User Guide
Electronic Lab Notebook
(ELN)

Version: August 2016

www.agilebio.com & www.labcollector.com

Summary

1- INTRODUCTION

Thank you for choosing one of AgileBio's solutions for the management of your lab. The **ELN add-on** is a web-based solution allowing efficient management of all your experiments in the lab. Unlimited number of books, experiments and pages can be created. Powerful tools are included to produce added value notebook:

Text/Table Interface	Log Activity
Mass Doc/Picture/Molecules Import tools	Electronic Signatures
Chemical reaction/Diagram Designer	Task time reports
Template/Workflow management	Pdf/Print/Zip export
Versioning	

The ELN provided by AgileBio is suitable for research projects, technical platform service activities and company projects.
ELN add-on can be fully integrated with LabCollector, the LIMS we developed for life science research labs, Pharma and biotech industries. Indeed, you can link information from LabCollector to an experiment and a page.

2- GETTING STARTED

You can get ELN add-on simply by downloading from www.labcollector.com. LabCollector software has to be installed first as it contains the framework. LabCollector support documents for installation are available on our website. **ELN add-on** can be installed on any operating system (Windows, MacOS X and Linux).

1/Manual mode:

Unzip and paste ELN add-on folder in the extra modules folder. For Windows it would look like:

C:\Programs\AgileBio\LabCollector\www\lab\extra_modules\eln

Open LabCollector, the ELN add-on module is now activated. Click on the module to finish the installation.

2/Automatic mode from LabCollector interface:

You can also use LabCollector Menu

Admin > Setup > Upload/Add Addons > Upload Addon ZIP > Add Addon

; Maximum size of POST data that PHP will accept.
; Its value may be 0 to disable the limit. It is ignored if POST data reading
; is disabled through enable_post_data_reading.
; http://php.net/post-max-size
post_max_size = 80M

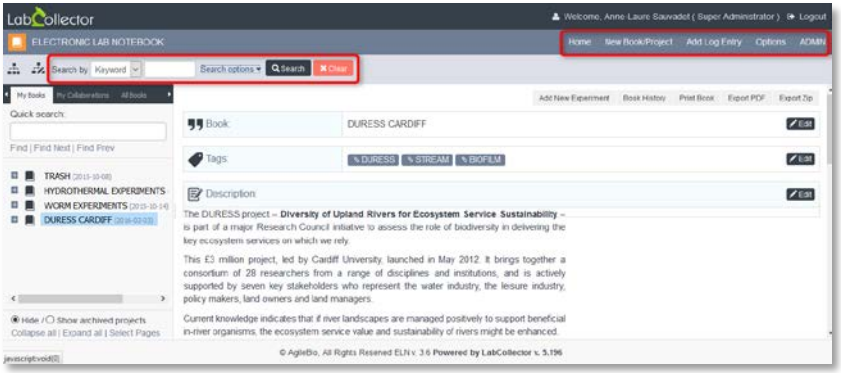
Return to LabCollector, the **ELN add-on** module is now activated. Click on the module to finish the installation.

The add-on will remain in a 30 days free trial mode until you save the final license **Admin > Setup > License**. To obtain a valid license, you have to copy and send the activation key to AgileBio.

3- OVERVIEW

ELN's main interface is composed of:

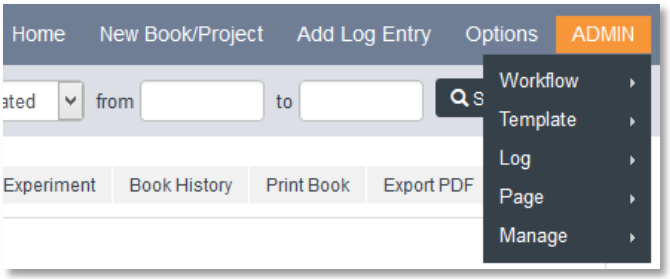
- A menu bar with 5 tabs:
  - Home
  - New Book/Project
  - Add Log Entry
  - Options
  - ADMIN
- A search menu by keyword or tag with filters (under *Search options*): Book, Experiment and date.
- A Tree View to switch easily between books, experiments and pages.
- A viewer to display books, experiments and pages details.



Note: a language selector is integrated to switch easily between English, French, German, Spanish and Portuguese interfaces (see chapter 3-2).

3-1. Admin Menu

Only users with an administrator profile can access to the **ADMIN** menu in its entirety.

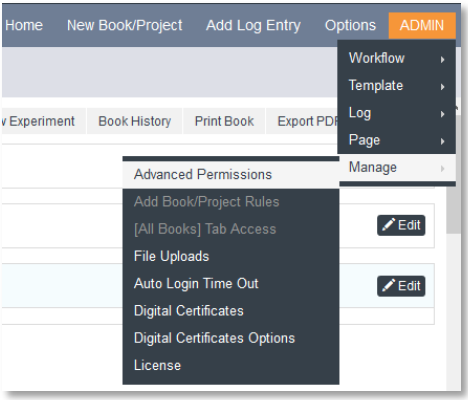


From this menu, workflows, pages/chemical reactions/spreadsheet templates and custom fields can be managed to standardize and harmonize writing procedures of experiments (see chapter 5).

Managers can get an overview on the ELN activity using the Log Activity (last 50 entries), the audit tools and the task time reports. Filters by user and/or date range are available to execute more specific audits. For more details, see chapter 6.

Super-administrator and administrators can manage digital certificates, pages validation and signing from this menu. For more details on these functions, see chapter 7 of this user guide.

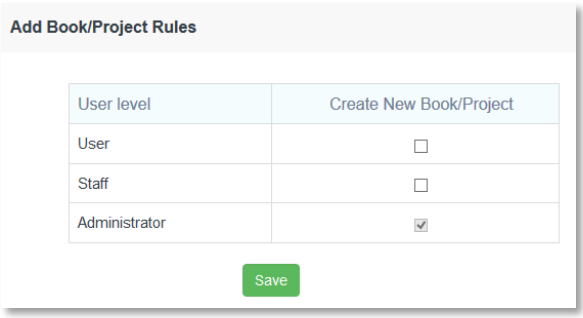
3-1-1. Permissions



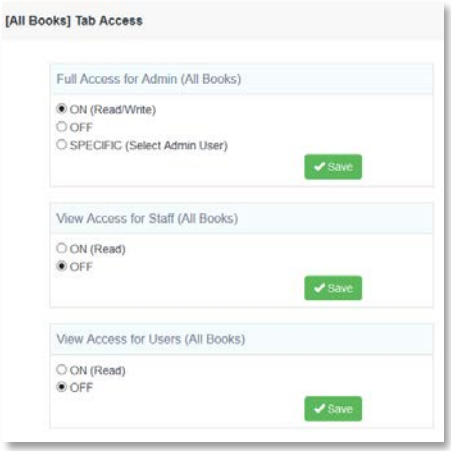
Through **ADMIN> Manage > Advanced Permissions**, super-administrator can manage users' permissions:

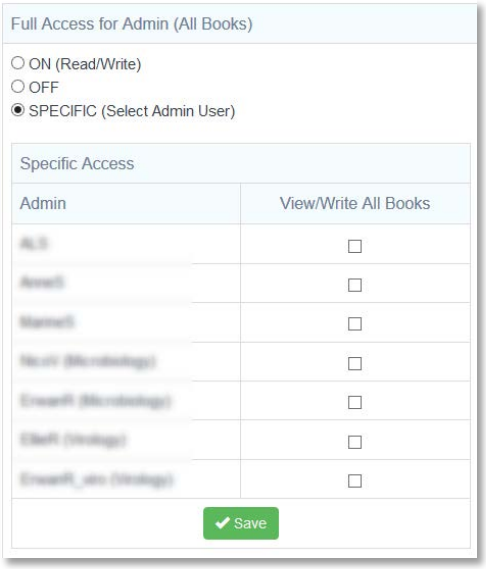
- Basic selection corresponding to actual users' permissions.
- Advanced selection: super-administrator can define PI for each group and PI can define specific user's permissions.

Basic selection opens two more tabs:
1/ **Add Book/Project Rules,** where super-administrator selects if administrator, staff and user can create new book.



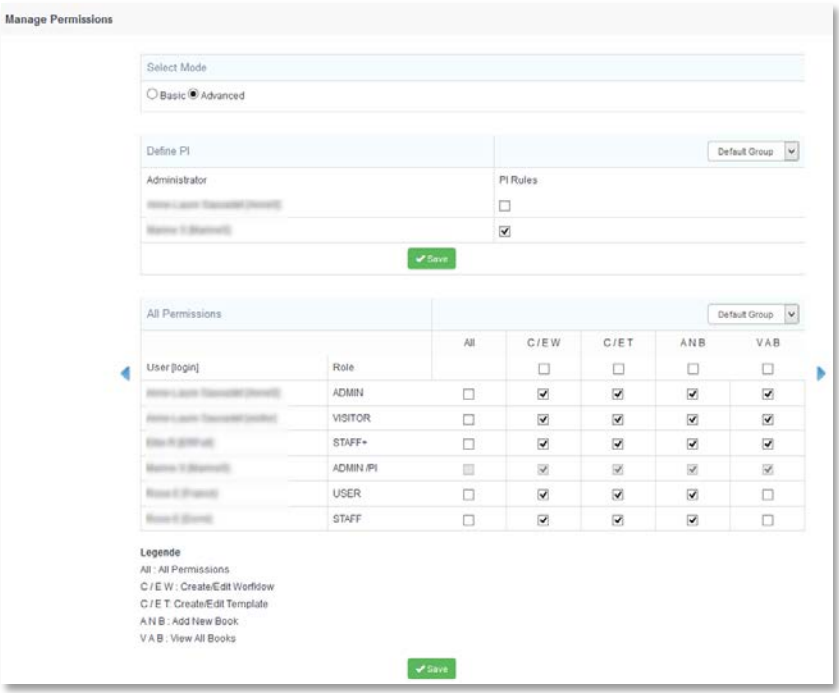
2/ **[All Books] Tab Access**, allowing super-administrator to configure access to All Books.


[All Books] Tab Access
Full Access for Admin (All Books)
ON (Read/Write)
OFF
SPECIFIC (Select Admin User)
Save
View Access for Staff (All Books)
ON (Read)
OFF
Save
View Access for Users (All Books)
ON (Read)
OFF
Save


Full Access for Admin (All Books)
ON (Read/Write)
OFF
SPECIFIC (Select Admin User)
Specific Access
Admin
View/Write All Books
Save

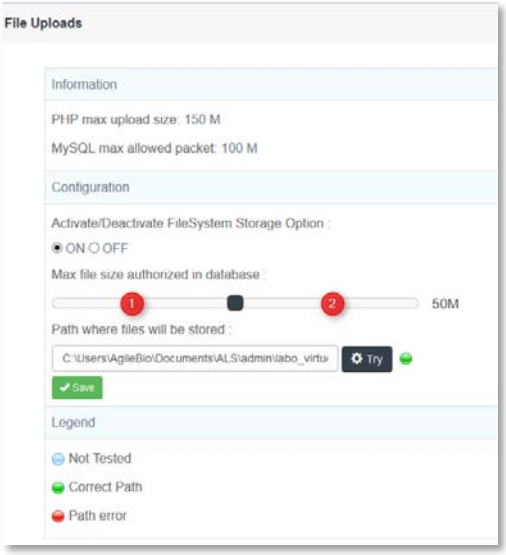
Advanced selection allows defining PI for each group, and permissions for all users.
Per user, permissions are:

- **All**: All permissions
- **C/EW**: user can create and edit workflow
- **C/ET**: user can create and edit template
- **ANB**: user can add new books
- **VAB**: user can view all books



3-1-2. File upload options

Super-administrator and administrators can manage file uploads/page associated files options.



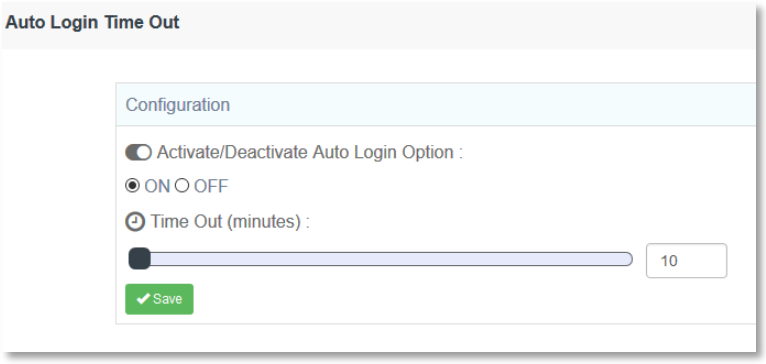
Sizes limits per file are defined in the information section.

You can activate or not this option.
If this option is not activated, files will be registered in the database by default.
If this option is activated, files will be registered in a defined folder. Folder has to be defined in the path section. To verify your path, you can test it (**Try** button + legend: not tested, correct path, incorrect path).

You can also customize the maximum size/file (0 to 100M) authorized in database:

- 0M: Files will be stored in the defined folder (path section).
- 100M: Files will be stored in the database
- In the other cases, like in the example, **1/**Files will be registered in the database if the file is ≤ 50M and **2/**Files will be registered in the defined folder if the file > 50M.

