

Technology Intelligence From Chemical Information In Patent Databases

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Thomson Scientific

Corporate Markets

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Agenda

- Information vs. Intelligence
- Converting Information to Intelligence
 - Commonly available software tools
 - Value-add tools provided by commercial search engines
 - Text-mining & Data-mining tools
- Conclusions

Information vs. Intelligence

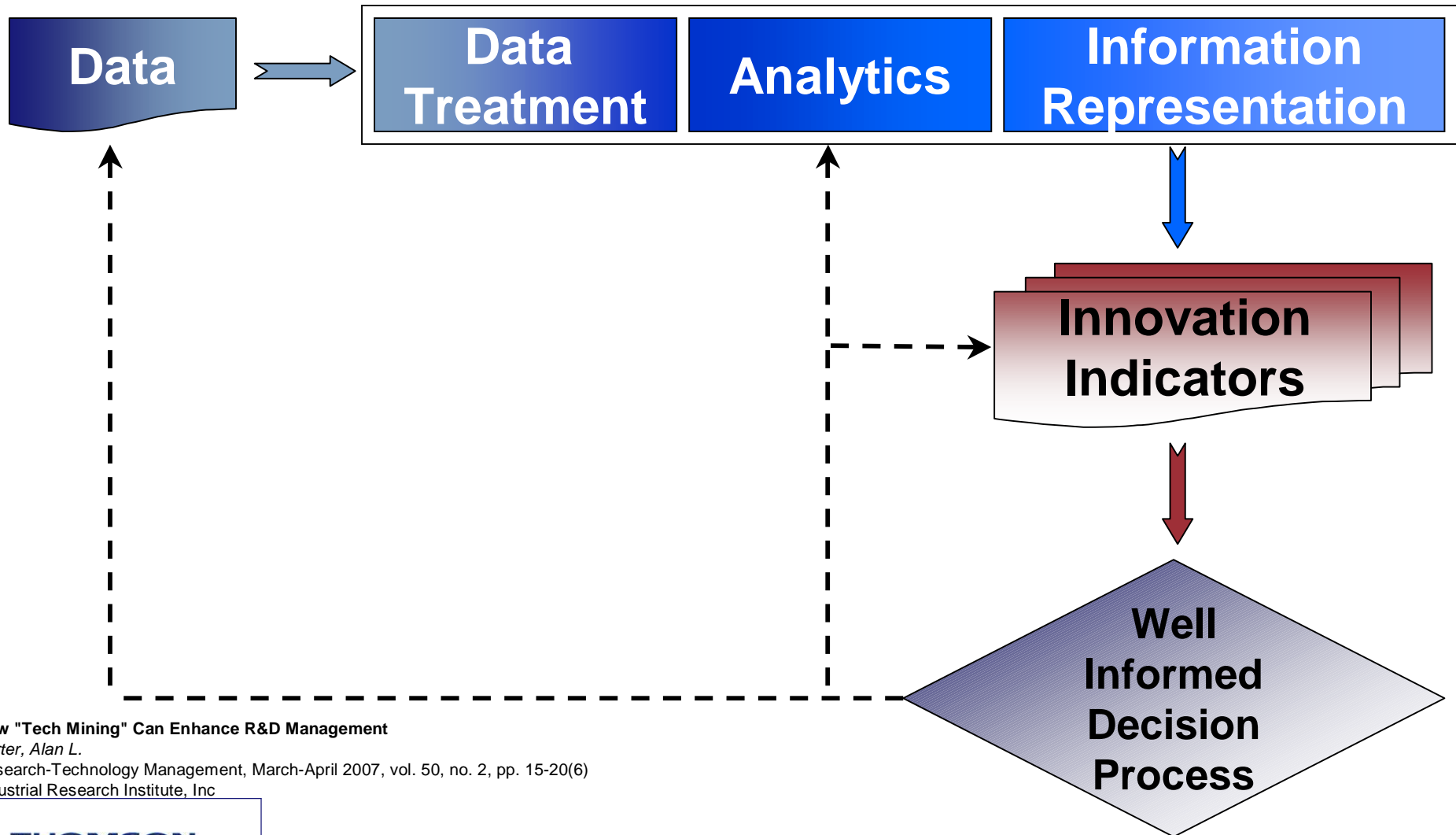
Information vs. Intelligence

- Who
 - Inventor
 - Patent Assignee
- What
 - Abstract
 - IPC
- When
 - Application Date
 - Publication Date
- Where
 - Country

Information vs. **Intelligence**

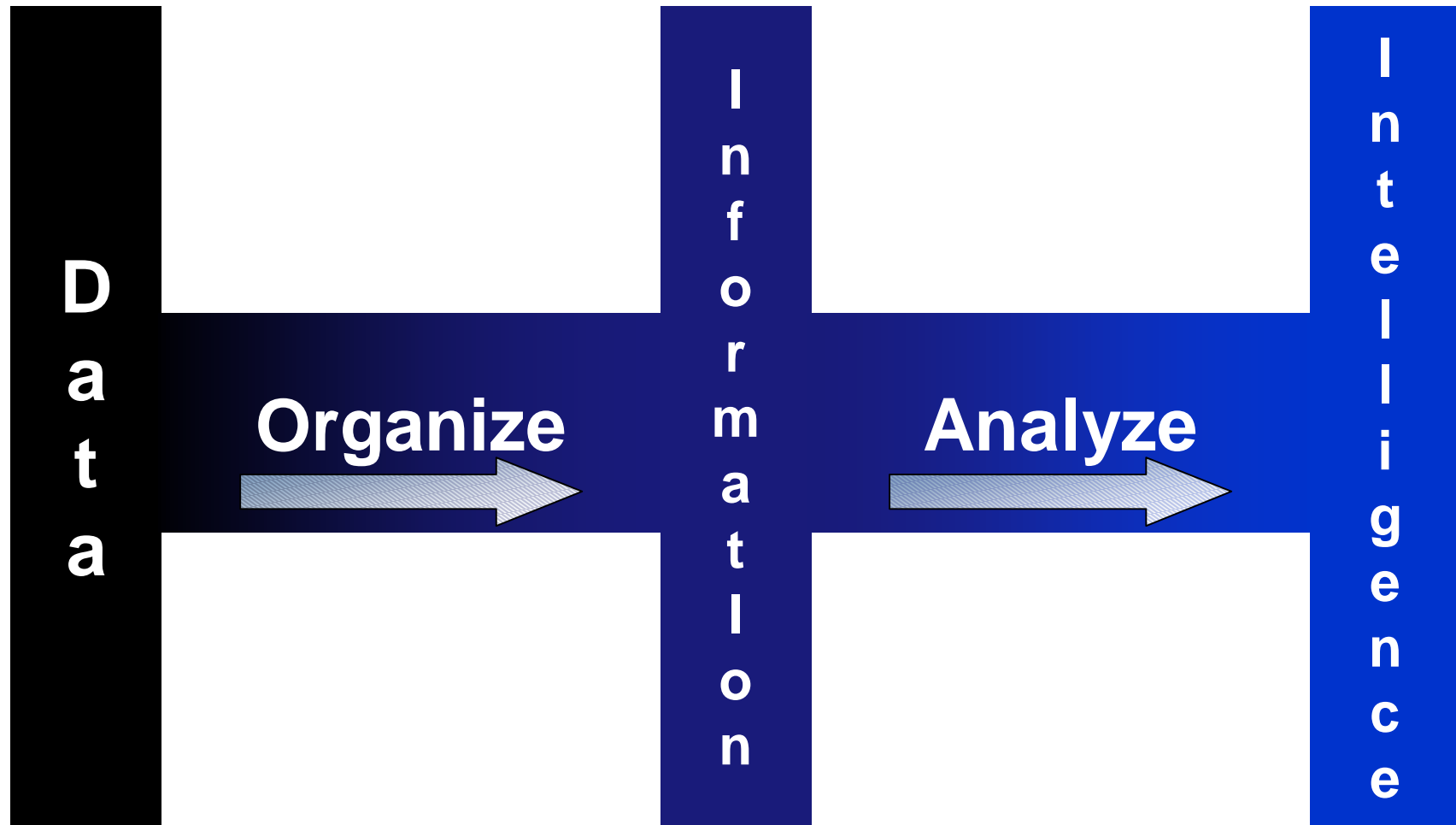
- How does it work?
- Why are they doing it?
- What does it mean?
- How does it fit into the “big picture?”

