

Focused IP Reports: FTO Whitespace, Surveillance, Structures, Sequences, and Beyond

Matt Eberle, Lead Developer, Analytics & Custom Solutions BizInt Solutions 8 May 2024 2024 PIUG Joint Annual & Biotechnology Conference

Section	Slide
Filtering and New	<u>8</u>
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Syzygy* : Not just for the Latest Greatest American Eclipse

*Syzygy: a collinear configuration of three celestial bodies. (Thanks to Wikipedia and SLA for teaching me a new word.)

Complete

Relevant

Short

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4

COMPLETE SHOAT RELEVANT

COMPLETE SHORT RELEVANT

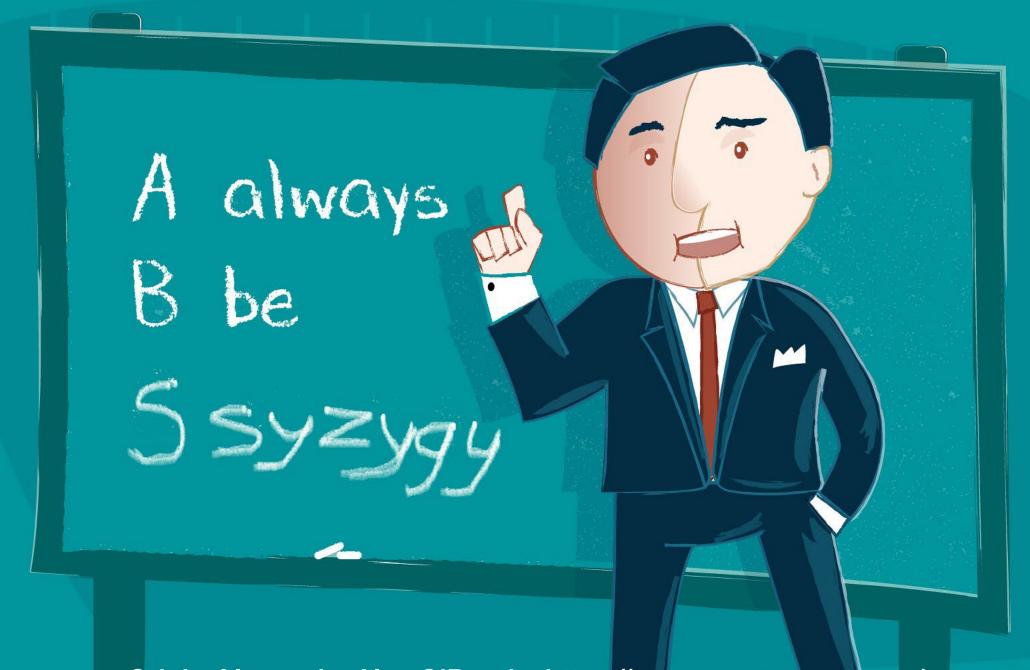
omplete

Short

levant

SHORT

COMPLETIE SHORT RELEVANT



Original Image by Alan O'Rourke https://www.onepagecrm.com/

Real solutions developed with PIUG patent pros

What stakeholders say they want	How do PIUG pros do that?
Shorter reports: just the important	 Find and Filter by Selected
stuff	Summary Records
Don't make me review what I've	 Update and New Publications
already seen	
FTO: "Whitespace" &	 Index of Hit Structures
Small molecule "Surveillance"	Summary Records
Show me which sequences are	Custom Subtable
relevant	
FTO: Make sure we've checked	 Classify by Key Concepts: Custom
everything	Thesaurus
	Color Coding
Competitive Landscape: show me	 VP-SCE Cleanup & Analysis
we're the best	For the C Suite: Motion Bubble

Shorter reports: just the important stuff

Short

Filter Family by Authority

Example report: Filter by authority

	Enhanced Title	Probable Assignee		Database	Patent Family Patent	Kind D	ate			
1	Combination of RNA encoding IL-2 or IL-7 and mRNA encoding a peptide or protein useful as in treating cancer.	BIONTECH RNA PHARMACEUTICALS GM	ИBH		WO 2019154985 AU 2019219200		19-08-15 20-08-06			
			Enhan	nced Title	Probable Assignee		Database	Patent Family: Fi		Dete
		1	IL-2 or a peptic	nation of RNA encoding IL-7 and mRNA encoding de or protein useful as in g cancer.	BIONTECH RNA PHARMACEUTICALS	GMBH	1a CortPat <i>link</i> 1b Patbase <i>link</i>	Patent US 20210113606 WO 2019154985		Date 2021-04-22 2019-08-15
2	COMPOSITIONS COMPRISING A COMBINATION OF AN ANTI-LAG-3	2 BRISTOL MYERS SC	A COM LAG-3 / PATHW		by Selecte s you to se		Patbase <i>link</i>	WO 2018222711	A2	2018-12-06
	ANTIBODY, A PD-1 PATHWAY INHIBITOR, AND AN IMMUNOTHERAPEUTIC AGENT	3	that bin	a concor	ilter by mat , such as ju		CortPat <i>link</i> Patbase <i>link</i>	US 10316093 US 20170240637 WO 2016033225		2019-06-11 2017-08-24 2016-03-03
			COMPO GENET VACCIN TREAT	WO, I	ÉP, and US ments		Patbase <i>link</i>	WO 2019183117	A1	2019-09-26
		5	encodir protein	nger RNA sequence ng an antigenic peptide or of respiratory syncytial RSV) - useful for treating	CUREVAC AG		5a CortPat <i>link</i> 5b Patbase <i>link</i>	US 10150797 US 20160168207 US 20170218030		2018-12-11 2016-06-16 2017-08-03
© <mark>3</mark>	Novel anti-B7H3 antibody agent that binds to B7H3 useful for treating cancer.	MEMORIAL SLOAN F	RSV inf					US 20190144508 US 9688729		2019-05-16

Did I mention I want to see what's new, too?

