

**STN User Meeting - France
October 2021**

The new implementation of DWPI on STNNext®

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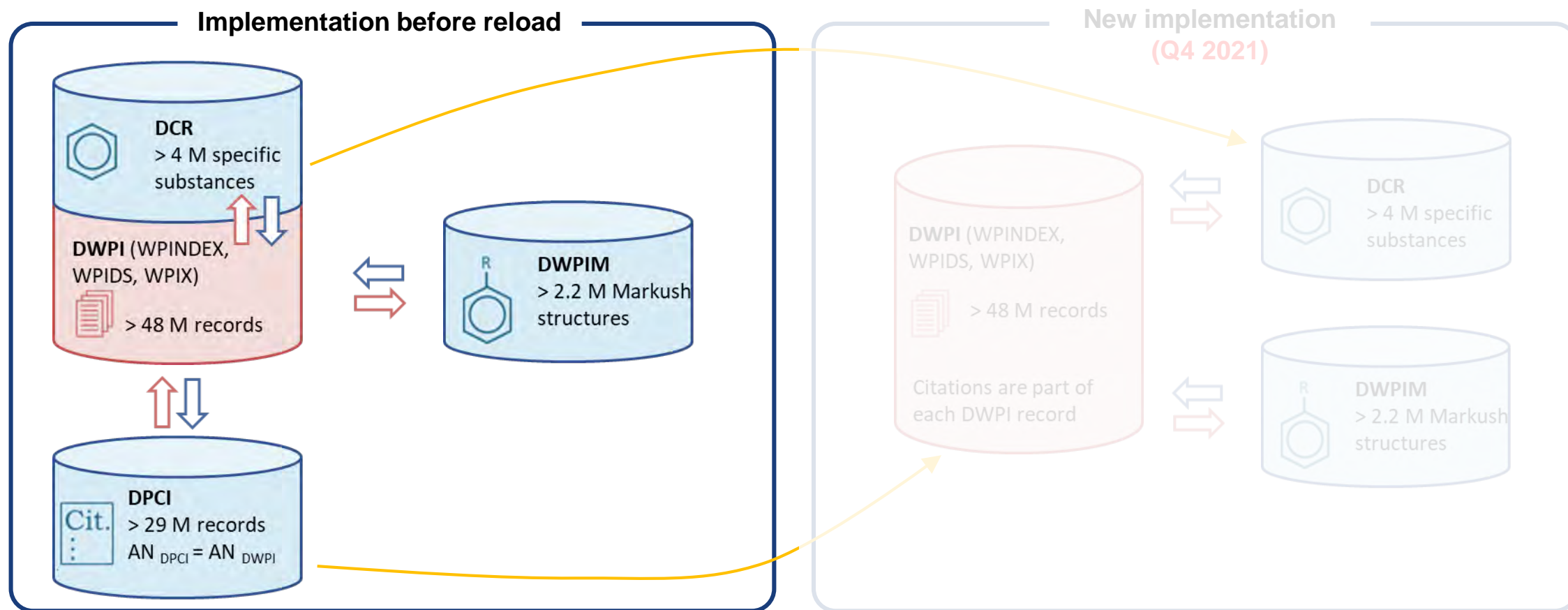
Agenda

- **DWPI reloaded – A short overview**
- **The new Derwent Chemistry Resource (DCR) database on STNext**
 - What has been maintained?
 - What has been improved?
 - When do you need to adapt your search strategy?
- **Integration of the Derwent Patent Citation Index in DWPI**
 - What are the advantages of an integrated DPCI?
 - User Cases