Tech Mining Supply Chain



How "Tech Mining" Can Enhance R&D Management
 Porter, Alan L.
 Research-Technology Management, March-April 2007, vol. 50, no. 2, pp. 15-20(6)
 Industrial Research Institute, Inc

Information vs. Intelligence



Organize – Readily Available Tools

- Simple Tools available from commercial search services
 - Dialog RANK
- Microsoft Excel
 - Create charts and summaries

Organize – Readily Available Tools

- Questions answered (Information Generated)
 - Top companies with patents in a technology (IPC, subject, chemical)
 - Top inventors at an organization
 - Technology trends

Organize Using RANK

DWPI

SHAPE()MEMORY
OR
SUPERELASTIC
OR SUPER()ELASTIC

2005:2007

Result = 3051 records

RANK PANAME

Rank fields found in 3051 records. 3937 unique terms

Select	Items Rank	Term
<input type="checkbox"/>	125	BOSTON SCI LTD
<input type="checkbox"/>	91	SCIMED LIFE SYSTEMS INC
<input type="checkbox"/>	46	BROWNE A L
<input type="checkbox"/>	46	GENERAL MOTORS CORP
<input type="checkbox"/>	44	CRF SCPA
<input type="checkbox"/>	43	MEDTRONIC INC
<input type="checkbox"/>	38	JOHNSON N L
<input type="checkbox"/>	17	HYUNDAI MOTOR CO LTD

Details

Title: Format: Items:

Copy Results to:

-
-
-

Organize Using RANK

DWPI

SHAPE()MEMORY
OR
SUPERELASTIC
OR SUPER()ELASTIC

2005:2007

Result = 3051 records

RANK PANAME

Rank fields found in 3051 records. 3937 unique terms

Select	Items	Rank	Term
<input type="checkbox"/>	125		BOSTON SCI LTD
<input type="checkbox"/>	91		SCIMED LIFE SYSTEMS INC
<input type="checkbox"/>	46		BROWNE A L
<input type="checkbox"/>	46		GENERAL MOTORS CORP
<input type="checkbox"/>	44		CRF SCPA
<input type="checkbox"/>	43		MEDTRONIC INC
<input type="checkbox"/>	38		JOHNSON N L
<input type="checkbox"/>	36		CORDIS CORP
<input type="checkbox"/>	34		MATSUSHITA DENKI SANGYO KK
<input type="checkbox"/>	29		COOK INC
<input type="checkbox"/>	25		SDGI HOLDINGS INC
<input type="checkbox"/>	23		ADVANCED CARDIOVASCULAR SYSTEM
<input type="checkbox"/>	22		MNEMOSCIENCE GMBH
<input type="checkbox"/>	18		DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO
<input type="checkbox"/>	18		JOHNSON & JOHNSON
<input type="checkbox"/>	18		TOKIN CORP
<input type="checkbox"/>	17		HYUNDAI MOTOR CO LTD

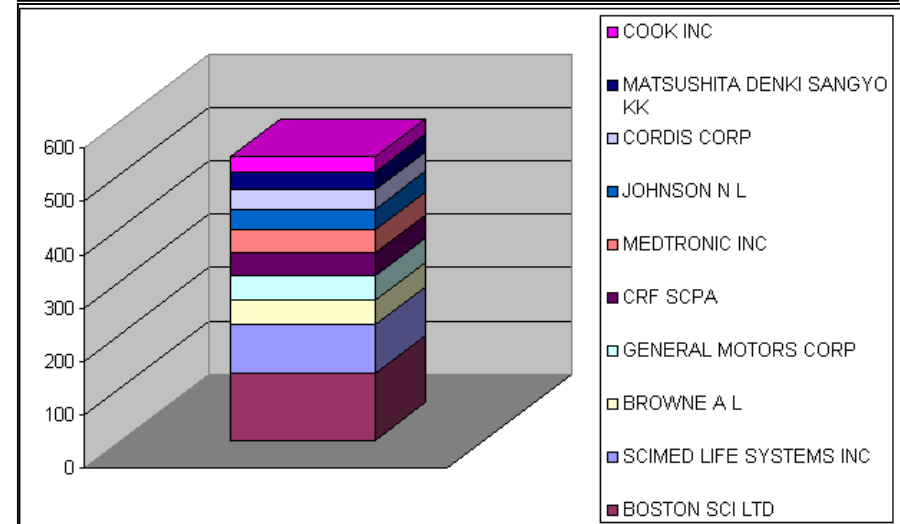
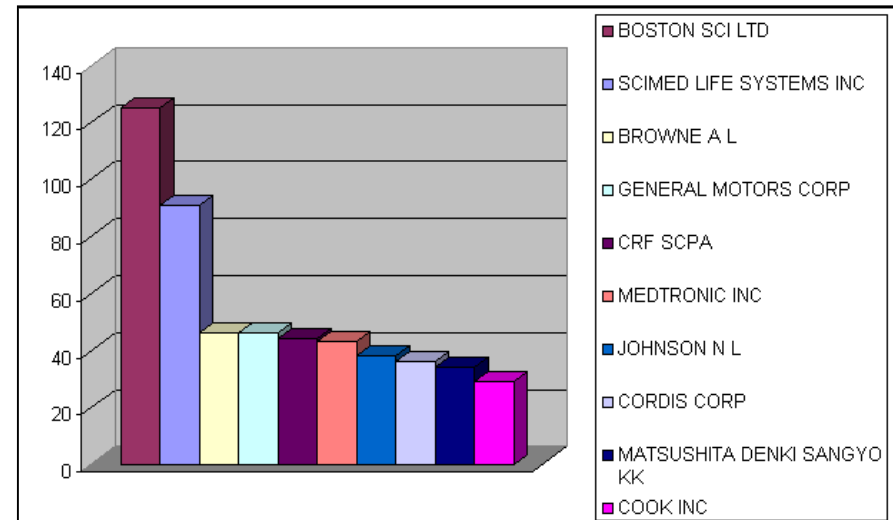
Details Copy Results to:

Title: Format: Items:

Excel File

Organize Using RANK

A	B	C
1	Rank fields found in 3051 records. 3937 unique terms	
2	Items Ranked	Term
3	125	BOSTON SCI LTD
4	91	SCIMED LIFE SYSTEMS INC
5	46	BROWNE A L
6	46	GENERAL MOTORS CORP
7	44	CRF SCPA
8	43	MEDTRONIC INC
9	38	JOHNSON N L
10	36	CORDIS CORP
11	34	MATSUSHITA DENKI SANGYO KK
12	29	COOK INC
13	25	SDGI HOLDINGS INC
14	23	ADVANCED CARDIOVASCULAR SYSTEM
15	22	MNEMOSCIENCE GMBH
16	18	DOKURITSU GYOSEI HOJIN SANGYO
17	18	GIJUTSU SO
18	18	JOHNSON & JOHNSON
18	18	TOKIN CORP
19	17	HYUNDAI MOTOR CO LTD
20	17	SONY CORP
21	16	GYUNTER V EH
22	15	BARVOSA-CARTER W
23	14	BARD INC C O



Advantages of Online Tools

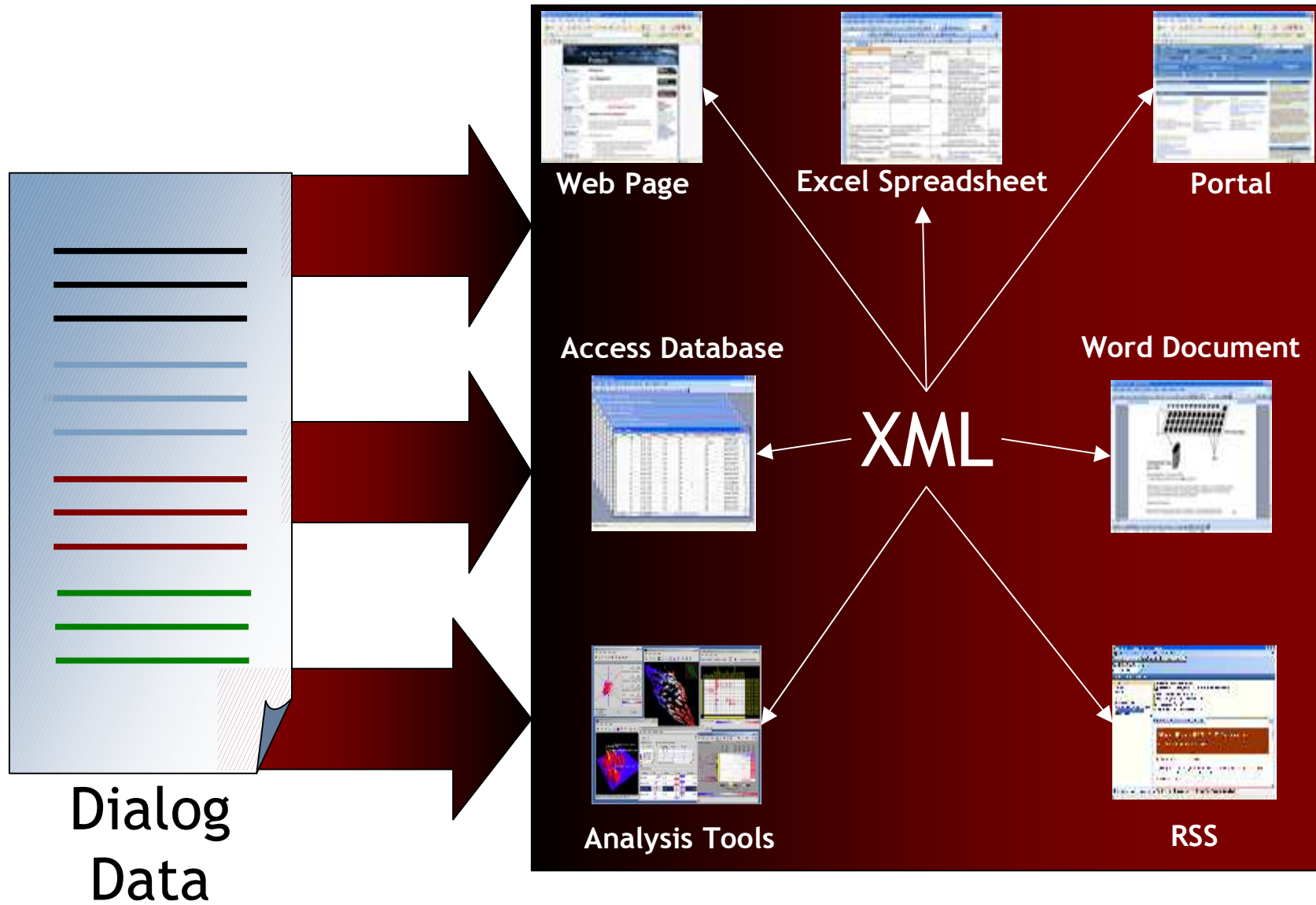
- No additional software
 - Relatively easy to use
 - Inexpensive
 - Usually a few cents (or less) per document
- RANKed

Advantages of Online Tools

- Results can be easily imported into more sophisticated tools
 - Microsoft Excel
 - Microsoft Access

XML

- eXtensible Markup Language
- Collect information once and reuse it in a variety of ways



Download Data as XML

The screenshot shows the DialogLink 5 software interface. The main window displays a list of materials with their IDs and names:

ID	Name
845895	SHAPE
609586	MEMORY
9889	SHAPE(W)MEMORY
886	SUPERELASTIC
52330	SUPER
298873	ELASTIC
745	SUPER(W)ELASTIC
S1 10831	S SHAPE()MEMORY OR SUPERELASTIC OR SUPER()ELASTIC

Below the list, there are several commands and their results:

```
? s s1/2005:2007
10831 s1
2643986 PY:
S2 2541 S
? xml s2/full/all
```

The command `xml s2/full/all` is highlighted with a red box. The interface also includes a menu bar (File, Edit, View, Session, Configuration, Window, Help), a toolbar with various icons, and a right-hand panel with sections for Help and Information, Set Links, and Session Navigator. The status bar at the bottom shows connection details: Connected 5:40, Bob Stewart - Connect Time - Dialog - 302786 / - , Finished: 10.845.

