FAKULTÄT FÜR CHEMIE

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Einladung zum Vortrag von

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„Late-Stage Fluorination for PET Imaging"

The unnatural isotope fluorine–18 (18F) is used as a positron emitter in molecular imaging. Currently, many potentially useful 18F-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 18F and benefit from using [18F] fluoride due to practical access and suitable isotope enrichment. But [18F] fluoride chemistry has been limited in reaction and substrate scope. I will describe the development of novel, modern fluorination reactions and evaluate them based on their utility for F-18 and F-19 chemistry. Late-stage fluorination enables the synthesis of new drug candidates and conventionally unavailable positron emission tomography (PET) tracers for anticipated applications in pharmaceutical development as well as pre-clinical and clinical PET imaging.

Selected References:
T. Furuyam, A. S. Kamlet T. Ritter, Nature 2011, 473, 470-477
E. Lee, A. S. Kamlet, D. C. Powers, C. N. Neumann, G. B. Boursalian,
T. Furuya, D. C. Choi, J. M. Hooker, T. Ritter Science 2011, 334, 639–642.
C. N. Neumann, J. M. Hooker, T. Ritter Nature 2016, 534, 369–373

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