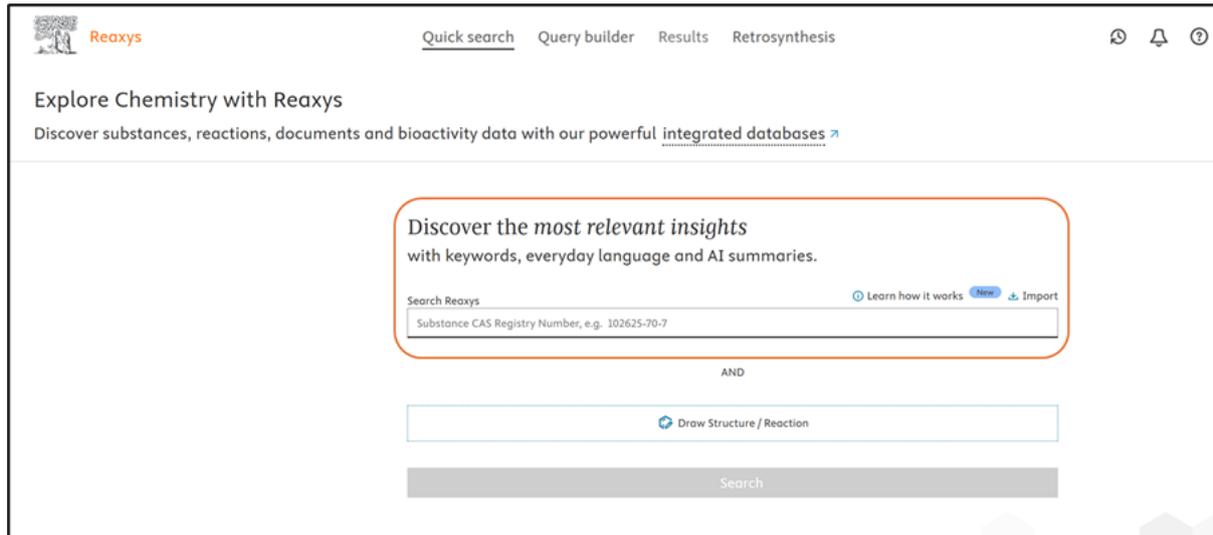


AI Destekli Hızlı Arama ve Literatür Özetleme

Reaxys artık, yenilenmiş kullanıcı arayüzüyle birlikte yapay zekâ destekli doküman arama ve literatür özetleme özelliklerini sunuyor. Bu geliştirmeler, kimyagerlerin ilgili literatürü daha verimli bir şekilde bulmasına, anlamasına ve doğrulamasına yardımcı olurken; Reaxys'i tanımlayan bilimsel titizliği ve güveni de desteklemektedir.

