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Veli-Pekka Hyttinen

Regional Marketing Manager, Central and Eastern Europe

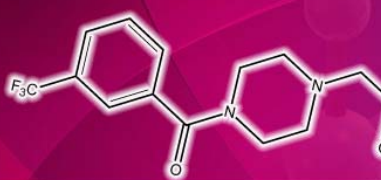
Jasna April 1, 2014

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US 20070078189A1

(19) **United States**
 (12) **Patent Application Publication** (10) Pub. No.: US 2007/0078189 A1
 Sarshar (43) Pub. Date: Apr. 5, 2007

(54) **NOVEL THERAPEUTIC AGENTS FOR THE TREATMENT OF CANCER, METABOLIC DISEASES AND SKIN DISORDERS**

(52) U.S. CL. 514/690; 568/314; 568/326; 568/328

(75) Inventor: **Sepehr Sarshar**, Cardiff by the Sea, CA (US)

(57) **ABSTRACT**
 The present invention is directed to novel compounds according to formulae

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(73) Assignee: **Auspex Pharmaceuticals**, Vista, CA

(21) Appl. No.: 11/892,009

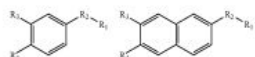
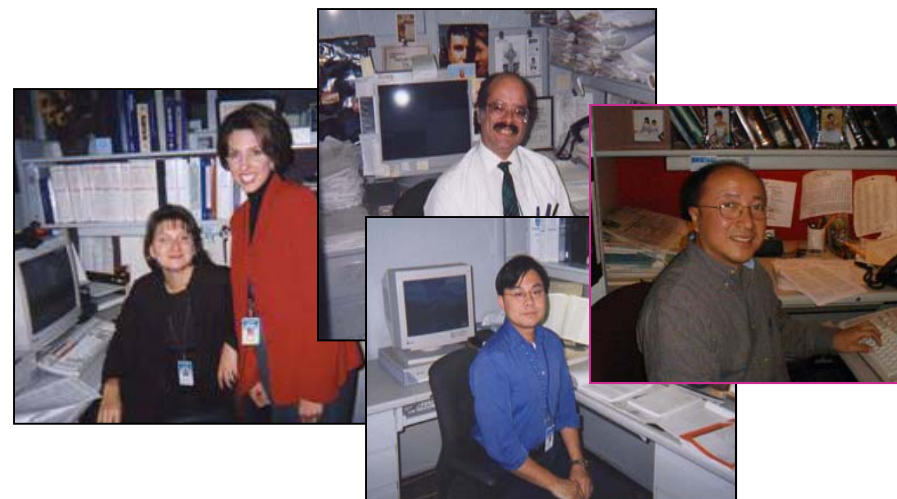
(22) Filed: Nov. 1, 2006

Related U.S. Application Data

(63) Continuation-in-part of application No. PCT/US05/15366, filed on May 2, 2005.

(60) Provisional application No. 60/567,965, filed on May 3, 2004.

wherein R₁, R₂, R₃ and R₄ are as defined herein. The invention also discloses methods of preparation, pharmaceutical compositions, and methods of disease treatment utilizing pharmaceutical compositions comprising these compounds. The compounds of this invention are novel therapeutic agents for the treatment of cancer, diabetes, metabolic diseases and skin disorders in mammalian subjects. These compounds are also useful modulators of gene

CRYSTAL GROWTH AND DESIGN
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A Dynamic Microporous Metal-Organic Framework with BCT Zeolite Topology: Construction, Structure, and Adsorption Behavior

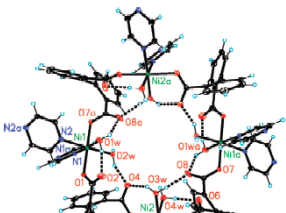
Sheng Hu,¹ Jie-Peng Zhang,¹ Hao-Xiang Li,¹ Ming-Liang Tong,^{1,2} Xiao-Ming Chen,^{1,2} and Susumu Kitagawa²

MOE Laboratory of Bioinorganic and Synthetic Chemistry/State Key Laboratory of Optoelectronic Materials and Technologies, School of Chemistry and Chemical Engineering, Sun Yat-Sen University, Guangzhou 510275, People's Republic of China, and Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University, Katata, Nishikyō-ku, Kyoto 615-8510, Japan

Received June 30, 2007; Revised Manuscript Received August 14, 2007

ABSTRACT: A new microporous metal-organic framework (MOF) material [Ni(dpa)(pyraz)(H₂O)]·11H₂O (1) with BCT zeolite topology has been hydrothermally synthesized. The framework components undergo dynamic structural transformation in response to removal and rebinding of the suitable guest molecules.

