Reaxys:
Where chemistry adventures begin!

Katarzyna Gaca, Ph.D.
katarzyna@gaca.cat

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Agenda

- Elsevier: general information
- How to navigate in an ocean of information?
- How is Reaxys different?
- Articles on-line today...and tomorrow!
- Chemistry research – what do you need to know?
- Reaxys – let's search!
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- Who uses Reaxys? What do our customers say?
- Development plans
- Summary

Elsevier: general information

- Publishing House Elzevir was established in 1580 by Lowys Elzevir at the Leiden University in the Netherlands.

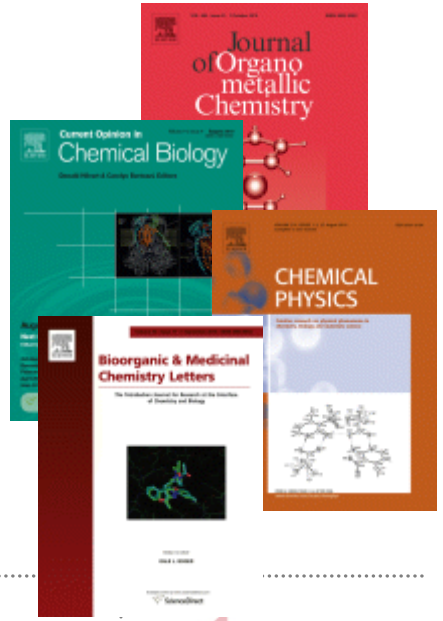
- Following the publishing traditions established by Lowys Elzevir, Jacobus George Robbers started the present Elsevier publishing house in 1880.

- Among many authors associated with Elsevier one can find Galileo, Erasmus, Descartes, Alexander Fleming, Julius Verne...

Elsevier: general information

- Organic chemistry
- Inorganic chemistry
- Organometallics chemistry
- Bio-organic and medical chemistry
- Physical and theoretical chemistry
- Spectroscopy
- Analytical chemistry
- Colloid and interface science
- Electrochemistry
- Sensors

- 30 000 new articles annually
- 50 – 70 new books



How to navigate in an ocean of information?

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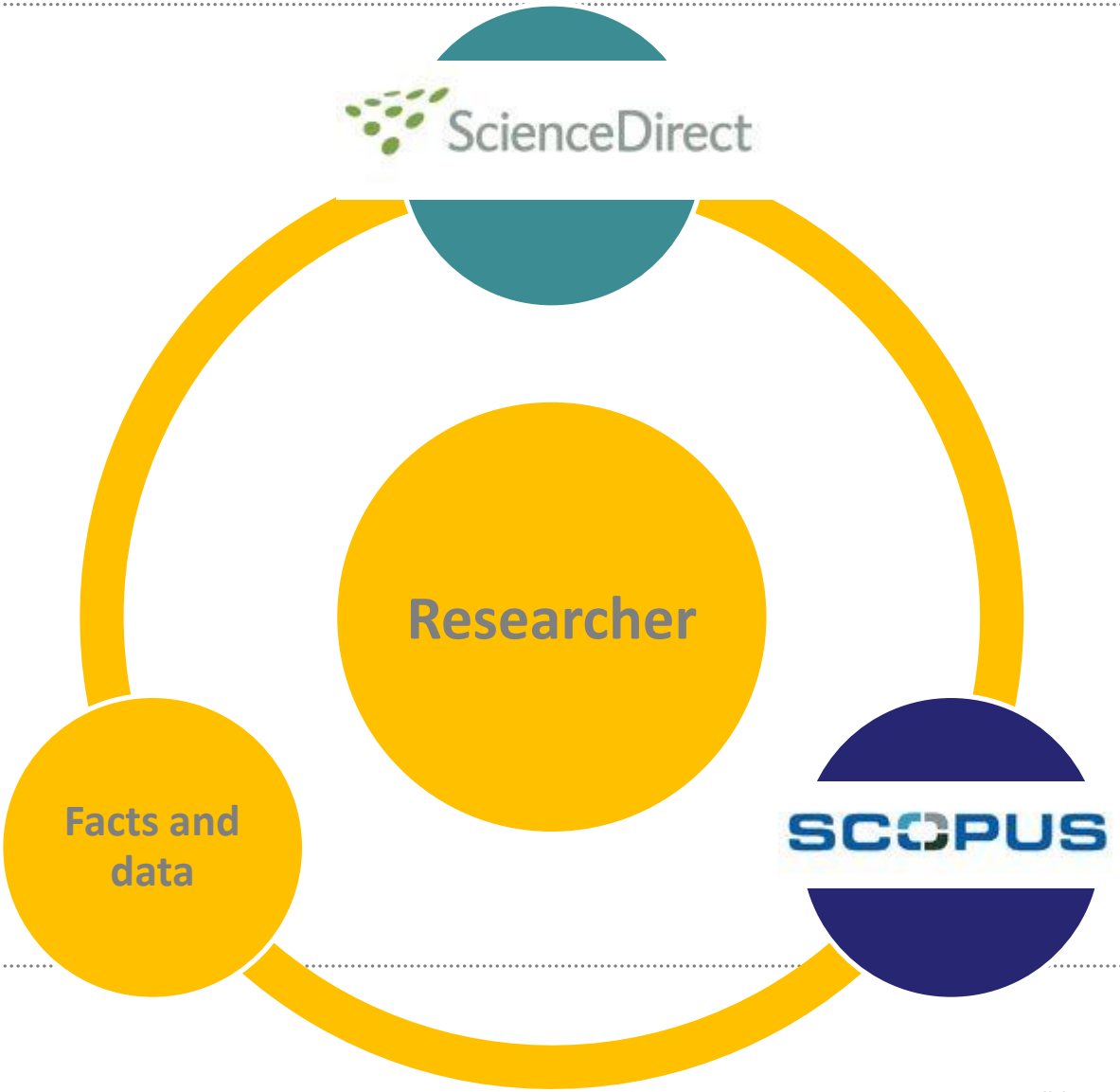

