Yi- Hsiang Chen Ph.D.

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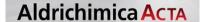
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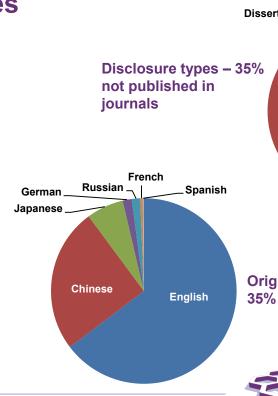
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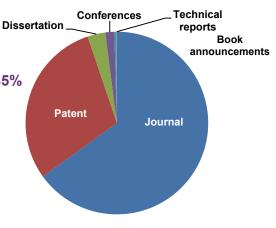


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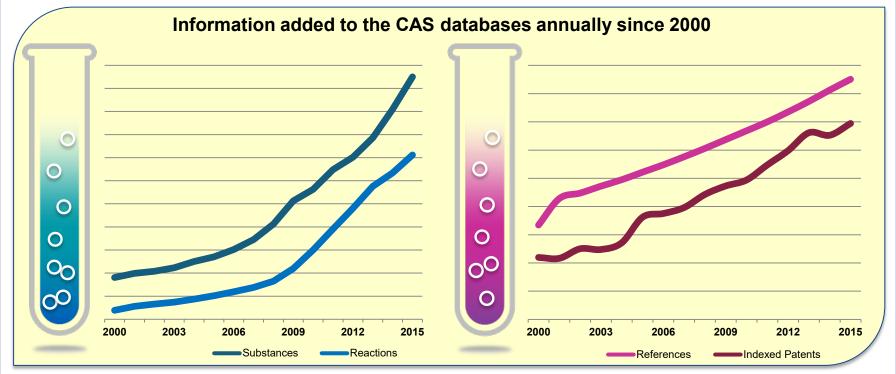
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	September 2016	September 2013		
	44M	38M	References	
	486M	375M	Citations	
	121M	73M	Organic/Inorganic Substances	
	92M	68M	Reactions	
	245K	210K	Regulated chemicals	
	1,136K	1,001K	Markush structures	



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- New England Journal of Medicine
- Proceedings of the National Academy of Sciences
- Science

## Biochemistry ACS Chemical Biology

- ACS Synthetic Biology
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- Biochemistry and Cell Biology
- Cellular Physiology and Biochemistry
- Journal of Biological Chemistry
- Journal of Cellular Biochemistry
- Molecular and Cellular Biochemistry
- Preparative Biochemistry and Biotechnology

## Pharmaceuticals and Medicinal Chemistry

- Advanced Drug Delivery Reviews
- Annual Review of Pathology:
   Mechanisms of Disease
- Anti-Inflammatory Anti-Allergy Agents in Medicinal Chemistry
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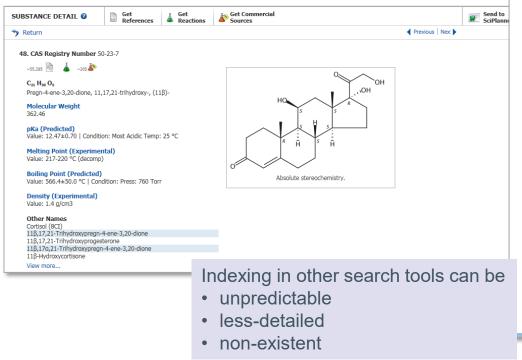
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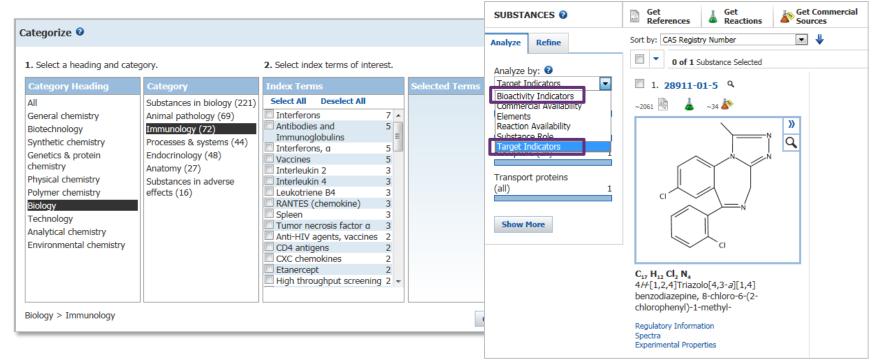
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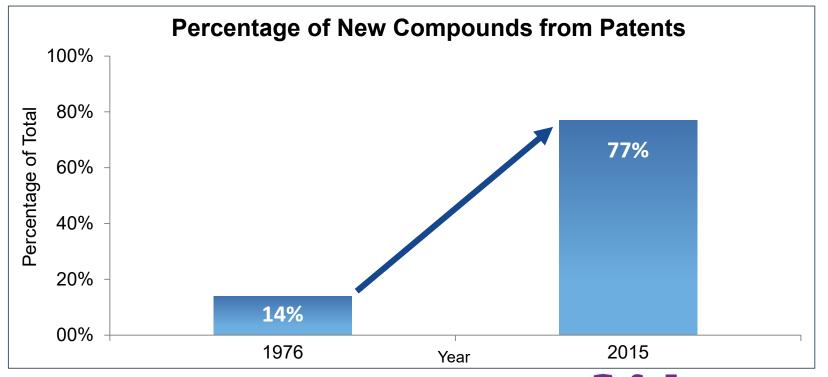
Indicators	References
Anti-infective agents (all) >> > Antibacterial agents	220
Anti-infective agents (all) > > Antibiotics	338
Anti-infective agents (all) > > Antimicrobial agents	122
Anti-infective agents (all) > > > Antiviral agents	179
Anti-infective agents (all) > > Fungicides	226
Anti-inflammatory agents (all) > Antiarthritics	64
Anti-inflammatory agents (all) > Anti-inflammatory agents	871
Anti-inflammatory agents (all) > Antirheumatic agents	98
Anti-inflammatory agents (all) > Nonsteroidal anti-inflammatory drugs	265
Antitumor agents (all) > Antiangiogenic agents	60
Antitumor agents (all) > Antitumor agents	404
Dermatological agents (all) > Dermatological agents	73
Immune agents (pharmaceutical) > Allergy inhibitors	83
Immune agents (pharmaceutical) > > Immunomodulators	117
Immune agents (pharmaceutical) > > Immunosuppressants	213
Natural products, pharmaceutical	89
Nervous system agents (all) > > > Analgesics	216
Nervous system agents (all) > > Anesthetics	209
Receptor antagonists (all) > > Antihistamines	124
Respiratory system agents (all) > Antiasthmatics	104
Wound healing promoters	55



