# SciFinder Web使用介绍

四川大学图书馆 胡静

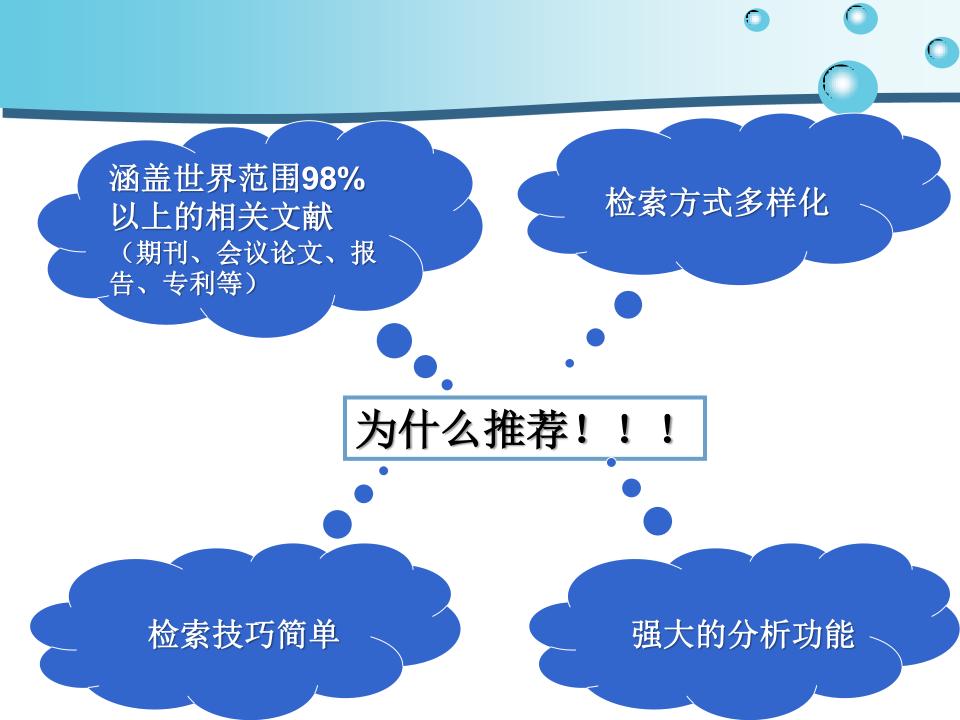
Te1: 85402225

Email: hu. jing@scu. edu. cn

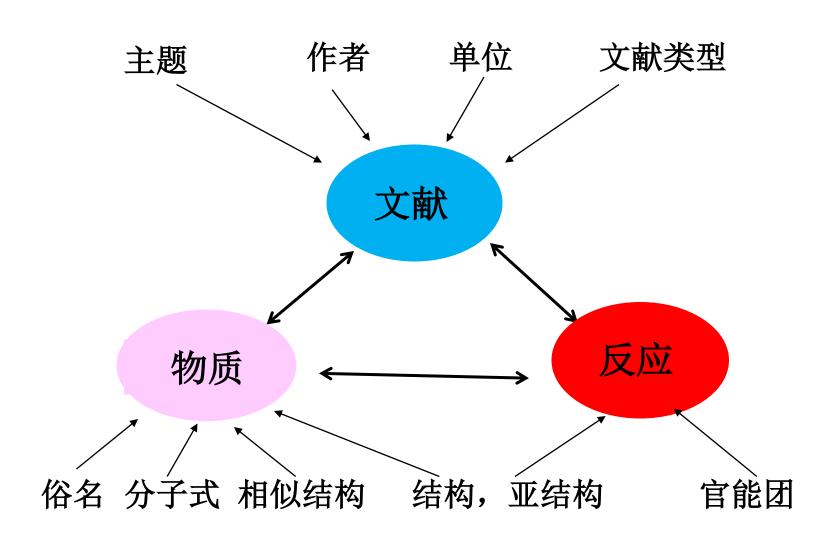
# 内容

- 1 概述
- 2 检索方式
- 3 补充问题

# 概述



# 概述-多样化的检索方式



# 概述-多样化的检索方式



#### CAS REGISTRYSM

>6600万有机无机物质

>6300生物序列

每天更新约12000新物质

物质报道文献,回溯到1802年

物质信息包含了大量的实验数据,预测数据,以及物质标签和谱图

#### CASREACT®

>4170万单步和多步反应

>1400万物质合成制备信息

源自专利和期刊文献

每首更新3-5万条单步多步反应

反应回溯到1840年

## CAS Databases

#### CAplus<sup>SM</sup>

>3500万专利和期刊信息

>10000种期刊的覆盖

62个专利发行机构

每天更新3000条记录

文献回溯到19世纪初

引文信息回溯到1997年之前,超过3亿条引文信息

#### MARPART®

>92.7万专利中的有机,有机金属结构

回溯至1961年

每天更新 (60-75篇专利引文,以及150-200个Markush结构)

# 概述-简单的检索技巧

使用介词(如 at、by、in、of、for、to等)或冠词连接检索词,组成短语。

系统能自动识别全名和缩写、名词的单复数、动词的不同时态,自动进行截词处理,不需人工截词。

系统能对输入的检索词自动进行同义词、近义词的扩展检索。

# 概述-SciFinder的注册和登陆



# 概述-SciFinder的注册和登陆





SciFinder® Essential content. Proven results™

Click Next to begin regi

Next>>



Welcome to Use SciFinder® Essential content. Proven results."

#### LICENSE AGREEMENT

#### SciFinder® is for Educational use ONLY.

Commercial use of your University account is strictly prohibited.

By clicking the Accept button, I agree to the terms below:

- I am a current faculty, staff member or officially registered student of the University.
- I will use SciFinder® ONLY for my own academic research.
- I will not use SciFinder® for commercial research or for organizations other than my University.
- 4. I will not share my unique username and password with any other individual.
- I will not use an automated script.
- I may store no more than 5,000 records in electronic form at any one time.

Violations of these terms may result in your University losing SciFinder® access.

Contact your University's Key Contact for assistance or CAS Customer Care (help@cas.org) for commercial licensing information.

Decline

# 每个用户必须输入各自信息



## SciFinder® Essential content. Proven results.

Please provide the following information: (bold\* = required)

	Contact Information	
First Name*:		
Last Name*:		
Email*:		
Confirm Email*:		
Phone Number:		
Fax Number:		
Area of Research:	Select one	
Job Title:	Select one	
	Username and Password	
		<u>Tips</u>
Username*:		
Username*: Password*:		
		122
Password*:	Security Information	
Password*:	SECURITY INFORMATION	<u> </u>
Password*: Re-enter Password*:		

姓名、邮箱、用户名、 密码、保密问题和答 案必须填写

# 设置用户名及密码注意事项

用户名:必须是唯一的,且包含 5-15 个字符。它可以只包含字母或字母组合、数字和/或以下特殊字符:

- - (破折号)
- - (下划线)
- · . (句点)
- 0 (表示 "at"的符号)

密码: 必须包含 7-15 个字符, 并且至少包含三个以下字符:

- 字母
- 混合的大小写字母
- 数字
- 非字母数字的字符(例如 0、#、%、&、\*)

# 对新ID的Email确认



## SciFinder® ...Part of the process™

#### Almost Finished

process again.

Thank you for completing the initial step in registering to use SciFinder®!

You will receive an e-mail message from CAS that includes a link and instructions for completing the registration process. You must click the link within 48 hours. If not, you will need to begin the registration.

From: CAS

Dear user.

To complete your SciFinder registration, you must click the link provided below. By clicking the link, you agree to all of the following terms and conditions:

- I will not share my username and password with any other person.
- · I will search only for myself and not for others or other organizations.
- . I will not use any automated program or script for extracting or downloading CAS data, or any other systematic retrieval of data.
- I may retain a maximum of 5,000 Records at any given time for personal use or to share within a Project team for the duration of the Project.
- · My organization's SciFinder License and the CAS Information Use Policies (http://www.cas.org/legal/infopolicy.html) apply to my use of SciFinder.
- I will contact my SciFinder Key Contact if I have questions.

If you do not accept these terms and conditions, do not click the link and delete this e-mail message.

https://scifinder.cas.org/registration/completeRegistration.html?respKey=B8CB6727-86F3-F014-11E6-D312D80AC094

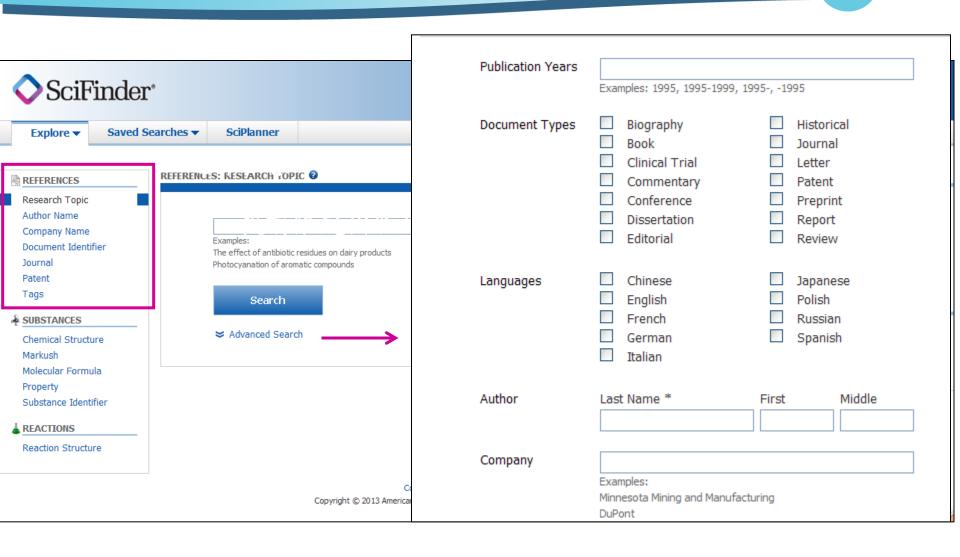
this link is valid for only one use and will exply within 48 hour-

If you need assistance at any time, consult the key contact at your organization.

48小时内打开并阅读 CAS 的电子邮件激活链接

# 检索方式

文献 物质 反应



# 检索实例:

搜索主题: 印染废水中聚乙烯醇的处理技术

关键词: 聚乙烯醇 PVA

处理 treat

废水 wastewater



# 1 reference was found containing "PVA to treat of wastewater" as entered. 852 references were found containing all of the concepts "PVA", "treat" and "wastewater" closely associated with one another 2493 references were found where all of the concepts "PVA", "treat" and "wastewater" were present anywhere in the reference. 7427 references were found containing the two concepts "PVA" and "treat" closely associated with one another. 25379 references were found where the two concepts "PVA" and "treat" were present anywhere in the reference. 1438 references were found containing the two concepts "PVA" and "wastewater" closely associated with one another. 2843 references were found where the two concepts "PVA" and "wastewater" were present anywhere in the reference. 394252 references were found containing the two concepts "treat" and "wastewater" closely associated with one another. 408749 references were found where the two concepts "treat" and "wastewater" were present anywhere in the reference.

