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# SciFinder检索难点解析

中国科技大学 2017.3.21



## 提纲

- SciFinder介绍
- SciFinder文献检索难点解析
- SciFinder物质检索难点解析
- SciFinder反应检索难点解析



## 提纲

- SciFinder介绍
  - 索引的价值
  - 增值的专利信息
  - CAS最新动向



### 美国化学文摘社—Chemical Abstracts Service

- •ACS的分支机构
- •创建于1907年,简称"CAS"
- •最早创立了《化学文摘》
- •密切关注,索引和提炼着全球化学相关的文献和专利
- •总部座落于俄亥俄州的哥伦布市





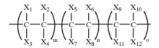
## SciFinder对专利的加强

on (10) Pub. No.: US 2003/0236353 A1

(43) **Pub. Date:** Dec. 25, 2003

#### (57) ABSTRACT

A golf ball comprising a core, a cover, and an intermediate layer disposed between the core and the cover, wherein the intermediate layer comprises a non-ionomeric fluoropolymer having a formula:



wherein  $X_1$  to  $X_{12}$  are hydrogen, fluorine, chlorine, bromine, iodine, CH $_3$ , CF $_3$ , linear or branched alkyl group, partially fluorinated or perfluorinated alkyl group, linear or branched alkoxy group, partially fluorinated or perfluorinated alkoxy group, aromatic, or alicyclic; at least one of  $X_1$  to  $X_4$  comprises a fluorine; m ranges from 100 to 1 percent by weight of the fluoropolymer; n ranges from 0 to 50 percent by weight of the fluoropolymer; and o ranges from 0 to 35 percent by weight of the fluoropolymer; and o ranges from 0 to 35 percent by weight of the fluoropolymer;

### 改写的标题和摘要:

- 1. 更真实反映原文内容
- 2. 明确指出专利的科技要点
- 3. 翻译50多种语言的专利

### 3. Golf balls comprising non-ionomeric fluoropolymer

By: Rajagopalan, Murali Assignee: Acushnet Co., USA

A golf ball comprises a core, a cover, and an intermediate layer disposed between the core and the cover, wherein the intermediate layer comprises a non-ionomeric fluoropolymer having a formula -[CX¹(X³)CX²(X⁴)]-[CX⁵(X²)CX²(X⁴)]-[CX⁵(X²)CX²(X²)]-; wherein X¹ to X¹² are hydrogen, fluorine, chlorine, bromine, iodine, CH₃, CF₃, linear or branched alkyl group, partially fluorinated or perfluorinated alkyl group, linear or branched alkoxy group, partially fluorinated or perfluorinated alkoxy group, arom., or alicyclic; at least one of X¹ to X⁴ comprises a fluorine; m ranges from 100 to 1 percent by wt. of the fluoropolymer; n ranges from 0 to 50 percent by wt. of the fluoropolymer; and o ranges from 0 to 35 percent by wt. of the fluoropolymer. Thus, a compn. of the an intermediate layer of a golf ball contains Kynar Flex 2900-04 (hexafluoropropylene-vinylidene fluoride copolymer). The intermediate layer was molded over a polybutadiene core to give a golf ball with an ATTI compression of 80, and a COR at 125 ft/s 0f 0.795, and water absorption <0.05%.



## SciFinder中的专利族信息的价值

- 多种语言等同件(用户可以选择阅读自己母语的专利)
- 查看专利保护国家及未保护的国家市场
- 通过专利分类代码判断专利公开状态
- 发明专利保护的范围和规模
- 基本专利(被数据库索引的第一篇专利)及化学索引等同件
- 判断专利申请及是否需要申请专利的市场相关信息

Patent Informatio	n					
Patent No.		Kind	Language	Date	Application No.	Date
US 20030236353		A1		Dec 25, 2003	US 2002-171355	Jun 13, 2002
US 6747110		B2		Jun 8, 2004		
JP 2004041721		Α		Feb 12, 2004	JP 2003-166490	Jun 11, 2003
US 20040192833	PatentPak <sup>*</sup>	A1	English	Sep 30, 2004	US 2004-817366	Apr 2, 2004
US 7083856		B2		Aug 1, 2006		
US 20040210017		A1		Oct 21, 2004	US 2004-842607	May 10, 2004
US 7101944		B2		Sep 5, 2006		
US 20040236018	PatentPak <sup>*</sup>	A1	English	Nov 25, 2004	US 2004-867073	Jun 14, 2004
US 7009002		B2		Mar 7, 2006		
Priority Application	1					
US 2002-171355		Α		Jun 13, 2002		
US 2004-842607		A2		May 10, 2004		



## 提纲

- SciFinder文献检索难点解析
  - 利用Index Term修正检索词
  - 巧用CAS Role
  - 善用Categorize
  - 避免标引时差引起的漏检



## SciFinder检索——文献检索

### ■ 文献检索方法

- 主题检索
- 作者名检索
- 机构名检索
- 文献标识符检索
- 期刊名称和专利信息(公开号,申请号等)
- 从物质,反应获得文献

### ■ 检索策略推荐

– 关注某特定领域的文献:主题检索

– 关注物质有关的文献:先获得物质,再获得文献

- 关注某科研人员的文献:作者名检索

– 关注某机构科研进展:机构名检索

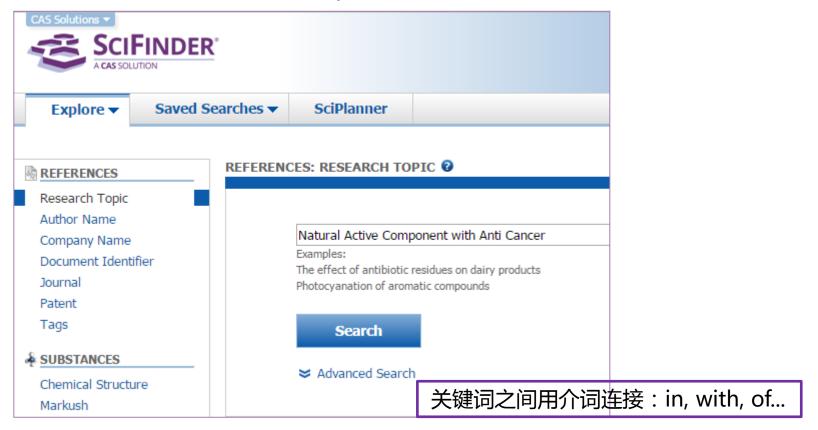




### 利用Inder Term选词

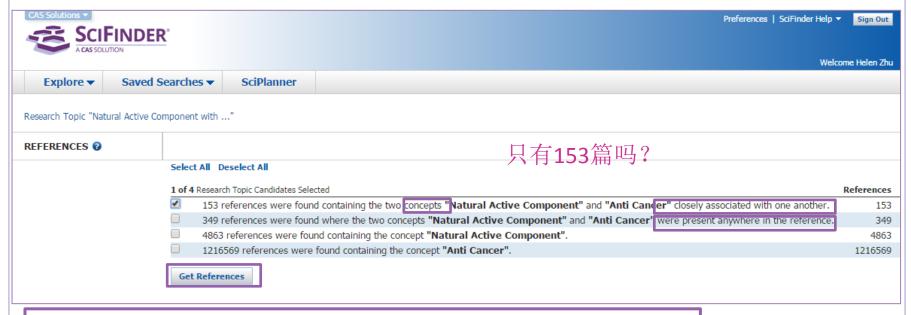
主题检索:植物中天然活性成分的抗癌研究

检索式: Natural Active Component with Anti Cancer





### 主题检索的候选项



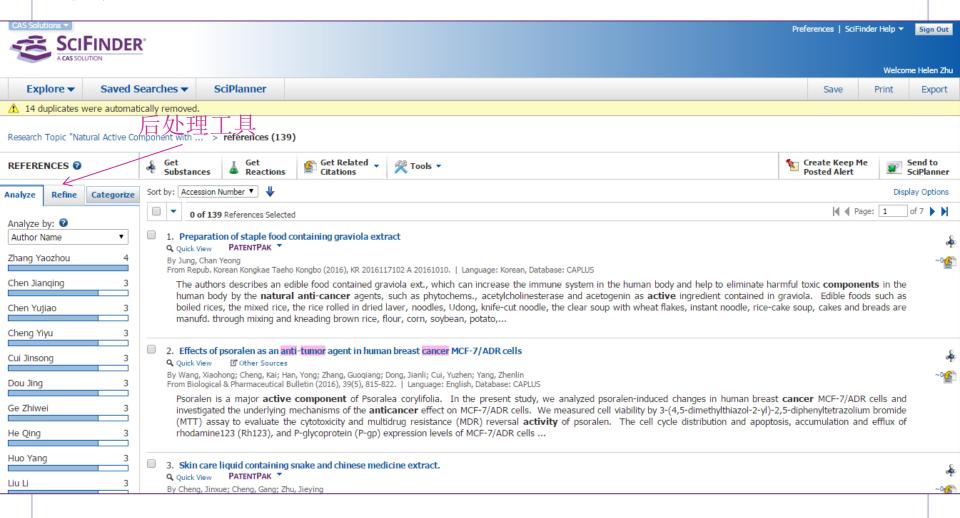
"Concepts"表示对主题词做了同义词的扩展;

"Closely associated with one another"表示同时出现在一个句子中;

"were present anywhere in the reference"表示同时出现在一篇文献中;

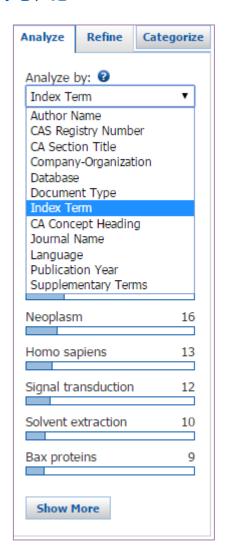


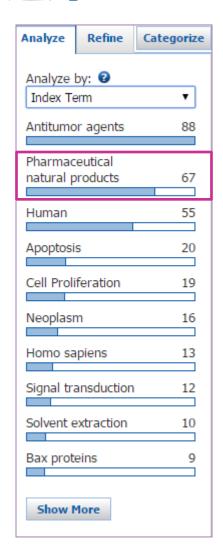
## 利用Index Term选词





## 利用Index Term选词



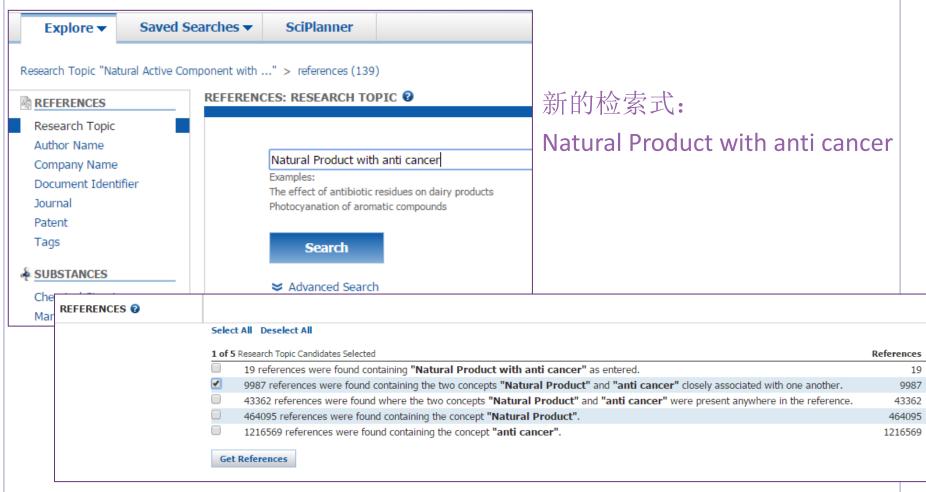


Index Term基于内容的分析工具,发现natural products, Pharmaceutical 这个和天然活性成分很相关的词

是否用这个词去检索,效果会更好?



