

Tech Explorer

User Manual

November 2019

Tech Explorer

Tech Explorer helps you to explore the technical areas of your interest and discover the latest technology trends and developments. In addition, it allows you to manage your personal collection of documents. Tech Explorer enables you to navigate through multiple knowledge repositories via different learning paths, find related concepts and topics in your area of interest, get a holistic view of the state-of-the-art in your area of interest, study the most relevant topics and manage your personal collection of documents.

Exploration and discovery of technologies with Tech Explorer

To explore the scientific area of your interest, you need to start a search by enter a scientific/technology term, or a snippet of text with at least 200 characters of length describing what you are looking for. Alternatively, you could upload a document containing the relevant text.

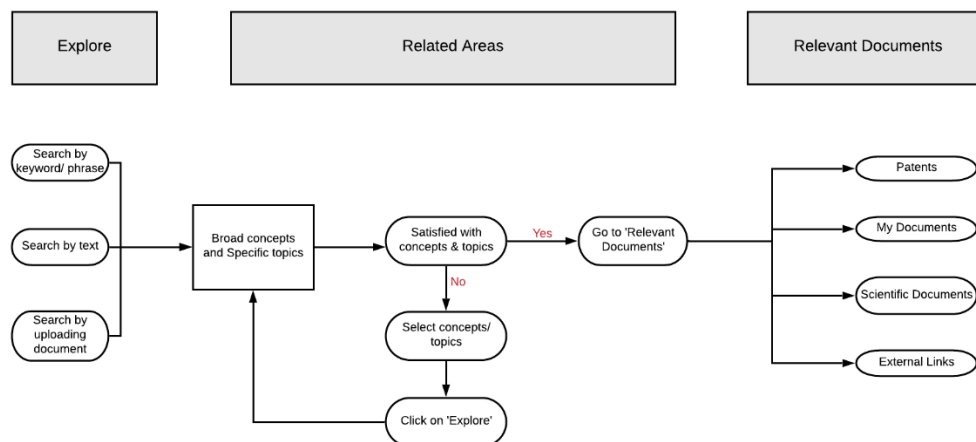
Once the search is performed, you will be directed to the Related Areas page, where you will see two tag clouds, one each for the “Broad concepts” and “Specific topics” connected to your search. The broad concepts and specific topics are logically grouped by contexts, and the grouping can be identified by the color coding – the same background indicating a similar context for the concepts and topics.

Relevant Documents are present below the tag clouds. These consist of patents, scientific documents, your personal collection of documents (tagged “My Folder”) and links to extend your search to external repositories such as Google Scholar, IEEE Explore, Google Books and Microsoft Academic Research.

Mousing over the concepts and topics gives a description of each, with a link to more information. Click to select the relevant topics and concepts to fine-tune your exploration. Clicking on the “Explore” button (bottom right) updates the tag clouds with fresh concepts and topics and refreshes the Relevant Documents section as well with related documents pertinent to the new concepts and topics. To initiate a new search or exploration, click on Back link on the top left.

Click on the Exploration History link on the top right to track the exploration path you have gone through and return to an earlier stage of your search, if you wish to do so. The Bookmark link (top right) allows you to save any stage of your exploration to conveniently access it later.

The flowchart below outlines the steps to be followed in Tech Explorer to discover technology trends.



Managing your personal collection of documents

Go to the My Folder link available at the top center of the page to upload your personal collection of documents. Once you upload the documents, you will be able to see them under 'All Documents'. Expand one of the uploaded documents to view the curated summary of the document. The documents can also be automatically classified with the available categorization engine. A convenient filter is available to quickly get to the documents you are looking for.

The Tech Explorer Community

The Tech Explorer Community is a discussion forum for the users of Tech Explorer. Clicking on the Community link available at the top right will redirect you to the discussion forum. You will be able to initiate a new discussion regarding anything related to Tech Explorer. You will also be able to respond to the queries of other users.

Tech Explorer – Specific Steps

Explore

To explore the scientific area of your interest, you need to search by keywords or phrases as shown below.



Explore

[Bookmark](#)

Discover relevant technology areas by entering keywords or by uploading a file

KEYWORDS TEXT UPLOAD

"Fries Rearrangement"

Search

To explore by inputting text, you need to enter a text snippet with at least 200 characters.



Explore

[Bookmark](#)

Discover relevant technology areas by entering keywords or by uploading a file

KEYWORDS TEXT UPLOAD

The Fries rearrangement, named for the German chemist Karl Theophil Fries, is a rearrangement reaction of a phenolic ester to a hydroxy aryl ketone by catalysis of Lewis acids. It involves migration

Search

Please enter at least 200 characters of text related to the area you wish to explore and we will show you the related concepts and topics based on the text entered. More text will give you better results.

