



BEYOND PATENTS

MASTERING NON-PATENT LITERATURE SEARCHES WITH CAS STNEXT®

CAS STNext webinar

Lena Blumenthal, ACS International / CAS

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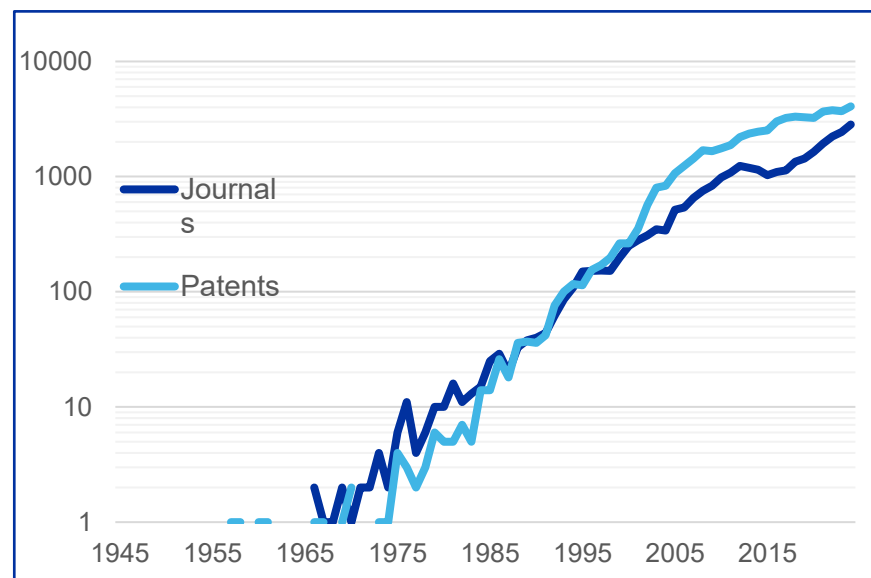
Agenda

- Why is Non-patent Literature special?
- Polyhydroxyalkanoates in packaging
 - INDEX
 - Multifile searching
 - DUPLICATE
- Overview on NPL files
- Use cases for NPL searching



Why is NPL relevant (also) for IP

- Novelty destroying
- Contains insight
- NPL often dominant in the beginning / early Alerting
- Landscaping



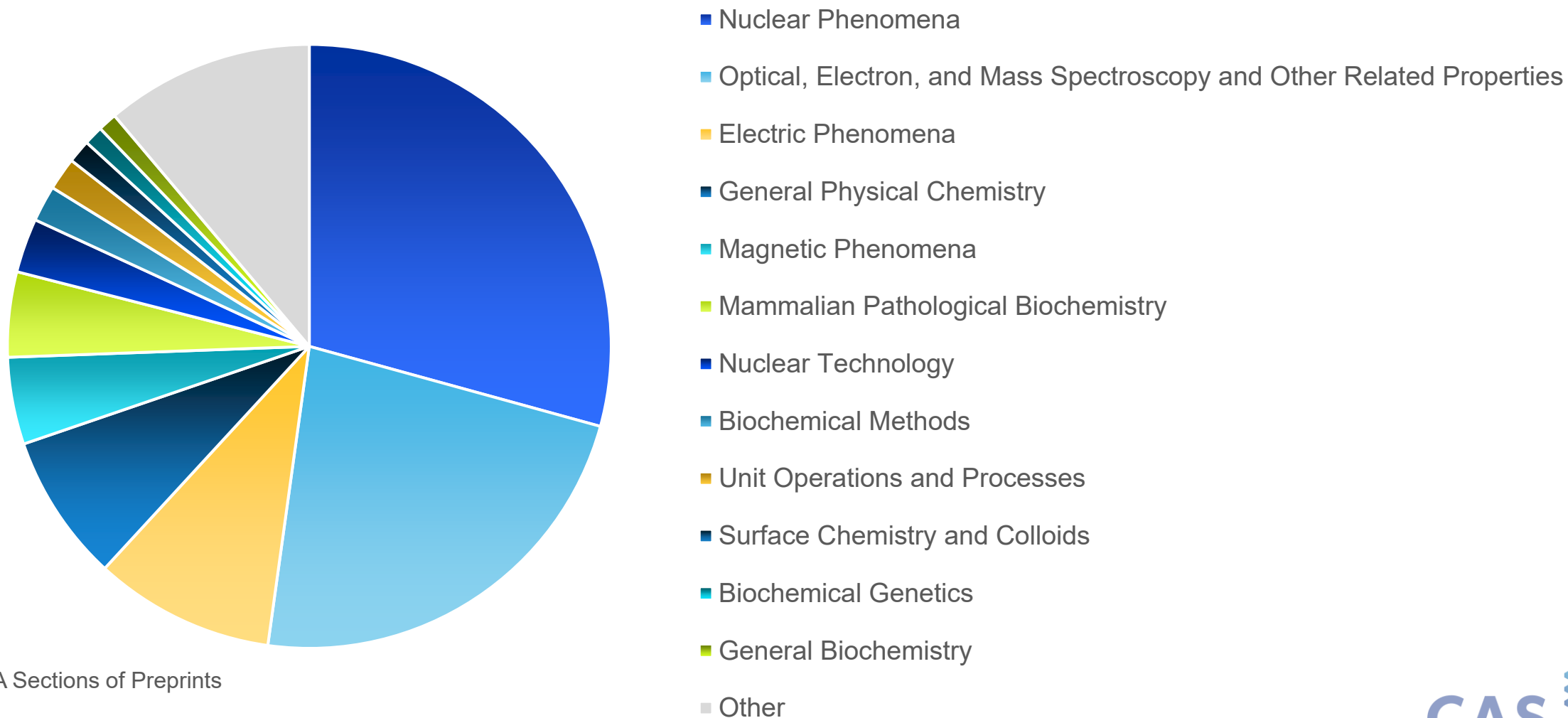
Publications on Poly(lactic acid) in CAPLUS until 2024

Why is NPL searching special?

- No full text search available
- No / Less standardized classifications
- Query needs to be adapted per database
- Various document types, not all included in JOURNAL/DT