## 利用Index Term选词



更换检索词后,结果放大近70倍



# STN中的CAS Role

Removal or Disposal

A	ANST Analytical Study			BIOL Biological Study		
		Analyte	ANT		Adverse Effect, Including Toxicity	ADV
		Analytical Matrix	AMX		Agricultural Use	AGR
		Analytical Reagent Use	ARG		Biological Activity or Effector, Except Adverse	BAC
		Analytical Role, Unclassified	ARU		Biochemical Process	BCP
F	PREP	Preparation			Bioindustrial Manufacture	BMF
		Bioindustrial Manufacture	BMF		Biological Occurrence	BOC
		Biosynthetic Preparation	BPN		Biosynthetic Preparation	BPN
		Byproduct	BYP		Biological Process	BPR
	Preparation, Unclassified Purification or Recovery Synthetic Preparation  PROC Process		IMF		Biological Study, Unclassified	BSU
ı			PNU	1	Biological Use, Unclassified	BUU
			PUR		Cosmetic Use	cos
			SPN		Diagnostic Use	DGN
F					Food or Feed Use	FFD
	Biochemical Process Biological Process Geological or Astronomical Process Physical, Engineering, or Chemical Process		BCP		Natural Product Occurrence	NPO
			BPR		Pharmacological Activity	PAC
			GPR		Pharmacokinetics	PKT
			PEP		Therapeutic Use	THU
			FLF	Proprietary and Confidential / Do Not Γ	Distribute	14

REM

## STN中的CAS Role

FORM F	Formation, Non	preparative
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Formation, Unclassified FMU

Geological or Astronomical Formation GFM

NANO Nanomaterial

OCCU Occurrence

Biological Occurrence BOC

Geological or Astronomical
Occurrence
GOC

Natural Product Occurrence NPO

Occurrence, Unclassified OCU

Pollutant POL

#### RACT Reactant or Reagent

Reactant RCT

Reagent RGT

#### **USES Uses**

Agricultural Use AGR

Analytical Reagent Use ARG

Biological Use, Unclassified BUU

Catalyst Use CAT

Cosmetic Use COS

Diagnostic Use DGN

Food or Feed Use FFD

Modifier or Additive Use MOA

Other Use, Unclassified NUU

Polymer in Formulation POF

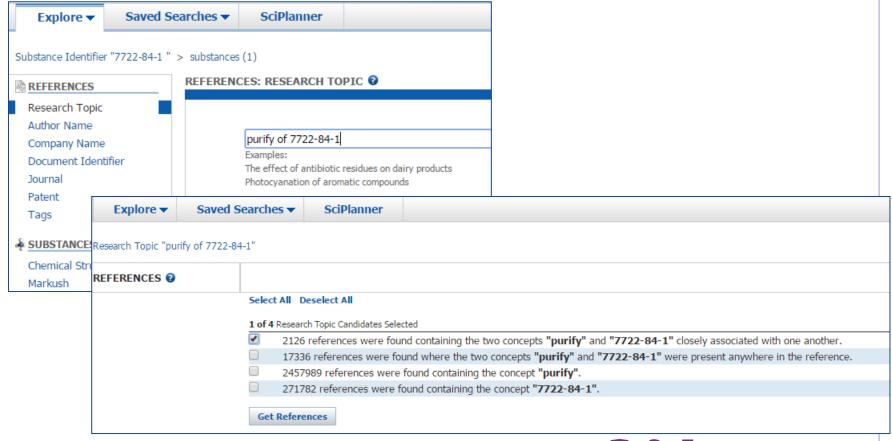
Technical or Engineered Material TEM

Use

Therapeutic Use THU



### 查找纯化双氧水 (7722-84-1) 的文献



#### 1. A method for a kind of tailwater cascade oxidation depth purification [Machine Translation].

By: Liu, Fuqiang; Luo, Kun; Shuang, Chendong; Hu, Dabo; Zhao, Wei; Jiang, Bicun; Yan, Tingting; Li, Jianhua; Li, Aimin Assignee: Nanjing University, Peop. Rep. China

[Machine Translation of Descriptors]. The invention discloses a kind of biochem. oxidn. cascade tail water depth purifn. method, belongs to biochem. tail water depth treatment tech. field. The present invention firstly adopts ferrous and hydrogen peroxide to carry out oxidn. to participate in the pre-oxidn., then using subsequent preliminary sedimentation stage when pH is 2.5~ 6 formed on iron mud waste water adsorption and floculation, remove part of org. and inorg. phosphorus, Reduce photocatalytic oxidn. strengthen weakened section of org. and inorg. phosphorus load impact; further use of catalytic oxidn. depth to remove orgs., strengthen the subsequent secondary sedimentation stage pH as 6-9, the formation of iron mud back to pre-oxidn. section, as a catalyst recycling, reduce medicine consumption and low sludge amt. The present invention also play the pre-oxidn. zone hydroxyl free radical reaction is quick and has broad-spectrum resistance characteristics, and effectively utilizes neutralization pptn. when different pH scope formed iron mud adsorption characteristics and catalytic activity, significantly improves the reaction efficiency, low reagent consumption, and effectively realize the recycling of iron mud.

#### Patent Information

Patent No.	Kind	Language	Date	Application No.	Date
CN 106007080	Α		Oct 12, 2016	CN 2016-10521105	Jul 1, 2016

#### **Priority Application**

CN 2016-10521105 Jul 1, 2016

#### Indexing

Waste Treatment and Disposal (Section60)

#### Concepts

Adsorption	Recycling
Sludges	pН

a method for a kind of tailwater cascade oxidn. depth purifn. [Machine Translation].

#### Substances

1333-74-0 Hydrogen 9 7439-89-6 Iron 9

7722-84-1 Hydrogen peroxide (H2O2) 9

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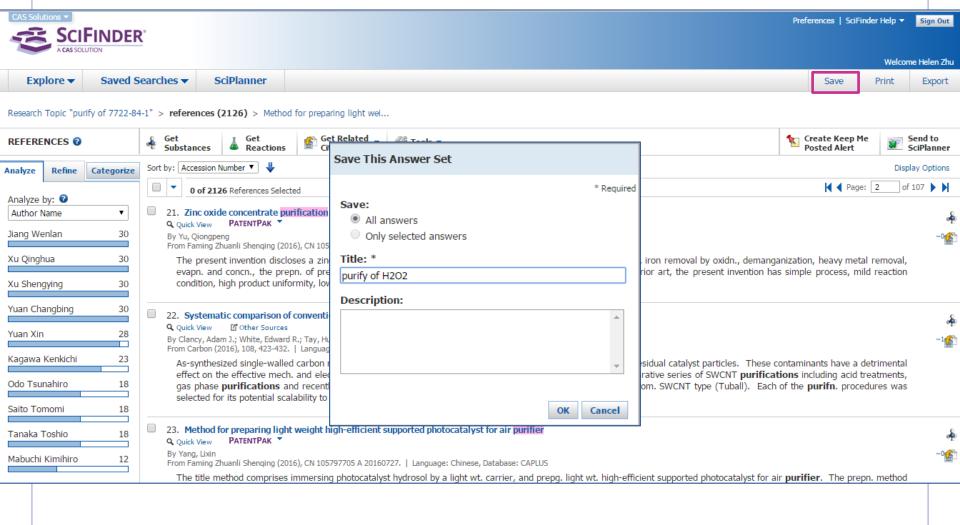
7723-14-0 Phosphorus 9

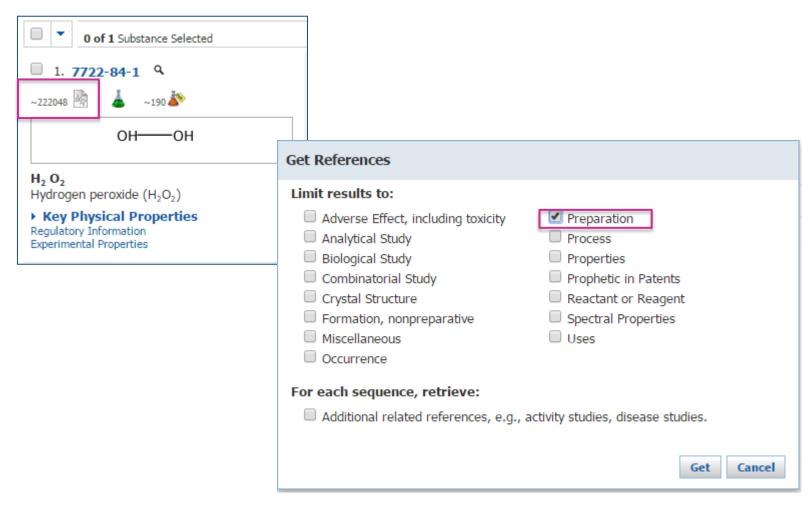
a method for a kind of tailwater cascade oxidn. depth purifn. [Machine Translation].

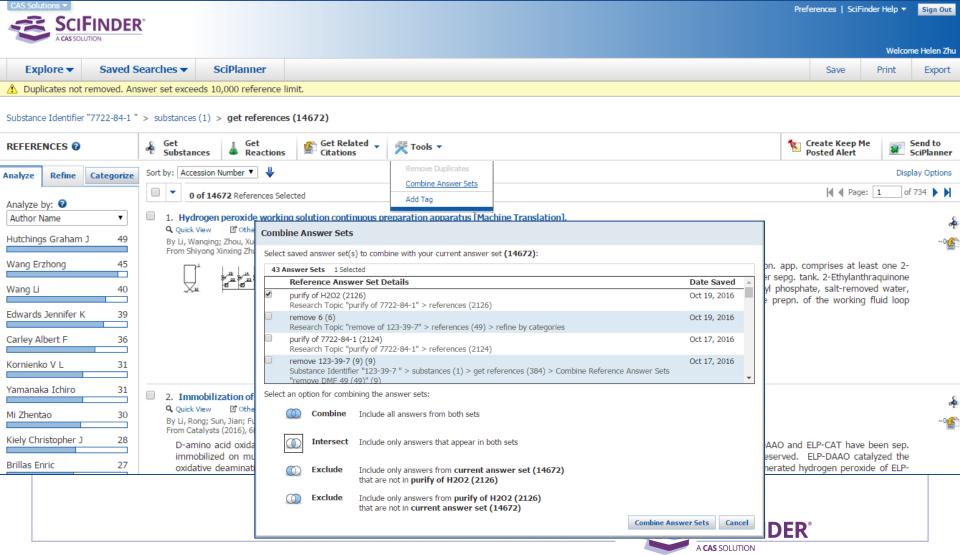
Pollutant; Removal or disposal; Occurrence; Process

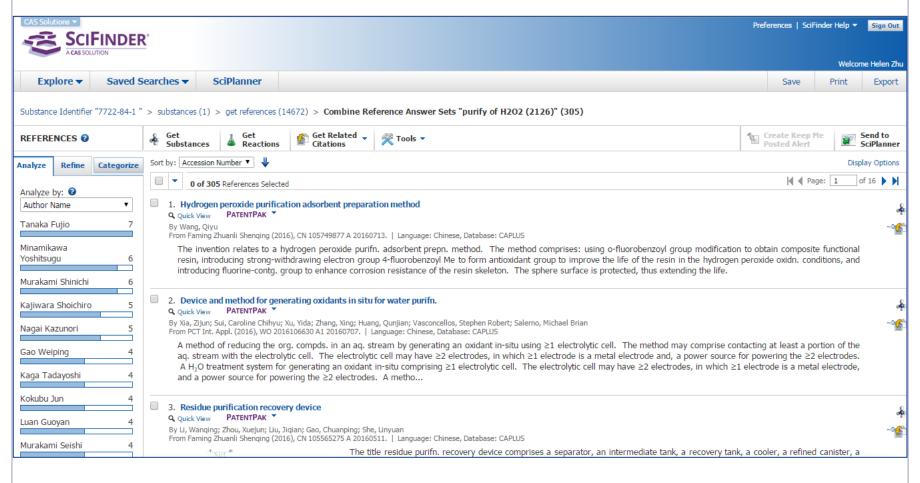
### 噪音信息











### 浏览记录, 判断是否符合要求



#### 1. Hydrogen peroxide purification adsorbent preparation method

By: Wang, Qiyu

Assignee: Wang, Jinming, Peop. Rep. China

The invention relates to a hydrogen peroxide purifn. adsorbent prepn. method. The method comprises: using o-fluorobenzoyl group modification to obtain composite functional resin, introducing strong-withdrawing electron group 4-fluorobenzoyl Me to form antioxidant group to improve the life of the resin in the hydrogen peroxide oxidn. conditions, and introducing fluorine-contg. group to enhance corrosion resistance of the resin skeleton. The sphere surface is protected, thus extending the life.

#### **Patent Information**

Patent No.		Kind	Language	Date	Application No.	Date	
CN 105749877	PATENTPAK	Α		Jul 13, 2016		0	Daniel Din Branco
Priority Application	1				7722-84-1P Hydrogen per	oxide, preparation 4	Page 2 in PATENTPAK
CN 2015-10852280				Nov 26, 2015	hydrogen peroxide purifn.	adsorbent prepn. method	
					, a o g c p c. o a c p a		
					Purification or recovery; Pr	reparation	

#### 8. Method of purifying hydrogen peroxide using reverse osmosis membrane and ion exchangers

By: Myung, Jung Jae

Assignee: Dongwoo Fine-Chem Co., Ltd., S. Korea

The invention relates to a method of purifying  $H_2O_2$  by using a reverse osmosis membrane which is a C nanomaterial-coated porous polymer scaffolds, an anion exchange resin and a cation exchange resin. More specifically, the invention relates to a method of purifying  $H_2O_2$  characterized by passing  $H_2O_2$  through a cation exchange resin and an anion exchange resin after passing through a reverse osmosis membrane coated with C nanomaterials over porous polymer scaffolds.