An exploration can also be initiated by uploading a document. Document formats such as doc/docx, xls/xlsx, ppt/pptx, pdf, txt and rtf are supported.



Explore

Discover relevant technology areas by entering keywords or by uploading a file

KEYWORDS TEXT UPLOAD

[Bookmark](#)



SEARCH

Related Areas

The Related Areas section is loaded with Broad concepts and Specific topics in a tag cloud format. The broad concepts and topics are logically grouped by context, and the grouping can be identified by the color coding.



[Back](#)

[Exploration History](#) [Bookmark](#)

Related Areas

Broad concepts

Add more?

Quantum mechanics

Fermi energy

Energy level

Charge carrier

Quantum tunneling

Coulomb blockade

Exchange interaction

Fermi level

Emission spectrum

Fluorescence spectroscopy

Quantum wire

Zinc sulfide

Quantum yield

Gamut

Boron group

Potential well

Nanocrystal

Bioconjugation

Electronic band structure

Valence band

Electron

Superlattice

Band gap

Conduction band

Quantum

White point

Quantum dot

Quantum dot solar cell

Stationary state

Cadmium sulfide

Photoresistor

Cadmium selenide

Cadmium

Ground state

Optical amplifier

Stokes shift

Optoelectronics

Quantum computer

Optical switch

Qubit

Active layer

Gallium arsenide

Indium arsenide

Quantum dot laser

Silicon-germanium

Quantum well

Lattice constant

Molecular beam epitaxy

Indium phosphide

Compound semiconductor

Specific topics

Add more?

quantum dot

light source

quantum well

transport layer

light emitting diode

gate electrode

light emission

layer

color filter

dot layer

electron conductor

composition

temperature

light emitting layer

coating

disclosure

active region

quantum dot layer

cladding layer

hole

carrier

material

quantum dot device

display panel

optical

semiconductor

device

nm

substrate

backlight unit

white light

emission

qd

light emitting device

excitation

composite

secondary light

band

group

barrier layer

light emitting

semiconductor layer

surface

semiconductor quantum dot

emitting device

blue light

matrix material

light emitted

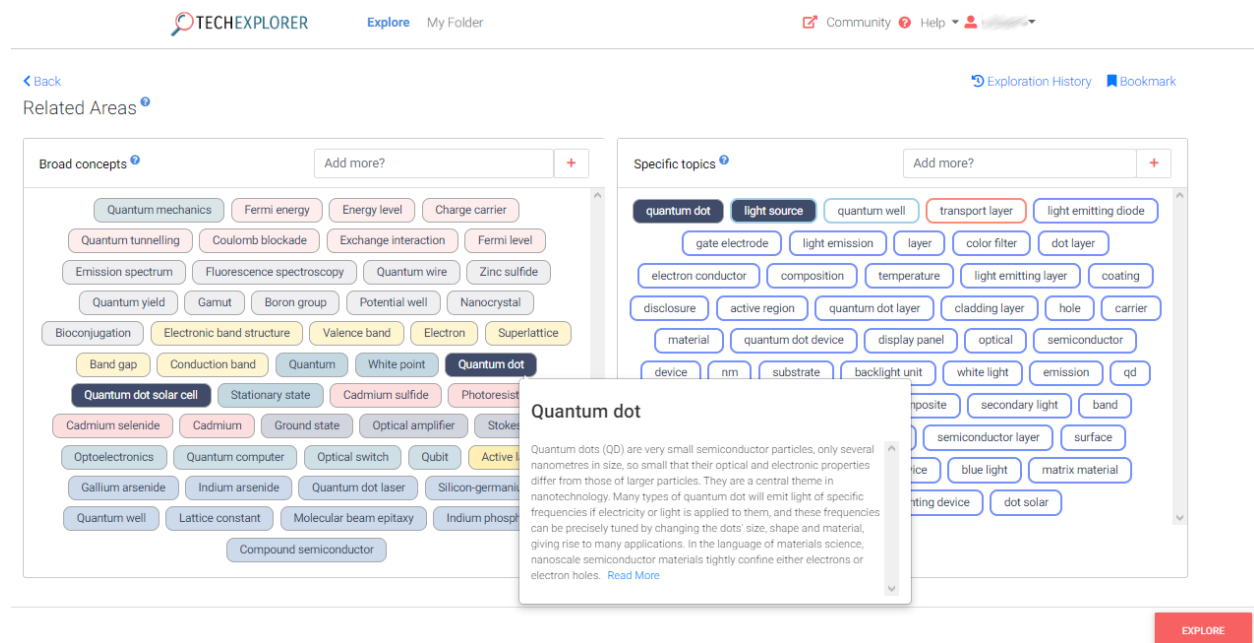
core

lighting device

dot solar

EXPLORE

Select the relevant topics and concepts by clicking on it. Mousing over each concept or topic gives a brief description of it with a link to additional information (that opens in a separate browser tab).