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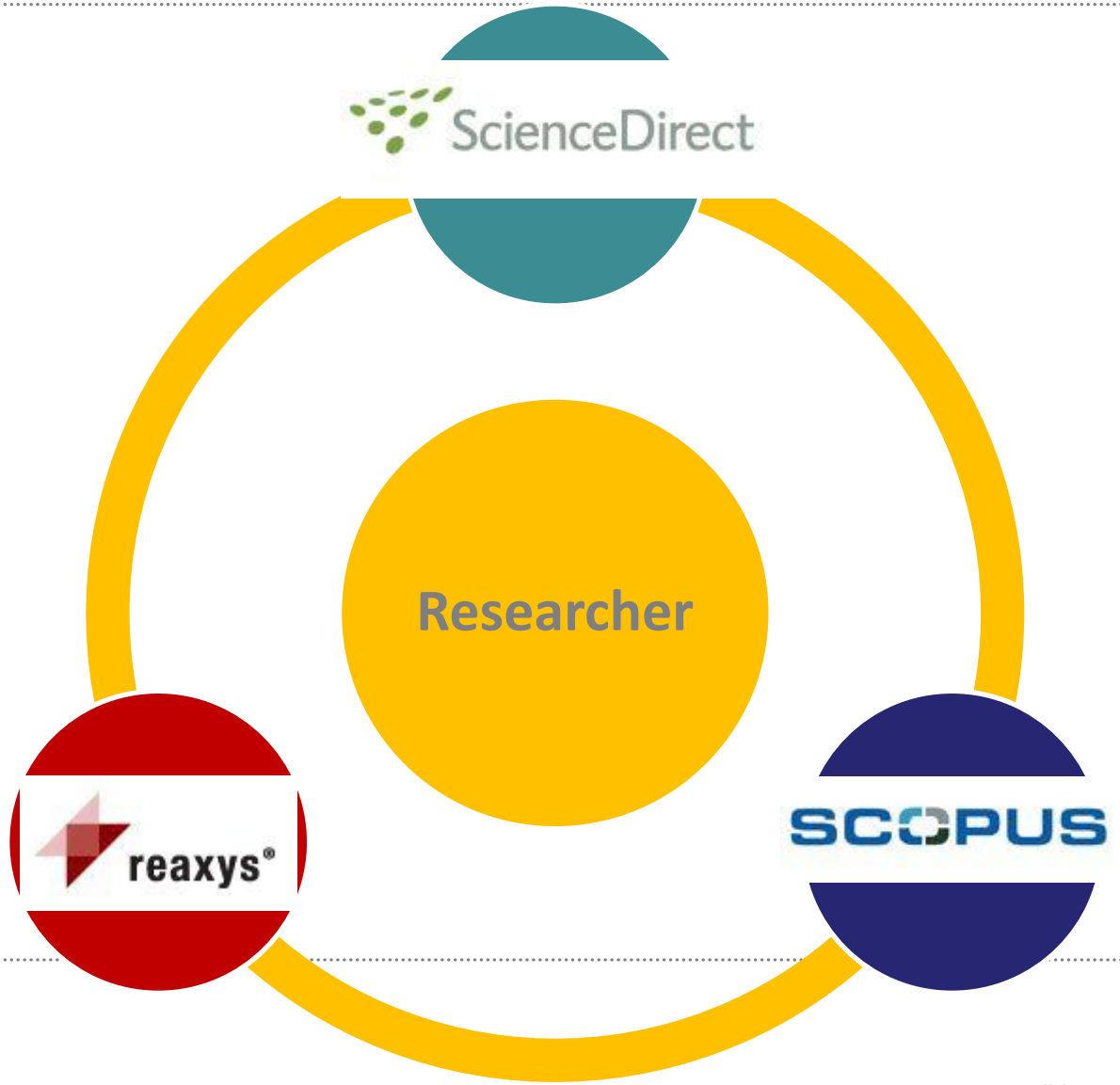


