Dr Vincent LEVACHER

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Heterocyclic team
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EDUCATION & PROFESSIONNAL EXPERIENCES

1988-1992	Ph.D. Organic Chemistry, Rouen University Normandy, France (Advisor: Pr. J. Bourguignon).
1990-1991	Researcher at CEA – DAM, Centre d'étude du Ripault (Tours)
1992-1993	Postdoctoral Associate; Advisor: Prof. C. Moberg, KTH Royal institute of Technology in Stockholm
1994-	Researcher at CNRS; Rouen Normandy University, France.
1999	Accredidation Thesis to supervise research (HDR) , Rouen University Normandy, France.
2005-	Promoted to Research director

ADMINISTRATIVE & INSTITUTIONAL RESPONSIBILITIES

2009-	In charge of the Heterocycles team of UMR-6014 COBRA Laboratory
2011-2017	In charge of the Heterocycles department of LabEx SynOrg
2011-	In charge of the transfer technology department of LabEx SynOrg
2013-	Deputy director of UMR-6014 COBRA Laboratory
2016-	Director of I2C Carnot institute
2018-	Coordinator of the regional CBSB center (Chemistry and Biology applied to health and well-Being)

RESEARCH INTERESTS

Bioinspired Chemistry ; Targeting strategies exploiting redox Heterocyclic systems for imaging and therapy ; Asymmetric catalysis ; Heterocyclic Chemistry; Industrial partnerships within heterocyclic team & transfer technologies

SCIENTIFIC ACHIEVEMENTS

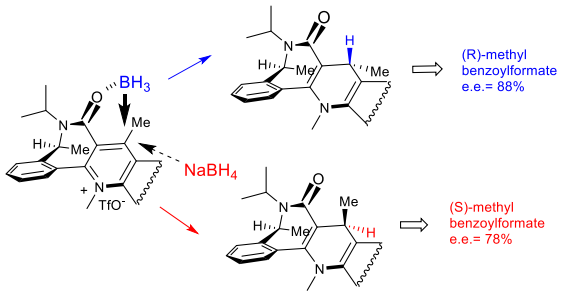
Academic record (h-index: 28)

140 publications, 2 book chapters, 10 patents, 12 invited lectures (academia & industry)

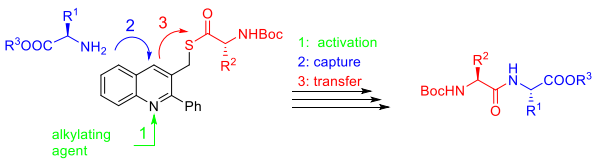
SELECTED PUBLICATIONS

- ***Bioinspired Chemistry***

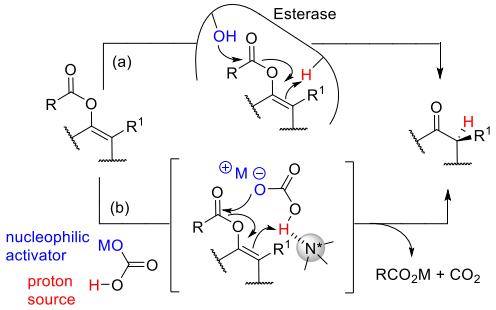
Atropoisomeric quinolinium salt promoting the access to both enantiomeric forms of methyl mandelate - *Chem. Comm., 19, 2256-2257, 2002.*



Amine Capture Strategy for Peptide Bond Formation by Means of Quinolinium Thioester Salts - *Journal of American Society 2005, 127, 45, 15668-15669*

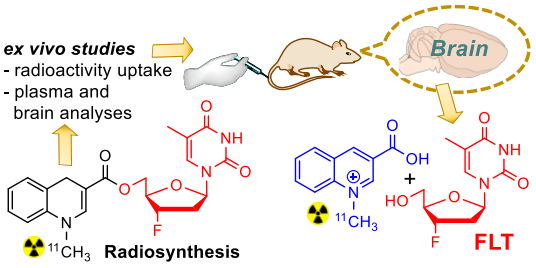


Catalytic Enantioselective Protonation of Enol Trifluoroacetates by Means of Hydrogenocarbonates and Cinchona Alkaloids - *Journal of organic chemistry (2011), 76, 6457–6463.*

