

STN Coffee Lecture

AI-based prior art search engine linked to STNNext



CAS

A division of the
American Chemical Society

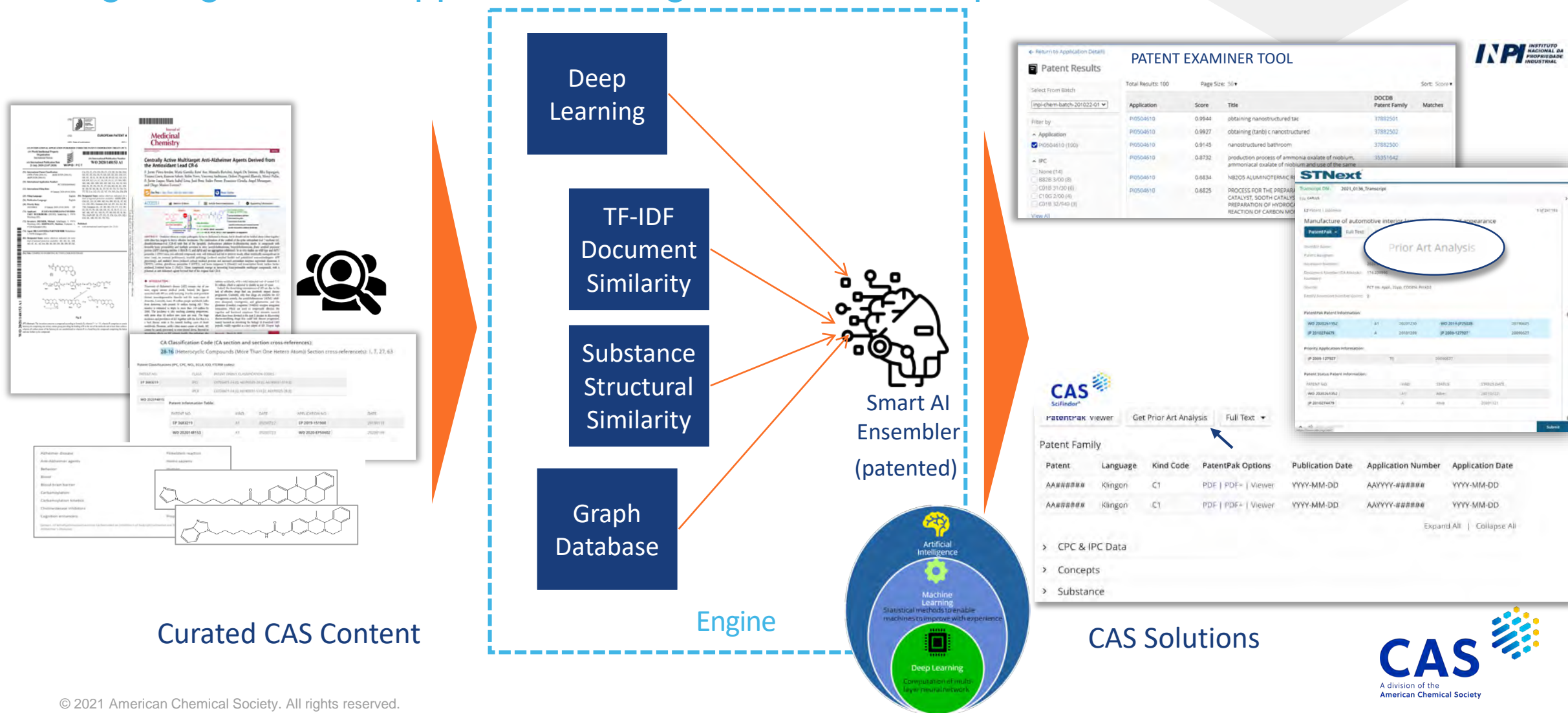
Patent automated Similarity Engine (PaSE)

Coming soon to STNext

- Originally developed as a stand-alone tool for the Brazilian INPI to reduce their 9-year backlog in examining patent applications
- Based on a single patent document as the starting point for an AI-search
- Patented technology described in WO2020047050
- Uses CAplus concepts, indexed substances and IPC codes to generate a list of previously known documents
- Retrieves both patent and non-patent literature
- INPI Brazil expects their chemistry patent examination backlog to be reduced by 80% this month
- The CAS team was awarded with the Stu Kaback Award at the 2020 PIUG Conference

