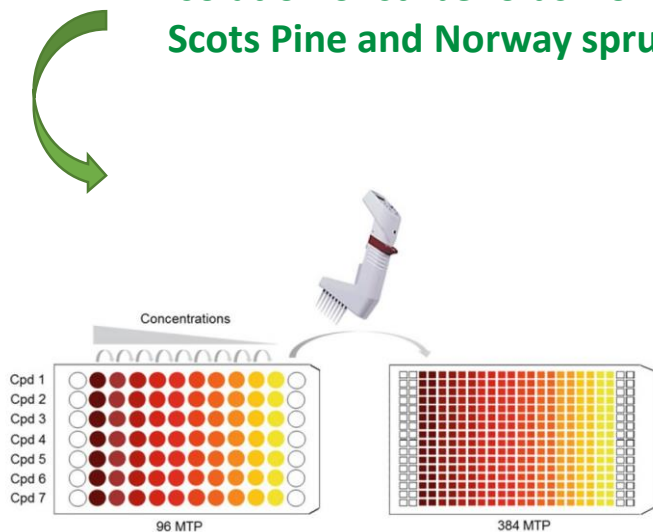
Reactivity and stability: Chemical modification and derivatization

Model reactions and reference compounds: Synthesis, semisynthesis, isolation & purification

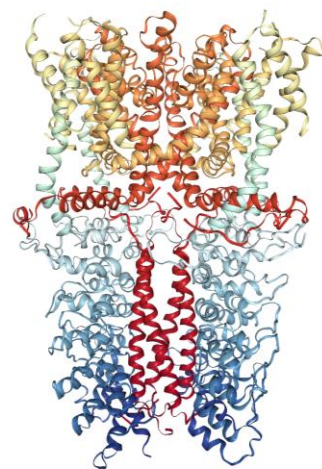
Drug development and discovery: Stilbenes and glycoclusters