New

Update reports

Don't make me review what I've already seen: Example: Update report

	Enhanced Title	Database	Probable Assignee	Patent Family Patent	Kind	Date	Row Status				
1	Polypeptides derived from the	1a CortPat link	GLAXOSMITHKLINE	CA 2768186	A1	2011-01-20	Updated				
	fusion protein of respiratory syncytial virus (RSV) and self-	1b Patbase link	PLC	WO 2011008974	A2	2011-01-20					
	replicating RNA molecules encoding the polypeptides -			WO 2011008974	A3	2011-04-28	Must See	IP2			
				TW 201116294	А	2011-05-16					
	useful for vaccination against RSV infections.			AR 077757	AA	2011-09-21	Blue = new. But,				
	RSV Intections.			US 2011305727	A1	2011-12-15					
				US 2012164176	A1	2012-06-28	which do	cuments are			
				US 2020172600	A1	2020-06-04	now in th	is family?			
				US 11261239	B2	2022-03-01	new in ui	is family?			
				US 2022213177	A1	2022-07-07					
				US 2022340645	A1	2022-10-27					
				US 2022372115	A1	2022-11-24					
				US 11629181	B2	2023-04-18					
				US 11655284	B2	2023-05-23					
				SG 178026	A1	2012-03-29					
				EP 2453918	A2	2012-05-23					
				EP 2453918	B1	2015-12-16					
				EP 3178490	A2	2017-06-14					
				EP 3178490	A3	2017-08-30					
				EP 3178490	B1	2022-04-20		AAAA			
C				EP 3988115	A2	2022-04-27		-			
				EP 3988115	A3	2022-08-17					

Don't make me review the same thing twice:

New

New publications

Don't make me review the same thing twice: New Publications

	Enhanced Title	Database	Probable Assignee	Patent Family Patent	Kind	Date	Row Status	New Publications																
1	Polypeptides derived from the	1a CortPat link	GLAXOSMITHKLINE	CA 2768186	A1	2011-01-20	Updated	CA 2768186 A1																
	fusion protein of respiratory	1b Patbase link	PLC	WO 2011008974	A2	2011-01-20		US 11261239 B2 US 2022213177 A1 US 2022340645 A1																
	syncytial virus (RSV) and self- replicating RNA molecules		WO 201	WO 2011008974	A3	2011-04-28																		
	encoding the polypeptides - useful for vaccination against			TW 201116294	А	2011-05-16		US 2022372115 A1																
				AR 077757	AA	2011-09-21		US 11629181 B2																
	RSV infections.			US 2011305727	A1	2011-12-15		US 11655284 B2 EP 3178490 B1																
				US 2012164176	A1	2012-06-28		EP 3988115 A2																
				US 2020172600	A1	2020-06-04		EP 3988115 A3																
				US 11261239	B2	2022-03-01		EP 4183412 A1																
		US 2022213177 A1	A1	2022-07-07		EP 4218800 A1 EP 4218799 A1																		
				US 2022340645	A1	2022-10-27		DE 602010068211 D1																
				US 2022372115	A1	2022-11-24		ES 2918381 T3																
				US 11629181	B2	2023-04-18		TR 2022010502 T4																
				US 11655284	B2	2023-05-23	Νοω	Publication	tioner															
																			SG 178026	A1	2012-03-29	INCAN	rupilcaliu	113.
				EP 2453918 A2 2012-05-	2012-05-23	Undate	a chart with a	anowar																
									EP 2453918	B1	2015-12-16													
				EP 3178490	A2	2017-06-14	chart t	chart to see New Publications																
				EP 3178490	A3	2017-08-30																		
		EP 3178490 B1 2022-04-20 Showing which EP 3988115 A2 2022-04-27 new at the fail	ng which publi	ications are																				
			•																					
			2022-08-17	new at	ine family lev	EI.																		

Great, but I still only want the important authorities:

Short & New

New publications & select authorities

Filter and focus: New Publications, filtered

	Enhanced Title	Database	Probable Assignee	Patent Family Patent	Kind	Date	Row Status	New Publications	New Publications: Filtered			
1	Polypeptides derived from the fusion protein of respiratory syncytial virus (RSV) and self- replicating RNA molecules	Ib Patbase link PLC WO 2011008974 A2 2011-01-20 SV) and self- nolecules WO 2011008974 A3 2011-04-28	Updated	CA 2768186 A1 US 11261239 B2 US 2022213177 A1 US 2022340645 A1	EP 3178490 B1 US 11261239 B2 US 11629181 B2 US 11655284 B2							
	encoding the polypeptides -			TW 201116294	А	2011-05-16		US 2022372115 A1				
	useful for vaccination against RSV infections.			AR 077757	AA	2011-09-21		US 11629181 B2				
				US 2011305727	A1	2011-12-15		EP 3178490 B1 EP 3988115 A2 EP 3988115 A3 EP 4183412 A1 EP 4218800 A1				
					A1	2012-06-28						
				US 2020172600 US 11261239	A1 B2	2020-06-04 2022-03-01						
				US 2022213177	A1	2022-03-01						
					A1	2022-10-27		EP 4218799 A1 DE 602010068211 D1				
				US 2022372115	A1	2022-11-24	_	ES 2918381 T3				
				US 11629181	B2	2023-04-18		Combine with	Filter hv			
							US 11655284	B2	2023-05-23			
				SG 178026	A1	2012-03-29		Selected to see	e only new			
				EP 2453918	A2	2012-05-23		"B" publicatio	ne			
				EP 2453918	B1	2015-12-16			13			
1				EP 3178490 EP 3178490	A2	2017-06-14		HU 058971 T2				
				EP 3178490 EP 3178490	A3 B1	2017-08-30 2022-04-20						
				EP 3988115	A2	2022-04-20						
				EP 3988115	A3	2022-01-27						

