



W, 5A, L, S or P? – Proximity Operators for Precise Retrieval

Ernst Aichinger

Agenda

- Boolean operators
- Proximity operators (W), (A) and (T)
- File specific proximity operators (L), (P) and (S)
- The NOT operator



Boolean operators

DWPI

INPADOC

Fulltext
(Multi-level)

CAplus

BioMed

Engineering

OR

A record must include **at least one search term**

AND

A record must include **both search terms**, in any order

NOT

A record must include the first term **but not the second term**

Boolean operators

OR

A record must include **at least one search term**

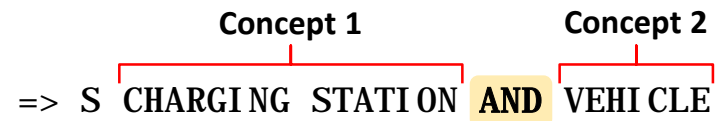
Connects synonyms:



AND

A record must include **both search terms**, in any order

Connects different search concepts:



Boolean operators

OR

A record must include **at least one search term**

Connects synonyms:

=> S CAR **OR** VEHICLE **OR** AUTOMOBILE



AND

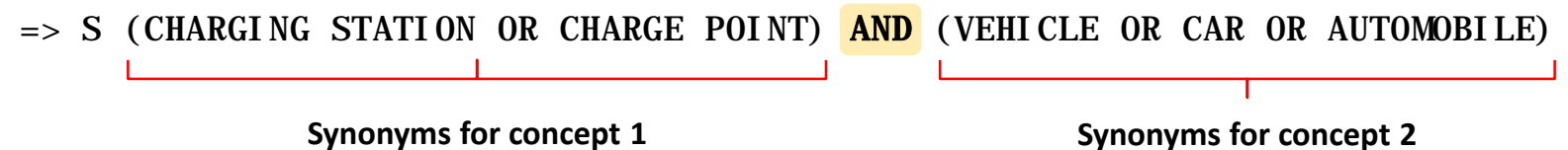
A record must include **both search terms**, in any order

Connects different search concepts:

=> S CHARGING STATION **AND** VEHICLE



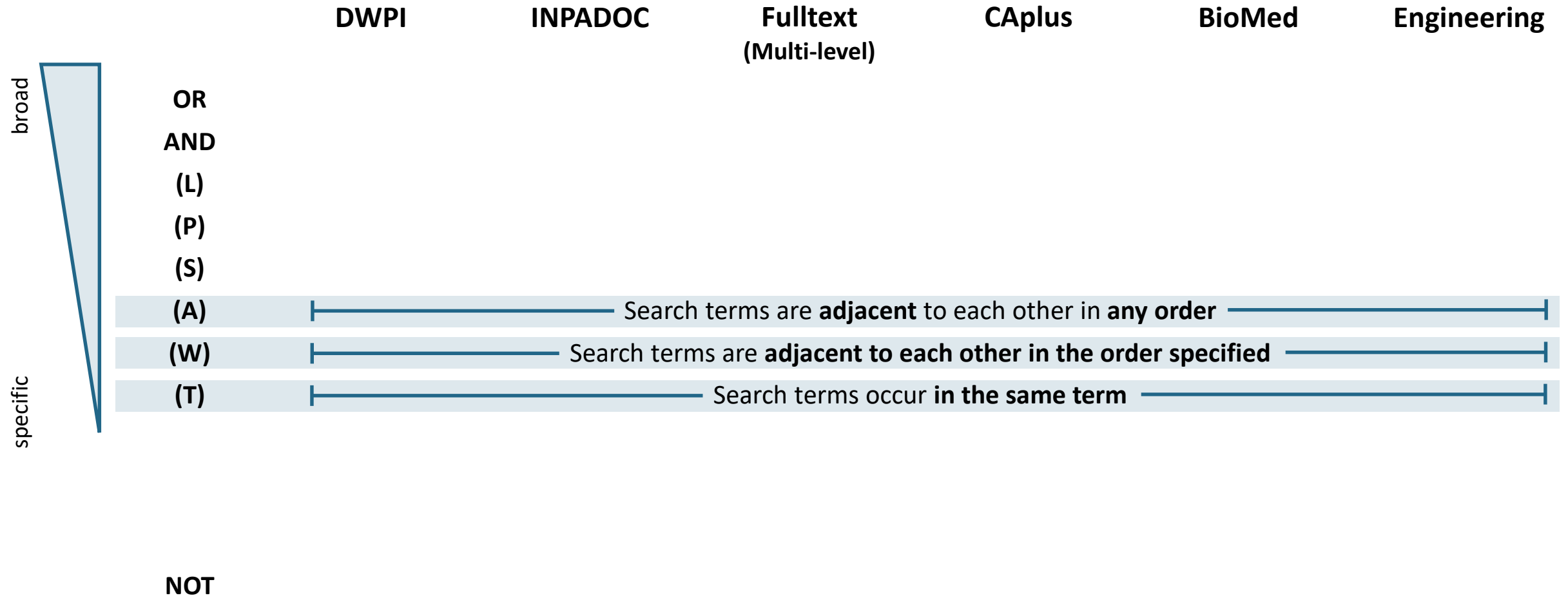
=> S (CHARGING STATION OR CHARGE POINT) **AND** (VEHICLE OR CAR OR AUTOMOBILE)



