

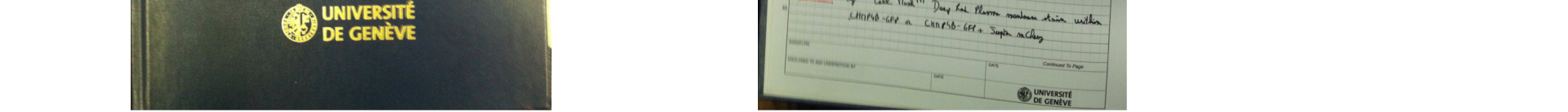
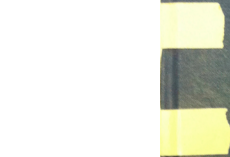
# ELECTRONIC LAB BOOK ELN BIOCHEMISTRY

Faculté des Sciences Mars 13 2019

# Current status

- ❑ Laboratory Notebook only
- ❑ Lab book Word / Excel / Powerpoint
- ❑ OS file system + Word / Excel / Powerpoint
- ❑ Lab Wiki
- ❑ Public Electronic Lab Book
- ❑ .....

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# Notebook and Excel

The screenshot displays a Microsoft Excel window titled "Title and number of experiments from labbooks [Protected View] - Microsoft Excel". The ribbon shows the "File" tab selected. A yellow "Protected View" banner is visible, stating "This file originated from an Internet location and might be unsafe. Click for more details. Enable Editing".

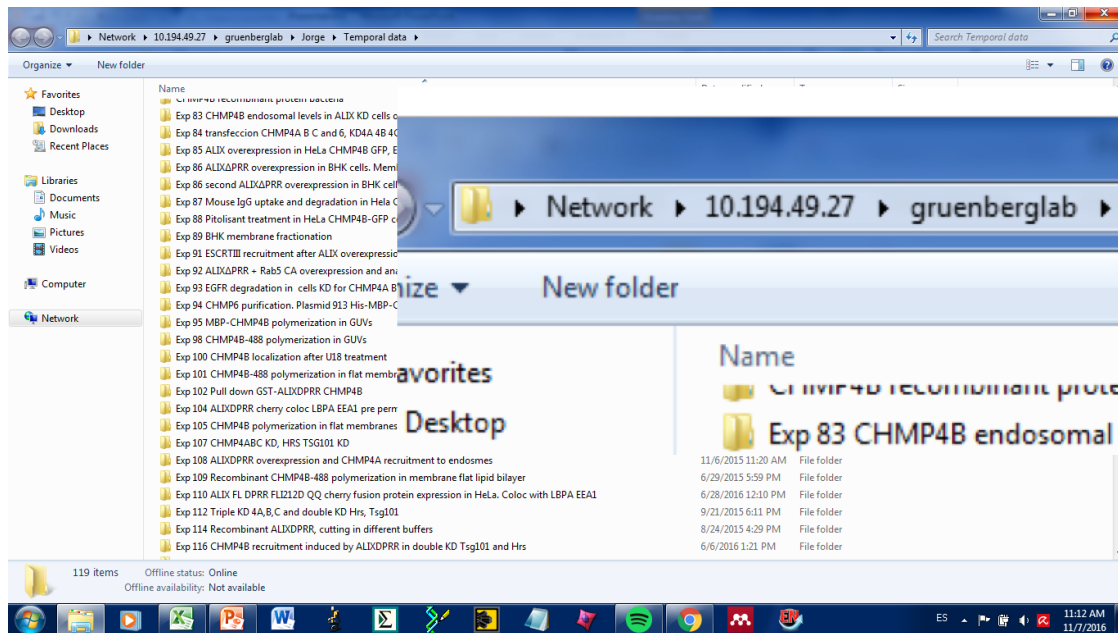
The main content area shows a table with the following structure:

D157				Insulin Receptor degradation induced by insulin in HeLa MZ. Analysis by WB. With and witho	
	A	B	C	D	
1	Lab Book N°	Experiment N°	Page N°	Title	
10	1	10	20	EGFR degradation in +/- wnt3a. heLa cells	
11	1	11	22	EGFR degradation in +/- wnt3a. heLa cells and L-cells	
12	1	12	24	Membrane fractionation of BHK: HRP internalization	
13	1	13	26	Membrane fractionation of BHK +/- EGFR	
14	1	14			
15	1	15			
16	1	16			
17	1	17			
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30	1	30			
31	1	31			
32	1	32			
33	1	33			
34	1	34			
35	1	35			
36	2	36			