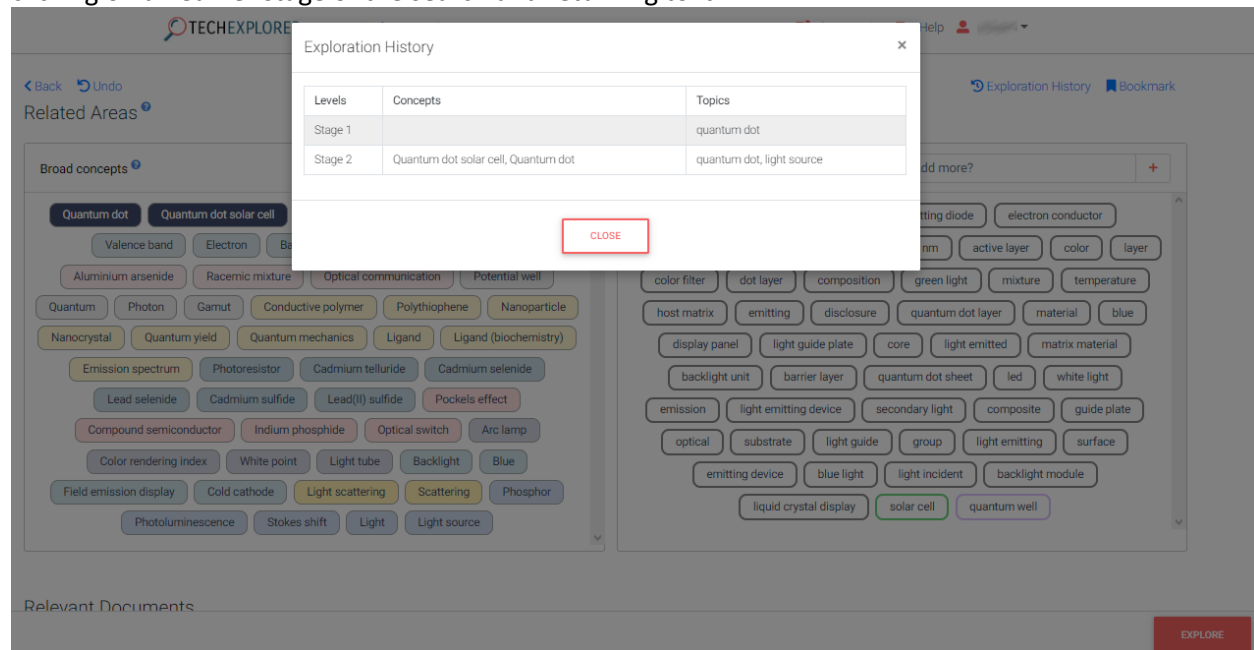
Quantum dot

Quantum dots (QD) are very small semiconductor particles, only several nanometres in size, so small that their optical and electronic properties differ from those of larger particles. They are a central theme in nanotechnology. Many types of quantum dot will emit light of specific frequencies if electricity or light is applied to them, and these frequencies can be precisely tuned by changing the dots' size, shape and material, giving rise to many applications. In the language of materials science, nanoscale semiconductor materials tightly confine either electrons or electron holes. [Read More](#)

Clicking on the Explore button after selection of the concepts and topics gives fresh values in the two tag clouds. The user can repeat the process of selecting relevant concepts and topics to better focus the exploration.

Exploration History

'Exploration History' (top right) records each stage of the search. The user may retrace their path by clicking on an earlier stage of the search and returning to it.



