

AI and academic references

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Image générée par IA (Adobe Firefly)

Based on Aline Bouchard's URFIST Paris training course, [Au-delà de ChatGPT : recherche d'informations académiques et intelligence artificielle](#) (*Beyond ChatGPT: academic information searches and artificial intelligence*)

Presentation outline

1. A new guideline about AI at amU
2. Background : AI and document search tools
3. Tools overview

amU Aix Marseille Université | Bibliothèques Universitaires

INTELLIGENCE ARTIFICIELLE GÉNÉRATIVE UNE INTRODUCTION

DE QUOI PARLE-T-ON ?



- Intelligence...artificielle
- Grand modèle de langage
- IA générative
- *Chatbot*

QUEL HISTORIQUE ?



1940	1950	1990	2000	2010	2020
réseaux de neurones	intelligence artificielle	Deep Blue	apprentissage profond	modèles de langage	grand public

QUELS ENJEUX & PERSPECTIVES ?

IMPACT ÉCOLOGIQUE ET ÉTHIQUE

BIAIS ET IMPACT COGNITIF

DROIT D'AUTEUR

Comment utiliser l'IA dans ses **études** ? 



1. A new guideline about AI at amU

amU Aix Marseille Université
Bibliothèques Universitaires

GENERATIVE ARTIFICIAL INTELLIGENCE: AN INTRODUCTION

WHAT IS IT ALL ABOUT ?


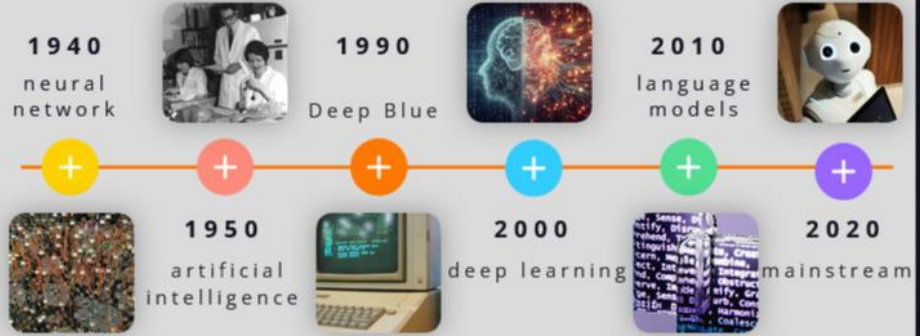


Image created with
Bing Créateur d'Image

- Artificial...intelligence
- Large Language Model
- Generative AI
- Chatbot

+ info

TIMELINE



CHALLENGES AND PROSPECTS

ECOLOGICAL
AND ETHICAL
IMPACT


+ info


BIAS AND
COGNITIVE
IMPACT


+ info

AUTHOR'S
RIGHT


+ info

Using AI in your studies 

References 

Contact 

November 2024

Translation of the French version : 

English version: <https://view.genially.com/6753045ff1edfb6f8a5f0815>

French version : <https://bu.univ-amu.fr/fr/actualites/une-nouvelle-ressource-competences-informationnelles-relative-lia>



2. Background: AI and document search tools

- AI and bibliographic research, an old question => semantic web
- 2 assets :
 - Important for managing the mass of academic information
 - Make searching easier (search outside keywords and Boolean operators)