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# Increasingly, new compounds in the literature are first disclosed in patents

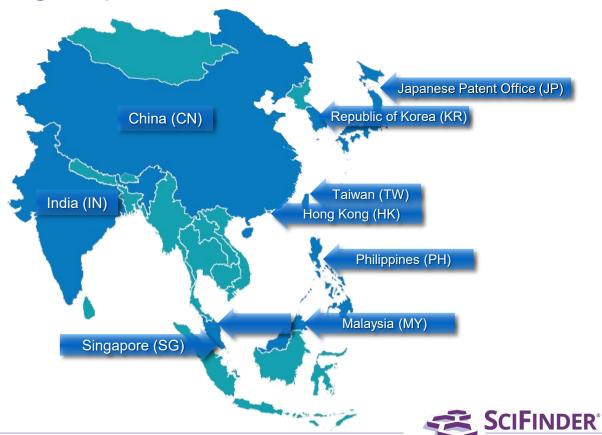


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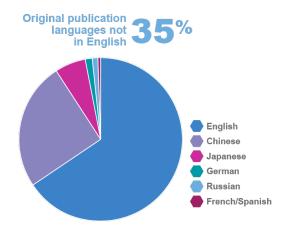
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9. Process for the preparation of favipiravir
Q Quick View PATENTPAK 

By Bao, Jinyuan; H
Patent No. Kind Language
From Faming Zhua
CN 104496917 A Chinese

A 20150408. | Language: Chinese, Database: CAPLUS

The invention preparation preparation of favipiravir. For example, favipiravir was preparation preparation preparation favipiravir was preparation preparation. For example, favipiravir was preparation preparati



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(12) 发明专利申请

(10)申请公布号 CN 104496917 A (43)申请公布日 2015,04,08

(21)申请号 201410769599.5

(22)申请日 2014.12.15

(71) 申请人 南京华威医药科技开发有限公司 地址 210012 江苏省南京市価林大学城纬地 路9号

(72) 发明人 包金运 黄辉 蒋玉伟 张孝清

(51) Int. 01.

GOTD 241/24(2006, 01)

权利要求书2页 说明书6页

(54) 发明名称

一种法匹拉韦的合成方法

(57) 摘要

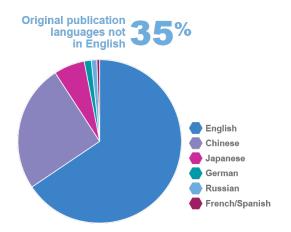
本发明属于离物化学领域,具体涉及一种法 胚控中的综合成方法。该方法是以式(II)为属。 利 绝过整是少生成化合物(III),在浓硫酸 和亚硝钠的作厂下经宣氮木鲜反应生成化合物(V)、 然后是就之使等是很争反应生成化合物(V)、 然后在那化伊和印丁基溴化铵的作用下生成化 台物(VI)、脱苄基保护基生成化合物(VII)、 后加入氮化剂进作的方法反应用则更是操作。 1)。本发明强强的方法反应周期更,操作的 便,生产成本作。产品质量类是适合中化生产。



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The invention preparation preparation of favipiravir. For example, favipiravir was preparation preparation preparation favipiravir was preparation preparation. For example, favipiravir was preparation preparati



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(22)申请日 2014.12.15

(71) 申请人 南京华威医药科技开发有限公司 地址 210012 江苏省南京市価林大学城纬地 路 9 号

(72) 发明人 包金运 黄辉 蒋玉伟 张孝清

(51) Int. 01.