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т					R	Q	Q				F		F					Ρ	F		F		

Here, it's the sequences: summary and the full listing

Complete

The hit sequences and alignment, every last letter, no matter how long

Short

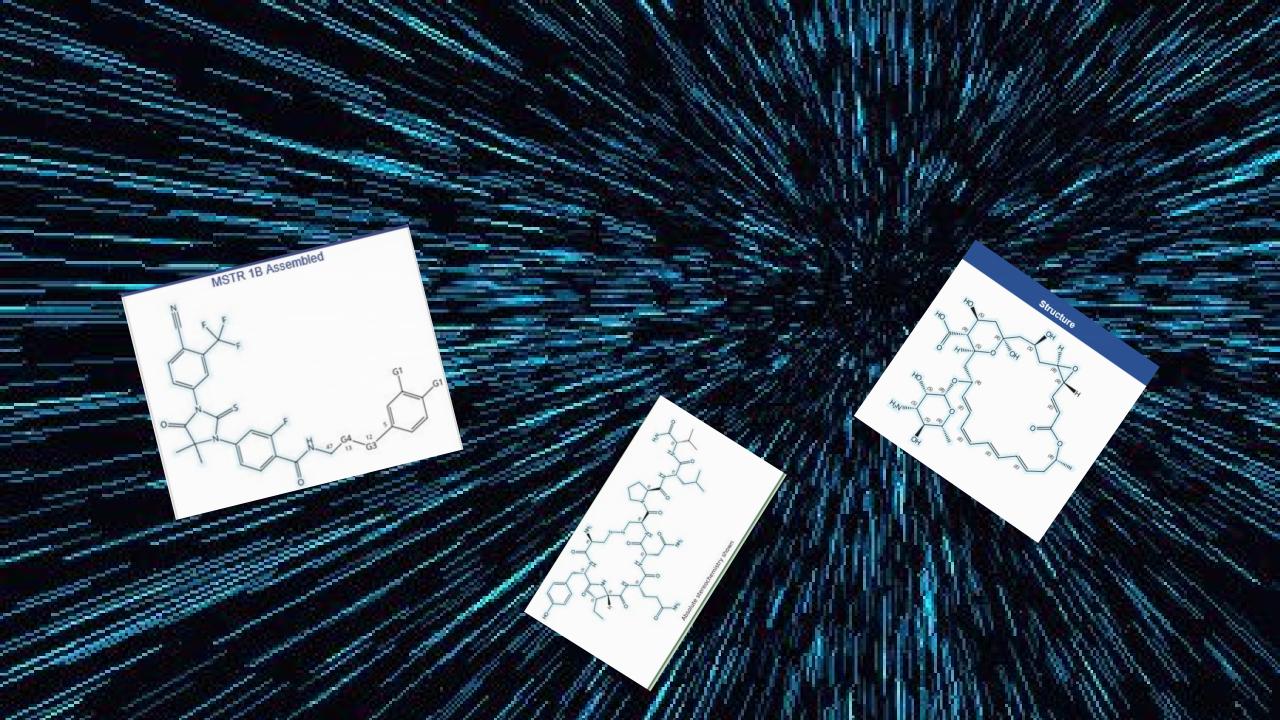
Start with a table and include family level and sequence level summary

Relevant

sequence "vital statistics" indicates which may be most relevant

Example: Sequence Summary Report

	Title	Database	Probable Assignee	Sequence Summa	гу		
		Dalabase	FIODADIC Assignee	Sequence ID	% Identity	Length	Location
1	Sensitive bioassay for detecting agonists of the	1a Patbase <i>link</i> 1b GQP <i>link</i>	WISCONSIN ALI	US6432692-0001	97.35	1929	probable disclosure (not found by automated parsing)
	aryl hydrocarbon receptor	1c GQP link	FOUNDATION	US6432692-0002	97.04	1929	probable disclosure (not found by automated parsing)
2	COMPOSITIONS AND METHODS FOR THE	2a Patbase link 2b GQP link	GENENTECH INC	US20070224201- 0515	100.00	4199	claim: 15; 16
	TREAT Custom Sub	table shows d	letail	JP2006516089- 0515	100.00	4199	probable disclosure (not found by automated parsing)
		cord for a fan e hit details h	•	CA2500687-0515	100.00	4199	claim: 1; 2; 3; 11; 12; 15; 16; 35; 36; 45; 46; 59; 76; 77; 92; 93; 97; 98; 101; 102; 105; 106; 109; 140
3	TUMOR VASCULATURE MARKERS AND METHODS	3a Patbase link 3b GQP link	OF PENNSYLVA	US20090274619- 0042	100.00	4205	claim: 10; 19; 28; 36; 37; 45; 60
	OF USE THEREOF	3c GQP link		US20090047216- 0042	100.00	4205	claim: 34; 37; 58; 68; 69
		3d GQP link		EP1987160-0042	100.00	4205	probable disclosure (not found by automated parsing)