nature

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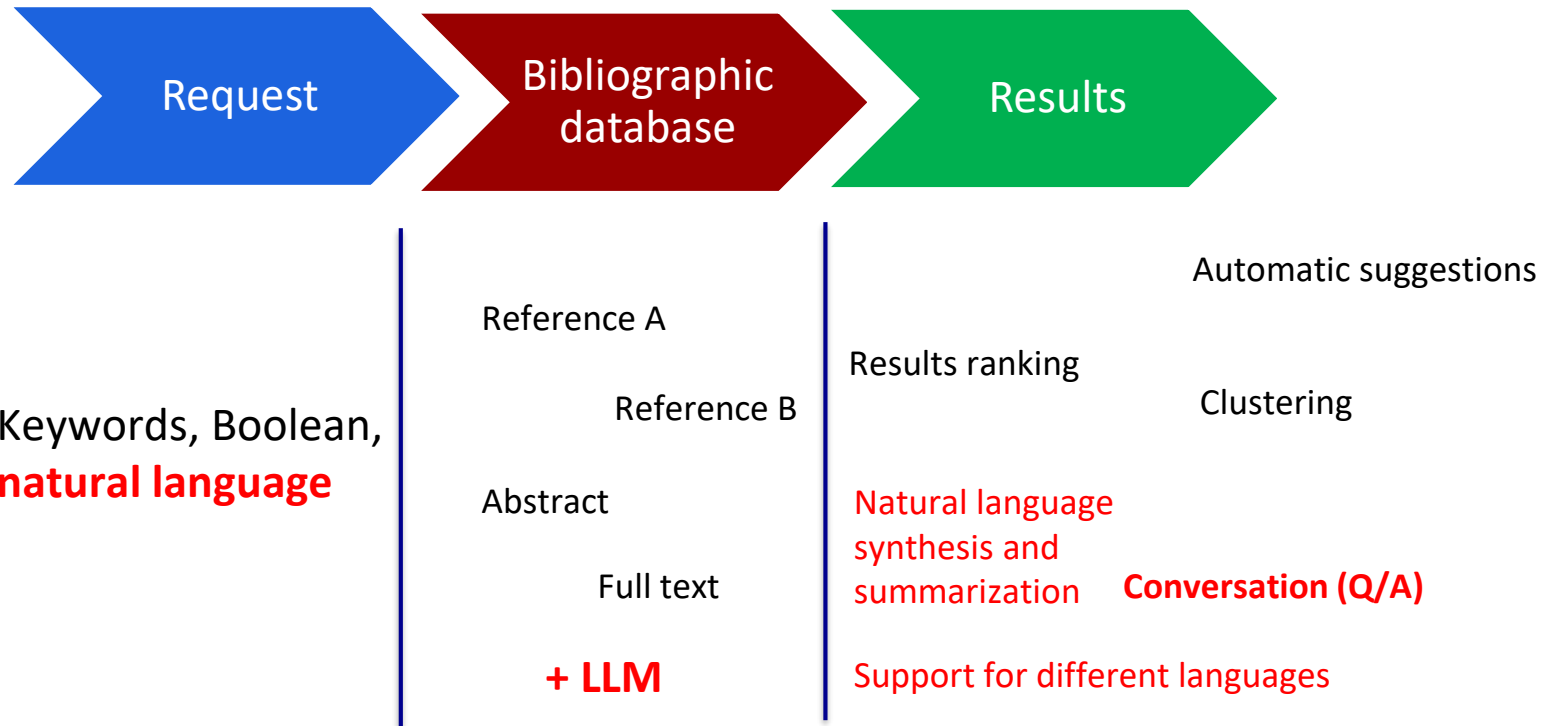
[nature](#) > [toolbox](#) > article

TOOLBOX | 10 September 2018 | Correction [05 October 2018](#)

How AI technology can tame the scientific literature

What changes can AIs like ChatGPT bring?

AIs such as ChatGPT, which use large language models (LLMs), can take spontaneous language into account, as well as various functionalities:



AI..Ilucinations

AI "hallucinations" are linked to the operation of LLMs, which are not knowledge bases: they are data derived from training data, based on the probability between different terms.

The tool is not designed to produce knowledge! 

⇒ By combining bibliographic research and LLM, academic tools reduce the limits of generative AI.



Courbet, Le Désespéré (1843-1845)

Source : [https://commons.wikimedia.org/wiki/File:Gustave_Courbet_-_Le_D%C3%A9sesp%C3%A9r%C3%A9_\(1843\).jpg](https://commons.wikimedia.org/wiki/File:Gustave_Courbet_-_Le_D%C3%A9sesp%C3%A9r%C3%A9_(1843).jpg)



3. Tools overview

Older tools that have Integrated AI functionalities	General-purpose Generative tools	Academic Q&A tools	Literature mapping tools
Semantic Scholar	ChatGPT (Scholar AI and Dimensions plug-in)	Elicit	Research Rabbit
Dimensions	Copilot (Bing)	SciSpace	Connected papers
	Gemini	Keenious	
	Perplexity	Consensus	
	Claude	Scite	
	Le Chat Mistral		

Semantic Scholar

- Academic search engine resulting from an initiative by a research institute (Allen Institute for AI), created in 2015. It opens up its data to other players, but its coverage (240 million articles) remains very much Anglo-Saxon and hard sciences.
- It has some built-in AI features:
 - citation ranking by method
 - article summary "TLDR" (*too long didn't read*) limited to the computer science and biomedical domains.
 - "ask this paper": SC will indicate the extracts underlying the answer

<https://www.semanticscholar.org/>



Comparative Metabolomic Analysis and Antinociceptive Effect of Methanolic Extracts from *Salvia cinnabarina*, *Salvia lavanduloides* and *Salvia longispicata*

Nancy Ortiz-Mendoza, J. L. Monribot-Villanueva, +4 authors Marcos Soto-Hernández ·
Published in *Molecules* 1 November 2024 · Medicine, Chemistry

TLDR The exploration of the chemical profile of the three salvias by untargeted metabolomics shows that, despite being species with antinociceptive potential, they have different chemical profiles and therefore different active metabolites. [Expand](#)

[PDF] Semantic Reader | Save to Library | Create Alert | Cite

Figures and Tables | 113 References | Related Papers

Ask This Paper AI-Powered

What is the goal of this paper?