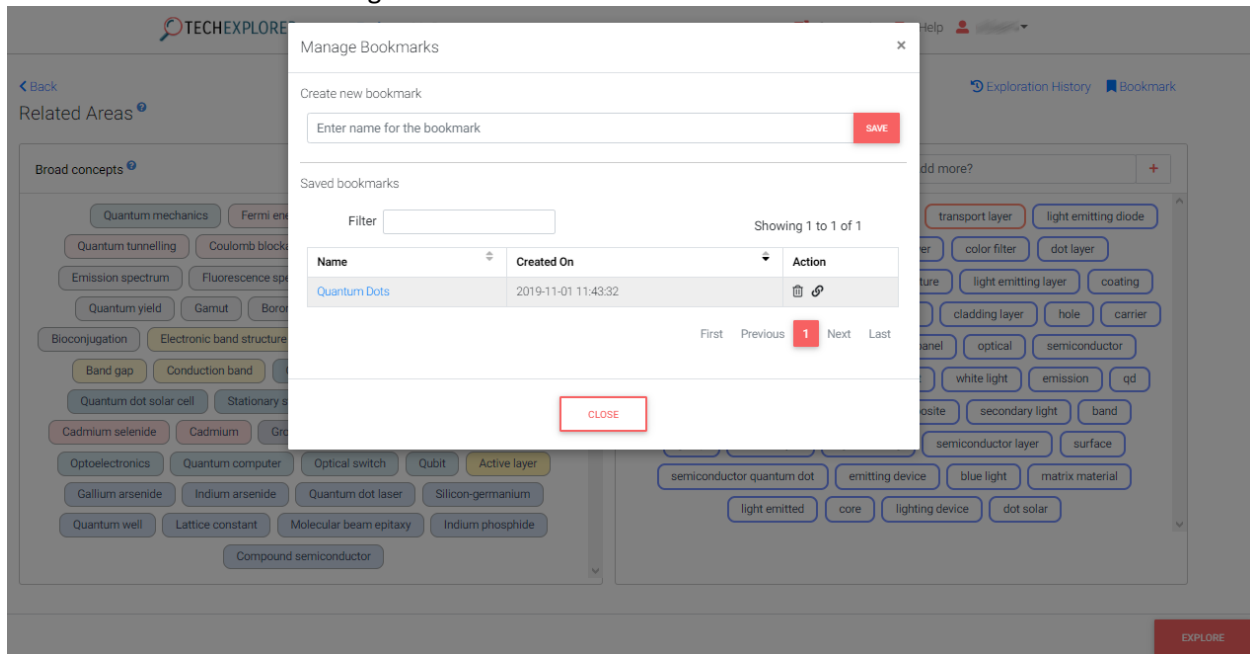
Exploration History

Levels	Concepts	Topics
Stage 1		quantum dot
Stage 2	Quantum dot solar cell, Quantum dot	quantum dot, light source

[CLOSE](#)

Bookmarks


The 'Bookmark' link (top right) allows the user to conveniently save any stage of the exploration to revisit later. Bookmarks can be managed from the same link as well.



Relevant Documents

At each stage of the exploration, the user is presented with relevant documents. These can be accessed below the tag clouds displaying the concepts and topics (scroll down). The types of documents that are available are 'Patents', documents from the user's personal collection ('My Folder'), academic publications ('Scientific Documents'). The user may also click on access documents available at select external sites via 'External Links'.

Some of the document displays have a filter to easily locate documents of interest with keywords and a toggle (+/-) to switch between expanded and compact views of the listing.


[Explore](#)
[My Folder](#)
[Community](#)
[Help](#)
[Murari](#)

Relevant Documents

[PATENTS](#)
[MY DOCUMENTS](#)
[SCIENTIFIC DOCUMENTS](#)
[EXTERNAL LINKS](#)

Filter
Showing 1 to 10 of 50

+/-	Patent #	Title	Inventors	Patent Owner	Filing Date
+	US10203547B2	Quantum dot light emitting device, backlight module, and liquid crystal display device	Fulin Li	HISENSE USA CORPORATION; HISENSE INTERNATIONAL CO LTD	2016-11-15
+	US10302845B2	Quantum dot films, lighting devices, and lighting methods	Robert S. Dubrow; William P. Freeman; Ernest Lee; Paul Furuta	Nanosys	2016-08-23
+	US9804319B2	Quantum dot films, lighting devices, and lighting methods	Robert S. Dubrow; William P. Freeman; Ernest Lee; Paul Furuta	Nanosys	2016-02-08
+	US9546320B2	Quantum dot film applied to backlight module	Gang Li; Lun Li; Zhipeng Liu; Haijiang Tang; Yan Zhang	NINGBO EXCITON TECHNOLOGY CO LTD	2015-03-16
+	US9691853B2	Electronic device including graphene and quantum dots	Jinseong Heo; Taeho Kim; Kiyoung Lee; Seongjun Park	Samsung	2015-01-20
+	US9637443B2	Graphene quantum dots and method of making	Julia Xiaoqun Zhao; Xu Wu	UNIVERSITY OF NORTH DAKOTA	2014-04-25
+	US9136426B2	Method for processing devices including quantum dots and devices	Sang-Jin Kim; Matthew Stevenson; Gagan Mahan; Peter T. Kazlas	Samsung	2013-11-11
+	US9887316B2	Quantum dots, method, and devices	Craig Breen; Jonathan S. Steckel	Samsung	2013-09-24