Microporous metal-organic framework (MOF) materials have received increasing attention mainly because of their potential application in adsorption, ion exchange, and catalysis, as well as intriguing architectures and topologies.^{1,2} In particular, dynamic porous MOF materials retain crystallinity after some structural transformations, including stretching, rotational, "breathing", and scissoring mechanisms, responding to external stimuli, which is essentially distinct from that of the rigid classical porous materials.³ Those reversibly dynamic structural changes, being induced by removal/adsorption of guest molecules and/or caused by the removal/addition of ligands from/to the host framework itself, may be used for the accommodation and separation of specific molecules. However, it is still a challenge to control the pore size and chemical characteristics of the internal surface as well as to decorate the topology of dynamic porous MOF materials.⁴ A promising route to such materials is the rational choice of suitable inorganic compositions as secondary building units (SBUs) and flexible organic ligands as the spacers. 1,1'-Bis(phenyl)-2,2'-dicarboxylic acid

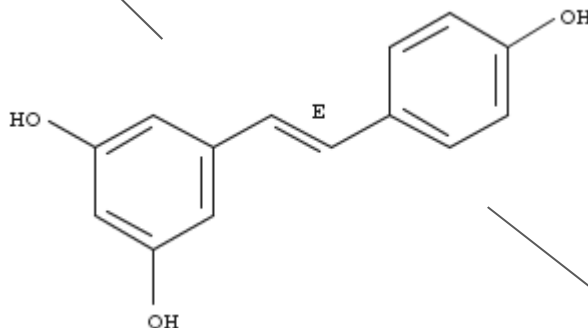


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What is known about this substance?

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-  Regulatory Information



CAS Registry Number: 501-36-0

C₁₄ H₁₂ O₃

1,3-Benzenediol, 5-[(1E)-2-(4-hydroxyphenyl)ethenyl]-

1,3-Benzenediol, 5-[2-(4-hydroxyphenyl)ethenyl]-, (E)-; 3,4',5-Stilbenetriol (7CI,8CI); Resveratrol (6CI); (E)-2-(3,5-Dihydroxyphenyl)-1-(4-hydroxyphenyl)ethene; (E)-3,4',5-Trihydroxystilbene; (E)-5-(p-Hydroxystyryl)resorcinol; (E)-Resveratrol; 3,4',5-Trihydroxy-trans-stilbene; 5-[(1E)-2-(4-Hydroxyphenyl)ethenyl]-1,3-benzenediol; CA 1201; Resveratrol P 5; Resvida; Vineatrol 20M; trans-3,5,4'-Trihydroxystilbene; trans-Resveratrol

Biological Properties	Value	Note
ADME (Absorption, Distribution, Metabolism, Excretion)	See full text	(2) CAS
Half-Life (Biological)	See full text	(9) CAS
LC50	See full text	(13) CAS
Minimum Inhibitory Concentration	See full text	(43) CAS

Lipinski and Related Properties	Value
Freely Rotatable Bonds	5
H Acceptors	3
H Donors	3
H Donor/Acceptor Sum	6
logP	3.024±0.267
Molecular Weight	228.24

Spectra Properties	Value
Carbon-13 NMR Spectrum	See spectrum
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- Reaction Structure

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nanotechnology in cancer therapy

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Photocyanation of aromatic compounds

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Sort by: Accession Number

Answers per Page [25] Display: — = ≡

0 of 11264 References Selected

1. **Nanomaterials as non-viral siRNA delivery agents for cancer therapy** Full Text

By Singh, Sanjay
From BioImpacts (2013), 3(2), 53-65, 13 pp.. | Language: English, Database: CAPLUS

Gene **therapy** has been recently shown as a promising tool for **cancer** treatment as **nanotechnol.**-based safe and effective delivery methods are developed. Generally, genes are wrapped up in extremely tiny **nanoparticles** which could be taken up easily by **cancer** cells, not to their healthy neighboring cells. Several **nanoparticle** systems have been investigated primarily to address the problems involved in other methods of gene delivery and obsd. improved anticancer efficacy suggesting that **nanomedicine** provides novel opportunities to safely deliver genes, thus treat **cancer**. In this review, various ...

2. **Inhibition of hTERT gene expression by silibinin-loaded PLGA-PEG-Fe3O4 in T47D breast cancer cell line** Full Text

By Ebrahimnezhad, Zohreh; Zarghami, Nosratollah; Keyhani, Manoutchehr; Amirsaadat, Soumaye; Akbarzadeh, Abolfazl; Rahmati, Mohammad; Taheri, Zohreh
From BioImpacts (2013), 3(2), 67-74, 8 pp.. | Language: English, Database: CAPLUS

Introduction: Nowadays, using drug delivery is an essential method to improve **cancer therapy** through decreasing drug toxicity and increasing efficiency of treatment. Silibinin (C₂₅H₂₂O₁₀), a polyphenolic flavonoid which is isolated from the milk thistle plant, has various applications in **cancer therapy** but it has hydrophobic structure with low water soly. and bioavailability. To increase the effect of silibinin, silibinin-loaded PLGA-PEG-Fe₃O₄ was prepd. to det. the inhibitory effect of this **nanodrug** on Telomerase gene expression. Methods: The rate of silibinin loaded into PLGA-PEG-Fe₃O₄ wa

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Page: 1 of 451

1. **Photodynamic and Photothermal Therapy in the Near-Infrared Region by Using Gold Nanorods** Full Text ~1435

By Huang, Xiaohua; El-Sayed, Ivan H.; Qian, Wei; El-Sayed, Mostafa A.
From Journal of the American Chemical Society (2006), 128(6), 2115-2120. | Language: English, Database: CAPLUS

HaCat nonmalignant cells HSC malignant cells HOC malignant cells

Due to strong elec. fields at the surface, the absorption and scattering of electromagnetic radiation by noble metal **nanoparticles** are strongly enhanced. These unique properties provide the potential of designing novel optically active reagents for simultaneous mol. imaging and photothermal **cancer therapy**. It is desirable to use agents that are active in the near-IR (NIR) region of the radiation spectrum to minimize the light extinction by intrinsic chromophores in native tissue. Gold **nanorods** with suitable aspect ratios (length divided by width) can absorb and scatter strongly in the NIR r...