Convert XML to Microsoft Excel

The screenshot shows the DialogLink 5 software interface. The main window displays a command window with the following text:

```

? s SHAPE()MEMORY OR SUPERELASTIC OR SUPER()ELASTIC
  845895 SHAPE
  609586 MEMORY
  9889 SHAPE(W)MEMORY
  886 SUPERELASTIC
  52330 SUPER
  298873 ELASTIC
  745 SUPER(W)ELASTIC
S1 10831 S SHAPE()MEMORY OR SUPERELASTIC OR SUPER()ELASTIC

? s s1/2005:2007
  10831 S1
  2643986 PY=2005 : PY=2007
S2 2541 S s1/2005:2007

? xml s2/full/all
    
```

An 'Excel Reports' dialog box is overlaid on the interface. It contains the following text and buttons:

Excel Reports

This feature creates a Microsoft® Excel report from Dialog data downloaded in XML.

Buttons: **Create Report**, Create Template, Edit Template, Get Templates.

The status bar at the bottom of the window shows: Connected 11:37 | Bob Stewart - Connect Time - Dialog - 302786 / - | Finished: 10.845

Organized by Inventor

	A	B	C	D	E	F	G	H	
	Inventor	First Named Assignee			Derwent Acc. No.	on Date Format)	Publication Date (Excel Format)	Publication Year	Appl
1									
494						0502	5/2/2006	2006	US 20049235
495	BESSELINK P A	MEMORY MEDICAL SYSTEMS INC			2005-161327	0203	2/3/2005	2005	US 20049235
496	BESSELINK P A	MEMORY MEDICAL SYSTEMS INC			2005-161327	0111	1/11/2007	2007	JP 20065214
497	BESSELINK P A	MEMORY MEDICAL SYSTEMS INC			2005-161327	0111	1/11/2007	2007	JP 20065214
498	BEYER A	MNEMOSCIENCE GMBH			2005-195650	0503	5/3/2006	2006	EP 20047410
499	BEYER A	MNEMOSCIENCE GMBH			2005-195650	025	10/25/2006	2006	CN 20048007
500	BEYER A	MNEMOSCIENCE GMBH			2005-172734	0426	4/26/2006	2006	EP 20047410
501	BEYER A	MNEMOSCIENCE GMBH			2005-195650	0906	9/6/2006	2006	CN 20048007
502	BEYER A	MNEMOSCIENCE GMBH			2005-195650	0210	2/10/2005	2005	WO 2004EP7
503	BEYER A	MNEMOSCIENCE GMBH			2005-195650	0224	2/24/2005	2005	DE 10334823
504	BEYER A	MNEMOSCIENCE GMBH			2005-172734	0210	2/10/2005	2005	WO 2004EP7
505	BEYER A	MNEMOSCIENCE GMBH			2005-172734	0224	2/24/2005	2005	DE 10334788
506	BEYER A	MNEMOSCIENCE GMBH			2005-172734	0111	1/11/2007	2007	WO 2000US7
507	BEYER A	MNEMOSCIENCE GMBH			2005-195650	0129	11/29/2006	2006	EP 20009166
508	BEYER A	MNEMOSCIENCE GMBH			2005-195650	0617	6/17/2003	2003	US 20018182
509	BEYER A	MNEMOSCIENCE GMBH			2005-195650	0819	8/19/2003	2003	JP 20006089
510	BEYER A	MNEMOSCIENCE GMBH			2005-172734	0102	1/2/2002	2002	EP 20009166
511	BEYER A	MNEMOSCIENCE GMBH			2005-172734	0327	3/27/2001	2001	US 19992834
512	BEYER A	MNEMOSCIENCE GMBH			2005-172734	0809	8/9/2001	2001	US 20018182
513	BICEK A	BICEK A D			2001-040743	0012	10/12/2000	2000	WO 2000US7
514						0111	1/11/2007	2007	WO 2000US7
515	BICEK A D	BICEK A D	2001-040743	EP 1164971 B1	EP B1	20061129	11/29/2006	2006	EP 20009166
516	BICEK A D	BICEK A D	2001-040743	US 6579297 B2	US B2	20030617	6/17/2003	2003	US 20018182
517	BICEK A D	BICEK A D	2001-040743	JP 2003524463 W	JP W	20030819	8/19/2003	2003	JP 20006089
518	BICEK A D	BICEK A D	2001-040743	EP 1164971 A1	EP A1	20020102	1/2/2002	2002	EP 20009166
519	BICEK A D	BICEK A D	2001-040743	US 6206888 B1	US B1	20010327	3/27/2001	2001	US 19992834
520	BICEK A D	BICEK A D	2001-040743	US 20010012944 A1	US A1	20010809	8/9/2001	2001	US 20018182
521	BICEK A D	BICEK A D	2001-040743	WO 2000059404 A1	WO A1	20001012	10/12/2000	2000	WO 2000US7
522	BICEK D	BICEK A D	2001-040743	DE 60032122 E	DE E	20070111	1/11/2007	2007	WO 2000US7
523	BICEK D	BICEK A D	2001-040743	EP 1164971 B1	EP B1	20061129	11/29/2006	2006	EP 20009166
524	BICEK D	BICEK A D	2001-040743	US 6579297 B2	US B2	20030617	6/17/2003	2003	US 20018182
525	BICEK D	BICEK A D	2001-040743	JP 2003524463 W	JP W	20030819	8/19/2003	2003	JP 20006089
526	BICEK D	BICEK A D	2001-040743	EP 1164971 A1	EP A1	20020102	1/2/2002	2002	EP 20009166
527	BICEK D	BICEK A D	2001-040743	US 6206888 B1	US B1	20010327	3/27/2001	2001	US 19992834

Organized by Assignee

	A	B	C	D	E	F
	Patent Assignee		Application Year	Derwent Acc. No.	Patent: (No Kind)	
1						
2		3F THERAPEUTICS INC	2003	2004-747054	US 20040206363 A1	
3		3F THERAPEUTICS INC	2004	2004-747054	WO 2004093638 A2	
4		3F THERAPEUTICS INC	2004	2004-747054	EP 1620040 A2	
5		3F THERAPEUTICS INC	2003	2004-747054	US 7159593 B2	
6		3F THERAPEUTICS INC	2003	2005-212399	US 20050049692 A1	
7		3F THERAPEUTICS INC	2004	2005-212399	WO 2005021063 A2	
8		3F THERAPEUTICS INC	2004	2005-212399	EP 1663070 A2	
9		3M INNOVATIVE PROPERTIES CO	1998	1999-419338	WO 1999035201 A1	
10		3M INNOVATIVE PROPERTIES CO	1998	1999-419338	JP 11209704 A	
11		3M INNOVATIVE PROPERTIES CO	1998	1999-419338	AU 199920236 A	
12		3M INNOVATIVE PROPERTIES CO	1998	1999-419338	EP 1045888 A1	
13		3M INNOVATIVE PROPERTIES CO	2000	1999-419338	US 6630218 B1	
14		3M INNOVATIVE PROPERTIES CO	1998	1999-419338	EP 1045888 B1	
15		3M INNOVATIVE PROPERTIES CO	1998	1999-419338	DE 69833799 E	
16		3M INNOVATIVE PROPERTIES CO	1998	1999-419338	DE 69833799 T2	
17		3M INNOVATIVE PROPERTIES CO	2004	2005-075239	WO 2004113464 A1	
18		3M INNOVATIVE PROPERTIES CO	2003	2005-075239	JP 2005002269 A	
19		3M INNOVATIVE PROPERTIES CO	2004	2005-075239	EP 1633828 A1	
20		3M INNOVATIVE PROPERTIES CO	2005	2005-075239	US 20060188706 A1	
21		3M INNOVATIVE PROPERTIES CO	2004	2005-075239	JP 2006529001 W	
22						
23		ABRAMS R M	1992	1994-278446	US 5341818 A	
24		ABRAMS R M	1994	1994-278446	WO 1995019800 A2	
25		ABRAMS R M	1994	1994-278446	WO 1995019800 A3	
26		ABRAMS R M	1994	1994-278446	EP 739221 A1	
27		ABRAMS R M	1994	1994-278446	JP 9508538 W	
28		ABRAMS R M	1994	1994-278446	EP 739221 B1	
29		ABRAMS R M	1994	1994-278446	DE 69433668 E	
30		ABRAMS R M	1994	1994-278446	EP 1426071 A2	
31		ABRAMS R M	1994	1994-278446	JP 3725900 B2	
32		ABRAMS R M	2005	2005-496478	US 20050143773 A1	
33		ABRAMS R M	2005	2005-496478	US 20050143773 A1	