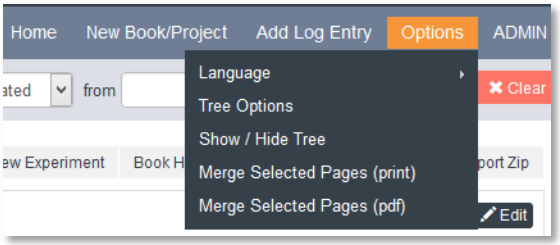
3-1-3. Auto login time out



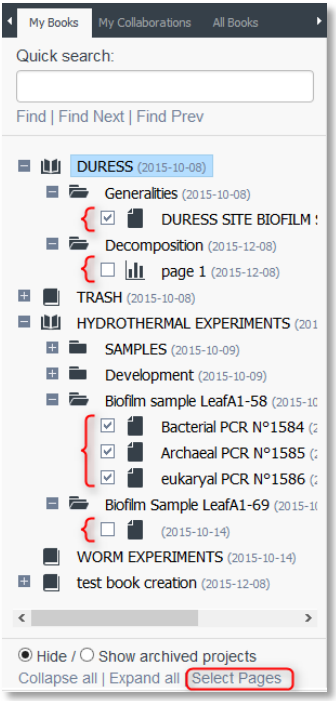
Users can activate this function to block access to their ELN if it is not use. Once activate, choose the time out in minutes then save.

3-2. Option Menu

From the **Options** menu, you can select to display ELN interface in English, French, German, Spanish or Portuguese.
Tree View management options are available in this tab (see chapter 3-3).



Through this menu you can also access to tools to merge/compile two or more pages in print / pdf views (report arrangement).
To select interesting pages, click on the **Select Pages** bouton and check pages.

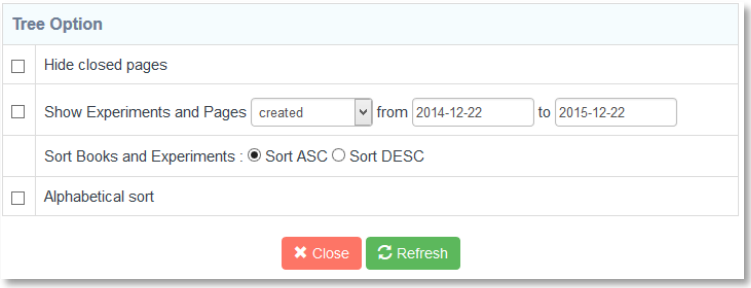


Then choose your printing method (PDF or print) through the **Options** menu: click on merge selected pages (print) or merge selected pages (PDF).

3-3. Tree View

You can hide the tree view using  or display the Tree View options using  next to the search menu or from the Menu bar: **Options > Tree Options**.

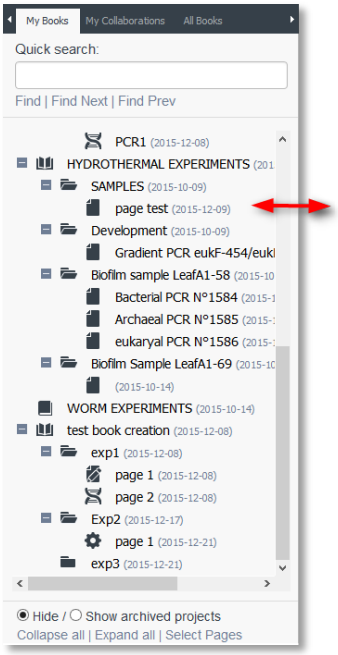
Several options are available to manage information displayed in the Tree View:
- Hide closed pages
- Display only created or modified pages
- Select a time period
- Use ASC/DESC button to display books and experiment by ascending/descending order
- By default, Tree View elements are displayed by date of creation but you can sort them by alphabetical order.



The Tree View panel displays books, experiments and pages.
Three tabs are available to manage the Tree View:

- My Book (default setting): display all books created by the user.
- My Collaborations: display books for which the user has been identified as a collaborator. A collaborator can view, edit and modify experiments and pages.
- All Books (only displayed with Admin status): display all books of the lab.

A **Quick search** engine by keywords is integrated allowing users to quickly find books, experiments and pages (focus on names only). Navigation between results is possible using **Find Next** and **Find Previous**.



Users can hide or show archived books to refine the Tree View display. Archived project are hidden by default.

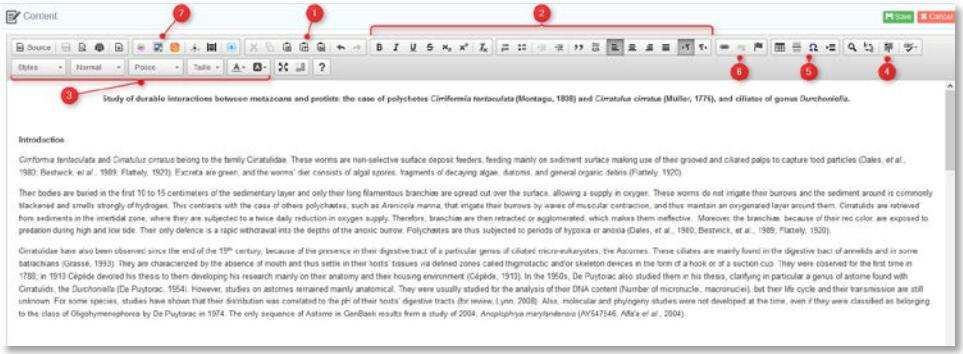
The separation between the Tree View and the main panel is flexible. To modify the tree view dimension, click on the separation line between both panels and drag it on the left or on the right according to your needs.

A **Drag & Drop** function is activate in the tree. You can move experiment (and all the dependent pages) from a book to another and move unclosed pages from an experiment to another, as you need.

4- THE HEART OF OUR ELN

4-1. The Text Editor

For description and content of main page, you have to use the ELN text editor.

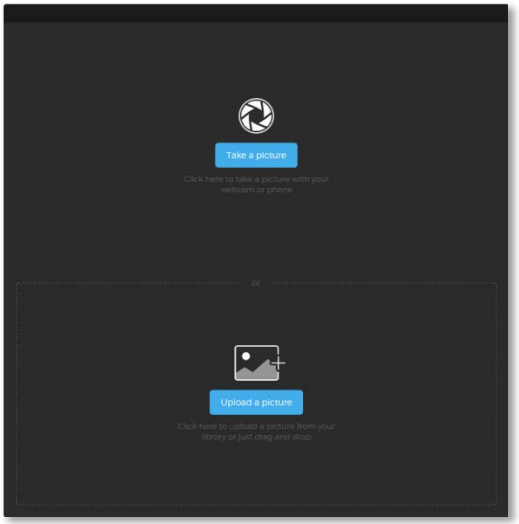


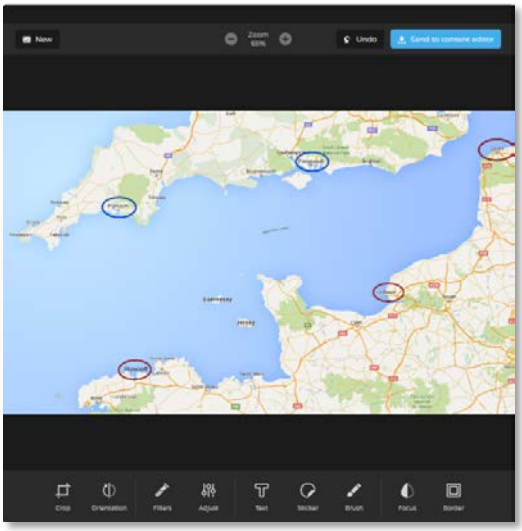
1. Import your text. If you want to insert text from another text editor, our advice is to use these different paste buttons
2. Text formatting (bold, italic,…)
3. Text formatting (styles, size, color…)
4. Search and proofreading
5. Special characters, tables
6. Link and anchor
7. Image insert

If you want to insert pictures, our advice is to use one of the applets: photoeditor, add an image and the link to LC Photobank.

If you want to modify an image before insert it, you have to use photoeditor applet. So you can add legends, text box, arrows… With this applet you can also directly take a picture and insert it in your ELN page.

The stickers can be managed through **ADMIN > Template > Manage image stickers**. You can unselect or select default stickers or add your own images.





You can also use our new easy and simple application, ELNDocSend, to scan paper notes and send to your ELN.

If users need to import tables, they can use copy/paste but we don't recommend it. It's better to create a new one and fill results manually. Press the table button on the toolbar. The Table Properties dialog window that will open lets you set configuration options that define table size, its display properties, or other advanced properties.

Below is an overview of all Table Properties tab elements:

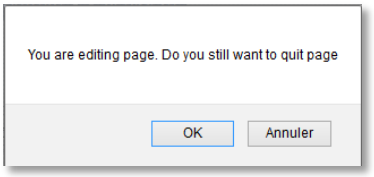
- **Rows** – the number of rows in the table (obligatory).
- **Columns** – the number of columns in the table (obligatory).
- **Width** – the width of the table in pixels or a percent value. Giving the width as a percent value lets you set the proportion of the editing area that the table will occupy.
- **Height** – the height of the table in pixels.
- **Headers** – the drop-down list that formats certain table cells as headers, which applies special formatting to them. You can apply header formatting to **First Row**, **First Column** or **Both**.
- **Border size** – the thickness of the table border in pixels.
- **Alignment** – the alignment of the table on the page. The following options are available: **Left**, **Center**, **Right**.
- **Cell spacing** – the space between individual cells as well as cells and table borders, in pixels.
- **Cell padding** – the space between the cell border and its contents, in pixels.
- **Caption** – the label of the table that is displayed on top of it.
- **Summary** – the summary of the table contents that is available for assistive devices like screen readers.

Note: 1 pixel (px) is approximatively equal to 0.30 millimeter (mm).

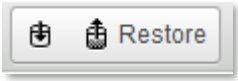
With the ELN Chemistry plugin  , users can design chemical reaction which can be integrated in book pages, reporting, reused and changed if needed (see chapter 5-1-3).

4-2. Save action and automatic backup

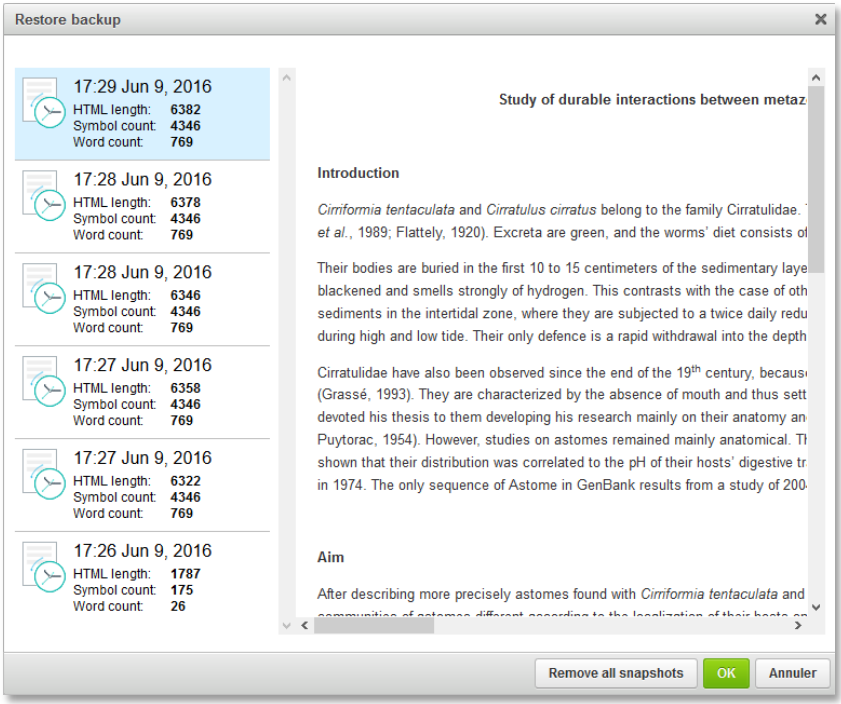
When you are drafting your work, and you change the page or book without saving your current work, the LabCollector ELN warns you with this message.



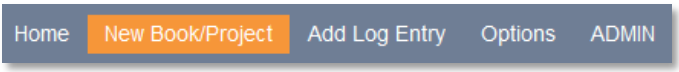
An automatic backup of your changes (**every 30 seconds**) and a manual backup are also accessible **until you save or cancel** your new experiment or page. At the bottom of your text editor, you can find both buttons: to backup now and to restore backup.



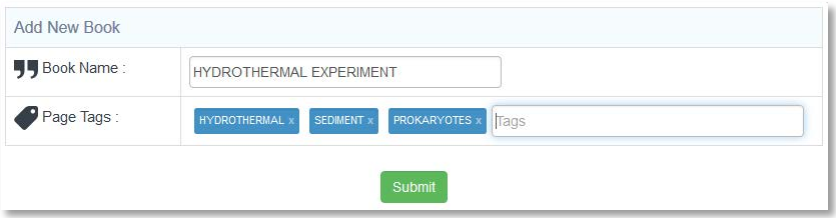
You can preview saved snapshots before restoring them and remove them.