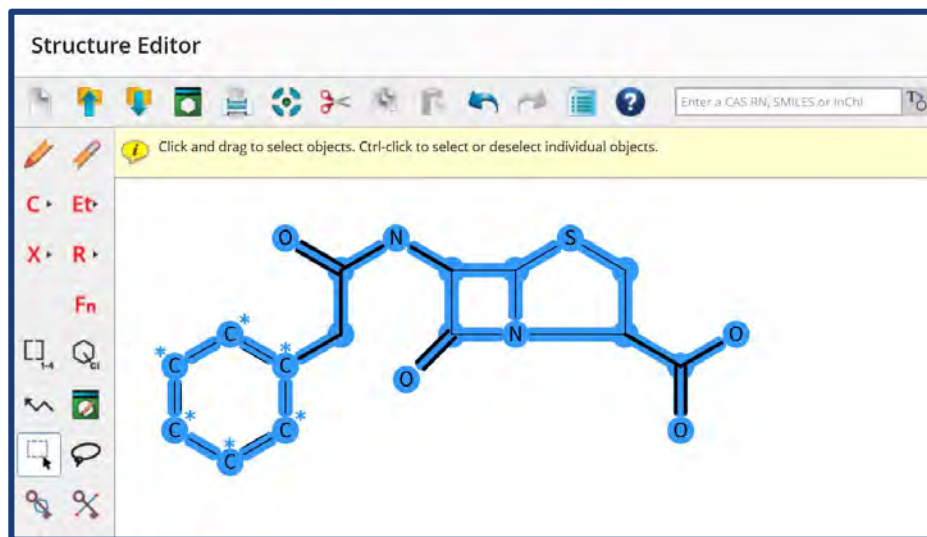
DWPI reloaded – A short overview

Reimplementation of the Derwent World Patents Index on STNNext



New Consistent Workflow Across all STN Structure Files

Chemical substance searching and crossover to associated database is consistent for STN database pairs: Registry – CAplus, DWPIIM - DWPI files (WPIINDEX, WPIDS, WPIX) and DCR – DWPI files as well as ReaxysFileBib – ReaxysFileSub.



=> **FIL DCR**

L1 **STRUCTURE UPLOADED**

=> **S L1 SSS FUL**

L2 191 SEA SSS FUL L1

=> **FIL WPIINDEX (WPI DS/WPIX)**

=> **S L2**

L3 7026 L2

=> **D BIB AB TECH HITSTR CITN**

1

2

3

1 DCR structure search

2 Crossover to DWPI

3 DWPI display with HIT structures *and* citations (only if required)

A tour through a typical record

AN 2014- E51864 [201428] WPIX
TI New indole carboxamide derivative, useful for treating tuberculosis in a human having sputum smear-positive, sputum smear-negative, or extrapulmonary tuberculosis, caused by drug resistant Mycobacterium tuberculosis complex organisms
DC B02
PA (NOVS-C) NOVARTIS AG; (JIRI-I) JIRICEK J; (KOND-I) KONDREDDI R R; (SMI) SMITH P W
PI WO 2014037900 A1 20140313 (201428) * EN 93[0]
...
AB WO 2014037900 A1 UPAB 20140430
NOVELTY - An indole carboxamide derivative (I), or its salt is new.
DETAILED DESCRIPTION -
An indole carboxamide derivative of formula (I), or its salt is new.
R1 = H or methyl;
R2 = H, methyl, ...
ACTIVITY - Antitubercular; Tuberculostatic. An efficacy of 4, 6-dichloro-N-(4, 4-dimethylcyclohexyl)-1H-indole-2-carboxamide (IA) was evaluated for antitubercular activity, against Mycobacterium tuberculosis H37Rv strain, in culture media, and IC50 value was determined. The compound (IA) showed IC50 value of 0.015 µmol.
MECHANISM OF ACTION - None given.
USE - For treating a disease, disorder or syndrome mediated by the transportation of essential molecules in the Mycobacterial membrane ...

The enhanced Derwent titles and abstracts provide a concise summary of the claimed invention.

ABSTRACT (AB) – up to 7 separately searchable subsections

TECHNOLOGY FOCUS (TECH) - preferred features of the invention

EXTENSION ABSTRACT (ABEX) – information outside the claims

A tour through a typical record

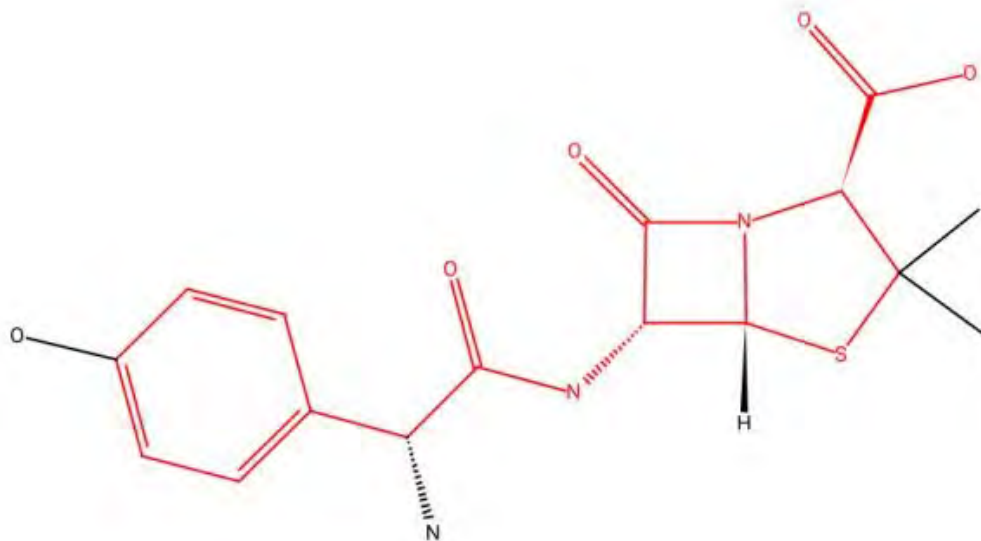
AN. S DCR- 87346

CN. P AMOXICILLIN

CN. S 6- [2- Ami no- 2- (4- hydroxy- phenyl) - acetyl ami no] - 3, 3- di methyl - 7- oxo- 4- thi a- 1- aza- bi cycl o[3. 2. 0] heptane- 2- carboxy lic aci d