The 'Big Picture'

	B	C	D	E	H	
1	Title		Patent Assignee		Inventor	Patent Num
2	Poly(3-hydroxyalkanoates) block copolymer having orientation-induced rubber-elasticity and temperature-sensitive shape memory effects, useful e.g. as medical and industrial material, comprises 3-hydroxybutyrate and 3-hydroxyvalerate block		LG CHEM LTD		CHUNG C KIM Y B RHEE Y H YOON J	WO 2007004777
3	Surgical stapler for closing surgical incision includes an elongate shaft, e.g. catheter with a working lumen disposed with a staple formed from a shape memory material		WILSON COOK MEDICAL INC		SURTI V C	US 20060282118
4	Variable geometry turbo-charger for vehicle, where nozzle vane has one side with shape memory alloys (SMA) and other side with piezoelectric film to control flux of exhaust gas by controlling		HYUNDAI MOTOR CO LTD		PARK J S	KR 2006071282
5	Shape memory property resin for producing molded product, has thermoreversible cross-linked structure having specific cleavage temperature and deformation temperature during primary and secondary moldings		NEC CORP	IJI M INOUE K SHIMURA M	JP 2006342297 A	C08G-0063/91 A C08G-0063/00 C
6	Ferromagnetic shape memory alloy for magnetic field drive element, comprises manganese, indium, tin and/or antimony.		JAPAN SCI & TECHNOLOGY AGENCY	ISHIDA K KAINUMA R KANOMATA T	WO 2007001009 A1	C22C-0019/03 A C22F-0001/00 A C22F-0001/10 A
7	smart materials DWPI					

Patent Details in Microsoft Word

WO2007004777

Poly(3-hydroxyalkanoates) block copolymer having orientation-induced rubber-elasticity and temperature-sensitive shape memory effects, useful e.g. as medical and industrial material, comprises 3-hydroxybutyrate and 3-hydroxyvalerate block

DIALOG(R)File 351:Derwent WPI
 (c) 2007 The Thomson Corporation. All rights reserved.
 Dialog Accession Number: 0016460276
 Derwent Accession Number: 2007-176505/200717

Patent Assignee(s): LG CHEM LTD (GLDS)

Inventor(s): CHUNG C; KIM Y B; RHEE Y H; YOON J

Number of Countries: 1 Number of Patents: 111

Patent Family:

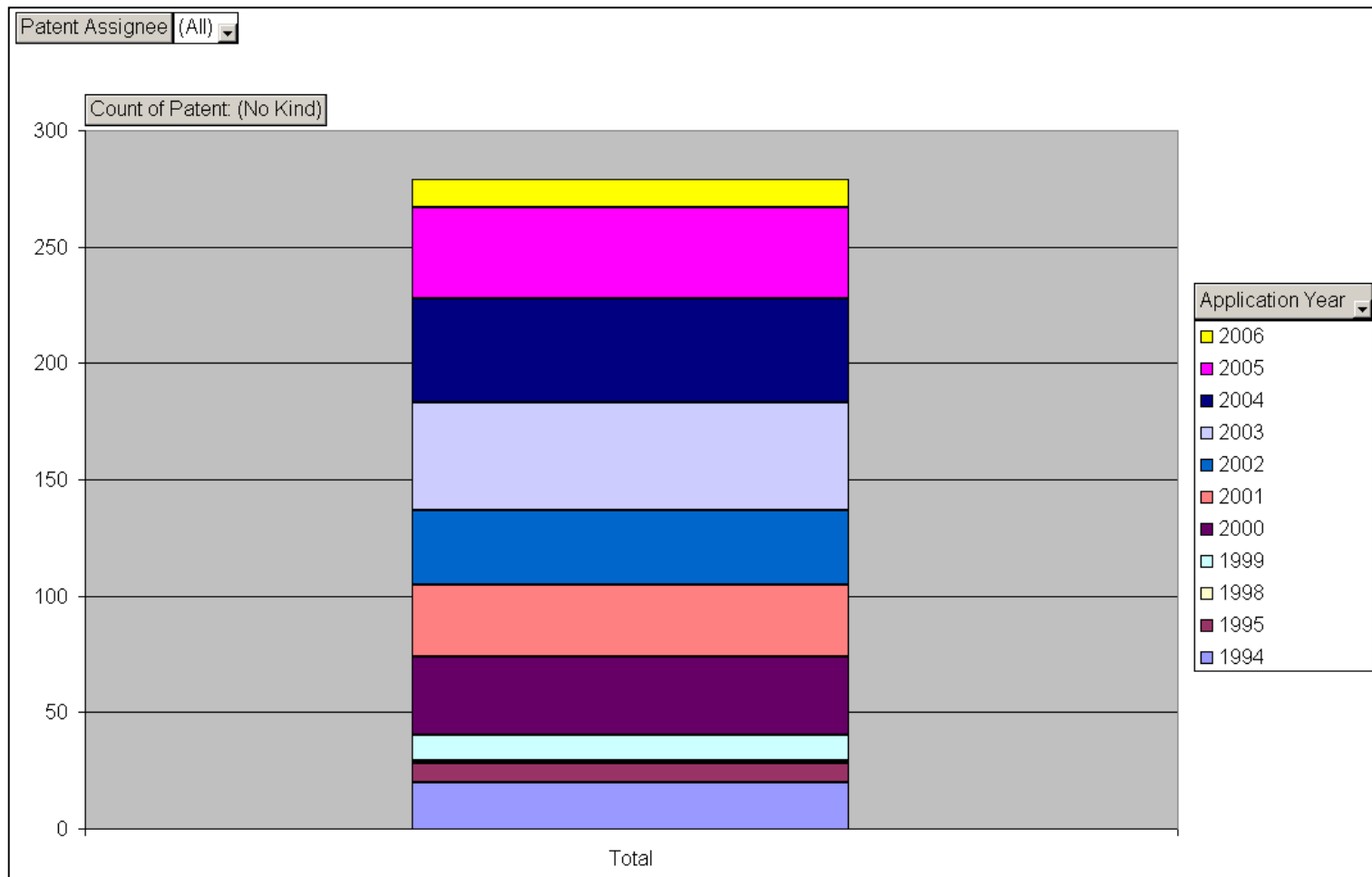
Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 2007004777	A1	20070111	WO 2005KR4439	A	20051222	200717	B

Priority Applications (No Type Date): KR 200559907 A 20050704

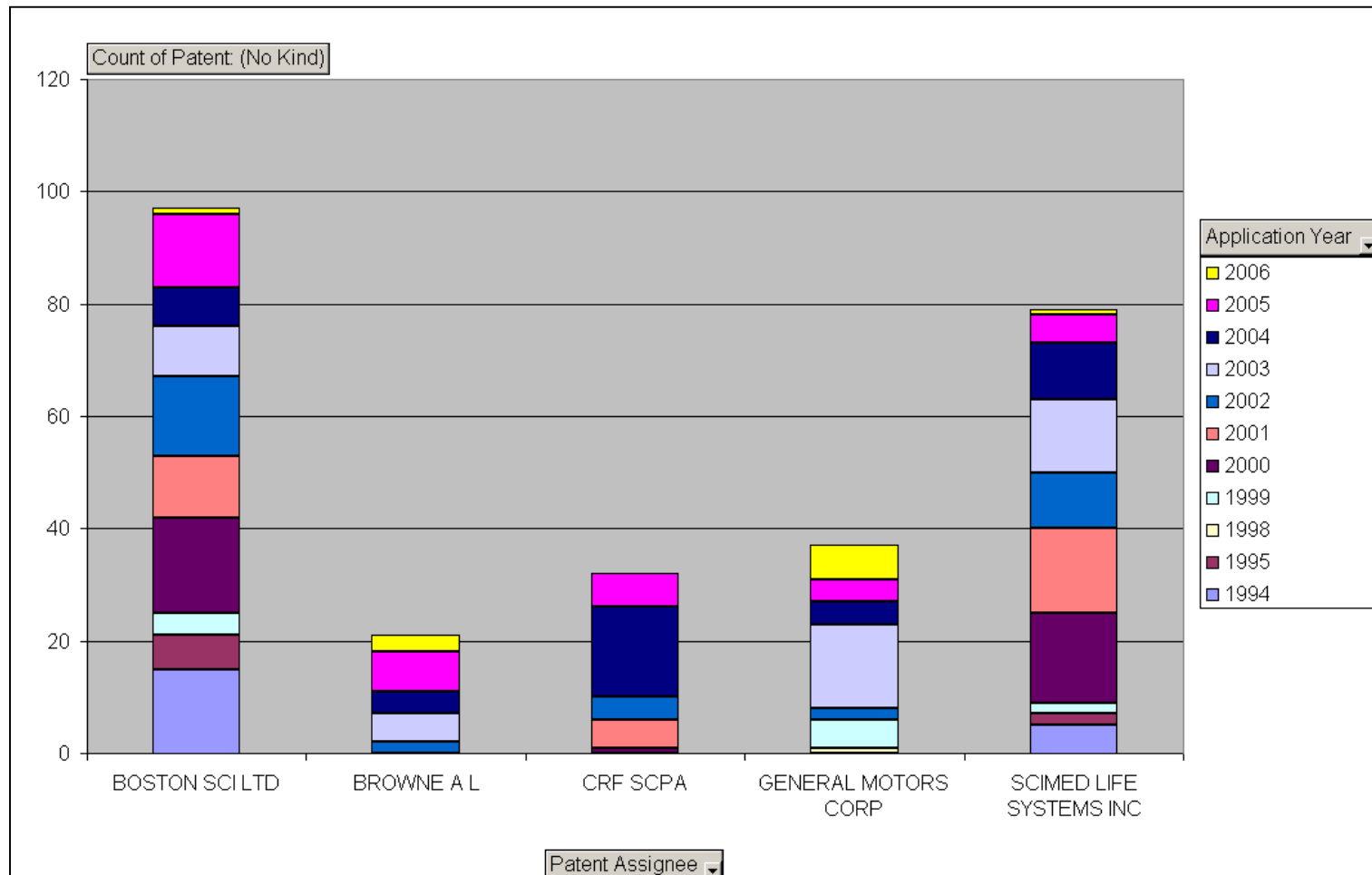
Patent Details:

Patent No	Kind	Lan	Pg	Drawings	Filing Notes
WO 2007004777	A1	EN	31	4	
National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				
Regional Designated States,Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU LV MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				

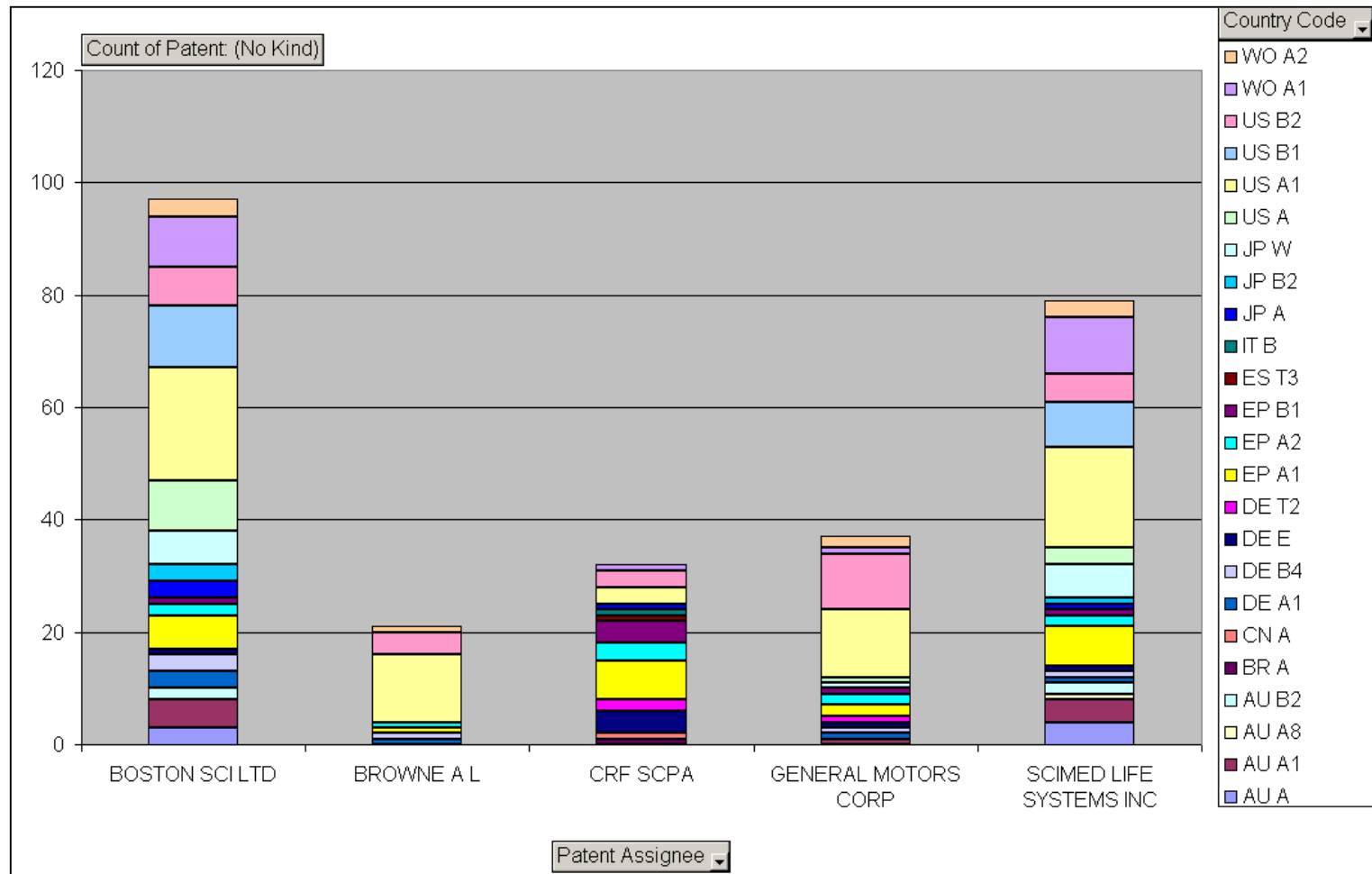
Analysis of Patents by Application Year



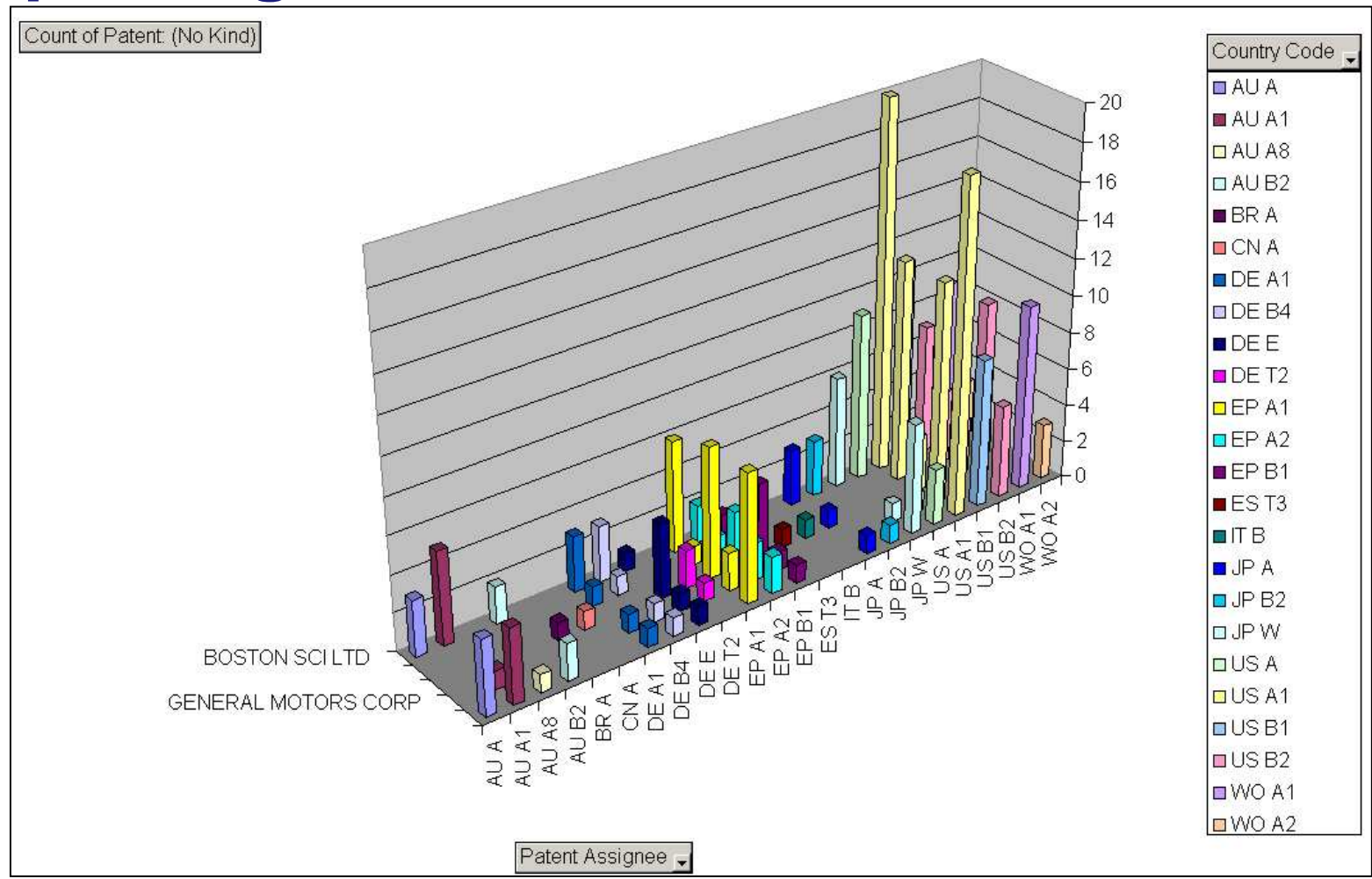
Analysis of Patents by Application Year for Top Assignees



Analysis of Publication Country for Top Assignees



Alternate View of Publication Country for Top Assignees



Advantages of XML Download plus Microsoft Excel & Word

- Both Excel & Word are readily available
- Organize & Analyze
- Relatively easy to use
- Pay once for data download in XML, then analyze as necessary at no additional cost
- Sophisticated graphing of results in Excel
- Enhanced readability in Word

Other “3rd Party” Tools

- BizInt Smart Charts for Patents
 - Supports Data from multiple hosts
 - Creates tabular reports