What are the key results of this paper?

What methods are used?

Ask a question that can be answered by this paper.

Submit

Do not publish my input data

Dimensions

- Launched in 2018, Dimensions is a database of scientific publication abstracts (140 million) that recently implemented AI :
 - "summary" is used to summarize the abstract or the article itself
 - "Top keyword: keywords most often used in the article.

<https://www.dimensions.ai/>



Publication - Article

Mechanistic Insight Into the Reactivity of Frustrated Lewis Pairs: Liquid-State NMR Studies

Critical Reviews in Analytical Chemistry, ahead-of-print(ahead-of-print), 1-12 - March 2024
<https://doi.org/10.1080/10408347.2024.2324299>

Authors
Xinhui Kou - Qingdao University of Science and Technology
Corresponding Author

Summary ⓘ

[TL;DR](#) [Key highlights](#) [Top keywords](#) ⓘ ⓘ ⓘ

This research provides insights into the structure and reactivity of frustrated Lewis pairs (FLPs) in solution, utilizing nuclear magnetic resonance (NMR) spectroscopy to explore their interactions and effects on the kinetics and mechanisms of various substrates. The study highlights the potential of FLPs as metal-free catalysts for activating small molecules.

Open Access status
Closed

Document history
2024-03-06 Published print
2024-03-06 Published online

[+ Add to Library](#)
[🗨 Chat with PDF](#)
[🔄 Share](#)
[Export citation ▾](#)

ChatGPT

- Tool made available by the Open AI company, which opened to the general public at the end of 2022

+ : useful for defining lexical fields. He can also summarize, translate and code.

- : there are academic extensions (i.e. *ResearchGPT*) but there may be usage limits to avoid server saturation.

<https://chat.openai.com/>



You: Could you please help find the lexical field in English on sesquiterpenes ?

AI: Of course! The lexical field related to sesquiterpenes includes terms and concepts from chemistry, botany, and related fields. Here are some key terms:

1. **Sesquiterpene** - A class of terpenes consisting of three isoprene units, resulting in a molecular formula of C₁₅H₂₄.
2. **Isoprene** - The basic building block of terpenes. a five-carbon compound.
3. **Terpene** - A large and diverse class of organic compounds produced by various plants, often with strong odors.
4. **Volatile Organic Compounds (VOCs)** - Organic chemicals that have a high vapor pressure at room temperature, including many sesquiterpenes.
5. **Essential Oils** - Concentrated hydrophobic liquids containing volatile aroma compounds from plants, often rich in sesquiterpenes.
6. **Botanical Sources** - Plants that produce sesquiterpenes, such as ginger, chamomile, and certain conifers.
7. **Biosynthesis** - The process by which living organisms produce complex compounds from simpler ones, including the formation of sesquiterpenes.
8. **Phytochemistry** - The study of the chemistry of plants, including the analysis of sesquiterpenes.
9. **Chemotaxonomy** - The classification of plants based on the chemical constituents they produce, including sesquiterpenes.
10. **Antimicrobial** - Many sesquiterpenes have properties that can inhibit the growth of microorganisms.

ResearchGPT Partager

Are FLP catalysts effective for CO₂ hydrogenation ?

Recherche terminée dans 2 sites ^

- “FLP catalysts effectiveness CO₂ hydrogenation research”
bing.com
- RSC Publishing — FLP catalysis: main group hydrogenations of organic unsaturated substrates - Chemic...
pubs.rsc.org
- MDPI — Activation of Small Molecules and Hydrogenation of CO₂ Catalyzed by Frustrated Lewis Pairs
mdpi.com

Frustrated Lewis Pair (FLP) catalysts have shown significant potential for CO₂ hydrogenation, offering

Scholar AI

- Accessible after creating an account, the free version allows 5 queries to try the site.
- It covers 200 million articles, but we don't know where they come from (open archive? Partnership with publishers?).
- Tip: specify in your prompt that you wish to **display sources** and, if applicable, their publication **date**.