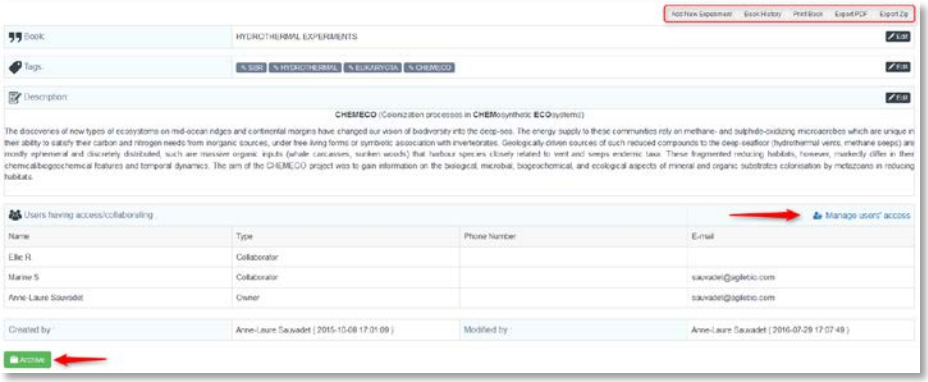
4-3. The Book



Click on **New Book/Project** button in the main menu.



You have to choose a name and add tags to help you with your search if you want (Write the tag and do ENTER to validate each tag). To validate your book creation, use the button **Submit**.



Once the book creation finished, you retrieve your information on the viewer. You can edit the book's name, tags and use the field description if needed using **Edit** buttons.

Book owner can now define several collaborators who will be able to view and modify the book. Use the link at right **Manage user's access** to access to collaboration options.

With Basic Permissions (Chapter 3-1-1)

User Name	Group	Allow User Access
ALS1 ()	group 1	☐
ALS2 ()	group 2	☐
Ellie R (Ferme aquacole)	Virology	☑
Erwan R (IFREMER)	Microbiology	☐
Marine S (Droit de la Mer)		☑
Nicolas V (Ecole véto)	Microbiology	☐
Pris G (Diversité océans)	Administration	☐
Rose E (Diversité océans)	Virology	☐

✔ Submit

With Advanced Permissions (Chapter 3-1-1)

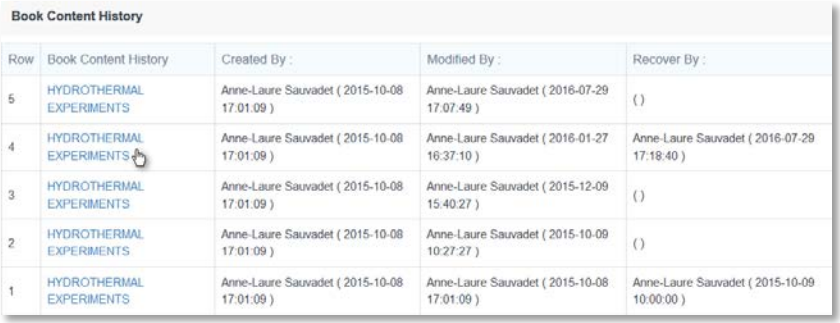
User Name	Group	Allow User Access	Edit Book	Experiments			Pages			Sign Pages
				Add + Edit	Edit	View Only	Add + Edit	Edit	View Only	
[redacted]	group 1	☐	☑	◉	○	○	◉	○	○	☐
[redacted]	group 2	☐	☑	◉	○	○	◉	○	○	☐
[redacted]	Virology	☑	☑	◉	○	○	◉	○	○	☐
[redacted]	Microbiology	☐	☑	◉	○	○	◉	○	○	☐
[redacted]		☑	☑	◉	○	○	○	○	◉	☑
[redacted]	Microbiology	☐	☑	◉	○	○	◉	○	○	☐
[redacted]	Administration	☐	☑	◉	○	○	◉	○	○	☐
[redacted]	Virology	☐	☑	◉	○	○	◉	○	○	☐

✔ Submit

To unlock options for users, tick the box **Allow User Access**, then choose your different options for Book, Experiment and Pages. You can also define who can sign pages. Your collaborators will see your book in the section **My Collaborations.**

For each book, you have a menu on the top right. You can Add New Experiment (Chapter 4-4), Print Book, Export in PDF or Zip format (PDF + attached files), and access to the Book History.

The **Book History** displays all book page versions. You can open and recover an old version by clicking on the book name. It is useful to identify page modifications and therefore it promotes traceability of lab work. The same versioning option is available at the experiment and page levels.



Book Content History

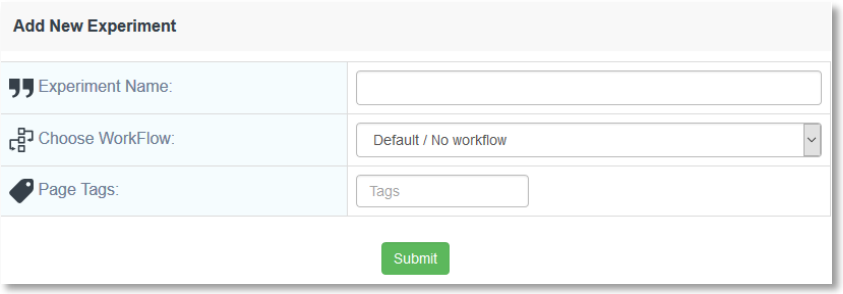
Row	Book Content History	Created By :	Modified By :	Recover By :
5	HYDROTHERMAL EXPERIMENTS	Anne-Laure Sauvadet (2015-10-08 17:01:09)	Anne-Laure Sauvadet (2016-07-29 17:07:49)	( )
4	HYDROTHERMAL EXPERIMENTS	Anne-Laure Sauvadet (2015-10-08 17:01:09)	Anne-Laure Sauvadet (2016-01-27 16:37:10)	Anne-Laure Sauvadet (2016-07-29 17:18:40)
3	HYDROTHERMAL EXPERIMENTS	Anne-Laure Sauvadet (2015-10-08 17:01:09)	Anne-Laure Sauvadet (2015-12-09 15:40:27)	( )
2	HYDROTHERMAL EXPERIMENTS	Anne-Laure Sauvadet (2015-10-08 17:01:09)	Anne-Laure Sauvadet (2015-10-09 10:27:27)	( )
1	HYDROTHERMAL EXPERIMENTS	Anne-Laure Sauvadet (2015-10-08 17:01:09)	Anne-Laure Sauvadet (2015-10-08 17:01:09)	Anne-Laure Sauvadet (2015-10-09 10:00:00)

Use the active book name link to accept the recover action.

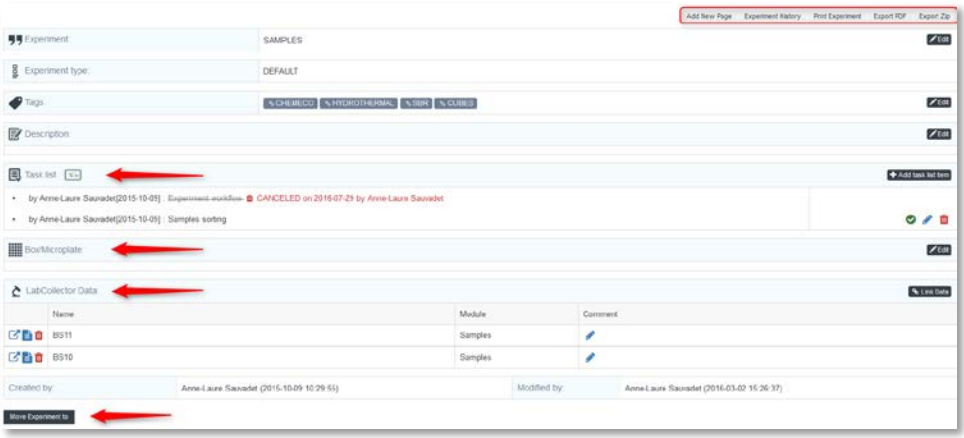
Books are the only items that can be archived (**Archive** button on the bottom left). You can choose to archive them when they are not used or finished. This feature allows you to hide books in the tree view to ensure quicker navigation.
If you want to find an archived book, simply check the **Show archived projects** box in the tree view. You can unarchive a book by selecting it and use the **Unarchive** button.

4-4. The Experiment

Click on **Add New Experiment** button in the main Book menu.
You have to choose a name and add tags to help you with your search if you want (Enter to validate each tag). You can also decide to use a workflow in the list. To validate, use the button **Submit**.



A workflow is useful when the lab executes routine experiments. A workflow is defined by a page number. Each page of the workflow can be a standard page or a predefined template. Workflow and template creation are described later in the document (see chapter 5).



Once the Experiment creation finished, you retrieve your information on the viewer. You can edit the experiment's name, tags and use the field description if needed.

For each experiment, you have a menu on the top right. You can Add New Page (Chapter 4-4), Print Experiment, Export in PDF or Zip format, and access to the Experiment History as for Book.

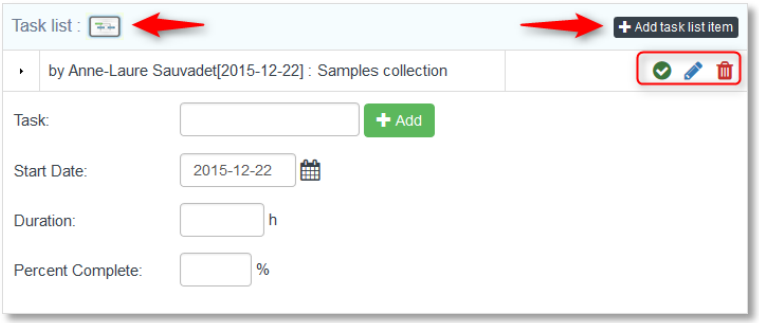
Experiment can be moved from a book to another using the related button **Move Experiment To** (left bottom of the experiment details). You can also simply use drag & drop function in the tree (see chapter 3-3).

Since you cannot delete experiment, we recommend you to create a book TRASH and move the experiment that you don't want to keep inside.

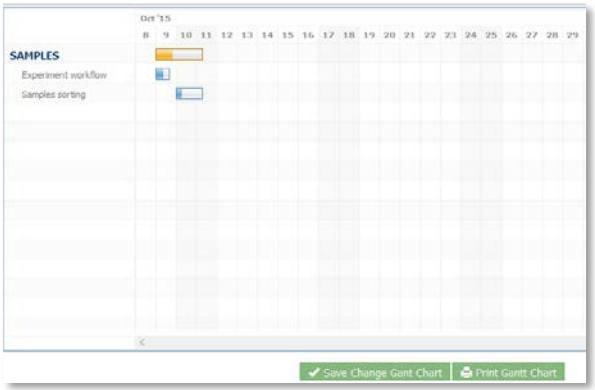
By default, the experiment page has three more sections:

- Task list
- Box/Microplate
- LabCollector Data

4-4-1. Task list

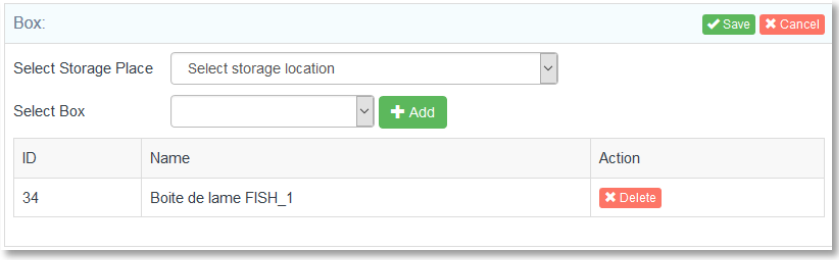


The task list can be edited to follow up experiment advancement.
Each task is defined by a name, a date, duration and a ratio. A graphical view of tasks can be displayed using Gantt chart option . Tasks definition will allow you to edit task time and allocated resources reports for a project. For more information, see chapter 6.

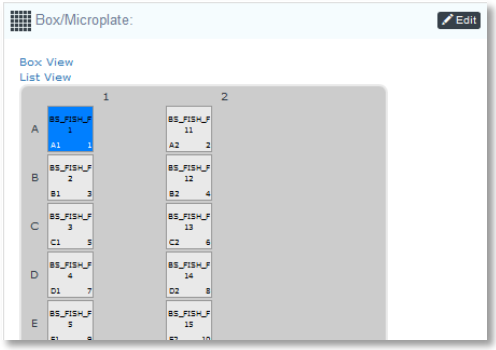


4-4-2. Box/microplate link

Users can also link box or microplate and LabCollector data to the experiment allowing a complete traceability of laboratory activities.