0070 241/24(2006.01)

权利要求书2页 说叫书6页

(54) 发明名称

一种法匹拉韦的合成方法

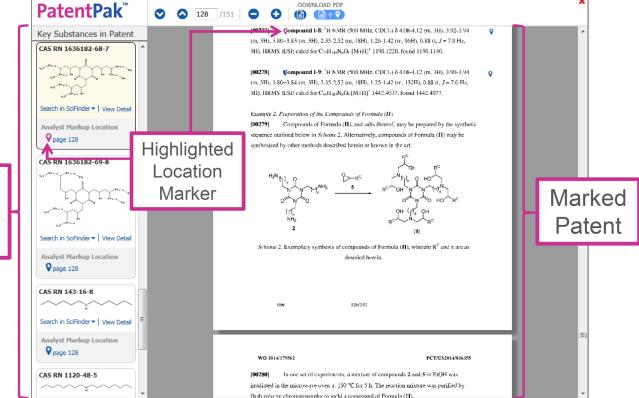
(57) 摘要

本发到属于宫物化学领域,具体涉及一种法 医控书的第合成方法。该方法是以式(II)为属 料,绝过羧基处乎由废化合物(III),在核硷 (III)、在核硷 和亚硝钠的作厂下经重氮木解反应生成化合物(V)、 然后后至不少钾和下了基溴化铵的作用下生成化 合物(VI)、舰苄基橡护基生成化合物(VII)、 后加入氮化剂进行数化反应生成法匹拉十(式 门)。本发引强供的方法反应周期距,操作的 侧,生产成本化。产品质量类,适合工业化生产。



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Key Substances Sidebar

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**Key Substances in Patent** 

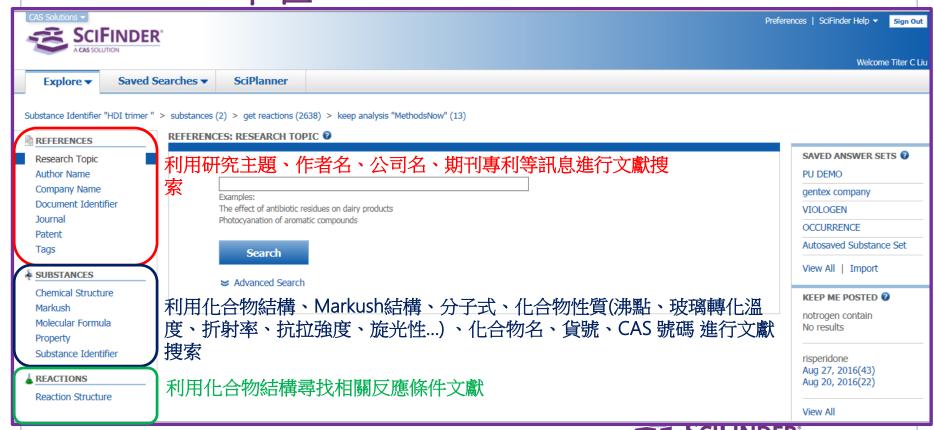
Mark	Page #	CAS RN	Name	Structure
101	p.151	831203-13-5	Pyridine, 5-bromo-2-chloro-3-fluoro-	F
102	p.151	57260-71-6	1-Piperazinecarboxylic acid, 1,1- dimethylethyl ester	HN.
103	p.151	1289048-68-5	1-Piperazinecarboxylic acid, 4-(5-bromo-3- fluoro-2-pyridinyl)-, 1,1-dimethylethyl ester	Pox
104	p.151	7547-97-9	Boronic acid, B-(1E)-1-propen-1-yl-	OH B E
105	p.151	1416788-07-2	1-Piperazinecarboxylic acid, 4-[3-fluoro-5- (1E)-1-propen-1-yl-2-pyridinyl]-, 1,1- dimethylethyl ester	POX
106	p.151	1416788-08-3	Piperazinecarboxylic acid, 4-[5-[(1 <i>S</i> ,2 <i>S</i> )-1,2-dihydroxypropyi]-3-fluoro-2-pyridinyi]-, 1,1-dimethylethyl ester	TOOK
107	p.151	1416788-09-4	1,2-Propanediol, 1-[5-fluoro-6-(1-piperazinyl)-3-pyridinyl]-, (1 <i>S</i> ,2 <i>S</i> )-	Lat Sart
108	p.151	833491-50-2	1 <i>H</i> -Imidazole-1-carboxamide, <i>N</i> -(6-methyl-2-benzothiazolyl)-	
121	p.151	1416788-16-3	1-Piperazinecarboxamide, 4-[5-[(1 <i>S</i> ,2 <i>S</i> )-1,2-dihydroxypropyl]-3-fluoro-2-pyridinyl]- <i>N</i> -(6-methyl-2-benzothiazolyl)-	varorit
109	p.153	2536-91-6	2-Benzothiazolamine, 6-methyl-	S NH <sub>2</sub>

This convenient summary is appended to the end of a patent.