MF C16 H19 N3 O5 S

STR



HIT Structure Highlighting supports the efficient analysis of structure search results.

A tour through a typical record

CITATION COUNTERS

PNC. D	23	Cited Patents Count
PCC. D	4	Cited Patents Country Count
CRC	125	Cited Literature Reference Count
REC	148	Cited Reference Count (total)
ANC. D	15	Cited DWPI Accession Number Count
PNC. G	12	Citing Patents Count
PCC. G	4	Citing Patents Country Count
ANC. G	10	Citing DWPI Accession Number Count

EXF Examiners Field of Search

Citing Publication	EXF	Examiners Field of Search
JP 6223452 B2	JPC	C07D; A61K; A61P

Citation counts are widely used as indicators to assess the value of a particular patent or patent portfolio. Especially a high number of forward citations is seen as indicator for a high patent value. Citation counters can be used to sort answer sets or to limit a search.

The **patent classifications searched by the patent examiner** for a particular invention, mentioned in the search report: search criteria for IPC, CPC and national office patent classifications (FI-terms, US classification) are made available. This information can be used to perform a similar search to the one the examiner performed.

A tour through a typical record

CDP Cited Patents

Citing Publication	By	Cat	Cited Patent	Date	Accession Number
WO 2014037900 A1	E	X	US 20100160303 A1 PA: (BRIM-C) BRISTOL-MYERS SQUIBB CO IN: BATT D G; DELUCCA G V; LIU Q; SHI Q; TEBBEN A J Relevant passages: CA-RN: 1231891-32-9 (4-Bromo-N-(4-fluorophenyl)-1H-indole-2-carboxamide); paragraph [0002] Relevant to claim: 1-3, 9	20100624	2010-H16660

Citation references originate mainly from examiner (E) search reports and applicant citations (A), but also from opposition procedures (EP) and third party observations (EP, US, WO).

CDL Literature Citations

Citing Publication	By	Cat	Literature Reference
WO 2014037900 A1	E	X	MAHBOOBI S ET AL: "Bis (1H-2-indolyl)-methanones as a Novel Class of Inhibitors of the Platelet Derived Growth Factor Receptor Kinase", JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY, US, vol. 45, no. 5, 1 January 2002 (2002-01-01), pages 1002-1018, XP002374958, ISSN: 0022-2623, DOI: 10.1021/JM010988N

Citations from patent search reports have **citation categories** assigned which indicate their relevance to the examined patent application.

Example:

- X relevant if taken alone
- I relevant to the inventive step

A tour through a typical record

CGP Citing Patents

Cited Publication	By	Cat	Citing Patent	Date	Accession Number
WO 2014037900 A1	E	A	CN 106715417 A PA: (IOME-N) IOMET PHARMA LTD IN: COWLEY P; WISE A	20170524	2015-610100
	E		CN 106715417 B PA: (IOME-N) IOMET PHARMA LTD IN: COWLEY P; WISE A	20200114	2015-610100
KR 2015048759 A	E	A	WO 2020166984 A1 PA: (SPHA-N) ST PHARM CO LTD IN: CHANG S; LIM G; PARK G; WOO S	20200820	2020-79739C
US 20150175539 A1	E	A	WO 2019005841 A1 PA: (LAVO-I) LAVOIE E J; (PARH-I) PARHI A; (SAGO-I) SAGONG H Y; (TAXI-N) TAXIS PHARM INC; (RUTF-C) UNIV RUTGERS STATE NEW JERSEY	20190103	2019-017275
			IN: LAVOIE E J; PARHI A; SAGONG H Y		
EP 2892880 B1	E	X	WO 2019220461 A1 PA: (COUI-C) COUNCIL SCI & IND RES INDIA IN: CHOPRA S; DASGUPTA A; RAMANA S R; REDDY D S; SHINGARE R D	20191121	2019-982667

Citing patent references are enriched with Derwent value-added data:

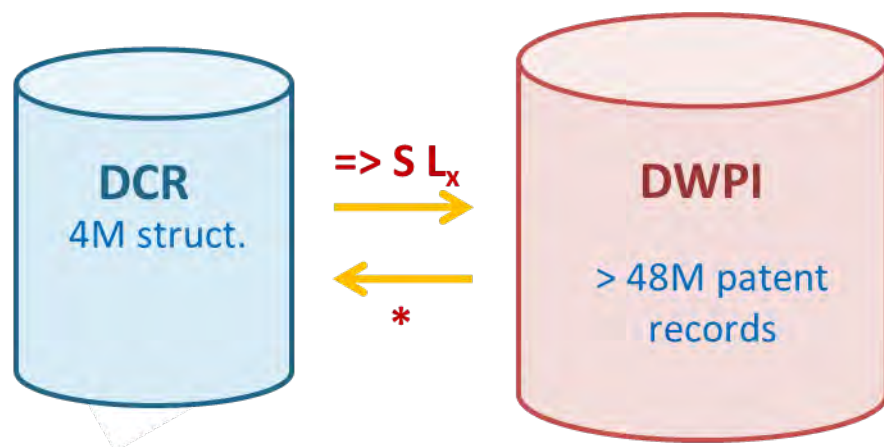
Derwent assignee and inventor names plus patent assignee codes (PACO)

DWPI accession numbers



The new DCR on STNNext

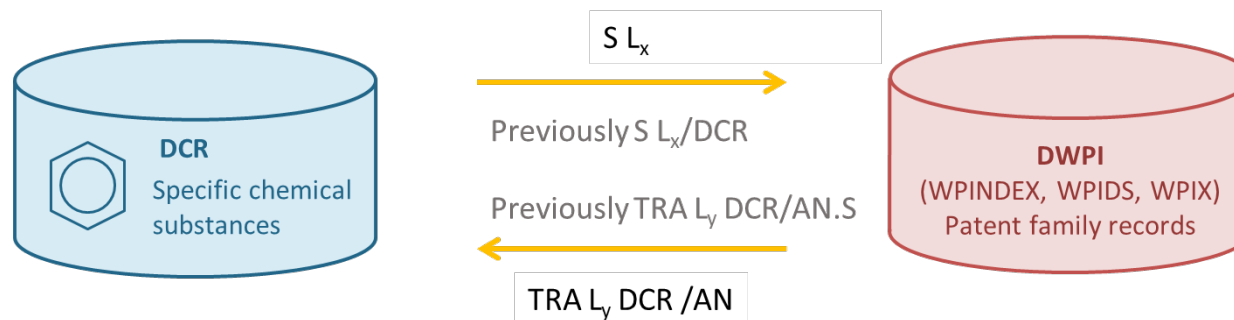
The new DCR database on STNext - Highlights



* => TRA DCR /AN

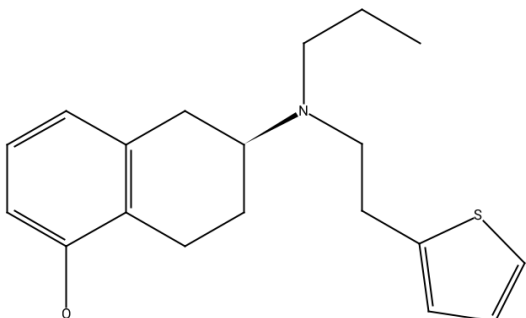
- Simplified workflow
- HIT structure highlighting
- Derwent superatoms (CHK, ARY, etc.) and isotopes (D, T) are fully searchable and displayable
- Higher system limits for structure searching
- Enhanced structure displays

DCR Accession Numbers facilitate crossover between DCR and DWPI



DCR

AN **DCR- 101539** DCR
CN. P **ROTI GOTI NE**



DWPI

AN 2014- V21559 [201480] WPIX
TI Method for delivering e.g. fentanyl with specified viscosity to human patient suffering from chronic hepatitis C by physician, involves actuating electrochemical actuator such that actuator deflects by exerting force in fluid reservoir
AB USE - Method for delivering drug fluid e.g. therapeutic agent such as opioid/non- opioid narcotics e.g. fentanyl, remifentanyl, sufentanil, morphine, hydromorphone, oxycodone ... dopamine antagonist e.g. apomorphine, **rotigotine** and ropinerole, ...
IT UPI T 20141212
... DCR- 108590- USE; DCR- 89506- CL DCR- 89506- USE; DCR- 87611- CL DCR- 87611- USE; **DCR- 101539- CL DCR- 101539- USE;** ...

DCR substance records are linked to corresponding patent documents in DWPI through their DCR Accession Number. !