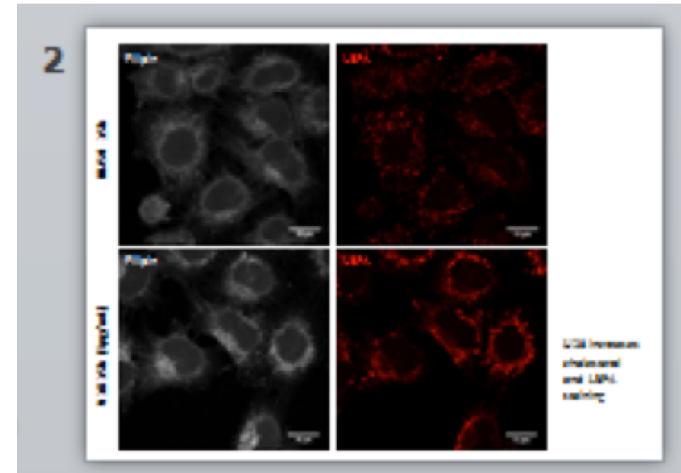
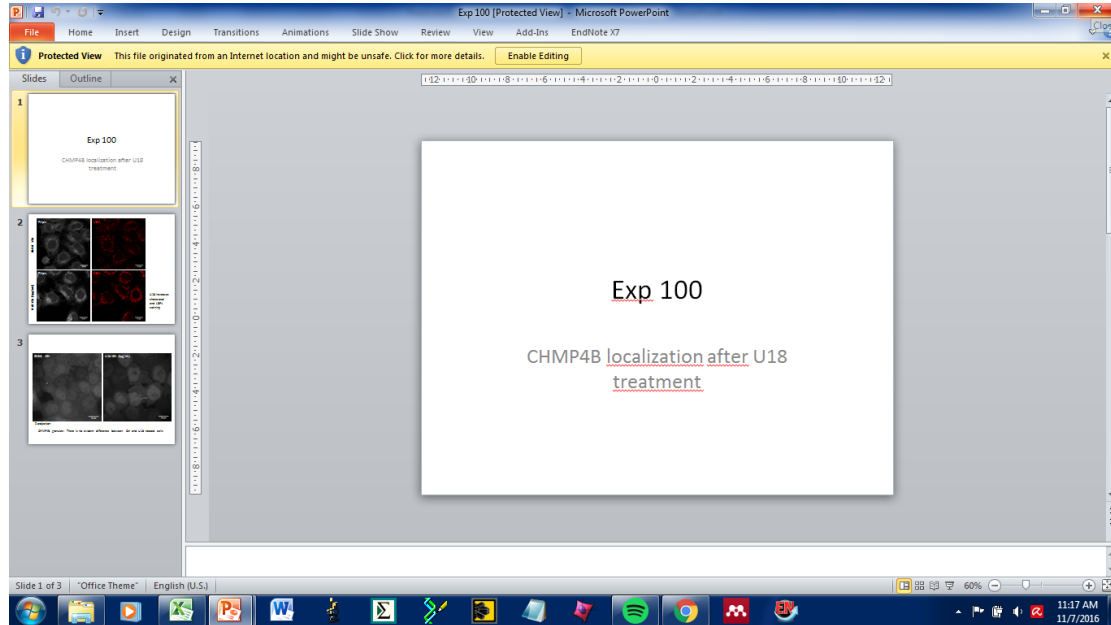
The bottom of the window shows the "Ready" status bar and the taskbar with various application icons. The system clock indicates 11:05 AM on 11/7/2016.



# References on a File Server



# Images Stored in Powerpoint



Published online: May 15, 2014

*Science & Society*



EMBO  
*reports*

# The laboratory notebook in the 21<sup>st</sup> century

*The electronic laboratory notebook would enhance good scientific practice and increase research productivity*

Sara Y Nussbeck<sup>1</sup>, Philipp Weil<sup>1,2</sup>, Julia Menzel<sup>1,2</sup>, Bartłomiej Marzec<sup>1</sup>, Kai Lorberg<sup>1</sup> & Blanche Schwappach<sup>2</sup>

# Electronic Lab Book

---

- ❑ Single repository for protocol
- ❑ Template for experiments
- ❑ Inclusion of digital data easier, single place
- ❑ Link of raw data
- ❑ Easy access
- ❑ Easy search

# Electronic Lab Book requirements

---

- ❑ Mac OS, Windows compatible
- ❑ Pure Web. HTML 4
- ❑ Data in Switzerland
- ❑ Easy to learn
- ❑ Easy search
- ❑ Easy to load data, link to Dropbox, File server

# Electronic Lab Book

---

- ❑ In 2015 the Marcos Gonzalez group decided to try a Electronic Lab book
- ❑ We did not want to develop and maintain our own ELN
- ❑ We looked for a commercial solution, open to academic sharing

# Where is RSpace in use?



UNIVERSITÉ  
DE GENÈVE



HARVARD  
MEDICAL SCHOOL



GEORG-AUGUST-UNIVERSITÄT  
GÖTTINGEN



University  
of Glasgow



Mass Innovation Labs  
Leading biotech incubator  
In Cambridge/Boston

in  
Europe  
and US

# Rspace in Geneva

- ❑ Linux virtual server Vmware UniDufour






# Rspace in Geneva

- ❑ Linux virtual server Vmware UniDufour
- ❑ Files are stores in Sciences II
- ❑ Backups are stored in Sciences II
- ❑ All the files are located in Geneva, Switzerland

# System -> Users

Workspace Gallery Messaging Apps My RSpace Help System Account ▼

Users Groups Communities | Create Account Operate As | Monitoring Maintenance Configuration

Show All

Users

Search... Go

Total Users: 91 Enabled: 38 Active: 17 System Admins: 1 Community Admins: 0 Available Seats: 0

Options	Name	Role	Username	Usage (Mb)	Documents	Last Login
<input type="checkbox"/>	SysAdmin, Rspace	SYSADMIN	sysadmin1	9.1	98	Today at 09:40
<input type="checkbox"/>	Lacour, Jerome	USER, PI	Jerome.Lacour	0.7	41	Today at 08:44
<input type="checkbox"/>	Castanon, Irinka	USER	Irinka.Castanon	976.4	980	Today at 08:40
<input type="checkbox"/>	Tomba, Caterina	USER	Caterina.Tomba	992	1742	Yesterday at 21:05
<input type="checkbox"/>	Aumeier, Charlotte	USER, PI	Charlotte.Aumeier	19.2	134	Yesterday at 17:18
<input type="checkbox"/>	Barthelemy, Marine	USER	Marine.Barthelemy	864.7	3870	Yesterday at 15:54
<input type="checkbox"/>	Richard, Clément	USER	Clement	166.6	546	Yesterday at 15:46
<input type="checkbox"/>	Couton, Louise	USER	Louise.Couton	30.5	196	Yesterday at 15:17
<input type="checkbox"/>	Di Meglio, Ilaria	USER	Ilaria.DiMeglio	855.7	1147	Yesterday at 14:17
<input type="checkbox"/>	Velluz, Marie-Claire	USER	MarieClaire.Velluz	23	197	Yesterday at 11:43
<input type="checkbox"/>	Guillamat Bassedas, Pau	USER	Pau.Guillamat	71	125	Yesterday at 11:26
<input type="checkbox"/>	Seum, Carole	USER	Carole.Seum	486.1	1760	Yesterday at 10:44
<input type="checkbox"/>	Afonso, Olga	USER	Olga.Afonso	66.8	318	Yesterday at 10:17
<input type="checkbox"/>	Mataux, Rita	USER	Rita.Mataux	125.5	327	1 day ago at 16:24