Hızlı Arama: Yapay Zekâ Destekli, Tanıdık İş Akışları

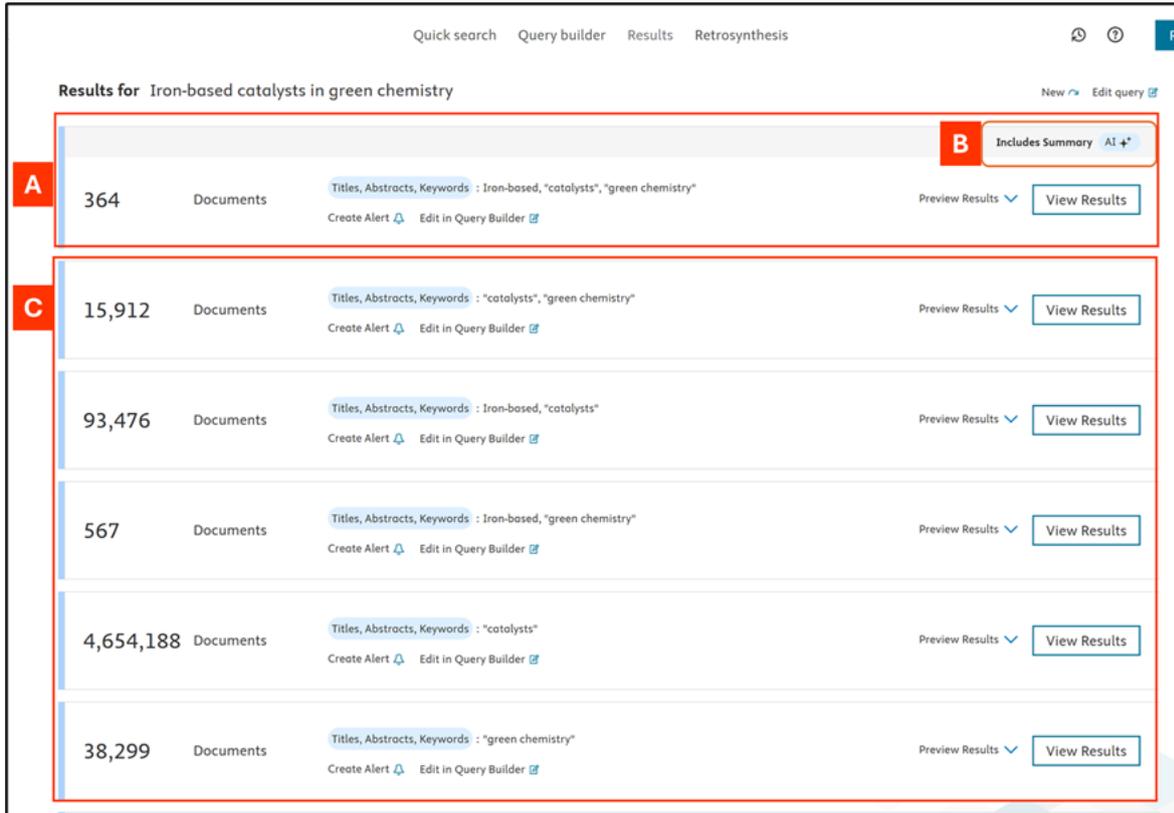
Hızlı Arama (Quick Search) artık hem anahtar kelime tabanlı hem de doğal dil sorgularını desteklemektedir. Mevcut çalışma şeklinizi değiştirmeden, kimya ile ilgili sorularınızı günlük dilde sorabilir ve sistem tarafından sıralanan en ilgili literatüre ulaşabilirsiniz. Mevcut yapı (structure) aramaları, özellik (property) aramaları ve Sorgu Oluşturucu (Query Builder) iş akışları kullanılabilir olmaya devam ederek yapay zekâ özelliklerini kendi hızınızda benimsemenize olanak tanır.



Güvenli ve sorumlu kullanımı desteklemek amacıyla "Learn how it Works - Nasıl Çalıştığını Öğrenin" bölümü; yapay zekâ özetlemesinin nasıl çalıştığı, özetlerin ne zaman sunulduğu ve yapay zekâ tarafından oluşturulan içeriğin nasıl incelenip yorumlanacağı konusunda net rehberlik sağlayacak şekilde güncellenmiştir.

Doğal Dil Sorguları Nasıl Çalışır?

Hızlı Arama üzerinden bir doküman araması başlatıldığında Reaxys, birleşik bir sonuç kümesi sunmak için doğal dil sorgusu yorumlamasını anahtar kelime arama mantığıyla birleştirir. Sonuç önizleme sayfası, doğal dil sorgusu tabanlı sonuç kümesinin (A) aynı zamanda yapay zekâ tarafından oluşturulmuş bir özet (B) içereceğini açıkça belirtir. Diğer tüm sonuçlar, her zamanki gibi yalnızca anahtar kelime aramasına göre getirilir (C).



The screenshot displays the search results for the query "Iron-based catalysts in green chemistry". The results are organized into a list of document counts and associated options. A red box labeled 'A' highlights the first result, which shows 364 documents. A red box labeled 'B' highlights the "Includes Summary AI" button. A red box labeled 'C' highlights the entire list of results, including the first result and the subsequent ones with counts of 15,912, 93,476, 567, 4,654,188, and 38,299 documents. Each result includes a "View Results" button and a "Create Alert" option.