Data content and retrieval have been maintained

- **Content and coverage equivalent** to old DCR file segment in DWPI files
- **Search fields and display formats resume**, *except* for multicomponent substances (*more on this later*)
- In special cases, adaptation of search queries may be necessary (*more on this later*)

Existing Structure queries and SDIs can be used

- Existing **saved structure files** from STN Express, New STN or STNnext can be used in the new DCR database
 - In general, no action required to use existing structure files (.str, .cxf, .mol) but search results may differ for certain structure features
- **Saved structure queries** from STN Express can be activated in STNnext
 - General recommendation: Use the STNnext structure editor to build your structure queries
- **Existing SDIs** prepared in the DCR file segment of a DWPI database will be automatically transferred
- In special cases adaption of search queries and structure search strategies may be necessary

Derwent superatoms for structure searching

Variables

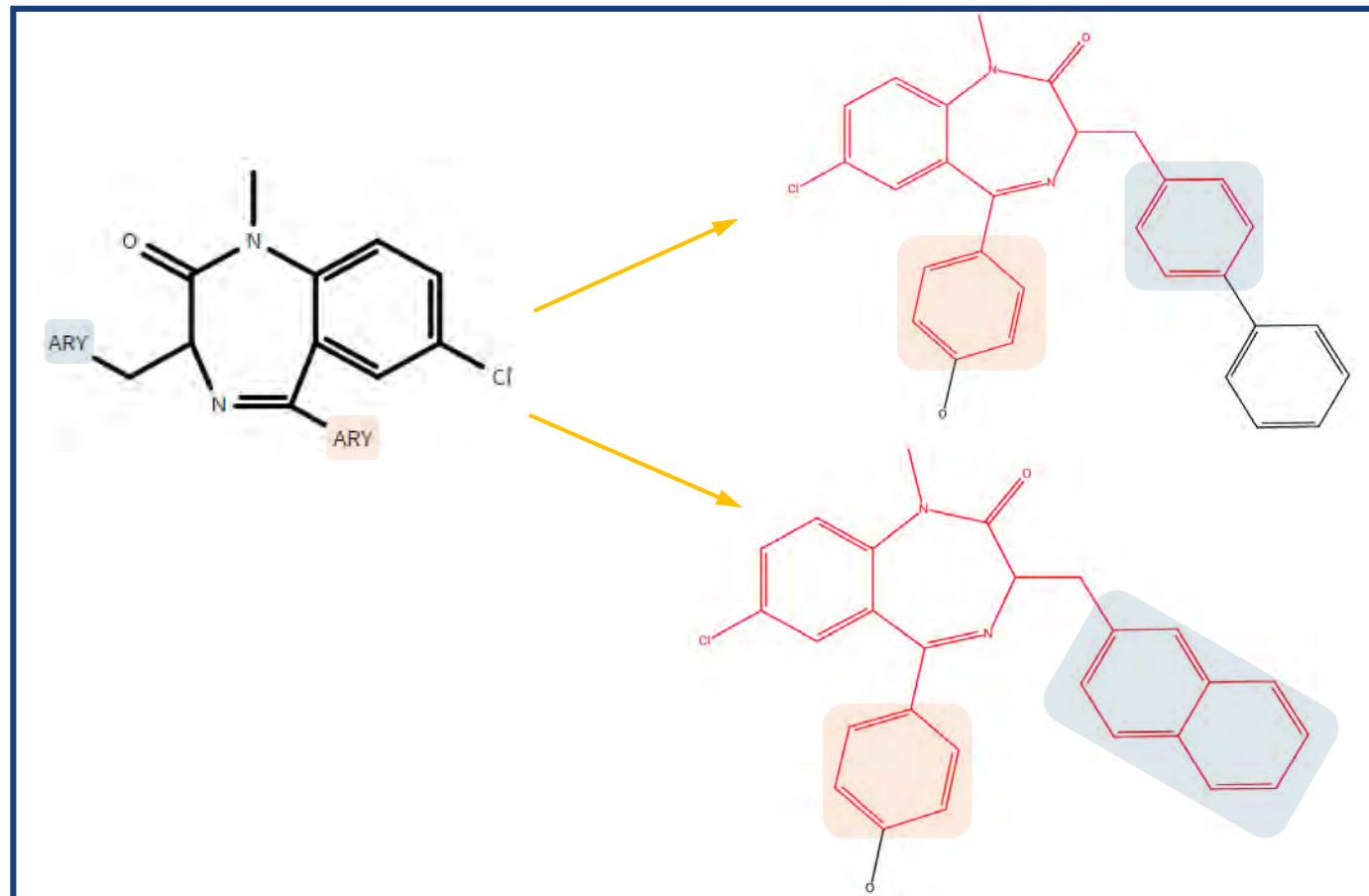
<input type="checkbox"/> X	Any halogen
<input type="checkbox"/> M	Any metal
<input type="checkbox"/> A	Any atom except H
<input type="checkbox"/> Q	Any atom except C or H
<input type="checkbox"/> Ak	Any carbon chain
<input type="checkbox"/> Cy	Any cycle
<input type="checkbox"/> Cb	Any carbocycle
<input type="checkbox"/> Hy	Any heterocycle
<input type="checkbox"/> Id	ID generic node