2. **Nanoshell-mediated near-infrared thermal therapy of tumors under magnetic resonance guidance** Full Text ~1357

By Hirsch, L. R.; Stafford, R. J.; Bankson, J. A.; Sershen, S. R.; Rivera, B.; Price, R. E.; Hazle, J. D.; Halas, N. J.; West, J. L.
From Proceedings of the National Academy of Sciences of the United States of America (2003), 100(23), 13549-13554. | Language: English, Database: CAPLUS

Metal **nanoshells** are a class of **nanoparticles** with tunable optical resonances. In this article, an application of this technol. to thermal ablative **therapy** for **cancer** is described. By tuning the **nanoshells** to strongly absorb light in the near IR, where

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Cancer Cell Imaging and Photothermal Therapy in the Near-Infrared Region by Using Gold Nanorods

Full Text
By Huang, Xiaohua; El-Sayed, Ivan H.; Qian, Wei; El-Sayed, Mostafa A.
From Journal of the American Chemical Society (2006), 128(6), 2115-2120. | Language: English, Database: CAPLUS

Due to strong elec. fields at the surface, the absorption and scattering of electromagnetic radiation by noble metal nanoparticles are strongly enhanced. These unique properties provide the potential of designing novel optically active reagents for simultaneous mol. imaging and photothermal cancer therapy. It is desirable to use agents that are active in the near-IR (NIR) region of the radiation spectrum to minimize the light extinction by intrinsic chromophores in native tissue. Gold nanorods with suitable aspect ratios (length divided by width) can absorb and scatter strongly in the NIR region (650-900 nm). In the present work, we provide an in vitro demonstration of gold nanorods as novel contrast agents for both mol. imaging and photothermal cancer therapy. Nanorods are synthesized and conjugated to anti-epidermal growth factor receptor (anti-EGFR) monoclonal antibodies and incubated in cell cultures with a nonmalignant epithelial cell line (HaCat) and two malignant oral epithelial cell lines (HOC 313 clone 8 and HSC 3). The anti-EGFR antibody-conjugated nanorods bind specifically to the surface of the malignant-type cells with a much higher affinity due to the overexpressed EGFR on the cytoplasmic membrane of the malignant cells. As a result of the strongly scattered red light from gold nanorods in dark field, obsd. using a lab. microscope, the malignant cells are clearly visualized and diagnosed from the nonmalignant cells. It is found that, after exposure to continuous red laser at 800 nm, malignant cells

Reference Images

Substance Images

HaCat nonmalignant cells	HSC malignant cells	HOC malignant cells

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Synthesis and Molecular Recognition Studies of the HNK-1 Trisaccharide and Related Oligosaccharides. The Specificity of Monoclonal Anti-HNK-1 Antibodies as A...

Full Text

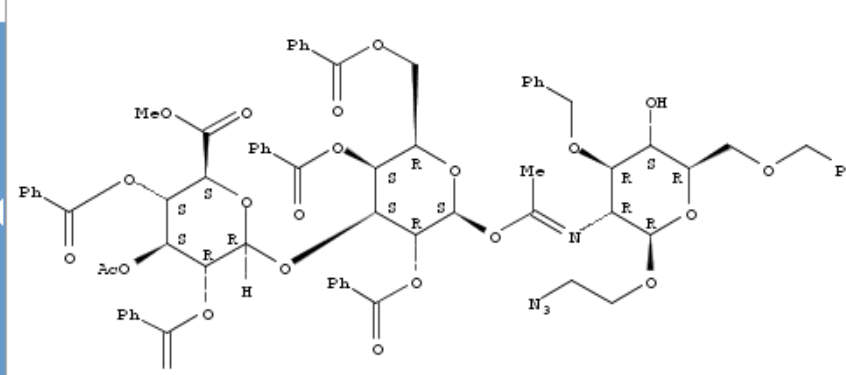
By Tsvetkov, Yury E.; Burg-Roderfeld, Monika; Loers, Gabriele; Arda, Ana; Sukhova, Elena V.; Khatuntseva, Elena A.; Grachev, Alexey A.; Chizhov, Alexander O.; Siebert, Hans-Christian; Schachner...

From Journal of the American Chemical Society (2012), 134(1), 426-435. | Language: English, Database: CAPLUS

The human natural killer cell carbohydrate, HNK-1, plays function-conductive roles in peripheral nerve regeneration and synaptic plasticity. It is also the target of autoantibodies in polyneuropathies. It is thus important to synthesize structurally related HNK-1 carbohydrates for optimizing its function-conductive roles, and for diagnosis and neutralization of autoantibodies in the fatal Guillain-Barre syndrome. As a first step toward these goals, the authors have synthesized several HNK-1 carbohydrate derivs. to assess the specificity of monoclonal HNK-1 antibodies from rodents: 2-aminoethyl glycosides of selectively O-sulfated trisaccharide corresponding to the HNK-1 antigen, its non-sulfated analog, and modified structures contg. 3-O-fucosyl or 6-O-sulfo substituents in the N-acetylglucosamine residues. These were converted, together with several related oligosaccharides, into biotin-tagged probes to analyze the precise carbohydrate specificity of two anti-HNK-1 antibodies by surface plasmon resonance that revealed a crucial role of the glucuronic acid in antibody binding. The contribution of the different oligosaccharide moieties in the interaction was shown by satn. transfer difference (STD) NMR of the complex consisting of the HNK-1 pentasaccharide and the HNK-1 412 antibody.