# Scifinder 平台介紹



## Scifinder 平台





## Reference: Research Topic



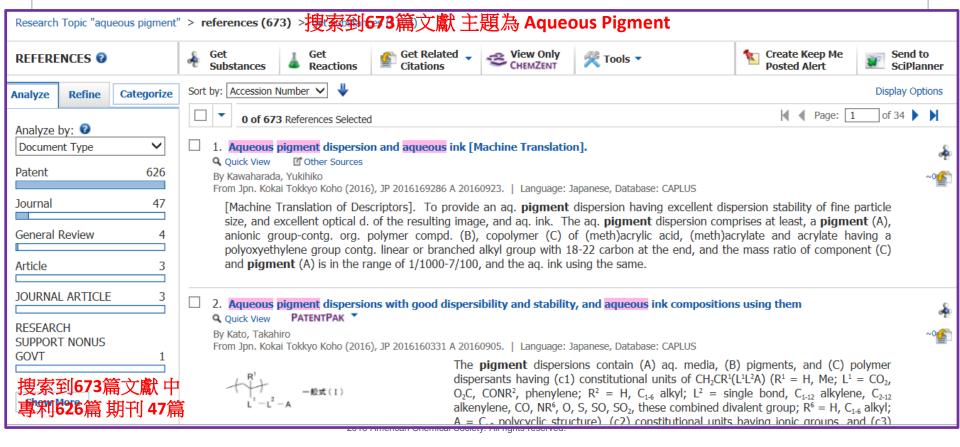
# 主題搜索範例(Aqueous Pigment):

#### REFERENCES Research Topic **Author Name** Company Name Document Identifier Journal Patent Tags SUBSTANCES Chemical Structure Markush Molecular Formula Property Substance Identifier



Reaction Structure

## 主題搜索範例(Aqueous Pigment):



## 題搜索範例(Aqueous Pigment): 專利檢索

#### 2. Aqueous pigment dispersions with good dispersibility and stability, and aqueous ink compositions using them

By: Kato, Takahiro

Assignee: Fujifilm Corp., Japan

The pigment dispersions contain (A) ag. media, (B) pigments, and (C) polymer dispersants having (c1) constitutional units of CH<sub>2</sub>CR<sup>2</sup>(L<sup>1</sup>L<sup>2</sup>A) (R<sup>1</sup> = H, Me; L<sup>1</sup> = CO<sub>2</sub>, O<sub>2</sub>C, CONR<sup>2</sup>, phenylene; R<sup>2</sup> = H, C<sub>1,4</sub> alkyl; L<sup>2</sup> = single bond, C<sub>1,2</sub>, alkylene, C<sub>2,2</sub>, alkenylene, CO, NR\*, O, S, SO, SO, these combined divalent group; R\* = H, C, alkyl; A = C, polycyclic structure), (c2) constitutional units having ionic groups, and (c3) SR\* or SR\*CO.R\* (R\* = alkyl, aryl; R\* = alkylene; R\* = H, alkyl). Thus, an ag. dispersion conto. Pigment Yellow (TRY 13), N-(vinylbenzyl)acridone-benzyl methacrylate-Me methacrylate-methacrylic acid copolymer potassium salt prepd, in the presence of 3-mercaptopropionic acid, and dipropylene glycol showed yol, av. particle size 70-100 nm. viscosity 10-40 mPa-s, change in particle diam, and viscosity after storing at 60° for 24 h 30-50 nm and 30-50 mPa-s, resp., and dispersing time (vol.-av, particle diam, ≤100 nm) ≤2 h.

$$-$$
般式(I)

對於63專利局發表專利內容,皆轉成英文檢索 如:摘要、概念、每一物質主旨,並能做全文下載。

#### Patent Information

Patent No.		Kind	Language	Date	Application No.	Date
JP 2016160331	PATENTPAK	Α		Sep 5, 2016	JP 2015-39546	Feb 27, 2015
	-					

#### Priority Application

JP 2015-39546 Feb 27, 2015

#### Indexing

Coatings, Inks, and Related Products (Section42-12)

#### Concepts

aq, pigment dispersions with good dispersibility and stability	for aq.	ink c	ompns.

Dispersing agents

#### Substances

6358-31-2 C.I. Pigment Yellow 74 Q

Page 26 in PATENTPAK

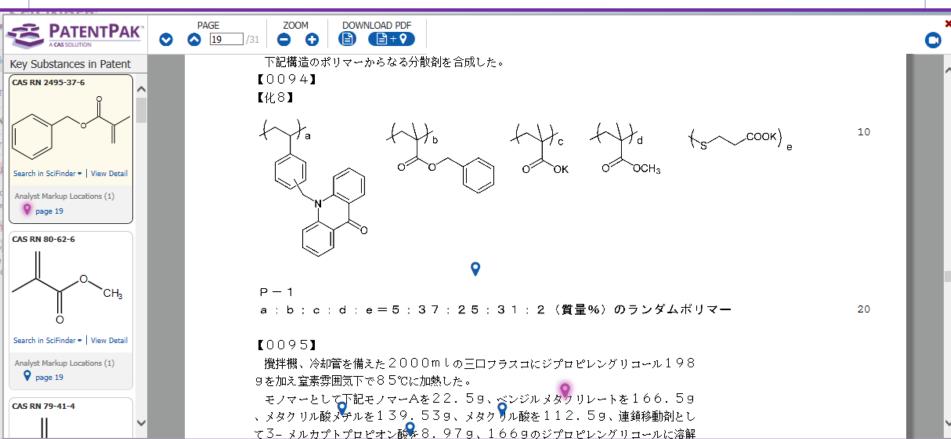
TRY 13; aq. pigment dispersions with good dispersibility and stability for aq. ink compns.

