

Join us for a chemistry lecture

The Need for Late-Stage Functionalizations, and their Application

The unnatural isotope fluorine-18 (^{18}F) is used as a positron emitter in molecular imaging. Currently, many potentially useful ^{18}F -labeled probe molecules are inaccessible for imaging, because no fluorination chemistry is available to make them. Syntheses must be rapid on account of the 110-minute half-life of ^{18}F , and fluorination should ideally be executed as the ultimate synthetic step. I will describe the development of novel, modern reactions directed at the synthesis of ^{18}F and ^{19}F containing complex small molecules. In particular, I will describe the approach to functionalize complex small molecules at a late stage, and the challenges associated with it, as well as the applications for late-stage C-H functionalization reactions to create molecular complexity for applications in catalysis, drug discovery, and medicine.

Nature 2011, 473, 470
Science 2011, 334, 639
Nature 2016, 534, 369
Nature 2018, 554, 551

The seminar is considered part of the PhD Educational Courses in Pharmaceutical Sciences, University of Milan

Find out more: sigmaaldrich.com/lecture-week

Presented by:

Prof. Dr. Tobias Ritter

Max Planck Institut für Kohlenforschung
Kaiser-Wilhelm-Platz 1
45470 Mülheim, Germany
ritter@mpi-muelheim.mpg.de

RWTH Aachen University
Department for Chemistry
Landoltweg 1
52074 Aachen, Germany

Massachusetts General Hospital
Department of Radiology
55 Fruit Street
Boston, MA 02114 USA

Contact:

Mikael Friberg Mobile: +45 2154 6860 E-mail: Mikael.Friberg@sial.com

Coordinator: Professor Marco Pallavicini

Moderator: Professor Sergio Romeo

Date

11th of October 2018

Time

11:30

Location

Dipartimento di Scienze
Farmaceutiche – Aula C03
Via Luigi Mangiagalli 25
Milano