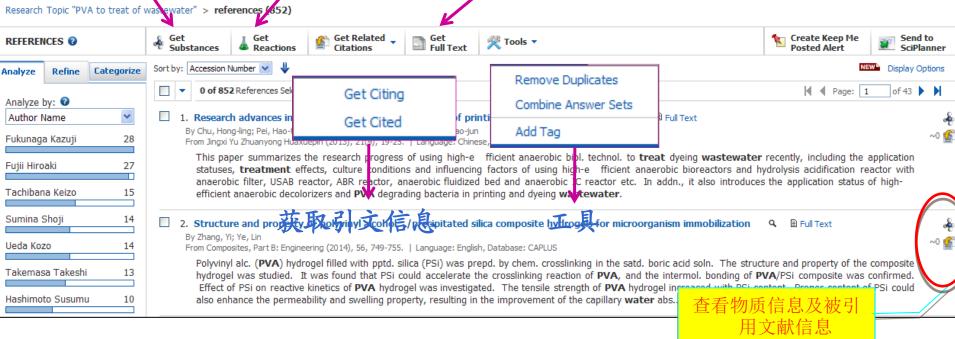
#### **Get References**

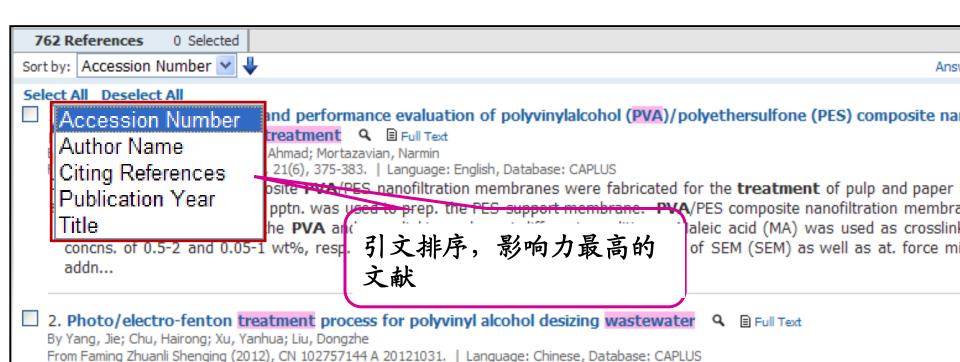
157404 references were found containing the concept "PVA".
9077577 references were found containing the concept "treat".

490642 references were found containing the concept "wastewater".

- 1. "concept"表示: SciFinder 检索系统自动把检索词的名词单复数、英美文法上的差异、该词的动词、形容词、副词、名词形式等进行扩展。
- 2."closely associated with one another"表示检索词同时出现在一句话中。
- 3."present anywhere in the reference"表示检索词同时出现在一段话当中。







The Fenton **treatment** process includes adding acid soln. to polyvinyl alc. desizing **wastewater** to adjust pH to 3~ 6, adding 22.1 mmol/L and H2O2/CODCr 1.0~ 3.0, starting UV lamp with power 6~ 8 W and stirrer for reaction, adding inorg. salt applying current 0.5~ 2.0 A for degrdn. for 15~ 120 min. The acid soln. is 10~ 30wt% H2SO4, HCl or HNO3. The Fenton soln. and H2O2. The inorg. salt is NaCl, MgCl2 or KCl. The invention can remove 91% CODCr and enhance biodegradability of

# 点击文献标题,阅读单篇文献详细信息



## 文献详细著录信息

## 文献摘要信息

By: Guillet, James Edwin; Heskins, Michael; Murray, D. Gary Assignee: Can.

Wastewaters contg. aq. suspensions of clay fines are flocculated rapidly using high mol. wt. (visq Substances & 55-3] and copolymers with I contg. ≥50% of polymd. N-isopropylacrylamide units. The floc has also used in the manuf, of paper. Thus, ag. suspensions were prepd. from mixts, of sand and of isopropylacrylamide to give a homogeneous floc contq. ≤66.3% of solids.

#### Patent Information

1. Polymeric flocculants

## 专利信息

Patent No.	Kind	Date	Applica -
CA 1180827	A1	Jan 8, 1985	CA 1982
US 4536294	Α	Aug 20, 1985	US 1983

## **Priority Application**

CA 1982-399215	Α	Mar 23, 198
CA 1982-399215	А	Mar 23, 198

#### Indexing

Waste Treatment and Disposal (Section 60-3) 🐠

## 重要概念索引

97366-13-7 97366-15-9 97366-16-0

25189-55-3

28500-83-6

81565-38-0

flocculant, in treatment of wastewater contg. clay suspensions Process

28377-46-0 31261-19-5 97366-18-2 97366-19-3

97381-57-2

Process

9003-05-8 9003-06-9

25085-02-3 65324-25-6

flocculants contq., in treatment of wastewaters contq. clay suspensions

flocculant, in treatment of wastewaters contq. clay suspensions

CA 1180827

Patent Information

Application

Jan 8, 1985

Α1

Mar 23, 1982 CA 1982-399215

Priority

Mar 23, 1982 CA 1982-399215

Source

Can. 38 pp.

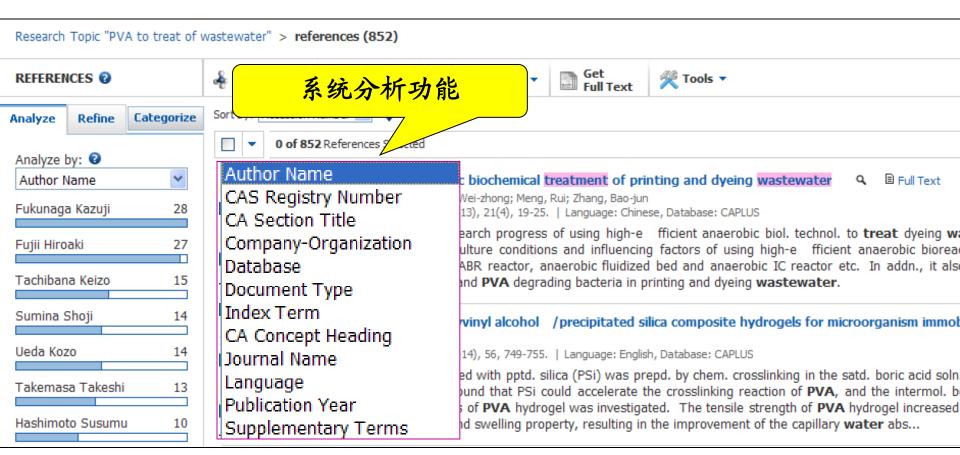
Patent 1985

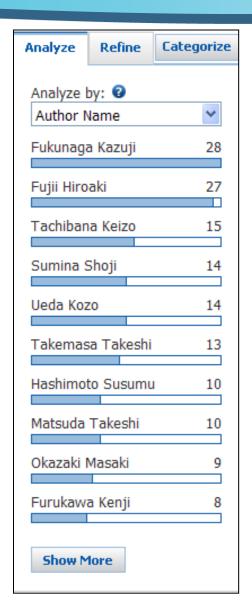
CODEN: CAXXA4

Classifications

Main IPC C02F001-56

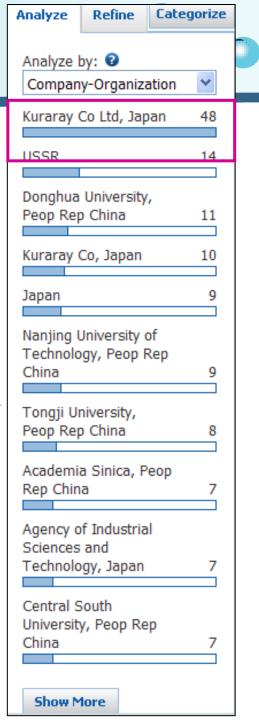
Process

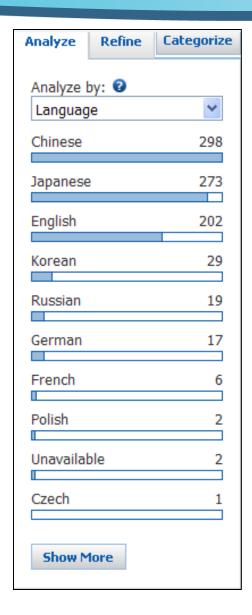




作者分析,了解本领域, 本课题的主要研究人员。

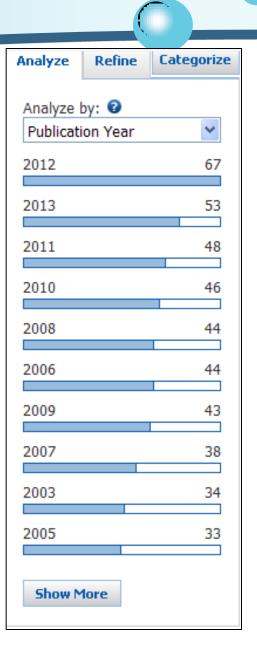
组织机构分析,了解本领域的核心研究机构

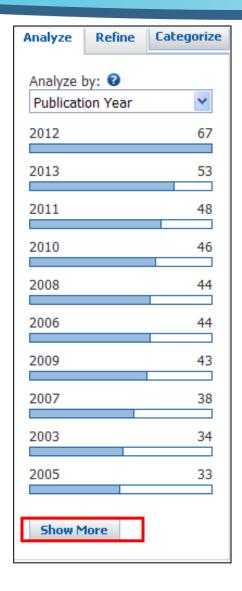


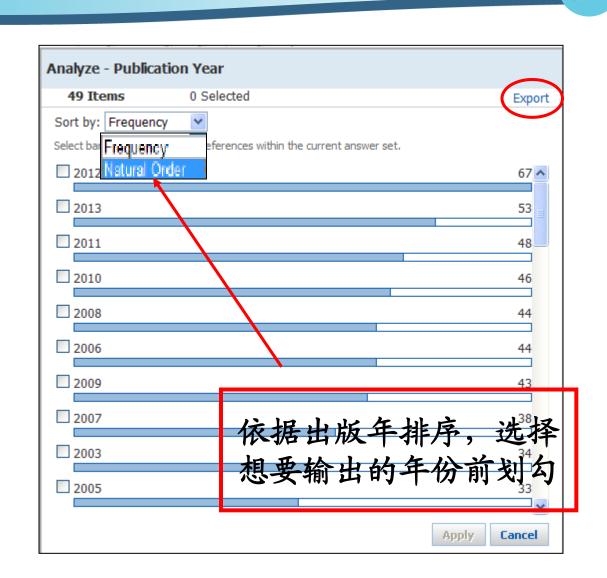


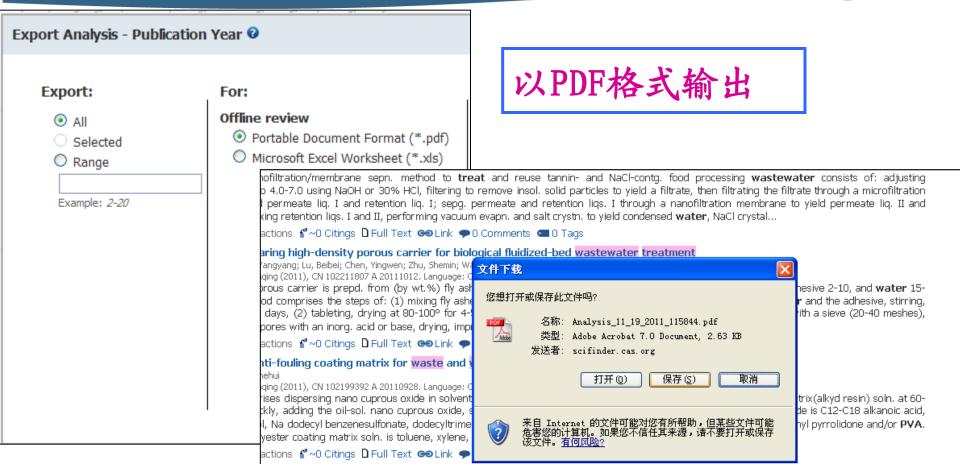
语言分析,了解该课题 主要研究地区

出版年份分析,了解该课题主要研究时期。









ucing cuprous oxide nanoparticle-loaded filter screen used in wastewater treatment