BizInt Smart Charts for Patents

	Title	Patent Assignee	Patent Family			Designated States			Application De		
			Patent	Kind	Date	Patent	Type	Countries	Patent	Kind	App
6	Composition used to treat neoplasm, comprises first agent e.g. curcumin or auranofin and second agent e.g. rilmenidine or docetaxel	COMBINATORX INC JOHANSEN L M LEE M S NICHOLS M J ZIMMERMANN G R	WO 2006122007	A1	20061116	WO 2006122007	W	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW	WO 2006122007	A1	WO 200
			US 20060264384	A1	20061123				US 20060264384	A1	US 200
	Treatment of allergic rhinitis comprises inhibition of a histamine molecule by reacting carbonyl group-containing compound with the histamine	RAM A N S SHAH B O	US 20060275516	A1	20061207	WO 2006130679	W	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW	US 20060275516	A1	US 200
			WO 2006130679	A2	20061207				WO 2006130679	A2	WO 200

Analyzing

- Data Mining
 - Process of analyzing data from computers and other large relational databases (i.e. structured data)
- Text Mining
 - Process by computer of extracting information from unstructured (i.e. natural language) text and making links to form new facts or hypotheses
- Information Visualization
 - A visual approach to data analysis to reveal insights or unexpected relationships through lists, co-occurrence matrices, maps etc

Analyzing

- **Ah-ha!!!**
-

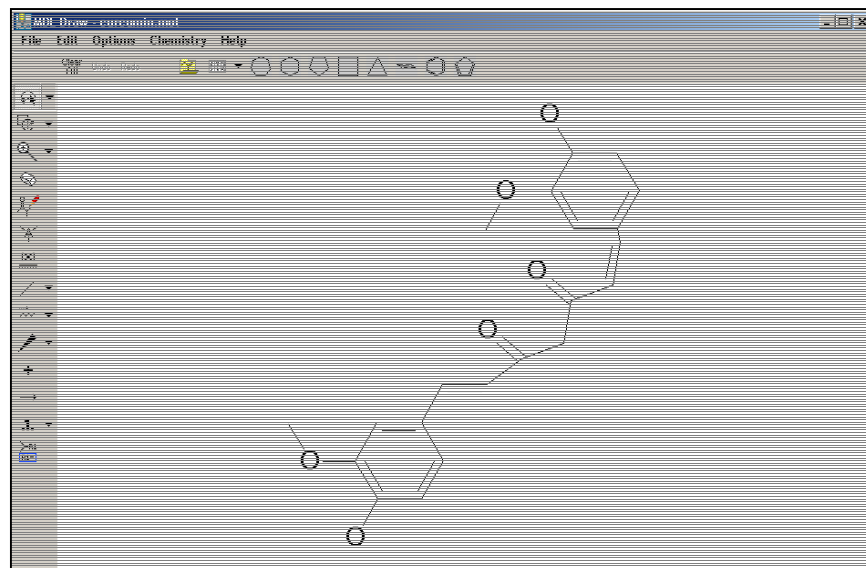
red
(i.e. natural language) text and making links to form new facts or

Eureka!!!

Stand Alone Products

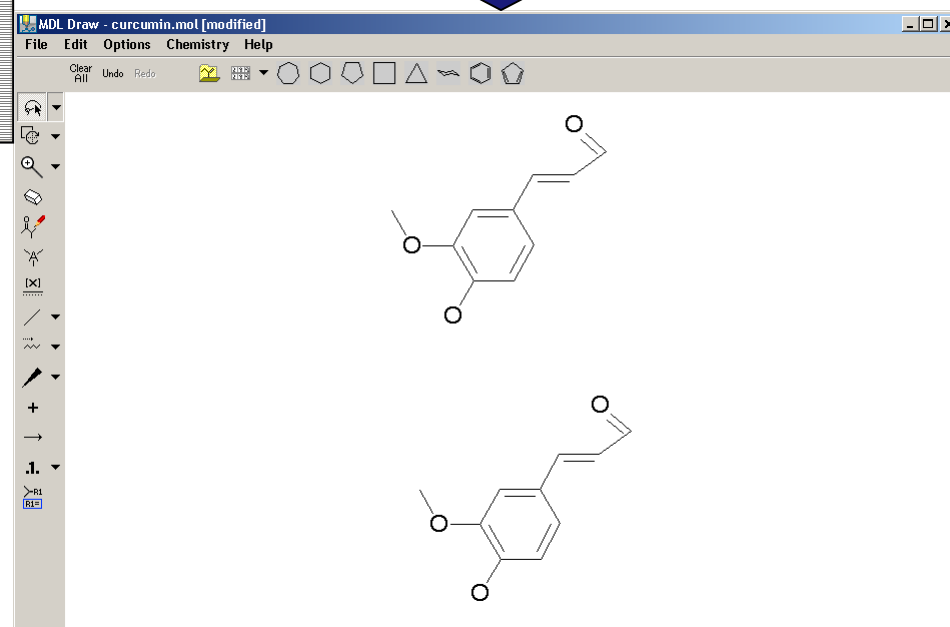
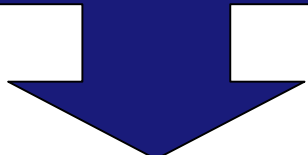
- Aureka
- Thomson Data Analyzer
- ClearForest
- VantagePoint
- More...

Mining the Results of a Chemical Structure Search



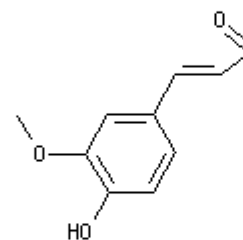
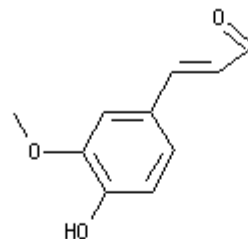
Curcumin

**InfoChem
Search Engine
retrieves substances
where group occurs
twice**



Structure Search in Derwent Chemistry Resource (DCR)

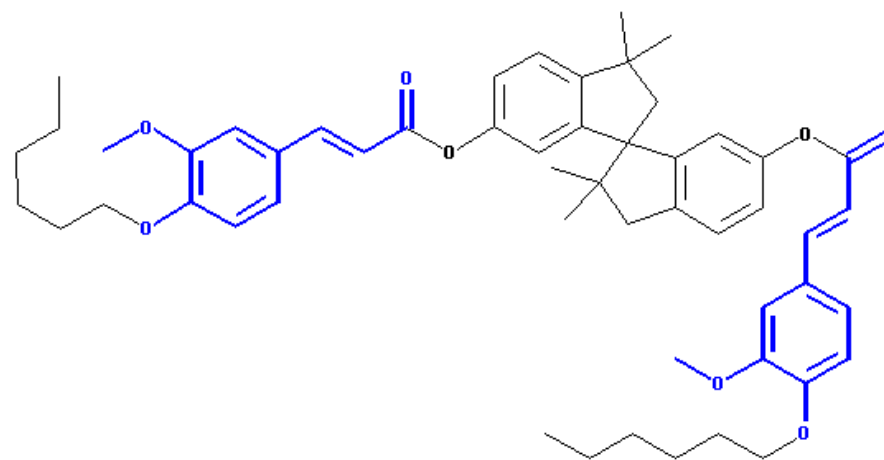
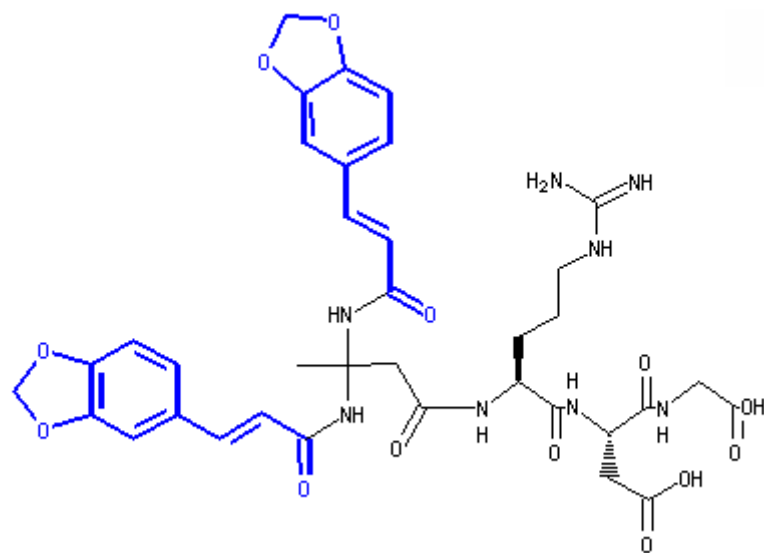
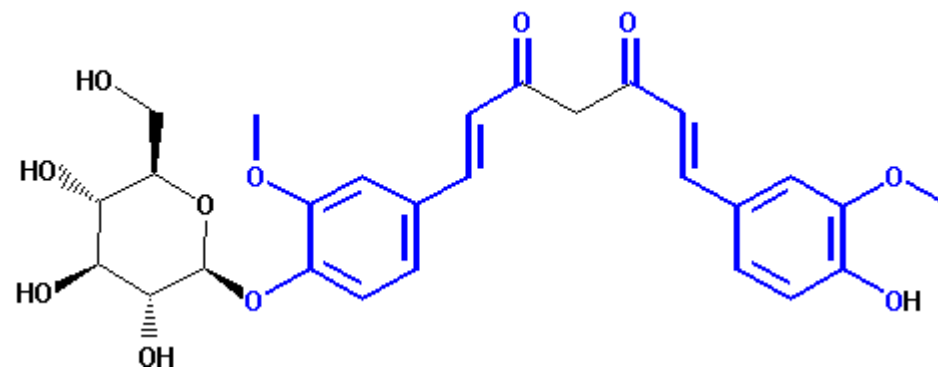
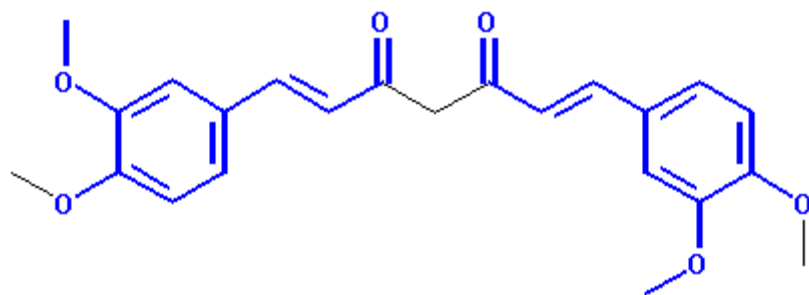
? Query Molecule:



Begin 355

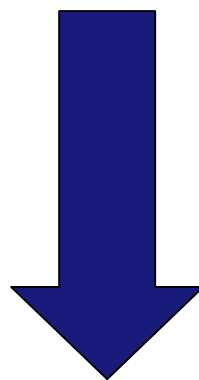
[File 355] Derwent Chemistry Resource UD=200718
(c) 2007 The Thomson Corporation. All rights reserved.