How is Reaxys different?

- Actionable, reliable and relevant physical, chemical and bioactivity data, collected from journals and patents
- Allows to efficiently develop synthesis strategies, to evaluate and compare them with alternative routes, and thus to create a comprehensive synthesis plan
- Relevant information regarding commercial availability, including pricing and information about suppliers – all within Reaxys

Articles on-line today..

Synthesis of unnatural pentahydroxylated pyrrolizidines: 5-*epi*- and 5,7a-di-*epi*-hyacinthacine C_1

Juan A. Tamayo[a], Francisco Franco[a] and Fernando Sánchez-Cantalejo[a]

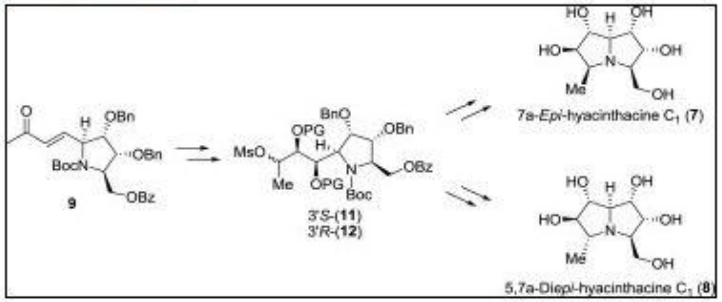
[a] Department of Medicinal and Organic Chemistry, Faculty of Pharmacy, University of Granada, 18071 Granada, Spain

Received 9 June 2010; revised 9 July 2010; accepted 9 July 2010. Available online 16 July 2010.

Abstract

Stereocontrolled synthesis of 5-*epi*- and 5,7a-di-*epi*-hyacinthacine C_1 (**7** and **8**), two potential glycosidase inhibitors are described using α,β-unsaturated ketone **9** as homochiral starting material. The key step in the synthesis is the highly diastereoselective dihydroxylation reaction of **9**, that allows the obtention of a single bis-hydroxylated ketone (**10**). Further derivatization into two epimeric mesylate esters followed by internal cyclization form the pyrrolizidinic compounds **7** and **8**. This type of compounds can be useful in glycobiology due to their ability to inhibit carbohydrate-processing enzymes.