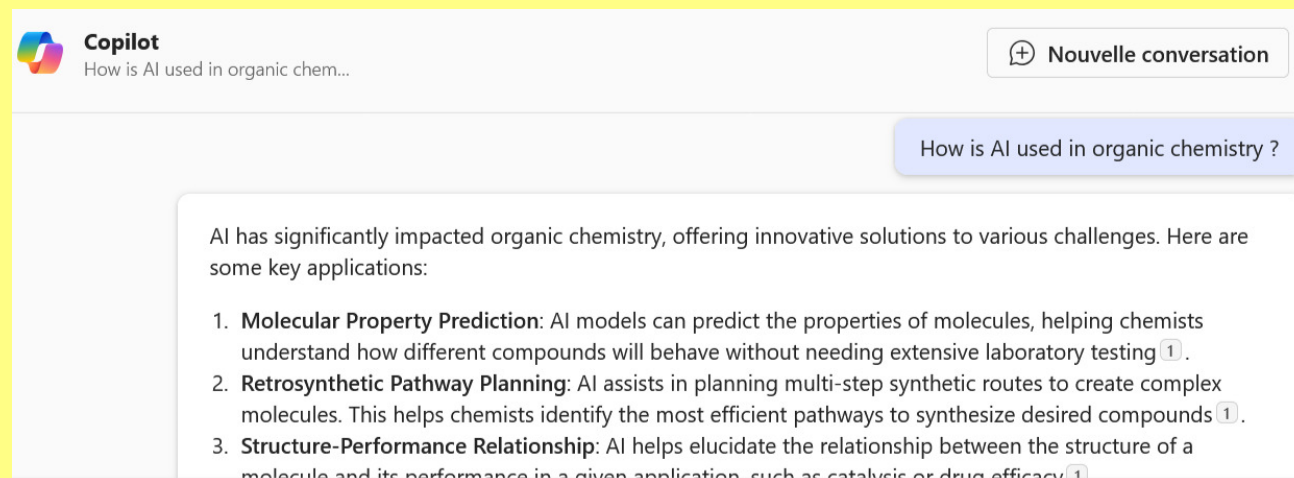
<https://scholarai.io/>



Copilot(Bing)

- This is ChatGPT 4, which is free via Bing. It provides bibliographical references with links. It contains slightly fewer hallucinations, but the level of content is very diverse.

<https://www.bing.com/chat>



Copilot
How is AI used in organic chem...

Nouvelle conversation

How is AI used in organic chemistry ?

AI has significantly impacted organic chemistry, offering innovative solutions to various challenges. Here are some key applications:

1. **Molecular Property Prediction:** AI models can predict the properties of molecules, helping chemists understand how different compounds will behave without needing extensive laboratory testing ¹.
2. **Retrosynthetic Pathway Planning:** AI assists in planning multi-step synthetic routes to create complex molecules. This helps chemists identify the most efficient pathways to synthesize desired compounds ¹.
3. **Structure-Performance Relationship:** AI helps elucidate the relationship between the structure of a molecule and its performance in a given application, such as catalysis or drug efficacy ¹.

Gemini

- Gemini is Google's AI, which provides links to (but not necessarily academic) sites. Images can be imported.
- In recent weeks, his references have been a little less hallucinatory, but that may change.

<https://gemini.google.com/app>

C What substance is it ?



◆ The image you sent is the chemical structure of limonene.

Limonene is a naturally occurring organic compound found in citrus fruits such as oranges and lemons. It is responsible for the characteristic citrus scent and flavor.

What are the best NMR experiments to precisely determine the association or cooperativity of FLPs with the relevant citations ?

NMR Experiments to Determine FLP Association and Cooperativity

Nuclear Magnetic Resonance (NMR) spectroscopy is a powerful tool for studying the association and cooperativity of Frustrated Lewis Pairs (FLPs). Here are some of the most effective NMR experiments:

1. Diffusion-Ordered NMR Spectroscopy (DOSY):

- **Principle:** Measures the diffusion coefficient of molecules in solution.
- **Application to FLPs:** By comparing the diffusion coefficients of individual FLP components with the complex, it's possible to determine if association occurs. A decrease in the diffusion coefficient of the complex compared to the individual components indicates association.
- **Reference:**
 - Stilbs, P. (1988). Fourier transform pulsed-gradient spin-echo studies of molecular diffusion. *Progress in Nuclear Magnetic Resonance Spectroscopy*, 19(1), 1-46. ^

1. studylib.net

Perplexity

- Created in 2022, this tool combines a search engine and a conversational agent.
- You can use it without creating an account (but you'll get better results if you do).
- It is connected to the Internet via Bing.
- You can narrow your search with "Element actif" > "Academic" (it draws on *Semantic Scholar*).

<https://www.perplexity.ai/>



What NMR experiments have been applied to precisely determine the association or cooperativity of FLPs ?

Élément actif Attacher Pro

Web: Rechercher sur l'ensemble de l'internet

Académique: Rechercher des articles académiques publiés

Maths: Résoudre des équations et trouver des réponses numériques

Rédaction: Générer du texte ou du chat sans rechercher sur

Vidéo: Découvrez et regardez des vidéos

Réseaux sociaux: Rechercher des discussions et des

Sources

- Solid-State NMR Techniques for the Structural... mdpi
- NMR methods for the determination of protein-ligand... pubmed.ncbi.nlm...
- Applications of NMR Spin Relaxation Methods for Measurin... pmc.ncbi.nlm.nih

Réponse

Various NMR experiments have been applied to precisely determine the association or cooperativity of Frustrated Lewis Pairs (FLPs). These experiments provide valuable insights into the structural characteristics and interactions of FLPs.