Sampling of Results



MAP DCR Results to DWPI

102 individual compounds in DCR



516 patent records in DWPI

Import Results into Analysis Tool

aureka[®] Gold Enter Patent Number (e.g., [US5590420](#), [EP0795855](#), [WO9725803](#))

Search Citations Alerts Reports Maps Documents Preferences

Document List Action Edit Application View Help

- MIC025
 - bstewart
 - ACS Paper 200703
 - Cluster
 - Curcumin-like 2007 Sprin
 - Functional Group CSS Se
 - Map-Functional Group CS
 - Cheese
 - IOHEXOL
 - 351 CSS
 - Imported Documents
 - Ranitidine Imported from DW
 - skadden
 - Map-351 CSS
 - Map-Imported Documents
 - Map-Ranitidine Imported from
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<input type="checkbox"/> JP2002292811A	CONTAINER FOR PACKAGE FOOD WHEREIN DISCOLORATION OF INK...	ACE PACKAGE CO LTD	YAM.
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<input type="checkbox"/> WO2006112933A1	ANTIBODIES AND RELATED MOLECULES THAT BIND TO PSCA PROTE...	AGENSYS INC	GUD
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<input type="checkbox"/> WO1995018606A1	CURCUMIN, ANALOGUES OF CURCUMIN AND NOVEL USES THEREOF	AGGARWAL BHARAT B	AGG.
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<input type="checkbox"/> WO2006029484A1	TOPICAL COMPOSITIONS CONTAINING PHOSPHORYLATED POLYPHE...	AJINOMOTO OMNICHEM S A	DECL
<input type="checkbox"/> WO2005040163A1	HETEROCYCLIC COMPOUNDS THAT BLOCK THE EFFECTS OF ADVA...	AKELLA VENKATESWARLU	YELE
<input type="checkbox"/> US20060135822A1	Stabilization of benzoyl peroxide in solution	ALPHARX INC	Schv
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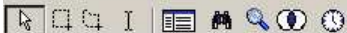
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1st Assignee	Patents	Cited by	Avg citation
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<input type="checkbox"/> GRAPHICS TECHNOLOGY INTERNATIONAL, INC.	1	47	47.0
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<input type="checkbox"/> SABINSA CORPORATION	3	29	9.7
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<input type="checkbox"/> CHR. HANSEN A/S	4	20	5.0
<input type="checkbox"/> SUNTORY LIMITED, 1-40 DOJIMAHAMA 2-CHOME KITA-KU, OSAKA-SHI OSAKA, JP	1	18	18.0
<input type="checkbox"/> EASTMAN KODAK COMPANY	2	17	8.5



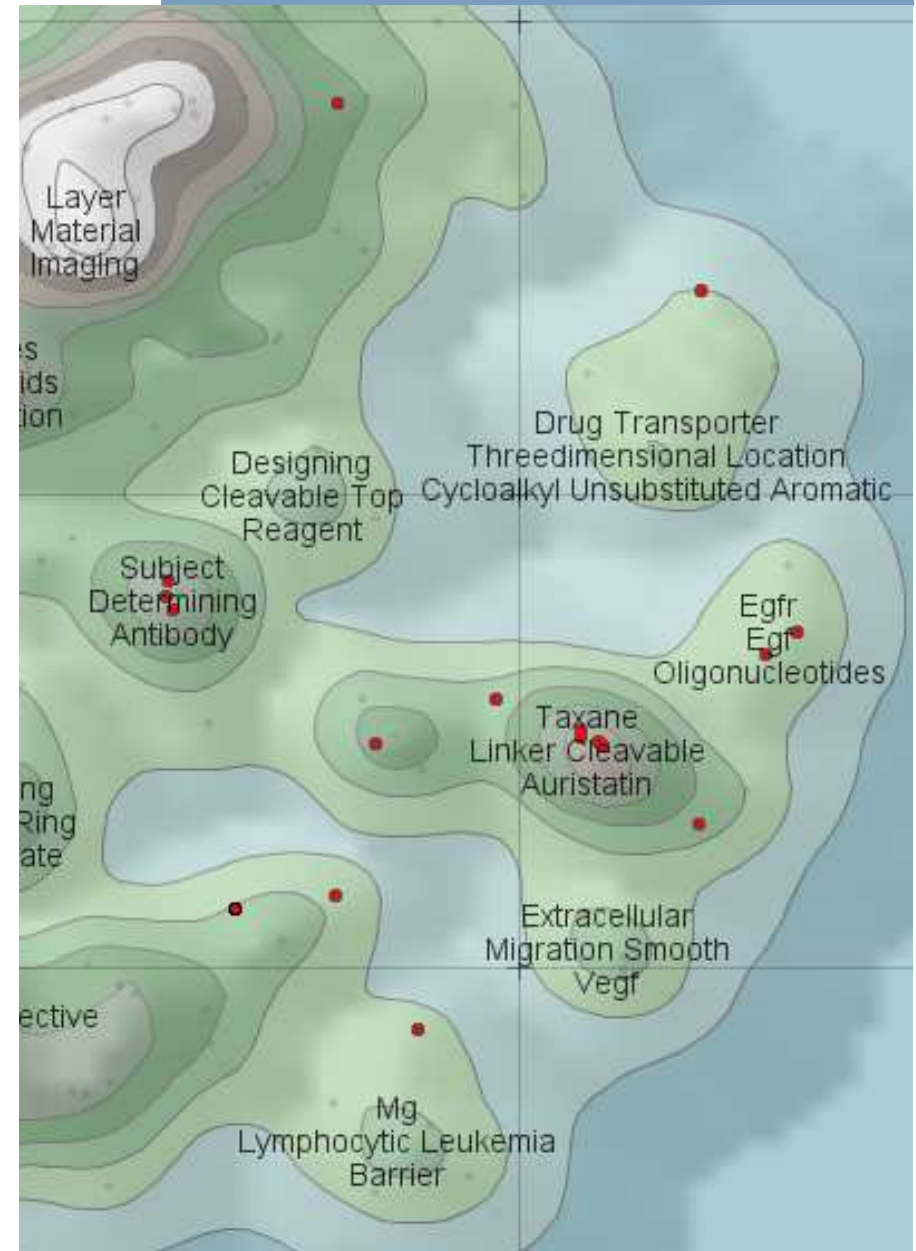
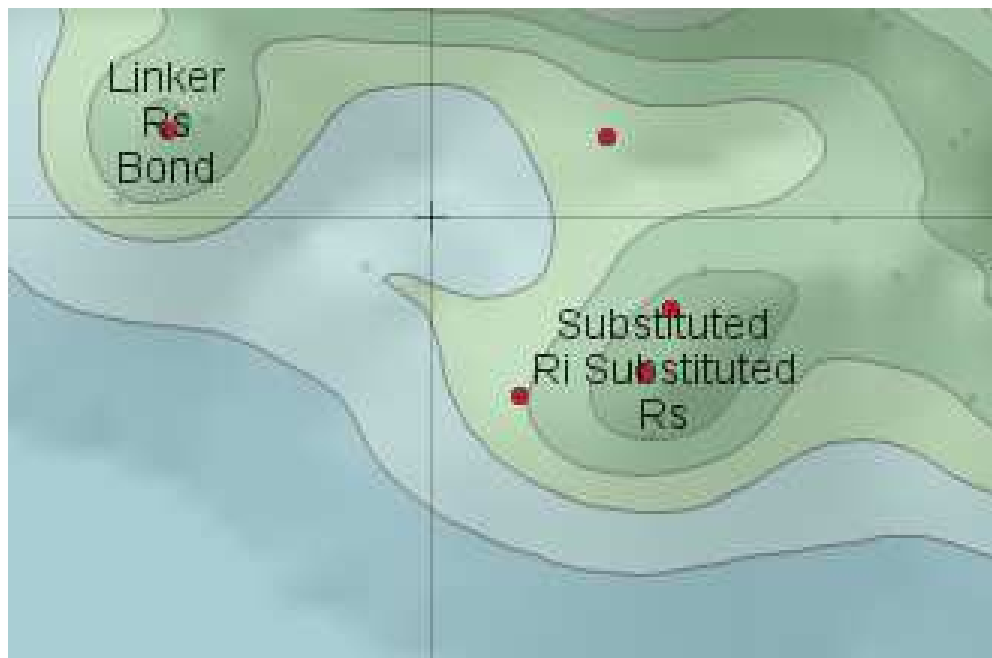
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24	4	4	Wuhan Univ
25	3	4	Baylor Coll Med
26	3	7	Bhabha Atom Res Ctr
27	3	3	China Med Univ
28	3	3	Chonnam Natl Univ Hosp

