

**STN<sup>®</sup>**

Exploring Scientific Intellectual  
Property Information Resources

John Zabilski

Senior Applications Specialist, CAS

# Performing comprehensive searches is becoming more challenging

- **Prior Art, Validity, or Infringement**
  - Do you have all relevant patent publications?
  - How do you find journal references or information on conference proceedings or dissertations?
  - Consider requirements for Accelerated Examination or Examination Support Documents (ESD)
- **Patentability**
  - Have you proved claimed invention was non-obvious by finding all possible combinations of references?
  - Consider recent court rulings such as KSR vs Teflex
- **Freedom-to-Operate**
  - Are patents still in-force in the countries of interest?
  - Are maintenance fees paid or patent been reinstated?
  - Are you seeking licensing opportunities?

# Scientific Intellectual Property is readily obtainable on STN

- ❑ Introduction to CAS and STN
- ❑ CAS and patent file content
- ❑ STN search interfaces
- ❑ Post-processing tools

# CAS provides easy access to Sci-Tech IP information

- Chemical Abstracts Service (CAS)
- A not-for-profit division of the American Chemical Society (ACS)
- The world leader in providing high-quality scientific information since 1907
- Superior user interfaces accompany comprehensive databases

# CAS provides the world's most comprehensive collection of chemically-related information

## **Intellectually analyzed content**

- Analyzed by CAS scientific experts
- CAS databases with **value-added** content
- Patents and journals

## **Concept information**

- Detailed indexing
- New and novel aspects of a document
- Controlled vocabulary for scientific concepts

## **Comprehensive substance information**

- Substance indexing for chemical substances and sequences include the CAS Registry Number

# The most comprehensive version of CAplus/CA is on STN

- STN is a CAS service that provides access to more than 200 scientific databases including CAS files
- The CAplus file contains > 30 million records from
  - **Patents** published by 57 patent authorities including ARIPO, EPO, and WIPO
  - Coverage includes KR, CN, and IN publications
  - 10,000 **journals** from >185 countries plus conferences, books, dissertations, electronic sources, and more
- English language summaries and indexing for documents published in > 50 different languages
- Back-file coverage into the 1800's

# CAplus provides the best currency for important patent authorities

- **Bibliographic information and abstract** from original documents are added quickly
  - Within 2 days for 9 major patent authorities including: US, WO, EP, CA, DE, FR, GB, JP, RU
  - Within 14 days for Chinese and Korean patent offices
  - Within 7 days for 1500 key journals
  - Machine translations added for some countries
- **Daily updates** provide additional information
  - Enhanced title, abstract and subject indexing added within 27 days for major authorities
  - New equivalents added to patent family displays

# CAplus provides a complete set of patent search tools

- **CA Lexicon** provides a thesaurus of index terms for comprehensive topic searches
- **Company Name Thesaurus** for comprehensive patent assignee searching including mergers and acquisitions
- All major **patent classifications** including revised IPC, US, ECLA, and Japanese F-terms
- Complete **substance search** capabilities:
  - Chemical names including trade names
  - Specific or Markush (generic) chemical structures
  - BLAST or motif searching of sequences

# Patent Family Databases

<b>Database</b>	<b>Coverage</b>	<b>Features</b>
<b>CAplus</b>	57 authorities 1800's–date	<ul style="list-style-type: none"><li>- Chemistry, engineering, and life sciences</li><li>- Detailed substance indexing</li></ul>
<b>Derwent World Patent Index (DWPI)</b>	41 authorities 1963–present	<ul style="list-style-type: none"><li>- Enhanced titles and abstracts</li><li>- Main Claims</li></ul>
<b>INPAFAMDB</b>	81 authorities 1800s–date	<ul style="list-style-type: none"><li>- Extended families</li><li>- Legal status</li><li>- Citations</li></ul>

# US full-text cluster contains all patents and applications

- Searchable complete text of both published applications and granted patents
  - [USPATFULL](#) - U.S. patents initial publication
  - [USPAT2](#) - U.S. patents latest publication
  - [USPATOLD](#) - U.S. patents 1790 to 1975
- Extended display formats include initial publication and latest publication
- CAS RNs and complete CAplus indexing for more comprehensive retrieval

## Several full-text files are enhanced with English titles, abstracts, or claims

- **EPFULL** covers EPO published applications from 1987 and granted patents from 1991 with granted patent claims in EN, FR and DE
- **PCTFULL** covers WIPO applications from 1978 and includes English titles and abstracts
- **FRFULL** covers INPI applications with images and machine-translated titles and abstracts
- **GBFULL** covers UK (GB) applications with images from 1979 to date