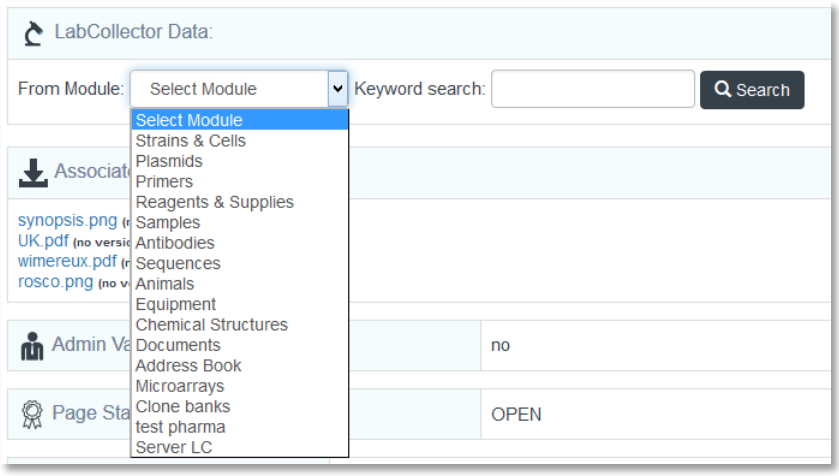


To access to a box/microplate directly in your ELN, you can link a box using the corresponding section. First, select your storage place, then your box. Once save, you have the box view and the list view.

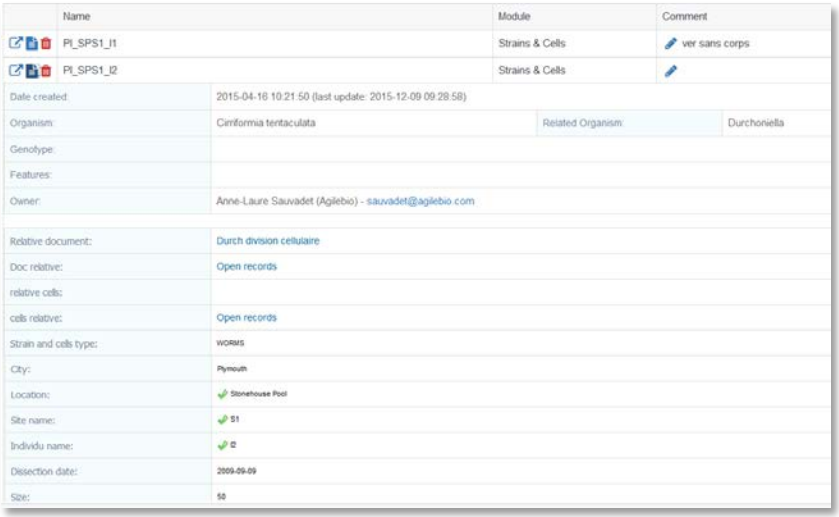


4-4-3. LabCollector data link

This section allows you to search directly in your LabCollector data.



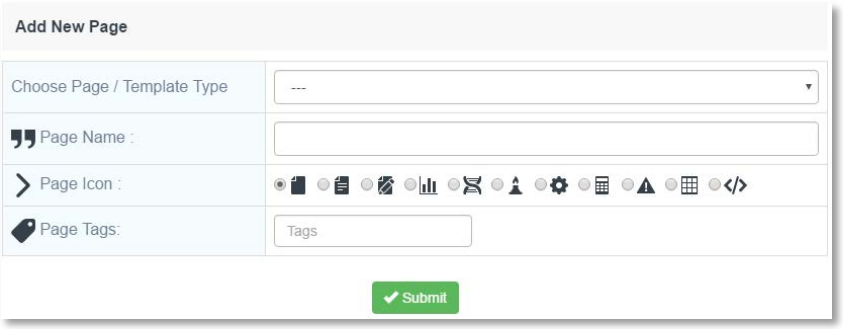
You can then link data of interest to your ELN page to have a quick access to these data in reading mode or to open them quickly in another tab using the icon . You can delete the association by using the icon .



4-5. The Page

Click on **Add New Page** button in the Experiment main menu or **Add Next Page** button in the Page main menu (if available, previous page not closed).

If no workflow is applied to the experiment, you can choose a page template in the list if needed. If a template is applied, the page is formatted using the predefined template allowing users to save time: just follow template instructions (see chapter 5).
Then, you have to choose a name and add tags to help you with your search if you want (Enter to validate each tag). The page can also be associated to an icon for quick identification in the Tree View. Several icons are available. Those icons have no special meaning. Just define with your team, relevant signification for each icon. It can be standard page, process, sequence analysis, calculations, etc.

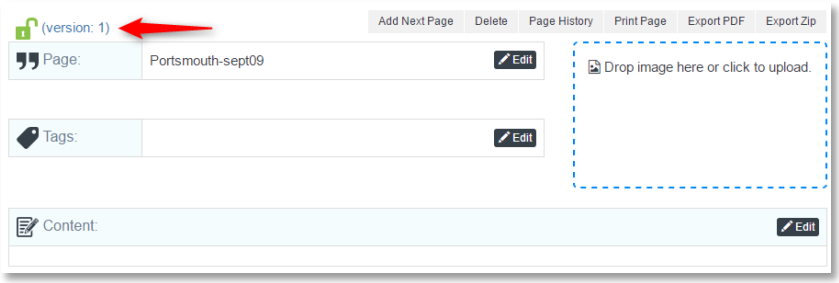


Once the Page creation finished, you retrieve your information on the viewer. You can edit the page's name, tags and use the field content to describe your experiment.

For each page, you have a menu on the top right. You can delete, print, and export in PDF or zip format the page, and access to the page History.

Page deletion is possible only if the section Content has never been saved (version 1).

You can view version number on the top left. This number change after each content page edition. You can thus recover old version of the page content.

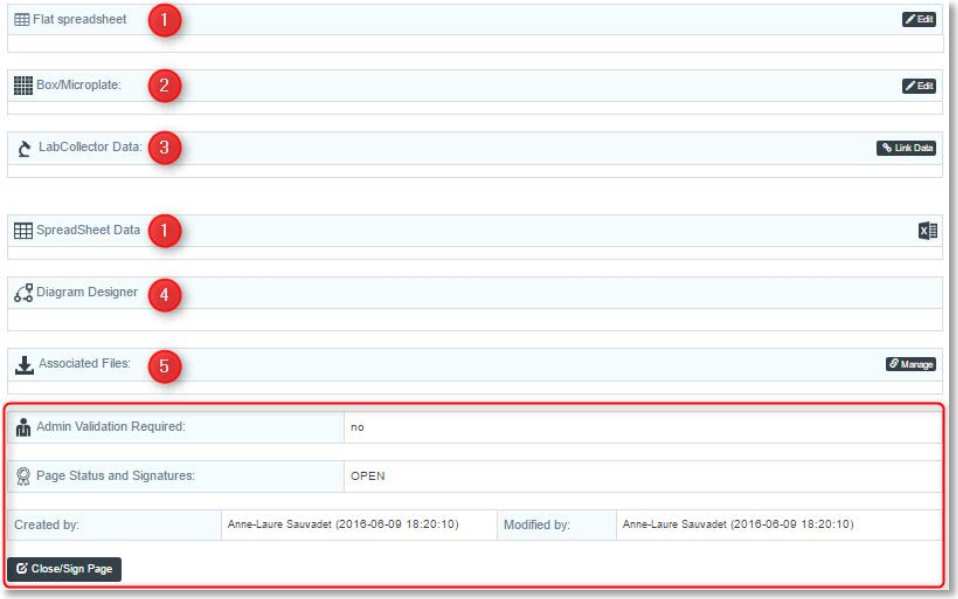


Please note that user can't edit a page if already open by another user (lock page on editing). All buttons turn grey.

You can also add a unique image by drag & drop on the top right (see the image above). Any format is possible: photos, PDF, excel file… Use it to quickly link your lab notes of the day from a scanner, the ELNDocSend, or by using your digital pen.

By default (without template), the ELN page has several sections:

1. Flat spreadsheet and SpreadSheet Data (see section 4-5-1)
2. Box/Microplate (see above section 4-4-2)
3. LabCollector Data (see above section 4-4-3)
4. Diagram Designer (see section 4-5-2)
5. Associated Files (see section 4-5-3)



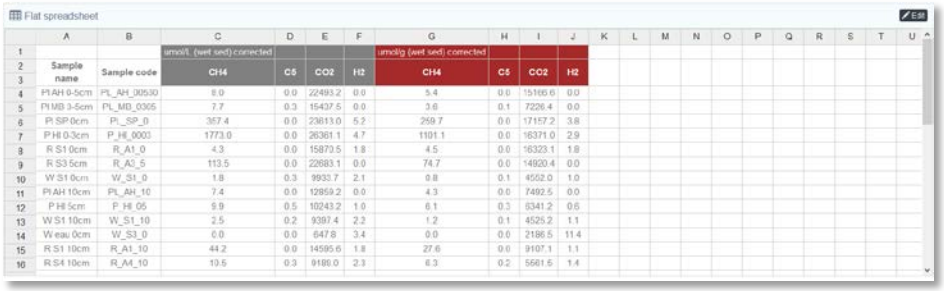
All page content modifications are allowed until the page is closed/signed. This option is very useful to be compliant with a QA management system. Refer to chapter 6 for more details.

4-5-1. Flat spreadsheet and spreadsheet Data

Two types of spreadsheet are available:

- A web spreadsheet or flat spreadsheet based on html5
- A JAVA spreadsheet

To use the web/flat spreadsheet, click on **Edit** button at right.

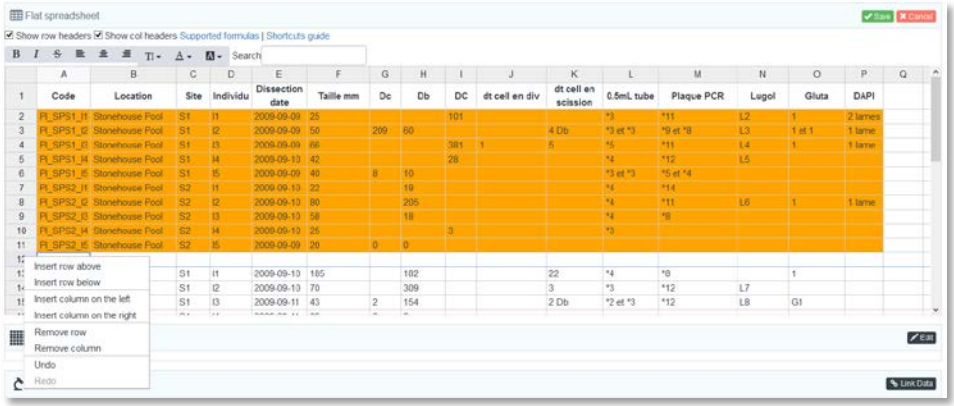

Flat spreadsheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1			umol/L (wet sed) corrected				umol/g (wet sed) corrected														
2	Sample name	Sample code	CH4	C5	CO2	H2	CH4	C5	CO2	H2											
3																					
4	PI AH 0-5cm	PL_AH_00530	8.0	0.0	22493.2	0.0	5.4	0.0	15166.6	0.0											
5	PI MB 3-5cm	PL_MD_0305	7.7	0.3	15437.5	0.0	3.6	0.1	7226.4	0.0											
6	PI SP 0cm	PI_SP_0	357.4	0.0	23613.0	5.2	259.7	0.0	17157.2	3.8											
7	P HI 0-3cm	P_HI_0003	1773.0	0.0	26361.1	4.7	1101.1	0.0	16371.0	2.9											
8	R S1 0cm	R_A1_0	4.3	0.0	15870.5	1.8	4.5	0.0	16323.1	1.8											
9	R S3 5cm	R_A3_5	113.5	0.0	22683.1	0.0	74.7	0.0	14920.4	0.0											
10	W S1 0cm	W_S1_0	1.8	0.3	9933.7	2.1	0.8	0.1	4552.0	1.0											
11	PI AH 10cm	PL_AH_10	7.4	0.0	12859.2	0.0	4.3	0.0	7492.5	0.0											
12	P HI 5cm	P_HI_05	9.9	0.5	10243.2	1.0	6.1	0.3	6341.2	0.6											
13	W S1 10cm	W_S1_10	2.5	0.2	9397.4	2.2	1.2	0.1	4525.2	1.1											
14	W eau 0cm	W_S3_0	0.0	0.0	647.8	3.4	0.0	0.0	2186.5	11.4											
15	R S1 10cm	R_A1_10	44.2	0.0	14595.6	1.8	27.6	0.0	9107.1	1.1											
16	R S4 10cm	R_A4_10	10.5	0.3	9186.0	2.3	6.3	0.2	5561.6	1.4											

You have access to a spreadsheet with all the function of a text editor and a basic spreadsheet. You also have the possibility to use mathematical formula.

Formulas are must be written in English format.