- 탄소나노물직

\_ 다콤 7722-84-1P Hydrogen peroxide (H2O2), preparation 역

Page 2 in PATENTPAK

method of purifying hydrogen peroxide using reverse osmosis membrane and ion exchangers

Purification or recovery; Preparation

都是需要的文献

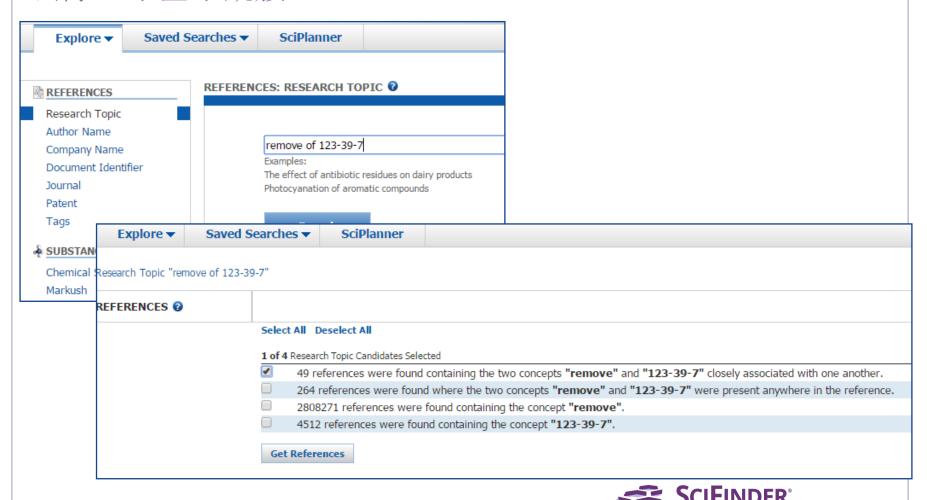


### 检索文献:

- 1. 去除N-甲基甲酰胺(123-39-7)的文献?
- 2. 用N-甲基甲酰胺 (123-39-7) 作洗脱剂的文献?



去除N-甲基甲酰胺 (123-39-7)



#### 1. Removal of gas phase dimethylamine and N,N-dimethylformamide using non-thermal plasma

By: Wang, Wenzheng; Fan, Xing; Zhu, Tianle; Wang, Haining; Ye, Daigi; Hong, Xiaowei

Dimethylamine (DMA) and N,N-dimethylformamide (DMF) are typical N-VOCs exhausted from manufg. factories. In the present study, the behavior of non-thermal plasma (NTP) was systematically investigated for removal of gas-phase DMA and DMF in a link tooth wheel-cylinder plasma reactor. Exptl. results show that DMA is much easier to be decompd. by NTP than DMF. Coexisting DMF has no effect on DMA conversion while DMF conversion is significantly promoted by the addn. of DMA. Regardless of initial gas compns. as well as DMA and DMF concn., CO<sub>x</sub> selectivity increased monotonously with increasing ED. But CO<sub>x</sub> selectivity of 100% cannot be obtained even with ED higher than 70 J L<sup>-1</sup>, indicating the formation of org. intermediates during DMA and DMF decompn. Based on org. products anal. with GC-MS and mol. optimization results with d. functional theory calcn., possible mechanisms on DMA and DMF degrdn. were proposed. The org. products from DMA and DMF decompn. by NTP were found to have great soly. and high biodegradability. Thus, NTP enhanced absorption/biol. method is suggested for complete removal of DMA and DMF.

#### Indexing

Air Pollution and Industrial Hygiene (Section59-4)

#### Concepts

Absorption Air pollution control Bond energy Bond length

Decomposition Decomposition catalysts
Plasma Waste gas treatment

removal of gas phase dimethylamine and N,N-dimethylformamide using non-thermal plasma

#### Volatile organic compounds

removal of gas phase dimethylamine and N,N-dimethylformamide using non-thermal plasma

Removal or disposal; Process

#### Substances

56-40-6 Glycine, formation (nonpreparative)

64-18-6 Formic acid, formation (nonpreparative)

75-12-7 Formamide, formation (nonpreparative) 9
79-20-9 Methyl acetate 9

105-37-3 Ethyl propionate

107-31-3 Methyl formate

123-39-7 N-Methyl formamide Q

O NH CH

144-62-7 Oxalic acid, formation (nonpreparative)

removal of gas phase dimethylamine and N,N-dimethylformamide using non-thermal plasma

Formation, unclassified; Formation, nonpreparative

### 需要的文献



#### 3. Removing agent containing alkylamide mixture

By: Li, Bo; Yu, Ran

Assignee: Qingdao Hui Cheng Petrochemical Technology Co., Ltd., Peop. Rep. China

The present invention relates to a kind of alkylamide removing agent. The removing agent comprises N-methylformamide 50-70 wt.%, N, N-dimethyl acetamide 30-50 wt.% and water as balance. The alkylamide removing agent of the present invention has water compatibility, and has no corrosivity for copper or copper alloy, and is generally nontoxic to mankind and environment. Because the constituent of alkylamide removing agent only comprises two main constituents, the removing agent after use can be easily by fractionation and recombine to original formula, and can be recycled to apply in the prepn. process to achieve the effect of reducing cost and environmental protection. The present invention also provides a method of using the removing agent of the present invention to remove photoresist.

#### Patent Information

Patent No.	Kind	Language	Date	Application No.	Date
CN 104698775	PATENTPAK A		Jun 10, 2015	CN 2013-10646205	Dec 4, 2013

#### **Priority Application**

removing agent contg. alkylamide mixt.

CN 2013-10646205 Dec 4, 2013

#### Indexing

Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes (Section74-5)

#### Concepts

Coating removers	Photoresists
removing agent contg. alkylamide mixt.	
Amides	

Other use, unclassified; Physical, engineering or chemical process; Process; Uses

#### Substances

123-39-7 N-Methylformamide Q

NH

CH<sub>3</sub>

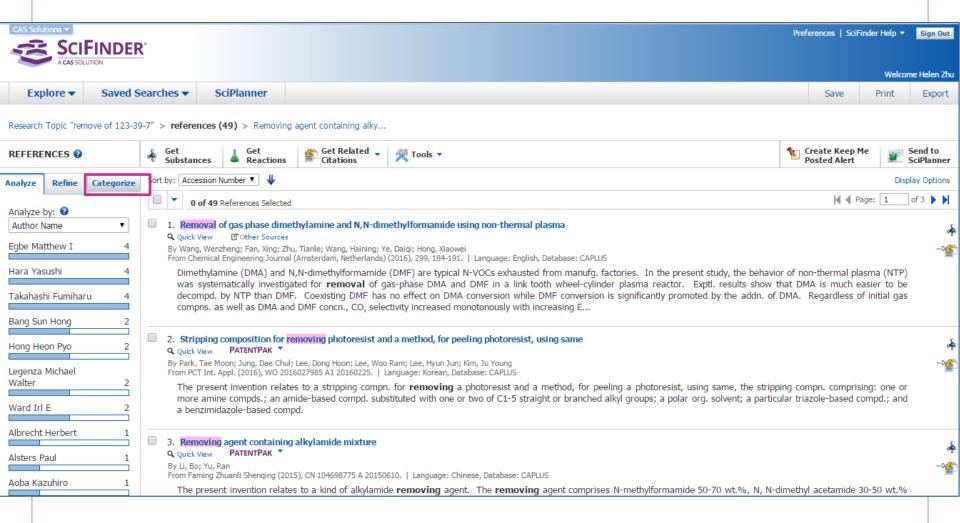
127-19-5 N, N-Dimethyl acetamide Q

removing agent contg. alkylamide mixt.

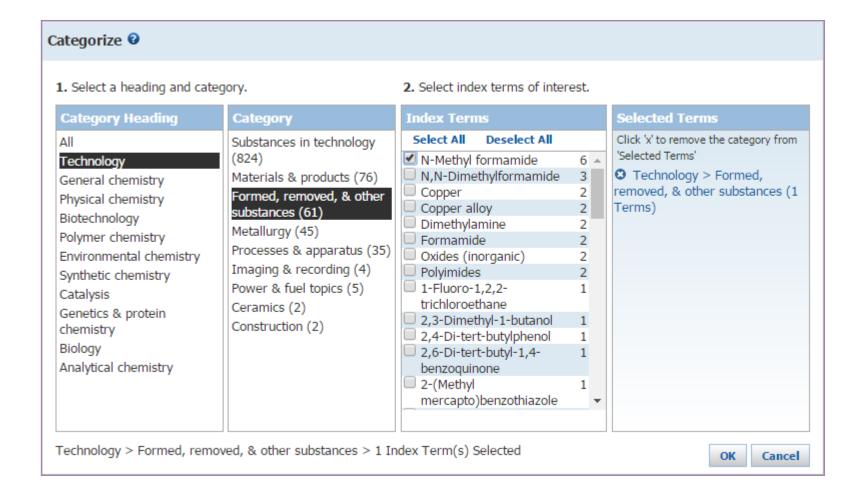
Other use, unclassified; Physical, engineering or chemical process; Process; Uses

# 噪音信息更多,如何去除?











### **Update frequency**

- · Updated daily
- Patent references from nine major issuing authorities available within two days from the time the patent was issued

9大核心专利机构发布的 专利2日内收录进 SciFinder

Bibliographic information and abstracts for all articles in more than 1,500 key scientific journals are added to CAplus<sup>SM</sup> within 7 days. The list below is sorted alphabetically by the full journal title and also includes the journal abbreviation and CODEN. This is not the full list of publications covered by CAS, and the list is subject to change.

核心期刊的文献7日内 收录进SciFinder

对核心期刊及核心专利机构发布的专利的标引在2-3周内完成

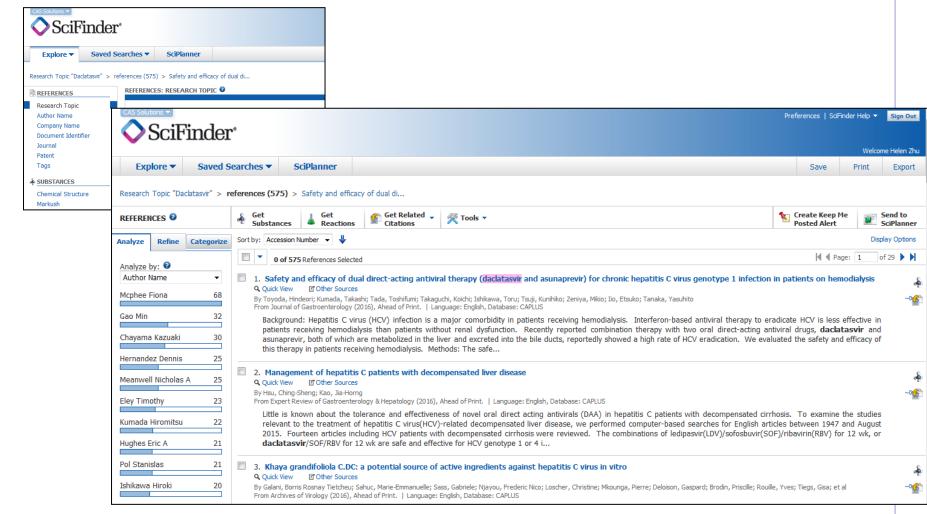
### 在收录至标引期间的文献可能会漏检!