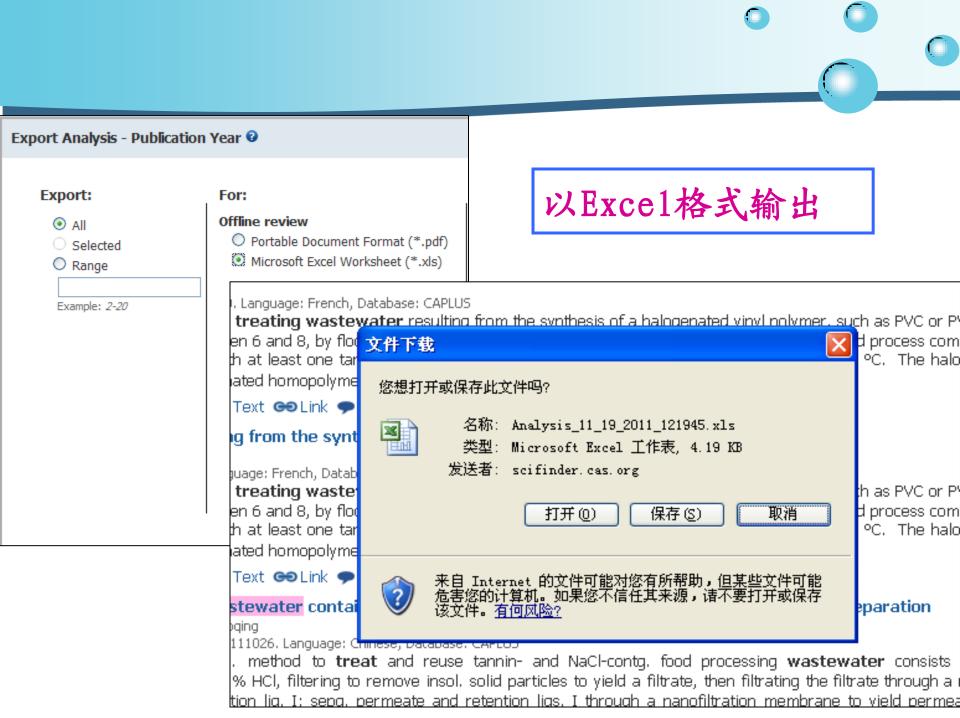
actions &~0 Citings D Full Text 👄 Link 🗭 0 Comments 🚾 0 Tags

ging (2011), CN 102198349 A 20110928. Language: Chinese, Database: CAPLUS

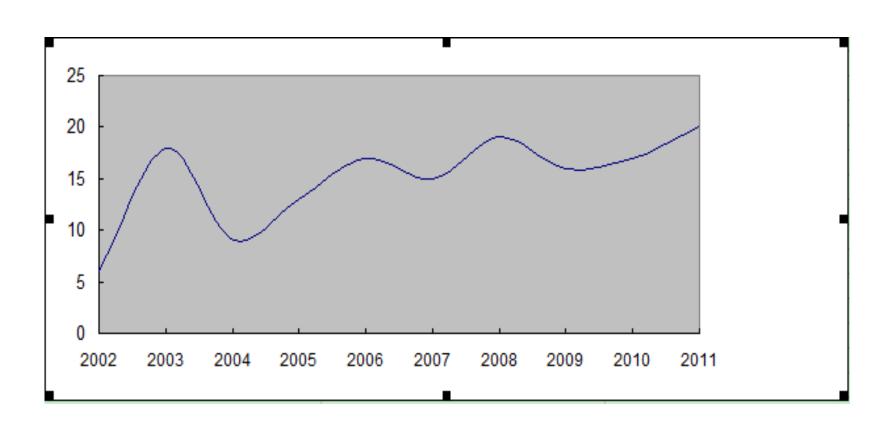
vell on-line profile control agent prepared by using <mark>waste</mark> residue from oilfield <mark>wastewater</mark> treatment

gh the method, cuprous oxide nanoparticle is well dispersed in the fabric. The inventive filter screen has go...

oses method for producing cuprous oxide nanoparticle-loaded filter screen used in **wastewater treatment**. The method comprises adding protector into **water**, and ultrasonically stirring to completely dissolve the copper salt and protector; soaking fabric in the soln., adding a n., heating to 60-80° under normal pressure or high pressure, and keeping the temp. for 30-60 min; and dewatering the fabric through rolling,

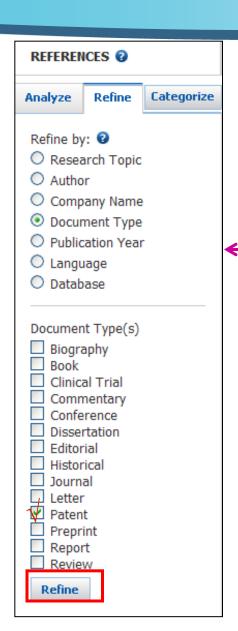


# Excel导出数据做图

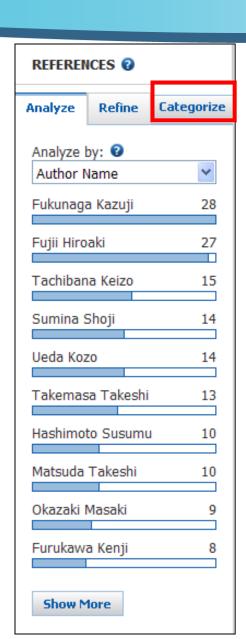








文献类型分析,快速 获得专利、会议、报告、 综述等特定类型的文献



## Categorize系统分类分析工具

Categorize系统分类功能,基于 Index Term,根据大学科方向对 文献进行自动分类。

## 一级目录

# 二级目录

## 三级目录

### Categorize 🐠

1. Select a heading and category.

#### Category Heading 🚸

ΑII

Technology

#### Polymer chemistry

General chemistry
Environmental chemistry

Physical chemistry

Biology

Biotechnology

Synthetic chemistry

Genetics & protein chemistry

Catalysis

Analytical chemistry

#### Category �

#### Polymers (316)

Modifiers & additives (196) Applications & phenomena (29)

Processes & apparatus (29)

Miscellaneous substances (49)

2. Select index terms of interest.

# Index Terms � 1 2 3 4

#### Select All Deselect All

☑ Polyvinyl alcohol	635
Sodium alginate	67
Poly(vinyl asetate)	54

46

40

38

31

24

23

23

21

21

18 18 🐷

Poly(vinyl asetate)
Polyethylene glysol

☐ Polyacrylamide
☐ Polyoxyalkylenes

Starch

\_ Starch ☐ Polvethvlene

Cellulose

Polypropylene

Polyvinyl alcohol,
Modified

Polymers

Polyurethanes

☐ Polyamides ☐ Polysulfones

#### Selected Terms 🀠

Click 'x' to remove the category from 'Selected Terms'

Polymer chemistry > Polymers (1 Terms)