# System -> Create Users


Create a new individual account

 User

 PI

 Community Admin

 System Admin

 Batch User Registration

## User

First name	<input type="text" value="Olivier"/>	Last name	<input type="text" value="Schaad"/>
Username	<input type="text" value="Olivier.Schaad"/>	E-mail	<input type="text" value="E-mail"/>
Enter or <a href="#">Generate</a> password	<input type="text" value="hedbin-mu: Strong Password"/>	If typing, confirm password	<input type="text" value="hedbin-mu: Strong Password"/>
Show / hide passwords	<input type="checkbox"/>		
Select the new user's Community	<div><input type="radio"/> None <input checked="" type="radio"/> All Groups</div>		
	Choose a LabGroup	<div><input type="radio"/> Jerome Lacour <input type="radio"/> Gonzalez-GaitanGroup <input type="radio"/> Dominique.Soldati <input type="radio"/> SchaadGroup <input type="radio"/> Marko Kaksonen <input type="radio"/> Charlotte Aumeier</div>	

Please copy or manually note this password, as it must be delivered to the new user outside RSpace.

Check to repeat ☐

# Group, PI



Workspace Gallery Messaging Apps My RSpace Help Syst

Users Groups Communities Create Account Operate As Monitoring Maintenance Configuration

New LabGroup Show All

Groups

Search...

Options	Name	Size	Community	Principal Investigator	File Usage (Mb)	Create
<input type="checkbox"/>	ACCESS Geneva	2	All Groups	Moreau, Dimitri	120.7	2018-0
<input type="checkbox"/>	Aurelien Roux's Lab	22	All Groups	Roux, Aurelien	3,873.8	2015-0
<input type="checkbox"/>	Charlotte Aumeier	5	All Groups	Aumeier, Charlotte	87.4	2018-0
<input type="checkbox"/>	Dominique.Soldati	21	All Groups	Soldati-Favre, Dominique	523.6	2015-1
<input type="checkbox"/>	Gonzalez-GaitanGroup	19	All Groups	Gonzalez-Gaitan, Marcos	3,833.7	2015-0
<input type="checkbox"/>	Jerome Lacour	1	All Groups	Lacour, Jerome	0.7	2019-0
<input type="checkbox"/>	Marko Kaksonen	4	All Groups	Kaksonen, Marko	385.4	2016-0
<input type="checkbox"/>	SchaadGroup	1	All Groups	Schaad, Olivier	36.6	2015-10-15 08:49

Profile - Username: Aurelien.Roux

**First Name:** Aurelien

**Last Name:** Roux

Optionally, add any information about you or your research.

**E-Mail:** Aurelien.Roux@unige.ch

**LabGroups:**



Aurelien Roux's Lab

Role: PI

# Group, PI

Group: Aurelien Roux's Lab

[Change PI](#) [Rename](#)

Profile

There is no profile information for this group.

[Edit](#)

## Members

Add New Members

Full Name	Username	Role	Manage Roles	Remove User
Chloe Roffay	Chloe.Roffay	User	<a href="#">Change Role</a>	<a href="#">Remove</a>
Anna-Katharina Pfltzner	AnnaKatharina.Pfltzner	User	<a href="#">Change Role</a>	<a href="#">Remove</a>
Aurelien Roux	Aurelien.Roux	PI		
Tarek Nassour	Tarek.Nassour	User	<a href="#">Change Role</a>	<a href="#">Remove</a>
Vincent Mercier	Vincent.Mercier	User	<a href="#">Change Role</a>	<a href="#">Remove</a>
Nicolas Chiaruttini	Nicolas.Chiaruttini	User	<a href="#">Change Role</a>	<a href="#">Remove</a>
Paulina Nowak	Paulina.Nowak	User	<a href="#">Change Role</a>	<a href="#">Remove</a>
Caterina Tomba	Caterina.Tomba	User	<a href="#">Change Role</a>	<a href="#">Remove</a>
Adai Colom	Adai.Colom	User	<a href="#">Change Role</a>	<a href="#">Remove</a>

[ADD](#)

# Rspace in Geneva

https://lscrspace1.unige.ch/workspace?list\_view



Workspace

Gallery

Messaging

Apps

My RSpace

Help

Account ▼

CREATE ▼



All ▼ Search...



<input type="checkbox"/>	Type	Name	Creation Date	Last Modified	Unique ID	Owner
<input type="checkbox"/>		<a href="#">Expereact</a>	2016-09-09 09:00	2016-09-09 09:00	<a href="#">SD19078</a>	Olivier Schaad
<input type="checkbox"/>		<a href="#">Untitled document</a>	2016-09-07 09:13	2016-09-07 09:14	<a href="#">SD19056</a>	Olivier Schaad
<input type="checkbox"/>		<a href="#">QCM - MCQ</a>	2016-08-30 09:05	2016-08-30 09:08	<a href="#">SD18856</a>	Olivier Schaad
<input type="checkbox"/>		<a href="#">PowerCore (On wscbiochemcpu1.unige.ch)</a>	2016-03-09 11:32	2016-03-09 11:39	<a href="#">SD12746</a>	Olivier Schaad
<input type="checkbox"/>		<a href="#">ForMarcosTest</a>	2015-10-13 16:40	2015-10-13 16:41	<a href="#">SD6632</a>	Olivier Schaad