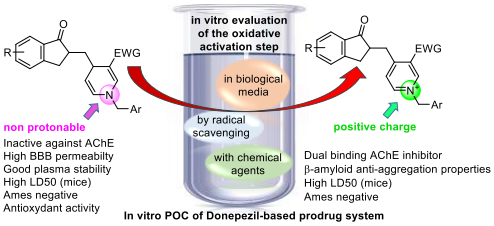


- ***Targeting strategies exploiting redox Heterocyclic systems for imaging and therapy***

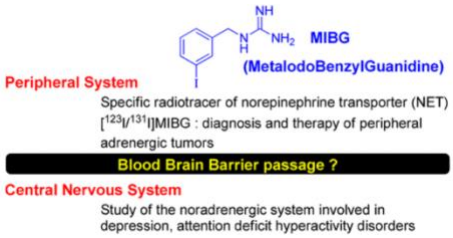
Delivering FLT to the Central Nervous System by Means of a Promising Targeting System: Synthesis, [11C]Radiosynthesis and in Vivo Evaluation - *ACS Chemical Neuroscience (2017), 8(11), 2457-2467*



Donepezil-Based Central Acetylcholinesterase Inhibitors by Means of a "Bio-Oxidizable" Prodrug Strategy: Design, Synthesis, and in Vitro Biological Evaluation - *Journal of Medicinal Chemistry (2017), 60(13), 5909-5926.*

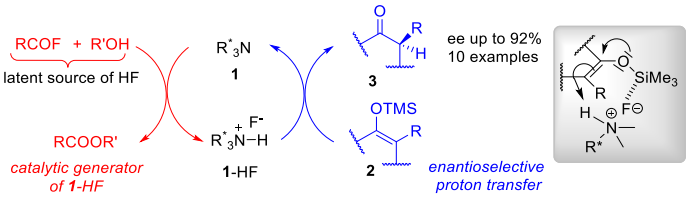


Chemical Delivery System of MIBG to the Central Nervous System: Synthesis, 11C-Radiosynthesis, and in Vivo Evaluation. *ACS Medicinal Chemistry Letters (2019), 10(3), 352-357*

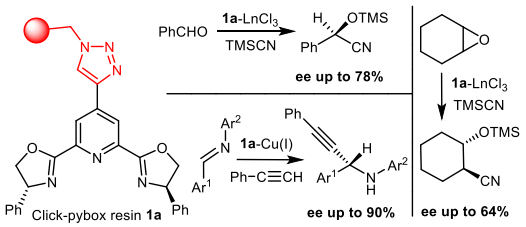


• *Asymmetric catalysis*

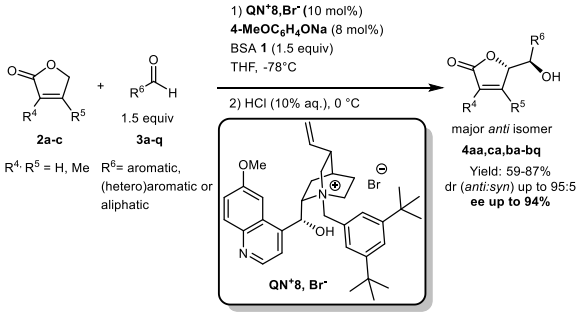
First Organocatalytic Enantioselective Protonation of Silyl Enolates Mediated by Cinchona Alkaloids and a Latent Source of Hydrogen Fluoride - *Angew. Chem. Int. Ed. (2007), 46(37), 7090-7093.*