In world... where it's all about structures

Complete

All hit compounds (and links to all references)

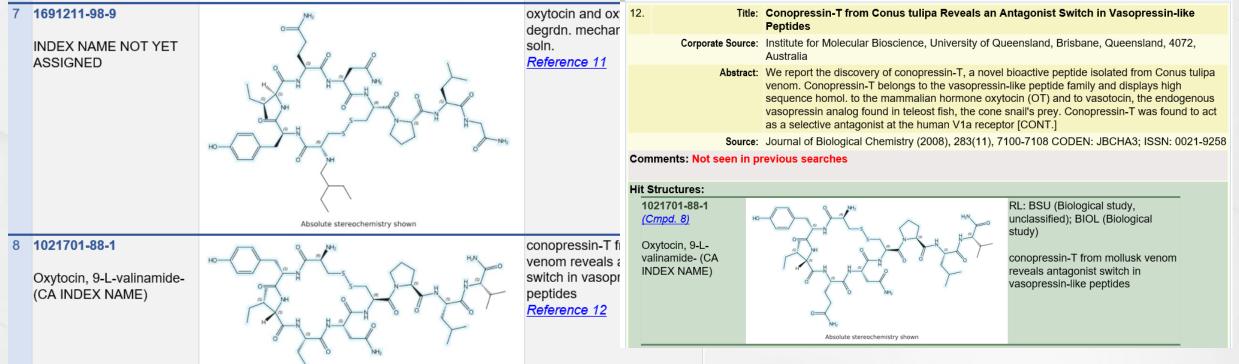
Short

Each structure once, selected record fields

Relevant

Patent pro annotated

Small molecule "Surveillance": Example report: Index of Hit Structures & Summary Records



A client focused display - exemplified compounds table display linked to citing publications Maddy Marley, GSK, PIUG 2018 Annual Conference, Alexandria, VA, USA May 2018

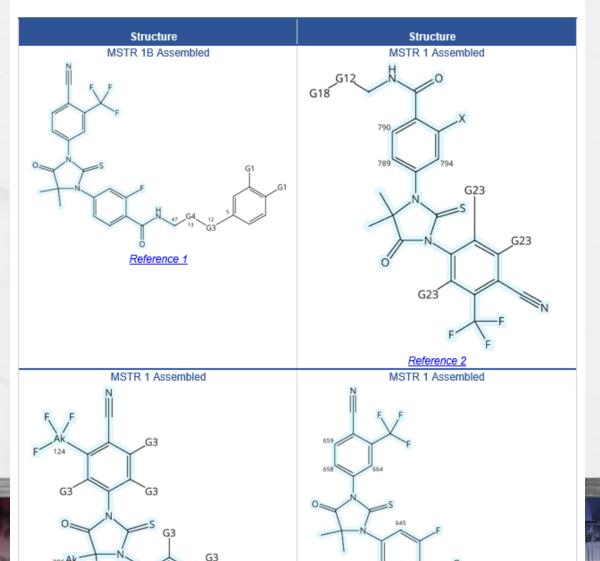
Oxytocin, 4-(N,N-dimethyl-L-glutamine)-5-(N,Ndimethyl-L-asparagine)-

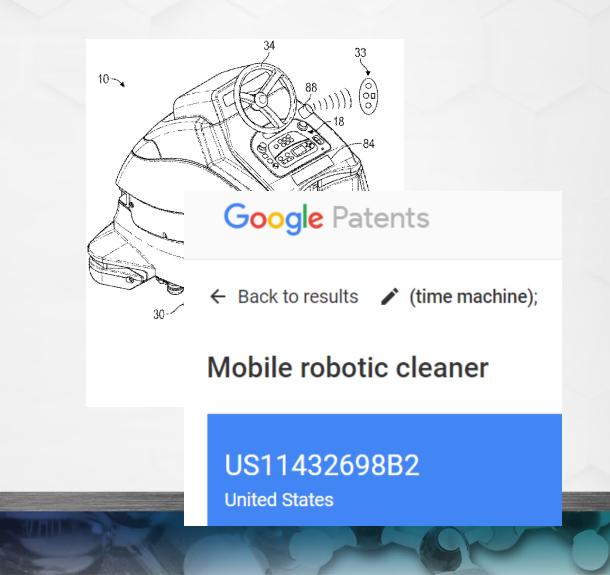
9 1159

oxytocin and vasopressin analogs <u>Reference 13</u>

In the neighboring Markush system...