Document Count	Keywords	Options
364	Iron-based, "catalysts", "green chemistry"	View Results, Create Alert, Edit in Query Builder
15,912	"catalysts", "green chemistry"	View Results, Create Alert, Edit in Query Builder
93,476	Iron-based, "catalysts"	View Results, Create Alert, Edit in Query Builder
567	Iron-based, "green chemistry"	View Results, Create Alert, Edit in Query Builder
4,654,188	"catalysts"	View Results, Create Alert, Edit in Query Builder
38,299	"green chemistry"	View Results, Create Alert, Edit in Query Builder

Anahtar kelime tabanlı sorgunuzun nasıl yorumlandığını, Sorgu Oluşturucu'da Düzenle (Edit in Query Builder) seçeneğini belirleyerek inceleyebilirsiniz.

Yapay Zekâ Tarafından Oluşturulan Literatür Özetleri

Hızlı Arama üzerinden başlatılan uygun doküman aramaları için Reaxys, artık sonuç sayfasının üst kısmında yapay zekâ tarafından oluşturulmuş bir özet (D) sunar. Bu, münferit makaleleri incelemeye önce konuya hızlı bir genel bakış yapmanızı sağlar. Özetler, en ilgili 20 adede kadar Reaxys dokümanının başlığı ve özeti (abstract) kullanılarak oluşturulur. Katkıda bulunan referanslar, sonuç listesinde açıkça tanımlanır (E).

Summary AI + **D**

Iron-Based Catalysts in Green Chemistry

Iron-based catalysts are increasingly recognized as sustainable and efficient alternatives to traditional catalysts in green chemistry. The following key points summarize their roles, advantages, and applications based on the provided context:

[View full summary](#)

0 selected Limit To Exclude Export Sort by Relevance ↓ ↑ Zoom structures 🔍 Bioactivity Visualization 📊

1 **Recent Advances in Carbon-Based Iron Catalysts for Organic Synthesis**

[In summary](#) 15 citations 🔗

Wang, Fei; Zhu, Fuying; Ren, Enxiang; Zhu, Guofu; Lu, Guo-Ping; Lin, Yamei

Nanomaterials, 2022, vol. 12, # 19, art. no. 3462, 10.3390/nano12193462 🔗

Abstract ▾ Index Terms ▾ Substances (19) ▾ Full Text 🔗

E

Abstract hit: {...Carbon-based iron catalysts combining the advantages of iron and carbon material...} ▾