Polymer-Bound Pyridine-Bis(oxazoline). Preparation through Click Chemistry and Evaluation in Asymmetric Catalysis. *Advanced Synthesis & Catalysis (2007), 349(13), 2079-2084.*

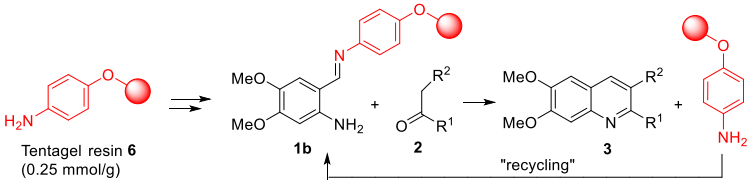


Chiral Quaternary Ammonium Aryloxide / N,O-bis(trimethylsilyl)acetamide Combination as Efficient Organocatalytic System for the Direct Vinylogous Aldol Reaction of (5H)-Furanone Derivatives. *Advanced Synthesis & Catalysis (2013), 355, 841-846*

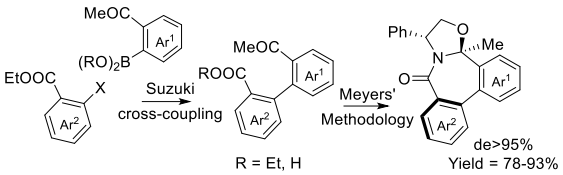


• *Heterocyclic* Chemistry

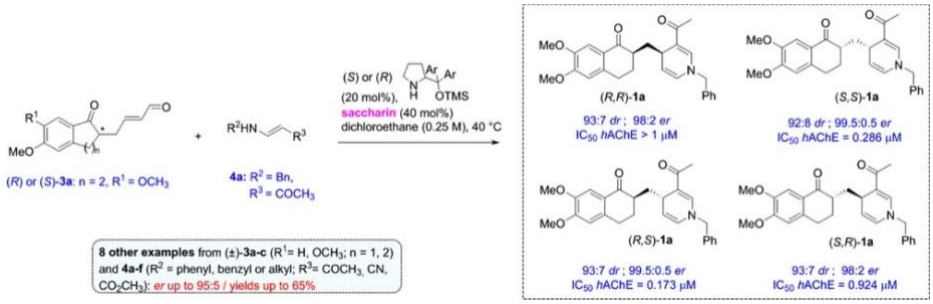
A Novel Traceless Solid-Phase Friedländer Synthesis. *Organic Letters 2003, 5, 17, 3061-3063*



Novel Extension of Meyers' Methodology: Stereoselective Construction of Axially Chiral 7,5-Fused Bicyclic Lactams. *Journal of Organic Chemistry, 68, 9517-9520, 2003.*

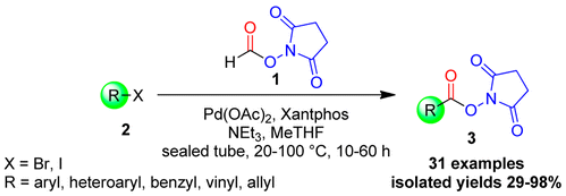


Access to highly enantioenriched donepezil-like 1,4-dihydropyridines as promising anti-Alzheimer prodrug candidates via enantioselective Tsuji allylation and organocatalytic aza-ene-type domino reactions. *J. Org. Chem. (2018), 83, 10231-1024.*