Index of Markush Structures





FTO "Whitespace"

Complete

All hit structures (and the references)

Short

Each structure once, selected record fields

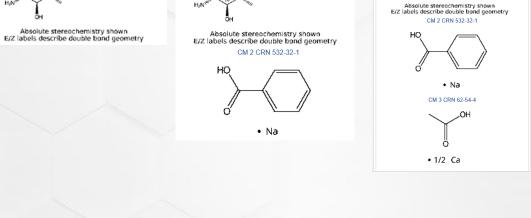
Relevant

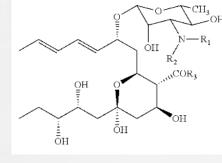
Reference count as whitespace indicator

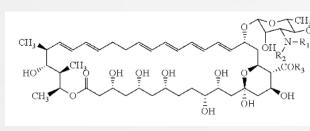
© 2024 Distat Colutions lass I your hisist

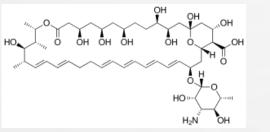
24

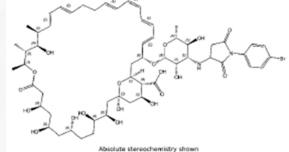
FTO "Whitespace"



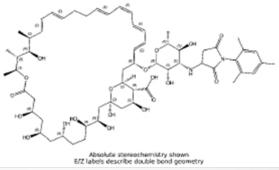




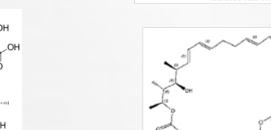




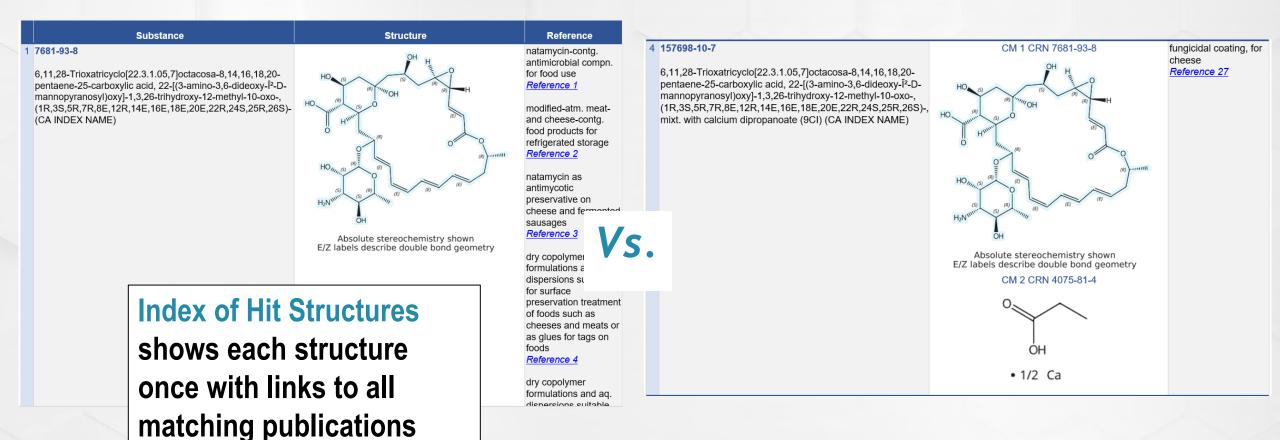
Absolute stereochemistry shown E/Z labels describe double bond geometry



Absolute stereochemistry shown E/Z labels describe double bond geometry



Example: Index of Hit Structures "Whitespace" Report

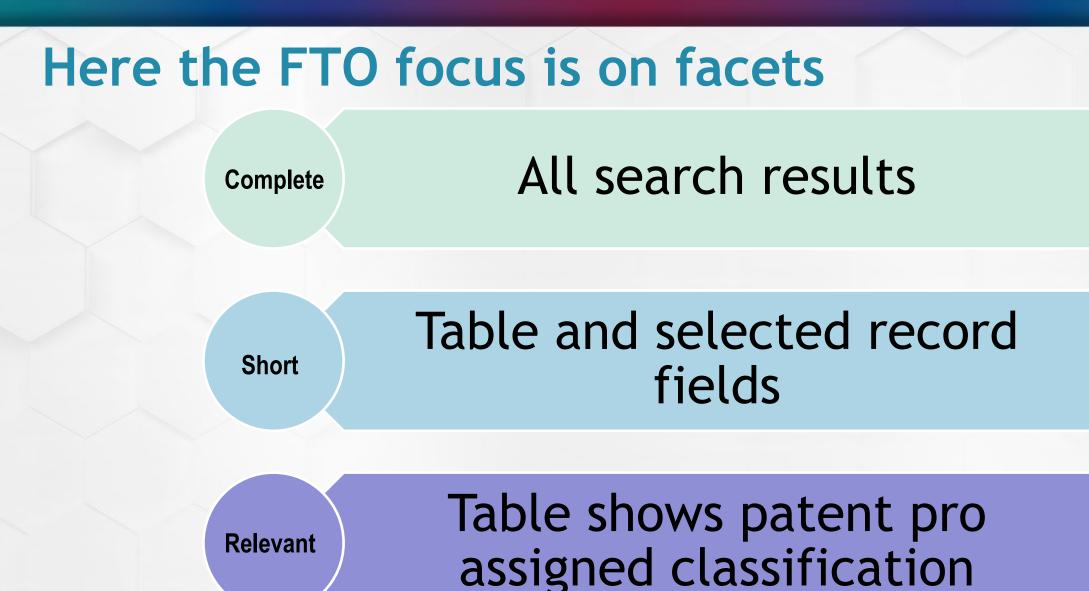


Clearing the Path: Navigating the Realm of Freedom to Operate Patent Searches, Lucy Antunes and Britta Scheithauer, Fiz Karlsruhe, CEPIUG 15th Anniversary Conference, Milan, Italy, September 2023

