

# Cytek® Aurora cFluor™ Selection Guidelines 5 Laser 16UV-16V-14B-10YG-8R

## Table of Contents

HOW TO READ FLUOROCHROME SIGNATURES - 3 INTRODUCTION TO CFLUORS - 5

- cFluor Normalized Spectra Overlays 6
- cFluor Spectra from Single Stained CD4 PBMCs 7
- Comparison of cFluors and Similar Dyes 10
- cFluor Stain Index Rankings 13
- Stain Index Ranking for 114 Dyes 14

#### OMIP-069 40-COLOR PANEL - 16

- 40 Dyes Used Together in OMIP-069 17
- Complexity<sup>™</sup> & Similarity<sup>™</sup> Matrix for OMIP-069 18
- Complexity & Similarity Matrix with cFluor Replacements 20

#### FLUOROCHROME SIGNATURES - 21

- Dyes Primarily Excited by the UV Laser 22
- Dyes Primarily Excited by the Violet Laser 25
- Dyes Primarily Excited by the Blue Laser 36
- Dyes Primarily Excited by the Yellow-Green Laser 44
- Dyes Primarily Excited by the Red Laser 52
- Fluorescent Proteins 59

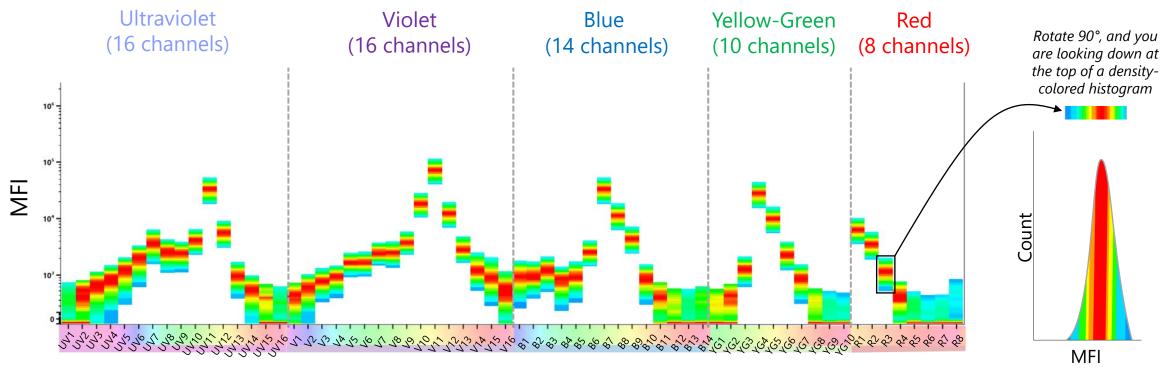
#### FLUOROCHROME PEAK CHANNELS - 61

SPILLOVER SPREADING MATRICES - 63

# HOW TO READ FLUOROCHROME FULL SPECTRUM SIGNATURES

- Dyes could potentially be used in combination if they have unique spectral signatures.
- Look for dyes with unique spectra and consider spread introduced by the dyes when designing and validating multicolor panels (see page 63).

#### How to Read Full Spectrum Fluorochrome Signatures



#### Channels

This dye is excited by all 5 lasers. The y-axis shows median fluorescence intensity (MFI). The x-axis shows each detector on the system organized first by laser line (UV, V, etc.) with solid color bars beneath the chart. Then, within each laser line, detectors are organized from lowest wavelength to highest wavelength (e.g. UV1 through UV16), indicated by the rainbow gradient bar. For each detector, the MFI distribution of all positive events is represented by the red/yellow/green/blue rectangle, where red is the highest density of events and greens and blues are lower densities of events. The peak channel is in channel V11, and it has secondary emission in channels UV11, B7, YG4 and R1. Based on this information, expect this dye to introduce spread into dyes emitting at similar wavelengths.

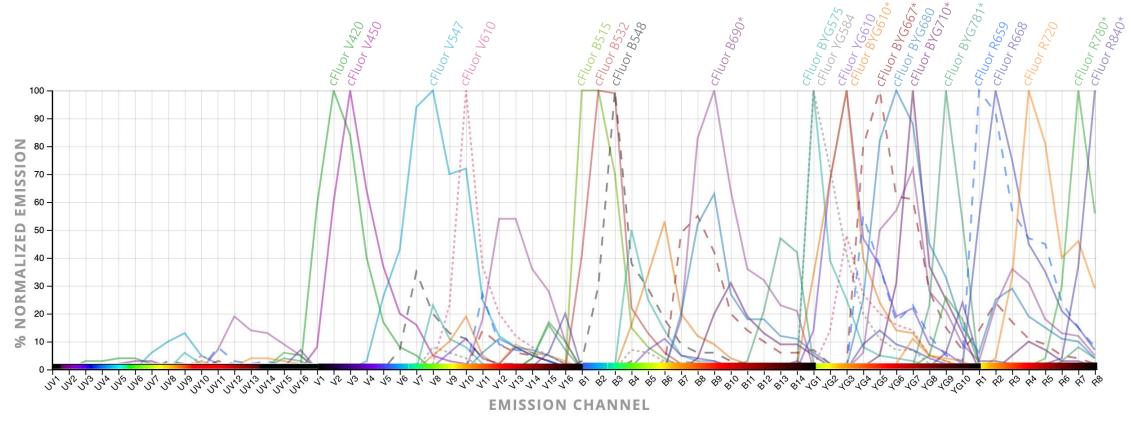
# INTRODUCTION TO CFLUORS

Understanding the cFluor naming scheme:

- cFluor = **C**ytek **Fluor**ochrome
- Laser(s) that efficiently excite the fluorochrome, and the fluorochrome's maximum emission wavelength, are given in the name. Here are 2 examples:
  - cFluor R720: Maximally excited by the **R**ed laser, and maximally emits at **720** nm
  - cFluor BYG680: Maximally excited by the Blue and Yellow-Green lasers, and maximally emits at 680 nm

#### cFluor Normalized Spectra Overlays

Created using Cytek's Spectrum Viewer: <u>spectrum.cytekbio.com</u>

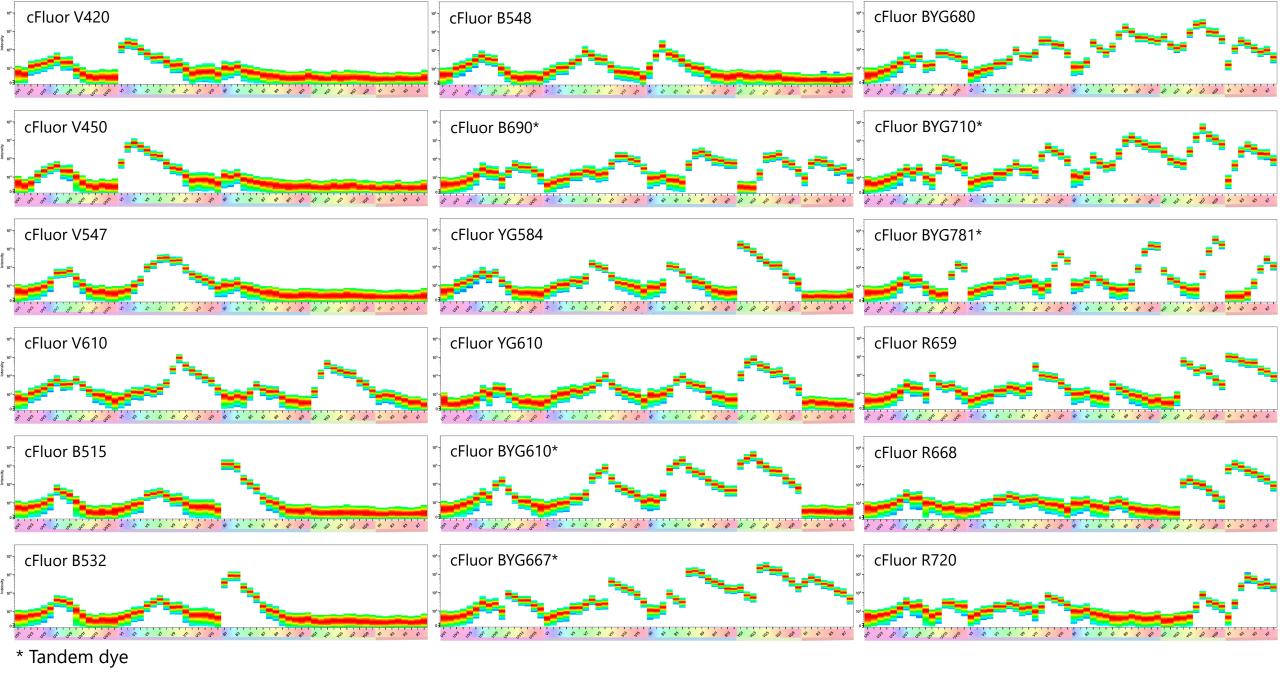


\* Tandem dye

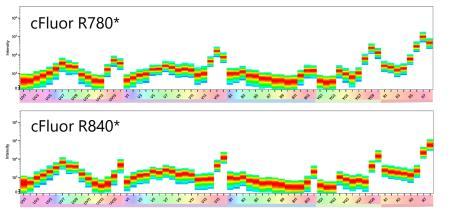
# cFluor Full Spectrum Signatures

Generated using Human PBMCs Single Stained with CD4





N9-20017 Rev B



#### \* Tandem dye

# Comparison of cFluors and Similar Dyes



N9-20017 Rev B

cFluor	1° Excitation Laser	Peak Emission	Peak Channel	Dye With Similar Emission	Similarity™ Index
cFluor V420	Violet	420 nm	V2	Super Bright 436	1
cFluor V450	Violet	450 nm	V3	Pacific Blue	1
cFluor V547	Violet	547 nm	V8	Pacific Orange	1
cFluor V610	Violet	610 nm	V10	No Spectral Match	N/A
cFluor B515	Blue	515 nm	B1	Brilliant Blue™ (BB) 515	1
cFluor B532	Blue	532 nm	В3	No Spectral Match	N/A
cFluor B548	Blue	548 nm	В3	Spark Blue™ 550	1
cFluor B690*	Blue	690 nm	В9	PerCP-Cy™5.5	1
cFluor YG584	Yellow-Green	584 nm	YG1	No Spectral Match	N/A
cFluor YG610	Yellow-Green	610 nm	YG3	No Spectral Match	N/A
cFluor BYG575	Blue, Yellow-Green	575 nm	YG1	PE	1
cFluor BYG610*	Blue, Yellow-Green	610 nm	YG3, B6	PE-Dazzle™ 594	0.98
cFluor BYG667*	Blue, Yellow-Green	667 nm	YG5, B8	PE-Cy™5	1
cFluor BYG680	Blue, Yellow-Green	680 nm	YG6, B9	No Spectral Match	N/A
cFluor BYG710*	Blue, Yellow-Green	710 nm	YG7, B10	PE/Fire™ 700	0.95
cFluor BYG781*	Blue, Yellow-Green	781 nm	YG9, B13	PE-Cy™7	1
cFluor R659	Red	659 nm	R1	APC	1
cFluor R668	Red	668 nm	R2	Alexa Fluor <sup>®</sup> 647	1
cFluor R720	Red	720 nm	R4	Alexa Fluor <sup>®</sup> 700	0.98
cFluor R780*	Red	780 nm	R7	APC/Fire™ 750	1
cFluor R840*	Red	840 nm	R8	APC/Fire™ 810	1
N9-20017 Rev B					11

N9-20017 Rev B

\* Tandem dye

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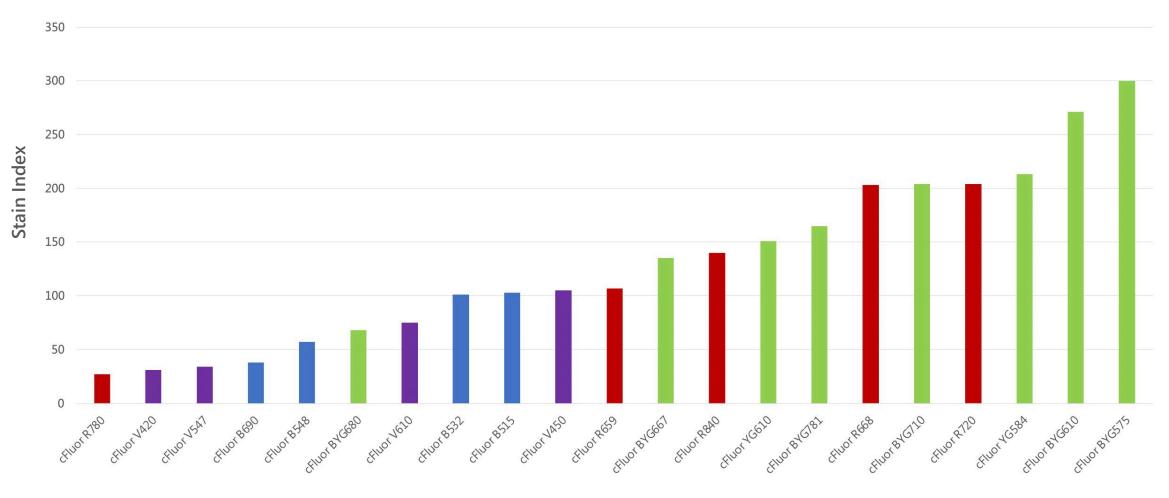
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# Stain Index Rankings

Each stain index was calculated from single stained CD4 human PBMCs acquired on a Cytek Aurora at CytekAssaySetting