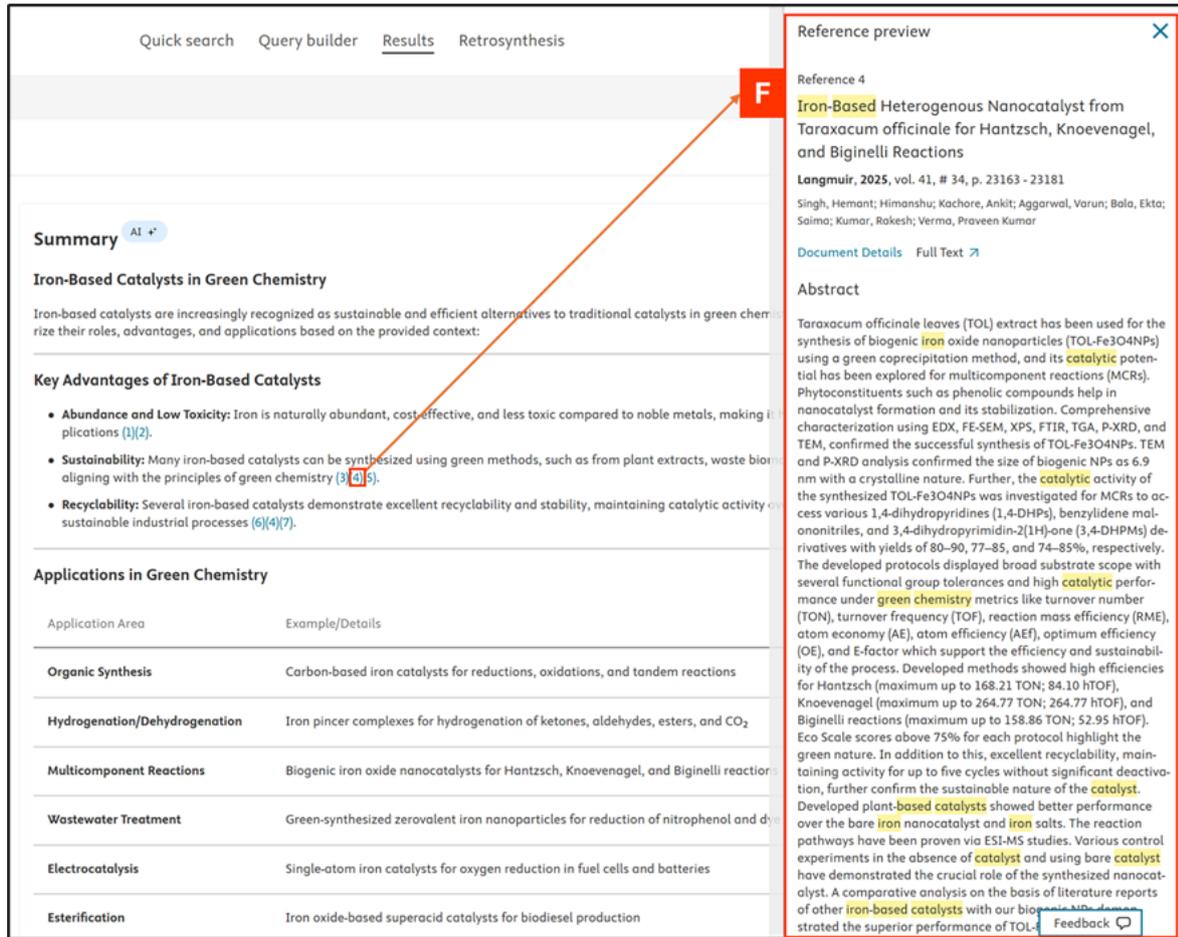
Index Terms Hit: {...carbon material, green chemistry, heterogeneous catalysis...} ▾

2 **Effect of iron and molybdenum on silica-based mesoporous catalysts for glycerol conversion to solketal**

[In summary](#)

Barboza, Adriene de Moura; da Silva, Crislauro Gonçalves; Terezo, Ailton José; de Andrade, Robson Carlos; Rodrigues, Raphael; Colman, Tiago André Denck; de Siqueira, Adriano Buzutti; de Carvalho, Cláudio Teodoro

Numaralandırılmış bir referansa tıklamak; yazar adları, yayın yılı ve başlık gibi tam atıf ayrıntılarını ortaya çıkararak bulguları doğrulamayı ve kaynakları daha derinlemesine incelemeyi kolaylaştırır. Ayrıca, oluşturulan özette atıfta bulunan dokümanların daha derinlemesine incelenmesi için doğrudan tam metne de gidebilirsiniz (F).



The screenshot displays the Reaxys interface with a search result for 'Iron-Based Catalysts in Green Chemistry'. The main content area is divided into a 'Summary' section and a 'Reference preview' section. The 'Summary' section includes a title, a brief description, and a table of applications. The 'Reference preview' section shows the full citation and abstract of the article.

Summary AI

Iron-Based Catalysts in Green Chemistry

Iron-based catalysts are increasingly recognized as sustainable and efficient alternatives to traditional catalysts in green chemistry. This section details their roles, advantages, and applications based on the provided context.