Reference Images Substance Images

1352813-75-2P 1 2 3 4 5 ... 50 of 79 ▶



Absolute stereochemistry., Double bond geometry unknown.

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to thermal ablative therapy for cancer is described

By tuning the nanoshells to strongly absorb light in the near IR, where

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RESEARCH SUPPORT NONUS GOVT	2117
Patent	1247
RESEARCH SUPPORT NIH EXTRAMURAL	738
Conference	734

0 of 11264 References Selected

471. **Process for preparing therapeutic compositions containing nanoparticles** Full Text
By Bosch, H. William; Marcera, Donna M.; Mueller, Ronald L.; Swanson, Jon R.; Mishra, Dinesh S.
From U.S. (1996), US 5510118 A 19960423. | Language: English, Database: CAPLUS

A process of prepg. **nanoparticulate** drug substances, comprises the steps of: prepg. a premix of the cryst. drug substance and a surface modifier, and subjecting the premix to mech. means to reduce the particle size of the drug substance, the mech. means producing shear, impact, cavitation and attrition. The prepd. particles are stable and do not appreciably flocculate or agglomerate due to interparticle attractive forces and can be formulated into pharmaceutical compns. exhibiting unexpectedly high bioavailability. For example, naproxen was microfluidized in the presence of hydroxypropyl Me ...

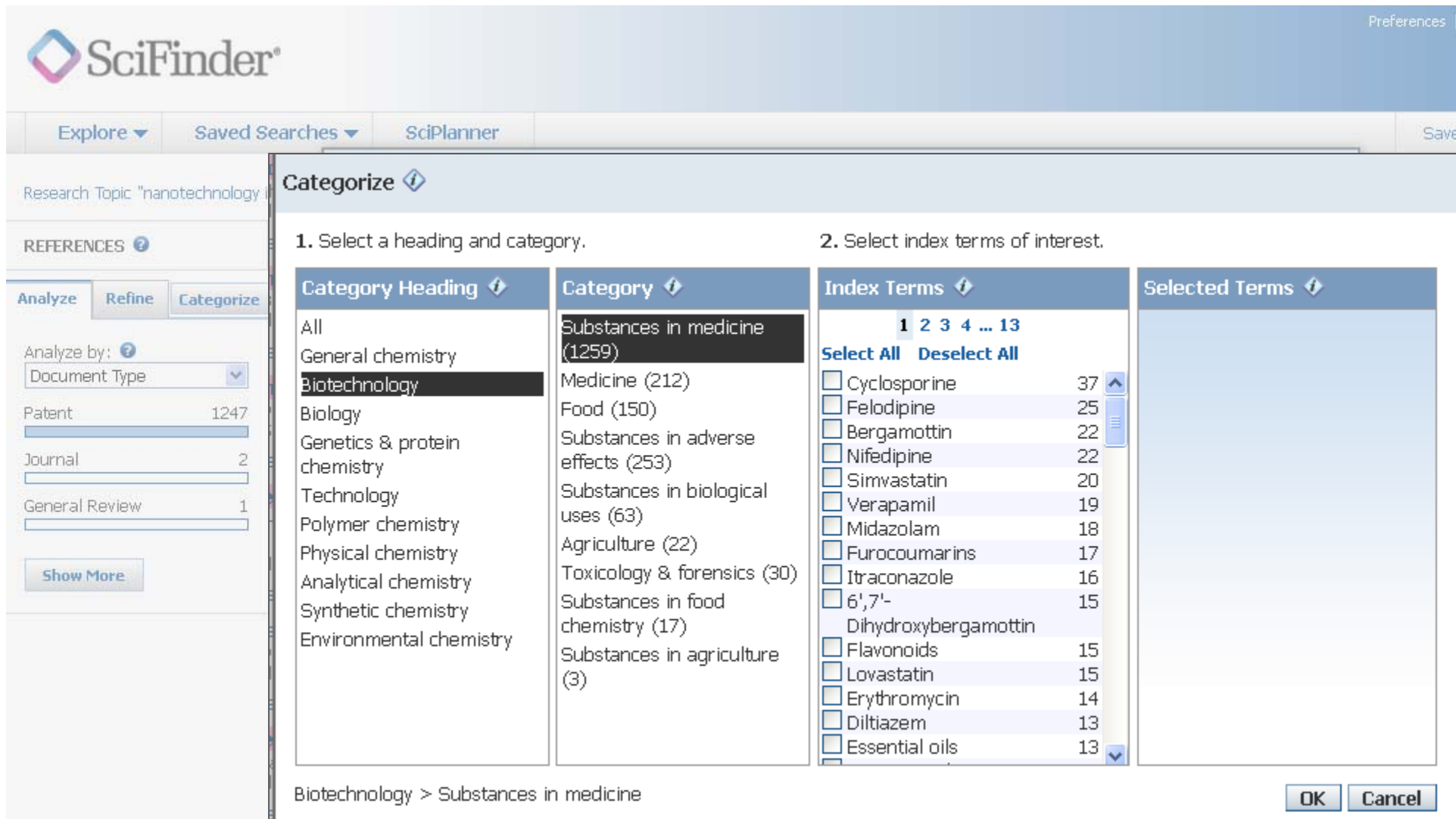
477. **Optically-active nanoparticles for use in therapeutic and diagnostic methods** Full Text
By West, Jennifer L.; Halas, Nancy J.; Hirsch, Leon R.
From PCT Int. Appl. (2001), WO 2001058458 A1 20010816. | Language: English, Database: CAPLUS