EXPLORE

Patents

Filter
Showing 1 to 10 of 50

+/-	Patent #	Title	Inventors	Patent Owner	Date
-	US10253165B2	Control of organic impurities in polycarbonate synthesis	Aaron David Bojarski; Jorge A. Garcia Agudo	SABIC	2016-02-25

Keywords

beta catalyst; molecular weight; organic; composition; melt; alpha catalyst; reaction product; onium salt; polymerization process; phosphonium

Concepts

Polymerization; Catalysis; Heterocyclic compound; Oligomer; Organic chemistry; Polycarbonate; Fries rearrangement; Molar mass distribution; Halogen; Hydrocarbon; Polymer; Diphenyl carbonate; Carbonate ester; Potassium hydroxide; Parts-per notation; Chemical bond; Aliphatic compound; Sodium; Salt (chemistry); Phosphonium

Topics

Use of organic substance as compounding ingredients; Polymers obtained by reactions forming carbonic ester link in the main chain; Macromolecular compositions of polycarbonates; Polymers obtained by reactions forming carboxylic ester link in the main chain

Filing Date


2016-02-25

Abstract

Polymerization processes comprising melt polymerizing a carbonate and a dihydroxy compound in the presence of an amount of a beta organic catalyst so as to give rise to a polycarbonate product, wherein the amount of beta organic catalyst comprises at least one onium salt and also comprises triphenyl phosphonium oxide (TPPO), and wherein the TPPO represents less than about 0.3 weight % of the sum of the weights of the at least one onium salt and the TPPO in the amount of beta organic catalyst.

+	WO2016135672A1	CONTROL OF ORGANIC IMPURITIES IN POLYCARBONATE SYNTHESIS	DAVID BOJARSKI AARON; GARCIA AGUDO JORGE A	SABIC	2016-02-25
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Click on the patent number to view the full-text of the document.



Control of organic impurities in polycarbonate synthesis

Publication Number	US10253165B2	Filed	2016-02-25
Application Number	US201615553279	Published	2019-04-09
Original Application Number	15553279	Grant	2019-04-09
		Expiry	2036-02-25

Abstract
 Polymerization processes comprising melt polymerizing a carbonate and a dihydroxy compound in the presence of an amount of a beta organic catalyst so as to give rise to a polycarbonate product, wherein the amount of beta organic catalyst comprises at least one onium salt and also comprises triphenyl phosphonium oxide (TPPO), and wherein the TPPO represents less than about 0.3 weight % of the sum of the weights of the at least one onium salt and the TPPO in the amount of beta organic catalyst.

Inventors	Aaron David Bojarski; Jorge A. Garcia Agudo	CPC Codes	C08K 5/50; C08G 64/20; C08G 64/307; C08G 64/42; C08L 69/00; G16C 20/10
Patent Owners	SABIC	Technologies	Inorganic Or Non-Macromolecular Organic Substances; Macromolecular Compounds By Other Than Carbon-Carbon Unsaturated Bond; Macromolecular Compound Compositions
		Sub-Technologies	Use of organic substance as compounding ingredients; Polymers obtained by reactions forming carbonic ester link

My Documents

'My Documents' displays related documents from your personal collection (in 'My Folder').

PATENTS **MY DOCUMENTS** SCIENTIFIC DOCUMENTS EXTERNAL LINKS

Filter

Showing 1 to 3 of 3

+/-	Name	Categories
+	Vol81_2015_4_Art14.pdf	Proton-exchange membrane fuel cell—Fuel cell (43%), T3 (57%)
+	Cat Today.pdf	T1 (38%), MDMA (62%)
+	AIChE.pdf	

First Previous **1** Next Last

See the expanded view (click +) to view the curated parameters and auto-generated summary of the uploaded documents.

Filter

Showing 1 to 3 of 3

+/-	Name	Categories
+	Vol81_2015_4_Art14.pdf	Proton-exchange membrane fuel cell—Fuel cell (43%), T3 (57%)
—	Cat Today.pdf	T1 (38%), MDMA (62%)
Keywords	heteropoly acids; hexagonal mesoporous silica; benzyl chloride; dodecatungstophosphoric acid; author's personal copy; cs dtp; rate; mol; catalysis today; biphenyl	
Concepts	Catalysis; Mole (unit); Chemistry; Corrosion; Diffusion; Amine; Solvent; Chemical kinetics; Benzyl chloride; Chemical synthesis; Chemical bond; Infrared spectroscopy; Halogen; Caesium; Oil refinery; Benzyl; Alkali metal; Chemical reaction engineering; Alkylation; Biphenyl	
Topics	Medicinal Preparations; Electric Elements - Semiconductor Devices; Nanostructure Applications; Heterocyclic Compounds; Other Foods Or Non-Alcoholic Beverages	
Summary	Synergetic combinations of various heteropoly acids with inorganic supports as nanocatalysts have been successfully developed and evaluated in a number of industrially important reactions 3 . The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues. The structure has a net 3 charge, which requires three cations to satisfy the electro neutrality. Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited. Authors requiring further inf	
+	AIChE.pdf	

First Previous **1** Next Last

Scientific Documents

'Scientific Documents' displays the relevant academic publications.