Isolation of stilbenoids from
Scots Pine and Norway spruce



Testing bioactivity on TRPA1
using FLIPR assay



Predicting the binding
site using in silico study

Structural insights into natural stilbenoids as TRPA1 modulators

Atefeh Saadabadi

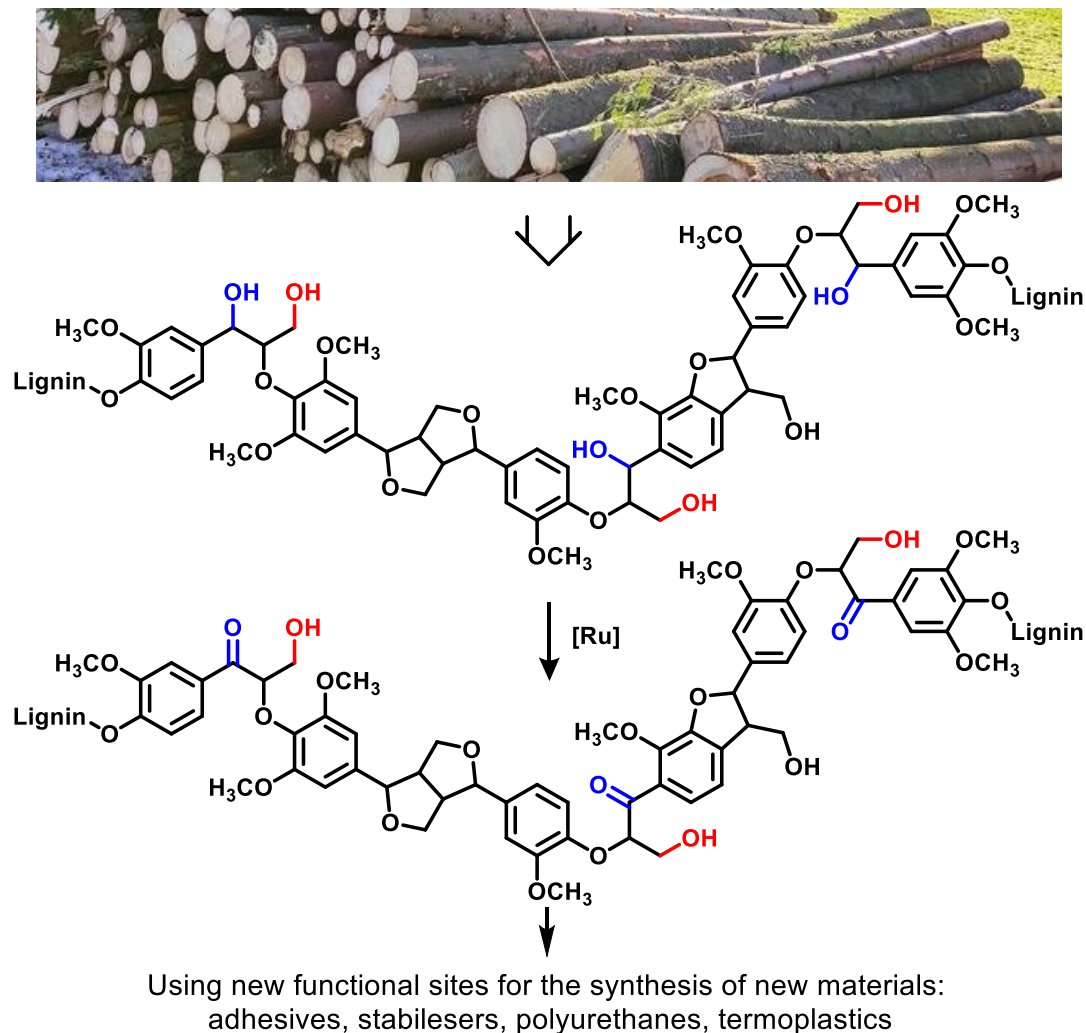
Patrik Eklund, Outi Salo-Ahen

We aim to investigate the molecular mechanism of **stilbenoids** on TRPA1 channel as analgesic and anti-inflammatory agents to **develop potent and selective TRPA1 modulators** based on the stilbenoid structure, thus bringing the stilbene research to a new level.