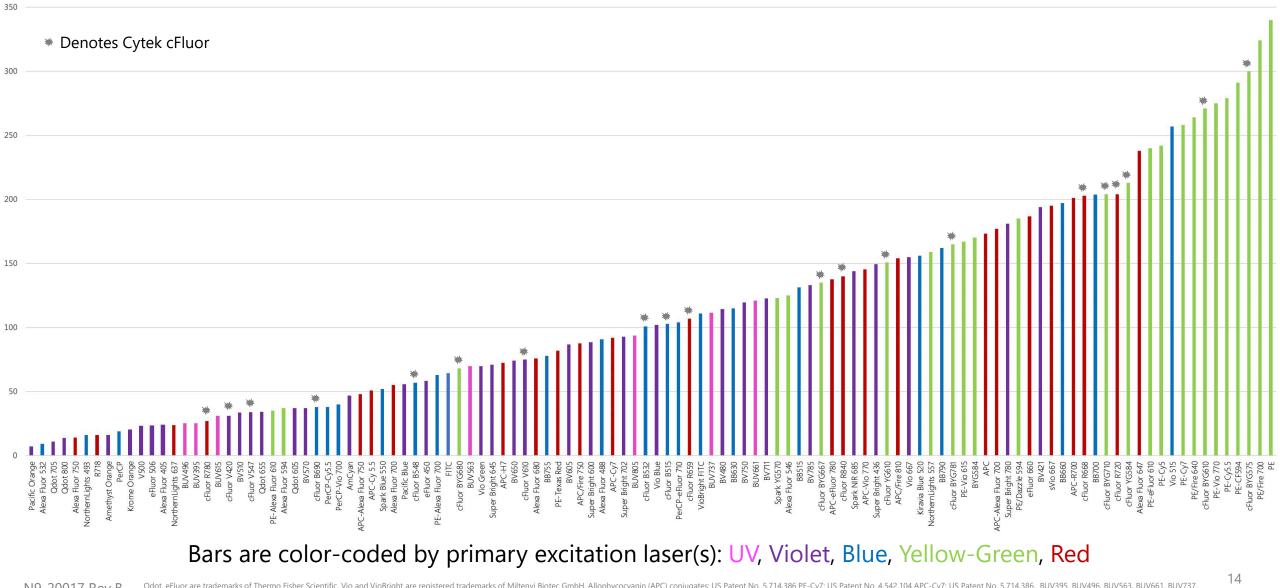
# cFluor Stain Index Ranking



Bars are color-coded by primary excitation laser(s): Violet, Blue, Yellow-Green, Red

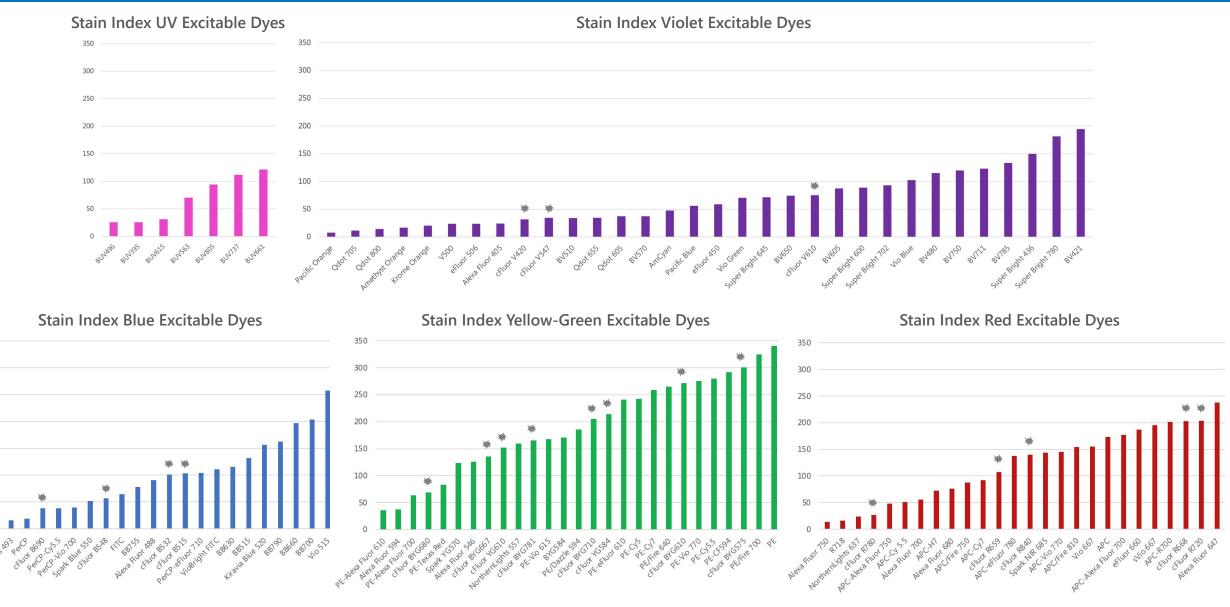
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#### Stain Index Ranking: 114 Dyes



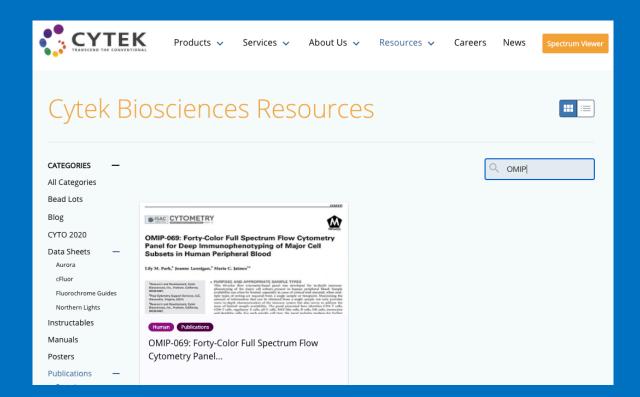
N9-20017 Rev B Odot, eFluor are trademarks of Thermo Fisher Scientific. Vio and VioBright are registered trademarks of Miltenyi Biotec GmbH. Allophycocyanin (APC) conjugates: US Patent No. 5,714,386 PE-Cy7: US Patent No. 5,714,386. BUV395, BUV496, BUV395, BUV496, BUV395, BUV496, BUV397, BUV805, PE-CF594, APC-H7, BV480, BB515, BB700, BYG584 and APC-R700 are trademarks of Bilicences. "BV" stands for Brilliant Violet<sup>™</sup>, which is a trademark of Sirigen Group Ltd. NorthernLights is a trademark of R&D Systems. Krome Orange is a trademark of Biolegend, Inc. Trademarks of Biolegend, Inc. Trademarks are the property of their respective owners.

#### Stain Index by Primary Excitation Laser



## OMIP-069 40-COLOR PANEL

Download the OMIP-069 paper and supplementary material from www.cytekbio.com under <u>Resources > Publications</u>. Search for OMIP, click the icon that appears, and a merged PDF of the paper + supplemental material will download to your computer.



#### 40 Dyes Used Together in OMIP-069

Approximate Emission Wavelength (nm)	UV	Violet	Blue	Yellow-Green	Red
395	BUV395				
420		BV421			
440		Super Bright 436			
450	LIVE/DEAD™ Blue	eFluor 450			
480		BV480			
500	BUV496		BB515		
520		BV510	FITC		
550		Pacific Orange	Spark Blue 550		
570	BUV563	BV570		PE	
580				cFluor YG584	
600	BUV615	BV605		PE/Dazzle 594	
660	BUV661	BV650		PE-Alexa Fluor 610	APC
680			PerCP	PE-Cy5	Alexa Fluor 647
690			PerCP-Cy5.5		Spark NIR 685
700		BV711	PerCP-eFluor 710	PE-Alexa Fluor 700	APC-R700
730	BUV737				
750		BV750			
780		BV785		PE-Cy7	APC-H7
800	BUV805			PE/Fire 810	APC/Fire 810

NOTE: Careful panel design is needed for this fluorophore combination to work optimally.

LIVE/DEAD is a trademark of Thermo Fisher Scientific, Inc. Trademarks are the property of their respective owners.

BUV395 LIVE/DEAD Blue	1 0.51	1	1																																					
BUV496	0.25	0.58	1	1																																				
BUV563	0.05	0.09	0.29	1																																				
BUV615	0.03	0.03	0.08	0.4	1	1																																		
BUV661	0.04	0.03	0.02	0.06	0.35	1	1																																	
BUV737	0.03	0.02	0.01	0.01	0.1	0.37	1	1																																
BUV805	0.11	0.06	0.03	0.01	0.04	0.1	0.39	1	Ī																															
BV421	0.05			0.01	0	0	0	0.01	1															Ν	lo												H	Hig	ηh	
Super Bright 436	0.03		0.1	0.01	0	0	0	0	0.97	1													۔			• .														
eFluor 450	0	0.21	0.08	0	0	0	0	0	0.85	0.94	1	1											SI	mi	lar	ity											Sin	nıla	arit	y
BV480	0.02		0.38	0.07	0.04		-	0	0.28	0.36	0.46	1	1													-												_		
BV510	0.02	0.2	0.48			0.01		0	0.17	0.22		0.84	1																											
Pacific Orange	0.02	0.2	0.48	0.22		0.04		0	0.07	0.09		0.58	0.88	1	1										0							0.5							1	
					-					0.16					1	1									0						,	5.5							•	
BV570	0.01	0.04	0.09	0.37	0.29	0.06	-	0	0.15		0.14	0.26	0.54	0.77 0.62	0.7	1	1																							
BV605	0.01	0.02	0.05	0.2	0.51		-	0.01	0.06	0.06		0.16	0.4			1		1																						
BV650	0	0.02	0.02	0.04	0.26	0.4	0.13	0.02	0.09	0.09	0.08	0.06	0.16	0.25	0.25	0.53	1		1																					
BV711	0	0.02	0	0.01	0.07	0.25	-	0.09	0.09	0.09	80.0	0.03	0.06	0.08	0.07	0.17	0.45	1		1																				
BV750	0	0.01	0	0	0.03	0.09		0.14	0.05	0.05	0.04	0.02	0.04	0.05	0.04	0.1	0.23	0.69	1		1																			
BV785	0	0.01	0	0	0.02	0.05		0.21	0.07	0.07		0.02	0.03	0.03	0.03	0.07	0.15		0.82																					
BB515	0.01	0.01	0.07	0.04	0	0	0	0	0	0	0	0.06	0.01	0	0.01	0	0	0	0	0	1		,																	
FITC	0.01	0.01	0.09	0.06	0.01	0	0	0	0.01	0.01	0.01	0.1	0.06	0.04	0.03	0.01	0	0	0	0	0.98	1		1																
Spark Blue 550	0.02	0.01	0.09	0.15	0.05	0.01	0.01	0	0.02	0.03	0.03	0.22	0.3	0.33	0.24	0.16	0.06	0.02	0.01	0.01	0.53	0.67	1																	
PerCP	0	0.01	0.01	0.04	0.22	0.38	0.15	0.03	0.01	0.01	0.01	0.01	0.01	0.03	0.06	0.18	0.38	0.23	0.13	0.07	0.01	0.01	0.06	1																
PerCP-Cy5.5	0	0	0.01	0.03	0.19	0.39	0.31	0.06	0	0.01	0.01	0.01	0.02	0.04	0.06	0.17	0.38	0.5	0.28	0.19	0.01	0	0.06	0.81	1															
PerCP-eFluor 710	0	0	0	0.02	0.12	0.29	0.39	0.07	0	0	0	0	0.02	0.04	0.05	0.14	0.31	0.65	0.38	0.26	0	0	0.05	0.46	0.86	1														
PE	0.01	0	0.03	0.51	0.25	0.03	0	0	0	0.01	0.01	0.05	0.12	0.16	0.52	0.28	0.05	0.01	0	0	0.05	0.09	0.24	0.06	0.05	0.03	1													
cFluor YG584	0	0	0.01	0.46	0.36	0.06	0	0	0	0	0	0.02	0.04	0.07	0.42	0.3	0.06	0.01	0	0	0.01	0.01	0.05	0.07	0.06	0.04	0.88	1												
PE/Dazzle 594	0.01	0	0.02	0.36	0.58	0.13	0.02	0	0	0	0	0.04	0.09	0.14	0.41	0.47	0.16	0.04	0.01	0.01	0.03	0.06	0.19	0.27	0.25	0.16	0.67	0.72	1											
PE-Alexa Fluor 610	0	0	0	0.16	0.54	0.29	0.06	0	0	0	0	0.01	0.04	0.08	0.22	0.4	0.31	0.11	0.04	0.03	0.01	0.02	0.1	0.54	0.55	0.38	0.28	0.37	0.78	1										
PE-Cy5	0	0	0	0.07	0.32	0.42	0.1	0.01	0	0	0	0	0.01	0.02	0.09	0.21	0.29	0.14	0.05	0.03	0.01	0.01	0.06	0.77	0.72	0.47	0.14	0.19	0.43	0.82	1									
PE-Alexa Fluor 700	0	0	0	0.12	0.18	0.19	0.2	0.02	0	0	0	0.01	0.02	0.03	0.12	0.14	0.14	0.25	0.12	0.07	0.01	0.02	0.06	0.3	0.63	0.73	0.23	0.24	0.3	0.47	0.51	1								
PE-Cy7	0	0	0	0.01	0.04	0.05	0.14	0.08	0	0	0	0	0	0	0.01	0.03	0.04	0.11	0.15	0.17	0	0	0.01	0.09	0.23	0.29	0.02	0.03	0.05	0.11	0.14	0.35	1							
PE/Fire 810	0	0	0	0.11	0.07	0.03	0.09	0.08	0	0	0	0.01	0.01	0.02	0.1	0.06	0.03	0.06	0.07	0.11	0.01	0.02	0.06	0.07	0.17	0.23	0.23	0.2	0.18	0.14	0.12	0.28	0.7	1						
APC	0	0.01	0	0.03	0.17	0.78	0.24	0.02	0	0	0	0	0.02	0.03	0.05	0.14	0.37	0.23	0.07	0.04	0	0	0.01	0.34	0.37	0.29	0.04	0.08	0.16	0.35	0.52	0.21	0.05	0.04	1	1				
Alexa Fluor 647	0	0.01	0	0.01	0.05	0.71	0.22	0.02	0	0	0	0	0	0	0.01	0.03	0.18	0.18	0.02	0.01	0	0	0	0.23	0.29	0.23	0.01	0.03	0.06	0.14	0.32	0.12	0.03	0.02	0.9	1	1			
Spark NIR 685	0	0.01	0	0.01	0.05	0.65	-	0.03	0	0	0	0	0	0.01	0.01	0.03	0.19	0.27	0.06		0	0	0			0.31	0.01			0.11		0.15	0.04	0.02			1	l		
APC-R700	0	0.01	0	0.01	0.06		0.45	0.04	0	0	0	0	0.01	0.01	0.02	0.05	0.18	0.39	0.11		0	0	0		0.41	0.49	0.01			0.17		0.39	0.1	0.05			0.78	1		
APC-H7	0	0.01	0	0.01	0.00	0.12		0.21	0	0	0	0.01	0.01	0.01	0.02	0.05	0.05	0.18	0.11	0.23	0	0	0	0.03	0.12	0.17	0.01	0.02	0.00	0.02	0.06	0.1	0.27	0.18	0.14	0.15	0.22	0.28	1	
APC/Fire 810	0.04	0.11	0.15	0.09							0.03		0.01	0.01			0.07			0.19			0.04	0.04								0.09		0.24					0.76	1
	BUV395	LIVE/DEAD Blue	BUV496	BUV563	BUV615	BUV661	BUV737	BUV805	BV421	Super Bright 436	eFluor 450	BV480	BV510	Pacific Orange	BV570	BV605	BV650	BV711	BV750	BV785	BB515	FITC	Spark Blue 550	PerCP	PerCP-Cy5.5	PerCP-eHuor 710	ΡΈ	cFluor YG584	PE/Dazzle 594	PE-Alexa Fluor 610	PE-Cy5	PE-Alexa Fluor 700	PE-Cy7	PE/Fire 810	APC	Alexa Fluor 647	Spark NIR 685	APC-R700	APC-H7	APC/Fire 810
Complexity Index:	53.72			<u> </u>				<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>		<u> </u>		,			-	-	5	-	-					<u> </u>	<u> </u>	,	1	~	-						