This invention is generally in the field of improved methods for the localized delivery of heat and the localized imaging of biol. materials. The delivery may be in vitro or in vivo and is useful for the localized treatment of **cancer**, inflammation or to other disorders involving overproliferation of tissue. The method is also useful for diagnostic imaging. The method involves localized induction of hyperthermia in a cell or tissue by delivering **nanoparticles** to the cell or tissue and exposing the **nanoparticles** to an excitation source under conditions wherein they emit heat. Gold **nanoshells**...

1141. **Radiation and nanoparticles for enhancement of drug delivery in solid tumors** Full Text
By Esenaliev, Rinat O.
From PCT Int. Appl. (2000), WO 2000002590 A1 20000120. | Language: English, Database: CAPLUS

The present invention discloses a method/system utilizing interaction of electromagnetic pulses or ultrasonic radiation with

Categorize – Organize concepts by science categories



The screenshot shows the SciFinder interface with a search for "nanotechnology". The left sidebar shows the "REFERENCES" section with a "Categorize" button. The main dialog box is titled "Categorize" and contains two main sections: "1. Select a heading and category." and "2. Select index terms of interest."

1. Select a heading and category.

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Biotechnology	Food (150)
Biology	Substances in adverse effects (253)
Genetics & protein chemistry	Substances in biological uses (63)
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Polymer chemistry	Toxicology & forensics (30)
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Index Terms	Count
<input type="checkbox"/> Cyclosporine	37
<input type="checkbox"/> Felodipine	25
<input type="checkbox"/> Bergamottin	22
<input type="checkbox"/> Nifedipine	22
<input type="checkbox"/> Simvastatin	20
<input type="checkbox"/> Verapamil	19
<input type="checkbox"/> Midazolam	18
<input type="checkbox"/> Furocoumarins	17
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<input type="checkbox"/> Lovastatin	15
<input type="checkbox"/> Erythromycin	14
<input type="checkbox"/> Diltiazem	13
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Biotechnology > Substances in medicine

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Antitumor agents (all) 380

Anti-infective agents (all) 233

Anti-inflammatory agents (all) 67

Immune agents (pharmaceutical) 44

Photosensitizers MD pharmaceutical 33

Nervous system agents (all) 32

Dermatological agents

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111. **Substance Detail**
114798-26-4

~5275

~5073

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Unspecified D-Glucan

Experimental Properties

CAS Registry Number: 114798-26-4

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Chemical Structure:

CCCC1=CN(C=C1C)COC2=CC=C(C=C2)C3=CC=CC=C3C4=NN=CN=C4

Chemical Name: 1-[[2-butyl-4-chloro-1-[[2'-(2-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]-

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 $R-NO_2 \longrightarrow R-NH_2$

☐ 2. Substitution of Aromatic Halides with Nitrogen
17 Reactions
 $Ar-X + R-NH \longrightarrow Ar-N(R)_2$

☐ 3. Halogenation of Aromatic Compounds
4 Reactions
 $Ar-H \xrightarrow{X_2} Ar-X$

☐ 4. Reduction of Nitriles to Amines
3 Reactions

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Draw or change atoms or bonds. Shortcut Keys