Synonyms for concept 1

Synonyms for concept 2

Overview: Proximity operators (A), (W) and (T)



The (A) operator – being together in any order

(A)

Search terms are **adjacent** to each other in **any order**

=> S INACTIVAT? (A) VIRUS
L1 3481

... a device for effectively **inactivating** **viruses**.
... to maintain the **virus** **inactivation** effect.

=> S INACTIVAT? (3A) VIRUS
L2 6047

... for **inactivating** non-enveloped **virus**.

Terms must be adjacent but in any order **with n or fewer intervening terms**.

Test different proximities for your strategy:

- (A) 3481 records
- (1A) 4766 records
- (3A) 6047 records
- (5A) 6604 records
- (10A) 7325 records
- (15A) 7687 records
- (20A) 7943 records

The (W) operator – order as specified

(A)

Search terms are **adjacent** to each other in **any order**

=> S INACTIVAT? (A) VIRUS
L1 3481

... a device for effectively **inactivating viruses**.
... to maintain the **virus inactivation** effect.

=> S INACTIVAT? (3A) VIRUS
L2 6047

... for **inactivating** non-enveloped **virus**.

(W)

Search terms are **adjacent to each other in the order specified**

=> S BIO (W) REACTOR
L3 3533

The **bio-reactor** further consist of ...

=> S BIO (2W) REACTOR
L4 6047

A three-dimensional aeration **bio-film reactor** ...

Terms must be adjacent and in the order specified **with n or fewer intervening terms**.

The (T) operator – yields a term

(A)

Search terms are **adjacent** to each other in **any order**

=> S INACTIVAT? (A) VIRUS
L1 3481

... a device for effectively **inactivating viruses**.
... to maintain the **virus inactivation** effect.

=> S INACTIVAT? (3A) VIRUS
L2 6047

... for **inactivating** non-enveloped **virus**.

(W)

Search terms are **adjacent to each other in the order specified**

=> S BIO (W) REACTOR
L3 3533

The **bio-reactor** further consist of ...

=> S BIO (2W) REACTOR
L4 6047

A three-dimensional aeration **bio-film reactor** ...