Complexity Index: 53.72

N9-20017 Rev B

18

#### 40 Dyes Including cFluors

Approximate Emission Wavelength (nm)	UV	Violet	Blue	Yellow-Green	Red
395	BUV395				
420		BV421			
440		cFluor V420			
450	LIVE/DEAD Blue	cFluor V450			
480		BV480			
500	BUV496		cFluor B515		
520		BV510	FITC		
550		cFluor V547	cFluor B548		
570	BUV563	BV570		PE	
580				cFluor YG584	
600	BUV615	BV605		cFluor BYG610	
660	BUV661	BV650		PE-Alexa Fluor 610	APC
680			PerCP	cFluor BYG667	cFluor R668
690			PerCP-Cy5.5		cFluor R685
700		BV711	PerCP-eFluor 710	cFluor BYG710	APC-R700
730	BUV737				
750		BV750			
780		BV785		PE-Cy7	APC-H7
800	BUV805			PE/Fire 810	APC/Fire 810

	BUV395	1																																								
	LIVE/DEAD Blue	0.54	1																																							
	BUV496	0.21	0.55	1	1																																					
	BUV563	0.05	0.11	0.34	1	1																																				
	BUV615	0.03	0.04	0.09	0.39	1	1																																			
	BUV661	0.02	0.02	0.02	0.06	0.38	1	1																																		
	BUV737	0.02	0.02	0.01	0.02	0.12	0.36	1	1																																	
	BUV805	0.12	0.1	0.05	0.02	0.05	0.11	0.43	1																																	
	cFluor V420	0.03	0.21	0.04	0	0	0	0	0.01	1															N	lo														Hi	ah	
	BV421	0.07	0.27	0.08	0.01	0	0	0	0.01	0.97	1													<b>c</b> :.			·												<b>c</b> :.	:	gh ar	·
	cFluor V450	0.03	0.22	0.11	0.01	0.01	0	0	0.01	0.87	0.81	1												211	ηI	lar	ity												211	m	ar	ity
	BV480	0.05	0.21	0.35	0.08		0.01	0	0.01	0.31	0.29	0.59	1																													
	BV510	0.06	0.23	0.52	0.29	0.15	0.04	0.02	0.02	0.16	0.17	0.35	0.83	1																												
	cFluor V547	0.01	0.04	0.18	0.14	0.13	0.03	0.01	0.01	0.05	0.07	0.18	0.58	0.86	1											0							0.	5							1	
	BV570	0.01	0.04	0.1	0.37	0.2	0.06	0.01	0.01	0.13	0.14	0.14	0.25	0.53	0.74	1																										
	BV605	0		0.05	0.19		0.19		0.02				0.15	0.38		0.68	1																									
	BV650	0		0.01	0.01		0.39		0.03				0.06		0.25			1																								
	BV711	0	0.02	0		0.07	0.25		0.11		0.08		0.03		0.07	0.07		0.44	1																							
	BV750	0	0.01	0		0.04		0.35	0.16				0.02	0.04	0.04	0.04		0.23	0.69	1																						
	BV785	0	0.01	0	0	0.02	0.06	0.22	0.23	0.06	0.06	0.05	0.02	0.03	0.03	0.03	0.07	0.15	0.49	0.82	1																					
	cFluor B515	0	0.01	0.06	0.04	0	0	0	0	0	0	0	0.06	0.01	0.01	0.01	0	0	0	0	0	1																				
	FITC	0	0.01	0.07	0.06	0.01	0	0	0	0	0.01	0.02	0.09	0.05	0.04	0.03	0.01	0	0	0	0	0.98	1																			
	cFluor B548	0	0.01	0.08	0.13	0.04	0.01	0.01	0	0.01	0.02	0.05	0.21	0.28	0.32	0.24	0.16	0.06	0.02	0.02	0.01	0.57	0.7	1																		
	PerCP	0	0	0	0.03	0.21	0.37	0.16	0.03	0	0	0	0.01	0.03	0.04	0.08	0.2	0.36	0.22	0.12	0.06	0	0.01	0.08	1																	
	PerCP-Cy5.5	0	0	0	0.02	0.15	0.32	0.26	0.06	0	0	0	0.01	0.03	0.04	0.07	0.18	0.36	0.51	0.28	0.2	0	0.01	0.08	0.76	1																
	PerCP-eFluor 710	0	0	0	0.01	0.1	0.23	0.29	0.06	0	0	0	0.01	0.02	0.04	0.05	0.14	0.3	0.62	0.35	0.24	0	0.01	0.06	0.46	0.89	1															
	PE	0	0	0.02	0.34	0.2	0.03	0	0	0	0	0.01	0.04	0.1	0.13	0.51	0.25	0.05	0.01	0	0	0.06	0.09	0.25	0.06	0.05	0.04	1														
	cFluor YG584	0	0	0.01	0.27	0.29	0.05	0	0	0	0	0	0.02	0.04	0.06	0.43	0.3	0.06	0.01	0	0	0.01	0.01	0.05	0.07	0.06	0.04	0.86	1													
	cFluor BYG610	0	0	0.01	0.22	0.46	0.09	0.01	0	0	0	0	0.03	0.06	0.1	0.37	0.46	0.14	0.03	0.01	0	0.03	0.06	0.19	0.22	0.18	0.12	0.63	0.71	1												
	PE-Alexa Fluor 610	0	0	0.01	0.1	0.43	0.23	0.04	0.01	0	0	0	0.02	0.04	0.07	0.22	0.41	0.29	0.11	0.04	0.02	0.01	0.02	0.11	0.54	0.52	0.39	0.28	0.36	).72	1											
	cFluor BYG667	0	0	0	0.03	0.23	0.4	0.1	0.01	0	0	0	0	0.01	0.01	0.08	0.2	0.28	0.16	0.05	0.03	0.01	0.01	0.06	0.78	0.71	0.5	0.11	0.16	0.33 0	.78	1										
	cFluor BYG710	0	0	0	0.03	0.14	0.17	0.13	0.02	0	0	0	0	0.01	0.01	0.06	0.13	0.15	0.23	0.09	0.05	0	0.01	0.04	0.34	0.67	0.74	0.1	0.12	0.17 0	.49 C	.55	1	_								
	PE-Cy7	0	0	0	0.01	0.03	0.04	0.11	0.07	0	0	0	0	0	0	0.02	0.04	0.04	0.11	0.14	0.16	0	0	0.02	0.08	0.24	0.29	0.02	0.03	0.04 0	.12 0	0.14 (	).29	1								
	PE/Fire 810	0	0	0	0.08	0.07	0.03	0.07	0.08	0	0	0	0.01	0.01	0.02	0.12	0.07	0.03	0.07	0.08	0.11	0.02	0.02	0.07	0.07	0.19	0.24	0.25	0.22	0.18 0	.15 0	0.13	).22 (	.71	1							
	APC	0	0	0	0.01	0.13	0.66	0.18	0.02	0	0	0	0	0.02	0.02	0.05	0.13	0.35	0.23	0.07	0.04	0	0	0.01	0.31	0.33	0.26	0.03	0.07	0.12 0	.31 0	0.58	0.21 0	.0.5	0.04	1						
	cFluor R668	0	0	0	0	0.04	0.59	0.16	0.02	0	0	0	0	0	0	0.01	0.03	0.18	0.2	0.03	0.02	0	0	0	0.22	0.28	0.22	0.01	0.02	0.04 0	.13 0	.45 (	0.15	.03 0	0.02	9.91	1					
	cFluor R685	0	0	0	0	0.04	0.53	0.21	0.03	0	0	0	0	0	0.01	0.01	0.03	0.18	0.28	0.06	0.04	0	0	0	0.21	0.34	0.29	0.01	0.02	0.03 0	.11 0	.41 (	0.19 0	.05 0	0.03	).75	0.92	1				
	APC-R700	0	0	0	0		0.41	0.34	0.04	0	0	0	0	0.01	0.01	0.02	0.05	0.17	0.41	0.12	0.07	0	0				0.45		0.02	0.04 0	.16 0	.36 (	0.41	0.1 (	0.06	0.57	0.63	0.78	1			
	APC-H7	0	0	0					0.18		0	0	0	0	0		0.01					0	0			0.13				0.01 0												
-	APC/Fire 810	0	0	0	0	0.01	0.09	0.16	0.21	0	0	0	0	0	0	0.01	0.02	0.04	0.13	0.13	0.2	0	0	0	0.03	0.1	0.12	0	0.01	0.01 0	.03 0	0.07	0.07	0.2 (	0.24 (	).14	0.13	0.17	0.2	0.77	1	
Ţ		395	LIVE/DEAD Blue	496	563	615	661	737	805	cHuor V420	121	V450	180	BV510	V547	570	505	BV650	11	750	BV785	cFluor B515	FITC	cFluor B548	PerCP	PerCP-Cy5.5	PerCP-eFluor 710	PE	YG584	cFluor BYG610	PE-Alexa Fluor 610	3YG667	cFluor BYG710	PE-Cy7	PE/Fire 810	APC	cFluor R668	cFluor R685	APC-R700	APC-H7	re 810	
		BUV395	LIVE/DE	BUV496	BUV563	BUV615	BUV661	BUV737	BUV805	cFluor	BV421	cFluor V450	BV480	BV	cHuor V547	BV570	BV605	BVt	BV711	BV750	BV.	cFluo	H	cFluor	Per	PerCP	PerCP-el	<u>ц</u>	cFluor YG584	cFluor	PE-Alexa	cFluor BYG667	cFluor	PE	PE/Fir	A	cFluo	cFluo	APC-	APC	APC/Fire 810	2
Ì	Complexity Index:	54.26																													1											

**Complexity Index: 54.26** 

N9-20017 Rev B

## FLUOROCHROME SIGNATURES

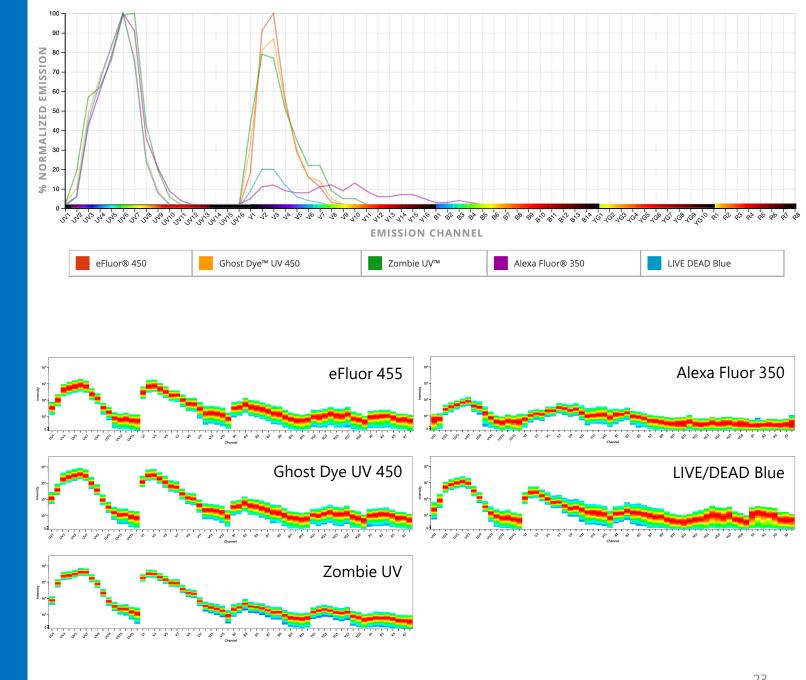
- Dyes can be used in combination if they have unique spectral signatures.
- Look for dyes with unique spectra and consider spread introduced by the dyes when designing multicolor panels (see slide 63).

# Dyes Primarily Excited by the Ultraviolet Laser



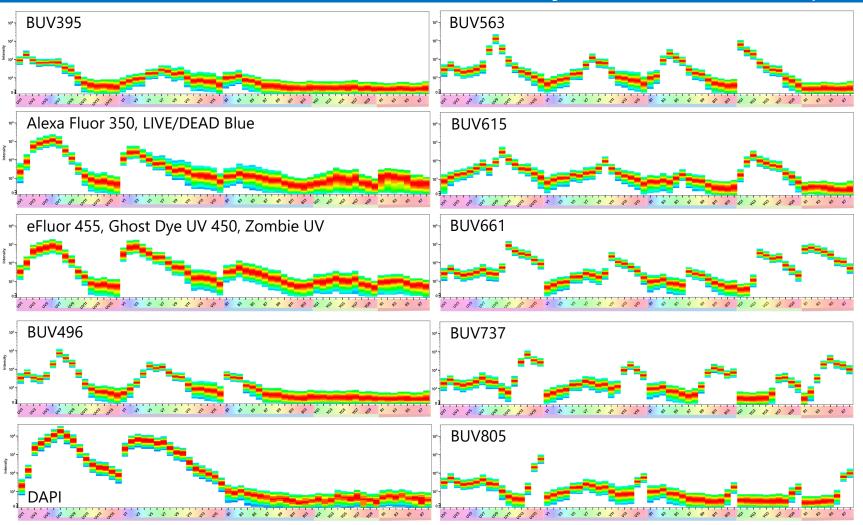
N9-20017 Rev B

Similarity™ Indice	S				
eFluor 450	1				
Ghost Dye UV 450	0.63	1			
Zombie UV	0.59	0.99	1		
Alexa Fluor 350	0.14	0.84	0.87	1	
LIVE DEAD Blue	0.21	0.88	0.89	0.98	1
	eFluor 450	Ghost Dye UV 450	Zombie UV	Alexa Fluor 350	LIVE DEAD Blue
Complexity™ Inde	ex: 74	.09			



Ghost Dye is a trademark of Tonbo Biosciences. Zombie is a trademark of BioLegend, Inc. Trademarks are the property of their respective owners.