可以选择感兴 趣的内容, 用

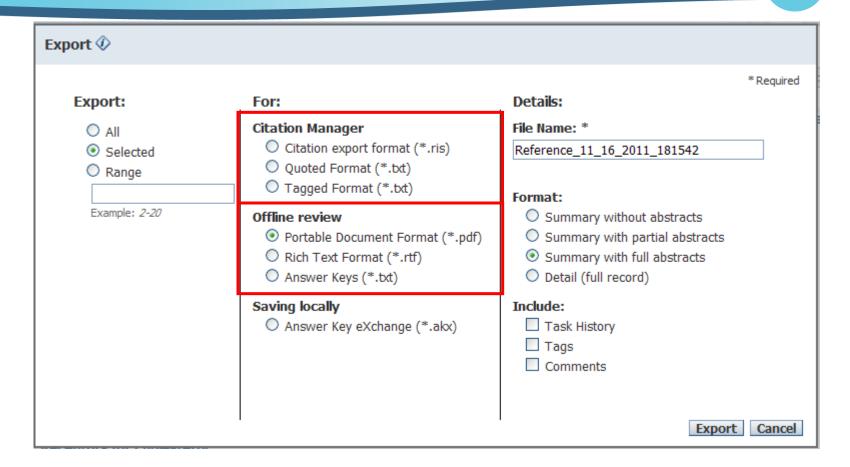
于文献的筛选

Polymer chemistry > Polymers > 1 Index Term(s) Selected

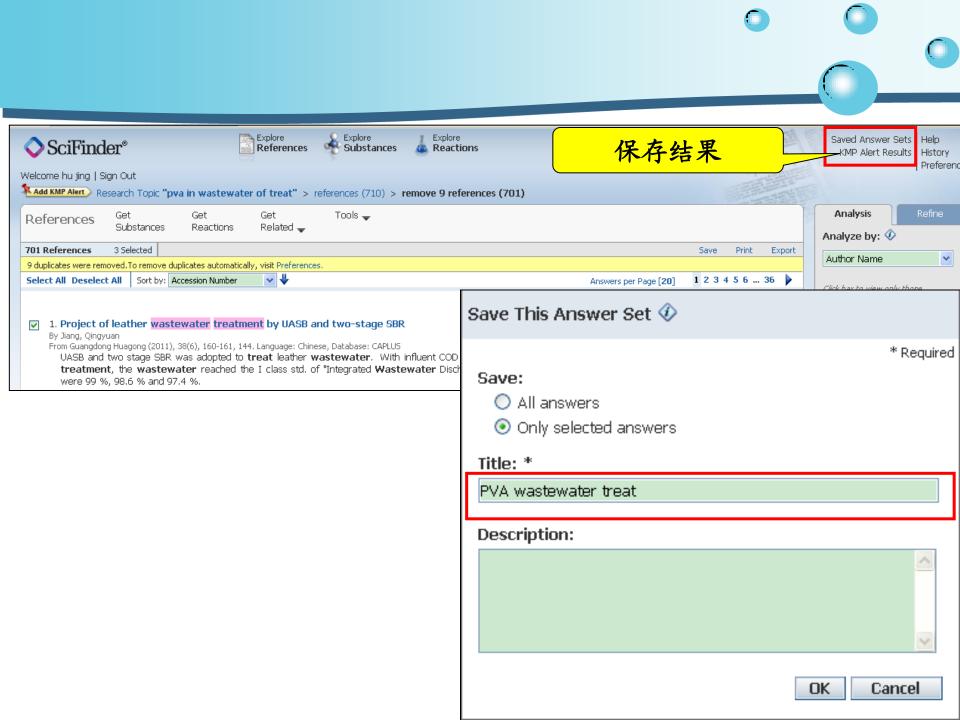
OK

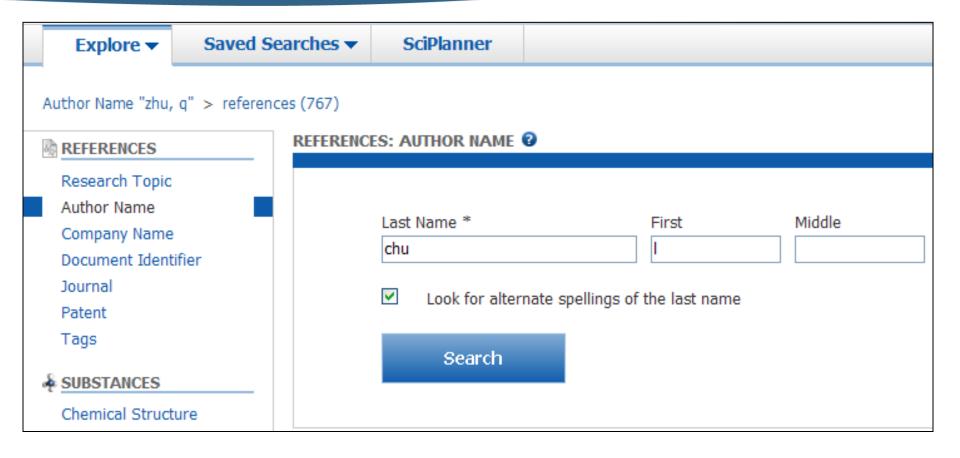
Cancel

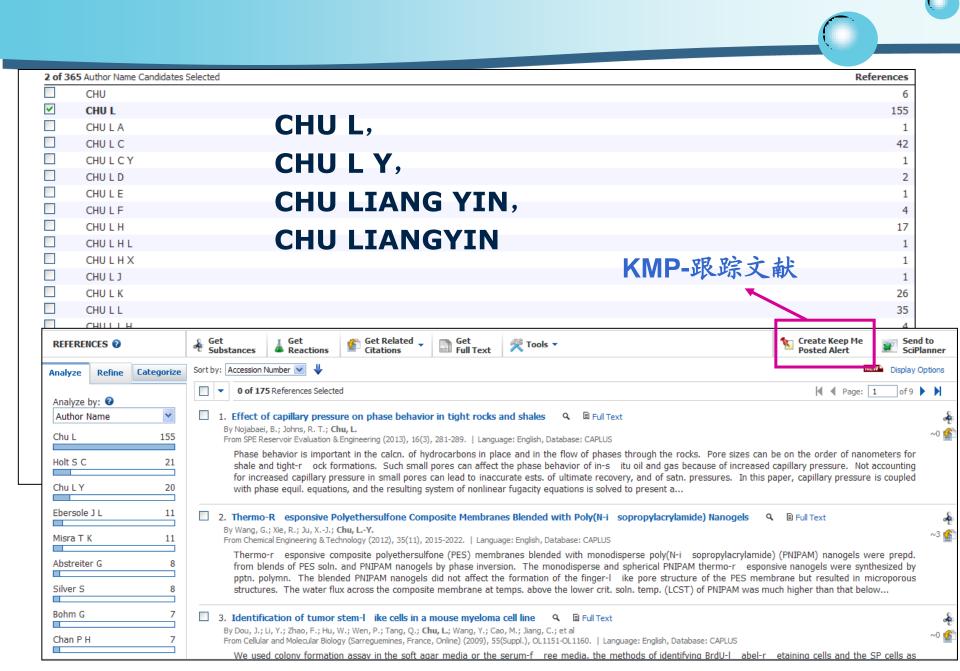


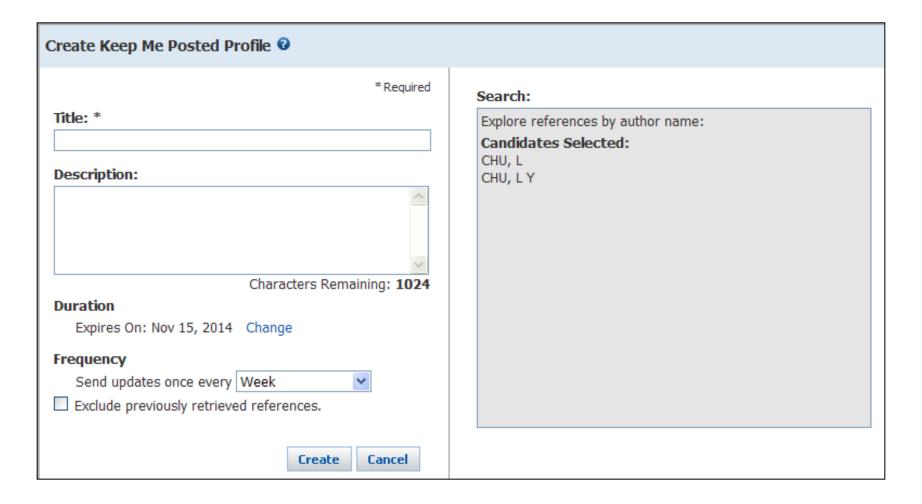


- 1. 保存成RIS格式,用于EndNote的文献管理工具。
- 2. 保存成PDF、RTF格式,用于脱机浏览。选择summary可保存500条记录,选择detail可保存100条记录。









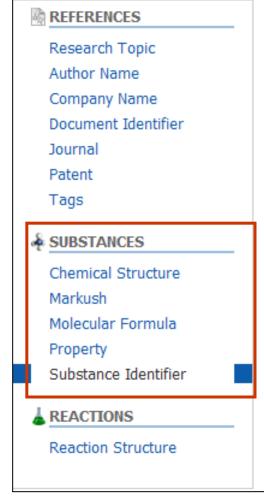
KMP: 对关注的领域随时保持关注

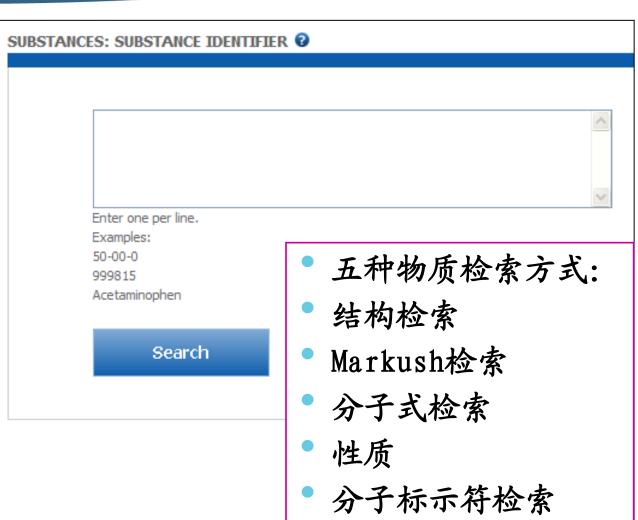
## 文献检索小结

- 检索主题时用介词连接检索词。
- · 检索结果项,应尽量选择含 "concepts"和 "associated with"项。
- 可通过Refine和Analyze项缩小检索结果范围。
- 使用Categorize可将检索结果按不同主题分类。
- 作者名检索时姓写全,名写首字母,得到文献后依Organization分析

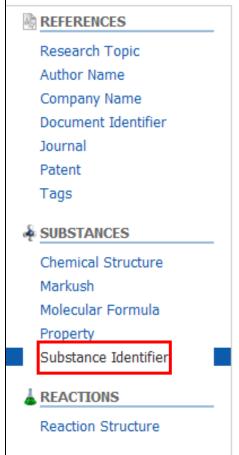
# 检索方式

文献 物质 反应





## 1. 标示符检索

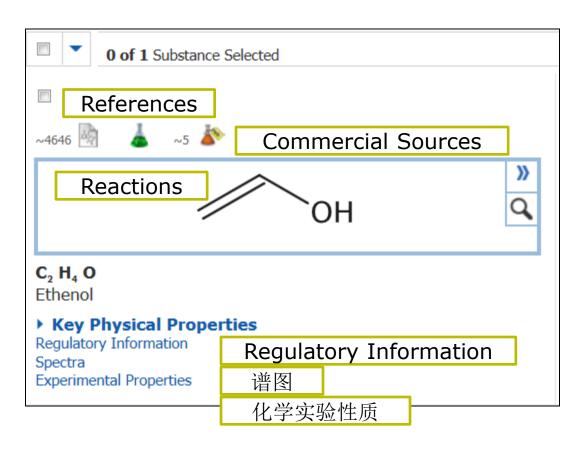




规则: 1. 每次最多可输入25个物质名称, 每行1

名进行检索

## Scifinder中的物质信息



详细列出"乙烯醇"的 文献数量、化学反应、 销售厂商、法规信息



转入结构检索 或反应检索

#### CAS Registry Number 557-75-5











Ethenol

#### **Molecular Weight**

44.05

#### Melting Point (Experimental)

Value: 9 °C

#### **Boiling Point (Experimental)**

Value: 101 °C

#### Density (Predicted)

Value: 0.813±0.06 g/cm3 | Condition: Temp: 20 °C Press: 760 Torr

#### pKa (Predicted)

Value: 10.50±0.50 | Condition: Most Acidic Temp: 25 °C

#### Other Names

Vinyl alcohol (8CI)

Acetaldehyde enol

Hydroxyethene

Hydroxyethylene

CAS号 分子式 结构式 分子质量 熔点 沸点 化学名 别名

### 物质来源,相关文献篇数和类型

CAS Role	Patents	Nonpatents	Nonspecific Derivatives from Patents	Nonspecific Derivatives from Nonpatents
Analytical Study	✓	1	✓	V
Biological Study	✓	✓	✓	✓
Combinatorial Study		✓		
Formation, Nonpreparative	✓	✓		✓
Miscellaneous	✓			
Occurrence	✓	✓	✓	
Preparation	✓	✓	✓	✓
Process	✓	✓	✓	✓
Properties	✓	✓	✓	✓
Prophetic in Patents			✓	
Reactant or Reagent	✓	✓	✓	✓
Uses	✓	✓	✓	✓