检索治疗肝病的药物Daclatasvir的相关文献

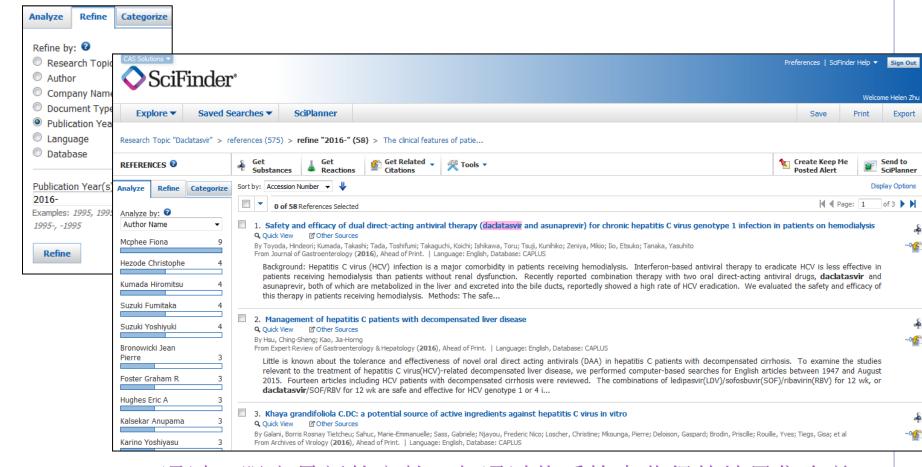


30



通过主题直接检索物质名称,发现最新的文献





通过PY限定最新的文献,与通过物质检索获得的结果集合并



#### 1. Safety and efficacy of dual direct-acting antiviral therapy (daclatasyir and asynaprevir) for chronic hepatitis C virus genotype 1 infection in patients on hemodialysis

By: Toyoda, Hindeori; Kumada, Takashi; Tada, Toshifumi; Takaguchi, Koichi; Ishikawa, Toru; Tsuji, Kunihiko; Zeniya, Mikio; Iio, Etsuko; Tanaka, Yasuhito

Background: Hepatitis C virus (HCV) infection is a major comorbidity in patients receiving hemodialysis. Interferon-based antiviral therapy to eradicate HCV is less effective in patients receiving hemodialysis than patients without renal dysfunction. Recently reported combination therapy with two oral direct-acting antiviral drugs, daclatasyir and asunaprevir, both of which are metabolized in the liver and excreted into the bile ducts, reportedly showed a high rate of HCV eradication. We evaluated the safety and efficacy of this therapy in patients receiving hemodialysis. Methods: The safety and viral responses were compared among patients infected with HCV genotype 1, between 28 patients receiving hemodialysis, and propensity score-matched 56 patients without renal dysfunction. Results: The redn. in serum HCV RNA levels 1 day after the start of therapy was significantly larger (p = 0.0329) and the disappearance of serum HCV RNA occurred significantly earlier (p = 0.0017) in patients receiving hemodialysis than those without renal dysfunction. The rates of sustained virol, response, i.e., the eradication of HCV, were comparable between two groups; the rate of SVR12 was 100 % in patients receiving hemodialysis and 94.6 % in patients without renal dysfunction. No adverse constitutional events were obsd. in either of the groups. The elevation of serum alanine aminotransferase levels, a known adverse effect of these drugs, was obsd. in comparable rate of patients between the two groups. Conclusions: The therapy with

daclatasvir and asunaprevir has high antiviral efficacy in patients receiving hemodialysis with

#### Indexing

Pharmacology (Section1)

#### Citations

Anon; Tada T, Kumada T, Toyoda H, et al Viral eradication reduces all-cause mortality in pai Berenquer, M; Hepatology, 10.1002/hep.22545 2008, 48, 1690 9 Chayama, K; Hepatology, 10.1002/hep.24724 2012, 55, 724 9

Deltenre, P: Alim Pharmacol Ther, 10.1111/j.1365-2036,2011.04741.x 2011, 34, 454 Espinosa, M; Nephrol Dial Transplant, 10.1093/ndt/16.8.1669 2001, 16, 1669

### 标引未完成

#### 17. The clinical features of patients with a Y93H variant of hepatitis C virus detected by a PCR invader assay

By: Kan, Toshiki; Hashimoto, Senju; Kawabe, Naoto; Murao, Michihito; Nakano, Takuji; Shimazaki, Hiroaki; Nakaoka, Kazunori; Ohki, Masashi; Takaqawa, Yuka; Kurashita, Takamitsu; Takamura, Tomoki; Yoshioka, Kentaro

Background: Resistance-assocd, variants (RAVs) reduce the efficacy of interferon (IFN)-free therapy with asunaprevir and daclatasvir for patients infected with hepatitis C virus (HCV) genotype 1b. The characteristics of patients with an L31 or a Y93 variant in the nonstructural 5A region detected by a polymerase chain reaction invader assay were investigated. Methods: In total, 201 patients with HCV genotype 1b were examd, for L31F/M/V variants or a Y93H variant by the polymerase chain reaction invader assay. Results: L31M and Y93H variants were detected in 4.6 and 21.4 % of patients, resp. Patients with an L31M variant had no significant characteristics. Patients with a Y93H variant had significantly higher HCV RNA levels (6.5 ± 0.5 log copies per mL vs 6.1 ± 0.7 log copies per mL, p = 0.0002), higher frequency of mutant type of the IFN-sensitivity-detq. region (88.4 % vs 71.7 %, p = 0.0251), and higher frequency of TT genotype at rs8099917 of IL28B (91.7 % vs 54.3 %, p < 0.0001) than those with Y93 wild-type strains. Multivariate anal. identified HCV RNA levels [odds ratio (OR) 3.72, 95 % confidence interval (CI) 1.71-8.06, p = 0.0009] and TT genotype at rs8099917 (OR 7.45, 95 % CI 2.11-26.4, p = 0.0018) as factors assocd. with the presence of a Y93H variant. Conclusion: The presence of a Y93H variant was assocd. with higher HCV RNA levels and TT genotype at rs8099917 of IL28B. Thus, patients with a Y93H variant may be ideal candidates for IFN-based therapy rather than IFN-free therapy, although the high viral load of these patients may reduce the response rate of IFN-based therapy.

#### Indexina

Immunochemistry (Section15-2)

Section cross-reference(s): 3

#### Concepts

Animal gene

IL28B; clin. features of patients with a Y93H variant of hepatitis C virus detected by a PCR invader assay

Biological study, unclassified: Properties: Biological study

Aging, animal Genetic polymorphism Hepatitis C Homo sapiens Immunotherapy

Blood platelet Genotypes Hepatitis C virus

Human Leukocyte

#### Substances

57-88-5 Cholesterol, biological studies 9 60-27-5 Creatinine Q 635-65-4 Bilirubin, biological studies 9 9000-86-6 Alanine aminotransferase Q 9000-97-9 Aspartate aminotransferase 9

9001-26-7 Prothrombin Q 9004-61-9 Hyaluronic acid Q

9046-27-9 y-GTP 9

clin, features of patients with a Y93H variant of hepatitis C virus detected by a PCR invader

Biological study, unclassified; Biological study

### 目标物质未做重点研究



### 提纲

- SciFinder物质检索难点解析
  - 快速获得物质的生物活性及靶点信息
  - 无机物及合金的检索
  - 复杂无机物的检索
  - 聚合物的检索
  - 检索具有相同结构特征物质及专利文献
  - 如何判断结构的新颖性



## SciFinder检索选项——物质检索

- 物质检索方法
  - —结构式检索
  - —分子式检索
  - 一理化性质检索
  - 一物质标识符检索:化学名称, CAS RN



Chemical Structure

Markush

Molecular Formula

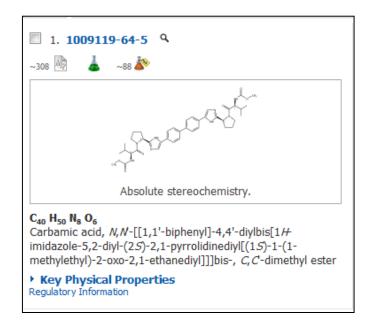
Property

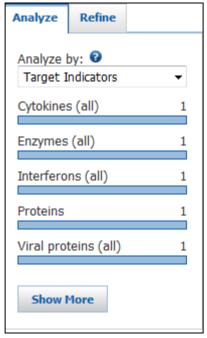
Substance Identifier

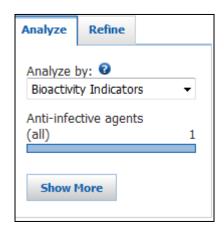
- 物质检索策略推荐
  - —有机化合物,天然产物:结构检索
  - —无机物,合金:分子式检索
  - —高分子化合物:分子式检索和结构检索



## 快速获得物质的生物活性及靶点信息







生物活性

作用靶点



## 无机物及合金的检索

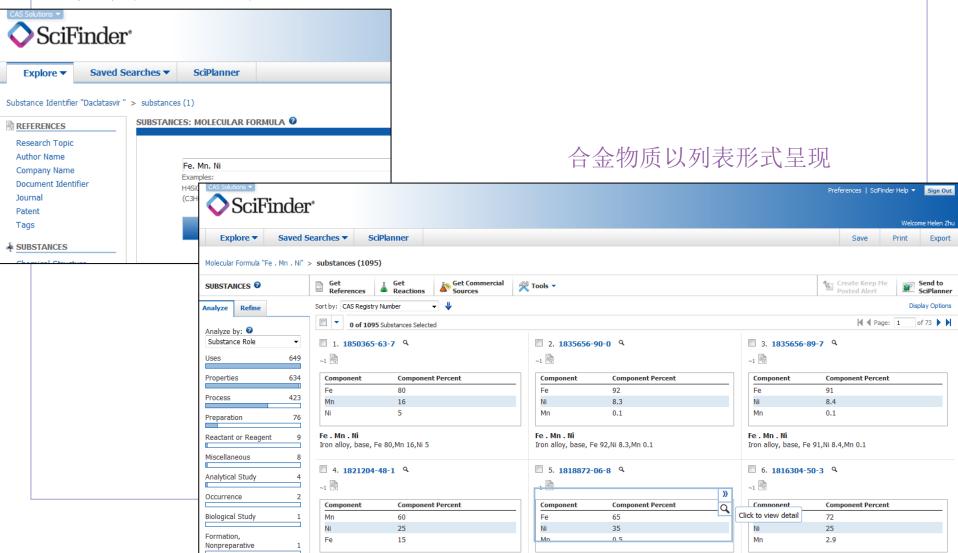
#### 分子式书写规则—Hill 规则

- 单一组分物质:
- 对于不含C的物质,按照字母顺序排序
- 对于含C的物质, C、H写在前面, 其他的按照字母顺序排列
- 相邻的两个元素之间必须有区分号,即数字或者空格,倘若数字为1,那么可以用空格来 区分
- 区分大小写
- 多组分物质:
- 每一组分必须遵照单一组分物质的分子式来书写。
- 不同组分之间的排序按照各组分的首元素的字母顺序排序,但是含C组分的一定排在不含 C的组分前面。**用点将不同的组分分开**
- 倘若不同组分的首元素相同,则看元素数量多少,数量多的排在前面,若元素数量一样,则按次元素的顺序排列。