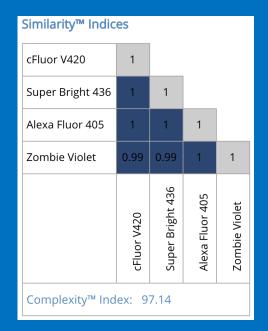
#### Ultraviolet Laser Excited Dyes with Unique Signatures

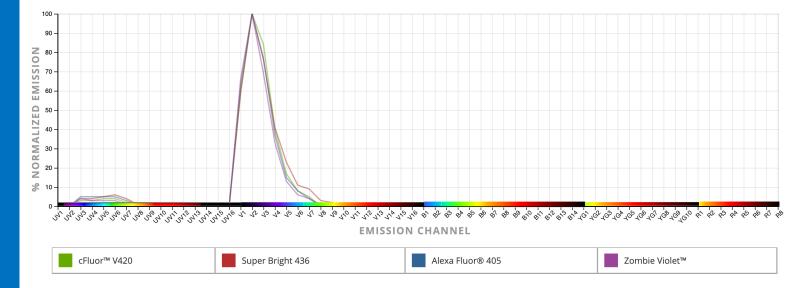


# Dyes Primarily Excited by the Violet Laser



N9-20017 Rev B

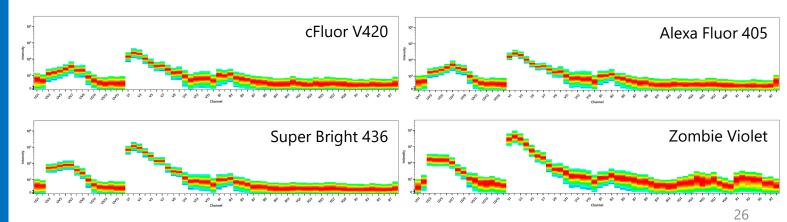


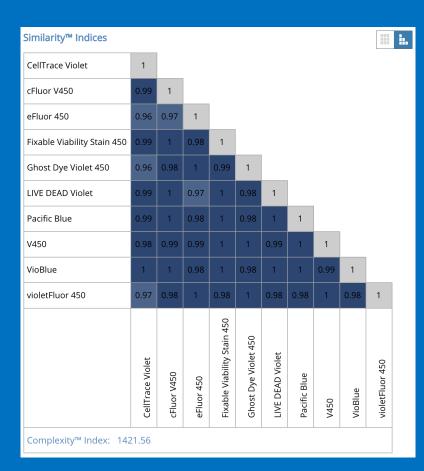


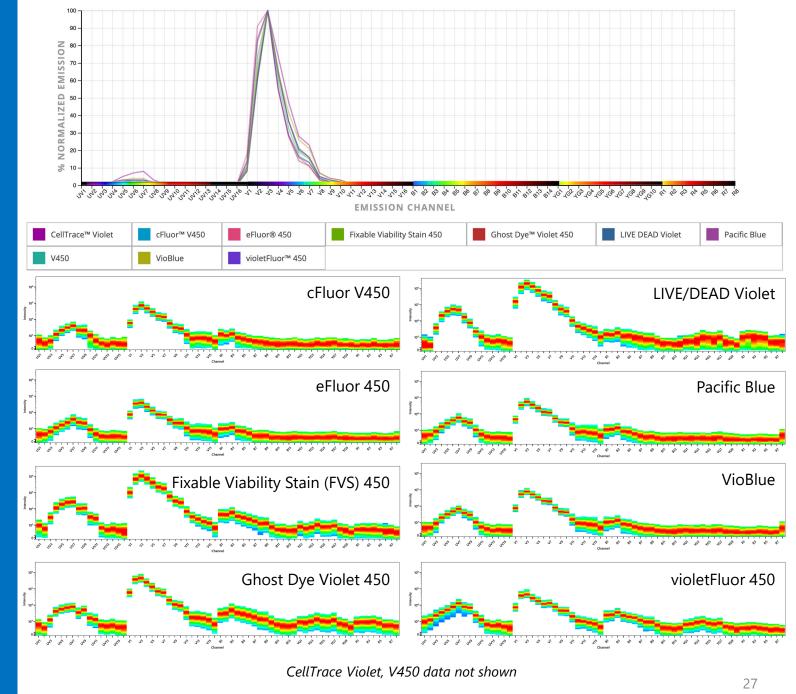
While these 4 dyes may look slightly different while acquiring live in SpectroFlo<sup>®</sup>, due to intensity variations, don't be fooled: their normalized spectral overlays from Cytek's' Spectrum Viewer above shows that cFluor V420, Super Bright 436, Alexa Fluor 405, and Zombie Violet all have very similar spectra.

Additionally, the Similarity Indices for each combination of dyes in this set is 0.99 or 1.

Recommendation: choose only 1 of these dyes when designing a multicolor panel.

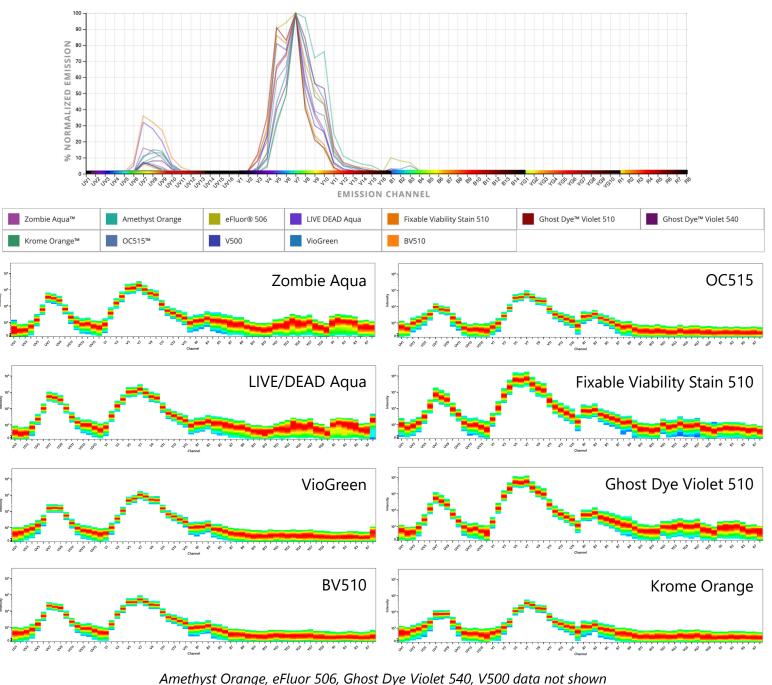






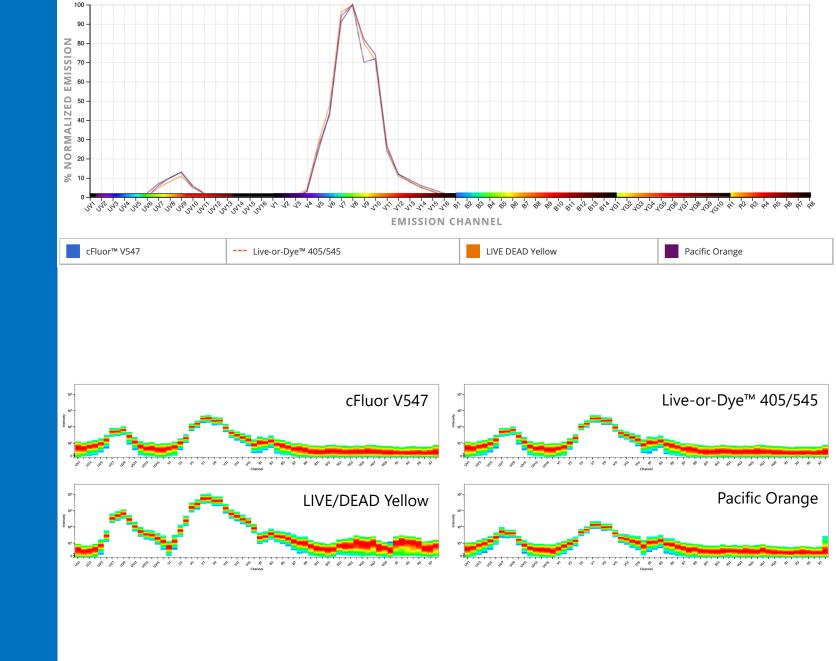
VioBlue is a trademark of Miltenyi Biotec GmbH. CellTrace is a trademark of Thermo Fisher Scientific, Inc. violetFluor is a trademark of Tonbo Biosciences. Fixable Viability Stain and V450 are part of the BD Horizon brand, and are trademarks of BD Biosciences, Inc. Trademarks are the property of their respective owners.

Similarity™ Indices											<b>i</b>	
Zombie Aqua	1											
Amethyst Orange	0.88	1										
eFluor 506	0.96	0.76	1									
LIVE DEAD Aqua	0.99	0.87	0.94	1								
Fixable Viability Stain 510	0.98	0.78	0.99	0.95	1							
Ghost Dye Violet 510	0.97	0.76	0.98	0.95	1	1						
Ghost Dye Violet 540	0.94	0.99	0.84	0.92	0.87	0.84	1					
Krome Orange	0.94	0.98	0.83	0.93	0.85	0.83	0.99	1				
OC515	0.99	0.93	0.94	0.97	0.96	0.94	0.97	0.96	1			
V500	0.99	0.84	0.98	0.97	0.99	0.99	0.91	0.9	0.98	1		
VioGreen	0.96	0.97	0.87	0.95	0.89	0.87	1	0.99	0.98	0.93	1	
BV510	0.97	0.91	0.9	0.99	0.91	0.91	0.94	0.94	0.96	0.94	0.97	1
	Zombie Aqua	Amethyst Orange	eFluor 506	LIVE DEAD Aqua	Fixable Viability Stain 510	Ghost Dye Violet 510	Ghost Dye Violet 540	Krome Orange	OC515	V500	VioGreen	BV510
Complexity™ Index: 457	7.05											

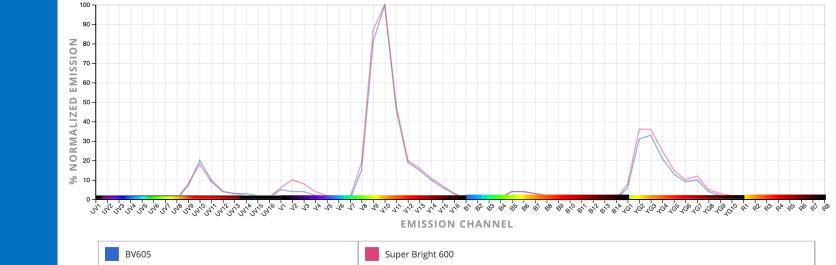


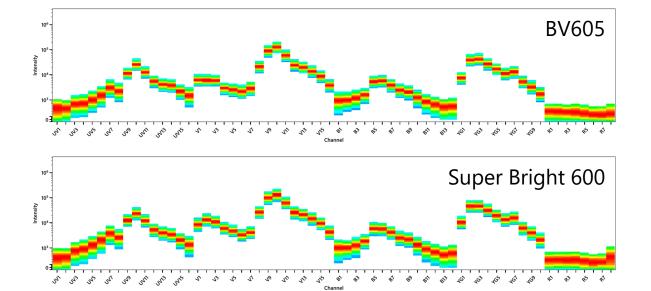
#### Similarity<sup>™</sup> Indices

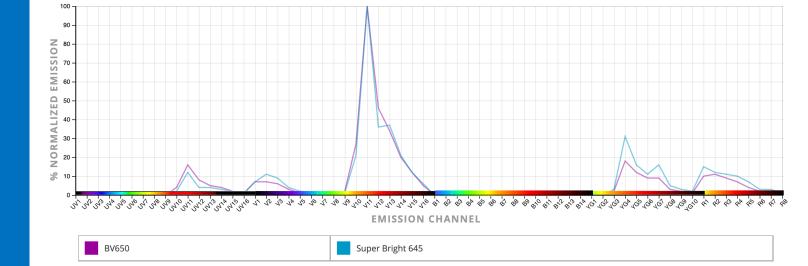
cFluor V547	1			
Live-or-Dye 405/545	1	1		
LIVE DEAD Yellow	1	1	1	
Pacific Orange	1	1	1	1
	cFluor V547	Live-or-Dye 405/545	LIVE DEAD Yellow	Pacific Orange
Complexity™ Index:	3261	1940		