Sector IV

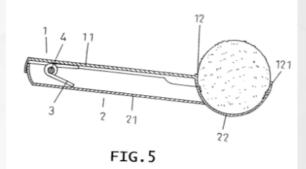
FREEDOM TO OPERATE

In a galaxy far, far, away, but not unlike our own, a group of rebels is adding columns to their tabular reports to create a concise view of a comprehensive FTO search in order to quickly show which patent families are relevant to particular features of inventions and, even daring to use color coding to indicate the impact of those key patents

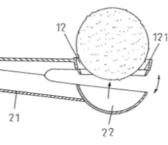


Example classification categories:

Ice cream invention category	star ratin	g
Grants		
Ice cream preparations and recipes and formulations	8 stars	
Production, ice cream makers, mixing and containers	7 stars	
ice cream storing cabinets - freezing	6 stars	P
Dispensing ice creams and cones Pending	5 stars	C
Ice cream preparations and production	4 stars	N.
Production, makers, mixing and containers	3 stars	
ice cream storing cabinets - freezing	2 stars	
Dispensing ice creams and cones	1 stars	



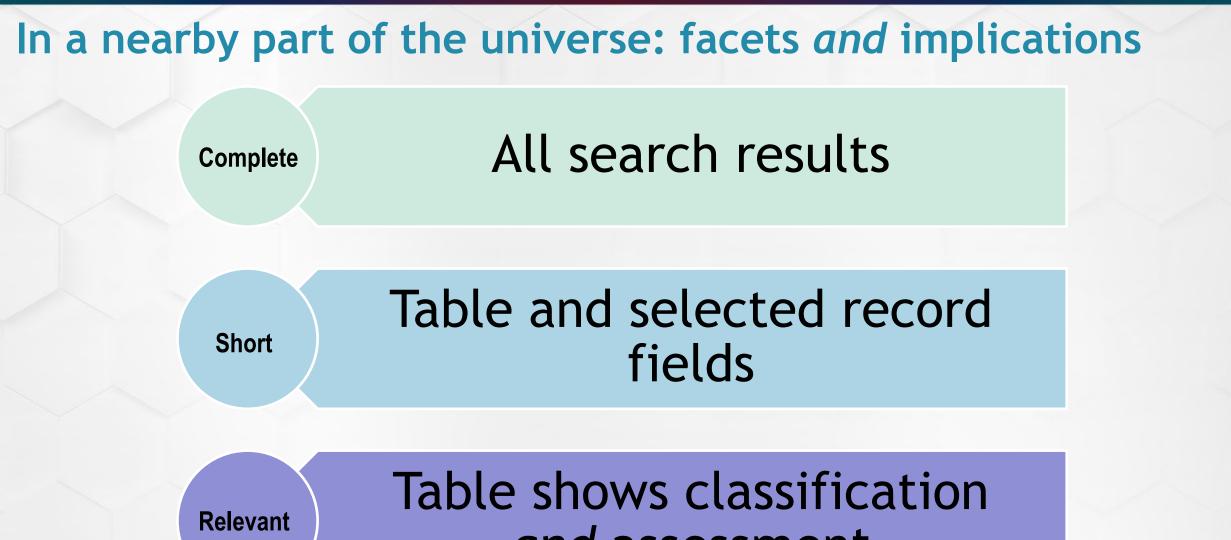




IG.6

Example report pair: Table & Summary Records

	Classification	Title				Patent Assignee (s)	Patent N		
1	8. Grant - Ice cream preparations and recipes and formulations	EXTRUDED PRODUCT POSIT	ION CONTROL	OF ICE CREAM PRO		TETRA LAVAL HOLDINGS	US 10499		
2	8. Grant - Ice cream preparations and recipes and formulations	FUNCTIONAL ICE CREAM W	Combined ⊕	Ice Cream Inve	entions				
3	7. Grant - Production, ice cream makers, mixing and containers	STIRRING UNIT, MACHINE C METHOD FOR MAKING LIQU		FUNCTIONAL ICE CREAM OBTAINING IT STEFAN CEL MARE UNIV		FAT CONTENT AND PROCESS FOR	2		
4	7. Grant - Production, ice cream makers, mixing and containers	ICE CREAM MAKER FITTING KIT FOR A STAND MIXER AN	Abstract:	with the role of a functional f low fat content, according to	food, due to i o the invention	out a food product of a frozen dairy des it multiple health <u>benefits Functional</u> icc on, is obtained only from natural ingredi	e cream with ents, without		
5	7. Grant - Production, ice cream makers, mixing and containers	MACHINE FOR THE PRODU		y a special freezing process. The obtai , according to the invention, consists: o da), green walnut jam, walnut kernel oi vat with stirrer and heating system, pas	btaining the I, carrot teurization				
6	7. Grant - Production, ice cream makers, mixing and containers	UNIT FOR RECEIVING AND BASIC PREPARATION FOR		of the resulting mix, homogenization, cooling and maturation, partial frozen through freezing, dosing in 100g corrugated cardboard boxes, hardened by freezing to a -20 25 degrees centigrade temperature for 20 minutes and storage to minimum -18 degrees centigrade					
7 8	6. Grant - ice cream storing cat 5. Custom Thesaurus		Family Status Expiry:	Pub No.	VE VE 204	Exp Date 40-08-10			
9 10	 and "stars" from notes 5. and search platforms and 5. to the matching key 	nd converts them N	Selected Text:	product are necessary the for (urda?) from pasteurized co jam with 71.8 percent carbo	ollowing raw ow's milk with ohydrates, an	tent, characterized in that, for 100 kg fir materials: an amount of 50 kg of whey 6 percent fat, an amount of 40 kg gree amount of 4 L walnut kernel cold-press on juice and an amount of 1 kg carrot f	cheese en walnut sed oil with		
² 11	5. Grant - Dispensing ice creams and cones	ICE CREAM MOULD TABLE	Hyperlinks:			,			