Derwent (DWPIM/DCR) generic nodes

- ▶ Metals
- ▶ Carbon Chains
- ▼ Carbocycles
 - ARY Carbocycle (at least one benzene)
 - CYC Cycloaliphatics (all others)
- ▶ Heterocycles
- ▶ Miscellaneous (DWPIM only)

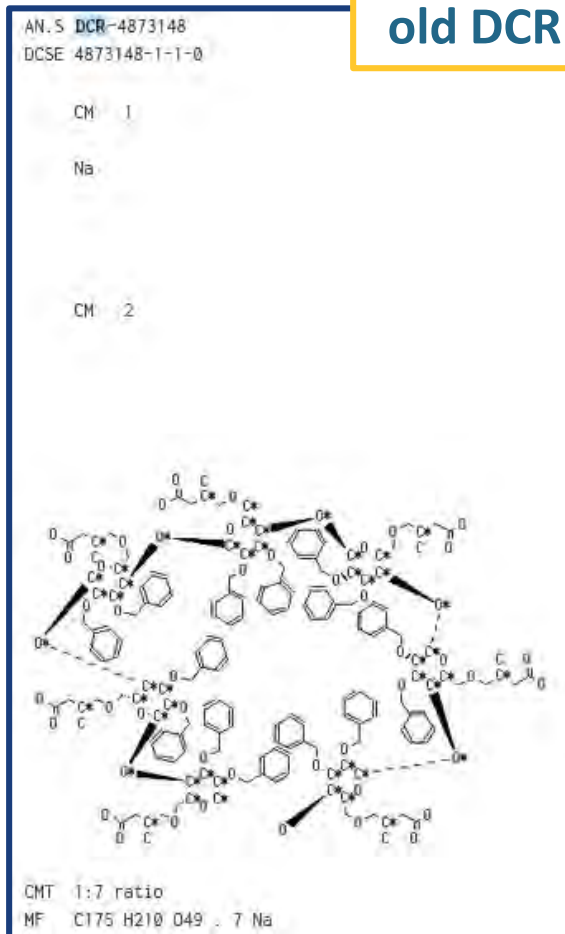
Close

Derwent superatoms in DCR and DWPIM enhance retrieval capabilities by adding more precision to generic structure searches