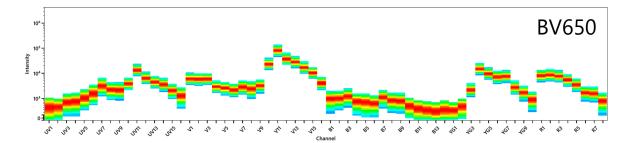


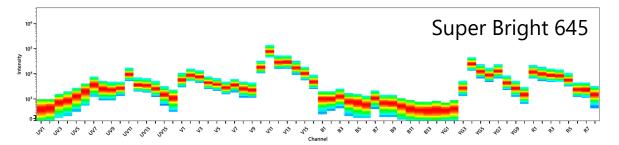




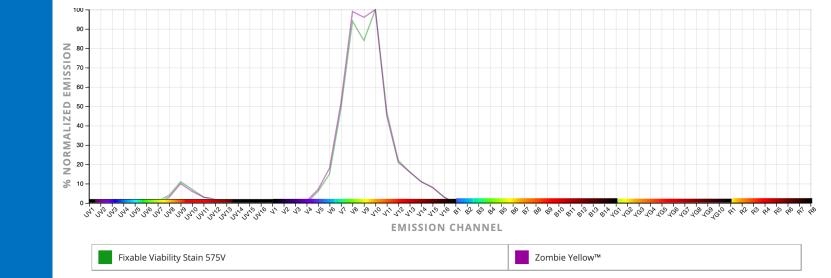


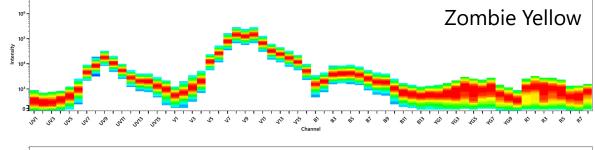


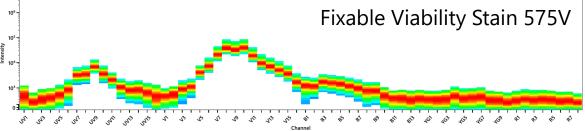


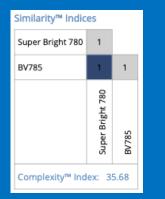


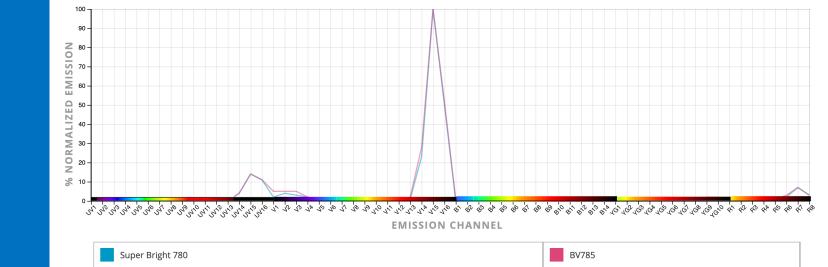


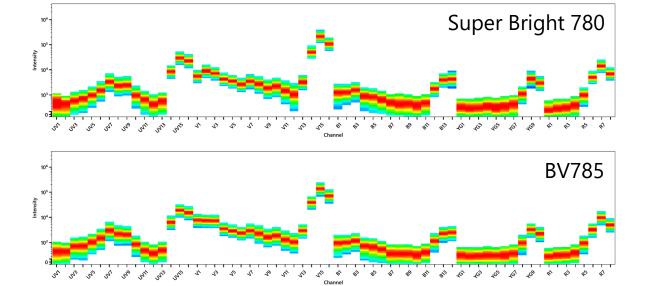




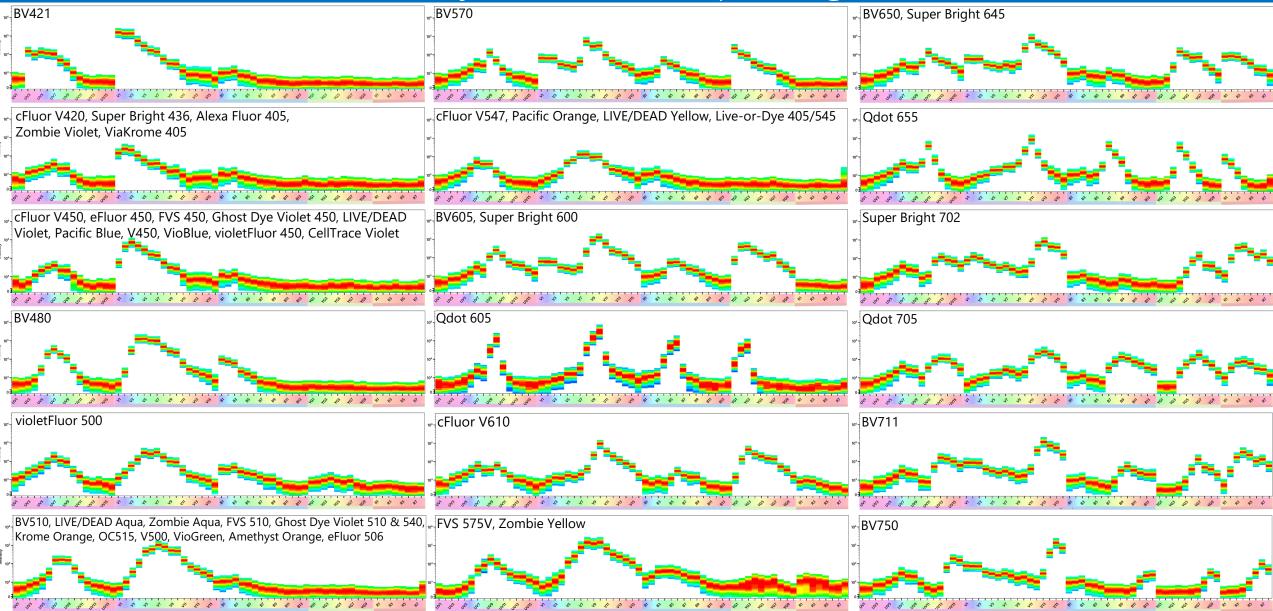




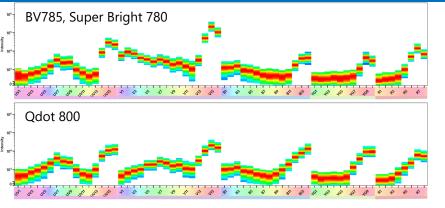




#### Violet Laser Excited Dyes with Unique Signatures (1 of 2)



#### Violet Laser Excited Dyes with Unique Signatures (2 of 2)

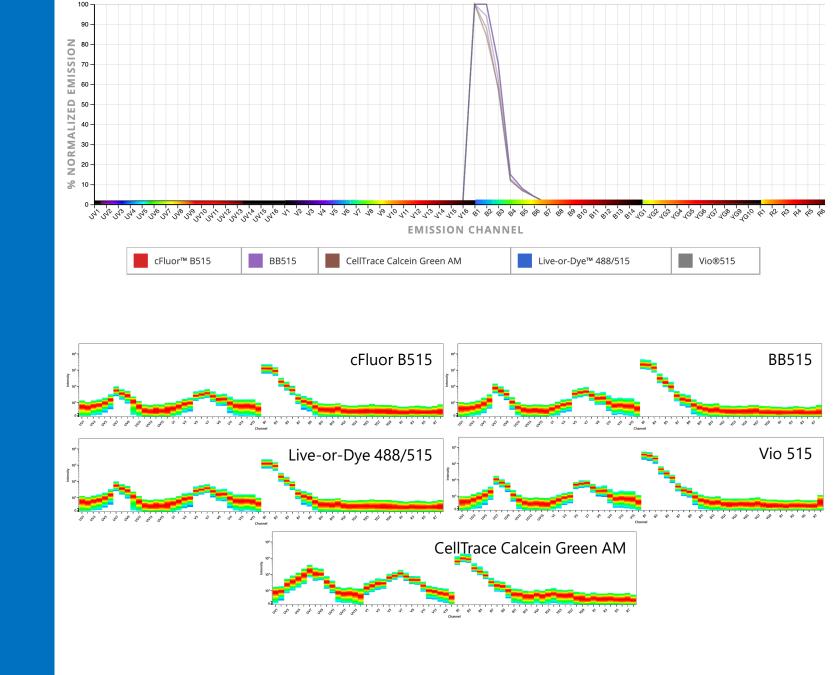


# Dyes Primarily Excited by the Blue Laser

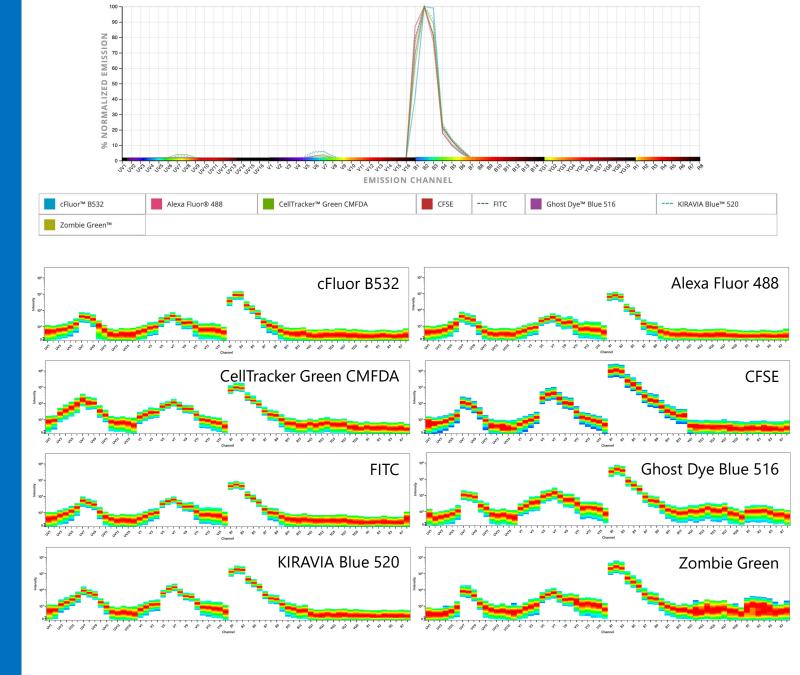


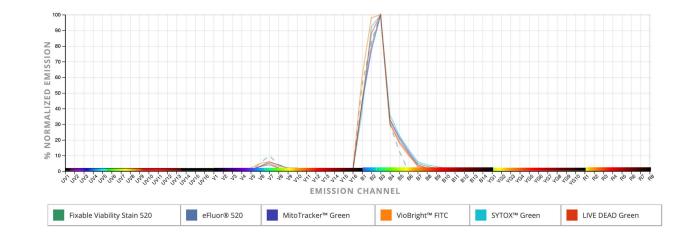
N9-20017 Rev B

Similarity <sup>™</sup> Indices					
cFluor B515	1				
BB515	1	1			
CellTrace Calcein Green AM	1	1	1		
Live-or-Dye 488/515	1	1	1	1	
Vio515	1	1	1	1	1
	cFluor B515	BB515	CellTrace Calcein Green AM	Live-or-Dye 488/515	Vio515
Complexity™ Index: 1861	59200				

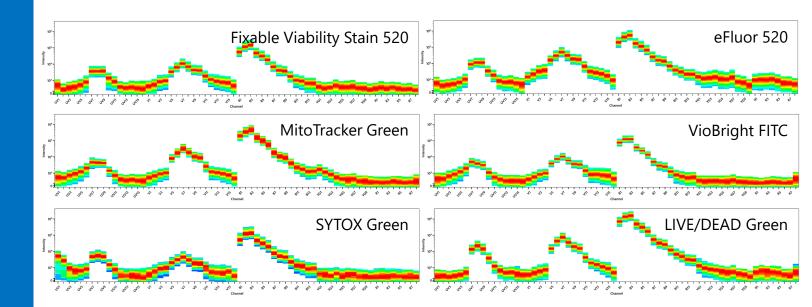


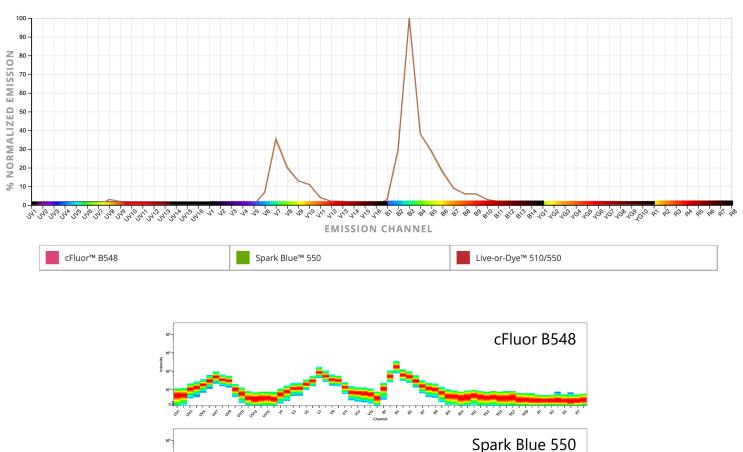
cFluor B532	1							
Alexa Fluor 488	0.96	1						
CellTracker Green CMFDA	0.99	0.99	1					
CFSE	0.95	1	0.99	1				
FITC	0.96	1	0.99	1	1			
Ghost Dye Blue 516	0.97	1	1	0.99	1	1		
KIRAVIA Blue 520	0.98	0.99	1	0.99	1	1	1	
Zombie Green	0.97	1	0.99	1	1	1	1	1
	cFluor B532	Alexa Fluor 488	CellTracker Green CMFDA	CFSE	FITC	Ghost Dye Blue 516	KIRAVIA Blue 520	Zombie Green

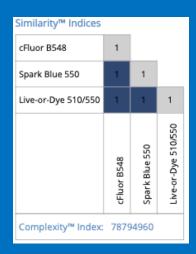


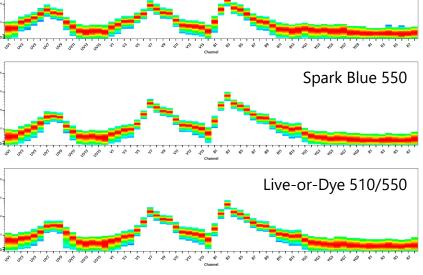


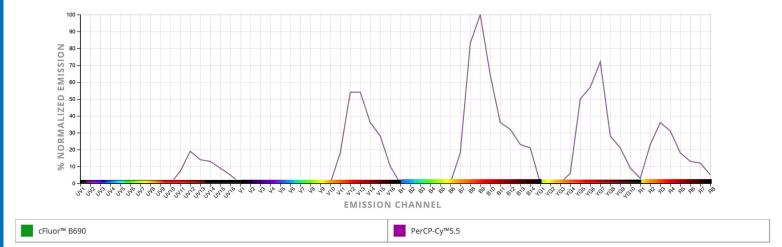
Similarity™ Indices						
Fixable Viability Stain 520	1					
eFluor 520	0.99	1				
MitoTracker Green	0.99	1	1			
VioBright FITC	0.99	0.99	0.99	1		
SYTOX Green	0.98	1	0.99	0.99	1	
LIVE DEAD Green	0.99	1	1	0.99	1	1
	Fixable Viability Stain 520	eFluor 520	MitoTracker Green	VioBright FITC	SYTOX Green	LIVE DEAD Green
Complexity <sup>™</sup> Index: 137	7.5					