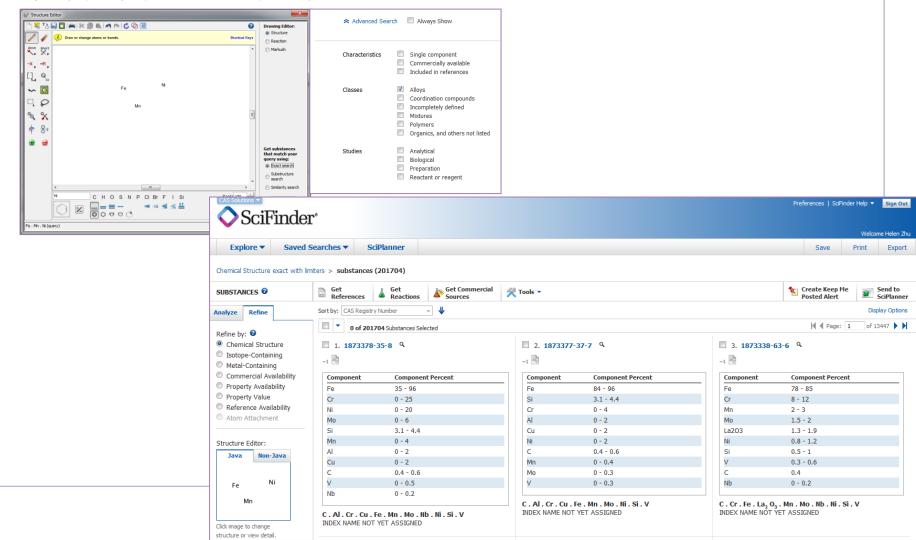
## 合金的检索

检索铁、锰、镍合金



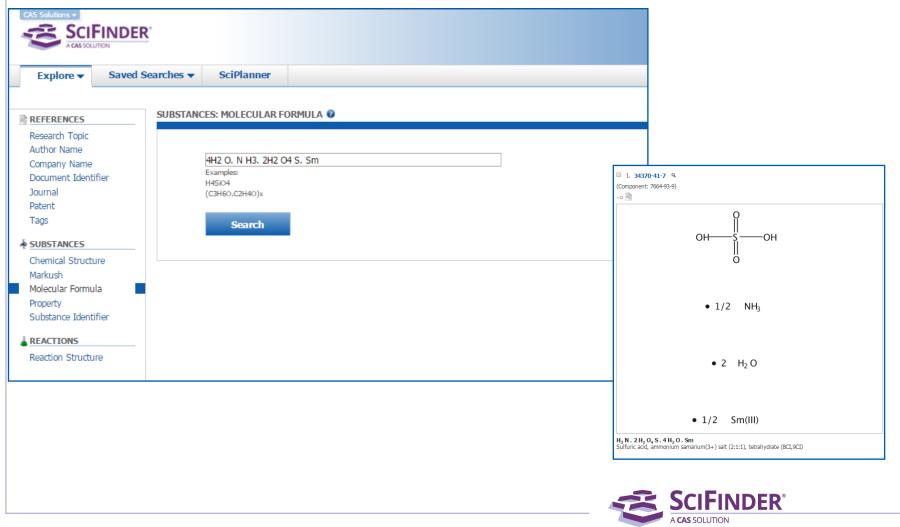
#### 合金的检索

#### 检索参杂铁、锰、镍原子的合金

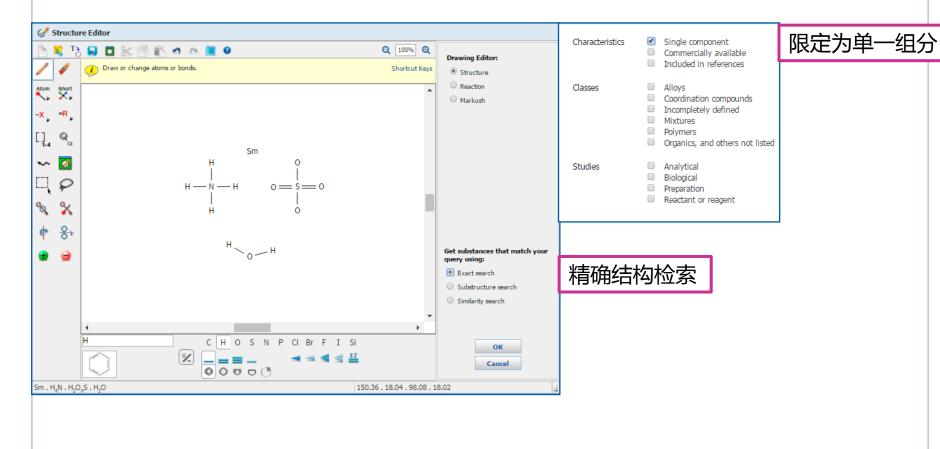


## 复杂无机物的检索

检索(N H4) Sm (S O4)2 (H2 O)4, Ammonium Samarium Bis(sulfate(VI)) Tetrahydrate

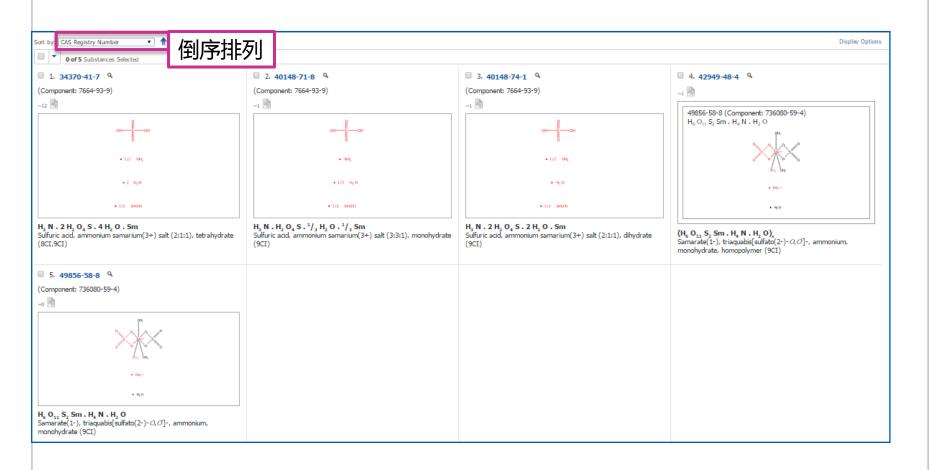


#### 复杂无机物的检索



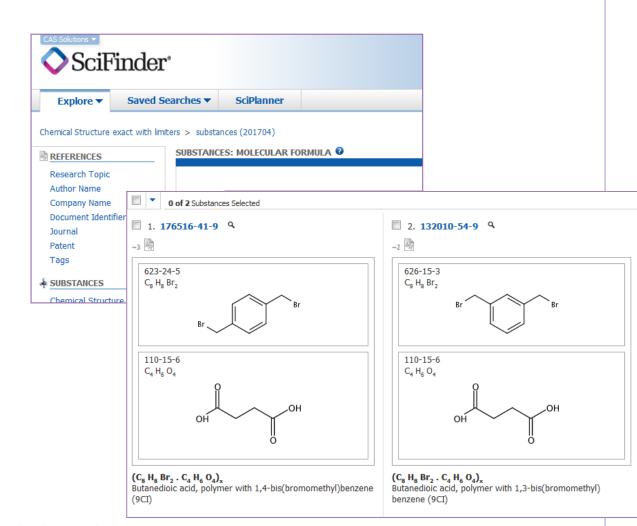


## 复杂无机物的检索



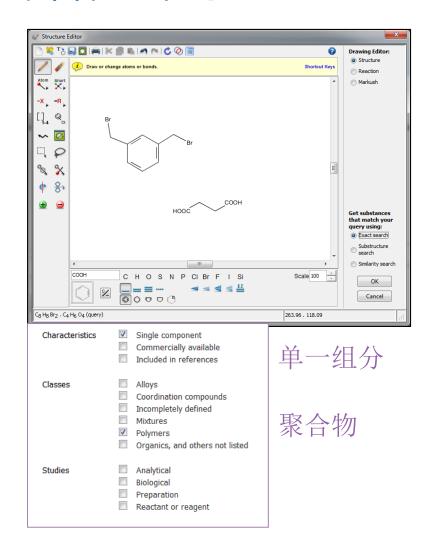
已知起始原料的聚合物

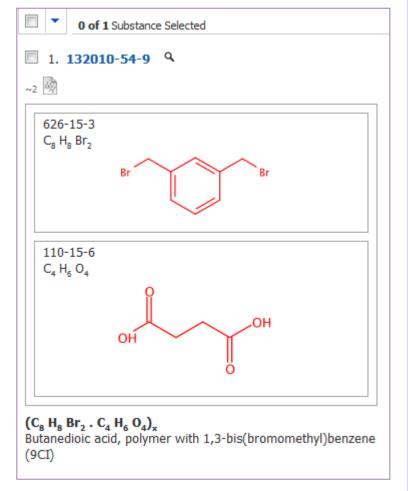
(C8 H8 Br2 . C4 H6 O4) x



分子式检索后会得到同分异构体



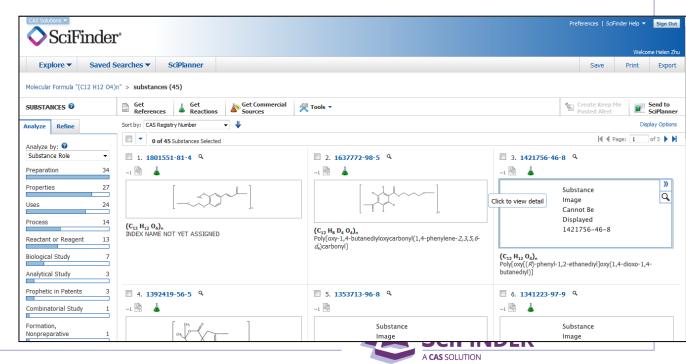


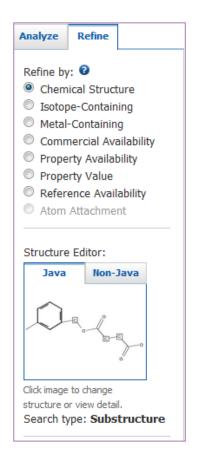


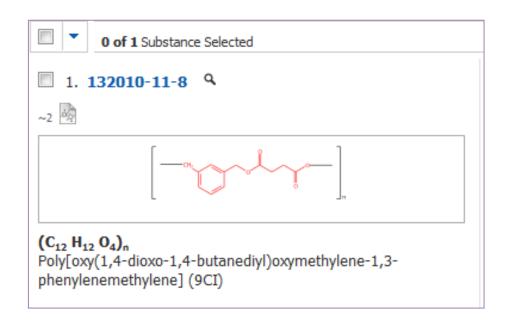


已知重复单元的聚合物

(C12 H12 O4)n

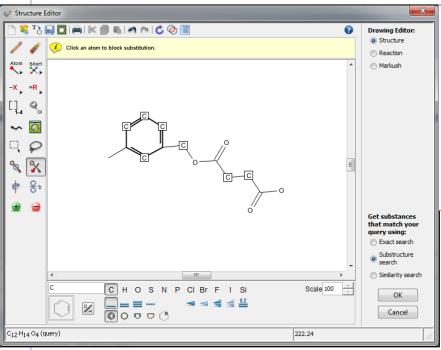






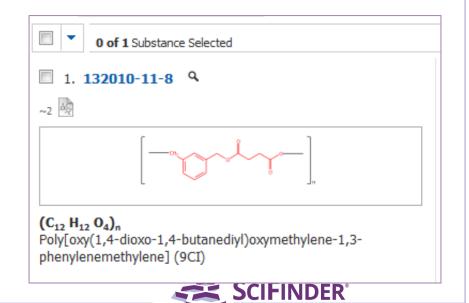
利用结构特征进行Refine,迅速查找需要的物质



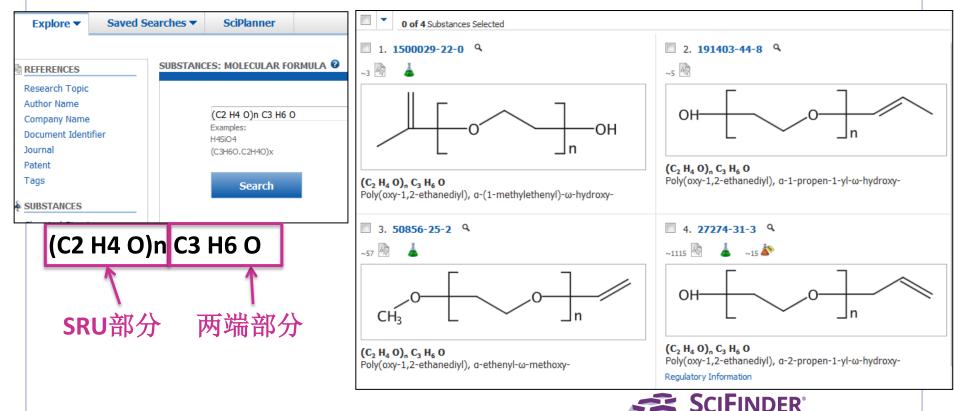


绘制好SRU后用亚结构检索 因为两段为开放状态





含端基和SRUs的聚合物



后处理聚合物的检索:

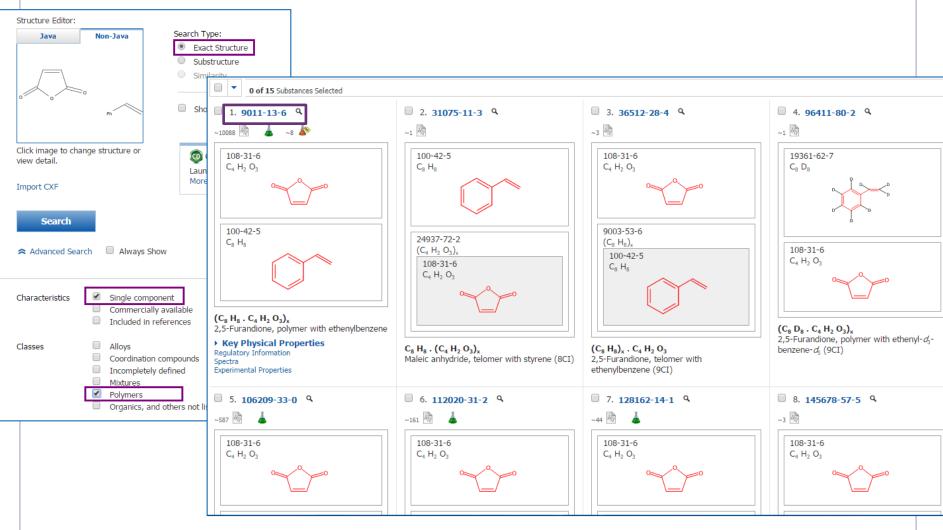
检索对由2,5-呋喃二酮和苯乙烯聚合而成的物质进行结构修饰的聚合物

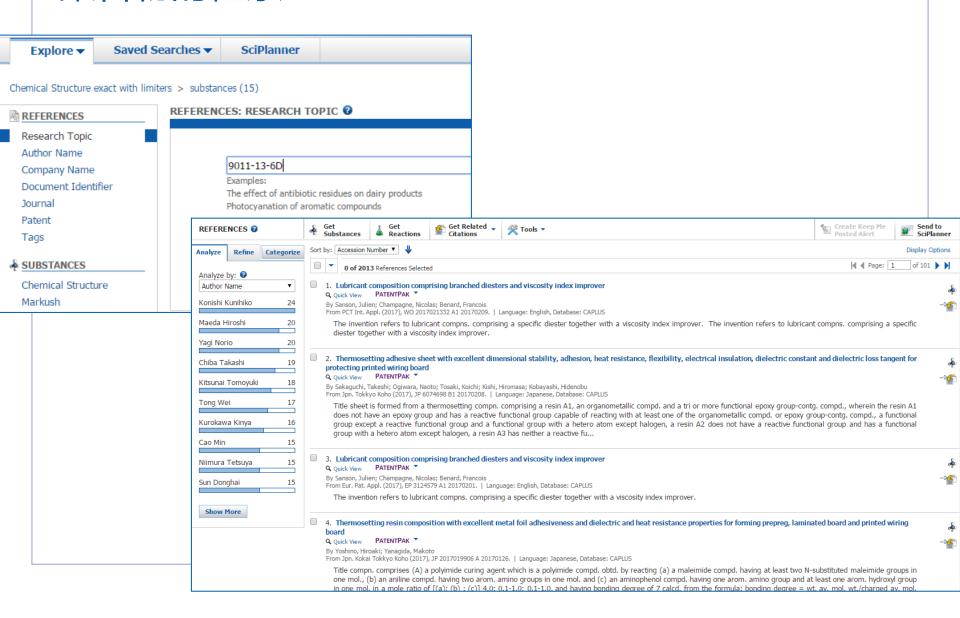
#### 检索策略:

- 1. 先检索由2,5-呋喃二酮和苯乙烯聚合而成的物质,获得CAS登记号
- 2. 主题检索相应的CAS登记号加D
- 3. 如果有具体的修饰要求,可在topic中直接加入相应的词,

如: sulfonated xxxx-xx-xd, ester xxxx-xx-xd







#### 1. Lubricant composition comprising branched diesters and viscosity index improver

By: Sanson, Julien; Champagne, Nicolas; Benard, Francois Assignee: Total Marketing Services, Fr.