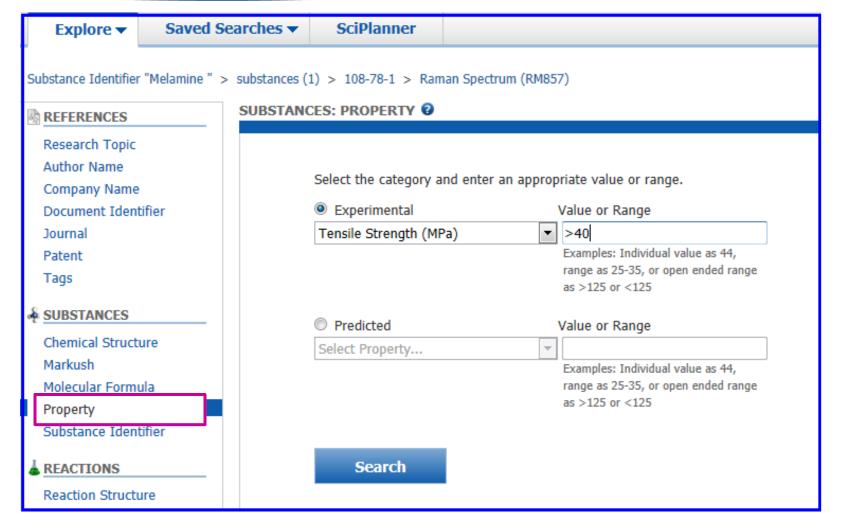
按照CAS Role分类的专利、非专利文献列表。对某类文献感兴趣,仅需点击交叉处的 即可方便快捷地获取。

## 预测数据与实验数据

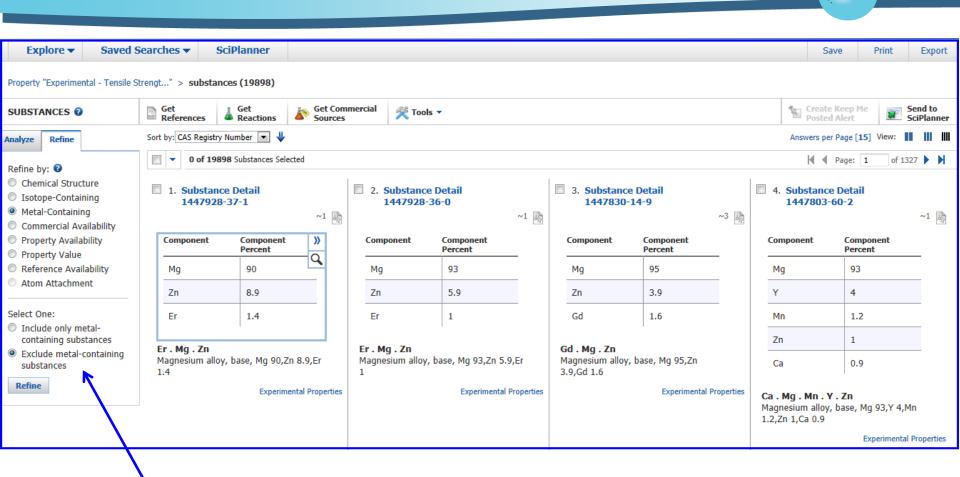
			Тор
Biological Properties	Value	Condition	Note
Bioconcentration Factor	1.79	pH 1 Temp: 25 °C	(15)
Bioconcentration Factor	1.79	pH 2 Temp: 25 °C	(15)
Bioconcentration Factor	1.79	pH 3 Temp: 25 °C	(15)
Bioconcentration Factor	1.79	pH 4 Temp: 25 °C	(15)
Bioconcentration Factor	1.79	pH 5 Temp: 25 °C	(15)
Bioconcentration Factor	1.79	pH 6 Temp: 25 °C	(15)
Bioconcentration Factor	1.79	pH 7 Temp: 25 °C	(15)
Bioconcentration Factor	1.78	pH 8 Temp: 25 °C	(15)
Bioconcentration Factor	1.73	pH 9 Temp: 25 °C	(15)
Bioconcentration Factor	1.36	pH 10 Temp: 25 °C	(15)

			Тор
Chemical Properties	Value	Condition	Note
Koc	52.8	pH 1 Temp: 25 °C	(15)
Koc	52.8	pH 2 Temp: 25 °C	(15)
Koc	52.8	pH 3 Temp: 25 °C	(15)
Koc	52.8	pH 4 Temp: 25 °C	(15)
Koc	52.8	pH 5 Temp: 25 °C	(15)
Koc	52.8	pH 6 Temp: 25 °C	(15)
Koc	52.8	pH 7 Temp: 25 °C	(15)
Koc	52.6	pH 8 Temp: 25 °C	(15)
Koc	51.2	pH 9 Temp: 25 °C	(15)
Koc	40.1	pH 10 Temp: 25 °C	(15)
logD	0.63	pH 1 Temp: 25 °C	(15)

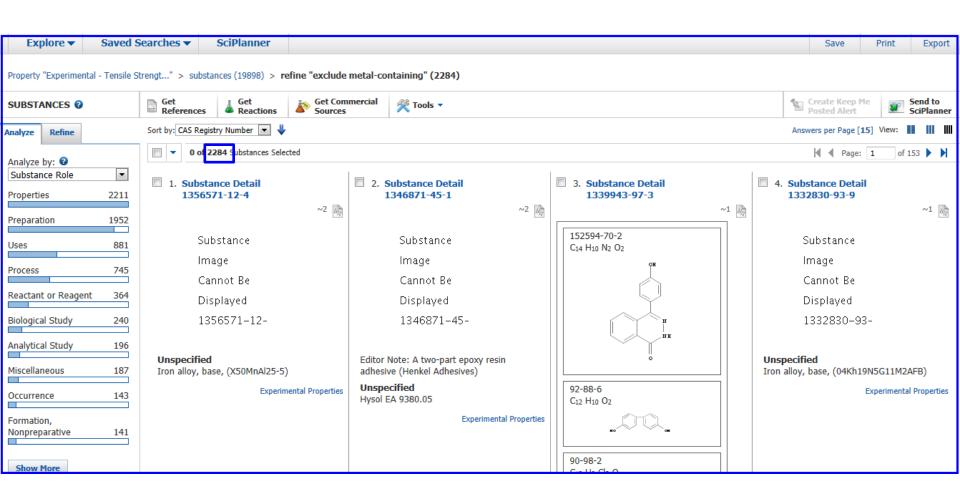
## 2. 性质检索



寻找比PVC的拉伸强度大的有机材料



通过Refine快速排除具有某类性质的物质



## 3. 分子式检索

(1) 只知道起始原料-聚合物括号表示,组分间用点分开,括号外用X表示。

AcO 
$$-$$
 CH  $=$  CH  $_2$ 

H  $_2$  C  $=$  CH  $-$  F

H  $_2$  C  $=$  CH  $-$  C1

例:(C4H6O2.C2H3CI.C2H3F)x

(2) 知道结构重复单元-外括号用n表示

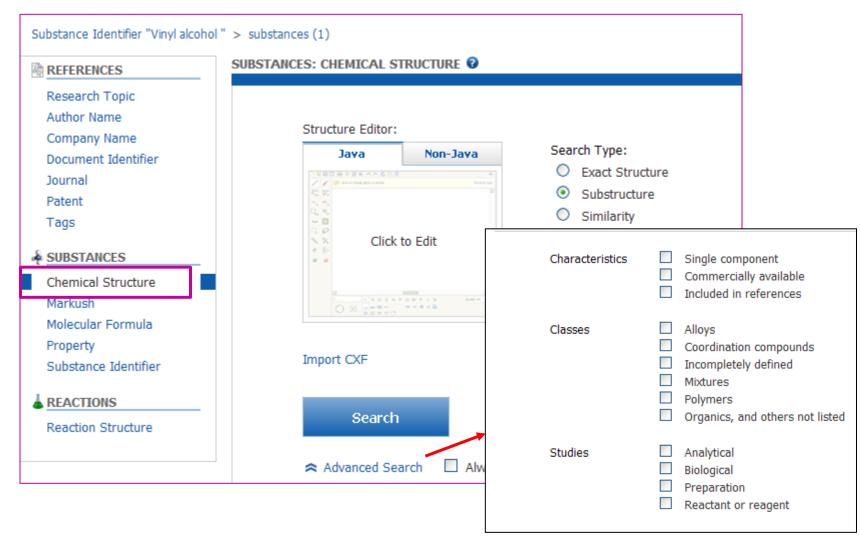
(3) 无机盐:按照混合物的方法检,使用Dotdisconnect将不同组分连接例: H2SO4.Na

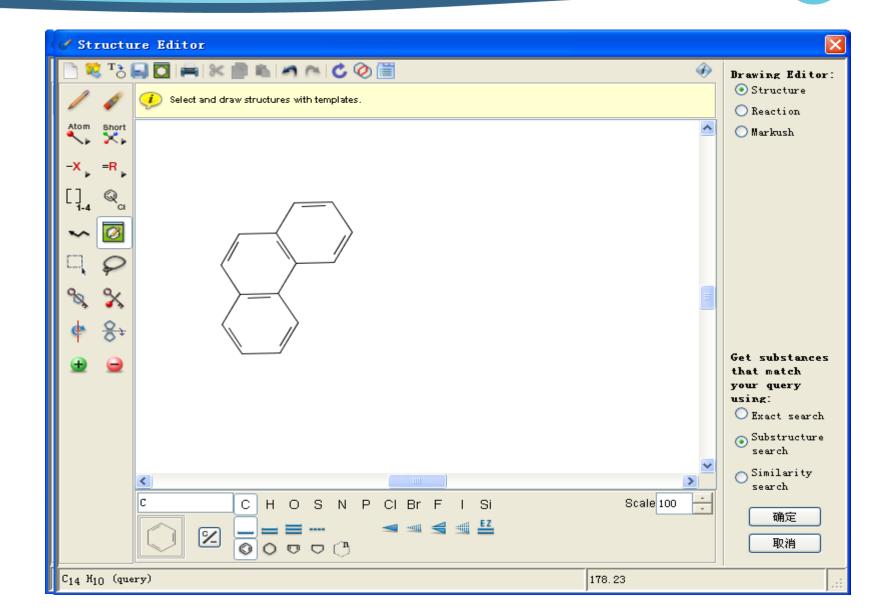
### 分子式输入规则-Hill排序:

- 1)不含碳的化合物,分子式按元素符号的字母顺序排列。
- 2)含碳的化合物,则"C"在前。
- 3)如有"H"则紧随其后,其他元素符号按照字母顺序排列在氢后。