PATENTS MY DOCUMENTS **SCIENTIFIC DOCUMENTS** EXTERNAL LINKS

Filter


Showing 1 to 10 of 50

Title	Author	Summary
2-Methyl-2,4-pentanediol (MPD) boosts as detergent-substitute the performance of β -barrel hybrid catalyst for phenylacetylene polymerization	Julia Kinzel Daniel F. Sauer Marco Bocola Marcus Arlt Tayebeh Mirzaei Garakani Andreas Thiel Klaus Beckerle Tino Polen Jun Okudal Ulrich Schwaneberg	Covering hydrophobic regions with stabilization agents to solubilize purified transmembrane proteins is crucial for their application in aqueous media. The small molecule 2-methyl-2,4-pentanediol (MPD) was used to stabilize the transmembrane protein Ferric hydroxamate uptake protein component A (FhuA) utilized as host for the construction of a rhodium-based biohybrid catalyst. Unlike commonly used detergents such as sodium dodecyl sulfate or polyethylene polyethyleneglycol, MPD does not form micelles in solution. Molecular dynamics simulations revealed the effect and position of stabilizing MPD molecules. The advantage of the amphiphilic MPD over micelle-forming detergents is demonstrated in the polymerization of phenylacetylene, showing a ten-fold increase in yield and increased molecular weights.
A Comparative study of catalytic activity and lifetime of novel micro-meso porous catalysts in MTO	Seyed Hesam Mousavi	Recently, two kinds of mesoporous catalysts with high propylene selectivity in propane dehydrogenation (PDH) process has been successfully synthesized. The first proposed catalyst is SAPO-34 molecular sieve with hierarchical nanostructure. The second catalyst is a novel bi-phase SAPO-34/ZSM-5 zeolite hierarchical composite utilized with TPA-SAPO-34 exchanged core catalysts being wrapped by ZSM-5 zeolite particles. In this contribution, the physico-chemical properties of the catalysts were analyzed by XRD, FESEM and N ₂ adsorption-desorption techniques and their catalytic activity and life time were investigated in MTO process. The results show that hierarchical SAPO-34 has a significant lifetime and selectivity to the light olefins compared with SAPO-34/ZSM-5. It shows a full

External Links

'External Links' redirects you to the external information sources.


PATENTS MY DOCUMENTS SCIENTIFIC DOCUMENTS **EXTERNAL LINKS**



Google

Google Scholar can search across many disciplines and sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites.


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Google Books

Search the latest index of the world's books. Find millions of great books you can preview or read for free.


OPEN



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IEEE Xplore provides Web access to more than 3-million full-text documents from some of the world's most highly cited publications in electrical engineering, computer science and electronics.

OPEN



Microsoft


Microsoft Academic Search is a free service developed by Microsoft Research to help scholars, scientists, students, and practitioners quickly and easily find academic content, researchers, institutions, and activities.

OPEN

My Folder

Uploading and Curation

'My Folder' is an online digital locker for the user's personal collection of documents. To get started, go to the 'Upload' area and upload the documents. Documents can be uploaded individually or in a zip file. Document formats such as .txt,.pdf,.doc/docx or .xls/xlsx formats are supported.


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Upload new documents



SUBMIT

Please upload .zip,.txt,.pdf,.doc/docx or .xls/xlsx

Once uploaded the user's documents can be viewed in the 'All Documents' tab.


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My Documents

[Manage Categories](#)

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[UPLOAD](#)

Filter

Showing 1 to 5 of 5

+/-	<input type="checkbox"/>	File Name	Categories	Uploaded On
+	<input type="checkbox"/>	Vol81_2015_4_Art14.pdf	Proton-exchange membrane fuel cell—Fuel cell (43%) T3 (57%)	2019-09-19 15:16:27
+	<input type="checkbox"/>	Micro Meso Materials.pdf	Fuel cell—Electrochemical cell (87%) T2 (13%)	2019-09-13 11:49:49
+	<input type="checkbox"/>	J Mol Cat A.pdf	Propionic acid—Cetrimonium bromide (49%) T4 (42%) Trichloroacetonitrile (8%)	2019-09-13 11:49:37
+	<input type="checkbox"/>	Cat Today.pdf	T1 (38%) MDMA (62%)	2019-09-13 11:49:28
+	<input type="checkbox"/>	AIChE.pdf		2019-09-13 11:49:10

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[Next](#)
[Last](#)

DELETE

CATEGORIZE

The uploaded documents are curated with various parameters such as concepts, keywords and topics. An auto-generated summary is also generated to give an indication of what is covered in the document. These curated elements are displayed in the expanded view of the document listing. Category names are also displayed in the document listing after the documents have been categorized.