# STN International provides patent information through powerful interfaces



## **Menu-based web access**

to 100+ scientific and technical databases



## **Web browser based access**

to 200+ scientific and technical databases



## **Command line access** to

200+ scientific databases including report and analysis tools

# Full-Text linking is available from all STN interfaces

- Link directly to patent full text or journal information via **ChemPort<sup>SM</sup>**
  - Includes USPTO, MicroPatent, esp@cenet
  - Access to patent sites is a FREE service
  - Links users of STN to articles from more than 7,400 electronic journals from nearly 360 participating publishers
- Additional documents may be obtained direct from the publisher or through the Document Detective Service (DDS)



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1. **Select Your Category** Current category is:**Patents**

2. Enter one or more search terms below. Terms will be joined with: AND ▾

**Recall** saved search termsTitle:  

e.g. plasma welding

Subject Words:  

e.g. surface layer

Inventor:  

Last Name

First Name

M.I.

Patent Assignee: = AMYLIN PHARMACEUTICALS 

- AMYLIN (282)
- AMYLIN CORP (13)
- AMYLIN CORP USA (6)
- AMYLIN CORPORATION (1)
- AMYLIN PARMACEUTICALS INC (1)
- AMYLIN PHARM INC (125)
- AMYLIN PHARMACEUTICALS INC (149)
- AMYLIN PHARMACEUTICALS INC USA (84)

IPC Classification:  

e.g. B23K009-00

Patent Number or Patent Country:  

e.g. EP1043108, EP

Publication Date:  

e.g. 19991028, 1999

Application Number or Application Country:  

e.g. EP1999-890401, EP

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NEWS  
 NEWS 21 AUG 06 CAS REGISTRY enhanced with new experimental property tags  
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Search STN in full command line mode or with easy-to-use **Search Assistants**.

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 NEWS 30 AUG 20 CA/CAplus enhanced with CAS indexing in pre-1907 records

**NEWS EXPRESS** 29 JUNE 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 05 JULY 2007.

**NEWS HOURS** STN Operating Hours Plus Help Desk Availability  
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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 12:11:00 ON 31 AUG 2007

Transcript automatically saves search session.

Transcript: ON

Command List  
 Specific Help List

=>     [Hide session output](#) [Show session output](#)

# The Patent Assistant finds IP information

**STN on the web**


- Help
- News
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  - Structure Query
  - Sequence Asst.
  - Upload Sequence
  - Upload Cmd. File
- Results Assistant
- Transcript Assistant
- => Command Line
- Logoff Hold
- Logoff
- Feedback
- Send Break

Transcript: ON

## Patent Search







The Patent Search tool offers easy access to information related to patent documents.

Enter a patent number, application number, or priority application number. You may enter several numbers, separated by commas.  
Select the appropriate number identifier.

Number(s):    
(Examples: JP11310591, EP1999-303562)

Patent  Application/Priority  Uncertain

Select your search option:

- All STN References 
- Abstracts, Claims, Indexing 
- STN Full Text 
- Family Information 
- Legal Status 
- Citations 

Find references, full-text, family information, legal status, or citations.

# STN Express provides powerful tools to obtain and understand search results

- **FREE** software designed to search STN
- Flexible command-line searching
- **Wizards** help search, refine, and display
- Easily create well-organized professional reports or tables of results
- **Wizards** assist in analyzing and exporting information to spreadsheets
- Export results to visualization tools
  - **STN Viewer** manages full-text patents
  - **STN AnaVist** analyzes and visualizes results

# A single click creates a predefined report



04 September 2007 at 15:31 - ANSWER 1 OF 89

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2007:876970

## **Fast and simultaneous determination of darunavir and eleven other antiretroviral drugs for therapeutic drug monitoring: method development and validation for the determination of all currently approved HIV protease inhibitors and non-nucleoside reverse transcriptase inhibitors in human plasma by liquid chromatography coupled with electrospray ionization tandem mass spectrometry**

Rob ter Heine; Carolien G. Alderden-Los; Hilde Rosing; Michel J. X. Hillebrand; Eric C. M. van Gorp; Alwin D. R. Huitema; Jos H. Beijnen

Department of Pharmacy and Pharmacology, Slotervaart Hospital, Amsterdam, 1066 EC, Neth.