Atom Short

$C \equiv N$ reactant

$C \equiv N$ product

alchc ketor aldeh

C H O S N P Cl Br F I Si

Scale 100

C7 H4 N2 O2 . C7 H6 N2 (reaction query) 148.12 . 118.14

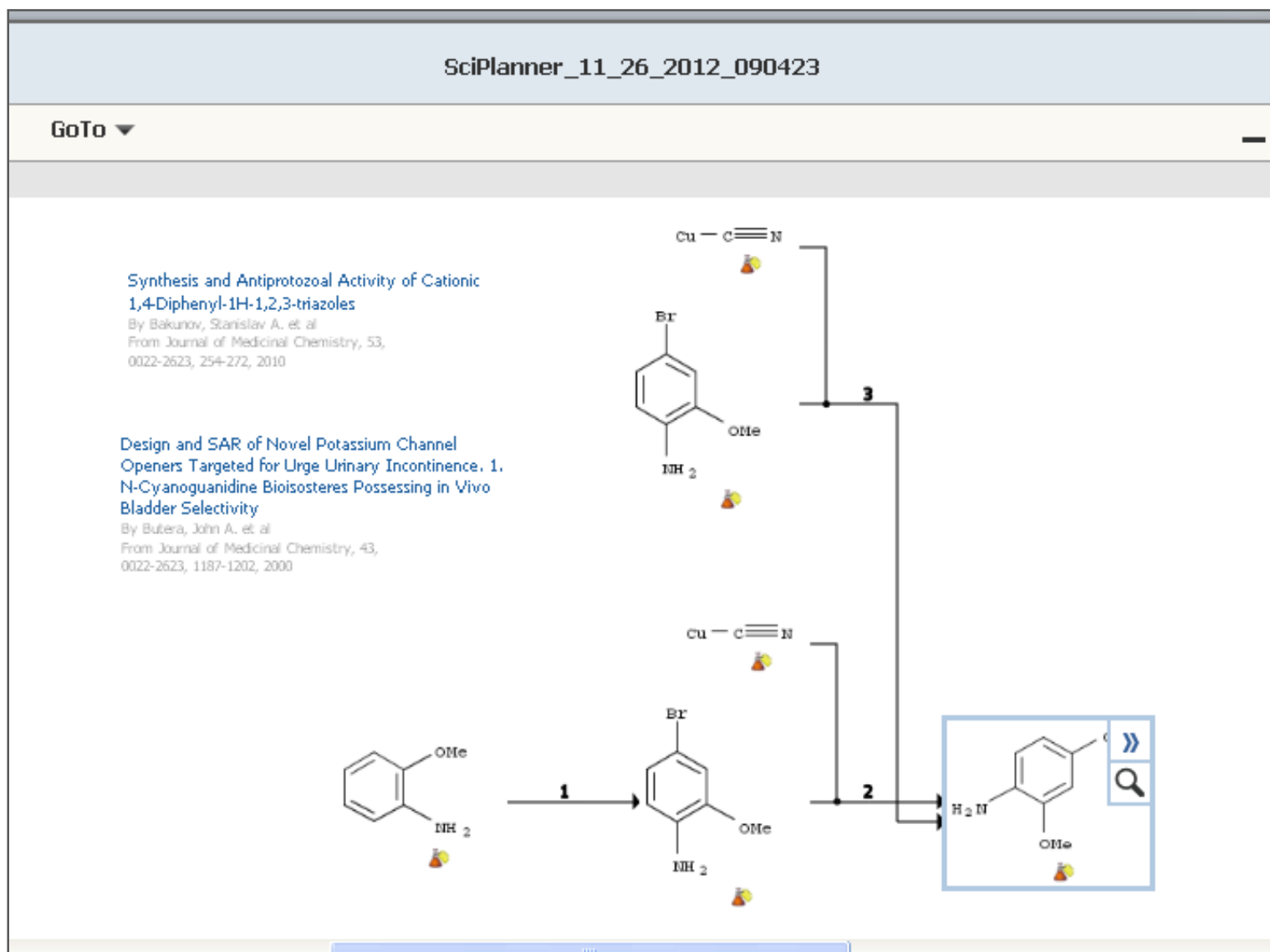
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CAS Registry Number: 116539-59-4

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3 Steps Hover over any structure for more options.

Overview

Steps/Stages

Notes

References

Experimental Procedure

Step 1

(S)-2-Hydroxy-2-(thiophen-2-yl)ethyl 4-methylbenzenesulfonate (11): To a solution of (S)-10 (0.50 g, 3.47 mmol, 91% ee) in dry CH₂Cl₂ (8 mL) were added dibutyltin oxide (0.17 mg, 0.007 mmol), p-toluenesulfonyl chloride (0.662 g, 3.47 mmol), triethylamine (0.351 g, 3.47 mmol) and reaction was stirred at room temperature for two hours (monitored by TLC). After completion of reaction the mixture was quenched by adding water (8 mL). The layers were separated, and the water layer was extracted with CH₂Cl₂ (3 x 8 mL). The combined organic phases were dried (MgSO₄) and concentrated. Silica gel column chromatography of crude product using AcOEt/hexane (3:7) as an eluent gave (S)-11 (0.98 g, 95% yield, 91% ee) as a colourless powder. 78.0-79.5°C (crystallised from AcOEt/hexane); ¹H NMR (400 MHz, CDCl₃) δ = 7.80-7.78 (m, 2H), 7.36-7.34 (m, 2H), 7.28-7.26 (m, 1H), 6.98-6.96 (m, 2H), 5.22 (dd, J = 8.0 Hz, J = 3.7 Hz, 1H), 4.21 (dd, J = 10.3 Hz, J = 3.7 Hz, 1H), 4.14 (dd, J = 10.3 Hz, J = 8.0 Hz, 1H), 2.66 (s, 1H), 2.45 (s, 3H) ppm; ¹³C NMR (100 MHz, CHCl₃) δ = 145.2 (C), 141.4 (C), 132.4 (C), 129.9 (CH), 128.0 (CH), 126.9 (CH), 125.6 (CH), 124.9 (CH), 73.6 (CH), 68.2 (CH), 21.6 (CH) ppm; IR (CHCl₃) 2514, 2108, 2051, 1598, 1495, 1447, 1358, 1190, 1176, 1096, 972, 838, 814, 706, 664, 554 cm⁻¹; HPLC analysis: 91% ee (AD-H, 10% i-PrOH in hexane, 1.0 mL/min, λ = 225 nm, t_R = 26.7 min, major, t_R = 36.8 min, minor); [α]_D²⁰ = -31.5 (c = 0.6, CHCl₃).