# Rspace in Geneva

Browser tabs: LimeSurvey Booking, Google, iCloud, Monterosa, View Administrator, Webcams - St-Cergue, Nyon Région, HD Film Streaming, ALP TRACKS 84 LTD, Cockpit

RSpace ENTERPRISE

Workspace Gallery Messaging Apps My RSpace Help Account

CREATE

- Folder
- Notebook
- Basic Document
  - From Form
  - From Template
  - From Word
  - From Protocols.io
- New Form

Items per page: 10

Name	Created	Modified	ID	Owner
Configurational Liability	2019-03-13 08:48	2019-03-13 08:48	SD46154	Jerome Lacour
templates	2019-02-18 08:45	2019-02-18 08:45	FL45696	Jerome Lacour
examples	2019-02-18 08:45	2019-02-18 08:45	FL45686	Jerome Lacour
shared	2019-02-18 08:45	2019-02-18 08:45	FL45682	Jerome Lacour

# Rspace in Geneva

HELVETICA

## Configurational Lability of Imino-Substituted *Ethano* Tröger Bases. Insight on the Racemization Mechanism.

Alessandro Bosmani,<sup>a</sup> Alejandro Guarnieri-Ibáñez,<sup>a</sup> Jérôme Lacour <sup>\*a</sup>

<sup>a</sup> Département de Chimie Organique, Université de Genève, quai Ernest Ansermet 30, 1211 Geneva 4 (Switzerland), [jerome.lacour@unige.ch](mailto:jerome.lacour@unige.ch)

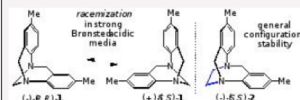
Dedicated to François Diederich on the occasion of his retirement celebrations

Polycyclic indoline-benzodiazepines are afforded in one step by the reaction of Tröger bases with *N*-sulfonyl-1,2,3-triazoles under Rh(II) catalysis. After  $\square$ -imino carbene formation, the process involves a cascade of [1,2]-Stevens rearrangement, Friedel-Crafts, Grob fragmentation and amination formation reactions. It is highly diastereoselective ( $d.r. > 49:1$ , four stereocenters incl. two bridgehead N atoms). However and in contrast with other reported carbene additions to these moieties, full racemization occurs when enantiopure Tröger Bases are used as substrates. To pinpoint the origin of this unexpected behavior, key elemental steps of the mechanism were evaluated and tested. Interestingly, it is not only the initial ring-opening but also the latter reversible Mannich reaction of the imino-substituted *ethano* Tröger base intermediate that is responsible for the loss of enantiospecificity.

**Keywords:** Chirality transfer •  $\square$ -imino carbene • Racemization • Retro-Mannich • Tröger base

### Introduction

Tertiary amines comprise of three different substituents are chiral motifs, usually isolated in racemic form by virtue of the configurational instability of the N atom; the barrier for the nitrogen inversion (enantiomerization) is typically in the range of 6–7 kcal/mol.<sup>[1,2]</sup> Only few mono or polycyclic derivatives present configurationally stable stereogenic nitrogen atoms. One particularly important class of such compounds is that of Tröger Bases (TBs, **1**).<sup>[3–31]</sup> These [3.3.1] bicyclic tertiary amines present a rigid molecular framework that forbids a pyramidal inversion of the bridgehead nitrogen atoms. Enantiopure TB-1 was obtained for the first time in single enantiomeric form by Prelog in 1944.<sup>[46]</sup> Thanks in particular to the original V-shape geometry of the aromatic subunits,<sup>[1]</sup> TBs are common building blocks used extensively in the fields of supramolecular chemistry<sup>[7–16]</sup> or material science.<sup>[19–20]</sup> Enantiopure or enriched TBs are however rarely used as organocatalysts or as chiral ligands in organometallic catalysis.<sup>[24–27]</sup> One possible reason is their configurational instability in presence of Brønsted or Lewis acids (Scheme 1, left).<sup>[22,28]</sup> In fact, upon quaternization of one of the two nitrogen atoms, transient amination ring opening occurs; the resulting monocationic iminium intermediate is conformationally labile and racemization happens.<sup>[31,32,35]</sup> To overcome this issue, several strategies have been considered using conformational constraints,<sup>[32]</sup> intramolecular proton scavengers<sup>[33]</sup> or bridge modifications between the N atoms.<sup>[24]</sup> In the latter case, for instance, introduction of an *ethano* bridge (instead of *methano*) precludes the ring-opening upon protonation of N atoms and compounds **2** are configurationally stable (Scheme 1, right). Capitalizing on this observation, our group has previously reported the enantiospecific synthesis of *ethano*-TB of type **3** by treatment of enantiopure TB 1 with aryl  $\square$ -ester carbenes derived from the corresponding diazo reagents under dirhodium catalysis at 100 °C (Scheme 2).<sup>[30]</sup> Mechanistically, upon addition of carbene intermediate **A** and ylide formation (step 1  $\rightarrow$  **B**), amination bridge opening occurs (**B  $\rightarrow$  **C**). In this particular instance, racemization does not happen as a rapid intramolecular trapping of the iminium moiety by the neighboring enolate ensures an effective retention of configuration and hence an efficient chirality transfer during the [3.3.2] ring expansion (as up to 99%). With acceptor-acceptor carbenes, typically diazo malonates or  $\square$ -ketoesters, high enantiospecificity (as up to 95%) is achieved under copper catalysis only.<sup>[30]</sup>**





# Edit the document

looking uoogoe ilcloud Monterosa View Administrator weocams - St-Leger nyon Region HU Film Streamin ALP TRACKS 84 LTD Cockpit