Preprints

CAplus has over 900K preprint articles from sources like ChemRxiv



CA Sections of Preprints

Preprints – Special type of NPL

CAplus has over 900K preprint articles from sources like ChemRxiv

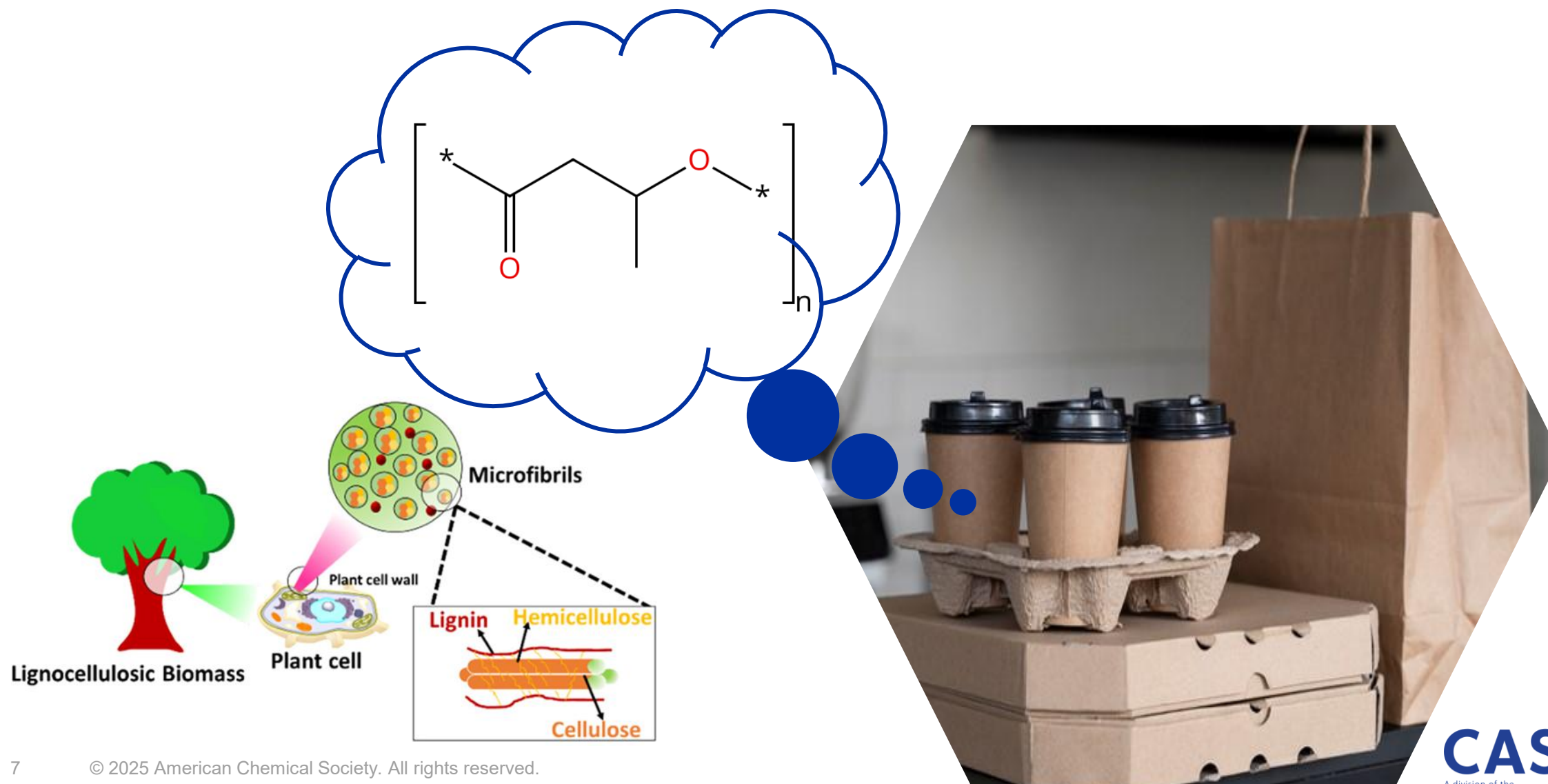
AN 2025:125907 CAPLUS
ED Entered STN: 16 Jan 2025
TI Method of determining the geometry of inter
IN Klug, David
PA Imperial College Innovations Limited, UK
SO PCT Int. Appl., 76pp. CODEN: PIXXD2
DT Patent
LA English
PPPI PATENT NO. KIND DATE LANGUAGE

WO 2025012426 A1 20250116 English
PRAI GB 2023-10796 A 20230713

AN 2023:596897 CAPLUS
ED Entered STN: 26 Mar 2023 Published on March 14, 2023
TI The transition from unfolded to folded G-quadruplex DNA analysed and
interpreted by two-dimensional infrared spectroscopy
AU Soenarjo, A. Larasati; Lan, Zhihao; Sazanovich, Igor V.; Chan, Yee San;
Ringholm, Magnus; Jha, Ajay; Klug, David R.
CS Department of Chemistry, Imperial College London, London, W12 0BZ, UK
SO ChemRxiv (2023) 1-22, 2023 CODEN: CHEMWF; ISSN: 2573-2293
URL: <https://chemrxiv.org/engage/chemrxiv/public-dashboard>
PB American Chemical Society
DT Preprint
LA English

AN 2023:1784554 CAPLUS
ED Entered STN: 31 Aug 2023 Published on August 30, 2023
TI The Transition from Unfolded to Folded G-Quadruplex DNA Analyzed and Interpreted by Two-Dimensional Infrared Spectroscopy
AU Soenarjo, A. Larasati; Lan, Zhihao; Sazanovich, Igor V.; Chan, Yee San; Ringholm, Magnus; Jha, Ajay; Klug, David R.
CS Department of Chemistry, Imperial College London, London, W12 0BZ, UK
SO Journal of the American Chemical Society (2023), 145(36), 19622-19632
CODEN: JACSAT; ISSN: 0002-7863
DOI 10.1021/jacs.3c04044
PB American Chemical Society
DT Journal; (online computer file)
LA English

Polyhydroxyalkanoates in packaging



Polyhydroxyalkanoates in packaging

Start in CA

FILE 'CAPLUS' ENTERED

```
L1      41462 S (POLY? (2T) ?HYDROXY? (1T) (?PROPIONATE? OR ?VALERATE? OR ?HEXANOATE? OR
          ?STEARATE? OR ?BUTYRATE? OR ?OCTANOATE? OR ?ALKANOATE?))
          OR (HYDROXY? (1T) ?ACID ?POLYMER?)
L2      23150 S (102190-94-3 OR 117068-64-1 OR 141455-97-2 OR 147398-31-0 OR 160555-53-3 OR
          26063-00-3 OR 26744-04-7 OR 31759-58-7 OR 52352-27-9 OR 80181-31-3)/RN
L3      5083375 S PAPER? OR CARDBOARD OR PACKAG? OR CARTON OR CONTAINER OR CUP OR BOX
L4      5442 S (L1 OR L2) AND L3
L5      2155 S L4 AND J/DT
L6      3287 S L4 NOT L5
```


Polyhydroxyalkanoates in packaging

Start in CA

FILE 'CAPLUS' ENTERED

L1 41462 S (POLY? (2T) ?HYDROXY? (1T) (?PROPIONATE? OR ?VALERATE? OR ?HEXANOATE? OR
?STEARATE? OR ?BUTYRATE? OR ?OCTANOATE? OR ?ALKANOATE?))
OR (HYDROXY? (1T) ?ACID ?POLYMER?)

L2 23150 S (102190-94-3 OR 117068-64-1 OR 141455-97-2 OR 147398-31-0 OR 160555-53-3 OR
26063-00-3 OR 26744-04-7 OR 31759-58-7 OR 52352-27-9 OR 80181-31-3)/RN

L3 5083375 S PAPER? OR CARDBOARD OR PACKAG? OR CARTON OR CONTAINER OR CUP OR BOX

L4 5442 S (L1 OR L2) AND L3

L5 2155 S L4 AND J/DT

L6 3287 S L4 NOT L5

L7 157 S L6 NOT P/DT

L8 2312 S L5 or L8

ANALYZE L7 DT : 8 TERMS

TERM #	# OCC	# DOC	% DOC	DT
1	144	144	91.71	CONFERENCE
2	51	51	32.48	ONLINE COMPUTER FILE
3	46	46	29.29	MEETING ABSTRACT
4	42	42	26.75	GENERAL REVIEW
5	21	21	13.38	COMPUTER OPTICAL DISK
6	10	10	6.37	PREPRINT
7	2	2	1.27	DISSERTATION
8	1	1	0.64	REPORT