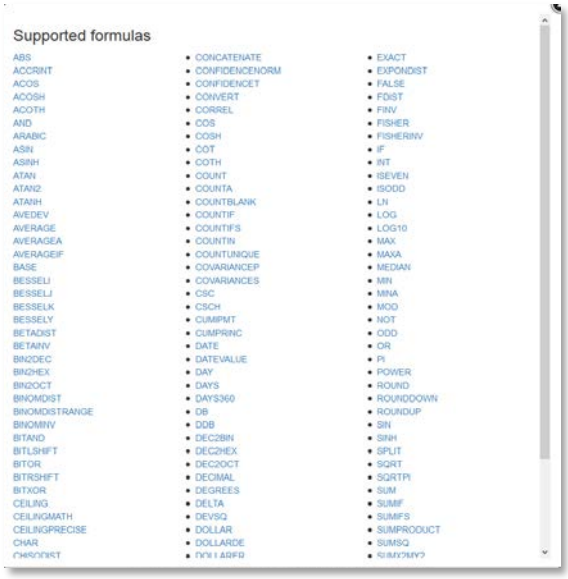
Formulas are working with dot in decimal numbers.


Flat spreadsheet

Show row headers | Show col headers | Supported formulas | Shortcuts guide

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Code	Location	Site	Individu	Dissection date	Taille mm	Dc	Db	DC	dt cell en div	dt cell en scission	0.5mL tube	Plaque PCR	Lugol	Gluta	DAPI	
2	PI_SPS1_I1	Stonehouse Pool	S1	I1	2009-09-09	25			101			*3	*11	L2	1	2 lames	
3	PI_SPS1_I2	Stonehouse Pool	S1	I2	2009-09-09	50	209	60			4 Db	*3 et *5	*9 et *8	L3	1 et 1	1 lame	
4	PI_SPS1_I3	Stonehouse Pool	S1	I3	2009-09-09	#6			381	1	5	*5	*11	L4	1	1 lame	
5	PI_SPS1_I4	Stonehouse Pool	S1	I4	2009-09-10	42			28			*4	*12	L5			
6	PI_SPS1_I5	Stonehouse Pool	S1	I5	2009-09-09	40	8	10				*3 et *3	*5 et *4				
7	PI_SPS2_I1	Stonehouse Pool	S2	I1	2009-09-10	22		19				*4	*14				
8	PI_SPS2_I2	Stonehouse Pool	S2	I2	2009-09-10	80		205				*4	*11	L6	1	1 lame	
9	PI_SPS2_I3	Stonehouse Pool	S2	I3	2009-09-10	58		18				*4	*8				
10	PI_SPS2_I4	Stonehouse Pool	S2	I4	2009-09-10	25			3			*3					
11	PI_SPS2_I5	Stonehouse Pool	S2	I5	2009-09-09	28	0	0									
12																	
13			S1	I1	2009-09-10	185		182			22	*4	*8		1		
14			S1	I2	2009-09-10	70		309			3	*3	*12	L7			
15			S1	I3	2009-09-11	43	2	154			2 Db	*2 et *3	*12	L8	G1		

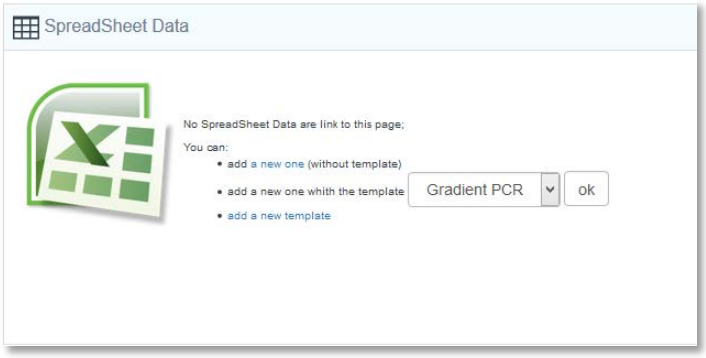
Insert row above
Insert row below
Insert column on the left
Insert column on the right
Remove row
Remove column
Undo
Redo



To edit a JAVA spreadsheet, click on the  icon to insert tables. From this panel, you can:

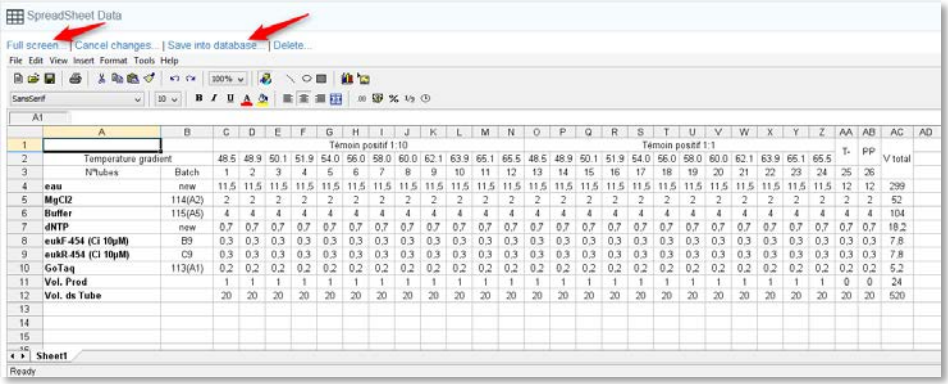
- Use a blank spreadsheet editor to create your own tables.
- Create a spreadsheet template to be used in routine.
- Load a spreadsheet template.

Spreadsheet Templates can be edited and modified from the Admin Menu (see chapter 5-1-4).



When the spreadsheet is opened, you can edit, modify tables and graphics to store your results. You can also open your spreadsheet in full screen.

Users must save tables into the database otherwise information will be lost.



Formulas are allowed but they must be written in English format.

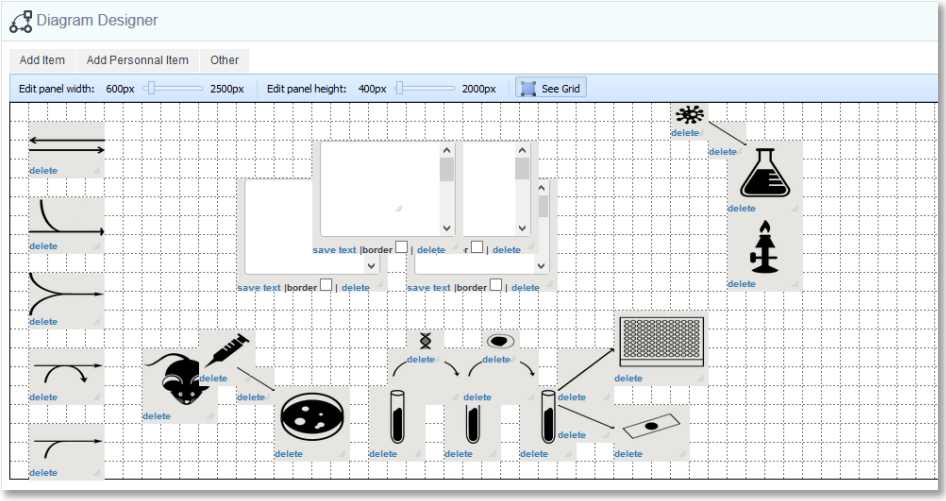
Formulas are working with <u>commas</u> instead of dot in decimal numbers.

Now, you can download your spreadsheet as an excel file by clicking on the Excel icon at right.
Spreadsheet data are also integrated in the printable, PDF and zip versions.

4-5-2. Diagram Designer

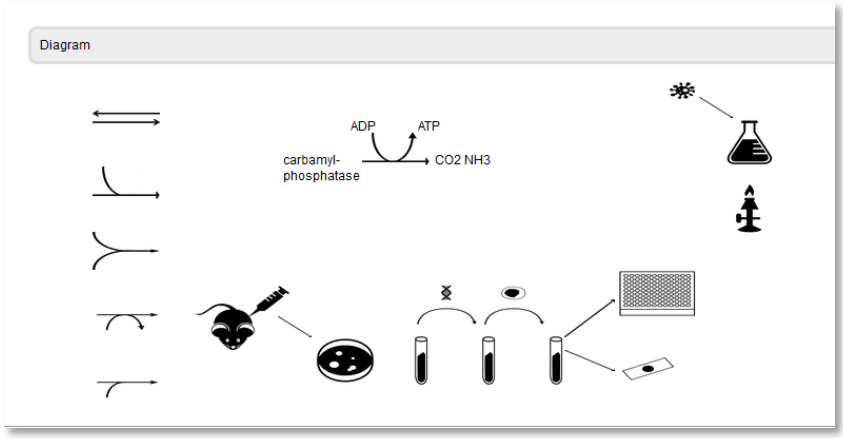
LabCollector ELN integrates a **Diagram Designer**. Click on this icon and **Create** (on the right) to start a diagram. Multiple elements can be added like text, arrows, and numerous laboratory items, by using **Add item** menu and choose between the elements.

Panel dimensions can be modified using the Panel Editor. You can define panel width and height quickly using your mouse. You can also add a panel grid in the background facilitating elements alignments. Click on the **See Grid** icon to display the grid.



Each element added appears in a grey box allowing users to manage box dimension easily. Note the box border and color aren't displayed when you print a preview (paper version or pdf file report).

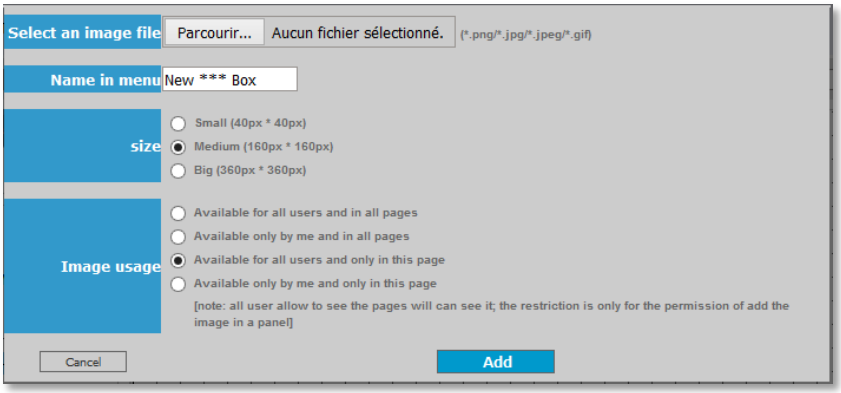
To print a paper version or see a diagram review, use the tab **Other**.



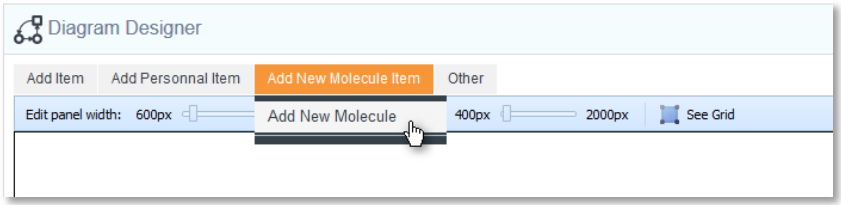
Images can also be added using **Add Personal Item** tab. Select the image of your choice, give it a name and choose the size. Items can be imported in three resolutions:

- Small quality (40px * 40px)
- Medium quality (160px * 160px)
- Big quality (360px * 360px)

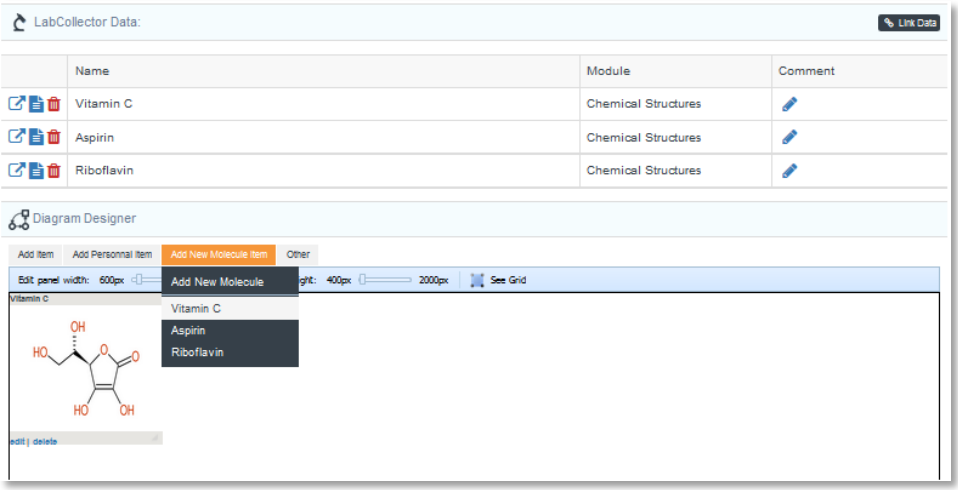
You can also define rules to manage images usage.