The invention refers to lubricant compns, comprising a specific diester together with a viscosity index improver. The invention refers to lubricant compns, comprising a specific diester together with a viscosity index improver.

#### Patent Information

Patent No.	Kind	Language	Date	Application No.	Date
WO 2017021332	PATENTPAK A1		Feb 9, 2017	WO 2016-EP68229	Jul 29, 2016
EP 3124579	PATENTPAK A1	English	Feb 1, 2017	EP 2015-179371	Jul 31, 2015

#### **Priority Application**

EP 2015-179371 A	Jul 31, 2015
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#### Indexing

Fossil Fuels, Derivatives, and Related Products (Section51-8)

#### Concepts

Base oils Lubricating oil additives	Crankcase oil Transesterification	

lubricant compn. comprising branched diesters and viscosity index improver

#### Polyolefins

lubricant compn. comprising branched diesters and viscosity index improver

Modifier or additive use; Uses

Lubricating oil additives

viscosity improvers: Juhricant compn. comprising branched diesters and viscosity index

#### Substances

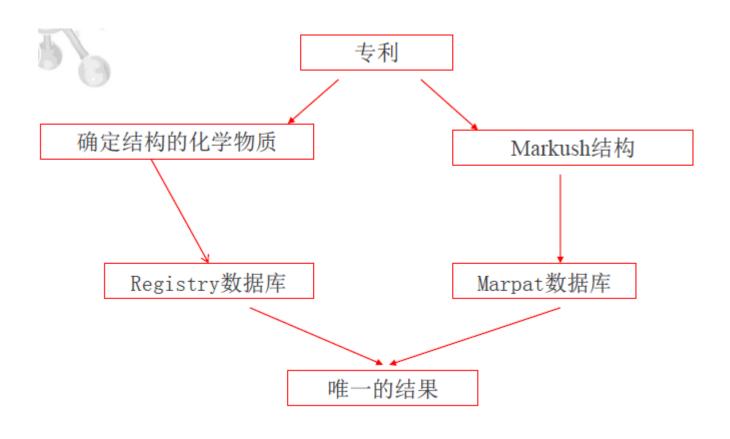
78-79-5D Isoprene, polymers Q
106-99-0D Butadiene, polymers Q
9003-31-0D Polyisoprene, hydrogenated Q
9011-13-6D Styrene-maleic anhydride copolymer, esters Q
25038-32-8D Isoprene-styrene copolymer, hydrogenated Q

lubricant compn. comprising branched diesters and viscosity index improver

Modifier or additive use; Uses

64-18-6 Formic acid **Q**124-07-2 Octanoic acid **Q**143-07-7 Dodecanoic acid **Q**157336-71-5 **Q** 





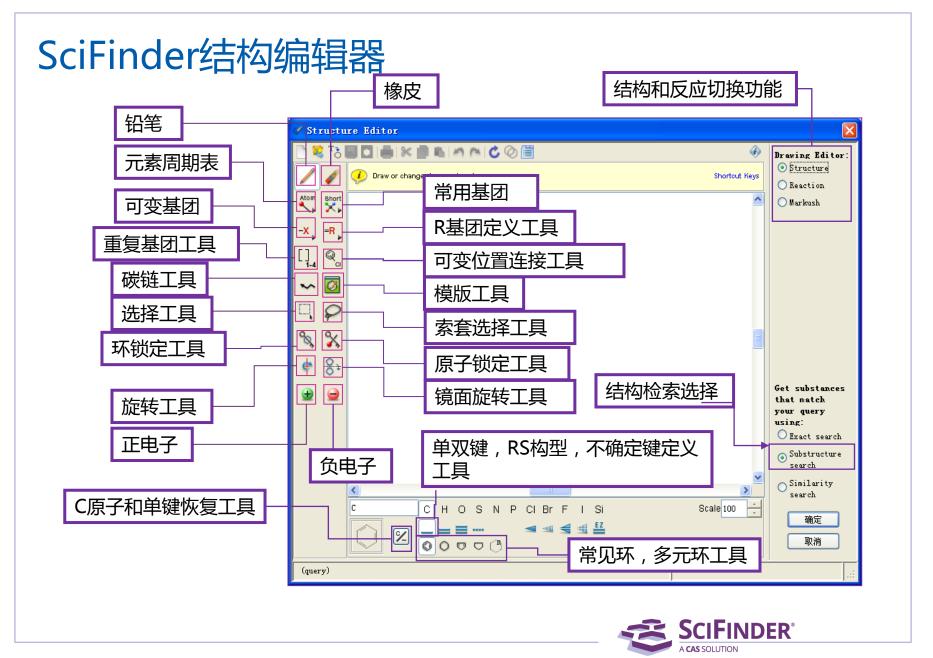


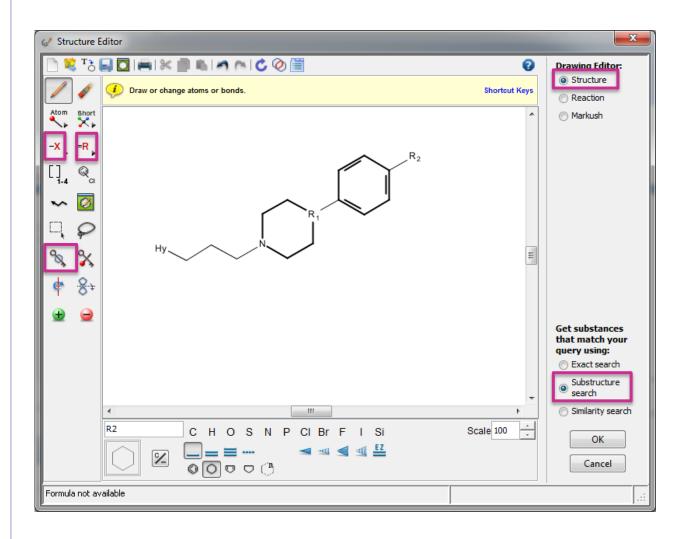
#### 查询报道具有如下结构特征专利文献:

#### 要求:

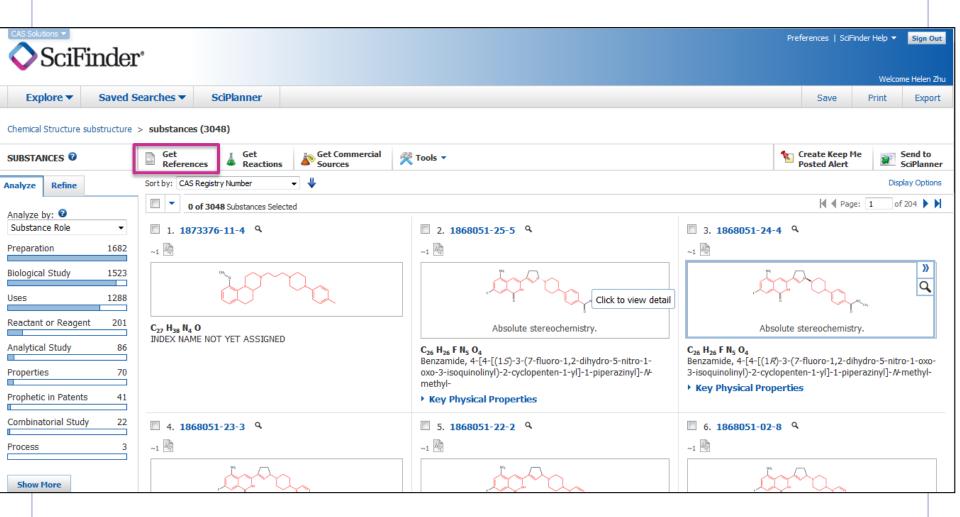
- R = 任意杂环
- R' = C, N, P
- R" = C,N
- 6 圆环均为单环
- 价键不饱和的地方均允许有取代

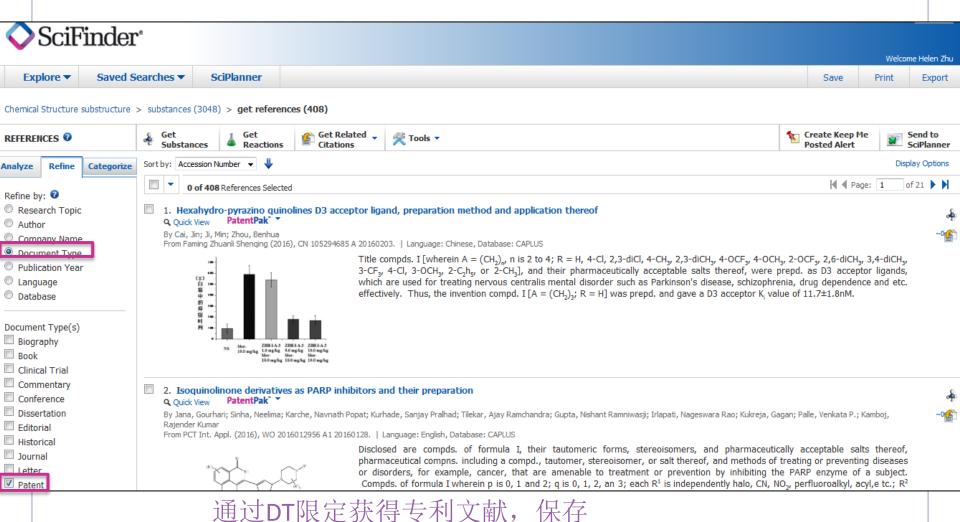














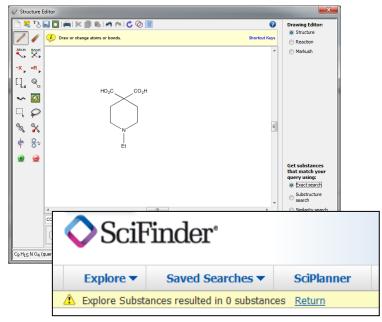
# 如何判断结构的新颖性

新颖性: 是否存在? 是否能申请专利?

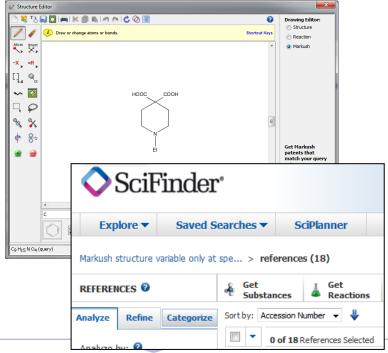
SciFinder相关物质库: Registry和Marpat

检索方法: 物质检索? Markush检索?