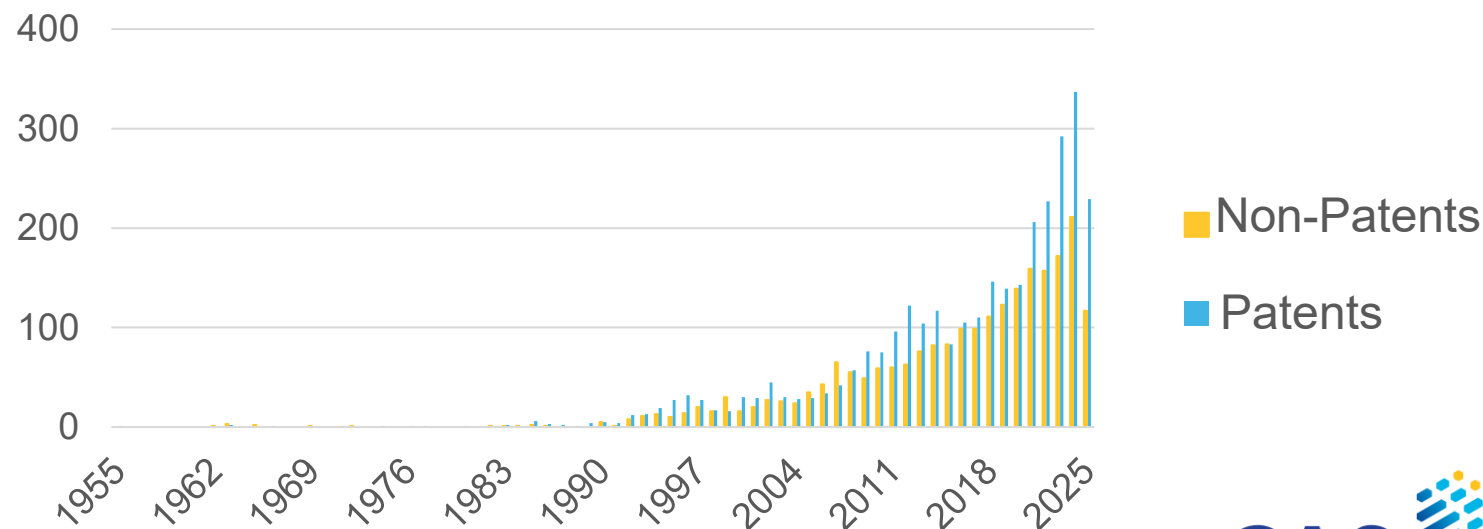
Polyhydroxyalkanoates in packaging

Start in CA

FILE 'CAPLUS' ENTERED

L1 41462 S (POLY? (2T) ?HYDROXY? (1T) (?PROPIONATE? OR ?VALERATE? OR ?HEXANOATE? OR ?STEARATE? OR ?BUTYRATE? OR ?OCTANOATE? OR ?ALKANOATE?))
OR (HYDROXY? (1T) ?ACID ?POLYMER?)
L2 23150 S (102190-94-3 OR 117068-64-1 OR 141455-97-2 OR 147398-31-0 OR 160555-53-3 OR 26063-00-3 OR 26744-04-7 OR 31759-58-7 OR 52352-27-9 OR 80181-31-3)/RN
L3 5083375 S PAPER? OR CARDBOARD OR PACKAG? OR CARTON OR CONTAINER OR CUP OR BOX
L4 5442 S (L1 OR L2) AND L3
L5 2155 S L4 AND J/DT
L6 3287 S L4 NOT L5

L7 157 S L6 NOT P/DT
L8 2312 S L5 or L8



INDEX command

Polyhydroxyalkanoates in packaging

=> INDEX ALLBIB

68 FILES IN THE FILE LIST IN STNINDEX

=> S POLYHYDROXYALKANOATE AND J/DT

L9 QUE POLYHYDROXYALKANOATE AND J/DT

2226	FILE AGRICOLA
7	FILE ANABSTR
115	FILE APOLLIT
649	FILE BIOTECHABS
386	FILE BIOTECHNO
1841	FILE CABA
8924	FILE CAPLUS
372	FILE CASREACT
575	FILE CBNB
1167	FILE CEABA
4211	FILE COMPENDEX
8	FILE DDFU
8	FILE DRUGU
4296	FILE EMBASE
...	...

INDEX command

Polyhydroxyalkanoates in packaging

=> INDEX ALLBIB

68 FILES IN THE FILE LIST IN STNINDEX

=> S POLYHYDROXYALKANOATE AND J/DT

=> D RANK

F1	8927	CAPLUS
F2	8402	SCISEARCH
F3	4313	MEDLINE
F4	4296	EMBASE
F5	4211	COMPENDEX
F6	4001	REAXYSFILEBI
F7	3573	TOXCENTER
F8	2685	PQSCITECH
F9	2316	ESBIOBASE
F10	2226	AGRICOLA
F11	1841	CABA
F12	1167	CEABA

F13	1133	RAPRA
F14	743	TEMA
F15	649	BIOTECHABS
F16	575	CBNB
F17	493	FSTA
F18	386	BIOTECHNO
F19	372	CASREACT
F20	115	APOLLIT
F21	113	PIRA
F22	26	WSCA
F23	19	IPA
F24	8	DDFU
F25	8	DRUGU
F26	7	ANABSTR
F27	7	KOSMET

INDEX command

- Scan files with general topic or specific search strategy
- Use with any cluster or selection of files
- Minimum number of files: 2

=> [HELP INDEX](#)

INDEX command

=> INDEX MATERIALS

INDEX '1MOBILITY, 2MOBILITY, APOLLIT, CAPLUS, CBNB, CEABA, CIN, COMPENDEX, IFIALL, PIRA, PQSCITECH, RAPRA, RDISCLOSURE, REAXYSFILEBI, SCISEARCH, TEMA, USPATFULL, USPATOLD, USPAT2, WSCA' ENTERED AT 17:35:49 ON 09 AUG 2025

=> S BIODEGRADABLE

201	FILE 1MOBILITY
4	FILE 2MOBILITY
2354	FILE APOLLIT
183348	FILE CAPLUS
9621	FILE CBNB
11566	FILE CEABA
2206	FILE CIN
74060	FILE COMPENDEX
41257	FILE IFIALL

20 FILES HAVE ONE OR MORE ANSWERS, 20 FILES SEARCHED IN STNINDEX

L10 QUE BIODEGRADABLE

INDEX command

=> D RANK

F1	192738	USPATFULL
F2	183348	CAPLUS
F3	169090	REAXYSFILEBI
F4	96089	SCISEARCH
F5	85596	USPAT2
F6	74060	COMPENDEX
F7	49534	PQSCITECH
F8	41257	IFIAL
F9	24310	RAPRA

=> FILE F2-4

FILE 'CAPLUS' ENTERED AT 23:25:18 ON 09 AUG 2025
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE 'REAXYSFILEBI' ENTERED AT 23:25:18 ON 09 AUG 2025
COPYRIGHT (C) 2025 Elsevier Properties SA. ALL rights reserved

FILE 'SCISEARCH' ENTERED AT 23:25:18 ON 09 AUG 2025
Copyright (c) 2025 Clarivate Analytics

Entering files from STNindex

Polyhydroxyalkanoates in packaging

=> FILE F2-10

FILE 'SCISEARCH' ENTERED AT 23:45:00 ON 09 AUG 2025

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FILE 'MEDLINE' ENTERED AT 23:45:00 ON 09 AUG 2025

FILE 'EMBASE' ENTERED AT 23:45:00 ON 09 AUG 2025

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FILE 'COMPENDEX' ENTERED AT 23:45:00 ON 09 AUG 2025

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FILE 'REAXYSFILEBI' ENTERED AT 23:45:00 ON 09 AUG 2025

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FILE 'TOXCENTER' ENTERED AT 23:45:00 ON 09 AUG 2025

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FILE 'PQSCITECH' ENTERED AT 23:45:00 ON 09 AUG 2025

=> S POLYHYDROXYALKANOATE AND J/DT

F1	8927	CAPLUS
F2	8402	SCISEARCH
F3	4313	MEDLINE
F4	4296	EMBASE
F5	4211	COMPENDEX
F6	4001	REAXYSFILEBI
F7	3573	TOXCENTER
F8	2685	PQSCITECH
F9	2316	ESBIOBASE
F10	2226	AGRICOLA
F11	1841	CABA
F12	1167	CEABA

Multifile searching

Polyhydroxyalkanoates in packaging

```
=> S (POLY? (2T) ?HYDROXY? (1T) (?PROPIONATE? OR ?VALERATE? OR ?HEXANOATE? OR ?STEARATE? OR ?BUTYRATE? OR  
?OCTANOATE? OR ?ALKANOATE?)) OR (HYDROXY? (1T) ?ACID ?POLYMER?)
```

```
L11      17543 FILE SCISEARCH  
L12      9242 FILE MEDLINE  
L13      9533 FILE EMBASE  
L14     11446 FILE COMPENDEX  
L15     23013 FILE REAXYSFILEBI  
L16     10662 FILE TOXCENTER  
L17      7786 FILE PQSCITECH  
L18      4557 FILE ESBIOBASE  
L19      4369 FILE AGRICOLA
```