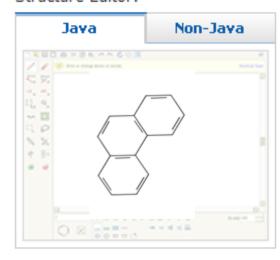
## 4. 结构式检索

## 只了解一个化学结构式,怎样获得具体的物质信息?





#### Structure Editor:



#### Import CXF

#### Search

Advanced Search □

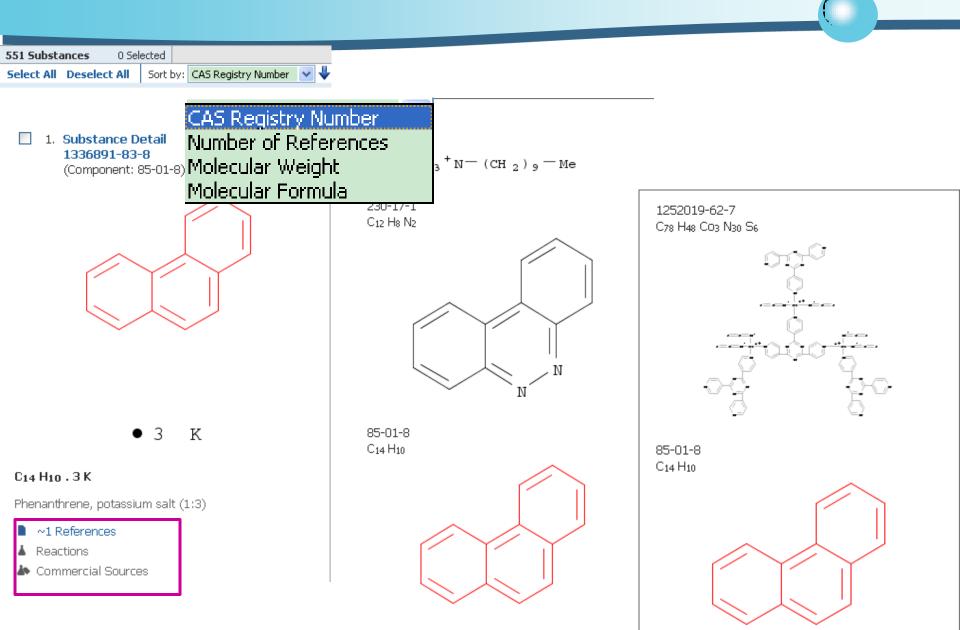
☐ Always Show

#### Search Type:

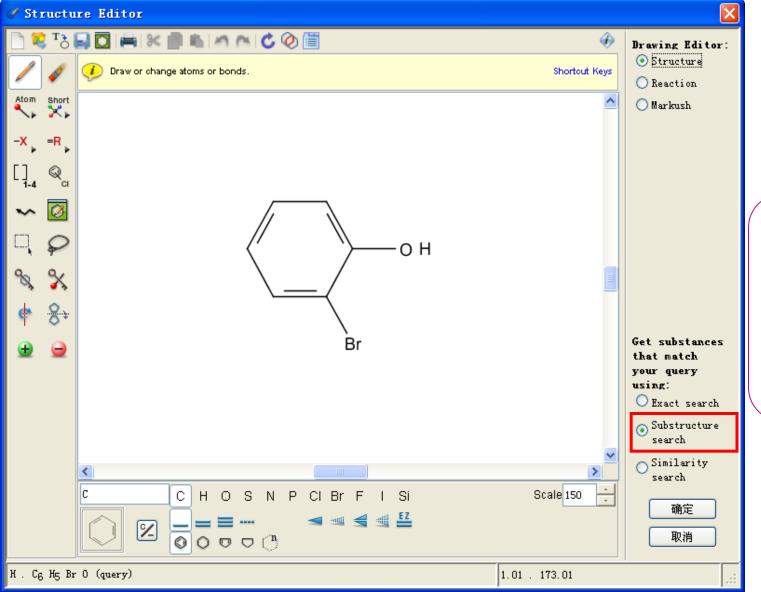
- Exact Structure
- Substructure
- Similarity
- Show precision analysis

三种结构检索方式: 精确结构检索 亚结构检索 相似结构检索

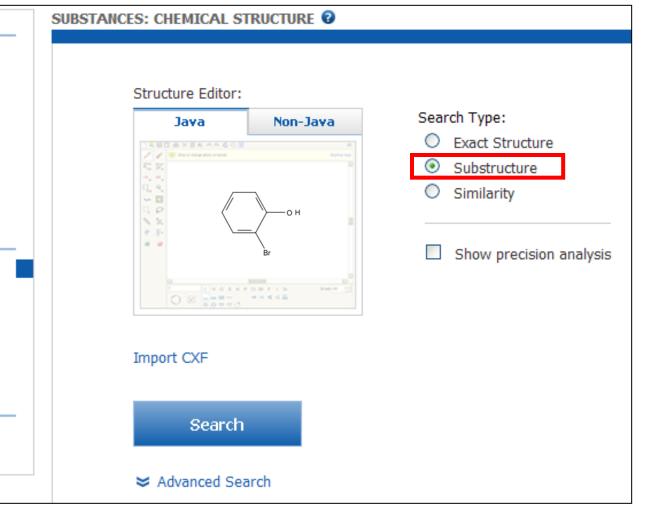
## 精确结构检索



## 亚结构检索



亚结构检索 查找特定母 核结构的一 类物质



#### REFERENCES

Research Topic

Author Name

Company Name

Document Identifier

Journal

Patent

Tags

#### SUBSTANCES

Chemical Structure

Markush

Molecular Formula

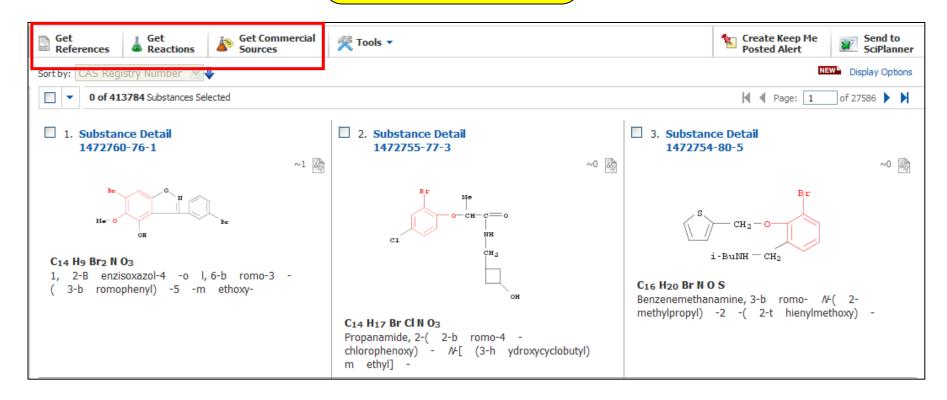
Property

Substance Identifier

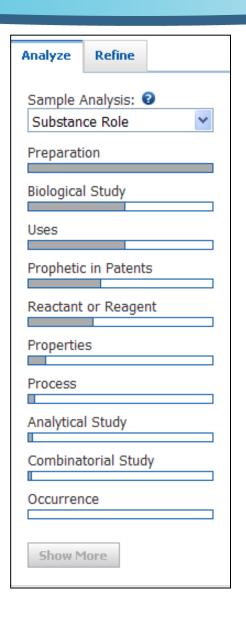
#### ▲ REACTIONS

Reaction Structure

获得与物质有关的 文献、反应、商品 信息。



## 物质检索分析限定工具



## 七种限定功能:

- 1结构修饰
- 2 同位素包含
- 3 金属包含
- 4商业来源
- 5 理化性质
- 6 文献来源
- 7原子附属性

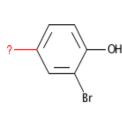




#### Refine

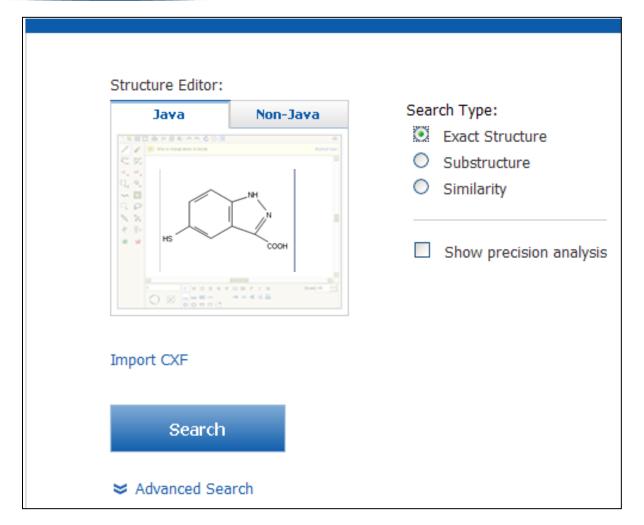
### Refine by: 🐠

- Chemical Structure
- Isotope-Containing
- Metal-Containing
- O Commercial Availability
- O Property Availability
- O Property Value
- Reference Availability
- O Atom Attachment

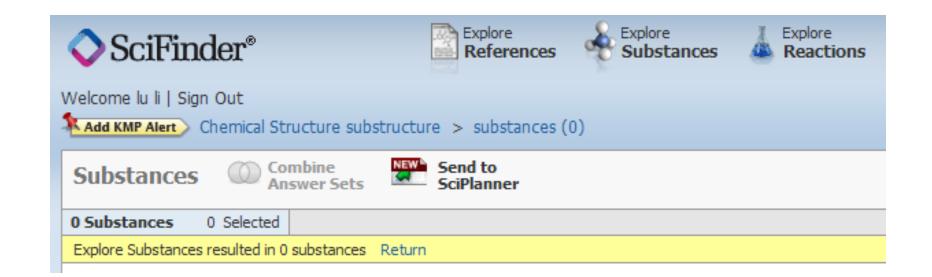


精炼指定处 (问号处)所 带的元素

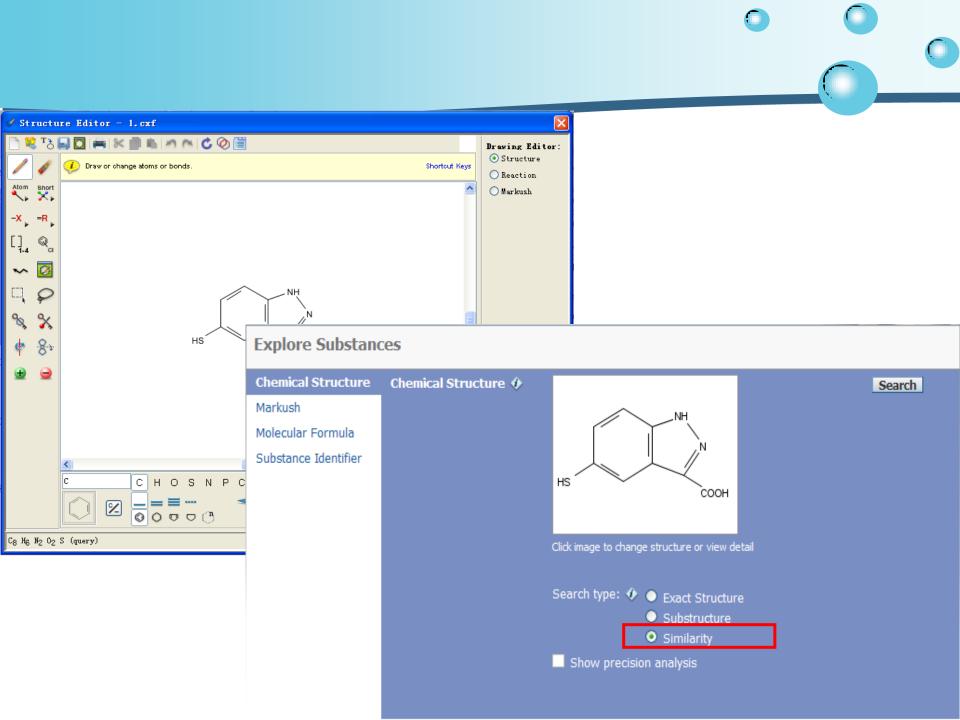
## 相似结构检索



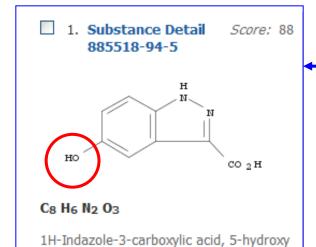
想要合成一种设计的新物质



检索结果为0,新物质,未合成过可通过相似物质的反应,得到新物质的合成可能性。

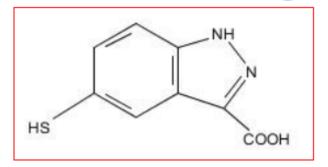


6 Candidate	es 3 Selected		
Select All	Deselect All		
s	Similarity Candid	ates	Substances
_ ≥	99 (most similar	)	0
9	5-98		0
_ 9	0-94		0
<b>✓</b> 8	5-89		10
✓ 8	0-84		26
<b>☑</b> 7	5-79	相似度越高,结构越相近	45
_ 7	0-74	相似及她同,结构她相处	148
<u> </u>	5-69		322
O	-64 (least similar		657