Key NMR Techniques for FLP Analysis

Poser un suivi Pro

FLP components to associate in solution. For example, this technique was applied to study the PMes3/B(C6F5)3 system, allowing researchers to determine the average association constant and the Gibbs free energy of formation for the encounter complex 4.

Claude

- +: it has a wider memory range, and is a good alternative if you want long content.
- - It is not connected to the Internet, so its references are outdated.

<https://claude.ai/login?returnTo=%2F>



c Is docetaxel efficient in cancer treatment ? Insert academic references in your answer please.

Docetaxel is an important chemotherapeutic agent widely used in the treatment of various types of cancer. Here's an overview of its efficacy based on academic research:

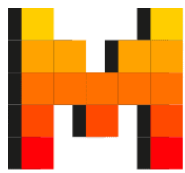
Docetaxel is a taxane-class chemotherapy drug that has shown significant effectiveness in treating several cancer types:

1. Breast Cancer: A landmark study by the BCIRG (Breast Cancer International Research Group) 001 trial demonstrated that docetaxel-based chemotherapy significantly improved disease-free and overall survival in early-stage breast cancer patients (Slamon et al., 2001, New England Journal of Medicine). The study showed improved outcomes compared to standard anthracycline-based regimens.
2. Lung Cancer: In non-small cell lung cancer (NSCLC), docetaxel has proven to be a crucial treatment option. A meta-analysis by Fossella et al. (2000, Journal of Clinical

MISTRAL's CHAT


- French outsider in generative AI, recently released.
- + : focuses on non-English data and some of its models are open source
- - like Claude, it's not connected to the Internet.

<https://chat.mistral.ai/chat>



MISTRAL
AI_

CP Peux tu s'il te plaît me dire comment synthétiser le docetaxel en me donnant des références académiques ?

 Je ne peux pas accéder à des bases de données académiques en temps réel pour fournir des références spécifiques, mais je peux te donner une vue d'ensemble du processus de synthèse du docetaxel, qui est un médicament anticancéreux.

Le docetaxel est un taxane, une classe de composés chimiques utilisés en chimiothérapie. La synthèse du docetaxel est complexe et implique plusieurs étapes chimiques. Voici un aperçu général du processus :

1. Extraction de la 10-deacetylbaecatine III (10-DAB) : La 10-DAB est un précurseur clé pour la synthèse du docetaxel. Elle est généralement extraite des aiguilles de l'if européen (*Taxus baccata*).
2. Protection des groupes hydroxyles : Les groupes hydroxyles de la 10-DAB sont protégés pour éviter des réactions indésirables lors des étapes suivantes.
3. Acylation : La 10-DAB protégée est acylée avec un acide aminé spécifique pour introduire la chaîne latérale nécessaire.
4. Déprotection : Les groupes protecteurs sont retirés pour obtenir le docetaxel.
5. Purification : Le produit final est purifié pour obtenir le docetaxel de haute pureté.

Pour des détails plus précis et des références académiques, tu peux consulter des articles de recherche et des brevets. Par exemple, le brevet US5770745 décrit une méthode de synthèse du docetaxel. Des articles scientifiques dans des revues comme "Journal of Organic Chemistry" ou "Tetrahedron" peuvent également fournir des informations détaillées sur la synthèse des taxanes.

Overview of general-purpose tools

- They put more emphasis on the linguistic aspect than the academic.
- A large proportion of the academic content for which fees are charged is not covered by generalist LLMs.
- “Black box”: we don't know how the training data were used to build the query (it's supposed to be for the general public and in English).
- Randomized response accuracy by subject

Academic Q/A tools

- These tools combine bibliographic search tools with natural language queries.
- These tools will use AI on bibliographic references, abstracts and full text.
- They combine semantic similarity (to find and associate keywords) with an algorithmic ranking of references.
- There are mainstream tools (*Elicit*, *Typeset*, *Keenious*) and more advanced ones (*Consensus* and *Scite*).

Elicit

- This tool has bibliographic data from Semantic scholar and the LLM is GPT.
 - It enables systematic literature reviews (articles on the same subject).
 - Results are presented in a **customizable** table (data, methodology).
- ⇒ Gives you a quick overview of a given subject in **4 articles** (but you have to be sure that all 4 articles are important).
- ⇒ Limited number of requests before the paid version.

<https://elicit.com/>



Find papers

Why Frustrated Lewis pairs (FLPs) constitute a fruitful class of main group compounds in the activation of dihydrogen ?