Key Advantages of Iron-Based Catalysts

- Abundance and Low Toxicity:** Iron is naturally abundant, cost-effective, and less toxic compared to noble metals, making it suitable for various applications (1)(2).
- Sustainability:** Many iron-based catalysts can be synthesized using green methods, such as from plant extracts, waste biomass, and recycling, aligning with the principles of green chemistry (3)(4)(5).
- Recyclability:** Several iron-based catalysts demonstrate excellent recyclability and stability, maintaining catalytic activity over multiple cycles, which is crucial for sustainable industrial processes (6)(4)(7).

Applications in Green Chemistry

Application Area	Example/Details
Organic Synthesis	Carbon-based iron catalysts for reductions, oxidations, and tandem reactions
Hydrogenation/Dehydrogenation	Iron pincer complexes for hydrogenation of ketones, aldehydes, esters, and CO ₂
Multicomponent Reactions	Biogenic iron oxide nanocatalysts for Hantzsch, Knoevenagel, and Biginelli reactions
Wastewater Treatment	Green-synthesized zerovalent iron nanoparticles for reduction of nitrophenol and dyes
Electrocatalysis	Single-atom iron catalysts for oxygen reduction in fuel cells and batteries
Esterification	Iron oxide-based superacid catalysts for biodiesel production

Reference preview

Reference 4

Iron-Based Heterogenous Nanocatalyst from Taraxacum officinale for Hantzsch, Knoevenagel, and Biginelli Reactions

Langmuir, 2025, vol. 41, # 34, p. 23163 - 23181

Singh, Hemant; Himanshu; Kachore, Ankit; Aggarwal, Varun; Bala, Ekta; Saima; Kumar, Rakesh; Verma, Praveen Kumar

[Document Details](#) [Full Text](#)

Abstract

Taraxacum officinale leaves (TOL) extract has been used for the synthesis of biogenic iron oxide nanoparticles (TOL-Fe₃O₄NPs) using a green coprecipitation method, and its catalytic potential has been explored for multicomponent reactions (MCRs). Phytoconstituents such as phenolic compounds help in nanocatalyst formation and its stabilization. Comprehensive characterization using EDX, FE-SEM, XPS, FTIR, TGA, P-XRD, and TEM, confirmed the successful synthesis of TOL-Fe₃O₄NPs. TEM and P-XRD analysis confirmed the size of biogenic NPs as 6.9 nm with a crystalline nature. Further, the catalytic activity of the synthesized TOL-Fe₃O₄NPs was investigated for MCRs to access various 1,4-dihydropyridines (1,4-DHPs), benzylidene malonitriles, and 3,4-dihydropyrimidin-2(1H)-one (3,4-DHPMs) derivatives with yields of 80–90, 77–85, and 74–85%, respectively. The developed protocols displayed broad substrate scope with several functional group tolerances and high catalytic performance under green chemistry metrics like turnover number (TON), turnover frequency (TOF), reaction mass efficiency (RME), atom economy (AE), atom efficiency (AEf), optimum efficiency (OE), and E-factor which support the efficiency and sustainability of the process. Developed methods showed high efficiencies for Hantzsch (maximum up to 168.21 TON; 84.10 hTOF), Knoevenagel (maximum up to 264.77 TON; 264.77 hTOF), and Biginelli reactions (maximum up to 158.86 TON; 52.95 hTOF). Eco Scale scores above 75% for each protocol highlight the green nature. In addition to this, excellent recyclability, maintaining activity for up to five cycles without significant deactivation, further confirm the sustainable nature of the catalyst. Developed plant-based catalysts showed better performance over the bare iron nanocatalyst and iron salts. The reaction pathways have been proven via ESI-MS studies. Various control experiments in the absence of catalyst and using bare catalyst have demonstrated the crucial role of the synthesized nanocatalyst. A comparative analysis on the basis of literature reports of other iron-based catalysts with our biogenic nanocatalyst stated the superior performance of TOL-Fe₃O₄NPs. Feedback

Daha fazla bilgi için <https://www.elsevier.support/reaxys/release-notes> adresini ziyaret edebilirsiniz.