Step 2

(S)-3-Hydroxy-3-(thiophen-2-yl)propanenitrile: To a solution of (S)-11 (87 mg, 0.30 mmol, 91% ee) in dry DMSO (1 mL) under argon, KCN (39 mg, 0.60 mmol) was added and the reaction was stirred at room temperature for 24 h. The mixture was quenched by adding water solution of NaHCO₃ (3 mL, 10%). The layers were separated, and the aqueous layer was extracted with CH₂Cl₂ (3 x 3 mL) and then combined organic phase were washed with water, dried (MgSO₄) and concentrated. Silica gel column chromatography of crude product using AcOEt/hexane (2:8) as an eluent gave (S)-3-hydroxy-3-(2-thienyl)propanenitrile (41 mg, 92% yield, 91% ee) as a colourless oil. ¹H NMR (400 MHz, CDCl₃) δ = 7.31 (dd, J = 5.1 Hz, J = 1.2 Hz, 1H), 7.08-7.07 (m, 1H), 7.00 (dd, J = 5.1 Hz, J = 3.5 Hz, 1H), 5.29-5.26 (m, 1H), 2.87-2.85 (m, 2H) ppm; ¹³C NMR (100 MHz, CHCl₃) δ = 144.4 (C), 127.0 (CH), 125.7 (CH), 124.7 (CH), 116.9 (C), 66.2 (CH), 28.1 (CH₂) ppm; IR (CHCl₃) 3430, 3108, 2965, 2932, 2254, 1740, 1535, 1438, 1413, 1310, 1235, 1221, 1060, 1040, 850, 708 cm⁻¹; HPLC analysis: 91% ee (O-H, 20% i-PrOH in hexane, 1.0 mL/min, λ = 225 nm, t_R = 13.8 min, major, t_R = 15.7 min, minor); [α]_D²⁰ = -30.5 (c = 1.3, CHCl₃); HRMS (ESI) calcd. for C₇H₇NO₂S (M+H)⁺: 176.01406; found: 176.01451.

Step 3

Procedure Unavailable

Note: Reactions searching can also be done from the initial search page.

Chemical inventories detail relevant regulations

The screenshot displays the SciFinder web interface. On the left, a sidebar lists various organizations under 'Analyze by: Company-Organization'. The main area shows 'REACTIONS' with options to 'Analyze' or 'Refine'. A chemical structure of 2-acetylthiophene is shown, and a context menu is open over it, with 'Get Regulatory Information' highlighted. To the right, a panel titled 'Inventory Status' lists various regulatory inventories, including TSCA, NDSL, REACH, EINECS, AICS, PICCS, and NZIoC. Below this, 'Regulatory Inventories' are listed, including Canadian and European Community regulations. A blue callout box with a pink border contains the text: 'Regulatory information helps you make critical decisions.'

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Chemical Structure exact > substances (581) > get reactions (197)

REACTIONS ⓘ

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Analyze Refine

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Indian Institute of Chemical Technology, India 20

Ind Swift Laboratories Limited, India 15

East China University of Science and Technology, Peop Rep China 10

Jubilant Life Sciences Limited, India 9

SCI Pharmatech Inc, Taiwan 8

Alembic Limited, India 7

Korea Research Institute of Chemical Technology, S Korea 7

Ranbaxy Laboratories Limited, India 7

Group by: No Grouping ▾ Sort by: Experimental Procedure ▾ ↑

0 of 197 Reactions Selected

3. View Reaction Detail ⓘ Link

4 Steps Hover over any structure for more options.

CAS Registry Number: 88-15-3

View Substance Detail

Explore by Structure ▸

Synthesize this...

Get Reactions where Substance is a ▸

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Get Regulatory Information

Get References

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Inventory Status

On TSCA Inventory

January 2013 TSCA Inventory

Removed from DSL

Canada Gazette, Part II, 142 #13:1390 (25 Jun 2008)

On NDSL

Canada Gazette, Part I, 142 #25:1872 (21 Jun 2008)

On REACH

List of Pre-Registered Substances, March 2009

Registration Date: 30-NOV-2010.

On EINECS

Annex to Official Journal of the European Communities, 15 June 1990

On AICS

Australian Inventory of Chemical Substances, June 1996 Ed

On PICCS

Philippines Inventory of Chemicals and Chemical Substances, On ASIA-PAC

On NZIoC

New Zealand Inventory of Chemicals, 2006

May be used as a single component chemical under an appro

Regulatory Inventories

==== Canadian Regulations ====

==== European Community Regulations ====

==== Canadian Regulations ====

Canadian Legislation Affecting Chemicals

Canada Gazette, Part I, 140 #45:3599 (11 Nov 2006).

Notice of intent to delete this substance from the Domestic Substances List (DSL) as a non-eligible substance. During the 180 day comment period, anyone who objects to the deletion of a substance should complete substantiation information and submit to the Minister of the Environment.

==== European Community Regulations ====

European Community Legislation

Internet: ec.europa.eu/food/food/chemicalsafety/flavouring (2010).

This substance is listed in the Register of Flavouring Substances pursuant to Article 3(1) of Regulation EC No. 2232/96 (28 Oct 1996) that lays down a procedure for flavouring substances used or intended for use in or on foodstuffs.

Official Journal of the European Communities, No. L 49 (20 Feb 2002).

This substance is listed in the Register of Flavouring Substances pursuant to Article 3(1) of Regulation EC No. 2232/96 (28 Oct 1996) that lays down a procedure for flavouring substances used or intended for use in or on foodstuffs.