Technical or engineered material use; Uses

Jet-printing inks

Disperse systems

### 主題搜索範例(Aqueous Pigment): 互動式專利內文(全文直接下載)



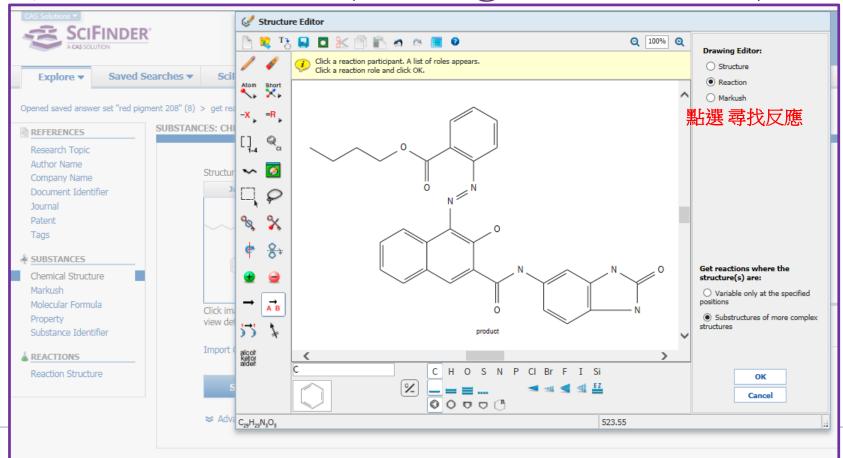
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# Substance reaction Research

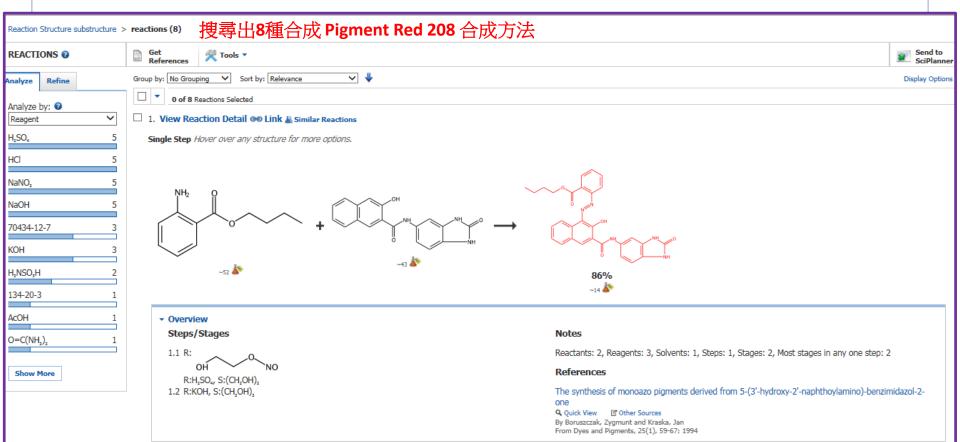
Pigment Red 208



## 合成方法搜尋範例(C.I. Pigment Red 208):



## 合成方法搜尋範例(C.I. Pigment Red 208):



## 合成方法搜尋範例(C.I. Pigment Red 208):

#### 

Boiling Point (Predicted)
Value: 632.0±55.0 °C | Condition: Press: 760 Torr

Density (Predicted)

Value: 1.39±0.1 g/cm3 | Condition: Temp: 20 °C Press: 760 Torr

pKa (Predicted)

Value: 11.41±0.30 | Condition: Most Acidic Temp: 25 °C

Other Names

Benzoic acid, 2-[[3-[((2,3-dih)qdro-2-cxo-1/+benzimidazol-5-yi)amino] carbonyl]-2-hydrox-1-naphthalenyl]szo]-, bubyl ester (9CI) Benzoic acid, o-[[2-hydroxy-3-[(2-cxox-5-benzimidazolinyl)carbomoyl] -1-naphthyl]szo]-, bubyl ester (8CI) 5-[4-[o-(Butoxycarbonyl)phenylszo]-3-hydroxy-2-naphthamido]-2benzimidazolinone CLI, 19314 CLI, Pigment Red 208

Graphtol Red HF 28 HF 2801 Hostaprint Red HF 2832

Novoperm Red HF 2B Novoperm Red HF 2B01 PV Red HF 2B Pigment Red 208

PREDICTED PROPERTIES

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FEXPERIMENTAL SPECTRA

IR

IR Properties
Value
Condition
Note
IR Absorption Spectrum
See spectrum
(1)WSS
IR Absorption Spectrum
See spectrum
(1)WSS
Notes
(1) WSS: Spectral data were obtained from Wiley Subscription Services, Inc. (US)