#### Step1



#### 提纲

- SciFinder反应检索难点解析
  - 反应的精准定义
  - 巧妙获得有实验步骤的相关反应
  - 反应信息太少时如何获得更多的反应信息
  - 直接检索反应受限时如何处理
  - 案例分析



# SciFinder检索选项——反应检索

反应检索方法结构式



Reaction Structure

■ 常用获取方法

已知物质:由物质获取反应

已知文献:从文献中获取反应

精确结构反应检索

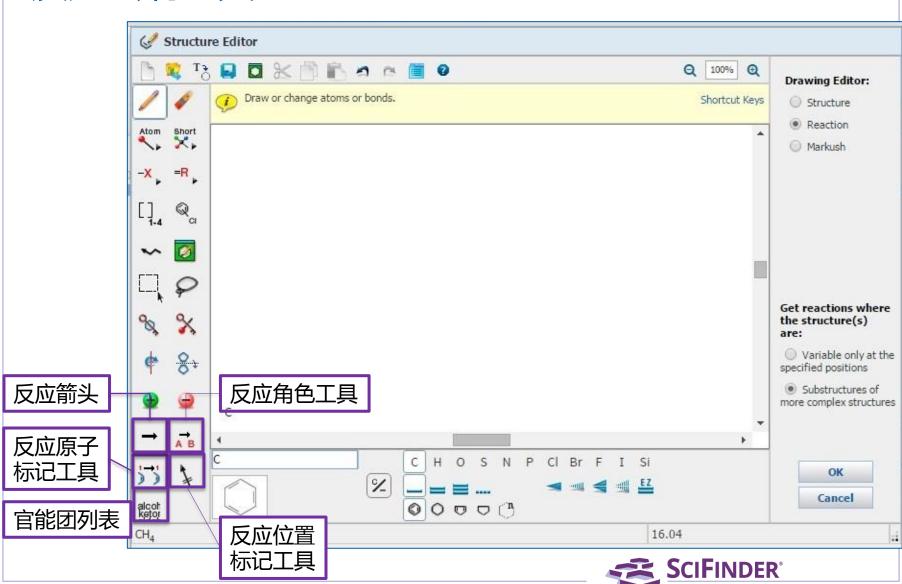
亚结构反应检索

#### Get reactions where the structure(s) are:

- Variable only at the specified positions
- Substructures of more complex structures

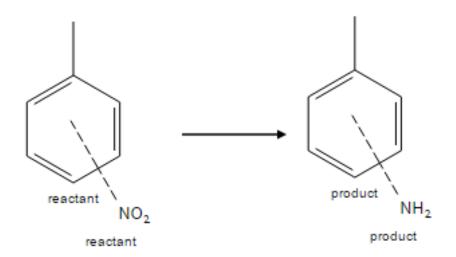


#### 反应绘制工具



# 反应的精准定义

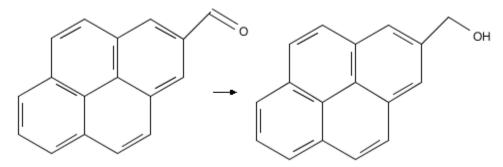
检索符合以下要求的反应, 硝基还原

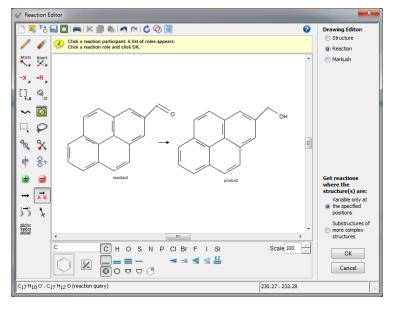




## 巧妙获得有实验步骤的相关反应

该还原反应如何操作?

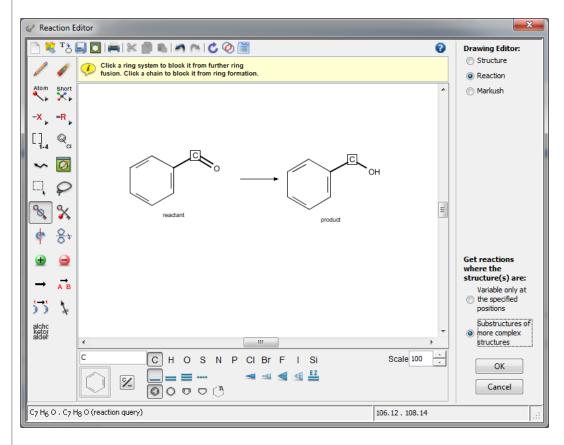








## 巧妙获得有反应步骤的相关反应



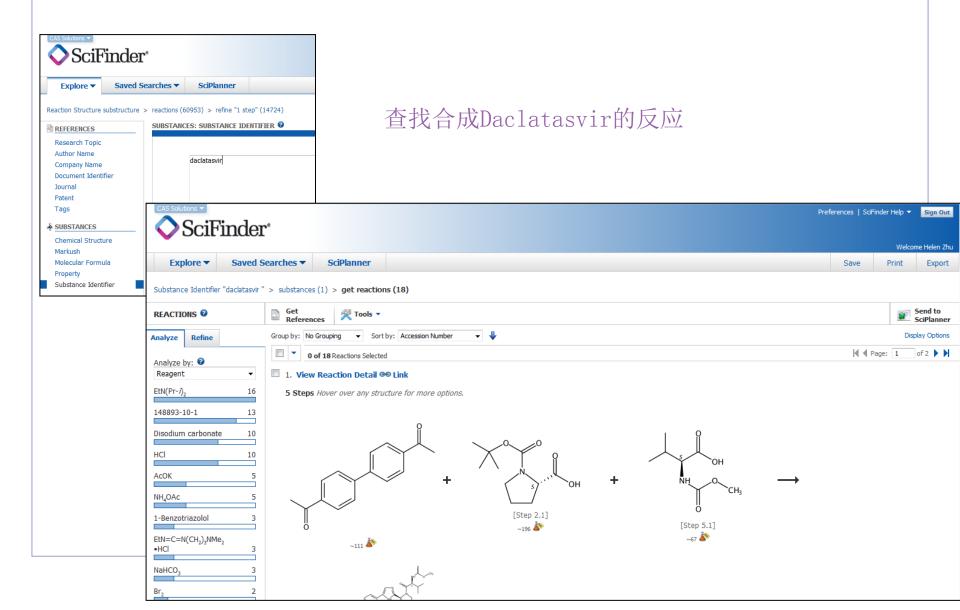
聚焦反应关键部位, 查找相似反应



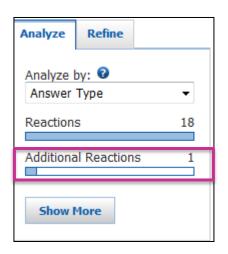
# 巧妙获得有反应步骤的相关反应

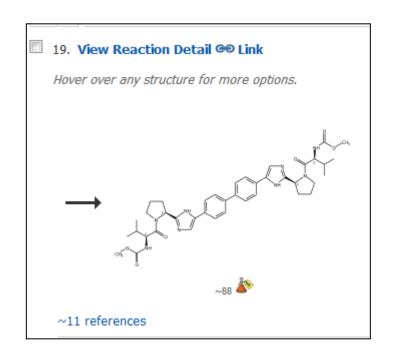


# 获得全面的反应信息



## 获得全面的反应信息





获得的附加反应不是完整反应



#### 获得相关的反应信息

1. View Reaction Detail @ Link Similar Reactions

Single Step Hover over any structure for more options.

Overview

Steps/Stages

1.1

Notes

no exp

Refer

Novel Q Quid By San From I

反应信息太少, 通过Similar Reaction 获得更多反应信息

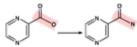
Get Similar Reactions @

#### Retrieve similar reactions from:

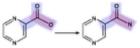
- All reactions
- Current answer set

#### Include this level of similarity:

Broad - Reaction centers only (157156)



Medium - Reaction centers plus adjacent atoms and bonds (8506)



Narrow - Reaction centers plus extended atoms and bonds (2994)



Get Reactions

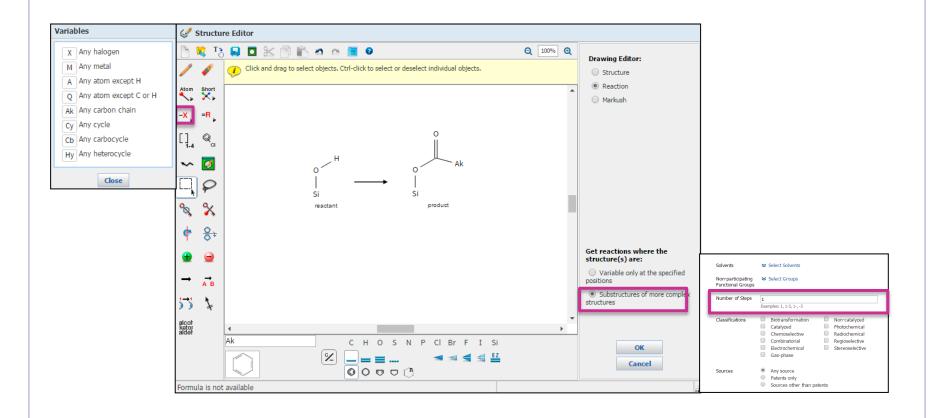
# 直接检索反应受限的处理

检索如下构型翻转的反应

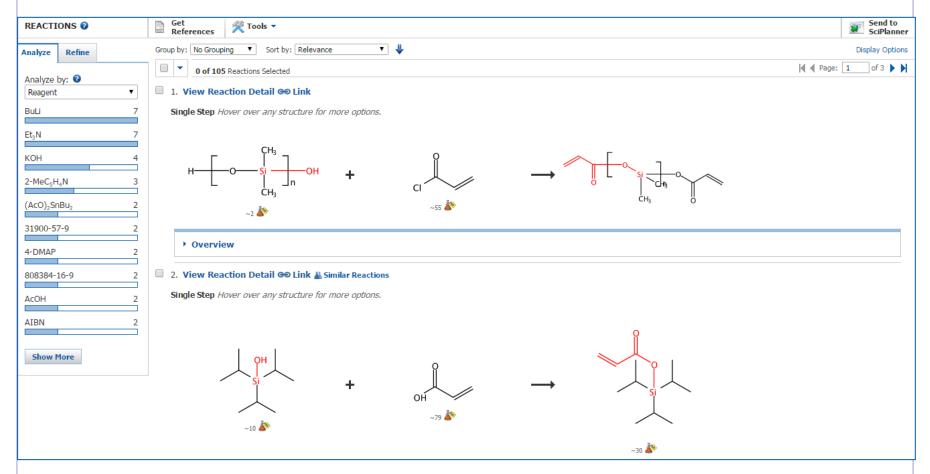
# 案例分析

检索硅羟基酯化的反应,找出其中的聚合物反应?



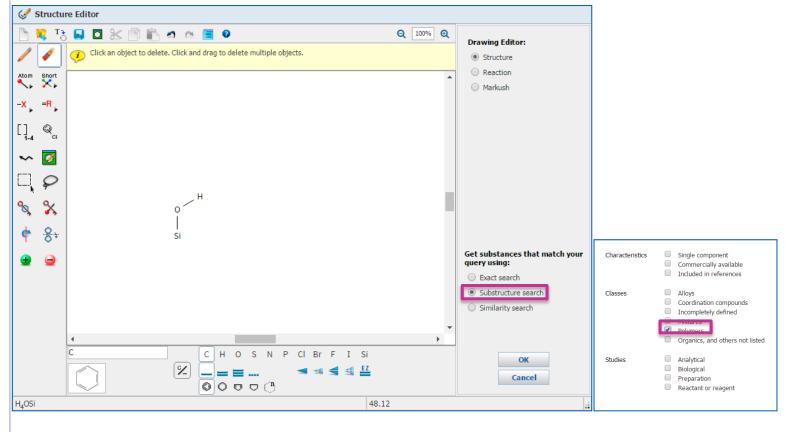






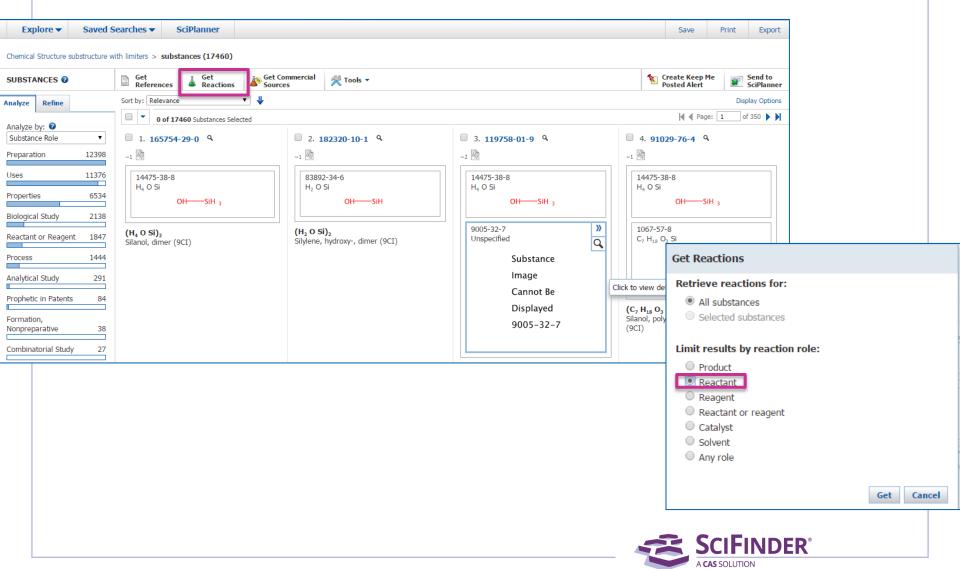
问题:如何找到含Si的聚合物上的羟基酯化反应?