Filter

Showing 1 to 3 of 3

+/-	Name	Categories
+	Vol81_2015_4_Art14.pdf	Proton-exchange membrane fuel cell--Fuel cell (43%), T3 (57%)
-	Cat Today.pdf	T1 (38%), MDMA (62%)

Keywords

heteropoly acids; hexagonal mesoporous silica; benzyl chloride; dodecatungstophosphoric acid; author's personal copy; cs dtp; rate; mol; catalysis today; biphenyl

Concepts

Catalysis; Mole (unit); Chemistry; Corrosion; Diffusion; Amine; Solvent; Chemical kinetics; Benzyl chloride; Chemical synthesis; Chemical bond; Infrared spectroscopy; Halogen; Caesium; Oil refinery; Benzyl; Alkali metal; Chemical reaction engineering; Alkylation; Biphenyl

Topics

Medicinal Preparations; Electric Elements - Semiconductor Devices; Nanostructure Applications; Heterocyclic Compounds; Other Foods Or Non-Alcoholic Beverages

Summary

Synergetic combinations of various heteropoly acids with inorganic supports as nanocatalysts have been successfully developed and evaluated in a number of industrially important reactions 3 . The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues. The structure has a net 3 charge, which requires three cations to satisfy the electro neutrality. Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited. Authors requiring further inf

+ [AIChE.pdf](#)

First Previous **1** Next Last

Uploaded documents can be filtered with keywords and phrases to seek out specific ones of interest.

ALL DOCUMENTS [UPLOAD](#)

Filter

Showing 1 to 3 of 3 (filtered from 5 total entries)

+/-	<input type="checkbox"/>	File Name	Categories	Uploaded On
+	<input type="checkbox"/>	J Mol Cat A.pdf	Propionic acid--Cetrimonium bromide (49%) T4 (42%) Trichloroacetonitrile (8%)	2019-09-13 11:49:37
+	<input type="checkbox"/>	Cat Today.pdf	T1 (38%) MDMA (62%)	2019-09-13 11:49:28
+	<input type="checkbox"/>	AIChE.pdf		2019-09-13 11:49:10

First Previous **1** Next Last

Categorization

Documents can be conveniently categorized. This can be done using different categorization schemes specifying the number of categories desired. This categorization can be redone at any time, either for the entire collection or for a subset of it. To perform the categorization, select the documents and click on 'Categorize' (bottom right). Select an earlier categorization scheme or create a new one and provide the number of categories desired. Categorization schemes can be managed with 'Manage Categories' (top right).

TECHEXPLORER Explore

My Documents

ALL DOCUMENTS [UPLOAD](#)