### **Substance Research**

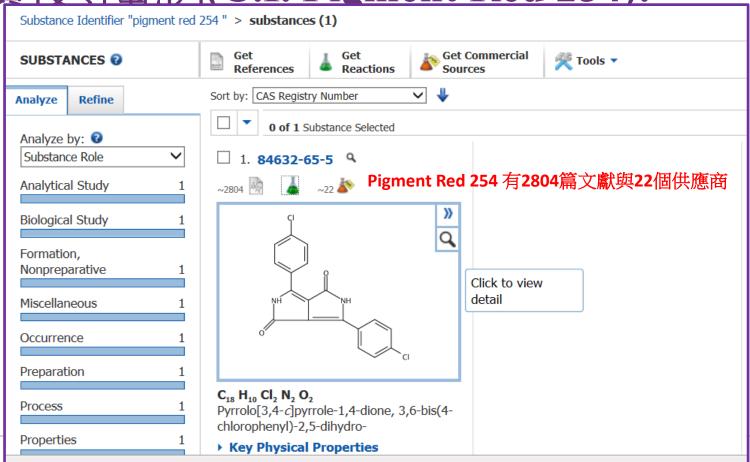
**Pigment Red 254** 

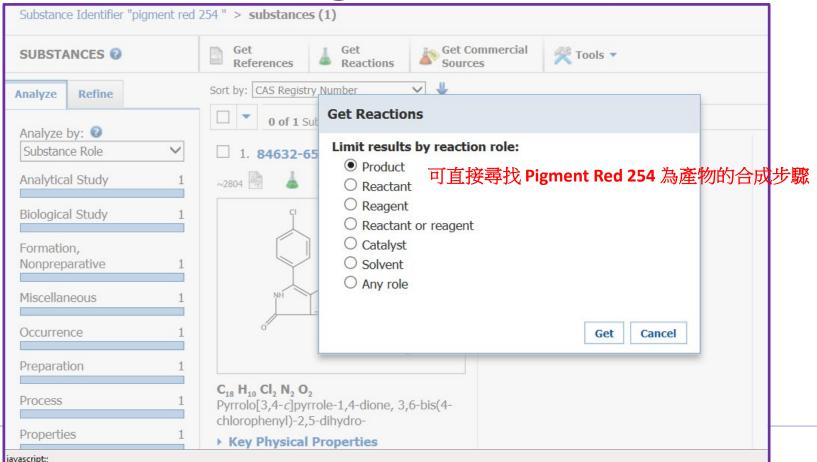


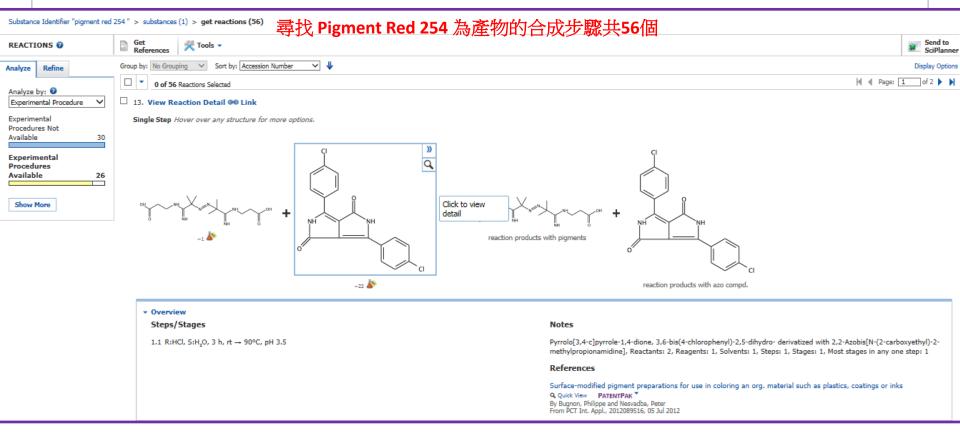
## 物質搜尋範例(C.I. Pigment Red 254):



物質搜尋範例(C.I. Pigment Red 254):







### 可獲取反應詳細實驗步驟

### + Overview

### Steps/Stages

- 1.1 R:SOCl<sub>2</sub>, S:PhMe, 50 h; 150 min, rt → 95°C; 18 h, 90°C; 90°C → reflux
- 1.2 75 min. reflux 90°C: 120 min. 100°C
- 2.1 R:NaOC(Et)Me<sub>3</sub>, S:HOCMe<sub>3</sub>Et, 4 h, 50°C; 50°C → 105°C; 105°C; 105°C → 50°C
- 2.2 S:H<sub>2</sub>O, S:MeOH, 10 min, 0°C; 18 h, 0°C

### Notes

2) unspecified catalyst used (stage 1), Reactants: 4, Reagents: 2, Solvents: 4, Steps: 2, Stages: 4, Most stages in any one step: 2