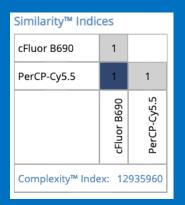


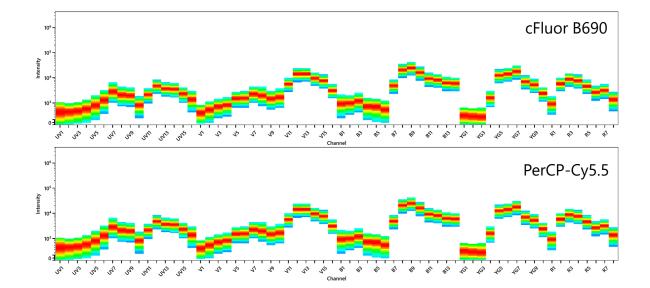


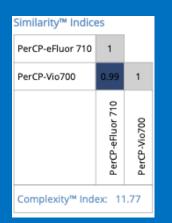


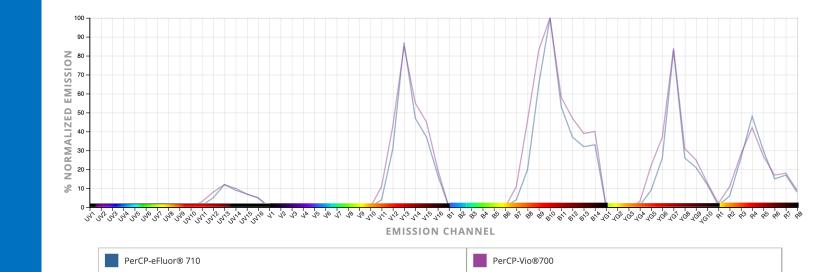


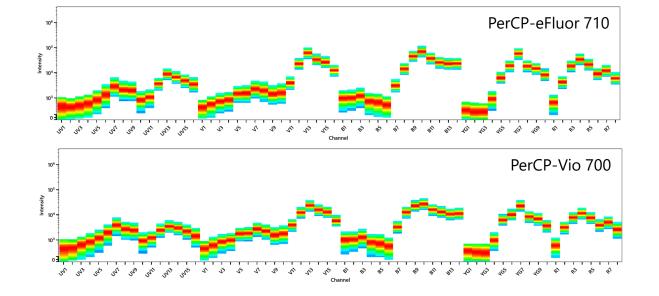




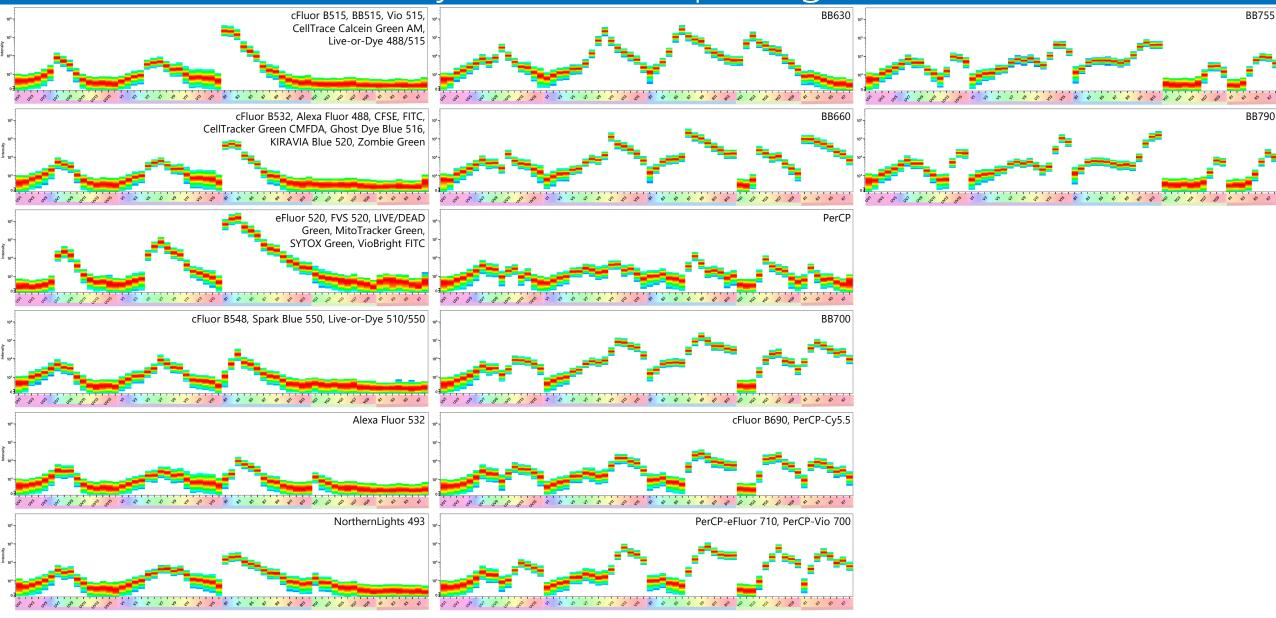








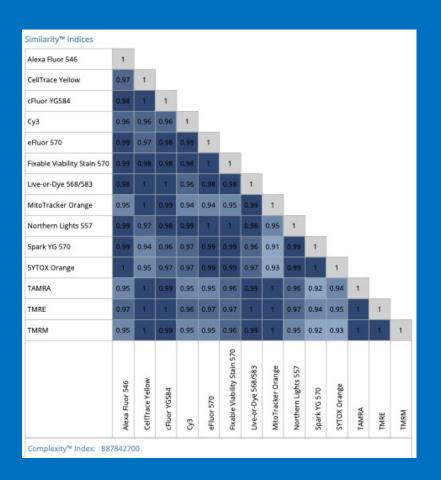
#### Blue Laser Excited Dyes with Unique Signatures

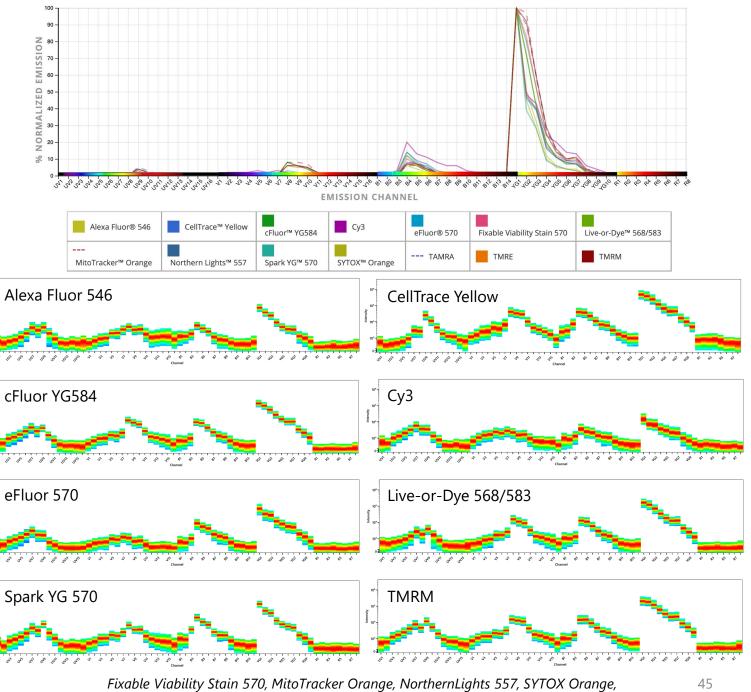


## Dyes Primarily Excited by the Yellow-Green Laser

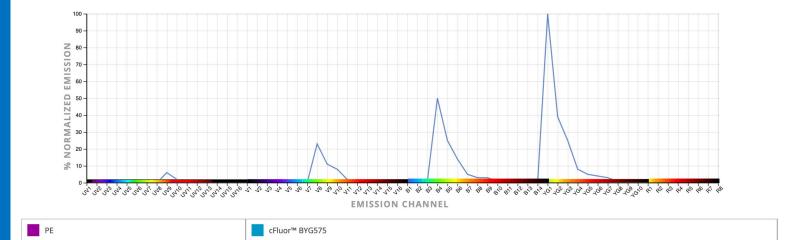


N9-20017 Rev B

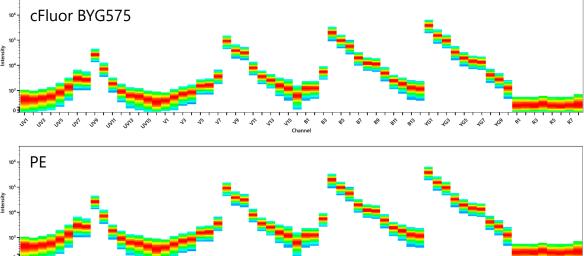


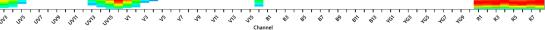


TAMRA, TMRE data not shown

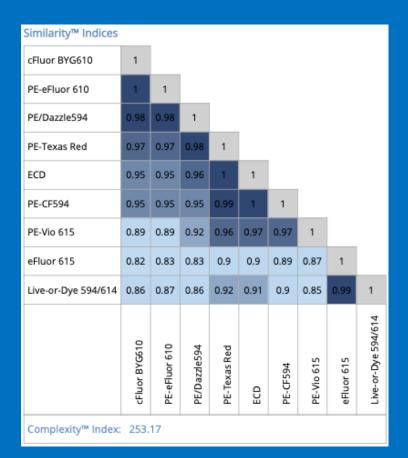


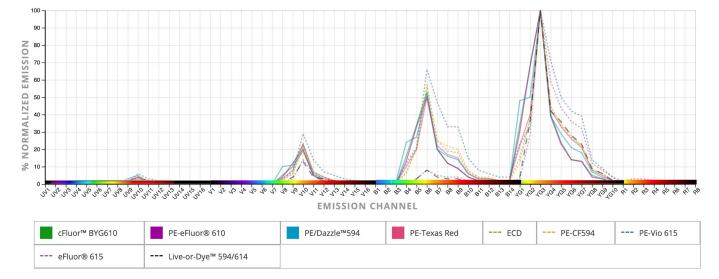


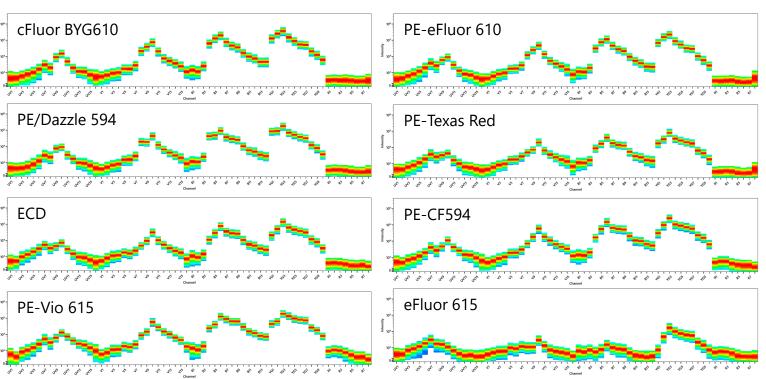




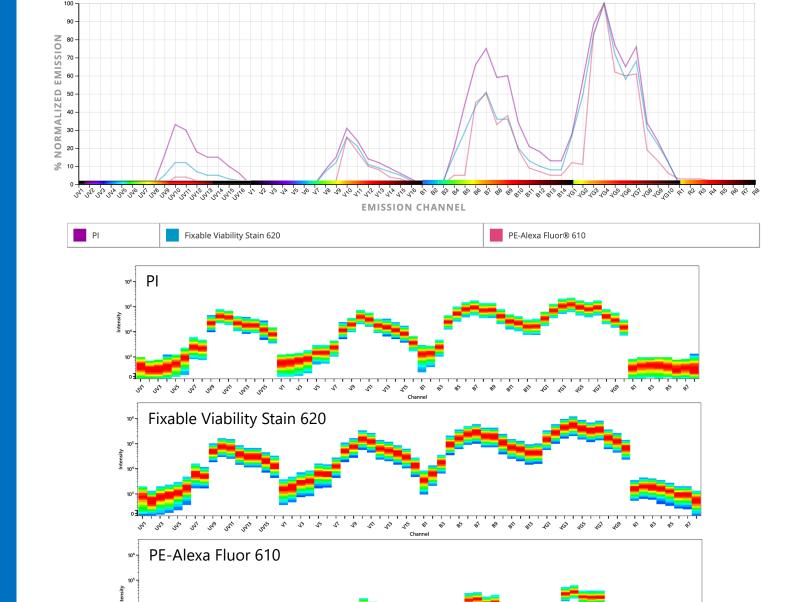
46











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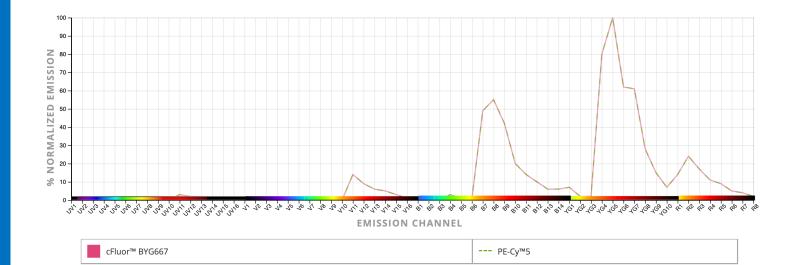
\$ \$ \$