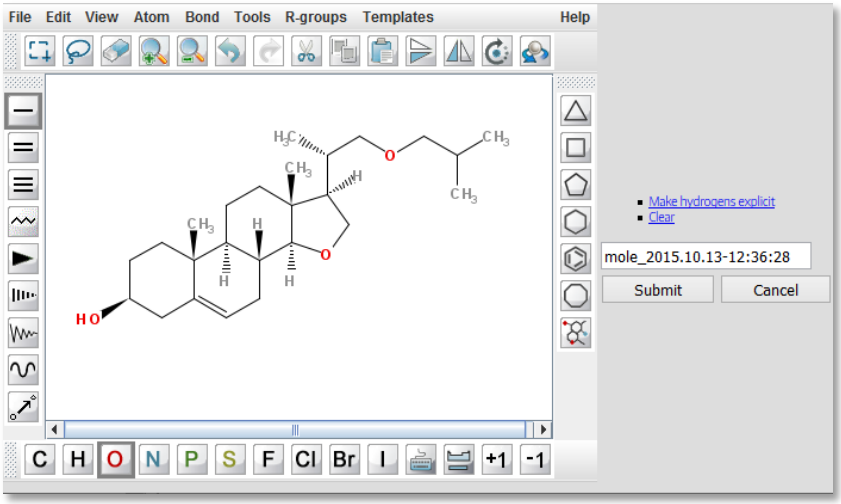
The last tab **Add New Molecule Item** is optional (appears only if you have the plug-in) and allows designing chemical structures and reactions. You can choose to import structures from LabCollector **Chemical Structures** module or to design new structures directly from the Diagram Designer.



To import structure from LabCollector database (only **Chemical Structures** module), you must link the page to structures of interest using **LabCollector Data** (see section 4-4-3). When chemical structures are linked to the ELN page, the tab displays the list of available structures. Select one structure to add it directly in the panel.



Users can also design their own chemical structures directly through the diagram designer using **Add New Molecule** function (using the open-source editor JChemPaint).

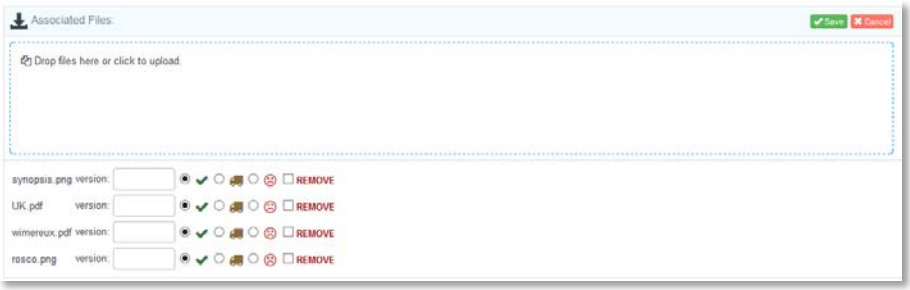


A new window containing a molecule editor appears. You can now design any molecule needed for your experiment. This tool includes a molecule database with

the most used ones (Templates). A periodic table is also integrated. When the molecule is designed, define a name and click on **Submit** button to display it in the panel. Molecules in the panel can be modified using **Edit** function in the molecule box (grey).

4-5-3. Associated files

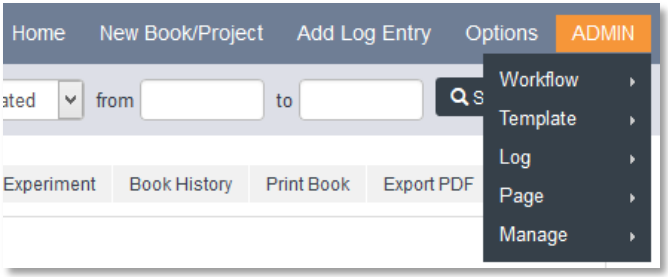
In the section **Associated Files**, any files can be easily attached to the page by drag and drop. Its status version can also be defined to follow the work progress: definitive, intermediate or discarded version with corresponding icons.



After adding a file, don't forget to **SAVE** the action on the right. All those files will be in the ZIP export folder.
You can remove files by checking the case REMOVE then SAVE.

5- TEMPLATES AND WORKFLOWS MANAGEMENT

To make AgileBio ELN friendly to use, template and workflow functions are integrated. These options allow users to save time and use standard procedures to increase productivity and quality of their work.



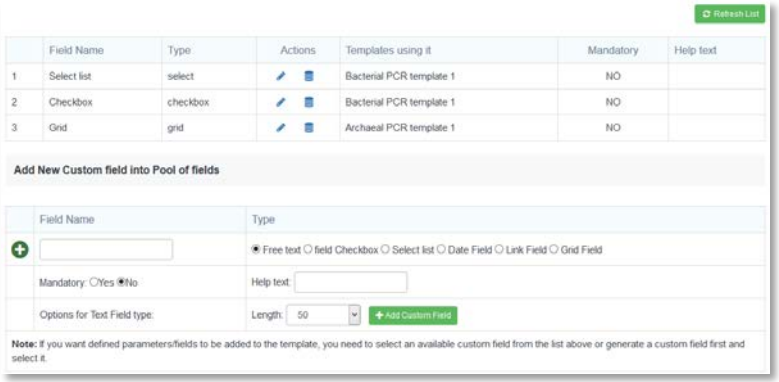
Don't forget! If you activate Advanced Permissions, you can allow ELN users to create and edit workflow (C/EW) and template (C/ET).

5-1. Templates

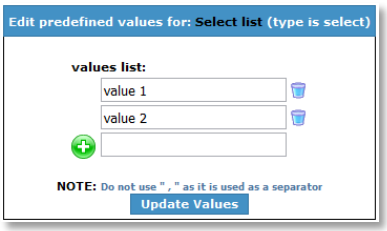
5-1-1. Create custom fields

To customize ELN pages and ELN pages templates, users can create custom fields.

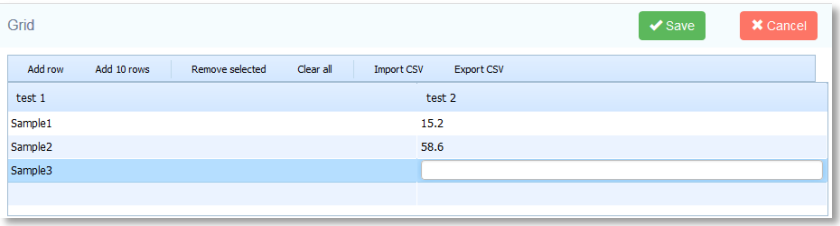
Go to ***Admin > Template > Manage custom fields***



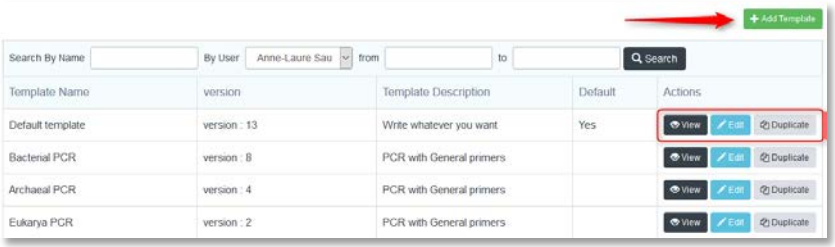
To add a field, choose a name and define the field type: text, checkbox, select list, date, link or a grid.
Maximum length of a text field is flexible depending on required information.
It is possible to define a custom field as mandatory. With this function, you will be sure that required information will be completed. To help your colleague to understand the data requirement, use the help text section.



For select list and checkbox types, edit the values with the icon .
The grid field type allows creating a two-column table that you can fill with the values of your choice.



5-1-2. Page template

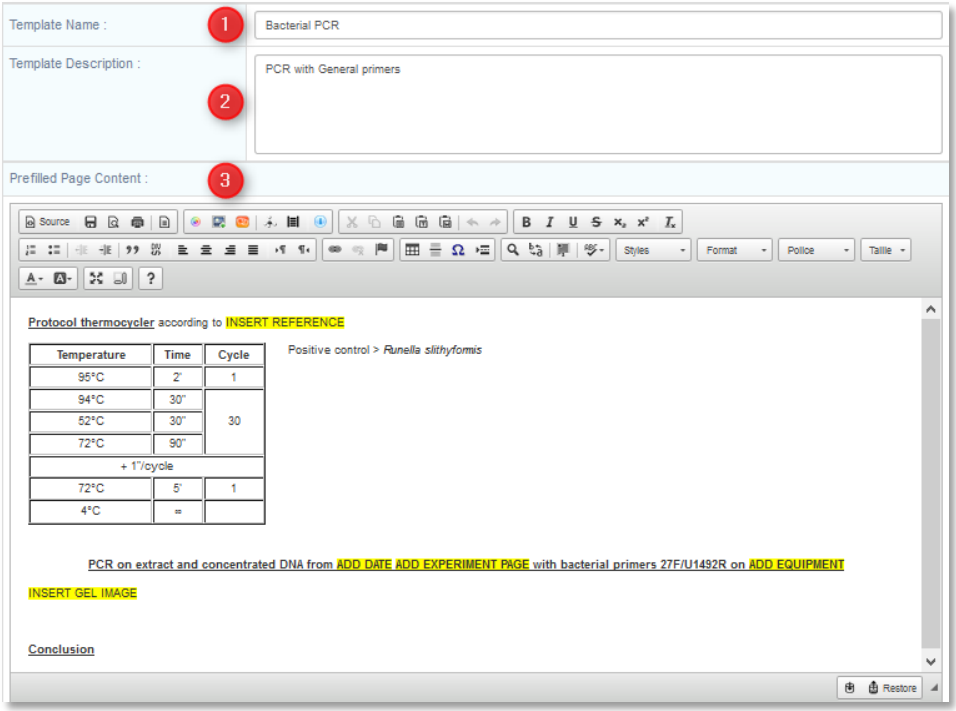


On this page you can manage all your templates. Create a new template with **Add Template** button or view/edit an existing template selected in the list with the **View / Edit** buttons. You can also duplicate an existing template with the last button **Duplicate**.

The first template in the list is the default template.

On the same page, you have the versioning data for each template.

The template is identified by a **name** (**1**) and a **description** (**2**) if needed. You can use the **text editor** to prefill your page (**3**).

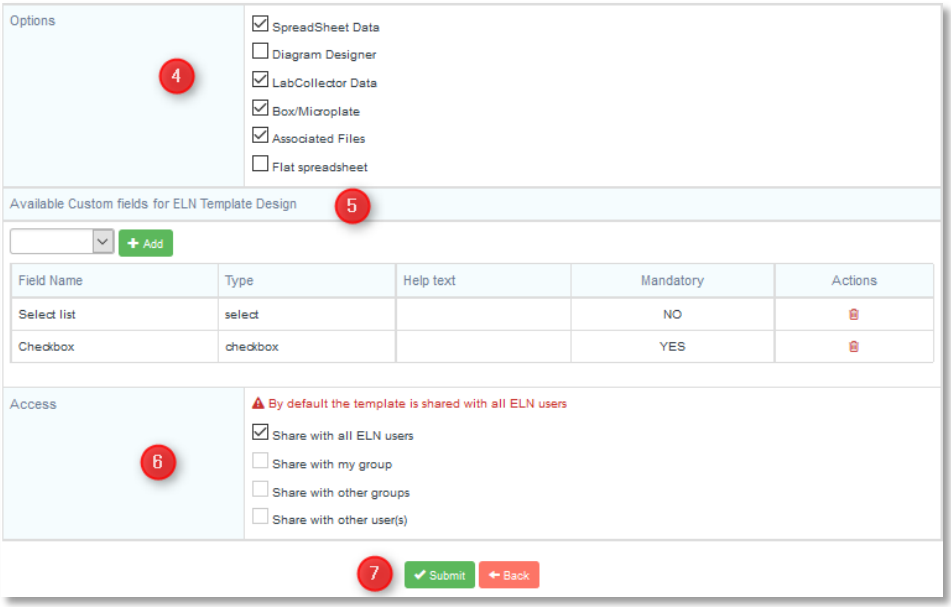


Then, select in the template **options** (**4**) section what you want to use in this template: SpreadSheet Data (Java), Diagram Designer, LabCollector Data, Box/Microplate, Associated Files and Flat spreadsheet (Html) (for more details on this function, see chapters 4-4 and 4-5).

Custom fields (**5**) created in the previous step (see chapter 5-1-1) can be selected here. Select the custom field in the select list then do **Add**.

In the last section, you can configure **access** to this template (**6**). By default, templates are share with all ELN users.

Then, don't forget to **Submit** (**7**) to validate your template. You can edit a template as you need.

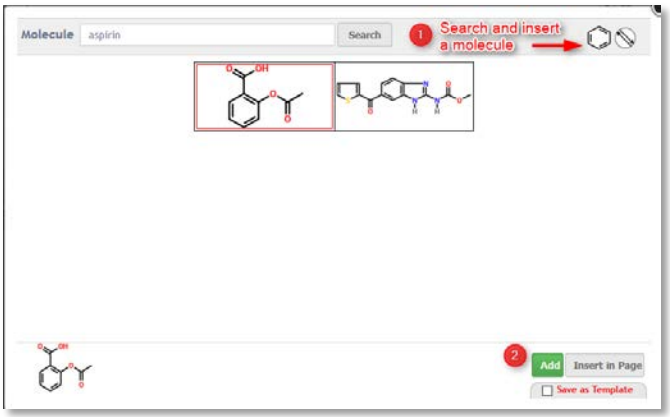


These templates will be accessible when you create pages in your book and are part of the workflow system.

