Synthesis of $^{13}$C-Labeled Steroids

F. Dénès
J. Farard
J. Lebreton*
Université de Nantes, France

Recent Developments in the Synthesis of 1,2,5-Thiadiazoles and 2,1,3-Benzothiadiazoles

O. A. Rakitin*
N. D. Zelinsky Institute of Organic Chemistry, Russian Federation
**Catalyst-Free [2,3]-Sigmatropic Rearrangement Reactions of Photochemically Generated Ammonium Ylides**

F. Li, F. He, R.M. Koenigs*
RWTH Aachen University, Germany

**Scalable Synthesis of Acridinium Catalysts for Photoredox Deuterations**

B. Zilate, C. Fischer, L. Schneider, C. Sparr*
University of Basel, Switzerland

**Special Topic Cover Page: Halogenation Methods (with a View towards Radioimaging Applications)**

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Radiohalogenation of Organic Compounds: Practical Considerations and Challenges for Molecular Imaging

A. Sutherland
University of Glasgow, UK

Preparation of the Serotonin Transporter PET Radiotracer 2-((2-((Dimethylamino)methyl)phenyl)thio)-5-[18F]fluoroaniline (4-[18F]ADAM): Probing Synthetic and Radiosynthetic Methods

S. Milicevic Sephton
X. Zhou
S. Thompson
F. I. Aigbirhio
University of Cambridge, UK

Asymmetric Synthesis of α-Chloro-α-halo Ketones by Decarboxylative Chlorination of α-Halo-β-ketocarboxylic Acids

K. Kitahara
H. Mizutani
S. Iwasa
K. Shibatomi
Toyohashi University of Technology, Japan
**Improvements of C–H Radio-Iodination of N-Acylsulfonamides toward Implementation in Clinics**

E. Dubost  
V. Babin  
F. Benoist  
A. Hébert  
G. Pigrée  
J.-P. Bouillon  
F. Fabis  
T. Cailly*  

Normandie Univ, France  
CHU Côte de Nacre, France

1) Pd(OAc)$_2$ (cat.)  
PTSA (cat.)  
0.25 h  

2) [125$I$]NIS, 0.25 h  

11 compounds RCC = 27–84%  
Short reaction time  
Catalytic  
No side-products

**Synthesis of [18F]-γ-Fluoro-α,β-unsaturated Esters and Ketones via Vinylogous 18F-Fluorination of α-Diazoacetates with [18F]AgF**

S. Thompson  
S. J. Lee  
I. M. Jackson  
N. Ichiishi  
A. F. Brooks  
M. S. Sanford*  
P. J. H. Scott*  

University of Michigan Medical School, USA  
University of Michigan, USA

Vinylogous 18F-Fluorination with [18F]AgF

10 Examples  
2–64% Radiochemical Yield

**Willgerodt-Type Dichloro(aryl)-λ³-Iodanes: A Structural Study**

J. C. Sarie  
J. Neufeld  
C. G. Daniliuc  
R. Gilmour*  

Westfälische Wilhelms-Universität Münster, Germany

Willgerodt-Type Reagents  
X-ray and solution-phase analysis

= Ph, CO$_2$Et, Br, CF$_3$
Photochemical Deracemization of Chiral Sulfoxides Catalyzed by a Hydrogen-Bonding Xanthone Sensitizer

L. Wimberger
T. Kratz
T. Bach*
Technische Universität München, Germany

Nitroacenaphthene as a New Photocatalyst for the Synthesis of Sulfonyl Amidines

Y. Jian
M. Chen
C. Yang*
W. Xia*
Harbin Institute of Technology (Shenzhen), P. R. of China

Base-Mediated 1,6-Aza-Michael Addition of Heterocyclic Amines and Amides to para-Quinone Methides Leading to Meclizine-, Hydroxyzine- and Cetirizine-like Architectures

D. Roy
G. Panda*
CSIR-Central Drug Research Institute, India
The Synthesis and Biological Evaluation of Indolactam Alkaloids

M. Mendoza
R. Eom
C. Salas
J. Haynes-Smith
K. L. Billingsley*
California State University Fullerton, USA

EC_{50} = 142 \text{nM} \text{ to } >10 \text{ mM}

Thiolation of Pyridine-2-sulfonamides using Magnesium Thiolates

B. Heinz
M. Balkenhohl
P. Knochel*
Ludwig-Maximilians-Universität München, Germany

TMPMgCl\text{LiCl} (1.2 equiv)
THF, 0 \degree C, 2 h
1) E-X (1.2–1.6 equiv)
THF, 0–25 \degree C
2) RSMgCl\text{LiCl} (1.2 equiv)
0–25 \degree C, 12 h
R = alkyl
EC_{50} = 142 \text{nM} \text{ to } >10 \text{ mM}

Syntheses of Pyrazine-, Quinoxaline-, and Imidazole-Fused Pyrroline Nitroxides

M. Isbera
B. Bognár
G. Gulyás-Fekete
K. Kish
T. Kárai*
University of Pécs, Hungary
Szentágothai Research Centre, Hungary

2–3 steps
7 examples
15–39% overall yield

EC_{50} = 142 \text{nM} \text{ to } >10 \text{ mM}
Hypervalent Iodine(III)-Catalyzed Epoxidation of β-Cyanostyrenes

S. R. Mangaonkar
F. V. Singh*
VIT Institute, India

Hypervalent Iodine(III)-Catalyzed Epoxidation of β-Cyanostyrenes

R′ = CN, CO2Et; R″ = H, CN; Ar = Ph, 4-FC6H4, 3-ClC6H4, 2,3-(Cl)2C6H3, 3-BrC6H4, 4-BrC6H4, 4-NCC6H4, 2-ClC6H4, 4-MeC6H4, 3,4-(MeO)2C6H3, 2,3,4-(MeO)3C6H2, 4-(BnO)C6H4, 3-(HO)-4-(MeO)C6H3, 1-Naphthyl, 2-Naphthyl, 9-Anthryl

Recyclable Heterogeneous Copper(II)-Catalyzed Oxidative Cyclization of 2-Pyridine Ketone Hydrazones Towards [1,2,3]Triazolo[1,5-a]pyridines

G. Jiang
Y. Lin
M. Cai*
G. Jiang
Y. Lin
M. Cai*
Jiangxi Normal University, P. R. of China

Recyclable copper catalyst!

Niobium Pentachloride Mediated (Hetero)aromatic Aldehyde Friedel–Crafts Hydroxyalkylation with Arenes: An Efficient Strategy to Synthesize Triarylmethanes

S. M. M. Rodrigues*
D. Previdi
G. S. Baviera
A. A. Matias
P. M. Donate
Universidade de São Paulo, Brazil

Niobium Pentachloride Mediated (Hetero)aromatic Aldehyde Friedel–Crafts Hydroxyalkylation with Arenes: An Efficient Strategy to Synthesize Triarylmethanes

R = H, F, NO2, CH3, CF3, OCH3   X = various

24 examples up to 99% yield