File Insert Format Table View Science Tools Online Tools

HELVETICA

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Alessandro Bosmani<sup>‡</sup> Alejandro Guarnieri-Ibáñez<sup>‡</sup> Jérôme Lacour<sup>‡,‡</sup>

<sup>‡</sup> Département de Chimie Organique, Université de Genève, quai Ernest Ansermet 30, 1211 Geneva 4 (Switzerland); [jerome.lacour@unige.ch](mailto:jerome.lacour@unige.ch)

Dedicated to François Diederich on the occasion of his retirement celebrations

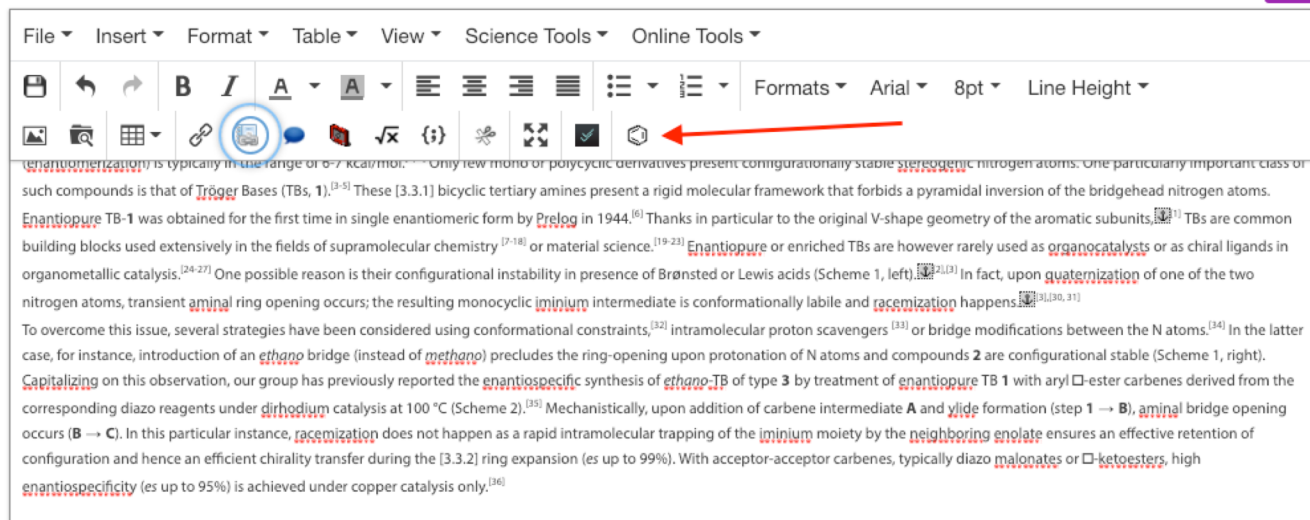
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# Import ChemDraw drawing



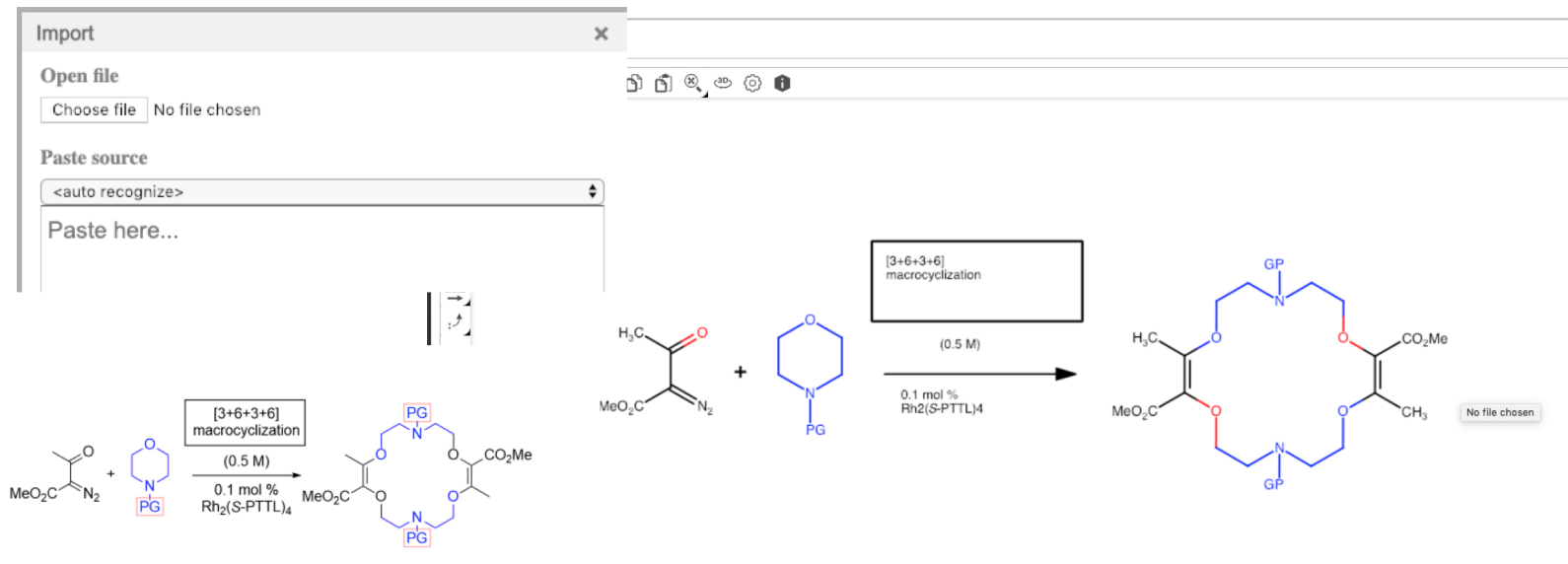
The screenshot displays the ChemDraw software interface. At the top, there is a menu bar with options: File, Insert, Format, Table, View, Science Tools, and Online Tools. Below the menu bar is a toolbar containing various icons for drawing and editing. The 'Import' icon, which depicts a document with a magnifying glass, is circled in blue. A red arrow points from the right side of the image towards this 'Import' icon. The main workspace of the software contains a paragraph of text discussing the properties and synthesis of Troger Bases (TBs).