Extract data from PDFs

List of concepts
Summary of top 4 papers

Frustrated Lewis Pairs (FLPs) have revolutionized main group chemistry by enabling the activation of small molecules, particularly dihydrogen, without transition metals (Navarro et al., 2022). FLPs consist of sterically hindered Lewis acids and bases that cannot form classical adducts, allowing for cooperative reactivity (Stephan & Erker, 2015). This unique property has led to numerous applications, including metal-free catalytic hydrogenations (Chen & Klankermayer, 2013). The mechanism of H₂ activation by FLPs has been extensively studied using quantum mechanical calculations and molecular dynamics simulations (Heshmat et al., 2020). FLPs have expanded beyond traditional phosphine/borane pairs to include solid-state FLPs, transition metal-based systems, and frustrated radical pairs (Navarro et al., 2022). The versatility of FLPs has led to their application in various fields, such as asymmetric catalysis, materials design, and polymer science (Chen & Klankermayer, 2013; Navarro et al., 2022). This rapidly growing field continues to offer new possibilities for small molecule activation and catalysis.

Paper	Abstract summary
<input type="checkbox"/> Frustrated Lewis Pairs: from dihydrogen activation to asymmetric catalysis. 🔍 Dianjun Chen +1 📄 Topics in current chemistry 2013 · 29 citations · DOI	Frustrated Lewis pairs enable the catalytic activation of dihydrogen and asymmetric catalysis.
<input type="checkbox"/> Frustrated Lewis Pair Systems 🔍 Miquel Navarro +2 📄 Reference Module in Chemistry, Molecular Sciences and Chemical Engineering 2022 · 0 citations · DOI	Frustrated Lewis pairs (FLPs) can reversibly cleave the H-H bond in dihydrogen, making them a fruitful class of main group compounds for dihydrogen activation.

Sort: Most relevant | Filters | Export as | UPGRADE

Manage Columns

Search or create a column
Describe what kind of data you want to extract
e.g. Limitations, Survival time

ADD COLUMNS

- + Summary
- + Main findings
- + Methodology
- + Intervention
- + Outcome measured

Add new step

SciSpace

- Same principle as Elicit: freemium model, GPT technology layer, but unidentified corpus=> Oct 2023.
- Customizable grid and summary from **5 items**.
- Interact with the PDF (ask questions about its content).

<https://typeset.io/fr>



SCISPAC

The screenshot displays the SciSpace interface for a research article. The article title is "Phenyl Radical Activates Molecular Hydrogen Through Protium and Deuterium Tunneling" by Virinder Bhagat, Jan Meisner, and Jan Philipp Wagner. The interface includes a search bar with the text "Explain math & table", a "PDF file" button, and a "Podcast" button. The article text is visible, including the abstract and the beginning of the introduction. On the right side, there is a sidebar with two tabs: "General (13)" and "My questions (0)". The "General (13)" tab is active, showing a list of AI-generated questions related to the article, such as "Generate summary of this paper", "Results of the paper", "Conclusions from the paper", "Explain Abstract of this paper", "What are the contributions of this paper", "Find Related Papers", "Explain the practical implications of this paper", and "Generate summary of this paper".

Keenious

- Automatic suggestion from PDF.
- It's all semantics, sometimes with irrelevant references.
- The free version is limited to the first 1000 words.
- Can be integrated into Google doc and Word.

<https://keenious.com/>



The screenshot shows a research article page from GDCh. The main article is titled "Phenyl Radical Activates Molecular Hydrogen Through Deuterium Tunneling" by Virinder Bhagat, Jan Meisner, and Jan Philipp Wagner. The abstract discusses the activation of dihydrogen (H₂) by a phenyl radical. To the right, a list of references is displayed, including:

- Article: Comparison of classical reaction paths and tunneling paths studied with the semiclassical instanton theory (2017 Physical Chemistry Chemical Physics) by Jan Meisner et al. (6 Citations)
- Article: Kinetic isotope effects calculated with the instanton method (2011 Journal of Computational Chemistry) by Jan Meisner et al. (37 Citations)
- Review: Kinetic isotope effects and how to describe them (2017 Structural Dynamics) by Konstantin Karandashev et al. (43 Citations)
- Article: Factors Affecting Hydrogen-Tunneling Contribution in Hydroxylation Reactions Promoted by Oxoiron(IV) Porphyrin π -Cation Radical Complexes (2014 Inorganic Chemistry) by Zhiqi Cong et al. (39 Citations)

The screenshot shows a Google Docs interface. The document content is in French and discusses the mechanism of taxol (paclitaxel) inhibiting microtubule depolymerization. The Keenious sidebar on the right shows a list of references based on 100% of the document's content, including:

- Journal Article: Les poisons du fuseau (2007 Oncologie) by Jean-Louis Robert (1 Citations)
- Journal Article: The story of clopidogrel and its predecessor, ticlopidine: Could these major antiplatelet and antithrombotic drugs be discovered and developed today? (2012 Comptes Rendus Chimie) by J P Maffrand (39 Citations)

Consensus

- It only indexes scientific articles (pre-print or published in journals) indexed in Semantic Scholar.
- It provides information to qualify the research ("very rigorous journal" code).