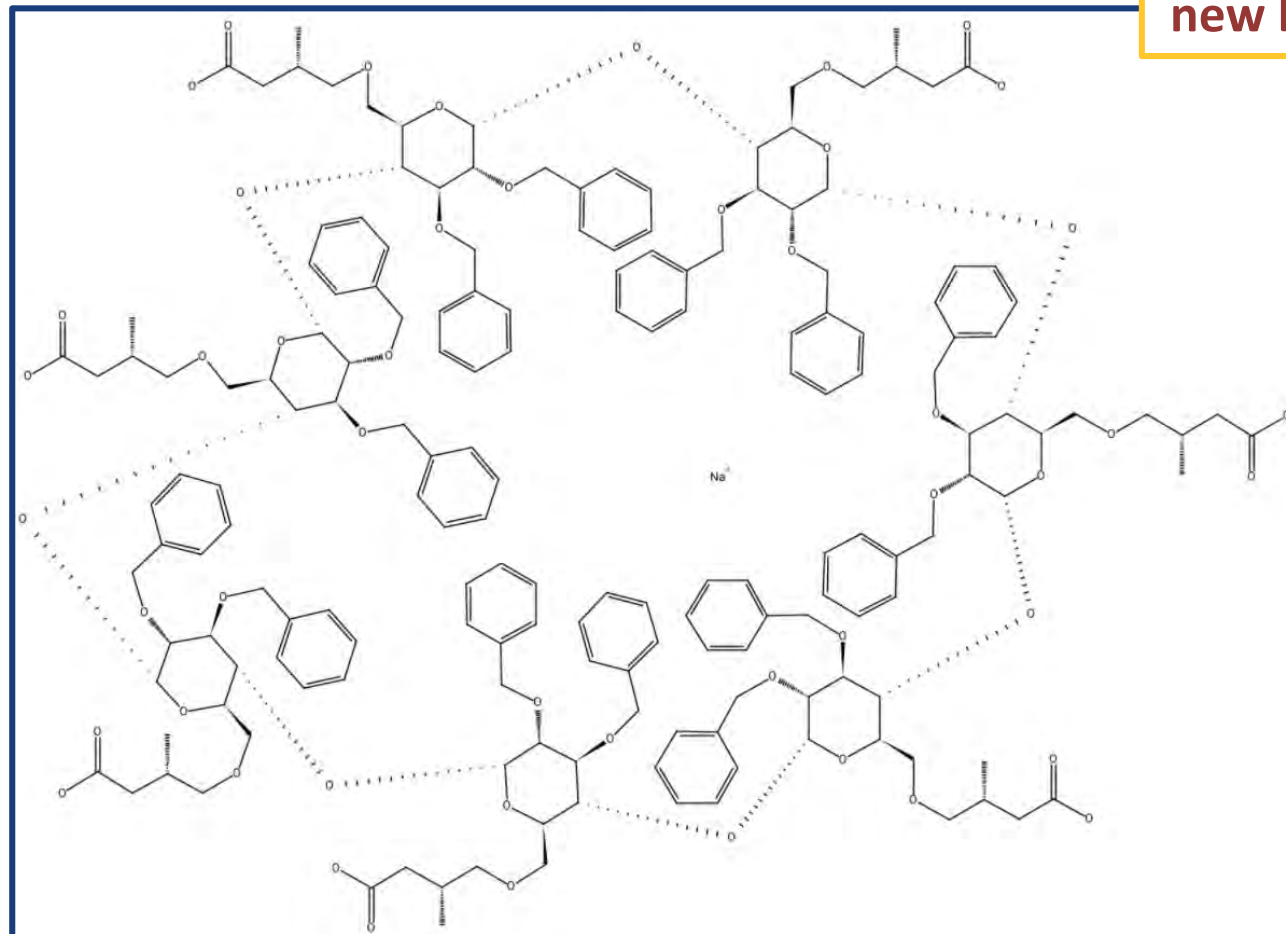


Enhanced structure displays

old DCR



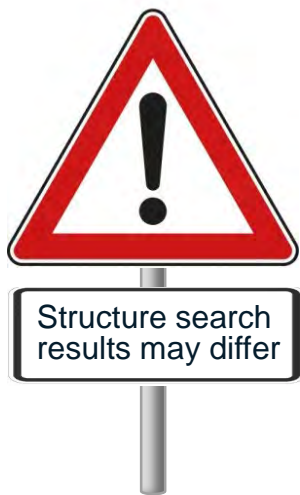
new DCR



New and modified search options

BI	Basic index contains fragments of CNS, CN.P, SY, MF and CT.	S BENZOIC (S) ACID (W) HYDRAZIDE
FA	Available information for a compound.	S L1 and DDRN/FA
NC, NC.TOT	Field codes for multi-component substances consistent with other STN structure files.	NC Number of components (previously NFRAG) NC.TOT Total number of components (previously NC) MF C12 H20 O4 . 2 Na SMF C12 H20 O4 *1; Na *2; TOTAL *3 ; TYPE *2
ELS, ELS.CNT	Element Symbol may be combined with Element Symbol Count by (S) proximity.	S C/ELS (S) 16/ELS. CNT S 16 C/ELS => C16 H9 F6 N3
CMF, CMF.CNT	Component Molecular Formula may be combined with its ratio in multi-component substances by (S) proximity.	S H20/CMF (S) 5/CMF. CNT
MF, CMF	Molecular Formula and Component Molecular Formula indexing with and without blanks.	S C12H20/MF, CMF S C12 H20/MF, CMF

Structure search results may differ

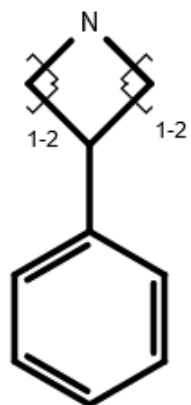


Please note certain features are processed differently by the new structure search engine:

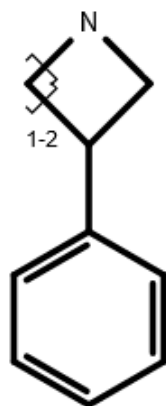
- Cycles and complex structures with more than one repeating group
- Variables with attributes, e.g., non-hydrogen count
- Variable Ak and Derwent Nodes CHK, CHE, CHY as part of carbon chain or used as repeating group
- Group with node type ring bound via variable attachment points

Individual workarounds are possible
helpdesk@fiz-karlsruhe.de will be happy to assist you