TOTAL FOR ALL FILES

```
L20     98151 (POLY? (2T) ?HYDROXY? (1T) (?PROPIONATE? OR ?VALERATE? OR ?HEXANOATE? OR ?STEARATE? OR  
?BUTYRATE? OR ?OCTANOATE? OR ?ALKANOATE?)) ) OR (HYDROXY? (1T) ?ACID ?POLYMER?)
```

SET MSTEPS ON
to receive L numbers for each file

Multifile searching via CAS RN

Polyhydroxyalkanoates in packaging

=> S 102190-94-3 OR 117068-64-1 OR 141455-97-2 OR 147398-31-0 OR 160555-53-3 OR 26063-00-3 OR 26744-04-7 OR
31759-58-7 OR 52352-27-9 OR 80181-31-3

L21	1	FILE SCISEARCH
L22	1758	FILE MEDLINE
L23	3733	FILE EMBASE
L24	0	FILE COMPENDEX
L25	0	FILE REAXYSFILEBI
L26	6376	FILE TOXCENTER
L27	0	FILE PQSCITECH
L28	0	FILE ESBIODBASE
L29	0	FILE AGRICOLA

Search in BI because /RN is not a
search field in these files

CAS RNs part of indexing terms

TOTAL FOR ALL FILES

L30 11868 102190-94-3 OR 117068-64-1 OR 141455-97-2 OR 147398-31-0 OR 1605 55-53-3 OR 26063-00-3 OR
26744-04-7 OR 31759-58-7 OR 52352-27-9 OR 80181-31-3

Multifile searching

Polyhydroxyalkanoates in packaging

=> S PAPER? OR CARDBOARD OR PACKAG? OR CARTON OR CONTAINER OR CUP OR BOX

L31	5120553	FILE	SCISEARCH
L32	1522740	FILE	MEDLINE
L33	2548363	FILE	EMBASE
L34	9218481	FILE	COMPENDEX
L35	6580476	FILE	REAXYSFILEBI
L36	952064	FILE	TOXCENTER
L37	4232680	FILE	PQSCITECH
L38	383396	FILE	ESBIOBASE
L39	493547	FILE	AGRICOLA

TOTAL FOR ALL FILES

L40	31052300	PAPER? OR CARDBOARD OR PACKAG? OR CARTON OR CONTAINER OR CUP OR BOX
-----	----------	---

Combining L# in Multifile searching

Polyhydroxyalkanoates in packaging

=> S (L20 OR L30) AND L40

L41	1656	FILE	SCISEARCH
L42	719	FILE	MEDLINE
L43	949	FILE	EMBASE
L44	1518	FILE	COMPENDEX
L45	2271	FILE	REAXYSFILEBI
L46	1090	FILE	TOXCENTER
L47	760	FILE	PQSCITECH
L48	288	FILE	ESBIOBASE
L49	458	FILE	AGRICOLA

TOTAL FOR ALL FILES

L50 9709 (L20 OR L30) AND L40

=> S L50 not P/DT

L51	1656	FILE	SCISEARCH
L52	719	FILE	MEDLINE
L53	949	FILE	EMBASE
L54	1518	FILE	COMPENDEX
L55	1161	FILE	REAXYSFILEBI
L56	899	FILE	TOXCENTER
L57	740	FILE	PQSCITECH
L58	288	FILE	ESBIOBASE
L59	458	FILE	AGRICOLA

TOTAL FOR ALL FILES

L60 8388 L48 NOT P/DT

FILE CAPLUS
L8 2312

Remove duplicates

Polyhydroxyalkanoates in packaging

```
=> SET DUPORDER FILE  
SET COMMAND COMPLETED
```

```
=> DUPLICATE REMOVE L8 L52 L53 L56 L54 L57 L55 L59 L58 L51
```

```
DUPLICATE PREFERENCE IS 'CAPLUS, MEDLINE, EMBASE,  
TOXCENTER, COMPENDEX, PQSCITECH, REAXYSFILEBI, AGRICOLA,  
ESBIOBASE, SCISEARCH'  
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):N
```

```
PROCESSING COMPLETED FOR L8  
PROCESSING COMPLETED FOR L52  
PROCESSING COMPLETED FOR L53  
PROCESSING COMPLETED FOR L56  
PROCESSING COMPLETED FOR L54  
PROCESSING COMPLETED FOR L57  
PROCESSING COMPLETED FOR L55  
PROCESSING COMPLETED FOR L59  
PROCESSING COMPLETED FOR L58  
PROCESSING COMPLETED FOR L51
```

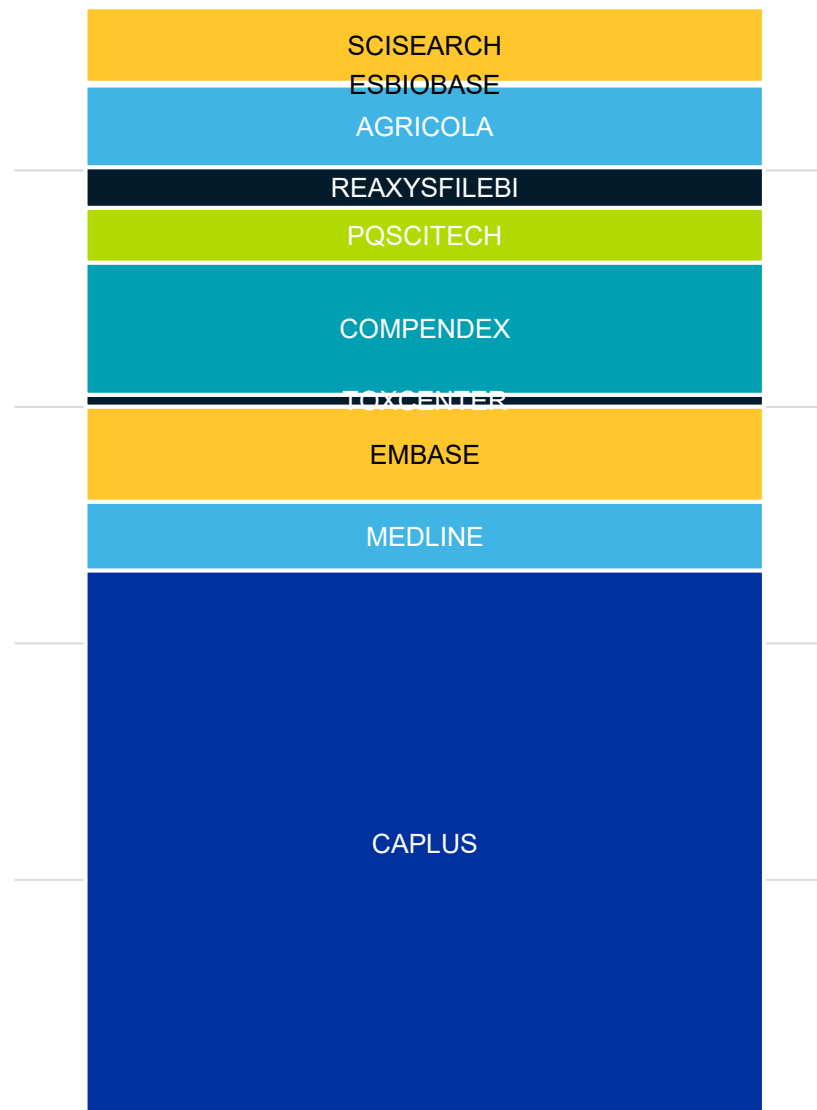
L61

```
4690 DUPLICATE REMOVE L8 L52 L53 L56 L54 L57 L55  
L59 L58 L51 (6010 DUPLICATES REMOVED)  
ANSWERS '1-2309' FROM FILE CAPLUS  
ANSWERS '2310-2600' FROM FILE MEDLINE  
ANSWERS '2601-3001' FROM FILE EMBASE  
ANSWERS '3002-3051' FROM FILE TOXCENTER  
ANSWERS '3052-3610' FROM FILE COMPENDEX  
ANSWERS '3611-3842' FROM FILE PQSCITECH  
ANSWERS '3843-4014' FROM FILE REAXYSFILEBI  
ANSWERS '4015-4360' FROM FILE AGRICOLA  
ANSWERS '4361-4371' FROM FILE ESBIOBASE  
ANSWERS '4372-4690' FROM FILE SCISEARCH
```