(T)

Search terms occur **in the same term**

=> S ?IMMUN? (T) ?THERAP?
L5 16111

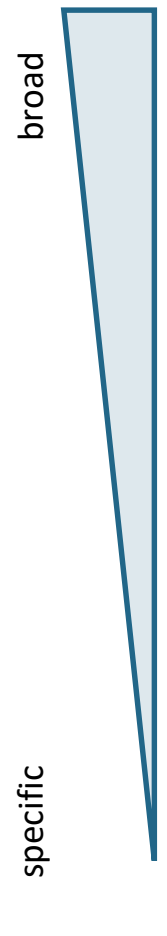
... administering an **immunotherapy**.
... a dose intensive **immunochemotherapy**...
... cells used in **immunocytotherapy**...

=> S ?ALUM? (T) ?OXID?
L6 8757

... modified **aluminiumhydroxide**.

Truncation to
allow merging!

File-specific proximity operators in text fields¹



	DWPI	INPADOC	Fulltext (Multi-level)	CAplus	BioMed	Engineering
OR						
AND						
(L)	(L){INVENTION (L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	Two terms occur in the same field (Several IT fields!)	Two terms occur in the same field	Two terms occur in the same field
(P)	Two terms occur in the same field or AB subfield (NOV..)	Two terms occur in the same field	Two terms occur in the same field	For patent family tabular data	-	-
(S)	Two terms occur in same paragraph	- (see file specific help)	Two terms occur in same paragraph	Two terms occur in same sentence or IT-field	Two terms occur in same sentence	- (see file specific help)
(A)						
(W)						
(T)						
NOT						

¹) The meaning in individual databases can be different!

HELP (*operator*) for file-specific information

=> **FIL CAPLUS**

=> **HELP (P)**

The (P) operator may be used for highly precise searching of patent family tabular data. The (P) operator requires that the search terms be present in the same patent publication data, priority data, application data or classification data within each row of the patent family table. In comparison, the (L) operator links the data related to a specific patent application in a multiline row of the table which includes all publication numbers, all dates, and all application data.

=> **FIL WPINDEX**

=> **HELP (P)**

In WPINDEX the collated invention information as well as the individual publication information is divided into logical units or sections.

Each logical unit owns a distinct spate of paragraph values.

The (P) operator is used in the WPINDEX file to link information together pertaining to repetitions of logical unit sub-elements.

...

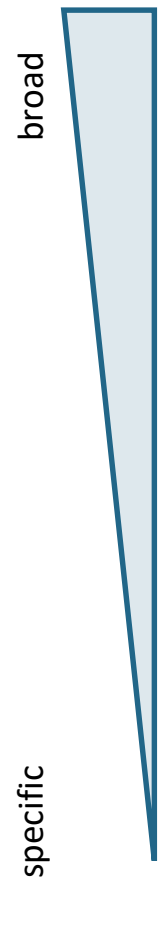
Several selected applications are shown on the following slides. Other applications are possible as well!

File-specific proximity operators in text fields¹

	DWPI	INPADOC	Fulltext (Multi-level)	CAplus	BioMed	Engineering
OR						
AND						
(L)	(L){INVENTION (L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	Two terms occur in the same field (Several IT fields!)	Two terms occur in the same field	Two terms occur in the same field
(P)	Two terms occur in the same field or AB subfield (NOV..)	Two terms occur in the same field	Two terms occur in the same field	For patent family tabular data	-	-
(S)	Two terms occur in same paragraph	- (see file specific help)	Two terms occur in same paragraph	Two terms occur in same sentence or IT-field	Two terms occur in same sentence	- (see file specific help)
(A)						
(W)						
(T)						
NOT						

¹) The meaning in individual databases can be different!