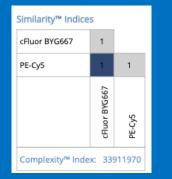
\$ \$ \$ \$ \$

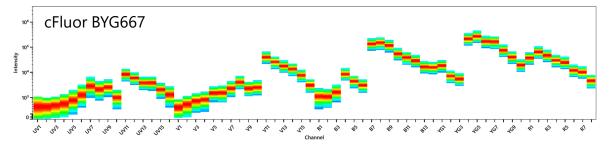
163 165 161 169

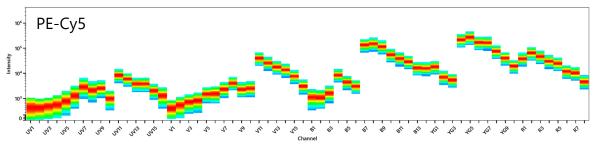


\* \* \* \*

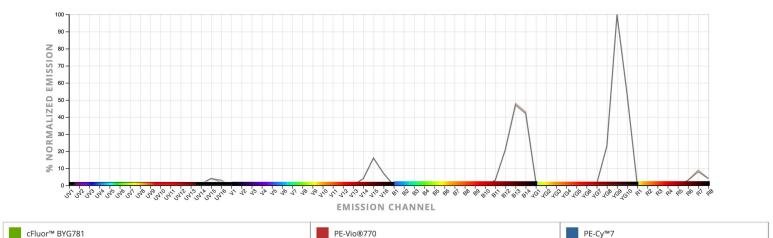


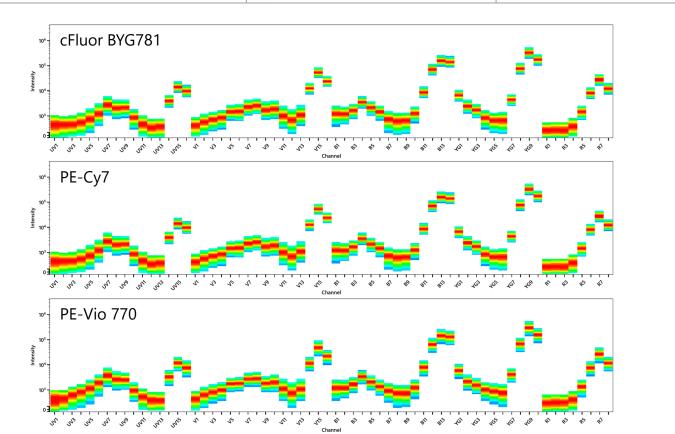




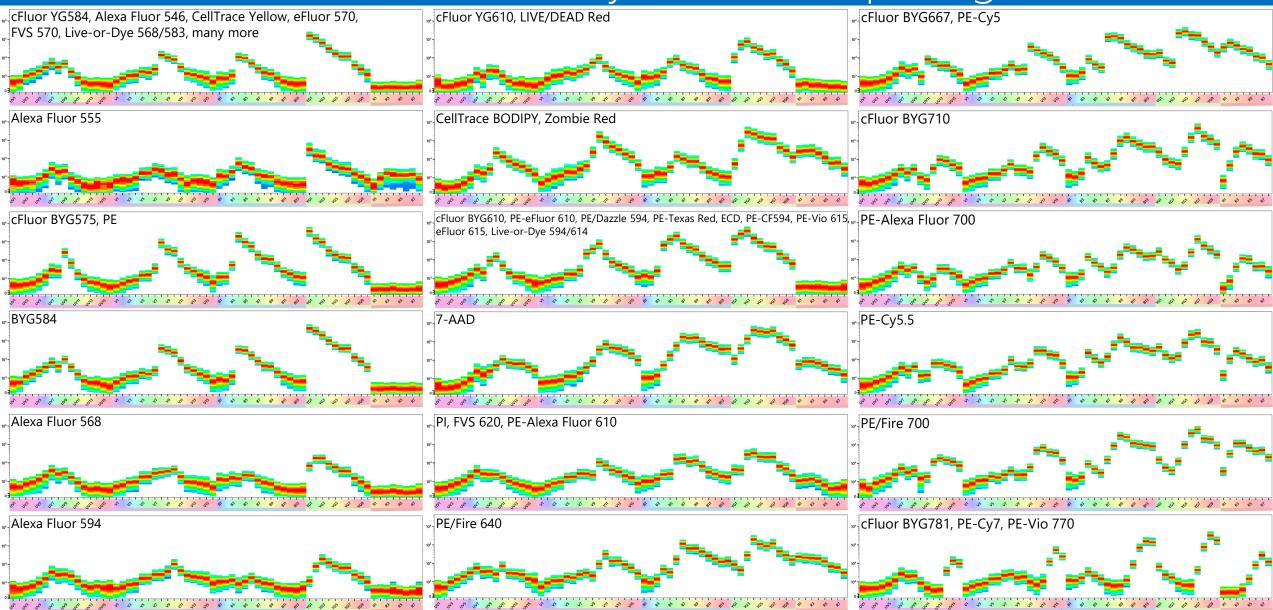


Similarity™ Inc	lices		
cFluor BYG781	1		
PE-Vio770	1	1	
PE-Cy7	1	1	1
	cFluor BYG781	PE-Vio770	PE-Cy7
Complexity™ Ind	lex: 6	09125	70





#### Yellow-Green Laser Excited Dyes with Unique Signatures

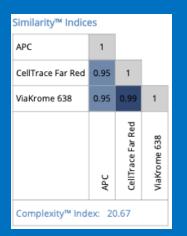


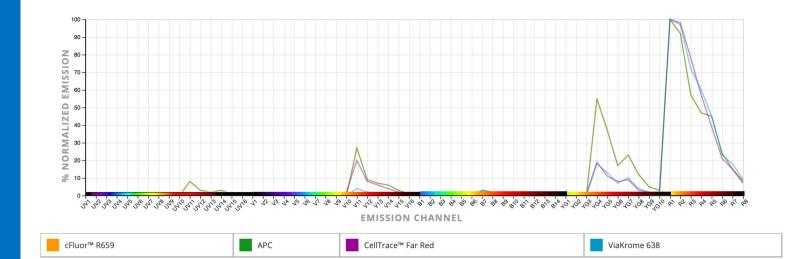
N9-20017 Rev B

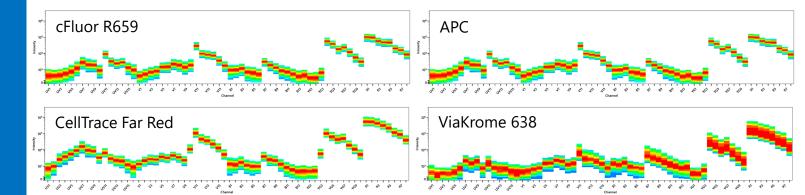
# Dyes Primarily Excited by the Red Laser

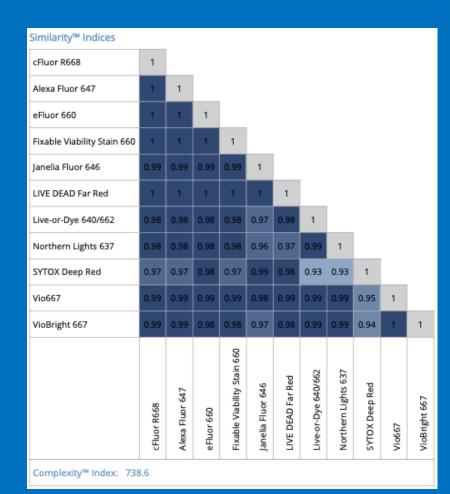


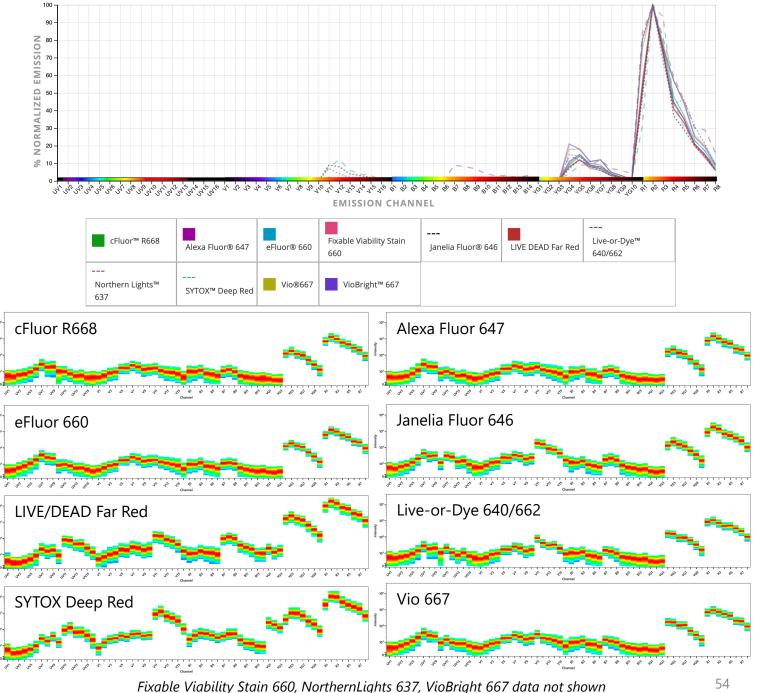
N9-20017 Rev B





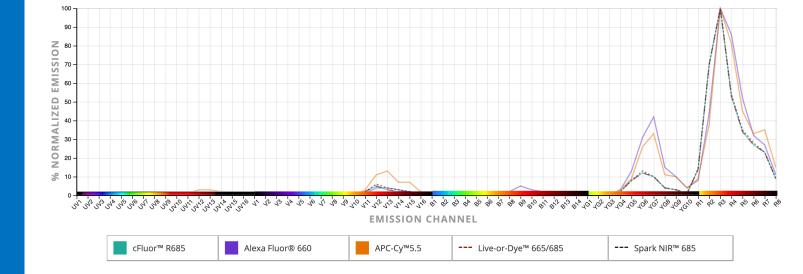


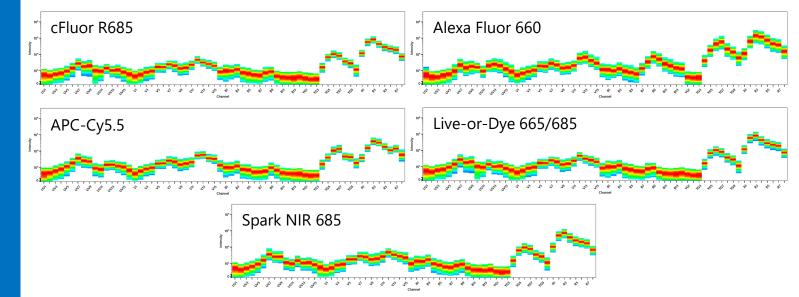


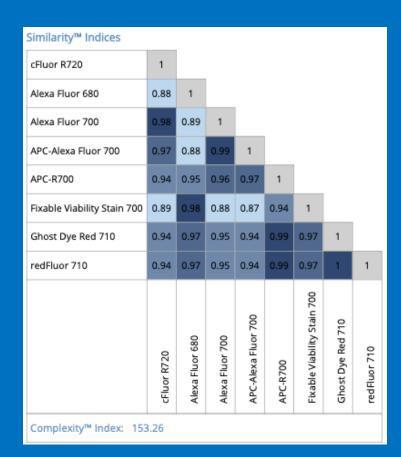


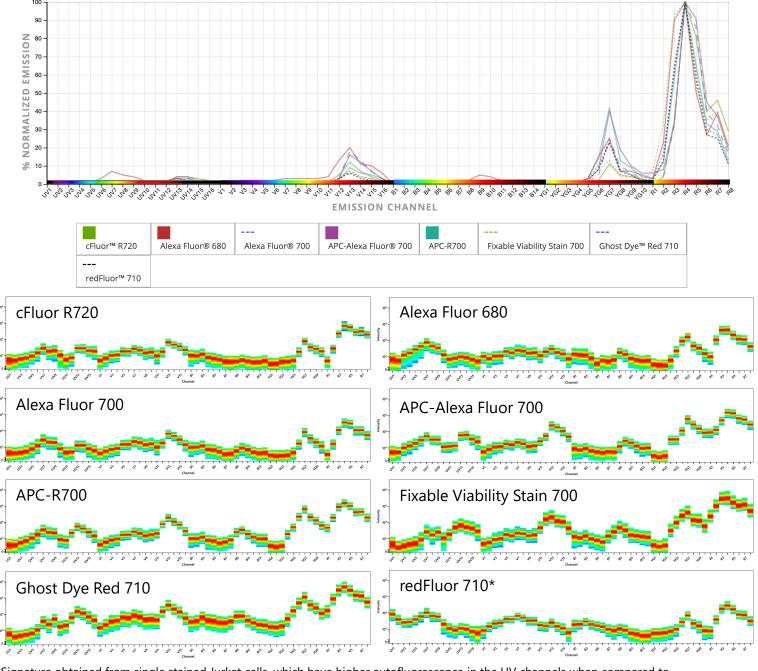
Janelia Fluor is a registered trademark of Tocris Bioscience. Trademarks are the property of their respective owners.

Similarity™ Indices					
cFluor R685	1				
Alexa Fluor 660	0.93	1			
APC-Cy5.5	0.93	0.99	1		
Live-or-Dye 665/685	1	0.93	0.93	1	
Spark NIR 685	1	0.93	0.94	1	1
	cFluor R685	Alexa Fluor 660	APC-Cy5.5	Live-or-Dye 665/685	Spark NIR 685
Complexity <sup>™</sup> Index:	5874	12980			



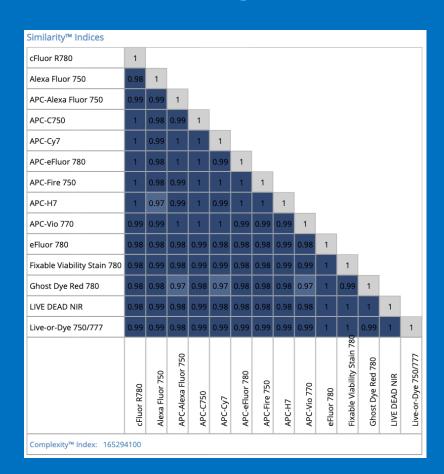


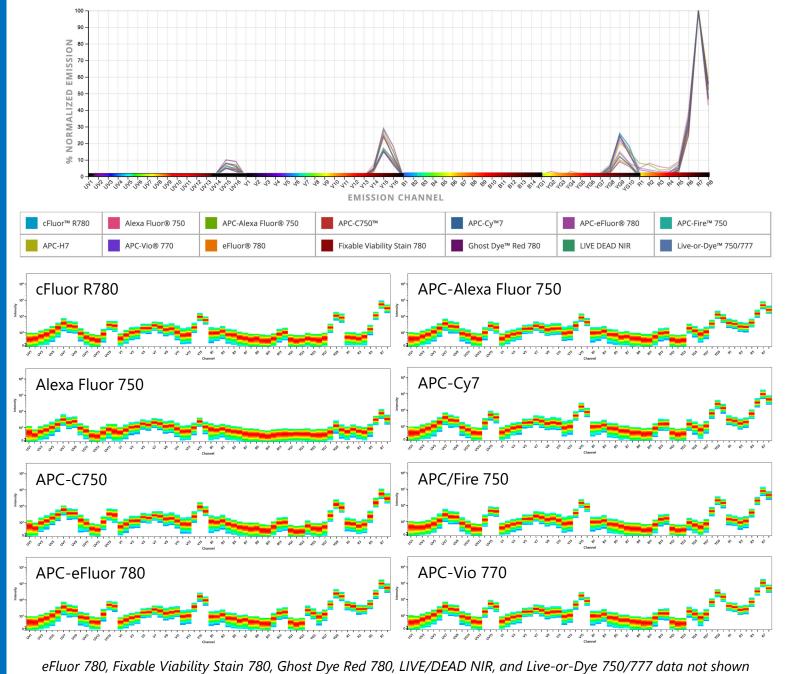




\*Signature obtained from single stained Jurkat cells, which have higher autofluorescence in the UV channels when compared to PBMCs which were used to generate the other signatures on this page.

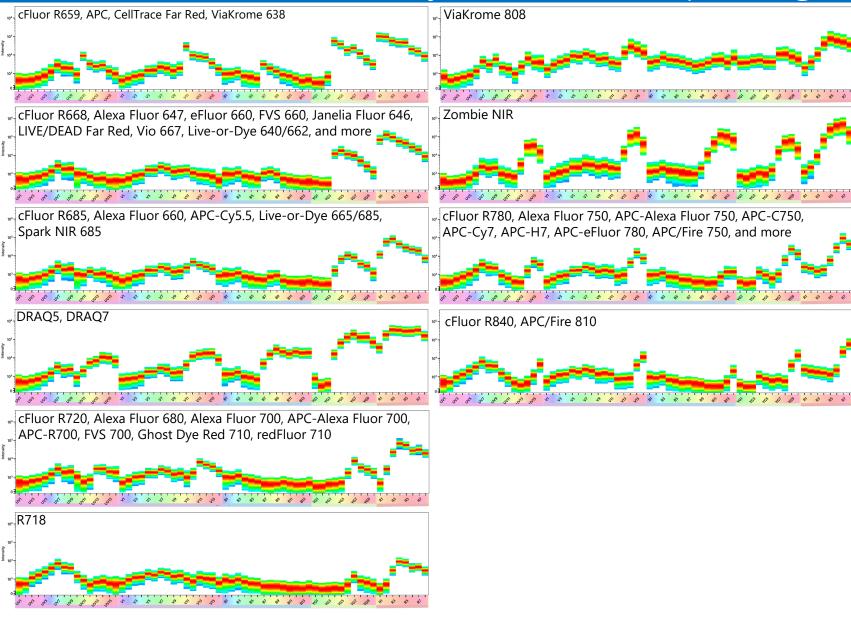
redFluor is a trademark of Tonbo Biosciences.. Trademarks are the property of their respective owners.