Graphical abstract



Author's Key Structures in this Article

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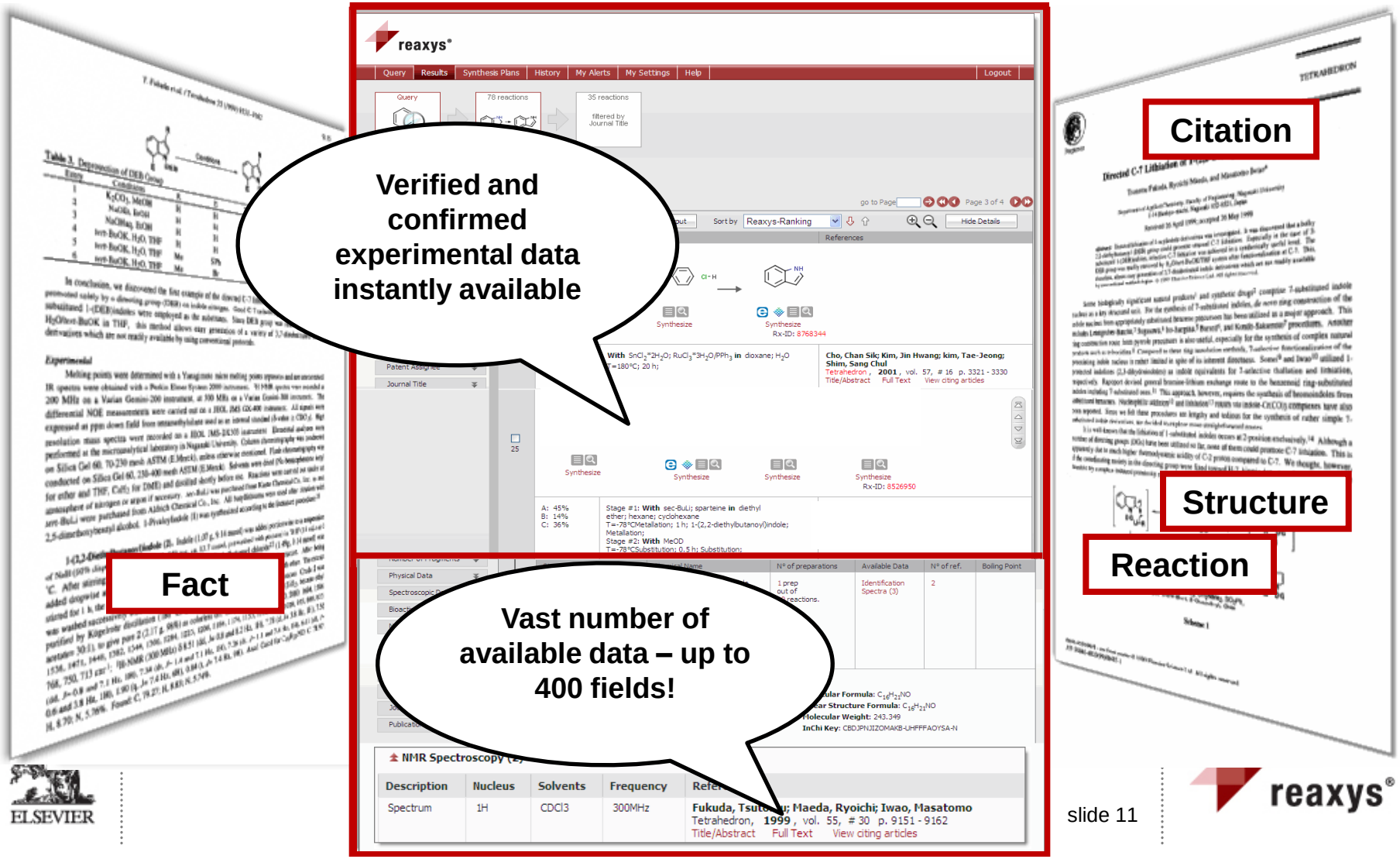
...and tomorrow!