File-specific proximity operators in text fields¹



	DWPI	INPADOC	Fulltext (Multi-level)	CAplus	BioMed	Engineering
OR						
AND						
(L)	(L){INVENTION (L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	Two terms occur in the same field (Several IT fields!)	Two terms occur in the same field	Two terms occur in the same field
(P)	Two terms occur in the same field or AB subfield (NOV..)	Two terms occur in the same field	Two terms occur in the same field	For patent family tabular data	-	-
(S)	Two terms occur in same paragraph	- (see file specific help)	Two terms occur in same paragraph	Two terms occur in same sentence or IT-field	Two terms occur in same sentence	- (see file specific help)
(A)						
(W)						
(T)						
NOT						

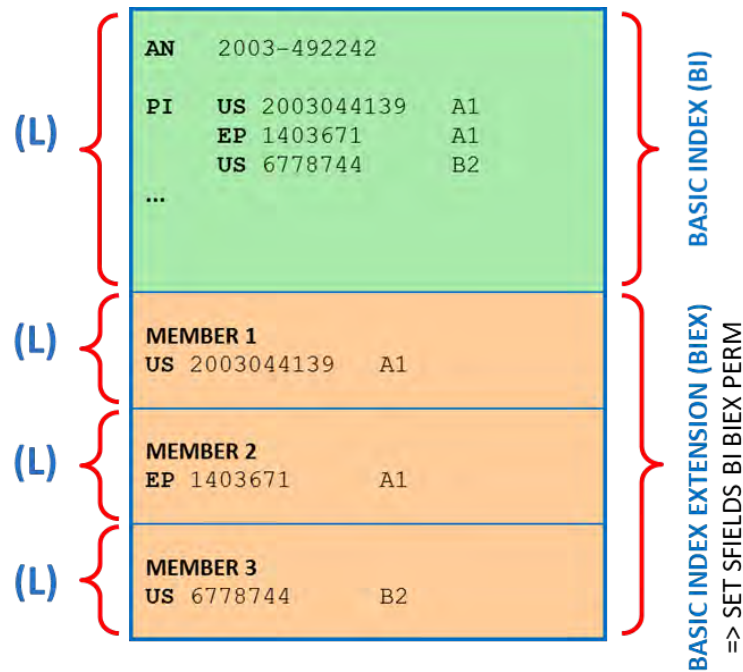
¹) The meaning in individual databases can be different!

File-specific proximity operators in text fields¹

	DWPI	INPADOC	Fulltext (Multi-level)	CAplus	BioMed	Engineering
OR						
AND						
(L)	(L){INVENTION (L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	Two terms occur in the same field (Several IT fields!)	Two terms occur in the same field	Two terms occur in the same field
(P)	Two terms occur in the same field or AB subfield (NOV..)	Two terms occur in the same field	Two terms occur in the same field	For patent family tabular data	-	-
(S)	Two terms occur in same paragraph	- (see file specific help)	Two terms occur in same paragraph	Two terms occur in same sentence or IT-field	Two terms occur in same sentence	- (see file specific help)
(A)						
(W)						
(T)						
NOT						

¹) The meaning in individual databases can be different!

DWPI: (L)-proximity to search within individual family members



=> **FIL WPIINDEX**

=> **S CN/PC (L) (METALLOCENE (1W) CATALYST?)/CLM**

L1 1696 CN/PC (L) (METALLOCENE (1W) CATALYST?)/CLM

PI **CN 111347699** A 20200630 (2020060)* ZH 7[1]

TIEN A preparation method of PE water feed pipe

...

CLMEN [CLAIM 1] 1. A PE preparation method of water supply pipe, wherein the material formulation of the PE to water pipe comprises polyethylene resin (PE), polyethylene wax (PE wax), nanometer carbon black, **metallocene catalyst**, antioxidant and nanometer silver antibacterial agent, wherein the mass ratio of the polyethylene resin (PE) is 45%, the mass ratio of the polyethylene wax (PE wax) is 25%, the mass ratio of the nanometer carbon black is 20%, the mass ratio of the **metallocene catalyst** is 6%. the mass ratio of the antioxidant is 3%, the mass ratio of the nano-silver antibacterial agent is 1%. [CLAIM 2] 2. The PE according to claim 1 preparation method of water supply pipe, wherein it mainly comprises the following steps: S1, mixing, adding the PE into the mixer to stir according to the ...