Filter

Categorize Documents

Category

Create New

New Category

Categories

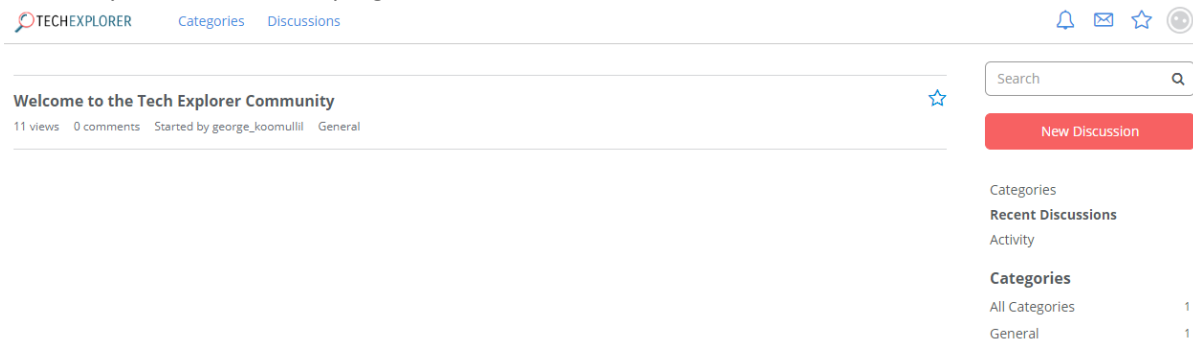
CATEGORIZE CLOSE

First Previous **1** Next Last

DELETE CATEGORIZE

Community

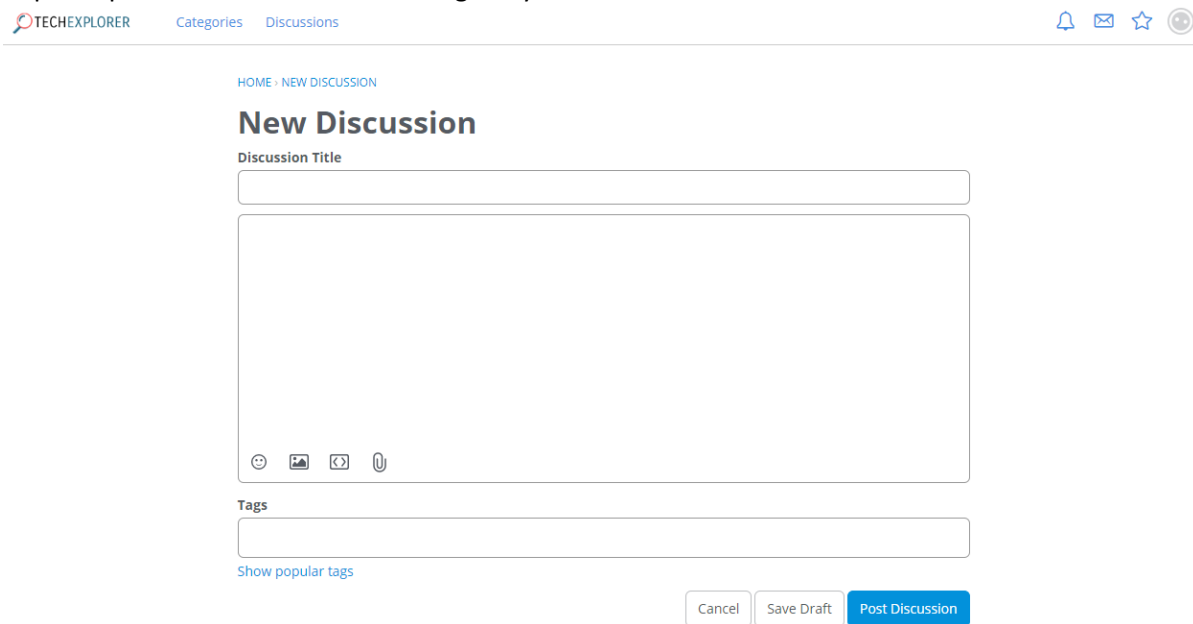
The Tech Explorer Community is a discussion forum for all the users. It opens in a separate tab when accessed by the link on the top right.



The screenshot shows the Tech Explorer Community forum interface. At the top, there's a navigation bar with 'TECHEXPLORER', 'Categories', and 'Discussions'. On the right, there are icons for notifications, email, and a user profile. Below the navigation bar, a 'Welcome to the Tech Explorer Community' message is displayed, showing '11 views', '0 comments', and 'Started by george_koomullil' in the 'General' category. A 'New Discussion' button is prominently displayed. On the right side, there's a search bar and a sidebar with links to 'Categories', 'Recent Discussions', and 'Activity'. A table lists categories: 'All Categories' with 1 item and 'General' with 1 item.

Categories	
All Categories	1
General	1

User can post anything connected with Tech Explorer here by starting a new discussion thread. They can also participate in discussion threads begun by other users.



The screenshot shows the 'New Discussion' form. At the top, there's a breadcrumb 'HOME > NEW DISCUSSION'. The form has a 'Discussion Title' field and a large text area for the discussion content. Below the text area are icons for adding emojis, images, code blocks, and attachments. There's a 'Tags' field with a link to 'Show popular tags'. At the bottom, there are three buttons: 'Cancel', 'Save Draft', and 'Post Discussion'.

Contact Us

Do get in touch with us with your specific needs related to intelligence and decision support on all matters related to technology and its business impact. We will figure the best way to address your needs with an appropriate combination of our technology and reports. We offer a range of tailored solutions and flexible engagement models.



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About Relecura

Relecura is a full-stack cognitive cloud platform that provides custom intelligence and reports on patent portfolios, technologies and companies. It does this by capturing and organizing the knowledge from various document repositories (patents, scientific literature) and subject matter experts in a flexible and collaborative manner, into a knowledge-base.

Relecura offers IP analytics tools and a custom enterprise platform to corporations, law firms, IP services firms, R&D organizations and academic institutions. The enterprise platform integrates the discovery and analysis of public documents with internal company documents. Relecura also has an API to help create custom tools for IP and business intelligence. For more details visit www.relecura.com.