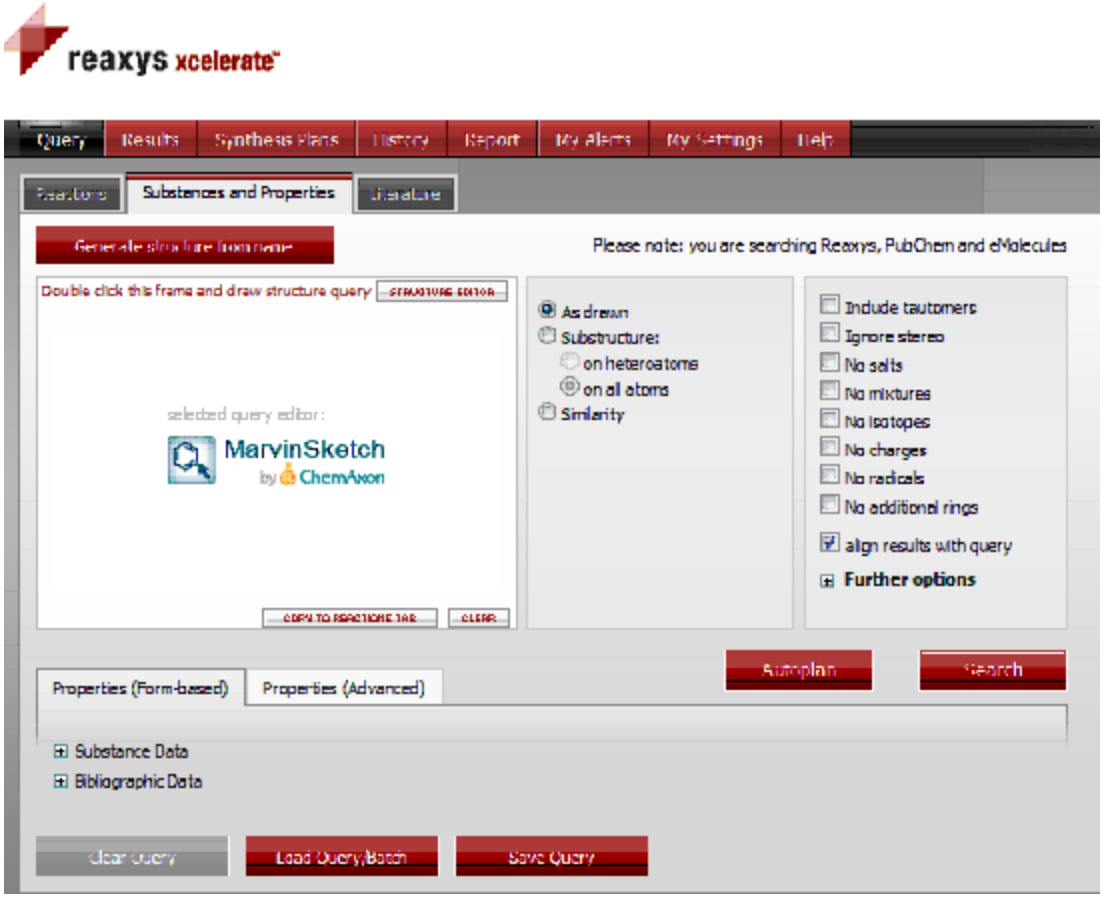


Chemistry research – what do you need to know?

Things you usually want to know when you start researching a new substance:

- How can it be synthesised?
- What are the reaction conditions, yields? Are any patents available?
- What are the starting materials? Do I have to purchase them or can I synthesise them on my own?
- How can I identify this substance? Is there any physical data or spectra available?
- Does this substance react with others? If yes, then with which? How does that happen – what are the conditions, what are the products?
- What are the practical applications of this substance? Is it bioactive?
- Are there any other substances of similar properties, and are these comparable?
- Where can I read more about this substance? Which are the key publications?

Reaxys – let's search!



Supporting your educational needs

Teaching → **Learning** → **Testing** → **Evaluating**

Faculty
"I need an easily digestible introduction to chemistry"

Faculty
"I need to explain the principles behind a reaction and show live examples"

Faculty
"I need reliable references and easy access to experimental data for effective class preparation"

Librarian
"I need a simple system to introduce chemistry information search principles"

PhD organic/inorganic chemist
"I need a system where I can put into practice learning in practical lab work"

Department Head
"I need greater student retention in chemistry programs"

Student
"I need something to make sense of chemistry"

Librarian
"I need researchers in my institution to have access to the best possible chemistry information"

Who uses Reaxys?

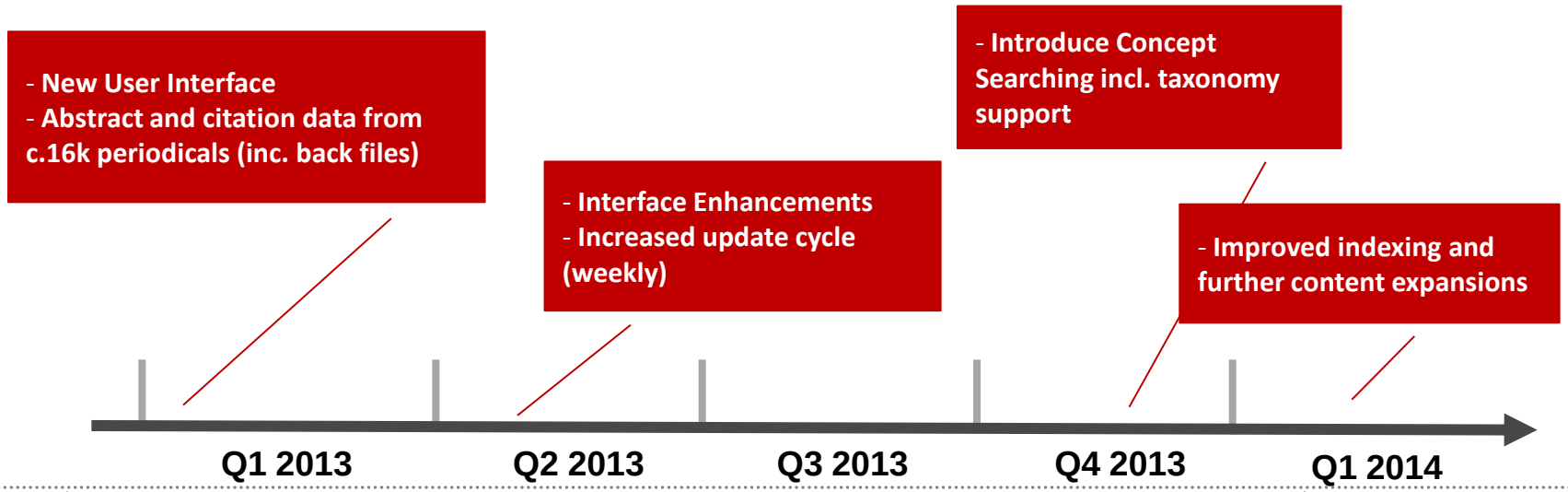
Reaxys is used by over 1000 universities and research institutions, including majority of the universities which are in the top 50 ARWU list. These are – among many others:

University of California, Berkeley
Harvard University
University of Cambridge
Stanford University
Massachusetts Institute of Technology (MIT)
University of Oxford

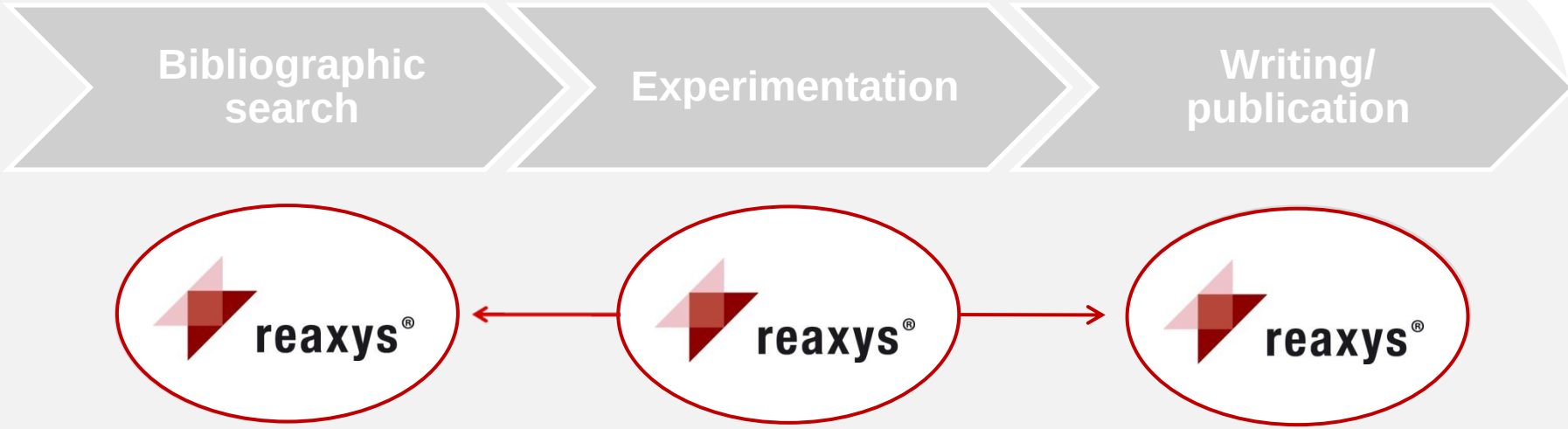
...and of course Semmelweis University!

Reaxys development

Current coverage	2013 onwards
400 journals	15,973 periodicals: chemistry, life sciences, engineering, pharmacology, environmental sciences & more (including journal articles, book series & conference proceedings)
Relevant chemistry patents	Relevant chemistry patents
Historical data (from 1771)	Historical data (from1771)



Reaxys development



Project initiation
Concept searching, topic identification, literature search, identify partners/collaborators/ competitors, evaluate potential risk/benefit, novelty check

Project progress
Find ways how to make compounds, solve daily problems, modify experiments, use experimental data to verify results

Project end
Last novelty check, confirm findings, prepare publication/report, ongoing status monitoring

Summary

Reaxys is a very broad and deep repository of experimental, verified and reliable reaction and substance data.

- Exact data within your reach – all in one place
- Shorter time spent on searching and reading full-text articles and patents – irrelevant and unreliable data is rejected
- Efficient access to relevant, actionable results
- No limits on the number of users
- Access via web browser – from your institution or home: www.reaxys.com

Thank you kindly for your attention!

I will be happy to answer your questions.

Contact: Dr inż. Katarzyna Gaca, katarzyna@gaca.cat

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