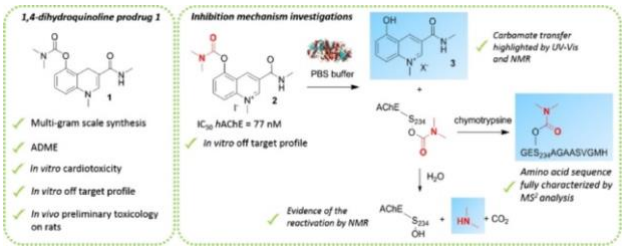


- ***Industrial partnerships within heterocyclic team & transfer technologies***

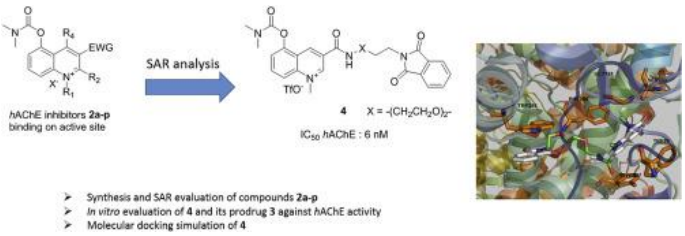
Palladium-Catalyzed Carbonylation of (Hetero)Aryl, Alkenyl and Allyl Halides by Means of N-Hydroxysuccinimidyl Formate as CO Surrogate. *J. Org. Chem. (2015), 80, 6537-6544.*



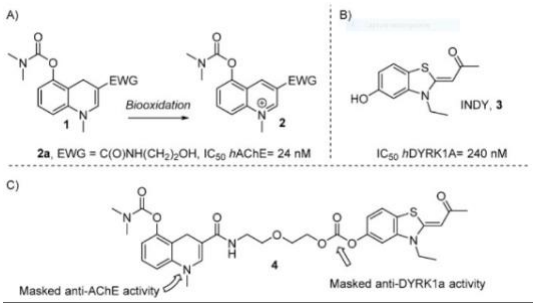
Dihydroquinoline Carbamate DQS1-02 as a Prodrug of a Potent Acetylcholinesterase Inhibitor for Alzheimer's Disease Therapy: Multigram-Scale Synthesis, Mechanism Investigations, in Vitro Safety Pharmacology, and Preliminary in Vivo Toxicology Profile. *ACS Omega (2018), 3(12), 18387-18397.*



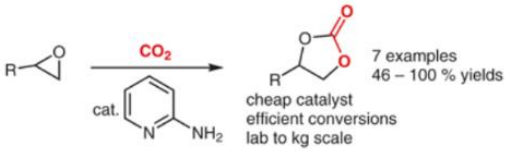
Rational design of carbamate-based dual binding site and central AChE inhibitors by a "biooxidisable" prodrug approach: synthesis, in vitro evaluation and docking studies. *Eur. J. Med. Chem. (2018), 155, 171-182.*



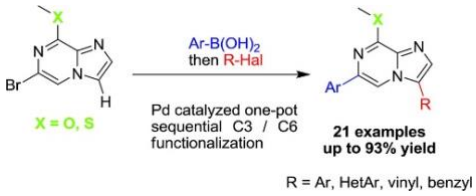
Design, Synthesis, and In Vitro Biological Activities of a Bio-Oxidizable Prodrug to Deliver Both ChEs and DYRK1A Inhibitors for AD Therapy. *Molecules 2019, 24, 1264.*



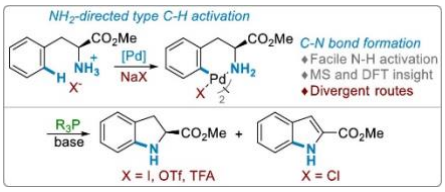
Efficient Conversion of Epoxides into Carbonates with CO2 and a Single Organocatalyst: Laboratory and Kilogram-Scale Experiments. *Synlett (2020), 31(2), 183-188*



Palladium Catalyzed One-Pot Sequential Suzuki Cross-Coupling-Direct C-H Functionalization of Imidazo[1,2-a]pyrazines. *Organic Letters (2012), 14, 6012-6015.*



Base-Assisted Intramolecular C-N Coupling Reaction from NH2-Bound Cyclopalladated L-Phenylalanine to Indoline-2-carboxylic Acid. *Organometallics (2020), 39(5), 767-773.*



A Meldrum's Acid Based Multicomponent Synthesis of N-Fmoc-isoxazolidin-5-ones: Entry to N-Fmoc-β-amino Acids. *European Journal of Organic Chemistry (2017), 2017(22), 3265-3273.*