## 取代基和位置不同

## 取代基不同



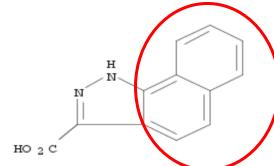
4. Substance Detail Score: 86 858227-12-0

C9 H8 N2 O2

1H-Indazole-3-carboxylic acid, 6-methyl-

### 母核结构不同

64. Substance Detail Score: 76



C<sub>12</sub> H<sub>8</sub> N<sub>2</sub> O<sub>2</sub>

1H-Benz[g]indazole-3-carboxylic acid

## 5. Makrush检索

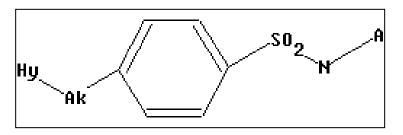
- 具体物质[Specific Substance]:
  以具体化学结构所陈述的特定物质,会被标示CAS No.
- 预测性物质[Prophetic Substance]:
   使用Markush结构所陈述的预测物质,一个Markush可以陈述上百或上千的化学物质

Patent 中所陈述的预测物质,不会被标示CAS No.

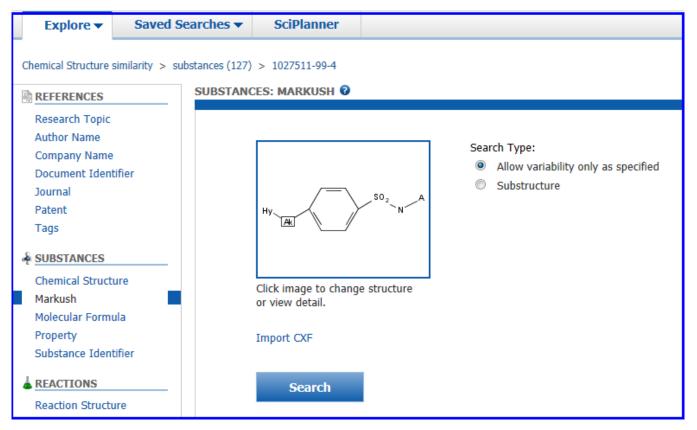
Markush检索,能检索到通过结构检索检不到的专利

R1 = H, Br, Cl, I
$$R2 = Br, Cl, I, -CH_2-halogen, -CH-halogen,$$

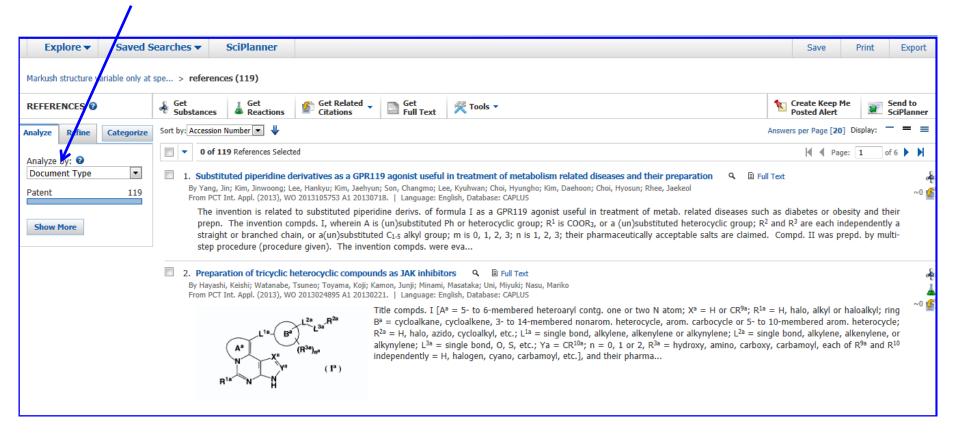
$$CH_3$$



SciFinder中的Markush检索 能帮助做初步的专利评估。



### 全部是专利文献



## 结构检索小结

## 精确结构检索:

获得物质的盐、聚合物、配合物等,母体结构不能改变,不能修饰

### 亚结构检索:

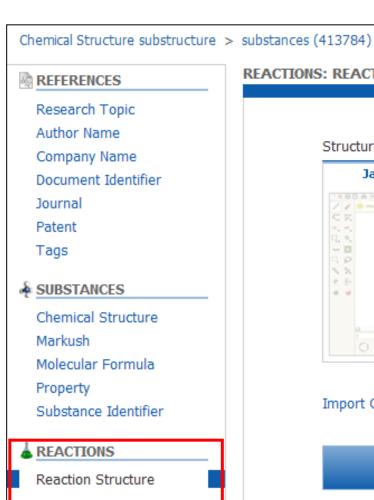
所画的结构必须存在, 母体结构不能修改, 但可以修饰。

### 相似结构检索:

母体结构可以修改,可以修饰,相似度来控制获得的结果。

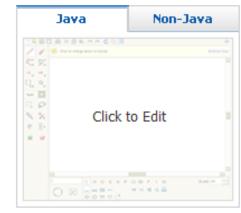
## 检索方式-反应检索







#### Structure Editor:



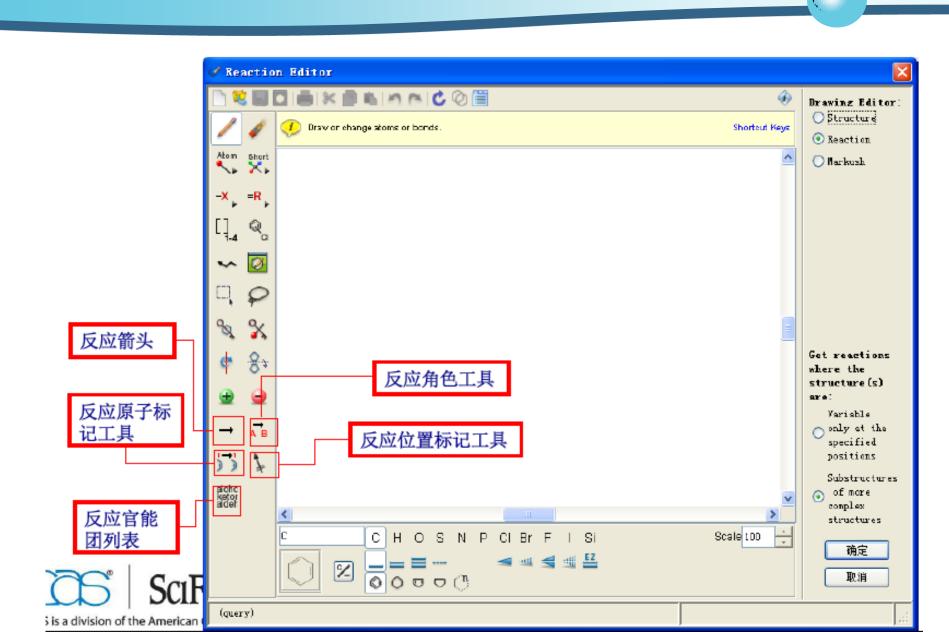
#### Search Type:

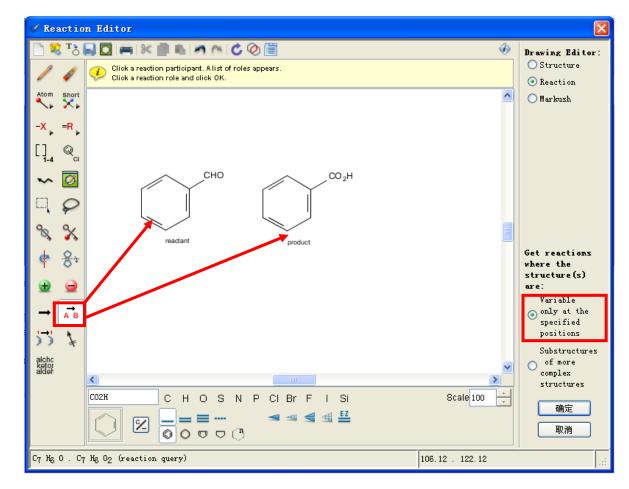
- Allow variability only as specified
- Substructure