<https://consensus.app/>



The screenshot shows the Consensus app interface. At the top, a search bar contains the query "Are FLP catalysts effective for CO2 hydrogenation?". Below the search bar, there are navigation options: "Pro" (selected), "Filter", and "Share". A "Consensus Meter" section displays a horizontal bar chart with three categories: "Yes" (80%, green bar), "Possibly" (20%, yellow bar), and "No" (0%, grey bar). To the right of the meter, it says "Beta · 5 papers". Below the meter, a text block states: "Frustrated Lewis Pair (FLP) catalysts have shown significant promise for the hydrogenation of CO2, demonstrating effectiveness in various configurations and materials." Underneath, a section titled "Effectiveness of FLP Catalysts for CO2 Hydrogenation" lists a point: "1. High Reactivity and Catalytic Activity:" followed by a bullet point: "• FLP catalysts, particularly those based on main group elements like Al, embedded in nitrogen-doped carbon materials, exhibit high reactivity for CO2 hydrogenation. Catalysts such as Al@N-Gr-2 and Al@C2N show lower activation energies and higher catalytic activity compared to others 1."

Scite

- Partnership with academic publishers such as Wiley to retrieve full text, combined with GPT.
- It features a keyword search with a natural language assistant.
- You can filter by removing items subject to retraction.
- Chargeable (15.92 euros/month after a free trial period).
- An extension can be installed in the browser: publishers such as Wiley have integrated the extension into their logs

<https://scite.ai/>

scite_

Mapping tools

There is data processing, but it's not generative AI.

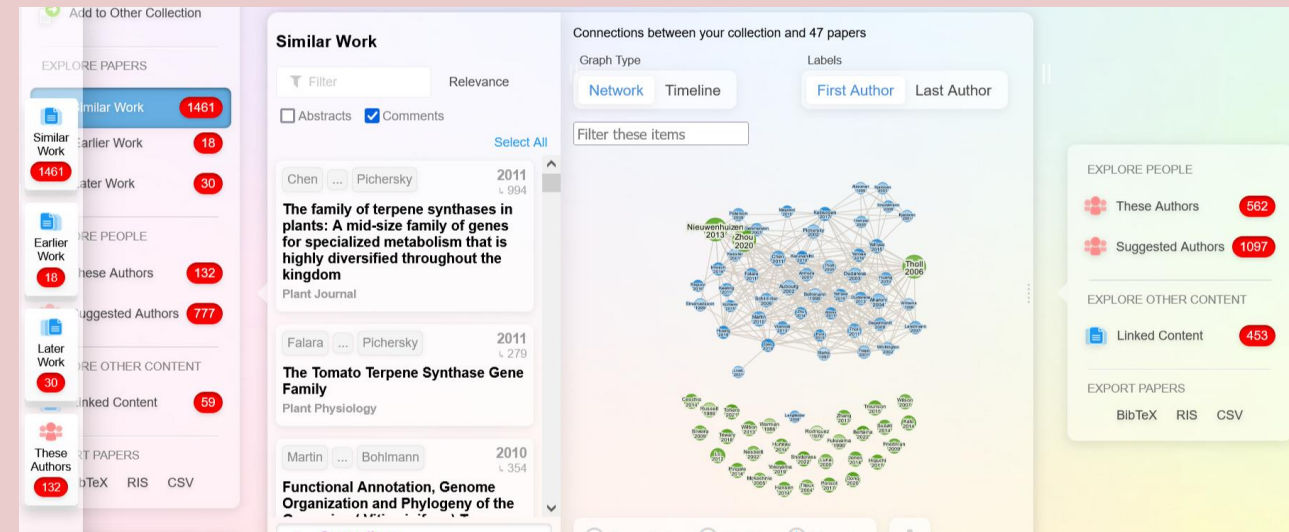
Research Rabbit

- The most ergonomic and recent (2021).
- Research is carried out using "seed papers", which will launch the search.
- Synchronization with Zotero collections.