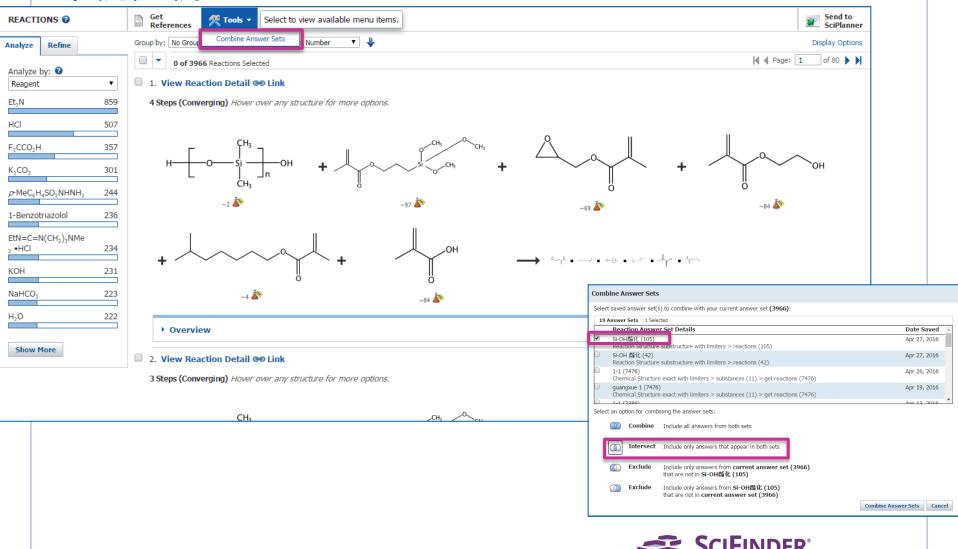


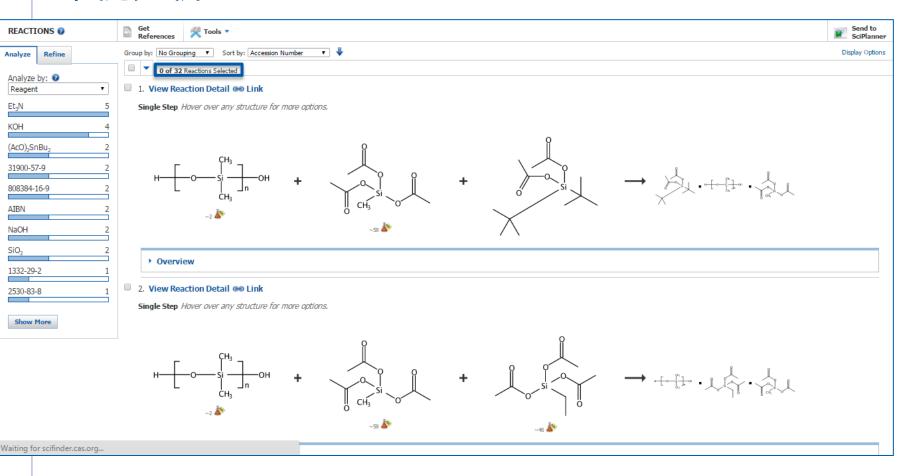


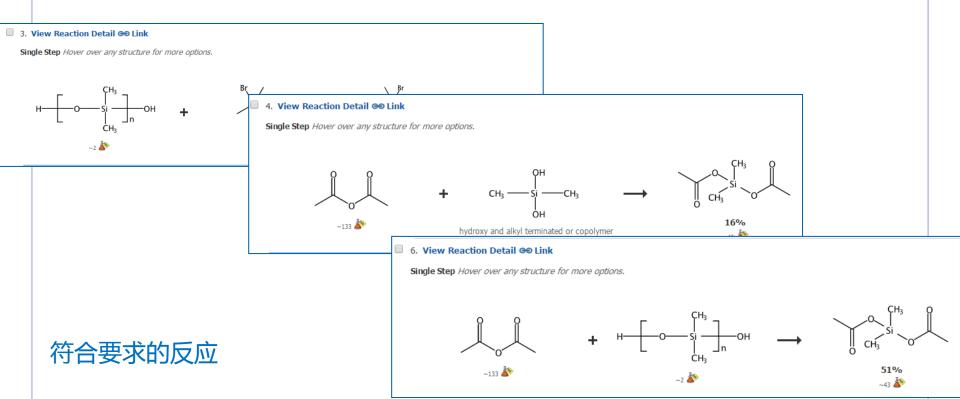
聚合物



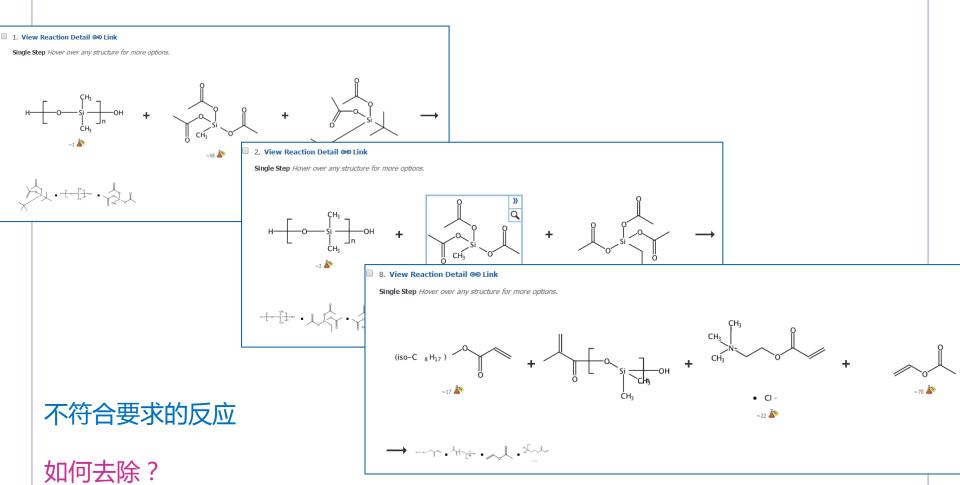






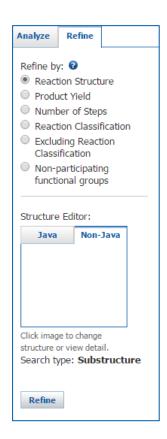


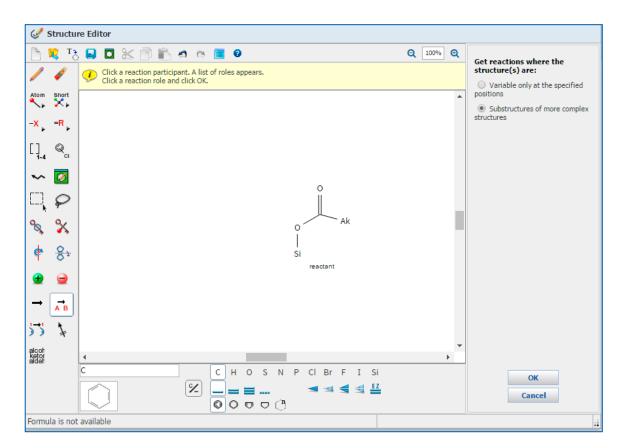




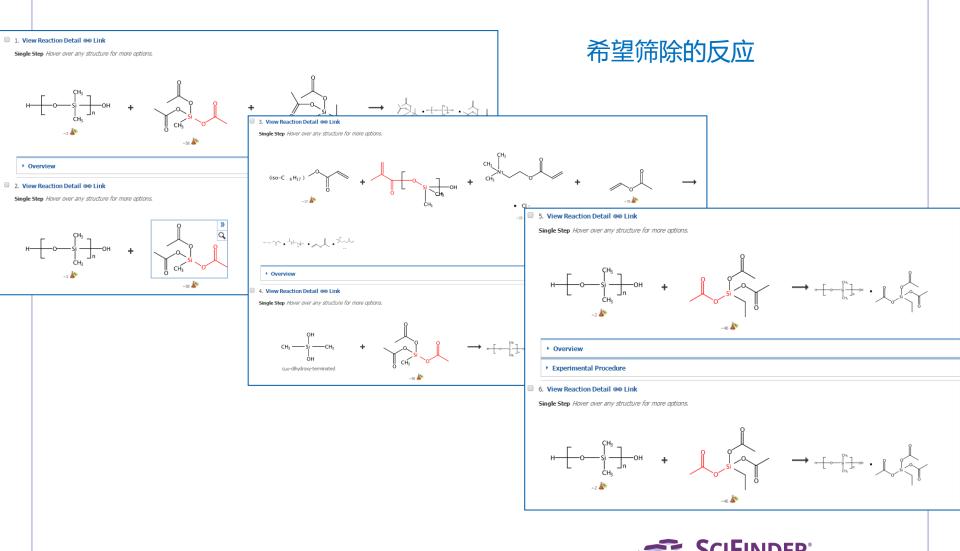


#### 思路一: 筛出原料中已经包含酯化物的反应









#### 8. View Reaction Detail • Link

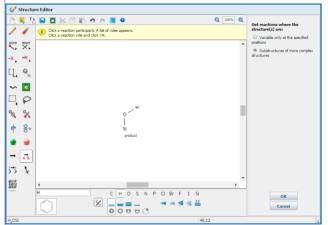
Single Step Hover over any structure for more options.

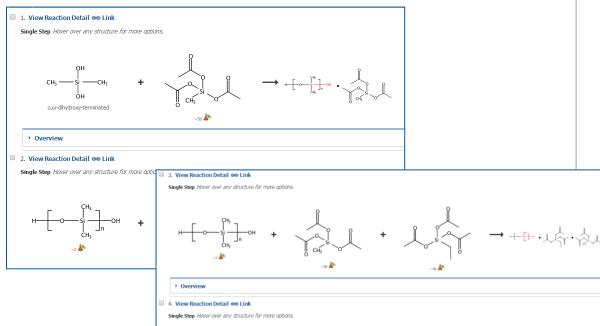
#### 不希望筛除的反应

思路一不可行!



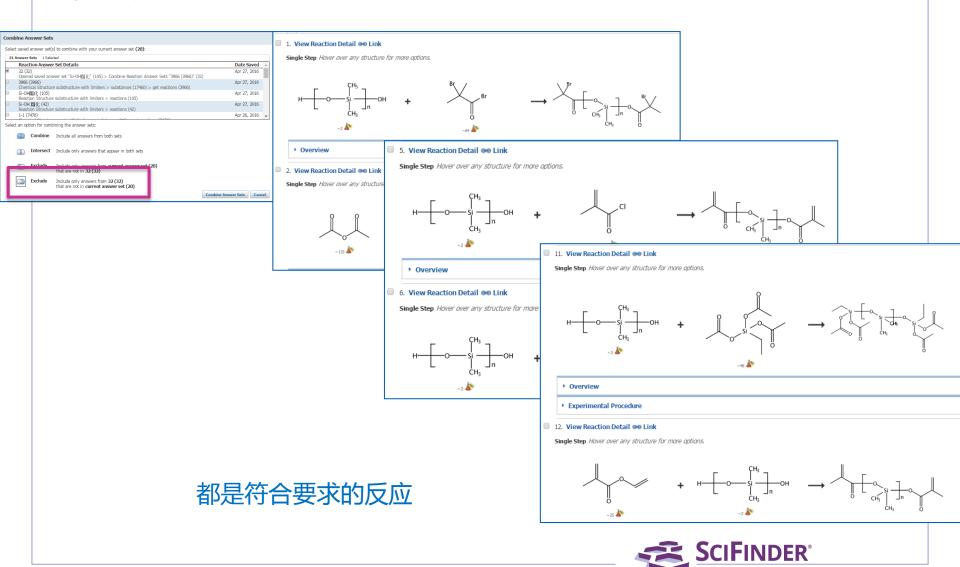
#### 思路二:筛出产物中仍然包含原料的反应





#### 都是希望筛除的反应





## SciFinder中的检索思路

- 初步检索
- 浏览结果集,判断是否符合要求,利用系统工具限定结果
- 修正检索式,再次检索
- 浏览结果集,判断



## 更多培训资料请访问

www.cas-china.org



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