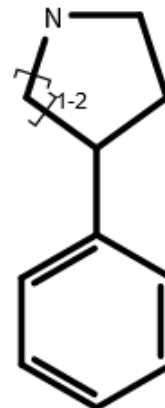
Cycles and complex structures with more than one repeating group



Use single rpg queries



+



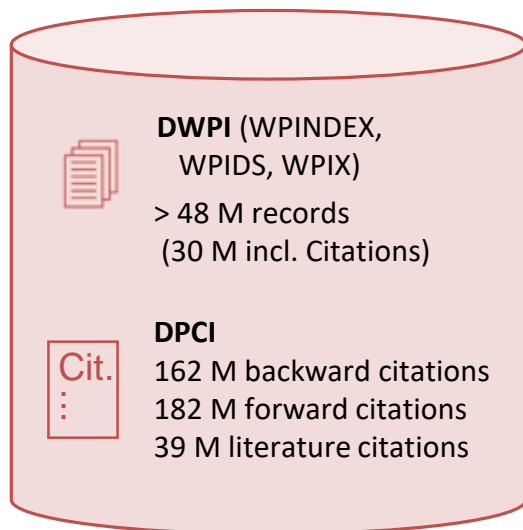
Within rings only one repeating group (rpg) per ring is allowed. There is no workaround other than drawing out all possible combinations for every additional repeating group.

0 Answers



Integration of DPCI in DWPI

Full Integration of DPCI in DWPI on STNNext - Highlights



- **Simplified workflows** make it much easier to combine a standard DWPI patent search with a citation search, e.g. for prior art searching
- **Harmonised retrieval system**
- **Combined display** of bibliographic and citation data if needed
- **Streamlined display options** ensure the most efficient analysis of citation search results
 - Full citation details or abbreviated display formats

Harmonised Retrieval System to Simplify Searching

Field Description	Master	Cited	Citing	Display
Derwent Accession Number	AN	AN.D	AN.G	CDP (<i>cited</i>) CGP (<i>citing</i>)
Patent Assignee Code	PACO	PACO.D	PACO.G	
Patent Country	PC	PC.D	PC.G	
Patent Publication Number	PN	PN.D	PN.G	
Patent Publication Year	PY	PY.D	PY.G	
Citation Category	CAT			
Origin of Citation	ORC			
Citation Count by AN	ANC	ANC.D	ANC.G	CITC
...				

The number of essential search fields has been reduced drastically to facilitate searching.

Example: In the old DPCI you had to search citation categories in CAT.D, CAT.G or RENC. This has been streamlined. Citation categories can now be uniformly searched in the /CAT field linking e.g. the patent assignee cited PA.D with (P)-proximity.

Citation Searching with high precision

- Single parts of a DPCI citation entry are linked together in one “paragraph”, e.g. cited patent numbers with cited patent assignee and citation category
 - Use **(P)** paragraph operator to pinpoint records of greatest interest
- Example: Search for EP inventions which cite BASF inventions as X or I documents

```
=> S EP/PC. F (P) BADI/PACO. D (P) (X OR I)/CAT
```

```
=> D HIT
```

```
CDP Cited Patents
```

```
-----  
Citing Publication By Cat Cited Patent Date Accession Number  
-----  
EP 3289046 A4 E X DE 102008061611 A1 20090625 2009-K69227  
PA: (BADI - C) BASF SE  
IN: EHRHARDT K R; HAREMZA S; LIPOWSKY G; VICARI M  
Relevant passages: example 1  
Relevant to claim: 1. 3. 5-9, 11
```

```
----- (P)-proximity -----
```


Use Case ① – Identify key competitors in a specific technology area

=> **FIL WPIX**

=> **S C11D/IPC, CPC OR D11/MC -> L1**

=> **S (HENKEL/PA. D OR HENK/PACO. D) NOT (HENKEL/PA OR HENK/PACO) -> L2**

=> **S L1 AND L2 -> L3**

=> **ANA L3 1- PACO**

=> **D DOC TOP 20**

Technology searches can be easily combined with a citation search without the need for an intermediate file crossover between the old DPCI file and DWPI (crossover between DPCI-DWPI was limited to 60,000 answers).

Prepare for the Reimplementation of the DWPI in STNext!

- Migrate to STNext! (*if not done so already*)
 - No structure searches in DCR will be possible on STN Express
 - DPCI will be removed from STN Express
- Adapt your workflows!
 - crossover between DCR/DWPI databases as well as DPCI/DWPI (particular in scripts)
- Check to see if modifications of saved structure queries, structure files and structure SDIs are required!
 - Adapt queries to benefit from new search options

helpdesk@fiz-karlsruhe.de will be happy to assist you

CONTACT

CAS

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cas.org

FIZ Karlsruhe

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stn-international.de