Predictive solutions based on worldclass content

Integrating IP Office approved AI Engine in CAS core products



Prior Art Search by PaSE

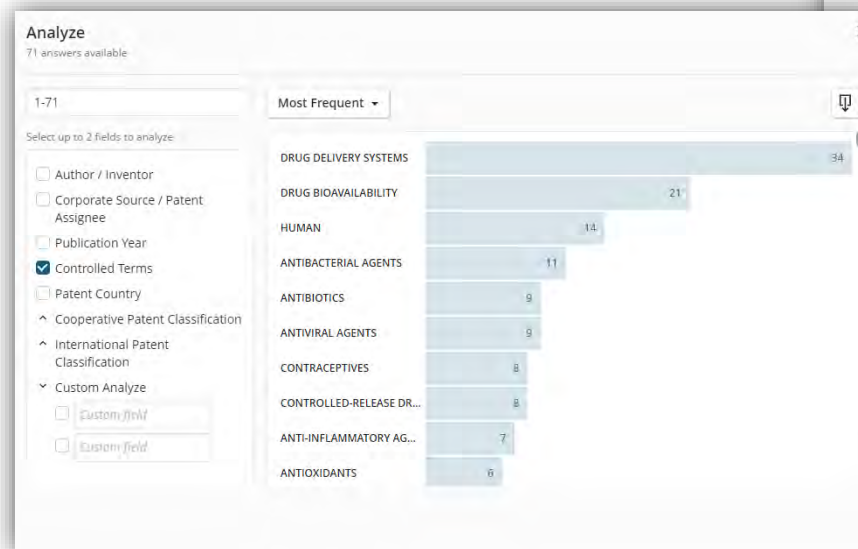
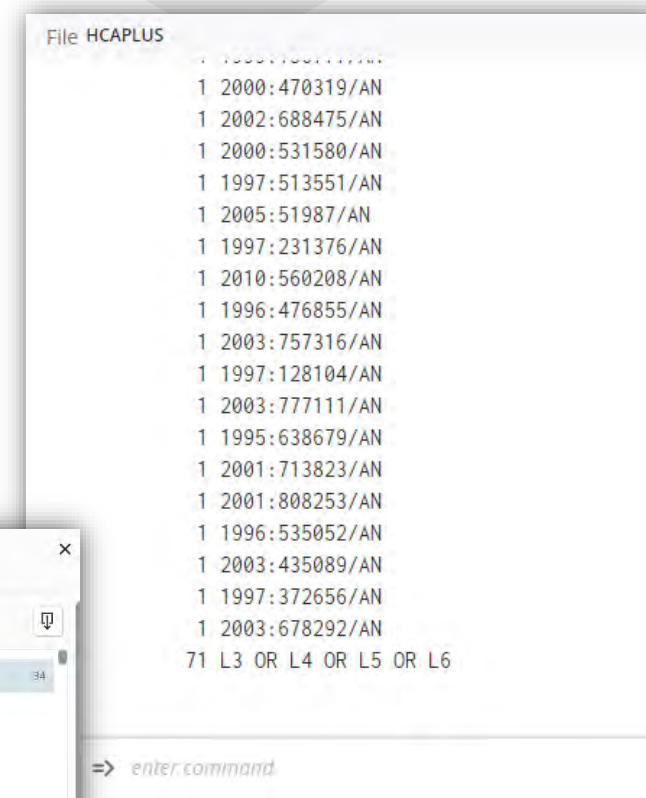
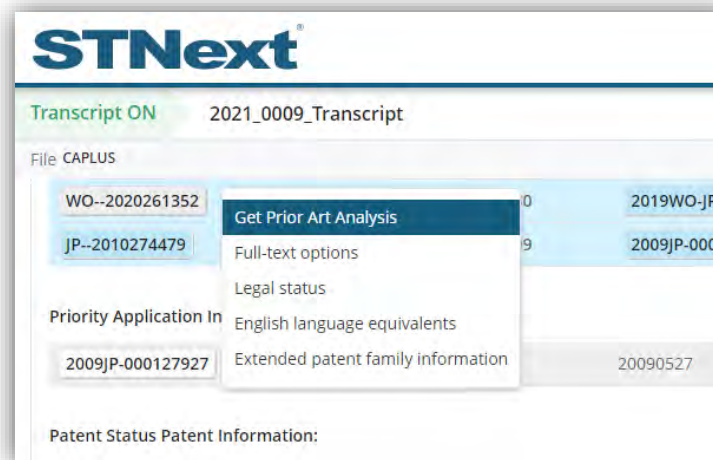
The value of prior art is both the result set and what is in the result set.