### **Journal**

Rapid Communications in Mass Spectrometry (2007), 21(15), 2505-2514

### **Language**

English

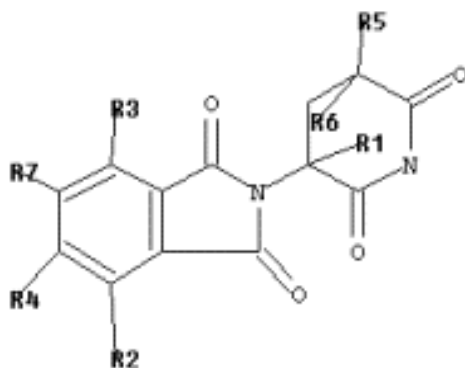
### **Abstract**

For the quantification of all currently approved non-nucleoside reverse transcriptase inhibitors and protease inhibitors, including the new protease inhibitor darunavir and the active nelfinavir metabolite M8, an assay was developed, using liquid chromatog. coupled with tandem mass spectrometry. The sample pretreatment consisted of a protein precipitation with a mixture of methanol and acetonitrile using only 100  $\mu$ L plasma. Chromatog. separation was performed on a reversed-phase C18 column (150+2.0 mm, particle size 5  $\mu$ m) with a quick stepwise gradient using an acetate buffer (pH 5) and methanol, at a flow rate of 0.25 mL/min. The anal. run time was only 10 min. The triple quadrupole mass spectrometer was operated in the pos. ion mode and multiple reaction monitoring was used for drug quantification. The method was validated over a range of 0.1 to 20  $\mu$ g/mL for amprenavir, atazanavir, efavirenz, indinavir, lopinavir, nelfinavir, the active nelfinavir metabolite M8, nevirapine and ritonavir, a range of 0.05 to 10  $\mu$ g/mL for saquinavir and darunavir and a range of 0.5 to 100  $\mu$ g/mL for tipranavir, based on observed concentration ranges in patients treated with these drugs. D5-saquinavir, D6-indinavir, 13C6-efavirenz and dibenzepine were used as internal stds. The method was proven to be specific, accurate, precise and robust. Accuracies ranged from 88.5% to 102.2% and all precisions were less than 9.5%. Furthermore, the assay demonstrates a high sensitivity for all analytes and the stepwise gradient allows addition of new analytes into the same method. The method is now successfully applied for routine therapeutic drug monitoring and pharmacokinetic studies in HIV-infected patients.

# Save results as a table and export to Excel

STN Online and Results - [Table (Untitled)]						
File Edit Preferences! Web Window Help						
Title	Assignee	Patent Number	Kind Code	Patent Publication Date	Priority Patent Number	Priority Patent Publication Date
Preparation of novel spiropiperidine compounds for the modulation of chemokine receptor activity	Virochem Pharma Inc., Can.	WO 2007065256	A1	20070614	US 2005-742545P	20051206
Polycyclicphenolic compounds and use in treating viral infections	Migenix Corporation, Can.	WO 2007062528 US 2007161611	A1 A1	20070607 20070712	US 2005-742058P US 2006-565621	20051201 20061130
TMAZ as an antiviral agent and use thereof	Ljubicic, Mijo, Germany; Ivkovic, Slavko	WO 2007054085	A2	20070518	DE 2005-102005054306	20051111
Preparation of pyridinylaminosulfonylarylcarboxamides as cytochrome P450 3A4 inhibitors	Pfizer Products Inc., USA	WO 2007034312 WO 2007034312 US 2007167497	A2 A3 A1	20070329 20070823 20070719	US 2005-720151P US 2005-723115P US 2005-725469P US 2006-762256P US 2006-821664P WO 2006-IB2639	20050923 20051003 20051011 20060125 20060807 20060911
Methods for treating viral infections using polyamine analogs	Pathologica, Llc., USA	WO 2007035957 US 2007078187	A2 A1	20070329 20070405	US 2005-719573P	20050923
Method for augmentation of intraepithelial and systemic exposure of therapeutic agents having substrate activity for cytochrome p450 enzymes and membrane efflux systems following vaginal and oral cavity administration	USA	US 2007036834 AU 765269 US 2003049302 US 6982091 US 2006002966 WO 2007035515	A1 B2 A1 B2 A1 A2	20070215 20030911 20030313 20060103 20060105 20070329	US 2001-315877P US 2002-226667 US 2005-208209 US 2005-717680P AU 1998-76976	20010829 20020821 20050818 20050915 19980610
1,5-Naphthyridin-2(1H)-one derivative HIV integrase inhibitors, and use with other agents	Smithkline Beecham Corporation, USA	WO 2007019130	A2	20070215	US 2005-705342P	20050804