Full text files with multiple documents in one records (e.g. A and B documents) use the (L) operator in a similar way.

DWPI: (P) to search for one publication in the PI field

=> **FIL WPINDEX**

=> **S LANXESS/PA AND 2020/PY (P) EPB?/PK**

L1 34 LANXESS/PA AND 2020/PY (P) EPB?/PK

=> **D TI PA PIA**

L1 ANSWER 1 OF 34 WPINDEX COPYRIGHT 2020 CLARIVATE ANALYTICS on STN
TI Poly(alkylene phosphate) mixture used in preparation for flame retardant
and flame-retardant polyurethane, comprises at least three poly(alkylene
phosphates)

PA (LNXS-C) **LANXESS** DEUT GMBH

PIA	US	20180291156	A1	20181011	(201870) *	EN	10[0]
	AU	2018202018	A1	20181025	(201871)	EN	
	CA	3000675	A1	20181010	(201871)	EN	
	EP	3388479	A1	20181017	(201871)	DE	
	EP	3388480	A1	20181017	(201871)	DE	
	KR	2018114516	A	20181018	(201871)	KO	
	CN	108690356	A	20181023	(201872)	ZH	
	JP	2018177783	A	20181115	(201877)	JA	22
	MX	2018004371	A1	20181109	(201923)	ES	
	BR	102018007187	A2	20190416	(201939)	EN	
	AU	2018202018	B2	20190704	(201950)	EN	
	JP	6630767	B2	20200115	(2020006)	JA	20
	EP	3388480	B1	20200603	(2020046)	DE	

Search for EP documents from LANXESS
granted in 2020.

For more applications of the (P) operator
type HELP (P)

CAplus: (P) to search for one publication in the PI field

=> **FIL CAPLUS**

=> **S NOVARTIS/PA AND 2020/PY (P) EPB?/PK**

L2 78 NOVARTIS/PA AND 2020/PY (P) EPB?/PK

=> **D TI PA PIA**

TI Planar illuminator for ophthalmic surgery
PA Alcon Research, Ltd., USA; **Novartis** AG
PI

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20180055596	A1	20180301	US 2017- 15683090	20170822
CA 3028632	A1	20180301	CA 2017- 3028632	20170822
WO 2018037346	A2	20180301	WO 2017- IB55067	20170822
WO 2018037346	A3	20180405		
AU 2017316760	A1	20190117	AU 2017- 316760	20170822
CN 109496259	A	20190319	CN 2017- 80046964	20170822
EP 3504477	A2	20190703	EP 2017- 765262	20170822
EP 3504477	B1	20200513		

Search for EP documents from NOVARTIS granted in 2020 – in CAplus.

For more applications of the (P) operator type HELP (P)

INPADOC: (L) to link for the same LS entry

=> **FIL INPADOCDB**

=> **S BASF/PASS AND ORE/LSC2 (L) 2020/LSD**

L1 78 BASF/PASS AND ORE/LSC2 (L) 2020/LSD

=> **D HIT ...**

L1 ANSWER 10 OF 78 INPADOCDB COPYRIGHT 2020 EPO/FIZ KA on ST
PA **BASF** Coatings GmbH
PAS **BASF** COATINGS GMBH, DE

Search for BASF patents with oppositions filed in 2020.

PASS	Patent Assignee Group (/PA, /PAS and /LSPA)
LSC2	Legal Status Code Categories (ORE, Opposition, Reexamination)
LSD	Legal Status Date

LEGAL STATUS HIT

AN 95398682 INPADOCDB

20200220 USSTCV

INFORMATION ON STATUS: APPEAL PROCEDURE

NOTICE OF APPEAL FILED

ORE Opposition, Reexamination, Appeal

..... 20200305

LEGAL STATUS HIT

AN 95398682 INPADOCDB

20200417 USSTCV

INFORMATION ON STATUS: APPEAL PROCEDURE

APPEAL BRIEF (OR SUPPLEMENTAL BRIEF) ENTERED AND FORWARDED TO EXAMINER

ORE Opposition, Reexamination, Appeal

..... 20200507

The NOT operator – Use cautiously!