### References

Dye compounds for improved red color filter composition 9, Quick View PATENTPAK \*
By Lenz, Roman et al
From PCT Inf. Appl., 200144115, 03 Dec 2009

### → Experimental Procedure

### Step:

Example 1004: 150 g of 3-cyanobenzoic acid are first introduced into 1000 ml of dry toluene under inert gas and heated to 50 °C, with stirring. To the resulting white suspension there are added, dropwise, 96 ml of thionyl chloride over a period of 150 minutes, the temperature being gradually increased to 95°C. Stirring is then carried out for a further 18 hours as 90 °C. The resulting brown solution is heated to reflux, and about 200 ml of a clear solution are distilled off under a gentle current of nitrogen. Cooling to 90 °C again is then carried out, and 106 g of 3-dimethylamino-1 -propylamine are then added dropwise over 75 minutes, with stirring. Stirring is subsequently carried out for a further 120 minutes whilst refluxing gently (about 100°C). To the cooled reaction mixture there are added 500 ml of ethyl acetate and 500 ml of 20 % sodium hydroxide solution and extraction is carried out. The aqueous phase is extracted a further three times using 300 ml of ethyl acetate each time; 60 ml of 30 % sodium hydroxide solution are added and extraction is carried out a further three times using 300 ml of ethyl acetate each time; 70 ml of 20 % sodium hydroxide solution are added and extraction is carried out a further three times using 300 ml of ethyl acetate and activated carbon and concentrated at 50°C using a rotary evaporator. Addition of 200 ml of methylene chloride to the residue and concentration are carried out a further three times. There are obtained 212.1 g of a clear brown oil of formula. H NMR (300 MHz, CDCI3): 9.03 (1 H, broad m, N-H); 8.04 (1 H, tr. 7.8 Hz); 3.55 (2H, tr. 5.8 Hz); 2.53 (2H, tr. 5.8 Hz); 2.31 (6H, s); 1.77 (2H, m).

### Step 2

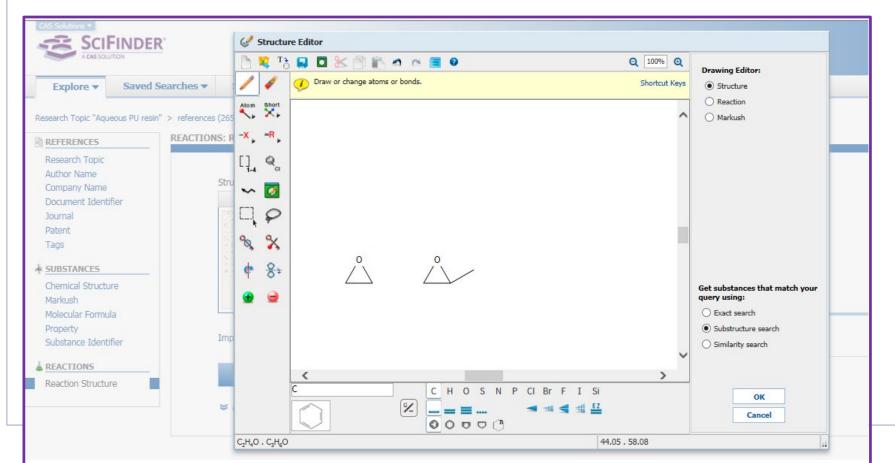
Example 1006: 100 ml of tert-amyl alcohol are reacted under inert gas with 10.35 g of sodium at 130 °C (bath temperature) to form the corresponding alcoholate. Then a mixture, heated to 50 °C, of 13.8 g of 4-chlorobenzonitrile, 34.5 ml of succinic acid di-tert-amyl ester, 23.1 g of the nitrile of Example 1004 and 40 ml of tert-amyl alcohol is metered into the sodium tert-amylate over 4 hours, the temperature of the reaction mixture dropping to 105 °C. The resulting suspension is stirred for a further 4 hours and is then