Multifile for comprehensiveness

Polyhydroxyalkanoates in packaging

L61 4690 DUPLICATE REMOVE L8 L52 L53 L56 L54 L57 L55
L59 L58 L51 (6010 DUPLICATES REMOVED)
ANSWERS '1-2309' FROM FILE CAPLUS
ANSWERS '2310-2600' FROM FILE MEDLINE
ANSWERS '2601-3001' FROM FILE EMBASE
ANSWERS '3002-3051' FROM FILE TOXCENTER
ANSWERS '3052-3610' FROM FILE COMPENDEX
ANSWERS '3611-3842' FROM FILE PQSCITECH
ANSWERS '3843-4014' FROM FILE REAXYSFILEBI
ANSWERS '4015-4360' FROM FILE AGRICOLA
ANSWERS '4361-4371' FROM FILE ESBIOBASE
ANSWERS '4372-4690' FROM FILE SCISEARCH



Multifile Searching

Enter 2+ files at the same time

OR repeat same search in several databases

- Adapt search strategy to address appropriate search fields
- One L# per search or additionally for each file
SET MSTEPS ON / OFF

=> S PAPER? OR CARDBOARD OR PACKAG? OR CARTON OR CONTAINER OR CUP OR BOX

L31	5120553	FILE	SCISEARCH
L32	1522740	FILE	MEDLINE
L33	2548363	FILE	EMBASE
L34	9218481	FILE	COMPENDEX
L35	6580476	FILE	REAXYSFILEBI
L36	952064	FILE	TOXCENTER
L37	4232680	FILE	PQSCITECH
L38	383396	FILE	ESBIOBASE
L39	493547	FILE	AGRICOLA

TOTAL FOR ALL FILES

L40 31052300 PAPER? OR CARDBOARD OR PACKAG? OR CARTON OR CONTAINER OR CUP OR BOX

Multifile Searching

Enter 2+ files at the same time

OR repeat same search in several databases

- Adapt search strategy to address appropriate search fields
- One L# per search or additionally for each file
SET MSTEPS ON / OFF
- Expand with individual or combined display
SET DETAILS ON / OFF

=> E POLYHYDROXYALKANOATE

E#	FILE	FREQUENCY	TERM
--	----	-----	----
E49	CEABA	1	POLYHYDROXYALKANOATDEPOLYMERASE/BI
E50	REAXYSFILEBI	3	POLYHYDROXYALKANOATDISPERSIONEN/BI
E51		39081	--> POLYHYDROXYALKANOATE/BI
	CAPLUS	8896	POLYHYDROXYALKANOATE/BI
	SCISEARCH	3782	POLYHYDROXYALKANOATE/BI
	EMBASE	2360	POLYHYDROXYALKANOATE/BI
	MEDLINE	2168	POLYHYDROXYALKANOATE/BI
	PQSCITECH	1615	POLYHYDROXYALKANOATE/BI
	REAXYSFILEBI	8266	POLYHYDROXYALKANOATE/BI
	COMPENDEX	2166	POLYHYDROXYALKANOATE/BI
	TOXCENTER	2781	POLYHYDROXYALKANOATE/BI
	CABA	830	POLYHYDROXYALKANOATE/BI
	ESBIOBASE	1273	POLYHYDROXYALKANOATE/BI

Deduplication of Multifile results

Same document might be found in multiple files

Patents: TRANSFER PN | PN.K

Journals:

- Universal document number (e.g. DOI) does not exist for all documents, or is not comprehensively covered, or is not indexed in equal format.
- Use the command DUPLICATE



DUPLICATE command

```
L10      7868 FILE CAPLUS
L11      4237 FILE SCISEARCH
L12      3840 FILE CABA
TOTAL FOR ALL FILES
L13      15945 (PEA OR PISUM SATIVUM) AND PROTEIN AND PY>2020
```

=> SET DUPORDER FILE

SET COMMAND COMPLETED

=> DUPLICATE REMOVE L13

DUPLICATE PREFERENCE IS 'CAPLUS, SCISEARCH, CABA'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):N

PROCESSING COMPLETED FOR L13

```
L14      11974 DUPLICATE REMOVE L13 (3971 DUPLICATES REMOVED)
```

```
      ANSWERS '1-7868' FROM FILE CAPLUS
```

```
      ANSWERS '7869-9849' FROM FILE SCISEARCH
```

```
      ANSWERS '9850-11974' FROM FILE CABA
```

DUPLICATE command

=> DUPLICATE REMOVE L13

DUPLICATE PREFERENCE IS 'CAPLUS, SCISEARCH, CABA'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):N

PROCESSING COMPLETED FOR L13

L14 11974 DUPLICATE REMOVE L13 (3971 DUPLICATES REMOVED)

ANSWERS '1-7868' FROM FILE CAPLUS

ANSWERS '7869-9849' FROM FILE SCISEARCH

ANSWERS '9850-11974' FROM FILE CABA

=> DUPLICATE REMOVE L10 L11 L12

DUPLICATE PREFERENCE IS 'CAPLUS, SCISEARCH, CABA'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):N

PROCESSING COMPLETED FOR L10

PROCESSING COMPLETED FOR L11

PROCESSING COMPLETED FOR L12

L15 11974 DUPLICATE REMOVE L10 L11 L12 (3971 DUPLICATES REMOVED)

ANSWERS '1-7868' FROM FILE CAPLUS

ANSWERS '7869-9849' FROM FILE SCISEARCH

ANSWERS '9850-11974' FROM FILE CABA

DUPLICATE command

=> DUPLICATE REMOVE L10 L11 L12

DUPLICATE PREFERENCE IS 'CAPLUS, SCISEARCH, CABA'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):N

PROCESSING COMPLETED FOR L10

PROCESSING COMPLETED FOR L11

PROCESSING COMPLETED FOR L12

L15 11974 DUPLICATE REMOVE L10 L11 L12 (3971 DUPLICATES REMOVED)

ANSWERS '1-7868' FROM FILE CAPLUS

ANSWERS '7869-9849' FROM FILE SCISEARCH

ANSWERS '9850-11974' FROM FILE CABA

=> DUPLICATE REMOVE L11 L12 L10

DUPLICATE PREFERENCE IS 'SCISEARCH, CABA, CAPLUS'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):N

PROCESSING COMPLETED FOR L11

PROCESSING COMPLETED FOR L12

PROCESSING COMPLETED FOR L10

L16 11974 DUPLICATE REMOVE L11 L12 L10 (3971 DUPLICATES REMOVED)

ANSWERS '1-4229' FROM FILE SCISEARCH

ANSWERS '4230-6631' FROM FILE CABA

ANSWERS '6632-11974' FROM FILE CAPLUS

DUPLICATE command

Summary

- Create multifile L# or individual L# from multiple files

SET DUPORDER FILE

- Decide on file order (record for display)

DUPLICATE REMOVE L# [1 multifile L# or 2+ L# from multiple files]

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):N

=> HELP DUPLICATE

Agenda

- Why is Non-patent Literature special?
- Polyhydroxyalkanoates in packaging
 - INDEX
 - Multifile searching
 - DUPLICATE
- Overview on NPL files
- Use cases for NPL searching



Where is NPL in STN ?