=> **FIL WPINDEX**

=> **S (NITRIC OXID#) AND CATALYST NOT PLATINUM**

L1 3125

The NOT operator removes any document with PLATINUM. Thus, the document below – highly relevant – is not part of L1!

AN 2012-D46986 [201227] WPINDEX Full-text
TI New nitric oxide oxidation catalyst metal complex useful in an engine exhaust system
AB WO 2012037526 A2 UPAB: 20120425
 NOVELTY - Nitric oxide oxidation catalyst metal complex (I) is new.
 DETAILED DESCRIPTION - Nitric oxide oxidation catalyst metal complex of formula (A₂B₁₂C_{1x0(5+y)}) (I) is new.
 A = metallic element comprising elements from alkali metals, alkaline earth metals or lanthanide series;
 ...
 USE - (I) is useful in an engine exhaust system (claimed).
 ADVANTAGE - (I): can be applied to a selected brick, zone or layer in a multi-brick, multi-zoned or multi-layered emission control systems and provides a boost in oxidation performance of the overall system and/or cost reduction; and does not include a precious metal comprising platinum or palladium, thus provides a lower cost alternative to precious metal oxidation catalysts, and provides similar level of nitric oxide oxidation performance. ...

The NOT operator can be combined with proximity operators: e.g. (NOTA), (3NOTW)

The NOT operator for subtracting answer sets

=> **FIL WPINDEX**

=> **S BIODEGRADABL? (2W) POLYMER**

L1 11365

=> **S ?DEGRADABL? (2W) POLYMER**

L2 13773

=> **S L2 NOT L1**

L3 2408

=> **D 1-10 KWIC=2**

... micro-needle is **bio-degradable**, drug-loaded **polymer** material low-temperature ...

... of leak-proof **non-degradable polymer** material, the ...

... is a **degradable polymer** material comprises ...

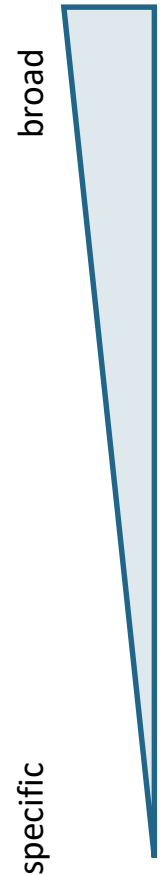
... is an **ion-degradable polymer** material with ...

... is a **degradable polymer** selected from ...

...

The NOT operator is very helpful in building search strategies.

Summary: Boolean and proximity operators in text fields¹



	DWPI	INPADOC	Fulltext (Multi-level)	CAplus	BioMed	Engineering
OR	A record must include at least one search term					
AND	A record must include both search terms , in any order					
(L)	(L){INVENTION (L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	(L){Publication 1 (L){Publication 2 ⋮	Two terms occur in the same field	Two terms occur in the same field	Two terms occur in the same field
(P)	Two terms occur in the same field or AB subfield (NOV..)	Two terms occur in the same field	Two terms occur in the same field	For patent family tabular data	-	-
(S)	Two terms occur in same paragraph	- (see file specific help)	Two terms occur in same paragraph	Two terms occur in same sentence or IT-field	Two terms occur in same sentence	- (see file specific help)
(A)	Search terms are adjacent to each other in any order					
(W)	Search terms are adjacent to each other in the order specified					
(T)	Search terms occur in the same term					
NOT	A record must include the first term but not the second term					

¹) The meaning in individual databases can be different!

Contact Us



CAS help@cas.org
www.cas.org

FIZ Karlsruhe

helpdesk@fiz-karlsruhe.de
www.stn-international.de