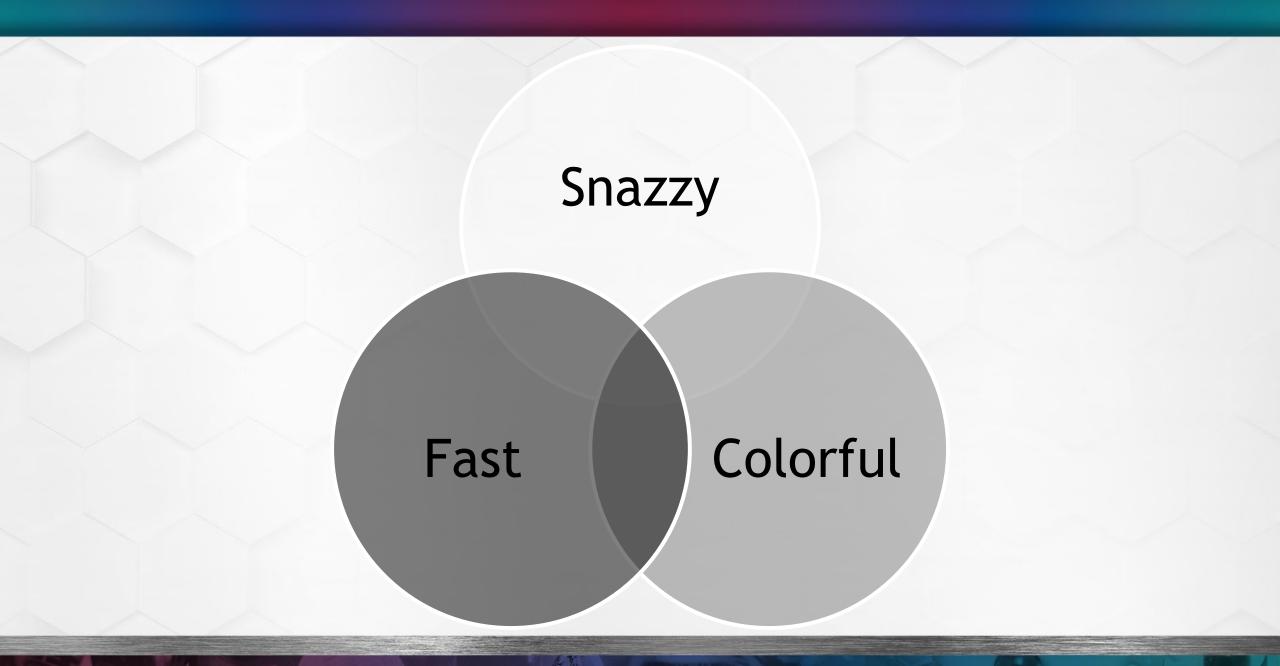
and assessment

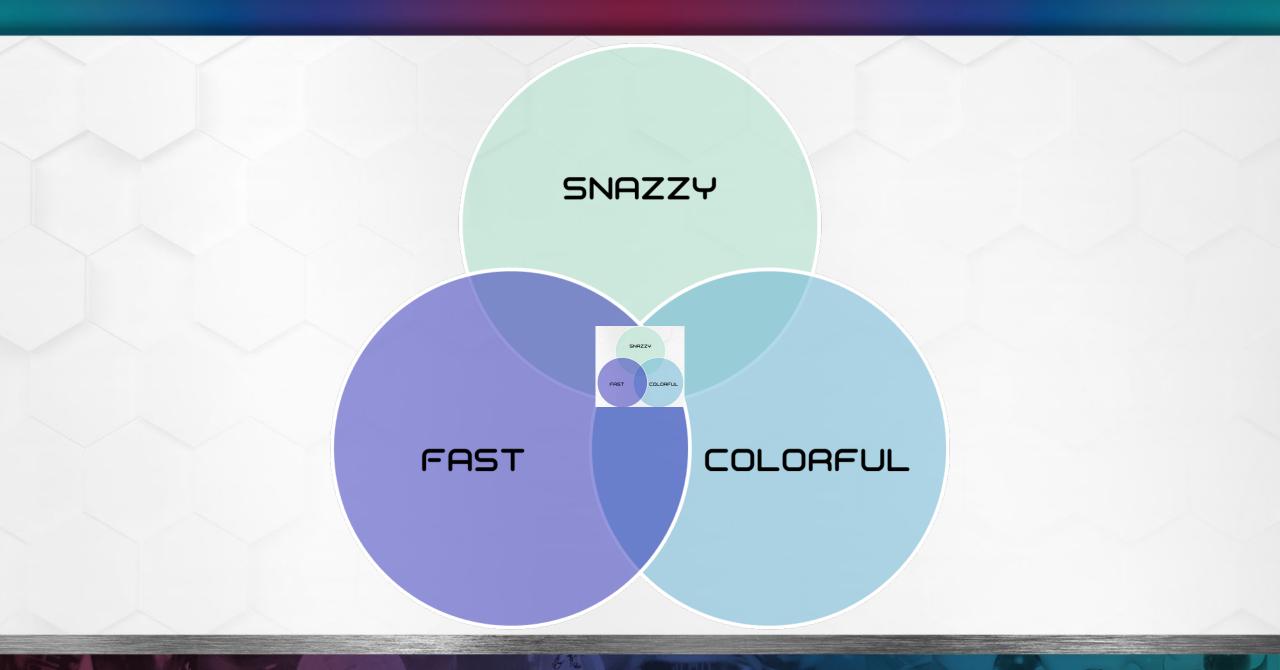
Example: FTO report - key features color coded by