Clusters or 2+ files

=> INDEX ALLBIB

=> S (JOURNAL? OR ARTICLE? OR BOOK? OR REVIEW? OR MEETING? OR CONFERENCE?)/DT

=> D RANK

F1	63806920	SCISEARCH
F2	47749588	EMBASE
F3	43460789	CAPLUS
F4	36803643	MEDLINE
F5	32744857	BIOSIS
F6	29923456	COMPENDEX
F7	27537159	PQSCITECH
F8	21382250	REAXYSFILEBI
F9	15887359	TOXCENTER
F10	11753975	CABA
F11	9131946	ESBIOBASE
F12	8124960	TEMA

F13	6185452	AGRICOLA
F14	2888573	DDFU
F15	2888573	DRUGU
F16	1776635	BIOTECHNO
F17	1773708	GEOREF
F18	1750891	FSTA
F19	1635096	CBNB
F20	1630904	CASREACT
F21	1378078	RAPRA
F22	1254349	CEABA
F23	728504	IPA
F24	702350	PIRA

F25	512272	ANABSTR
F26	432257	APOLLIT
F27	419600	WSCA
F28	250086	BIOTECHABS
F29	213319	1MOBILITY
F30	183878	CROPU
F31	153290	CROPB
F32	83347	NTIS
F33	75796	VETU
F34	63760	VETB
F35	63268	KOSMET
F36	38075	NAPRALERT

COMPENDEX

COMPENDEX

Download Database Summary Sheet PDF

Subject Coverage

- Civil and railroad engineering
- Environmental and agricultural engineering
- Geological and marine engineering
- Mining and metallurgy
- Chemical, petroleum, and fuel engineering
- Bioengineering
- Electrical engineering and electronics



COMPENDEX (Ei Compendex)

- Civil and railroad engineering
- Environmental and agricultural engineering
- Geological and marine engineering
- Mining and metallurgy
- Chemical, petroleum, and fuel engineering
- Bioengineering
- Electrical engineering and electronics

Cluster

- AEROTECH
- ALLBIB
- AUTHORS
- CHEMENG
- CHEMISTRY
- COMPUTER
- CONSTRUCTION
- CORPSOURCE
- ELECTRICAL
- ENGINEERING
- ENVIRONMENT
- FUELS
- GEOSCIENCE
- GOVREGS
- MATERIALS
- MEETINGS
- METALS
- NPS
- PETROLEUM
- POLYMERS

[STN Database Cluster information](#)

COMPENDEX

- **COMP**uterized **EN**gineering **IN**DEX and EI Engineering Meetings database covers worldwide research on engineering and technology topics
 - Produced by Elsevier
 - Covers journal articles, reports, books, conference contributions since 1970
- Records contain bibliographic data, abstracts for most references and indexing information in English:
 - Records are indexed with standardized (/CC, /CT) and non-standardized keywords (/ST)
 - Engineering Index Thesauri in English (/CT) and in German (/CTDE)

COMPENDEX

Good keyword and classification indexing

AN 2023-4815113269 COMPENDEX Full-text
TI Developing a Se Quantum Dots@ CoFeOx Composite Nanomaterial as a Highly Active and Stable Cathode Material for Rechargeable Zinc-Air Batteries
AU Zhang Donghao (1); Wang Yang (1,2); Han Xiaopeng (1); Hu Wenbin (1,3)
CS (3)Joint School of National University of Singapore and Tianjin University, International Campus of Tianjin University, Binhai New City, Fuzhou, China
EMAIL: xphan@tju.edu.cn; wbhu@tju.edu.cn
SO Batteries (1 Nov 2023), Volume 9, Number 11, arn: 561, 72 refs. E-ISSN: 2313-0105
DOI: <https://doi.org/10.3390/batteries9110561>
DT Journal; Article

CC 533.1 Ore Treatment; 546.3 Zinc and Alloys; 547.1 Precious Metals; 702.1.2 Secondary Batteries; 714.2 Semiconductor Devices and Integrated Circuits; 761 Nanotechnology; 802.2 Chemical Reactions; 803 Chemical Agents and Basic Industrial Chemicals; 804 Chemical Products Generally; 804.2 Inorganic Compounds; 933.1 Crystalline Solids and Crystallography
CT *Semiconductor quantum dots; Cathodes; Electrocatalysts; Electrolytic reduction; Iridium compounds; Iron oxides; Nanocrystals; Open circuit voltage; Oxygen; Platinum compounds; Precious metals; Zinc; Zinc air batteries
ST Bi-functional; Catalytic-kinetic; Cathodes material; Clean energy; Composite nanomaterial; Oxygen reduction reaction; Rechargeable zinc-air batteries; Reduction oxygen; Zinc-air battery;]+ catalyst

Where is NPL in STN ?

Contains also patents

Small file (≤ 5 M records)

F1	63806920	SCISEARCH
F2	47749588	EMBASE
F3	43460789	CAPLUS
F4	36803643	MEDLINE
F5	32744857	BIOSIS
F6	29923456	COMPENDEX
F7	27537159	PQSCITECH
F8	21382250	REAXYSFILEBI
F9	15887359	TOXCENTER
F10	11753975	CABA
F11	9131946	ESBIOBASE
F12	8124960	TEMA

F13	6185452	AGRICOLA
F14	2888573	DDFU
F15	2888573	DRUGU
F16	1776635	BIOTECHNO
F17	1773708	GEOREF
F18	1750891	FSTA
F19	1635096	CBNB
F20	1630904	CASREACT
F21	1378078	RAPRA
F22	1254349	CEABA
F23	728504	IPA
F24	702350	PIRA

F25	512272	ANABSTR
F26	432257	APOLLIT
F27	419600	WSCA
F28	250086	BIOTECHABS
F29	213319	1MOBILITY
F30	183878	CROPU
F31	153290	CROPB
F32	83347	NTIS
F33	75796	VETU
F34	63760	VETB
F35	63268	KOSMET
F36	38075	NAPRALERT

SCISEARCH

- **SciSearch** is a multidisciplinary scientific and technical database
 - Produced by Clarivate Analytics
 - Covers journal and conference articles, reviews, books since 1974
- Records contain bibliographic data, abstracts and indexing information:
 - Records are indexed with citation (RE, PATS) and grant information (GF, GO, GN)
 - SELECT CIT is available to transfer bibliographic data to a citation format.

SciSearch

Extensive citation and grant information

AN 2023:734999 SCISEARCH Full-text
TI Heteroepitaxial chemistry of zinc chalcogenides on InP nanocrystals for defect-free interfaces with atomic uniformity
AU Choi, Yeongho (Reprint)
CS Sungkyunkwan Univ, SKKU Inst Energy Sci & Technol SIEST, Suwon 16419, South Korea (Reprint)
AU Hahm, Donghyo
CS Los Alamos Natl Lab, Chem Div, Los Alamos, NM 87545 USA
CYA South Korea; USA
SO NATURE COMMUNICATIONS, (3 2023 JAN 2023) Vol. 14, No. 1.
DOI 10.1038/s41467-022-35731-2
REC Reference Count: 68
GF The authors gratefully acknowledge the support from the National Research Foundation of Korea (NRF) grants funded by the Korean government (NRF-2021M3H4A3A01062964).
GO National Research Foundation of Korea (NRF) - Korean government
GN NRF-2021M3H4A3A01062964
GN NRF-2022R1A2C2011496; NRF-2022R1A4A3018802; NRF-2019M3D1A1078299
GO Samsung Display Co., Ltd.
CC Multidisciplinary Sciences
STP KeyWords Plus (R): MITSUNOBU ESTERIFICATION REACTION; CDSE/CDS CORE/SHELL NANOCRYSTALS; COLLOIDAL QUANTUM DOTS; HIGHLY EFFICIENT; OPTICAL GAIN; LIGHT; SIZE; MECHANISM; INVOLVEMENT; SUPPRESSION

AGRICOLA

- **AGRICulture Online Access** covers agriculture and related fields
 - Produced by Clarivate Analytics
 - Covers journal and conference articles, reviews, books since 1970
- Records contain bibliographic data, geographic terms and indexing information. Abstracts for ca 50%.
 - Records are indexed with GenBank numbers (in /ST)
 - CABA Thesaurus (/CT) and Geographic Terms (/GT)