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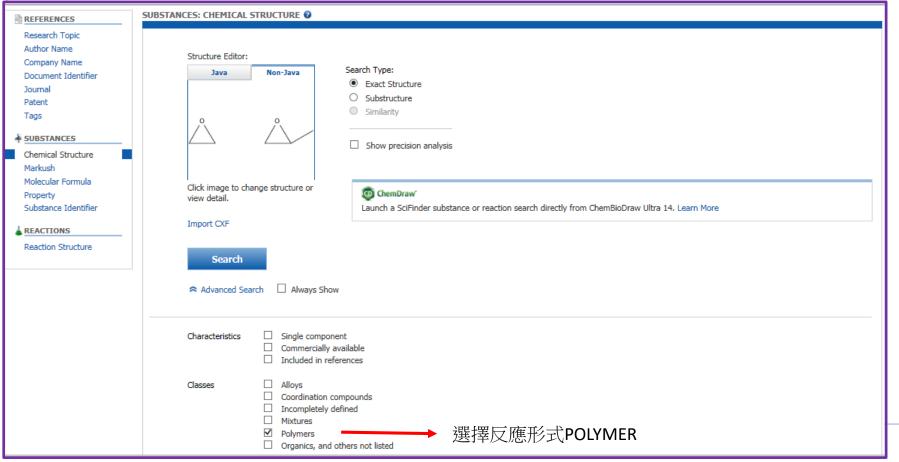
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Chemieliva Pharmaceutical Product List 2 HBCChem Product	☐ 1. 5A Pharmatech Product List China Set Preference ▼	84632-65-5				Typically in stock	Within
5A Pharmatech Product List 1 abcr GmbH Product List 1	abcr GmbH Product List Germany Set Preference ▼	84632-65-5 <sup>Q</sup> Pigment Red 254		Grams	25.0 g, EUR 80.20		
Accel Pharmtech Product List 1  AK Scientific Product	Accel Pharmtech     Accel Pharmtech Product List     United States     Set Preference ▼	84632-65-5 Q 3,6-bis(4-chlorophenyl)-2,5-dihydro-Pyrrolo[3,4-c]pyrrole-1,4- dione	95-98%	Grams	25G 100G 500G		
Catalog 1  AKos Out of Stock Catalog 1  Ark Pharm Product List 1	AK Scientific  AK Scientific Product Catalog United States Set Preference •	84632-65-5 Q Pigment Red 254			Bulk Screening	Synthesis on demand	4 weeks
Atomax Chemicals Product List 1	☐ 5. AKos Out of Stock Catalog Germany Set Preference ▼	84632-65-5 Q Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4-chlorophenyl)-2,5-dihydro-		Grams		Synthesis on demand	4 weeks
BOC Sciences Product List 1	Online States	84632-65-5 Q 3,6-Bis(4-chlorophenyl)pyrrolo[3,4-c]pyrrole-1,4(2H,5H)-dione	95-98%	Grams	Order from Source 25 g, USD 105	Typically in stock	2 weeks

## Polymer Reaction Research (EO-PO Polymer)

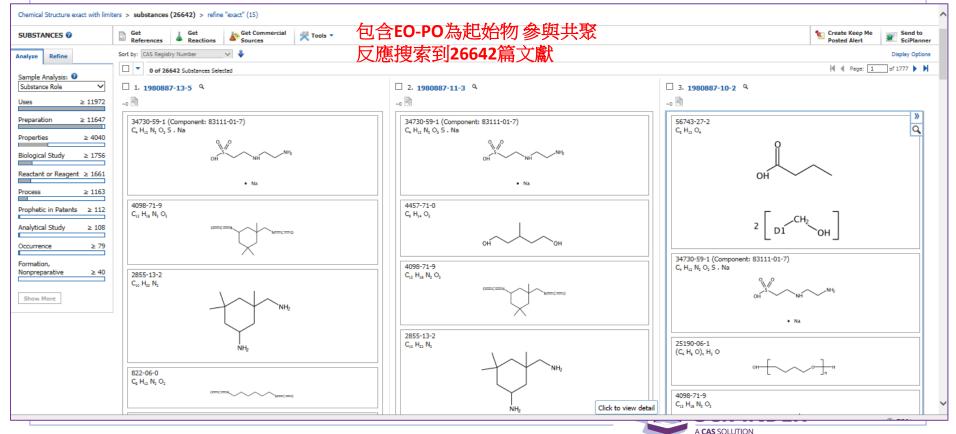
### 範例(EO-PO polymer: 產物):合成反應搜索



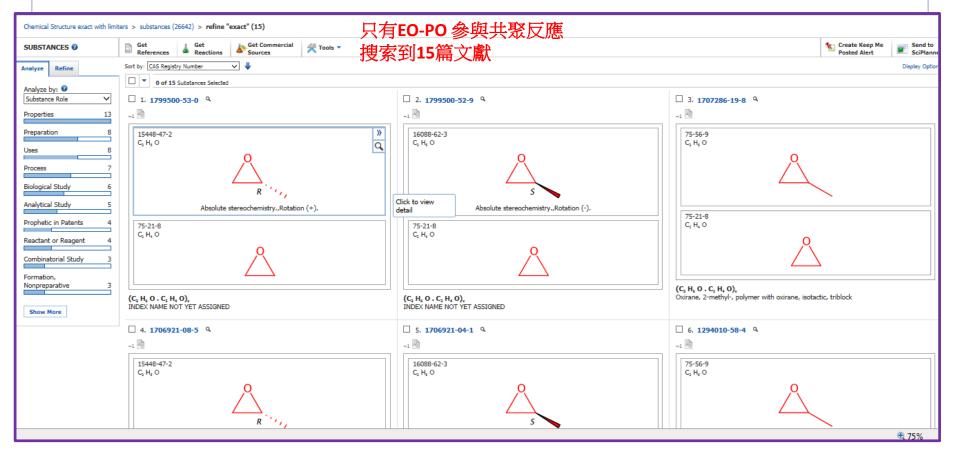
### 範例(EO-PO polymer:產物):合成反應搜索



### 範例(EO-PO polymer:產物):合成反應搜索



### 範例(EO-PO polymer:產物):合成反應搜索



# Use ChemDraw to Convert Chemical Structure to SciFinder