Listed Name(s): 2-Acetylthiophene.

FL number: 15.040.

CoE No.: 11728.

Chemical Group: 29.

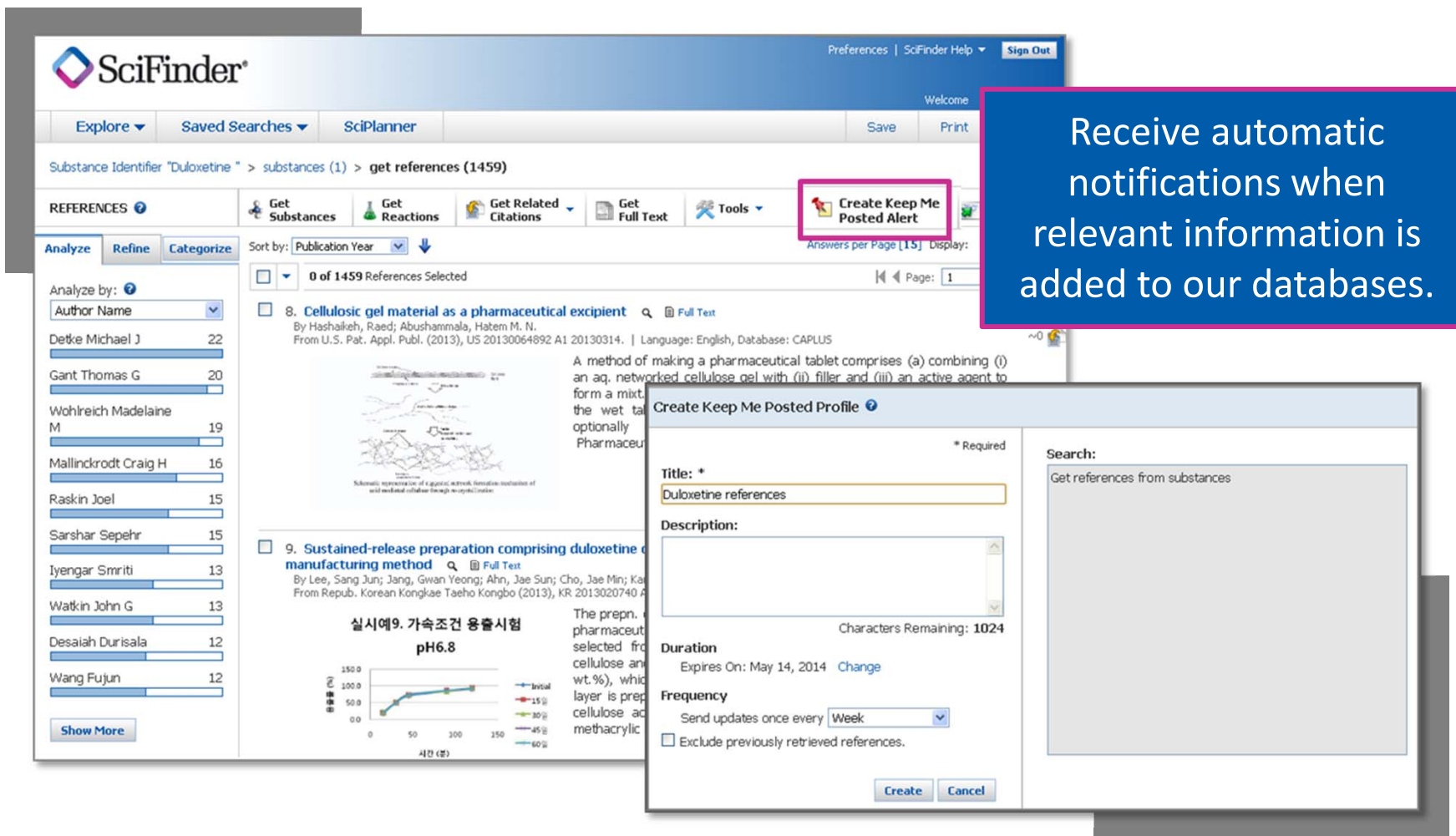
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CAS is a division of the American Chemical Society.
Hyttinen, CAS

Stay current with Keep Me Posted alerts



The screenshot shows the SciFinder web interface. At the top, there's a navigation bar with 'Explore', 'Saved Searches', and 'SciPlanner'. Below this, a search for 'Duloxetine' has been performed, resulting in 1459 references. A 'Create Keep Me Posted Alert' button is highlighted in a red box. A blue callout box on the right states: 'Receive automatic notifications when relevant information is added to our databases.'

The 'Create Keep Me Posted Profile' dialog box is open, showing the following details:

- Title:** * Duloxetine references
- Description:** (Empty text area)
- Duration:** Expires On: May 14, 2014 (Change)
- Frequency:** Send updates once every Week (dropdown menu)
- ☐ Exclude previously retrieved references.
- Search:** Get references from substances
- Buttons:** Create, Cancel

The background interface shows a list of authors on the left and search results on the right. One result is highlighted: '8. Cellulosic gel material as a pharmaceutical excipient' by Hashaikh, Raed; Abushammala, Hatem M. N. From U.S. Pat. Appl. Publ. (2013), US 20130064892 A1 20130314. The description mentions a method of making a pharmaceutical tablet.

Jakujem – Thank you



Access SciFinder at:

scifinder.cas.org