The Result Set

- Covers patents and non-patent literature
- Built by DAI algorithms trained specifically for prior art analysis

To Grow a Search Strategy

- Value in both the result set and the CAS indexing of the documents in the result set
- Use PaSE results and associated indexing to quickly identify additional search terms:
 - Indexed Substances
 - Controlled Terms
 - IPC/CPC Codes



The search process

STNnext My Files Paul P. Peters

Transcript ON PaSE Univ wo2017046417

File HCAPLUS

L2 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2021 ACS on STN
PatentPak PDF | PatentPak PDF+ | PatentPak Interactive
AN 2018:112035 HCAPLUS Full-text
DN 168:138162
TI Device and process for controlled gas transport/separation on metal-org.
framework membranes with applied electric field
IN Caro, Juergen; Knebel, Alexander
PA Leibniz Universitaet Hannover, Germany
SO PCT Int. Appl., 19pp.; Chemical Indexing Equivalent to 168
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2
PPPI

PATENT NO.	KIND	DATE	LANGUAGE	PatentPak
WO 2018010951	A1	20180118	English	PDF PDF+
EP 3269441	A1	20180117	English	PDF PDF+

PI

PATENT NO.	KIND	DATE	APPLICATION NO.
WO 2018010951	A1	20180118	WO 2017-EP65851
EP 3269441	A1	20180117	EP 2016-179033
EP 3445476	A1	20190227	EP 2017-739209

PRAI EP 2016-179033 A 20160712
WO 2017-EP65851 W 20170627

PSPPI

PATENT NO.	KIND	STATUS	STATUS DATE
WO 2018010951	A1	Dead	20210304
EP 3269441	A1	Dead	20201202
EP 3445476	A1	Alive	20201201

Prior Art Analysis

Step 1: Initializing Deep Learning and Similarity Models

Step 2: Processing Results Through Smart Ensemble Logic

Step 3: Retrieving Results

Cancel

History CAS Lexicon Databases

Session

Entered HCAPLUS 12:26:47 ON 27 SEP 2021

L1 2 S WO2017046417/PN

L2 2 S WO2018010951/PN

Submit Draw Scripts

Case Study: WO2018010951

Univ of Hannover, priority appl date 12 Jul 2016

- CApplus title: Device and process for controlled gas transport/separation on metal-org. framework membranes with applied electric field
- Indexed with 13 Concepts
- Indexed with 7 CAS RNs
- Indexed with 2 IPC codes

- PaSE process returned 197 records; 97 patents and 100 non-patents
- 177 records had at least 1 Concept in common
- 129 records had at least 1 CAS RN in common
- 60 records had at least 1 IPC in common
- 192 records had at least one of these three terms in common
- 41 records had at least one of each of these three terms in common

TI An Electrically Switchable Metal-Organic Framework
AU Fernandez, Carlos A.; Martin, Paul C.; Schaef, Todd; Bowden, Mark E.;
Thallapally, Praveen K.; Dang, Liem; Xu, Wu; Chen, Xilin; McGrail, B. Peter
CS Energy and Environment Directorate, Pacific Northwest National Laboratory, Richland, WA, USA
SO Scientific Reports (2014), 4, 6114
DOI 10.1038/srep06114

TI Metal-organic frameworks for sensing applications in the gas phase
AU Achmann, Sabine; Hagen, Gunter; Kita, Jaroslaw; Malkowsky, Itamar M.;
Kiener, Christoph; Moos, Ralf
CS Functional Materials, University of Bayreuth, Bayreuth, 95440, Germany
SO Sensors (2009), 9(3), 1574-1589
IT Electric capacitance
Electric impedance
Electric properties

TI Gas adsorbent for sulfur compounds
IN De Weireld, Guy; Hamon, Lomig; Serre, Christian; Devic, Thomas; Ferey, Gerard; Loiseau, Thierry
PA Faculte Polytechnique de Mons, Belg.; Centre National de la Recherche Scientifique
WO 2009130251 A2 20091029
IT 442912-79-0P 654061-20-8P 840523-88-8P 869288-09-5P, MIL-101
1193372-03-0P 1309760-94-8P
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process);
USES (Uses)
(gas adsorbent for sulfur compds.)

How to use the PaSE tool in STNext

- AI patent search tools will not replace a skilfully constructed search strategy
- We understand the scepticism of patent searchers towards these tools
- The results from the PaSE tool can be easily reviewed as complements to your own search strategy
- We are very interested in your feedback and further suggestions
- At this time, it is not possible to see a ranked list of entry based on the relevance, but this is planned for the next few months.

THANK YOU