AGRICOLA

AN 2020056219 AGRICOLA Full-text
DN IND606898574
TI Process optimization and characterization of polyhydroxyalkanoate copolymers produced by marine
Pichia kudriavzevii VIT-NN02 using banana peels and chicken feather hydrolysate
AU Ojha, Nupur; Das, Nilanjana
SO Biocatalysis and agricultural biotechnology (Aug 2020), Volume 27, pp.101616
ISSN: 1878-8181 DOI: <https://doi.org/10.1016/j.bcab.2020.101616> Published by: Elsevier Ltd
Source Note: 2020 Aug, v. 27
NTE <https://dx.doi.org/10.1016/j.bcab.2020.101616>
CT Fourier transform infrared spectroscopy; Pichia kudriavzevii; Sudan dyes; X-ray diffraction; banana peels;
biomass; carbon; chickens; composite polymers; differential scanning calorimetry; equations; experimental
design; feathers; gas chromatography-mass spectrometry; granules; hydrolysates; macroalgae; models;
nitrogen; nuclear magnetic resonance spectroscopy; pH; phylogeny; polyhydroxyalkanoates; scanning electron
microscopy; staining; temperature; thermal stability; thermogravimetry; wastes; yeasts
ST Banana peel extract; Box Behnken design; Chicken feather hydrolysate; Halophilic yeast Pichia kudriavzevii VIT-NN02;
Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) copolymer

Use cases for NPL searching

- Investigating specific challenge by searching more general
- Staying ahead of emerging technologies
- Landscaping of company supported academic research
- Analysis of citations for broader view



Investigating challenges by searching genercially

Growth speed of mycelium for molded packaging

=> S (ENHANCE OR INCREASE OR FAST? OR SPEED) (5A) GROWTH AND (MYCELIUM OR FUNGUS) AND PACKAGING

- 16 days (15 days in mold) with *Calocybe indica*
IN 202241025868
- 12 days (5 days in mold, 33 x 33 x 2.5 cm³) with *Ganoderma lucidum*, *Ganoderma neo-japonicum*, *Trametes versicolor* or *Pleurotus ostreatus*
EP 4527935

Less dominant for application specific searches

Mycelium as packaging Materials

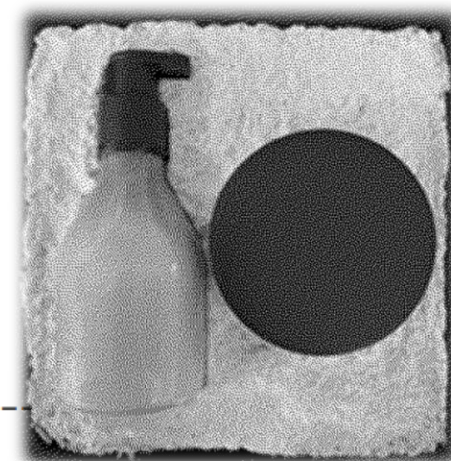
=> FILE CAPLUS

=> S (ENHANCE OR INCREASE OR FAST?) (5A) GROWTH AND (MYCELIUM OR FUNGUS)

TERM #	# OCC	# DOC	% DOC	DT
1	3035	3035	72.97	JOURNAL
2	1867	1867	44.89	ONLINE COMPUTER FILE
3	1078	1078	25.92	PATENT
4	176	176	4.23	GENERAL REVIEW
5	39	39	0.94	CONFERENCE
6	13	13	0.31	MEETING ABSTRACT
7	9	9	0.22	COMPUTER OPTICAL DISK
8	4	4	0.10	PREPRINT
9	2	2	0.05	REPORT
10	1	1	0.02	DISSERTATION

AND PACKAGING

TERM #	# OCC	# DOC	% DOC	DT
1	30	30	73.17	PATENT
2	10	10	24.39	JOURNAL
3	8	8	19.51	ONLINE COMPUTER FILE
4	1	1	2.44	CONFERENCE
5	1	1	2.44	GENERAL REVIEW
6	1	1	2.44	MEETING ABSTRACT



EP4527935

Investigating challenges by searching genercially

Adapting the query

=> (ENHANCE OR INCREASE OR FAST? OR SPEED) (3A) GROWTH AND ((GANODERMA LUCIDUM OR REISHI MUSHROOM) OR (ORELLANA MUSHROOM OR OYSTER MUSHROOM OR PLEUROTUS OSTREATUS) OR MYCELIUM OR MUSHROOM OR FUNGUS) AND ~~PACKAGING~~

L15 4247 FILE CAPLUS
L16 5936 FILE CABA
L17 4979 FILE BIOSIS
L18 2793 FILE SCISEARCH
L19 3297 FILE REAXYSFILEBI
L20 1574 FILE EMBASE
L21 1571 FILE AGRICOLA
L22 1382 FILE PQSCITECH
L23 1285 FILE MEDLINE
L24 1170 FILE ESBIODBASE

TOTAL FOR ALL FILES

L25 28234

=> DUPLICATE REMOVE L25

DUPLICATE PREFERENCE IS 'CAPLUS, CABA, BIOSIS, SCISEARCH, REAXYSFILEBI, EMBASE, AGRICOLA, PQSCITECH, MEDLINE, ESBIODBASE'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):N

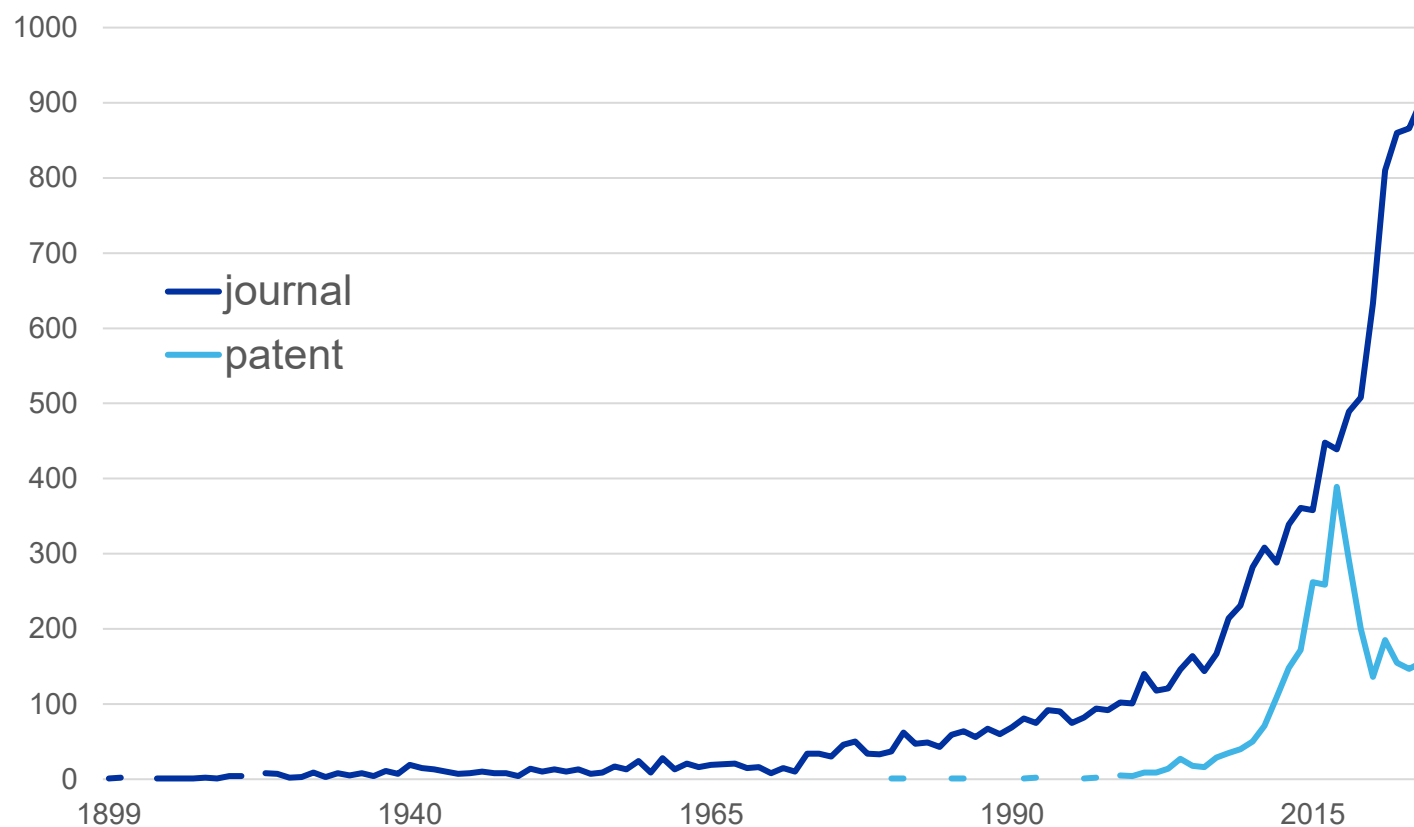
L26 14828 DUPLICATE REMOVE L25 (13406 DUPLICATES REMOVED)