Import CXF

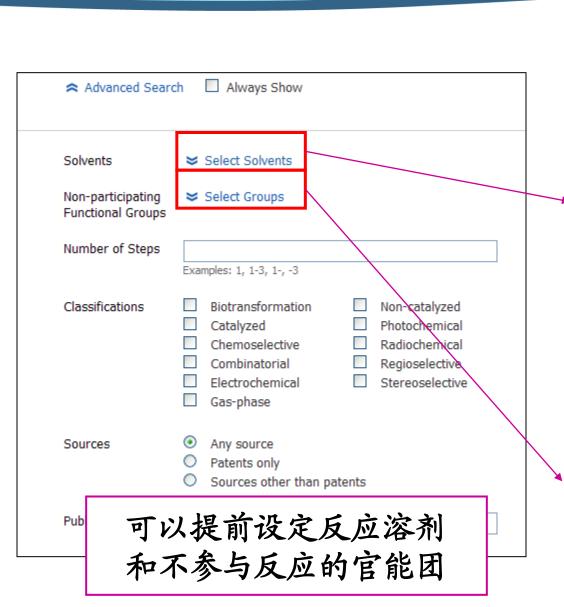
Search

Advanced Search



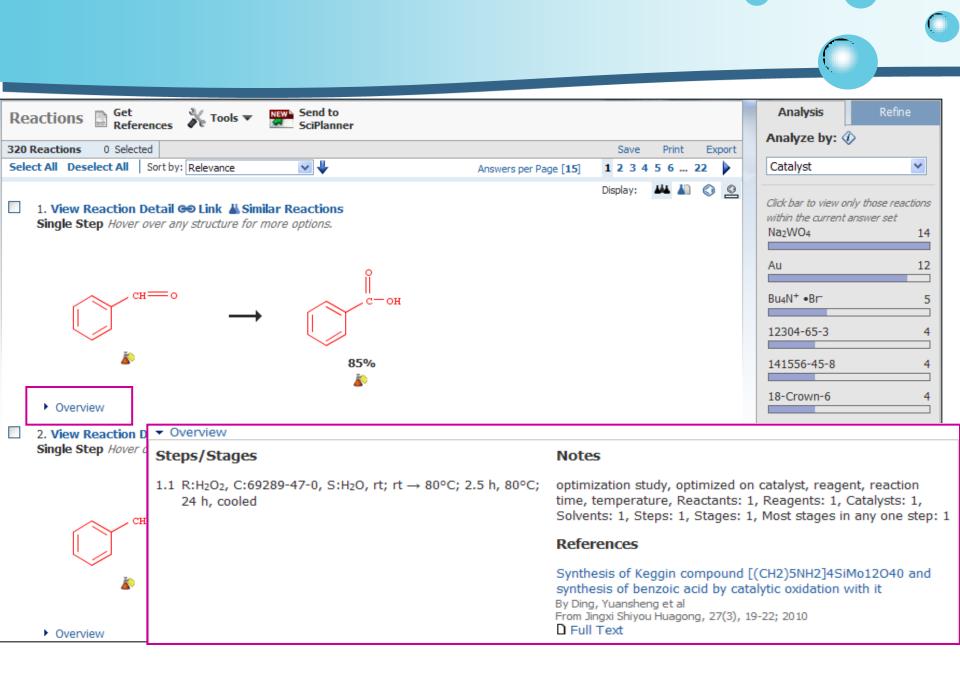


精确物质检 索获得特定 的物质反应

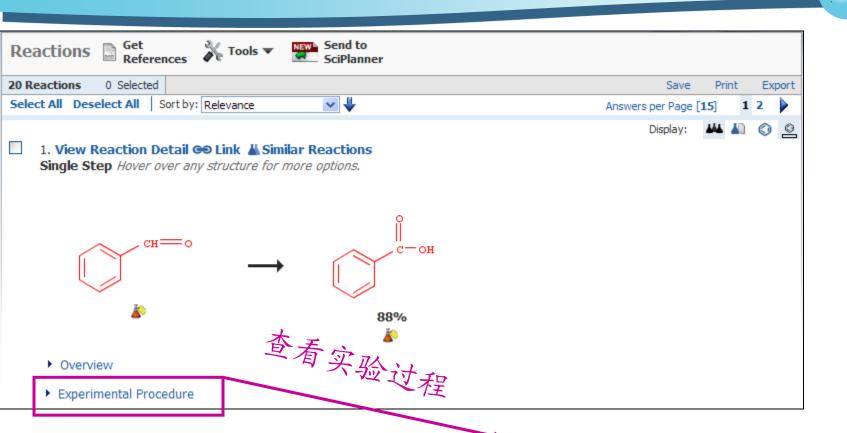


Solvent Hie						
0 Selected	Select All	Deselect All				
_ ☐ Inorga	nic solvent	s				^
Ammo Water Water Water	nia-15N nia-d3 -170 -180					
Water- Water- Ionic li	-d2 -d2-180 -t -t2 quids	derivatives			,	
<		)			>	~
Find:			Next	Previous		

View:	All	217 💌			
0 Selected	d Clear Sele	ections			
Acetal Acetyl Acid Hal Acyclic A Acyclic A Acylmet ALCOHO Aldehyd pi-Alken ALKENES Alkyl Ha	Alkene Ketone al DLS e e e S Jide				
Alkyne					~
Reactions r	nust have	all select     any select			



### 查看实验过程

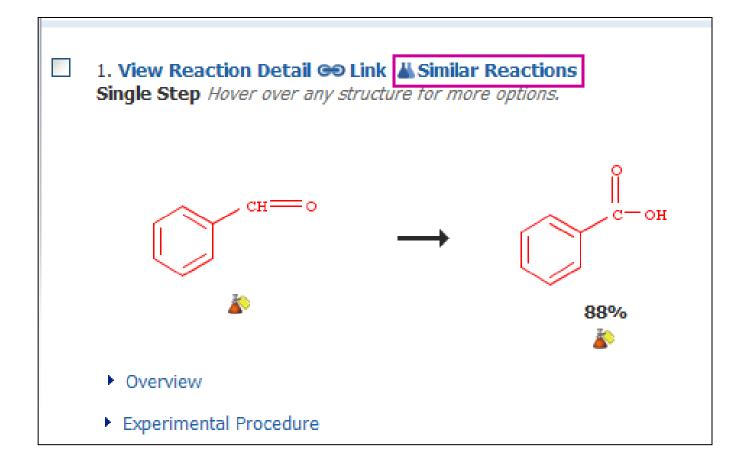


#### ▼ Experimental Procedure

LETTERS

General/Typical Procedure: (a) Synthesis of carboxylic acids:- DBU(20 mol %) was added to a suspension of the 1,3-dimesityl imidazolinium chloride (15 mol %) and aldehyde(1 mmol) in dry THF. A slow stream of CO<sub>2</sub> was passed through this solution for 15 minutes. The reaction mixture was quenched with hydrochloric acid (1N, 5ml) and extracted with dichloromethane (3x4 ml). The organic layer was washed with brine, dried with Na<sub>2</sub>SO<sub>4</sub>, filtered and concentrated. The concentrated residue was subjected to column chromatography on a silica gel (100-200 mesh) column using 90:10 hexane-ethyl acetate solvent mixture as eluent to afford corresponding carboxylic acid. Compound 3c, yield 88%  $^1$ H NMR (500 MHz, CDCl<sub>3</sub>)  $\delta$  8.13-8.11 (m, 2H) 7.61-7.59 (m, 1H) 7.49-7.46 (m, 1H)  $^{13}$ C NMR (125 MHz, CDCl<sub>3</sub>)  $\delta$  172.0, 133.7, 130.3, 129.4, 128.4

## 获得反应中心相似的反应



#### Get Similar Reactions 🐠

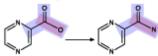
#### Retrieve similar reactions from:

- All reactions
- O Current answer set

#### Include this level of similarity:

O Broad - Reaction centers only (9316)

O Medium - Reaction centers plus adjacent atoms and bonds (4176)



Narrow - Reaction centers plus extended atoms and bonds (3458)

Overview

Broad: 反应中心相似

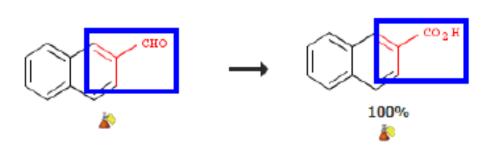
Medium: 反应中心及附属原子和健

Narrow: 反应中心及扩展的原子和健

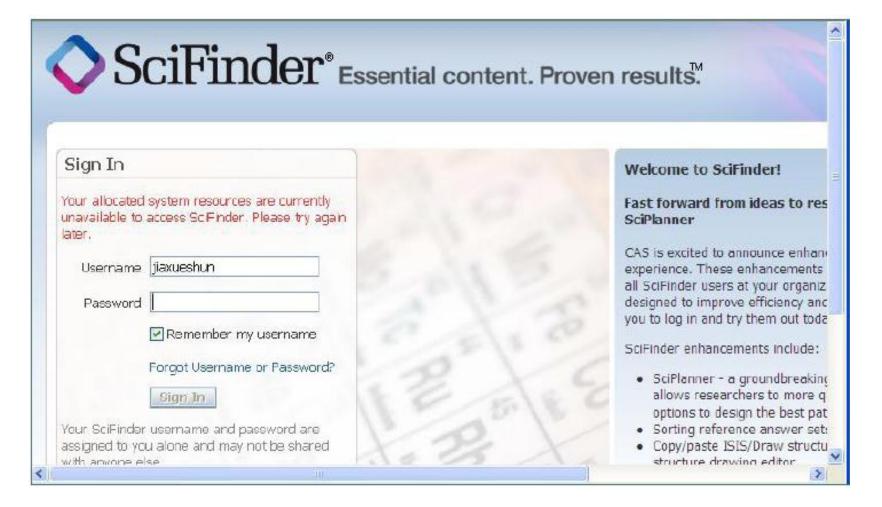
Display:



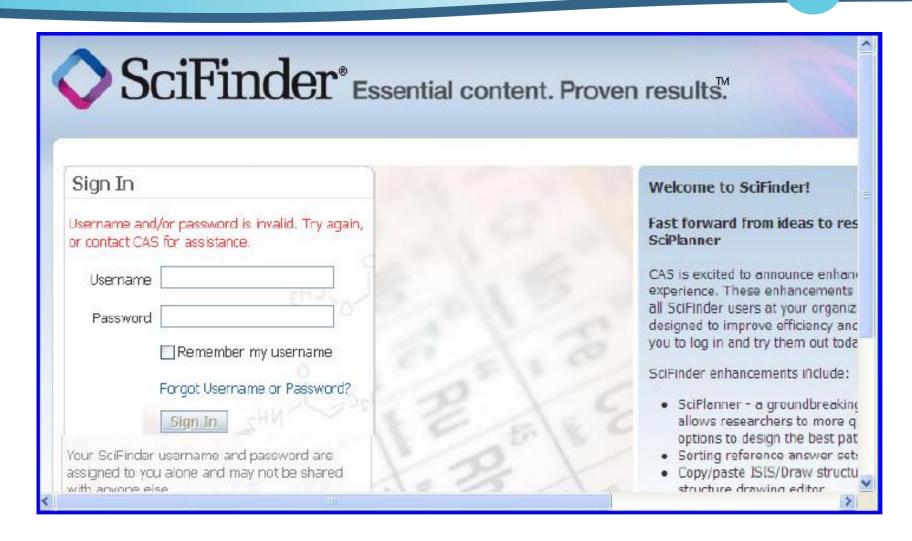
Single Step Hover over any structure for more options.



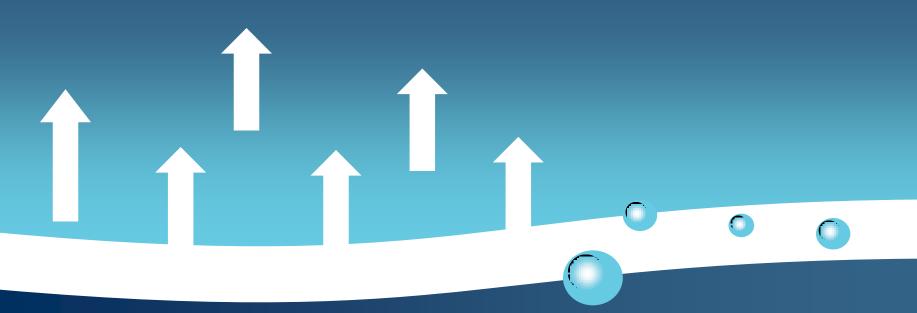
## 补充问题



## 并发用户已满, 请稍后再试



用户名或密码错误,请在username处填写,截图,并与图书馆联系



# THANK YOU

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Email: hu. jing@scu. edu. cn