File ▾ Insert ▾ Format ▾ Table ▾ View ▾ Science Tools ▾ Online Tools ▾

Formats ▾ Arial ▾ 8pt ▾ Line Height ▾

Enantioselective quaternization is typically in the range of 6–7 kcal/mol.<sup>[3–5]</sup> Only few mono- or polycyclic derivatives present configurationally stable stereogenic nitrogen atoms. One particularly important class of such compounds is that of Troger Bases (TBs, **1**).<sup>[3–5]</sup> These [3.3.1] bicyclic tertiary amines present a rigid molecular framework that forbids a pyramidal inversion of the bridgehead nitrogen atoms. Enantiopure TB-**1** was obtained for the first time in single enantiomeric form by Prelog in 1944.<sup>[6]</sup> Thanks in particular to the original V-shape geometry of the aromatic subunits,<sup>[6–11]</sup> TBs are common building blocks used extensively in the fields of supramolecular chemistry<sup>[7–18]</sup> or material science.<sup>[19–23]</sup> Enantiopure or enriched TBs are however rarely used as organocatalysts or as chiral ligands in organometallic catalysis.<sup>[24–27]</sup> One possible reason is their configurational instability in presence of Brønsted or Lewis acids (Scheme 1, left).<sup>[28,29]</sup> In fact, upon quaternization of one of the two nitrogen atoms, transient aminal ring opening occurs; the resulting monocyclic iminium intermediate is conformationally labile and racemization happens.<sup>[30,31]</sup> To overcome this issue, several strategies have been considered using conformational constraints,<sup>[32]</sup> intramolecular proton scavengers<sup>[33]</sup> or bridge modifications between the N atoms.<sup>[34]</sup> In the latter case, for instance, introduction of an ethano bridge (instead of methano) precludes the ring-opening upon protonation of N atoms and compounds **2** are configurationally stable (Scheme 1, right). Capitalizing on this observation, our group has previously reported the enantiospecific synthesis of ethano-TB of type **3** by treatment of enantiopure TB **1** with aryl □-ester carbenes derived from the corresponding diazo reagents under dirhodium catalysis at 100 °C (Scheme 2).<sup>[35]</sup> Mechanistically, upon addition of carbene intermediate **A** and ylide formation (step **1** → **B**), aminal bridge opening occurs (**B** → **C**). In this particular instance, racemization does not happen as a rapid intramolecular trapping of the iminium moiety by the neighboring enolate ensures an effective retention of configuration and hence an efficient chirality transfer during the [3.3.2] ring expansion (es up to 99%). With acceptor-acceptor carbenes, typically diazo malonates or □-ketoesters, high enantiospecificity (es up to 95%) is achieved under copper catalysis only.<sup>[36]</sup>

# Import ChemDraw drawing



# Rspace in Geneva

File ▾ Edit ▾ Insert ▾ View ▾ Format ▾ Table ▾ Tools ▾

Formats ▾ Font Family ▾ Font Sizes ▾

Seqman pro shows that the signal sequence is present there

► Translate ► Consensus

▼ smoc1\_RF with: lgnal(1>1488) →

misc\_feature: signal SMOC1 up

misc\_feature: different from genomic

Signal peptide

ES-1785\_pCS2n...miche(14>517) →

ES-1786\_pCS2n...miche(14>576) →

ES-1787\_pCS2n...miche(24>588) →

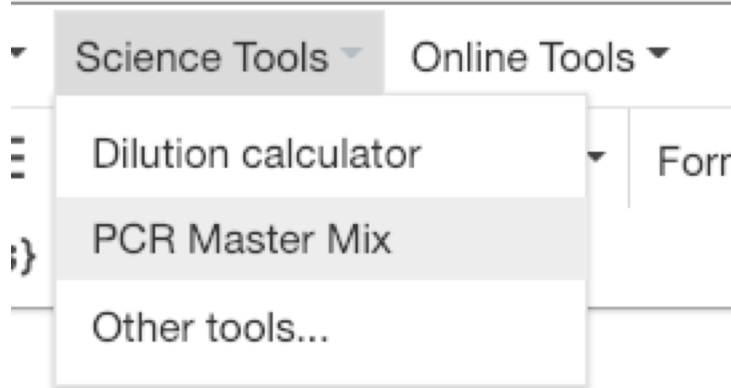
CBCCGCGCCCATGAACTGTCACAACTCTGCTCTTTGTGATTCATGATTTGATGATGATGCGCCTGCCAGCAGCCTCAACSCAGAAATCCACTGG