ANSWERS '1-4246' FROM FILE CAPLUS
ANSWERS '4247-9139' FROM FILE CABA
ANSWERS '9140-11360' FROM FILE BIOSIS
ANSWERS '11361-11856' FROM FILE SCISEARCH
ANSWERS '11857-13342' FROM FILE REAXYSFILEBI
ANSWERS '13343-13668' FROM FILE EMBASE
ANSWERS '13669-14302' FROM FILE AGRICOLA
ANSWERS '14303-14718' FROM FILE PQSCITECH
ANSWERS '14719-14787' FROM FILE MEDLINE
ANSWERS '14788-14828' FROM FILE ESBIODBASE

Investigating challenges by searching genercially

Growth speed of mycelium in general

=> (ENHANCE OR INCREASE OR FAST? OR SPEED) (3A) GROWTH AND ((GANODERMA LUCIDUM OR REISHI MUSHROOM) OR (ORELLANA MUSHROOM OR OYSTER MUSHROOM OR PLEUROTUS OSTREATUS) OR MYCELIUM OR MUSHROOM OR FUNGUS)



Early development of invention

3D printed thermoplasts as bone scaffolds or implants

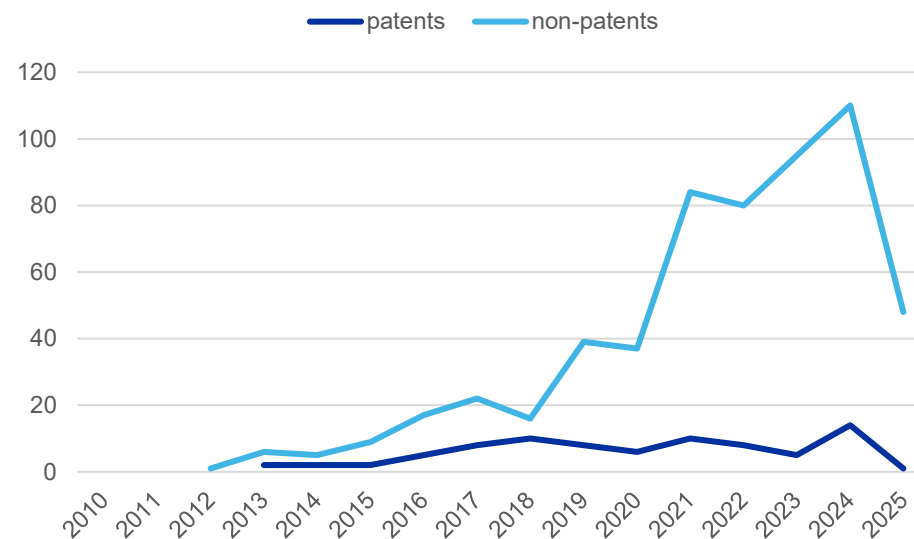
=> S (3D PRINT? OR THREE DIMENSIONAL PRINT? OR ADDITIVE MANUFACTURING) AND BIO? (2T) ?COMPATIB? AND THERMOPLAST?

L167	284 FILE CAPLUS
L168	49 FILE BIOSIS
L169	167 FILE COMPENDEX
L170	155 FILE EMBASE
L171	133 FILE MEDLINE
L172	69 FILE PQSCITECH
L173	209 FILE REAXYSFILEBI
L174	196 FILE SCISEARCH

TOTAL FOR ALL FILES

L175 1262

L176 656 DUPLICATE REMOVE L175 (606 DUPLICATES REMOVED)



Landscaping of corporate research (collaborations)

SCISEARCH

=> ana L289 cs

L290 ANALYZE L289 1- CS : 6955 TERMS

=> D L290 NOT "UNIV"

L290 ANALYZE L289 1- CS : 6955 TERMS

TERM #	# OCC	# DOC	% DOC	CS
--------	-------	-------	-------	----

4	8	8	0.43	NESTLE RES CTR, CH-1000 LAI
6	7	7	0.37	LOREAL RECH, CLICHY, FRANCI
17	4	4	0.21	BIOMED LAB CO LTD, MICROBIO
18	4	4	0.21	BIOMED LAB CO LTD, MICROBIO
29	4	4	0.21	JIANGSU TRANSLAT MED RES II
31	4	4	0.21	NATL JEWISH HLTH, DEPT PED
33	4	4	0.21	ROYAL CHILDRENS HOSP, DEPT
34	4	4	0.21	SMITHSONIAN TROP RES INST,
40	4	4	0.21	VIRGINIA TECH, DEPT BIOL SCI, BLACKSBURG, VA 24061
41	3	3	0.16	AL AZHAR AL SHARIF LIB, DEPT MANUSCRIPTS CONSERVAT,

16 MORE TERMS WITH AN OCCURRENCE COUNT OF 3

=> file scisearch

=> s (prebiotic or probiotic) and skin?

L289 1870 (PREBIOTIC OR PROBIOTIC) AND SKIN?

DISPLAY and PRINT Formats (cont'd)

Format	Content
GF	Grant Funding Acknowledgement Text
GO	Grant Funding Organization
GN	Grant Number
ISN	International Standard (Document) Number
ISSUE	Issue Number
JT	Journal Title

Landscaping of corporate research (collaborations)

MEDLINE

=> ana L287 cs

L288 ANALYZE L287 1- CS : 4456 TERMS

=> D L288 NOT "UNIV"

L288 ANALYZE L287 1- CS : 4456 TERMS

TERM #	# OCC	# DOC	% DOC	CS
--------	-------	-------	-------	----

15	4	2	0.13	PATHOGEN MOLECULAR GENETICS SECTION, LABORATORY OF
32	3	3	0.19	KOREA YAKULT CO., LTD., YONGIN 446-901, REPUBLIC OF
33	3	3	0.19	L'OREAL RESEARCH & INNOVATION, CHEVILLY LARUE, FRAN
34	3	3	0.19	LABORATOIRES VICHY, LEVALLOIS PERRET, FRANCE
35	3	3	0.19	LACTOBIO A/S, COPENHAGEN, DENMARK
36	3	3	0.19	MICROBIOME RESEARCH CENTRE, BIOMED LABORATORY COMPA
37	3	3	0.19	RESEARCH AND DEVELOPMENT DEPARTMENT, GENMONT BIOTEC
53	2	2	0.13	BAYLOR COLLEGE OF MEDICINE, HOUSTON, TX, USA
54	2	2	0.13	BEIJING KEY LABORATORY OF PLANT RESEARCH AND DEVELO
55	2	2	0.13	BIOLAB RESEARCH S.R.L., NOVARA, ITALY

48 MORE TERMS WITH AN OCCURRENCE COUNT OF 2

=> file medline

=> s (prebiotic or probiotic) and skin?

L287 1539 (PREBIOTIC OR PROBIOTIC) AND SKIN?

Summary

- Non-patent literature is relevant in most search tasks!
- Adapt query to shift focus and align with file specifics
- Utilize INDEX and DUPLICATE to accelerate workflow



Between problems
and progress
**are connections
that matter**



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