# *R-group Analysis Table* identifies groups on a common core structure



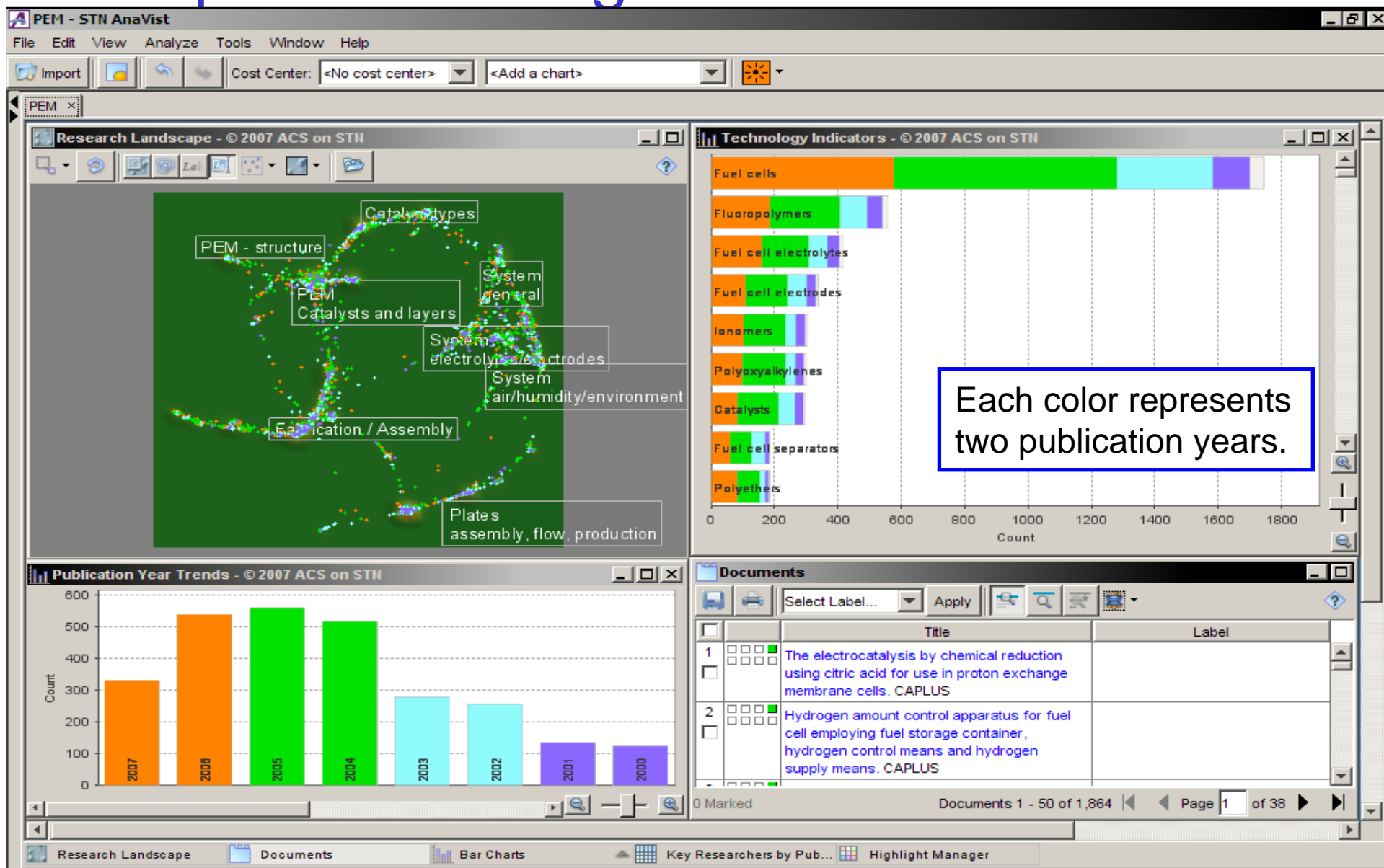
The variable groups on the base structure are identified from R1 to R7.