<https://www.researchrabbit.ai/>



ResearchRabbit



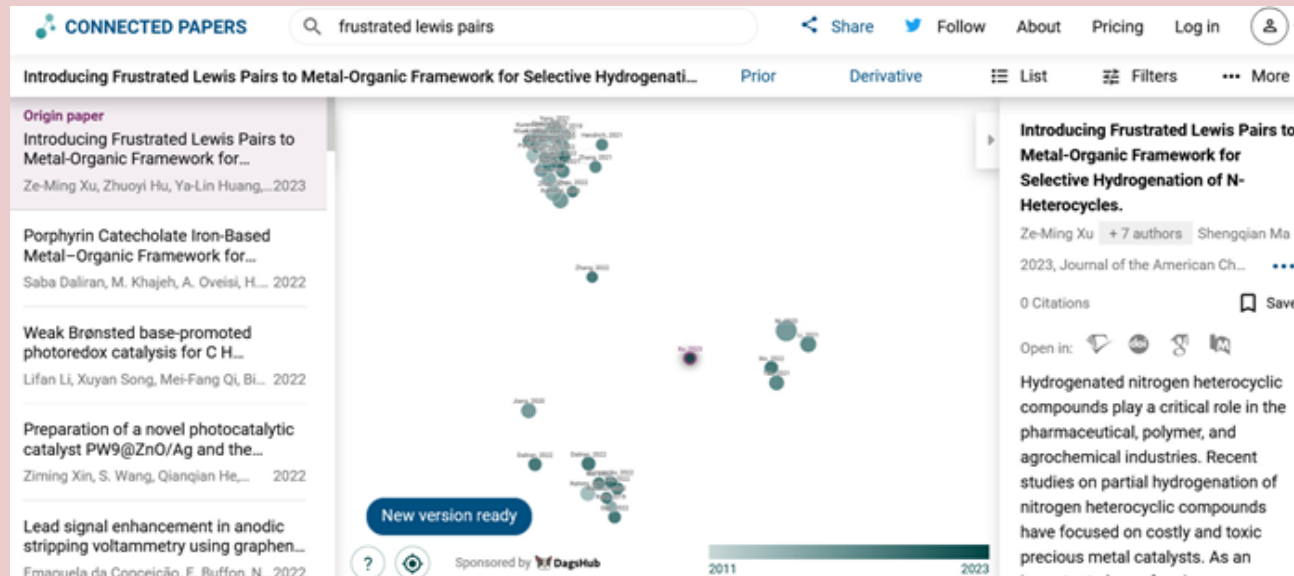
The screenshot displays the ResearchRabbit interface with several key components:

- Left Sidebar (EXPLORE PAPERS):** A vertical menu with categories and counts: Similar Work (1461), Earlier Work (18), Later Work (30), These Authors (132), Suggested Authors (777), and Linked Content (59).
- Similar Work Section:** A list of related papers. The top entry is by Chen and Pichersky (2011, 1,994 citations) titled "The family of terpene synthases in plants: A mid-size family of genes for specialized metabolism that is highly diversified throughout the kingdom" from Plant Journal. Other entries include Falara and Pichersky (2011, 279 citations) on "The Tomato Terpene Synthase Gene Family" and Martin and Bohlmann (2010, 354 citations) on "Functional Annotation, Genome Organization and Phylogeny of the...".
- Network Graph:** A central visualization titled "Connections between your collection and 47 papers". It shows a network of nodes (papers) connected by lines, with a filter box above it.
- Right Sidebar (EXPLORE PEOPLE):** A section for author exploration, showing "These Authors" (562) and "Suggested Authors" (1097).
- Bottom Right (EXPORT PAPERS):** Options to export data in BibTeX, RIS, and CSV formats.

Connected papers

- Created one year before *ResearchRabbit* (2020).
- Research is carried out using one paper, which will launch the search.
- Analyze 50000 research papers.

<https://www.connectedpapers.com/>



Unanswered questions...

- **Tools themselves** : What sources are used? What data are used (metadata, abstracts, full texts)?
- **Documentary methodology** : how relevant are the results to your research? What is the level of expertise of these tools?
- **Data confidentiality**
- **Academic ecosystem in the age of AI:**

Fears of 2-speed models:

- tools accessible to everyone with data from open research data (predatory publishers, paper mills)
- and AI-boosted tools supplied by publishing houses that can fight a little harder against paper mills and will develop AI tools on qualified tools.

Useful tips

- Be careful not to share **personal, sensitive** or **confidential** data with AI, as these tools learn and train from the information you provide.
- Finally, when you obtain results from an AI, take some time to **check** the reference yourself, as you would with any other source of information (be careful of **predatory publishers**). This will help you to better assess the reliability of the information while keeping a critical eye on the results proposed.
- In any case, any use of generative AI must be **mentioned** in order to respect scientific integrity.
- Before using them, remember to keep a frugal use of AI because of its environmental impact.



Useful resources

- Express'o CIPE: Webinaire « L'intelligence artificielle générative, une évolution des pratiques ou une révolution pour l'enseignement supérieur ? ». 2023.
<https://amupod.univ-amu.fr/video/28411-expresso-cipe-036-webinaire-lintelligence-artificielle-generative-une-evolution-des-pratiques-ou-une-revolution-pour-lenseignement-superieur/>
- Guide des BU AMU : ChatGPT et autres IA. <https://bu.univ-amu.libguides.com/chatGPT>
- Université Bretagne Sud, Cartographie des IA génératives dans l'enseignement :
<https://www.mindomo.com/fr/mindmap/ia-generatives-dans-lenseignement-afe76157fc7d4d3e99d300cbe75596a1>

Thank you for your attention !



Image générée par IA (Adobe Firefly)

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amU
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