impact

	Classification	Title	Patent Assignee (s)	Patent Number	Notes	Nut based non-dairy	Stick
[1	8. Grant - Ice cream preparations and recipes and formulations	FUNCTIONAL ICE CREAM WITH LOW FAT CONTENT AND PROCESS FOR OBTAINING IT	STEFAN CEL MARE UNIV OF SUCEAVA	RO 135425 A2	From EP3944768B1 - Claims: 8 stars [EN] 1. Functional ice cream with low fat content, characterized in that, for 100 kg finished product are necessary the following raw materials: an amount of 50 kg of whey cheese (urda?) from pasteurized cow's milk with 6 percent fat, an amount of 40 kg green walnut jam with 71.8 percent carbohydrates, an amount of 4 L walnut kernel cold-pressed oil with 100 percent lipids, an amount of 5 L lemon juice and an amount of 1 kg carrot fibers.	Potential - uses walnut products, but also cow's milk	
	1 Patbase	1 Patbase	1 Patbase	1 Patbase	1 Patbase	1 Patbase	
2	cones Colo	r coding and a r coding and a relevant comp ntion		ns to	From EP3809867B1 - Claims: 5 stars [EN] 1. A stick insertion device (1) for inserting a stick (11) into an ice cream product (3) extruded from an extrusion jet (7) and having a height seen in the extrusion direction (9) of the extrusion jet (7), and at least one end point (5) which is substantially parallel to the extrusion direction (9) and into which the stick (11) is inserted with orientation substantially perpendicular to the extrusion direction (9),		Stick insertion device

The C-Suite





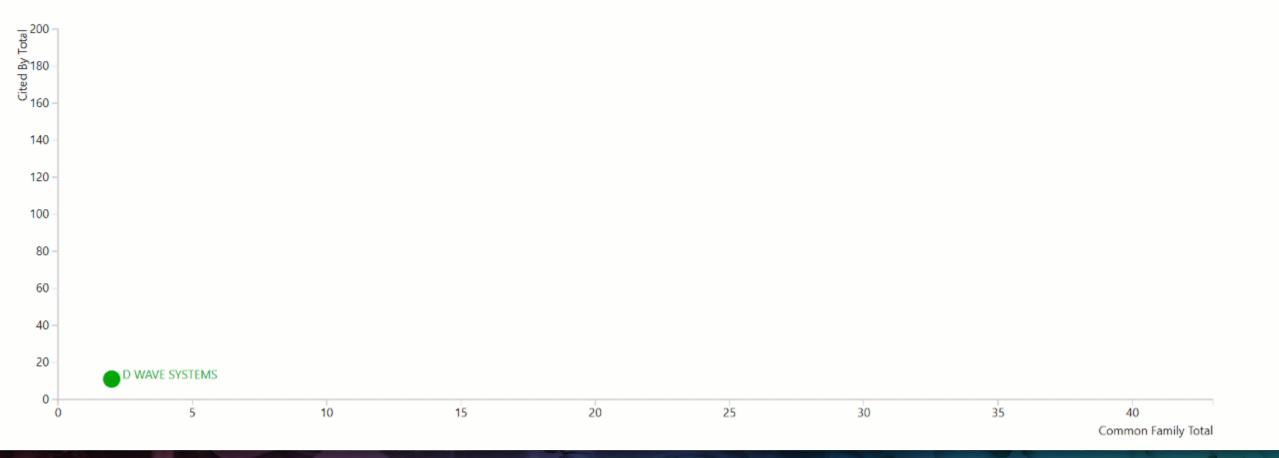
The colored circle race



Example: Competitive Landscape Report

Quantum Computing top assignees

Filtered by Priority Date: Dates/Extract Years up to: < 2006 >



BizInt Smart Charts

The journey continues...

What stakeholders say they want	How do PIUG pros do that?
Shorter reports: just the important	 Find and Filter by Selected
stuff	Summary Records
Don't make me review what I've	 Update and New Publications
already seen	
FTO: "Whitespace" &	Index of Hit Structures
Small molecule "Surveillance"	Summary Records
Show me which sequences are	Custom Subtable
relevant	
FTO: Make sure we've checked	 Classify by Key Concepts: Custom
everything	Thesaurus
	Color Coding
Competitive Landscape: show me	VP-SCE Cleanup & Analysis
we're the best	 For the C Suite: Motion Bubble

ABS: Always Be Syzygy



Complete

All search results, all sequences, all structures

Short

Filter, focus on new, select fields, each structure once, sequence "stats"

Relevant

Reports that highlight patent pro expertise!

Thank you very much!

BIZINT

Want to learn more? Come talk with us at the break in the exhibit hall

More information at: bizint.com/IP