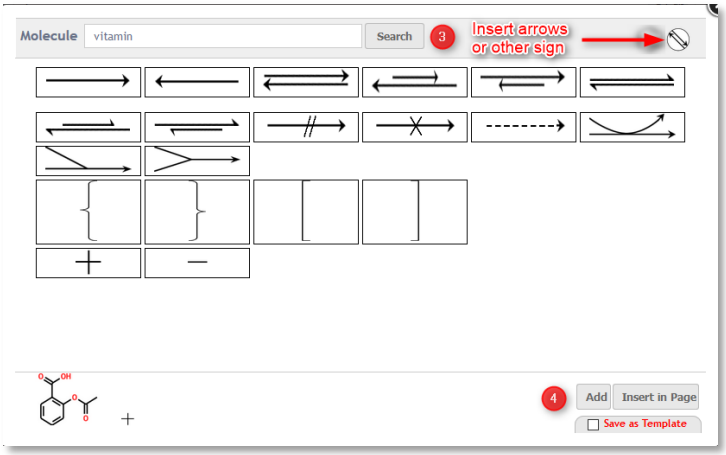
5-1-3. Reaction template

With the ELN Chemistry plugin in option, users can design chemical reaction by importing structures from LabCollector **Chemical Structures** module.
Chemical reactions can be integrated in book pages, reporting, reused and changed if needed.

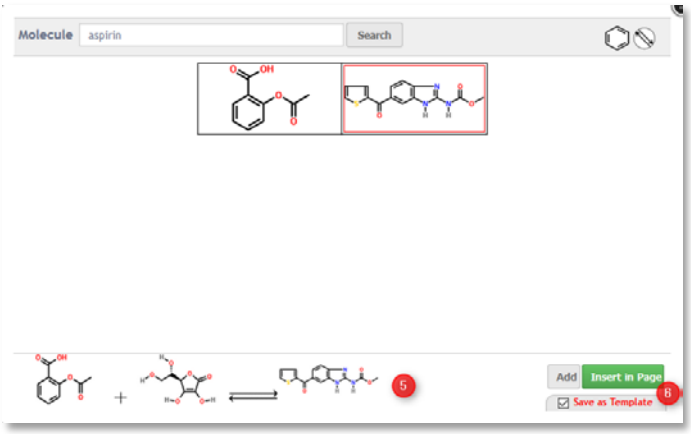
You can design chemical reactions by clicking on the chemistry plugin available in the text editor.
First, search your molecule in the database then add it to the reaction.



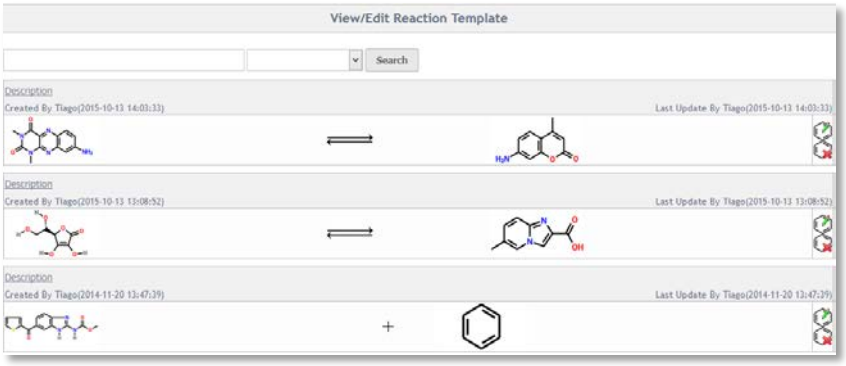
Then, add arrows or other sign as you need.



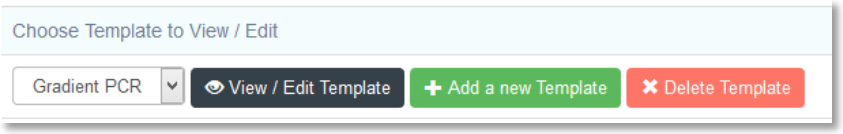
Continue and finish your reaction by repeating the previous steps. Once a reaction is designed, it can be inserted in book page and save as template.



To manage reaction template, you have to go in **Admin > Template > View/Edit Reaction Template**. Here, you can edit your reaction with and delete a reaction with .



5-1-4. Spreadsheet template

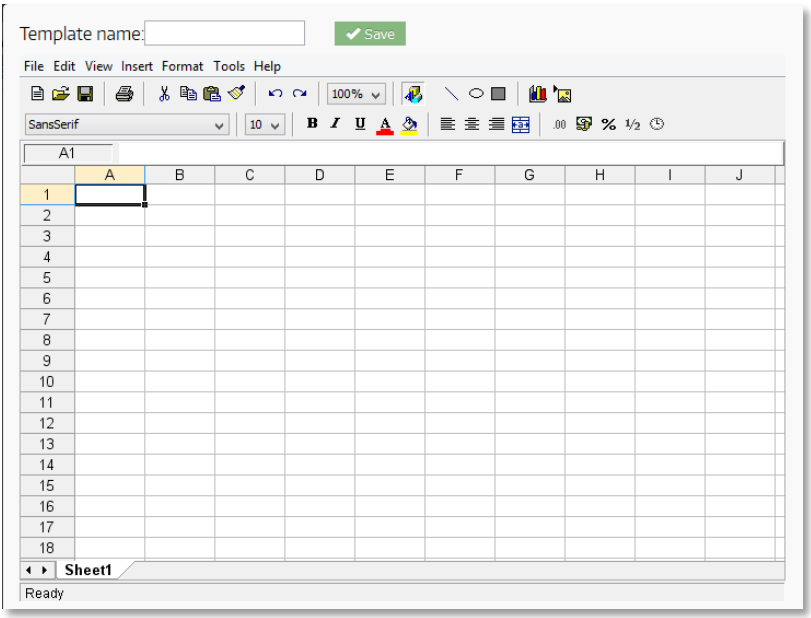


From **Admin > Template > Manage SpreadSheet Template**, you can manage JAVA spreadsheet templates.
You can add new templates from this panel or you can view/edit templates saved in the ELN application. Template can also be deleted.

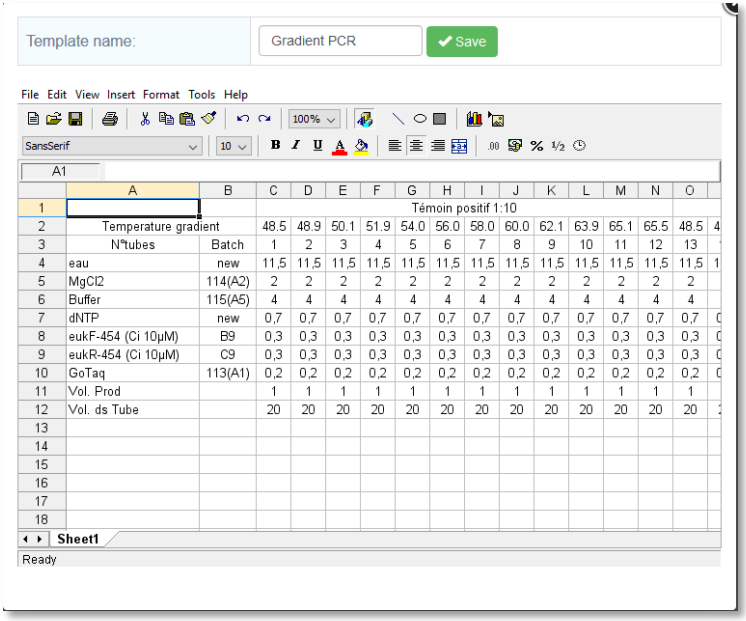
To create a new template, click on **Add a new template**. A new window with a spreadsheet appears.

You need to active JAVA plugin in your browser.

Give a name to your template, and create the table that you need. Do **SAVE**.



To edit a template, choose it in the select list and click on **View/Edit template**. Again JAVA opens and your table appears in the window. Change what you need then **SAVE**.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1			Témoin positif 1:10												
2	Temperature gradient		48.5	48.9	50.1	51.9	54.0	56.0	58.0	60.0	62.1	63.9	65.1	65.5	48.5
3	N°tubes	Batch	1	2	3	4	5	6	7	8	9	10	11	12	13
4	eau	new	11,5	11,5	11,5	11,5	11,5	11,5	11,5	11,5	11,5	11,5	11,5	11,5	11,5
5	MgCl2	114(A2)	2	2	2	2	2	2	2	2	2	2	2	2	2
6	Buffer	115(A5)	4	4	4	4	4	4	4	4	4	4	4	4	4
7	dNTP	new	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7
8	eukF-454 (Ci 10µM)	B9	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3
9	eukR-454 (Ci 10µM)	C9	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3
10	GoTaq	113(A1)	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
11	Vol. Prod		1	1	1	1	1	1	1	1	1	1	1	1	1
12	Vol. ds Tube		20	20	20	20	20	20	20	20	20	20	20	20	20
13															
14															
15															
16															
17															
18															

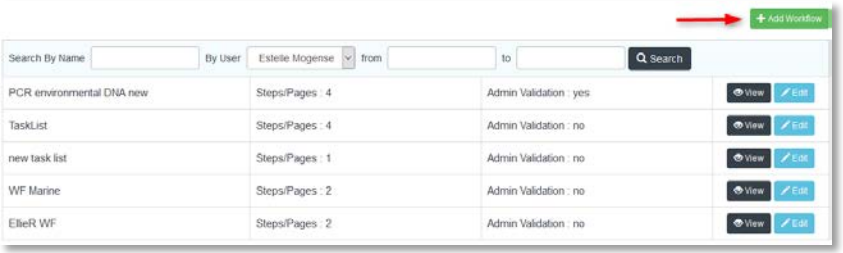
5-2. Workflows

A workflow is a sequence of connected steps that can be used in a work organization or a process. Workflows are useful for routine experiments, helping standardize writing of experiment reports to increase quality of lab activities.
A workflow is related to the **Experiment** level.

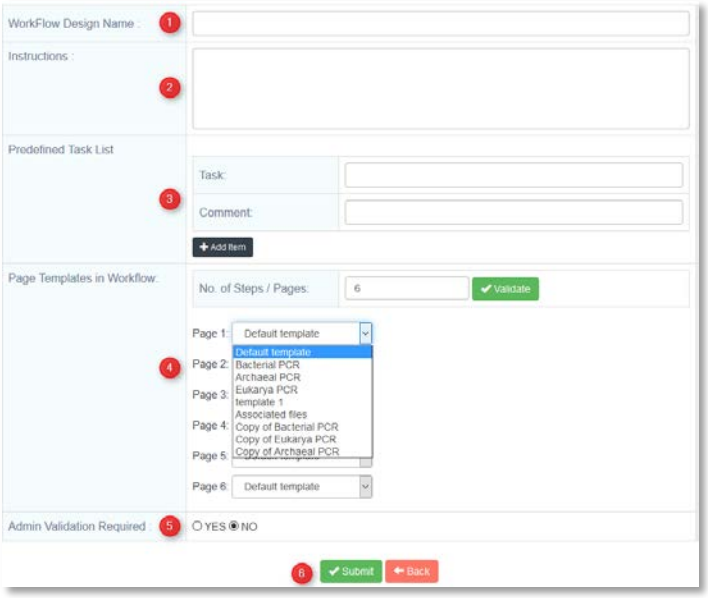
From the **ADMIN** menu users (depending of permissions, see section 3-1-1) can add/edit a workflow combining several pages (blank pages and/or templates) that will be applied in an experiment.

Before editing workflow, you need to define page templates if needed (chapter 5-1).

To create a workflow, click on **Add Workflow** on the top right.

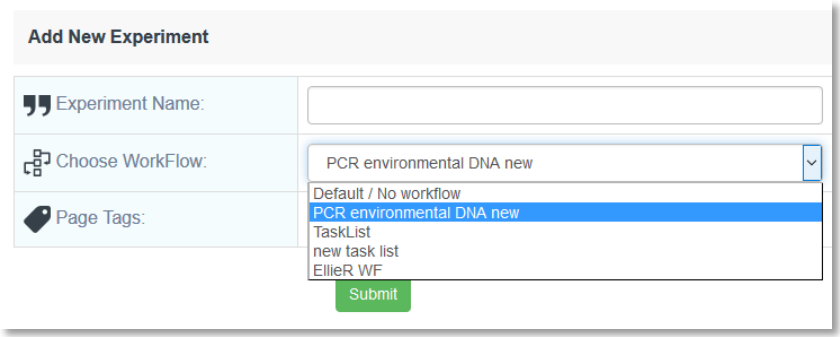


1. Give it a name
2. Instructions for user or description, if you want.
3. You can here listed tasks corresponding to the process. Named the task, add a comment if you want then click on **Add item**.
4. Choose the number of pages/steps describing your workflow and validate.
   If you want to associate a template to a page, choose for each page the template in the select list or default template if you want a “blank” page.
5. Workflow can required admin validation. If you check YES, the user can’t close a page. Only another administrator can validate and sign the page (see section 7-2-2).
6. Validate your workflow

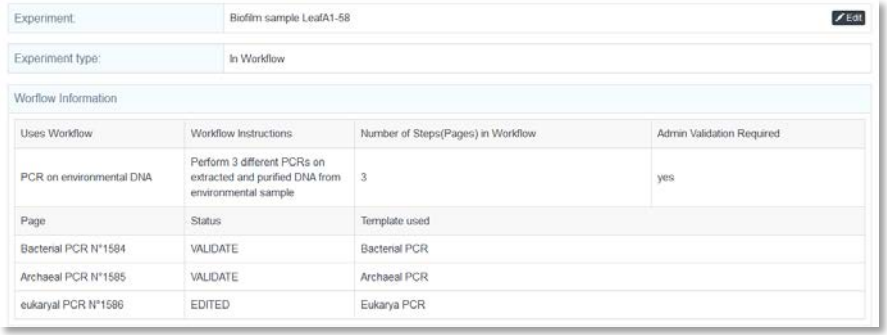


We recommend adding a couple of blank pages at the end of a workflow to avoid unexpected events even if length pages in the workflow are unlimited. So users will be able to add rectifications if signed pages contain errors or need additional information.