From Forest Industry Waste Streams to New Bio-based Materials

Veronika Badazhkova

Reko Leino, Risto Savela



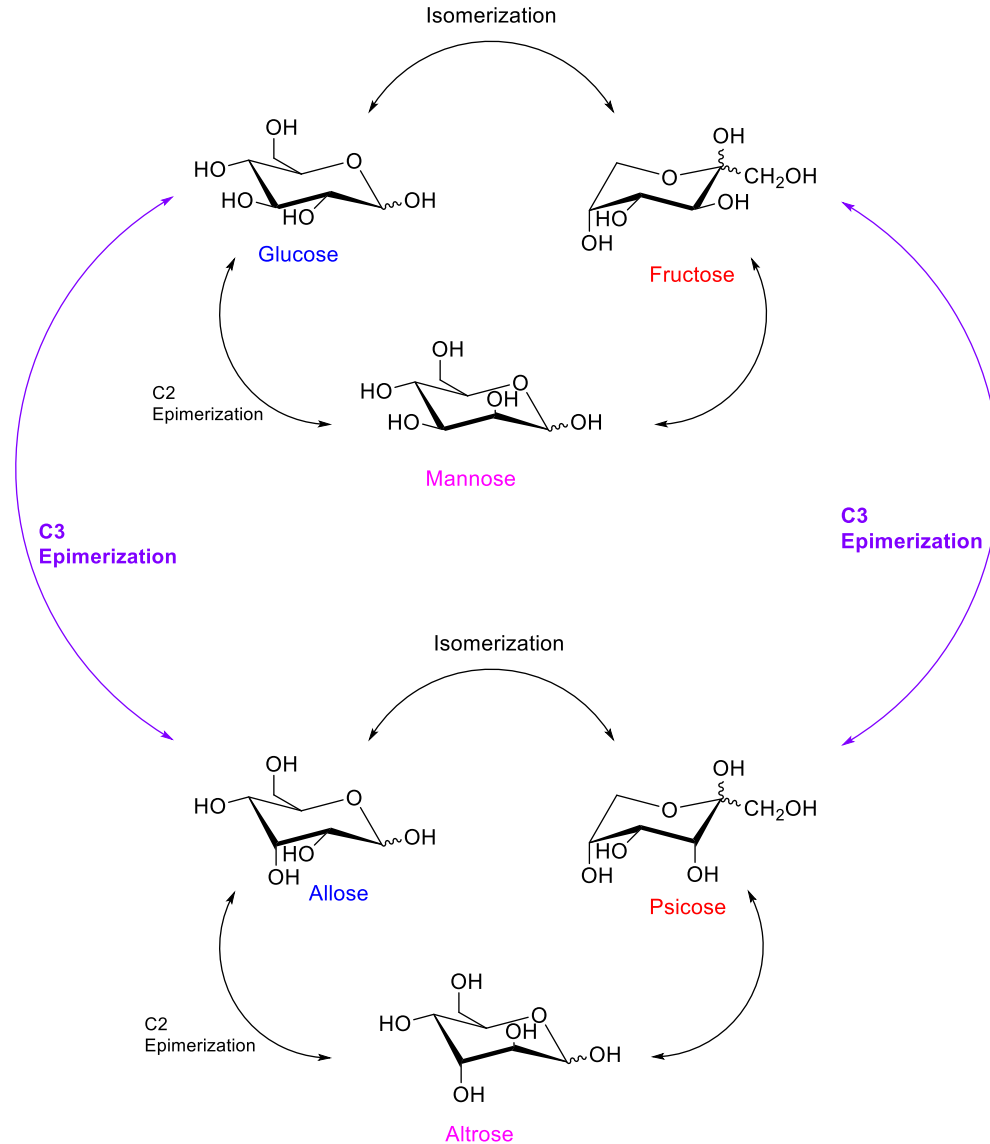
The aim to develop new and robust, yet selective **catalytic methods for lignin valorization**, for introducing new functional groups to lignin structure.

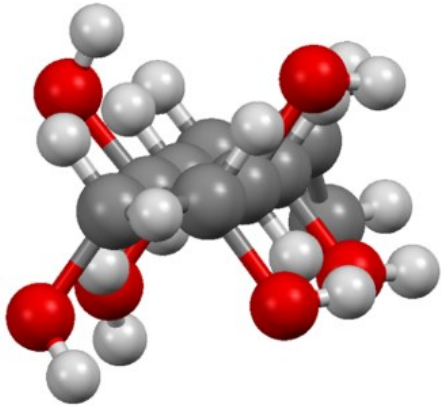
Synthesis of rare sugars through site-selective epimerization

Anton Örn

Tiina Saloranta-Simell, Reko Leino, Dmitry Murzin

The aim of the present work is to study the catalytic synthesis of **rare sugars epimers** and to reveal the **epimerization** reaction mechanisms.



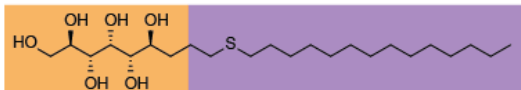


Smart Materials from Sweet Molecules

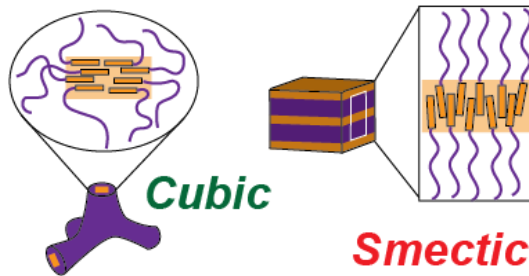
Ida Mattsson

Tiina Saloranta-Simell, Reko Leino

Example using glucose:



- Stereochemistry
- Dynamic hydrogen bonding



The aim is to develop **smart materials**, such as liquid crystals, based on various monosaccharides, fine-tuning the properties by utilizing the **inherent stereochemical features** of the parent carbohydrate.