CBCCGCGCCCATGAACTGTCACAACTCTGCTCTTTGTGATTCATGATTTGATGATGATGCGCCTGCCAGCAGCCTCAACSCAGAAATCCACTGG

CBCCGCGCCCATGAACTGTCACAACTCTGCTCTTTGTGATTCATGATTTGATGATGATGCGCCTGCCAGCAGCCTCAACSCAGAAATCCACTGG

CBCCGCGCCCATGAACTGTCACAACTCTGCTCTTTGTGATTCATGATTTGATGATGATGCGCCTGCCAGCAGCCTCAACSCAGAAATCCACTGG

# Sciences Tools



### PCR Master Mix

Composition of PCR reaction		PCR MasterMix Formulation for 5 PCR reactions	
Template DNA	<input type="text" value="1"/> $\mu\text{l}$	Template DNA	<input type="text" value="5"/> $\mu\text{l}$
PCR Buffer	<input type="text" value="1"/> $\mu\text{l}$	PCR Buffer	<input type="text" value="5"/> $\mu\text{l}$
Forward Primer	<input type="text" value="2"/> $\mu\text{l}$	Forward Primer	<input type="text" value="10"/> $\mu\text{l}$
Reverse Primer	<input type="text" value="2"/> $\mu\text{l}$	Reverse Primer	<input type="text" value="10"/> $\mu\text{l}$
dNTP mix	<input type="text" value="5"/> $\mu\text{l}$	dNTP mix	<input type="text" value="25"/> $\mu\text{l}$
DNA Polymerase	<input type="text" value="1"/> $\mu\text{l}$	DNA Polymerase	<input type="text" value="5"/> $\mu\text{l}$
PCR grade Water	<input type="text" value="10"/> $\mu\text{l}$	PCR grade Water	<input type="text" value="50"/> $\mu\text{l}$
Total Number of Reactions	<input type="text" value="5"/>		
Total PCR Reaction Volume: <input type="text" value="22"/> $\mu\text{l}$		TOTAL VOLUME:	<input type="text" value="110"/> $\mu\text{l}$

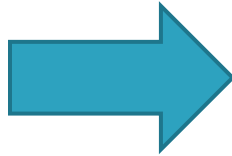
# Sciences Tools

**PCR Master Mix** X

Composition of PCR reaction		PCR MasterMix Formulation for 5 PCR reactions	
Template DNA	1 <input type="text"/> $\mu$ l	Template DNA	5 $\mu$ l
PCR Buffer	1 <input type="text"/> $\mu$ l	PCR Buffer	5 $\mu$ l
Forward Primer	2 <input type="text"/> $\mu$ l	Forward Primer	10 $\mu$ l
Reverse Primer	2 <input type="text"/> $\mu$ l	Reverse Primer	10 $\mu$ l
dNTP mix	5 <input type="text"/> $\mu$ l	dNTP mix	25 $\mu$ l
DNA Polymerase	1 <input type="text"/> $\mu$ l	DNA Polymerase	5 $\mu$ l
PCR grade Water	10 <input type="text"/> $\mu$ l	PCR grade Water	50 $\mu$ l
Total Number of Reactions	5 <input type="text"/>		

---

Total PCR Reaction Volume: 22  $\mu$ l      TOTAL VOLUME: 110  $\mu$ l



File ▾ Insert ▾ Format ▾ Table ▾ View ▾ Science Tools ▾ Online Tools ▾

Composition of PCR reaction		PCR MasterMix Formulation for 5 PCR reactions	
Template DNA	1 $\mu$ l	Template DNA	5 $\mu$ l
PCR Buffer	1 $\mu$ l	PCR Buffer	5 $\mu$ l
Forward Primer	2 $\mu$ l	Forward Primer	10 $\mu$ l
Reverse Primer	2 $\mu$ l	Reverse Primer	10 $\mu$ l
dNTP mix	5 $\mu$ l	dNTP mix	25 $\mu$ l
DNA Polymerase	1 $\mu$ l	DNA Polymerase	5 $\mu$ l
PCR grade Water	10 $\mu$ l	PCR grade Water	50 $\mu$ l
Total Number of Reactions	5		

---

Total PCR Reaction Volume	22 $\mu$ l
TOTAL VOLUME	110 $\mu$ l

# Rspace in Geneva PCR

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Search for the signal sequence of Smoc1:

Asc+2signalSMOC1f	Type	DNA	Oligo ID # 2727384	Date	25.10.2016
Purification Desalted	Length	34	Scale Genomics	Molecular weight	10427.0 g/mol
5' Modification NONE	3' Modification	NONE	No internal modifications		
Melting Point* 80.2	NNM-Method	70.9	*based on a [Na+] of 50 mM	Millimolar ext. coeff.	322.1
Amount	18.32 OD	Amount	593.0 µg	Amount	56.9 nmol
				Volume for 100 µM:	568.8 µl
5'-GAT CGG CGC GCC CGA TGA ACT GTC ACA ATC TGG C-3'					

FaeSMOC1 f	Type	DNA	Oligo ID # 2727414	Date	25.10.2016
Purification Desalted	Length	35	Scale Genomics	Molecular weight	10593.4 g/mol
5' Modification NONE	3' Modification	NONE	No internal modifications		
Melting Point* 80.1	NNM-Method	68.6	*based on a [Na+] of 50 mM	Millimolar ext. coeff.	306.3
Amount	11.32 OD	Amount	391.7 µg	Amount	37.0 nmol
				Volume for 100 µM:	369.7 µl
5'-GAT CGG CGC GCC CTA CCG TCG TTA TTG ACT CCT AG-3'					

Asc+1signalSMOC1f	Type	DNA	Oligo ID # 2727415	Date	25.10.2016
Purification Desalted	Length	33	Scale Genomics	Molecular weight	10097.9 g/mol
5' Modification NONE	3' Modification	NONE	No internal modifications		
Melting Point* 79.1	NNM-Method	69.8	*based on a [Na+] of 50 mM	Millimolar ext. coeff.	311.6
Amount	11.64 OD	Amount	377.4 µg	Amount	37.4 nmol
				Volume for 100 µM:	373.7 µl
5'-GAT CGG CGC GCC CAT GAA CTG TCA CAA TCT GGC-3'					

File Edit Insert View Format Table Tools

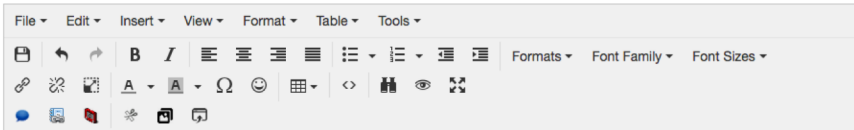
Formats Font Family Font Sizes

So I clone it into pCS\_mCherry\_AF (mCherry 5') (name = pCS2+8 NmCherry\_corrected) and also in an old pMT1 FA that I had already.