Row	CAS Registry Number®	Molecular Formula	R1	R2	R3	R4	R5	R6	R7
1	497147-11-2 REGISTRY	C13 H11 N3 O5	H		H	H	H	H	H
2	497147-10-1 REGISTRY	C13 H12 N4 O4	H		H	H	H	H	H
3	497147-08-7 REGISTRY	C23 H28 N4 O8	H			H	H	H	H
4	497146-99-3 REGISTRY	C13 H11 N3 O4	H	H	H	N	H	H	H
5	497146-98-2 REGISTRY	C13 H9 N3 O6	H	H	H		H	H	H

# STN<sup>®</sup> AnaVist<sup>™</sup> provides advanced analysis of search results

- STN AnaVist creates ***interactive visualizations*** that are ***dynamically linked***
- Use answers from CAplus, DWPI, EPFULL, USPATFULL, USPAT2, and PCTFULL
- Research landscape can be created with title/abstract or claim text, CAplus indexing (technology indicators), or IPC codes
- Bar charts or 2-dimensional matrices can be generated that are linked to landscape
- Complete database records and original documents may be obtained

# Analyze IP assets, track trends, and do competitive intelligence with STN AnaVist



# STN<sup>®</sup> Viewer<sup>™</sup> allows sorting, filtering, and ranking of full-text results

STN<sup>®</sup> Viewer<sup>™</sup> interface showing a list of patent records. The interface includes a sidebar for project management and a main area for filtering and viewing records.

**Project List:**

- Patent Queue (360)
- Add Project
- New Project 1 (0)
- Shared Projects (0)
- Trash (0)

**Patent Queue:**

Filter by: Labels

All Records

Refresh

Customize Patent Queue

360 records

Select Apply Label Actions

Sort by: Descending Project Entry Date

Checkbox	Rating	Title	Number	Classification	Actions
<input type="checkbox"/>	★★★★	Advances in urethane foam catalysis	US 6458860 B1	USPATFULL	[Document] [Message]
<input type="checkbox"/>	★★★★	Blow molding method and system	US 2002122838 A1	USPATFULL	[Document] [Message]

# Use of truncation with highlighting provides powerful term analysis

The screenshot displays the STN Viewer interface. At the top, the title bar reads "STN Viewer™" with navigation links for "Help", "Settings", "Contact Us", and "Session Cost". Below the title bar, a status bar shows "☆☆☆ US 2006020179 A1 USPATFULL" and "4 of 123". A menu bar includes "Back to Diagnostics", "Apply Label", "Actions", "Display Related Content", and "View Original".

The main content area shows a patent document with the following text:

A1 INPADC FAMILY

bib | description | claims | all

AN 2006:22343 USPATFULL

TI **Noninvasive** detection of a **physiologic** parameter with a **probe**

IN Anderson, Edward J., Hopkins, MN, UNITED STATES  
Reynolds, Brandon W., Prior Lake, MN, UNITED STATES  
Winger, Kent R., Prior Lake, MN, UNITED STATES  
Kimball, Victor E., Burnsville, MN, UNITED STATES

PA Optical Sensors, Inc., Eden Prairie, MN, UNITED STATES (U.S. corporation)

PI US 2006020179 A1 20060126

AI US 2005-185058 A1 20050720 (11)

RLI Continuation-in-part of Ser. No. US 2003-366903, filed on 14 Feb 2003, PENDING Continuation-in-part of Ser. No. US 2002-162028, filed on 3 Jun 2002, ABANDONED

DT Utility

FS APPLICATION

LREP OPPENHEIMER WOLFF & DONNELLY LLP, 45 SOUTH SEVENTH STREET, SUITE 3300, MINNEAPOLIS, MN, 55402, US

AB The invention provides a **device** for contacting a surface of a patient's body to determine a **physiologic** parameter in a **measurement** region of a tissue of the patient. The **device** typically comprises a sensor responsive to the **physiologic** parameter and a **probe** housing the sensor. The **probe** is constructed to allow the sensor to be secured at a sensing site adjacent to the **measurement** region, without disturbing the **blood flow** within the **measurement** region of the tissue. The **device** may also include a means for reducing interference in the sensing area. Preferably, the **device** further comprises an indicating means operably connected to the sensor for indicating an analyte quantity and/or concentration associated with the **physiologic** parameter.

The right sidebar, titled "Highlighting" and "Notes", contains several dropdown menus and text boxes:

- Goldenrod** dropdown: measurement?, analys?
- Orchid** dropdown: noninvasiv?, non-invasiv?, non-invasiv?,
- Mint** dropdown: temperature#, heat?, therm?, physiologic?, blood
- Cornflower** dropdown: probe?, device?
- Gray** dropdown
- Overlapping Selections section with a question mark icon, "Apply", and "Reset" buttons.

# Training is available

- The CAS Support and Training site at <http://www.cas.org/support/index.html>
  - Monthly and archived e-Seminars
  - Interactive training modules
- Customized on-site instruction on
  - STN Basic Command Language
  - Patent search techniques
  - Structure searching
  - Biosequence searching



- Don't want to do the search yourself?
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- Contact CAS for more details at  
<http://www.scienceip.org/>  
1-866-360-0814

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