So, when you start an experiment, you just have to select the appropriate workflow in the list.



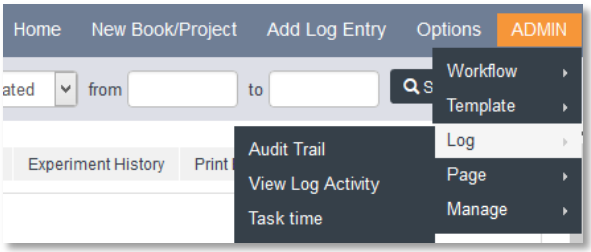
Your experiment details page will have a new section about workflow information.



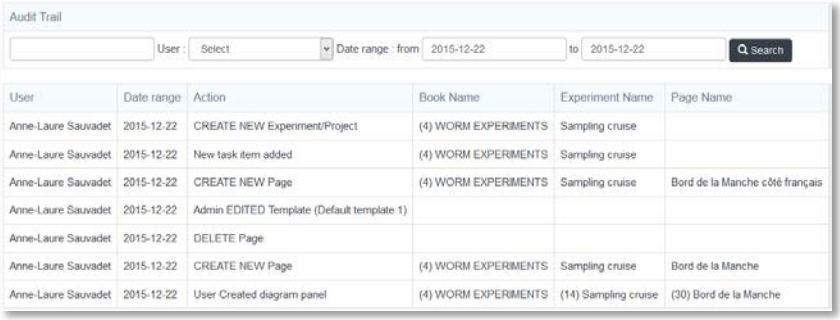
The creation of the pages in your experiment will be automatic, following the workflow.

6- AUDIT, LOG ACTIVITY AND TASK TIME

The audit function allows team leader to follow up users activities on the ELN.

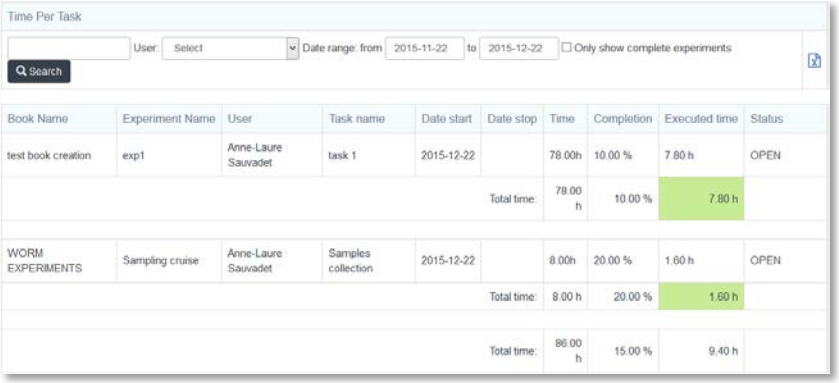


The **Audit Trail** displays all modifications done by the selected user, in a specific date range. Numerous actions are identified like page creation, edition, signing, link removal, etc.



The **View Log Activity** recorded the same information as Audit trail but only on the last 50 entries and without filtering.

The **Task Time** function allows you to visualize time required to perform project tasks. This report can be edited for a user, a period, and completed tasks. Export file is available with the excel icon on the right.
This feature is very useful for collecting task's time and user's time per project.



Time Per Task

User: Select Date range: from 2015-11-22 to 2015-12-22 Only show complete experiments

Search

Book Name	Experiment Name	User	Task name	Date start	Date stop	Time	Completion	Executed time	Status
test book creation	exp1	Anne-Laure Sauvadet	task 1	2015-12-22		78.00h	10.00 %	7.80 h	OPEN
					Total time:	78.00 h	10.00 %	7.80 h	
WORM EXPERIMENTS	Sampling cruise	Anne-Laure Sauvadet	Samples collection	2015-12-22		8.00h	20.00 %	1.60 h	OPEN
					Total time:	8.00 h	20.00 %	1.60 h	
					Total time:	86.00 h	15.00 %	9.40 h	

7- ELECTRONIC SIGNATURES

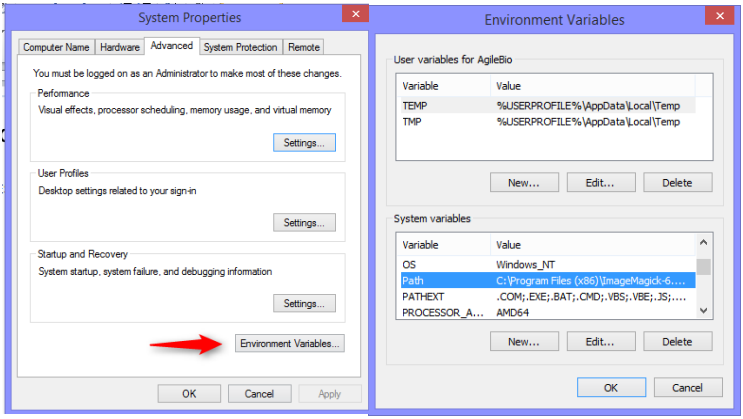
Validation with electronic signature certifies the ELN contents and all links between the ELN and LabCollector Database. Before using digital certificates, LabCollector need to be setup.

7-1. Manage Electronic Signatures

First activate OpenSSL and Curl on your PHP preferences:

- Windows: open **LabCollector Manager**, in **Settings > Configure Servers > PHP**, edit PHP.INI and uncomment (delete ;) the following extensions: extension=php_openssl.dll and extension=php_curl.dll.
- Mac: contact us for more information
- Linux: install PHP-OpenSSL and PHP-Curl rpms.

For Win32/64 users, in order for these extensions to work, two DLL files (libeay32.dll and ssleay32.dll) must be available to the Windows system PATH (System32 or SysWOW64). For information on how to do this, see [How do I add my PHP directory to the PATH on Windows].



Although copying DLL files from the PHP folder into the Windows system directory also works (because the system directory is by default in the system's PATH), this is

not recommended. PHP folder is located in the main LabCollector folder, for example: C:\Program Files (x86)\AgileBio\LabCollector\php.

PHP will search for the *openssl.cnf* using the following logic:

- The OPENSSL_CONF environmental variable, if set, will be used as the path (including filename) of the configuration file.
- The SSLEAY_CONF environmental variable, if set, will be used as the path (including filename) of the configuration file.
- The file *openssl.cnf* will be assumed to be found in the default certificate area, as configured at the time that the openssl DLL was compiled. This is usually means that the default filename is *c:\usr\local\ssl\openssl.cnf*.

Basically, just create the folder C*:\usr\local\ssl* (folder usr then local then ssl) and copy *openssl.cnf* provided in \LabCollector\php\extras.

7-2. Use electronic Signatures

7-2-1. Manage Certificates

Go to **ADMIN > Manage > Digital Certificates**.

From this page, the administrator can create and manage all digital certificates. Click on **Create new user certificate and keys** at the top left.

All fields are required to create the certificate.

A certificate is unique and related to only one user. Once submitted, user profile is displayed on the screen. Three keys are created:

- Private Key
- Public Key

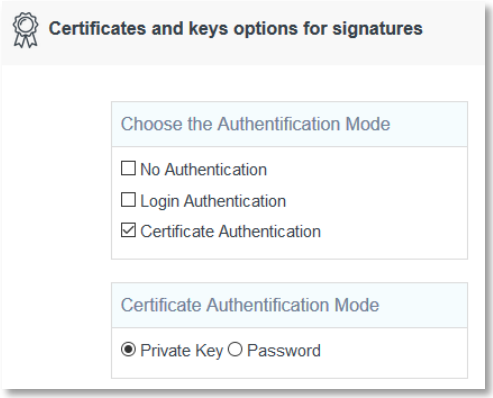
- CSR (Certification Signing Request)

A signature image can easily be attached to the certificate. Just download it using  icon.

A certificate is valid during one year. It can be renewed by a simple click on **RENIEW** button.

Authentication can be configured at this stage via **ADMIN > Manage > Digital Certificates Options**:

- No authentication (no password, no certificate needed)
- Login Authentication: authentication with your LabCollector login
- Certificate authentication
    - By password: authentication with the password generated when you create your digital certificates
    - Or by private key: authentication with the private key file saved in ***.pem*** and the certificate password

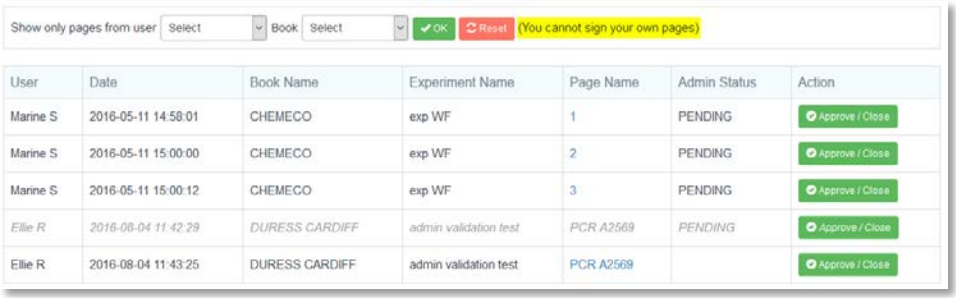


7-2-2. Page validation and signing

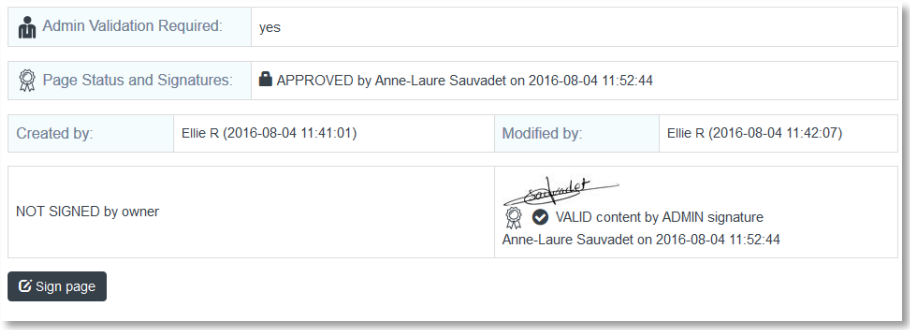
Workflows are edited with two options: page validation/signing or not as it was describe before (Chapter 5-2).

To valid and sign workflow pages, go to **Admin > Page > Page Validation & Signing**.

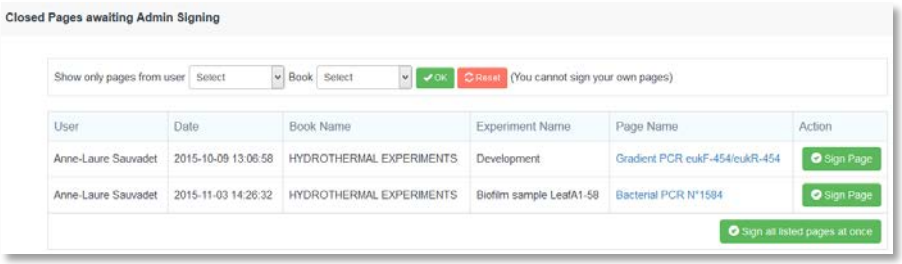
A list of all pages that need to be approved/closed is displayed. The administrator can approve pages only if it's required by the workflow.
The approval is indicated by a name and a date in the bottom of the page. When a page is validated, **no changes are possible**.



Once the administrator Approve/close the page, the user/owner can sign the page too. The certification process of the document is complete.



Administrators that can sign are the same users define as PI in section **Advanced Permissions**. They can find a list of all pages to sign in **Admin > Page > Page Signing**.



8- UPGRADING AND UPDATING

To update or upgrade the **ELN Add-on** module, just download it from our website (www.labcollector.com). Then, unzip the folder and paste files in the following folder:

```
Programs\AgileBio\LabCollector\www\lab*\extra_modules\eln
```

*The name of this folder is the laboratory nickname chosen during LabCollector installation.

http://www.labcollector.com **sales@agilebio.com**

AgileBio USA
1133 Broadway
Suite 706
New York, NY 10010
USA
Tel: (347) 368 1315
Fax: (800) 453 9128

http://www.agilebio.com

AgileBio Headquarters
75 rue de Lourmel
75015 Paris
FRANCE
Tel: 01 41 79 15 85
Fax: 01 72 70 40 22