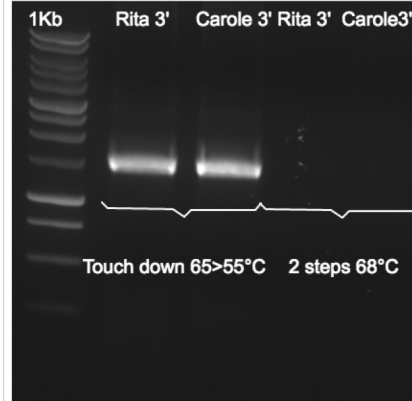
	3 µl Insert	Control Negatif 1 (pUAST and pGEX)
2X Ligase Buffer	5 µl	5 µl
H2O	1 µl	4.0 µl
Insert DNA (1)	3 µl	Ø
vector	0.5 µl	0.5 µl
T4 DNA Ligase	0.5 µl	0.5 µl
10 µl REACTION	10 µl	10 µl

1. Set up the following reaction in a microcentrifuge tube on ice (T4 DNA Ligase should be added last).
2. Gently mix the reaction by pipetting up and down and microfuge briefly.
3. Wait **15 minutes at RT**.
4. Put then the transformation tubes **2 minutes on ice** (0°C).
5. Add **100 µl of DH5<sup>+</sup>** competent bacteria per transformation tube.
6. Wait **30 minutes on ice** (0°C).
7. Heat Shock the bacteria **2 minutes at 37°C**.
8. Put again the transformation tubes **2 minutes on ice** (0°C - for Amp).
9. Spread each transformation tube on specific antibiotic plates.

# Rspace in Geneva PCR

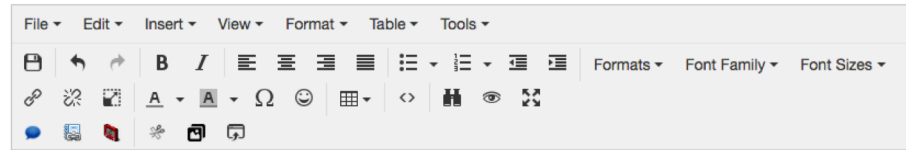


PCR using Rita's 5days cDNA:



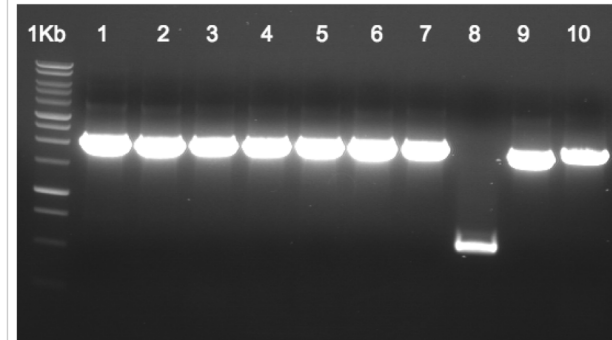
Good size, this signal sequence seems to exist 😊😊

I try to cut the one made with my oligos, but I realize that there is a mistake in the 3' oligo due to an error in the sequence of the clone predicted. I clone it anyway to sequence it and see what's inside. and I reorder a new oligo without the error.



The cloning into pCS2N mCherry works fine. I do 10 PCRs using mCherryf2/T3 (20mer). They are all good except #8.

I purify fragments 1,2,3 and send them for sequencing with t3 and mCherryf2 (ES 1785-ES1790).





# Ideally

- “ ELN would enable efficient use of data by successive generations of students and postdocs, would maintain technical knowledge in the laboratory, and allow detailed reconstruction of individual experiments. “

Blanche Schwappach EMBO reports 2015



# With RSpace you control your data

## 1: Export options

- Export data
  - In a variety of formats: MS Word, pdf, html, xml
  - At any level of granularity: document, multiple selected documents, project, notebook, an entire lab's work, all documents in the system
  - By individual users, PIs, and admins
  - At any time or at scheduled times
  - In html to provide a searchable copy that maintains the RSpace folder structure
  - In xml to provide a searchable machine readable version that maintains the RSpace folder structure
  - To repositories and archives
  - To other tools and systems

- US\$100 / user / year
- Volume discounts for purchases over 100 users
  - 200 users: \$ 70 / user
  - 500 users \$ 60 / user
  - “Site License” : \$40,000 annually

## Emmanuel Derivery, Cambridge University

- “When I moved to the MRC Laboratory for Molecular Biology, RSpace was a core component of the infrastructure I put in place for my new lab here. Lab members found it easy to get started with RSpace, and it conveniently helps us to record, share and track our research data. I can’t imagine running a lab without it!”

# Conclusions

- ❑ ELN was well accepted
- ❑ Unify the lab work
- ❑ Protocols are easy to find
- ❑ ELN centralizes the information
- ❑ 100 USD / active users / year
- ❑ It is possible to setup a trial account
  - ▣ See <https://www.researchspace.com>

# Serveur Rspace “unige”

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□ <https://bio-rspace.unige.ch/>

□ <https://facmed-rspace.unige.ch/>

# Rspace “information”

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□ <https://www.researchspace.com>

□ <http://lab-ally.com/products/rspace-elN/>



## With RSpace you control your data

### 2: When license expires

- On expiry of license you have a six month free license extension to complete data export
- Options include:
  - Export to the free Community version of RSpace, maintaining full folder structure
  - Export to html for a searchable offline copy maintaining folder structure
  - Export to xml for a machine readable version maintaining folder structure
  - Export to a repository or archive
  - Export to another tool or system (API coming Q1 2017)
- If RSpace goes out of business or is acquired by another company that does not want to continue support, we a six months free to complete data export, or perpetual license file that will keep RSpace running without support or updates. Data export options are listed above.