List::Author Affiliatid

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Author

7	■■■	Timmermann BN
5	■■■	Gang DR
5	■■■	Lee KH
4	■■■	Kong ANT
4	■■■	Kotyzova D
4	■■■	Koutensky J
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4	■■■	Xu CJ
3	■■	Aggarwal BB
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3	■■	Jiang HL
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3	■■	Shen GX
3	■■	Sekom AM

Country

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Thailand	7
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6	39	50	SURH YJ
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21	23	23	JOBIN C
22	23	28	KELLOFF GJ
23	22	22	BHAUMIK S
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25	22	29	EGAN ME
26	22	22	JIANG MC
27	22	26	REDDY ACP
28	22	23	WOO JH

Author	
4	Shishodia S
4	Solyom AM
3	Aggarwal BB
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2	Chen GJ
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Czech Republic	2
England	1
Finland	2
Germany	4
Greece	1
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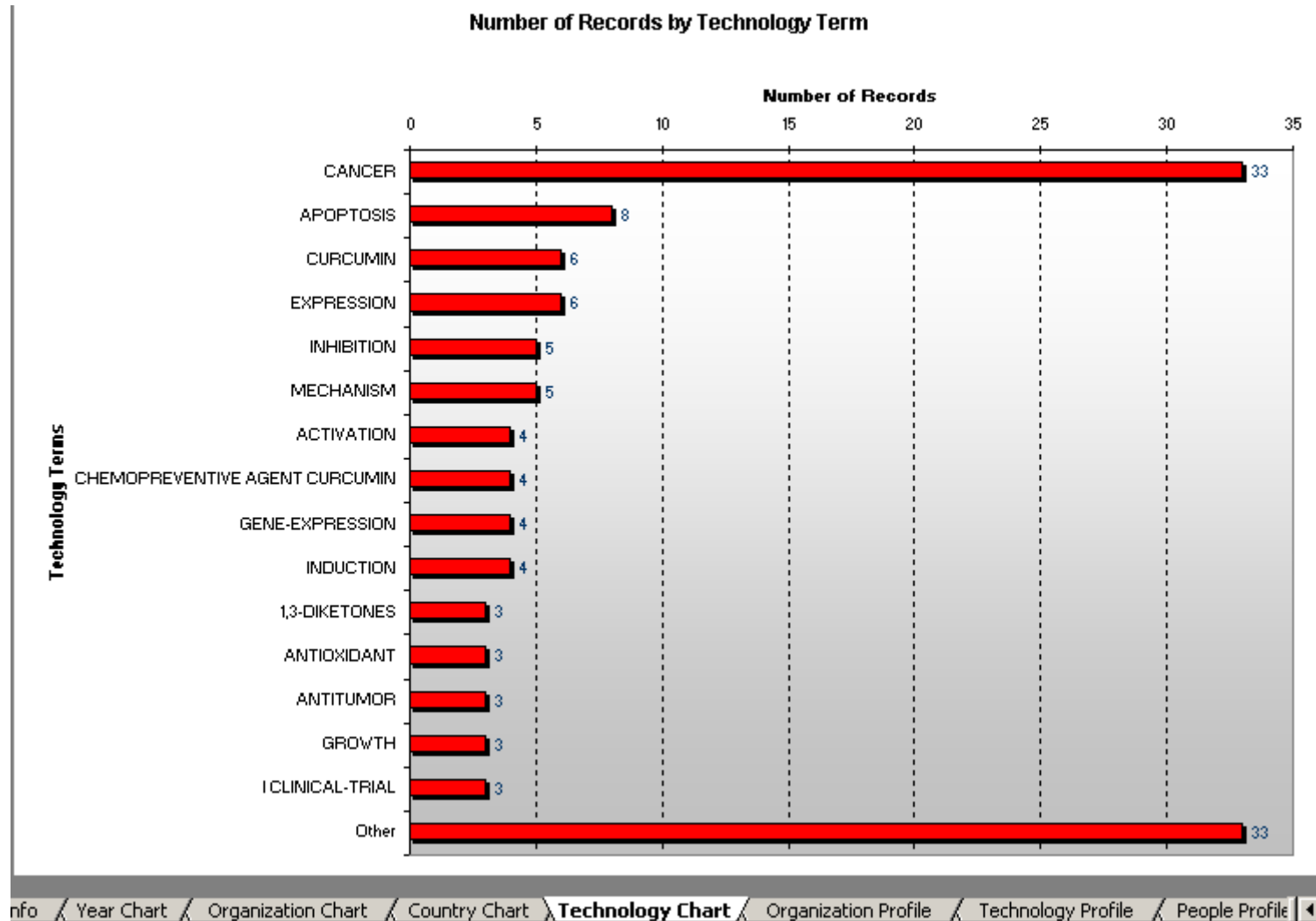
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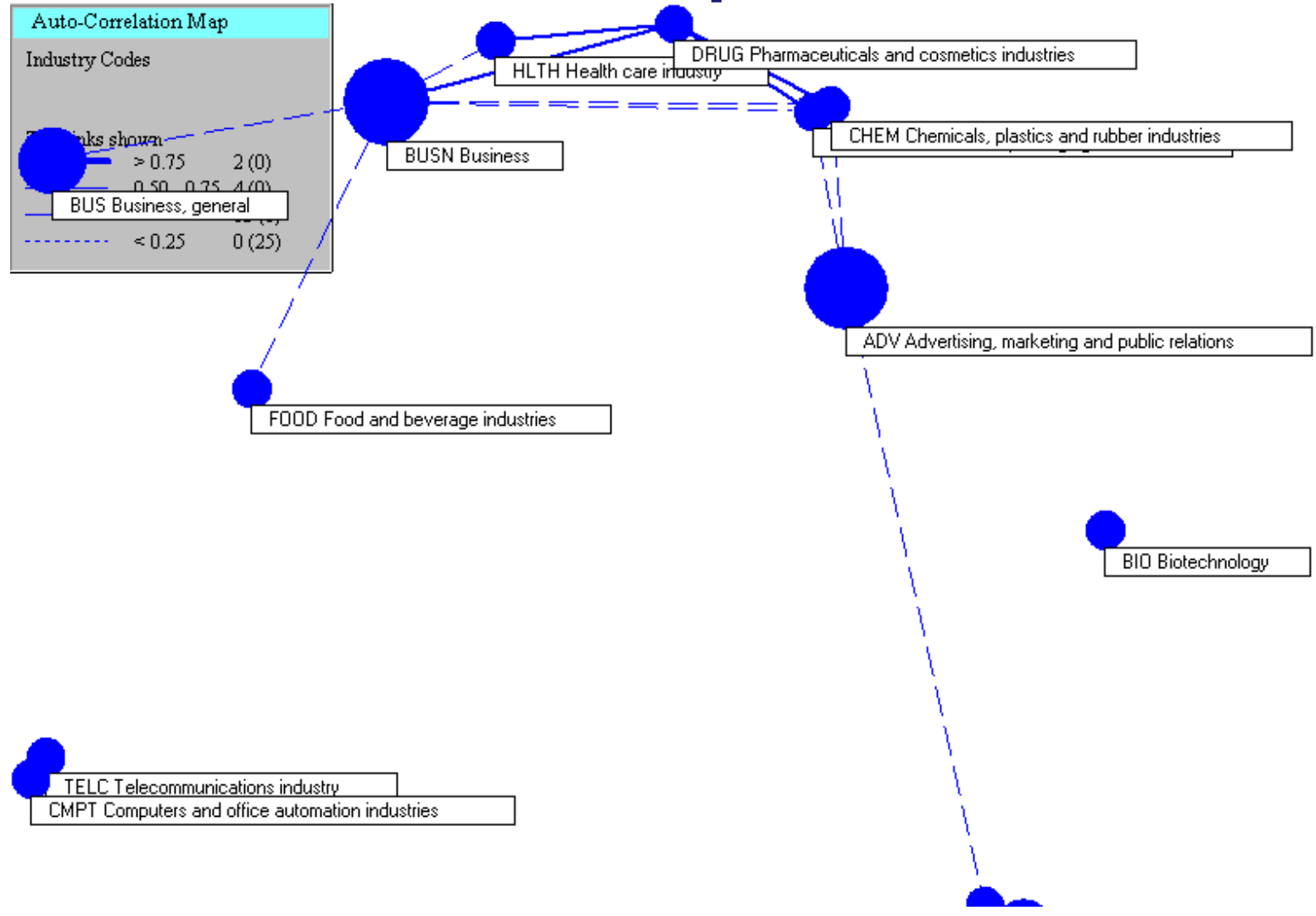


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		3	7	311942 Spice and Extract Manufacturing		2	1		3		
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8	2	61131 Colleges, Universities, and Professional Schools		1							
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5	2	2	Health and Diet Co.
6	2	2	Herb Pharm Inc.
7	2	2	Mason Vitamins
8	2	2	Sabinsa Corp.
9	2	2	Science Service Inc.
10	1	1	AB Technologies Alimentaire
11	1	1	AC Humko Corp.
12	1	1	Amerifit Inc.
13	1	1	Amerifit Nutrition
14	1	1	Anabolic Inc.
15	1	1	Anabolic Laboratories Inc.
16	1	1	Aromatherapy Products Ltd.

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Conclusions

- Value add tools provided by commercial search services (e.g. RANK) enable easy, relatively inexpensive organization of data
- Readily available software (e.g. Microsoft Excel) enables visualization and entry to analysis
- More sophisticated tools (e.g. Thomson Data Analyzer) provide “ah-ha!!” moments

Thank You!

Bob Stewart

bob.stewart@thomson.com