APC-C750 is a trademark of Cytognos S.L. Trademarks are the property of their respective owners.

#### Red Laser Excited Dyes with Unique Signatures

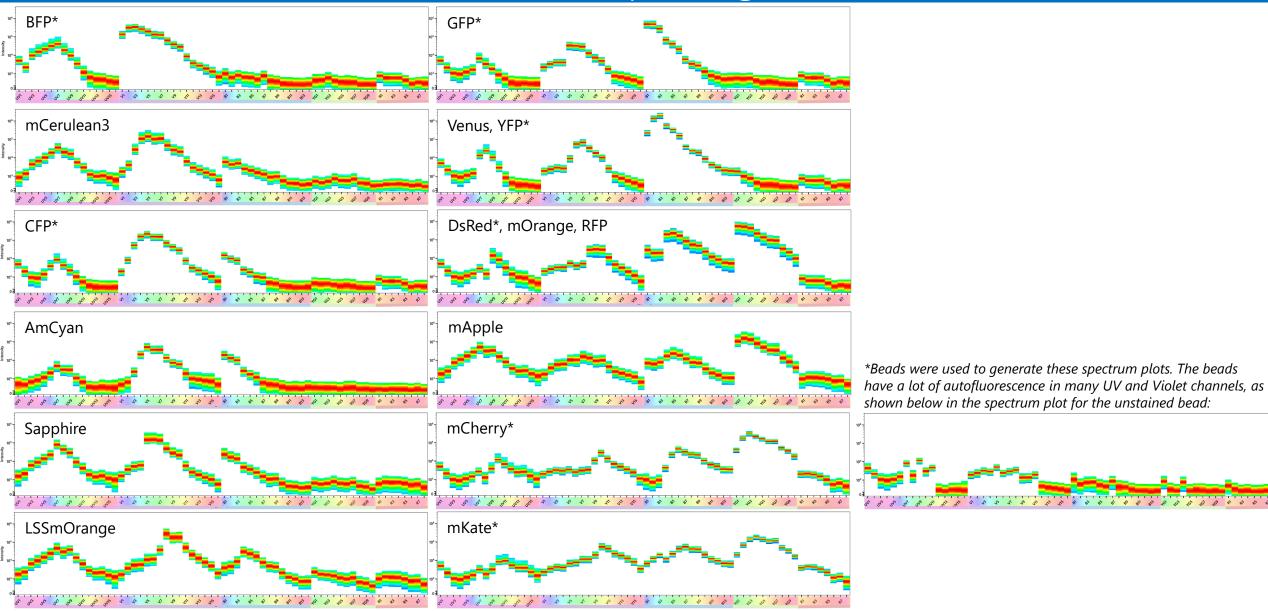


# Fluorescent Proteins



N9-20017 Rev B

#### Fluorescent Proteins with Unique Signatures



# FLUOROCHROME PEAK CHANNELS

Peak Channel	UV Excited Fluorochromes	Peak Channel	Blue Excited Fluorochromes	Peak Channel	Yellow-Green Excited Fluorochromes
UV2	BUV395	B1	cFluor B515, Vio 515, BB515, CellTrace Calcein Green	YG1	cFluor BYG575, cFluor YG584, Alexa Fluor 546, Alexa
UV6	Alexa Fluor 350, LIVE/DEAD Blue, eFluor 455, Ghost Dye UV 450	B2	AM, Live-or-Dye 488/515 cFluor B532, Alexa Fluor 488, CFSE, CellTracker Green		Fluor 555, BYG584, CellTrace Yellow, Cy3, DsRed, eFluor 570, Fixable Viability Stain 570, Live-or-Dye 568/583, MitoTracker Orange, mOrange, Northern Lights 557, PE,
UV7	BUV496, DAPI, Zombie UV		CMFDA, FITC, GFP, Ghost Dye Blue 516, Kiravia Blue 520, Zombie Green		RFP, Spark YG 570, SYTOX Orange, TAMRA, TMRE, TMRM, ViaKrome 561
UV9	BUV563	B3	cFluor B548, Alexa Fluor 532, eFluor 520, Fixable	YG2	mApple
UV10	BUV615		Viability Stain 520, LIVE/DEAD Green, Live-or-Dye 510/550, MitoTracker Green, Northern Lights 493, Spark	YG3	cFluor BYG610, cFluor YG610, mCherry, Alexa Fluor 568,
UV11	BUV661		Blue 550, SYTOX Green, Venus, VioBright FITC, YFP		Alexa Fluor 594, CellTrace BODIPY, ECD, eFluor 615, LIVE/DEAD Red, Live-or-Dye 594/614, PE-CF594,
UV14	BUV737	B6	BB630, MitoSOX Red		PE/Dazzle 594, PE-eFluor 61o, PE-Texas Red, PE-Vio
UV16	BUV805	B7	BB660		615, Zombie Red
Peak		B8	PerCP	YG4	7-AAD, Fixable Viability Stain 620, mKate, PE-Alexa Fluor 610, PE/Fire 640, PI
Channel	Violet Excited Fluorochromes	B9	cFluor B690, PerCP-Cy5.5, BB700	YG5	cFluor BYG667, PE-Cy5
V1	BV421	B10	PerCP-eFluor 710, PerCP-Vio 700	YG6	cFluor BYG680
V2	cFluor V420, Super Bright 436, Alexa Fluor 405, Zombie	B12	BB755	YG7	cFluor BYG710, PE-Alexa Fluor 700, PE-Cy5.5, PE/Fire
	Violet, ViaKrome 405	B14	BB790	107	700
V3	cFluor V450, eFluor 450, Pacific Blue, V450, VioBlue, BFP, LIVE/DEAD Violet, CellTrace Violet, Fixable Viability Stain 450, Ghost Dye Violet 450, violetFluor 450	Peak Channel	Red Excited Fluorochromes	YG9	cFluor BYG781, PE-Cy7, PE-Vio 770
V5	BV480, AmCyan, mCerulean3, violetFluor 500	R1	cFluor R659, APC, CellTrace Far Red, ViaKrome 638		
V6	CFP, Sapphire	R2	cFluor R668, Alexa Fluor 647, eFluor 660, Fixable		
V7	BV510, eFluor 506, Amethyst Orange, VioGreen, Zombie Aqua, OC515, V500, LIVE/DEAD Aqua, Krome Orange, Ghost Dye Violet 510 & 540, Fixable Viability Stain 510		Viability Stain 660, Janelia Fluor 646, LIVE/DEAD Far Red, Live-or-Dye 640/662, Northern Lights 637, SYTOX Deep Red, Vio 667, VioBright 667		
V8	cFluor V547, BV570, Pacific Orange, LSSmOrange, LIVE/DEAD Yellow, Live-or-Dye 405/545	R4	cFluor R720, Alexa Fluor 680, Alexa Fluor 700, APC- Alexa Fluor 700, APC-R700, Fixable Viability Stain 700, Ghost Dye Red 710, R718, redFluor 710		
V10	cFluor V610, BV605, Qdot 605, Super Bright 600, Zombie Yellow, Fixable Viability Stain 575V	R5	ViaKrome 808		
V11	BV650, Qdot 655, Super Bright 645	R6	Zombie NIR		
V13	BV711, Qdot 705, Super Bright 702	R7	cFluor R780, Alexa Fluor 750, APC-Alexa Fluor 750, APC- C750, APC-Cy7, APC-eFluor 780, APC/Fire 750, APC-H7,		
V14	BV750		APC-Vio 770, eFluor 780, Fixable Viability Stain 780,		
V15	BV785, Qdot 800, Super Bright 780		Ghost Dye Red 780, LIVE/DEAD NIR, Live-or-Dye 750/777		62
		R8	cFluor R840, APC/Fire 810		

# SPILLOVER SPREADING MATRICES (SSM)

#### SSM: OMIP-069 40 Fluorochromes - CD4 Stained Human PBMCs\*

	3UV395	LIVE/DEAD Blue	3UV496	3UV563	BUV615	BUV661	BUV737	3UV805	BV421	r Bright 436	luor 450	BV480	BV510	acific Orange	BV570	BV605	BV650	BV711	BV750	BV785	BB515	FITC	ark Blue 550	PerCP	-CP-Cy5.5	<sup>2</sup> -eFluor 710	PE	Jor YG584	Dazzle 594	exa Fluor 610	PE-Cy5	exa Fluor 700	PE-Cy7	PE/Fire 810	APC	ka Fluor 647	rk NIR 685	PC-R700	APC-H7	C/Fire 810	
	1	LIVE,		1	<u> </u>	Ξ.	1	9		Supe	e			Paci									Spai		Per	PerCF		cFIL	PE/I	PE-Ale		PE-Ale		H		Alex	Spa	A		AP(	Sum
BUV395		1.97	5.06	3.27	0.44	0.21	0.17	0.65	1.18	2.75	1.22	1.10	3.78	2.76	1.08	0.78	0.67	1.35	1.05	0.36	5.46	5.89	0.83	0.67	1.79	0.70	1.27	0.90	1.05	1.32	1.58	0.87	0.40	0.45	1.23	1.22	2.03	0.76	0.47	0.15	58.90
LIVE/DEAD Blue	5.01		9.17	0.61	0.15	1.00	0.27	0.44	3.14	4.29	5.68	2.13	10.94	7.55	2.62	1.05	1.34	0.61	0.07	0.54	2.23	2.19	2.40	0.81	0.38	0.28	0.92	0.37	2.98	0.44	1.14	0.44	0.43	0.18	0.87	1.61	0.85	0.62	0.27	0.41	76.44
BUV496	0.83	0.94	1.00	1.44	0.05	0.45	0.32	0.40	0.43	1.70	0.66	1.44	6.21	4.87	2.10	0.71	0.39	0.25	0.12	0.37	4.89	4.13	0.64	0.62	0.73	0.40	0.67	0.38	0.41	0.57	0.91	0.39	0.31	0.04	0.57	1.13	0.50	0.17	0.32	0.08	41.53
BUV563 BUV615	0.47	0.17 0.74	1.29 3.82	3.00	0.42	0.70	0.44 2.39	3.40	0.55	0.89	0.44	0.89 1.23	3.04	3.25 4.43	1.76 1.62	0.96	0.42	0.23	0.23 1.22	0.49	1.22 2.27	2.52	1.23 2.23	2.09 1.92	1.22 2.06	0.71	2.22	2.56 2.54	4.81	4.27 2.97	2.85	0.61 1.84	0.31 0.99	0.16	1.00	0.99 2.59	0.81	0.32	0.28	0.12	53.17 79.02
BUV661	0.55	0.55	1.34	0.87	0.23	3.07	3.40	3.22	0.99	0.99	0.01	0.32	1.84	4.43	0.78	0.43	2.69	1.42	1.46	1.31	3.98	5.07	1.69	3.18	2.53	1.99	1.07	0.76	4.80	4.92	5.52	2.50	1.27	0.52	4.47	8.66	5.33	2.88	2.85	0.50	91.48
BUV737	0.83	0.90	1.68	1.07	0.09	0.71	5.10	6.24	0.95	0.97	0.34	0.20	1.41	3.85	1.04	0.40	1.41	1.85	3.14	2.54	0.62	4.05	0.90	2.86	3.30	3.97	0.13	0.41	0.75	1.22	1.61	2.20	1.16	1.02	3.11	5.60	4.13	3.20	2.37	1.10	73.32
BUV805	1.16	1.00	1.66	1.20	0.16	0.13	1.27		0.94	0.50	0.41	0.21	1.15	3.00	0.37	0.74	0.87	0.68	0.30	1.26	1.30	1.66	0.31	1.17	0.44	0.83	0.15	0.03	1.28	0.50	0.43	0.19	0.58	0.62	1.05	2.39	2.01	0.31	2.18	1.18	35.59
BV421	0.24	0.89	1.35	0.75	0.11	0.15	0.15	0.08		9.62	5.31	2.47	6.39	5.35	1.58	0.76	0.04	0.27	0.39	0.21	0.71	0.02	0.30	0.44	0.50	0.36	0.26	0.21	0.99	0.57	0.62	0.18	0.08	0.17	0.38	0.44	0.19	0.40	0.09	0.05	43.06
Super Bright 436	0.14	0.73	0.37	0.44	0.09	0.15	0.15	0.11	5.17		4.66	2.64	6.88	5.83	1.82	0.91	0.30	0.20	0.32	0.17	1.04	1.85	0.83	0.62	0.76	0.41	0.27	0.25	0.69	0.92	0.62	0.25	0.27	0.16	0.60	0.80	0.71	0.32	0.34	0.13	42.93
eFluor 450	0.59	0.95	2.27	0.95	0.08	0.36	0.24	0.44	5.34	10.54		2.89	7.24	5.93	1.78	0.92	0.38	0.45	0.07	0.61	1.25	3.87	0.40	1.09	0.55	0.62	0.17	0.19	0.98	1.03	0.44	0.64	0.12	0.08	0.98	1.48	0.89	0.24	0.58	0.45	58.07
BV480	0.34	0.80	3.44	1.92	0.39	0.22	0.07	0.26	1.99	3.82	2.50		12.68	11.33	4.71	2.50	0.65	0.62	0.50	0.49	6.62	7.16	1.89	0.78	0.38	0.27	1.29	0.51	1.21	0.54	0.40	0.15	0.29	0.18	0.41	0.71	0.55	0.33	0.39	0.15	73.46
BV510	0.24	0.78	2.22	2.35	0.63	0.54	0.07	0.65	1.30	2.55	1.76	2.36		9.87	5.17	3.37	1.37	0.83	0.89	0.98	5.56	5.49	2.14	1.31	1.06	0.30	1.39	0.49	2.52	1.36	0.17	0.34	0.35	0.28	0.23	0.94	1.17	0.60	0.34	0.39	64.35
Pacific Orange	0.18	2.13	2.89	1.24	0.57	0.32	0.81	0.62	1.85	2.81	0.31	2.40	2.67	1.00	5.13	3.77	2.12	1.01	0.95	1.99	5.31	2.92	2.45	3.06	2.15	0.90	1.41	0.68	2.71	3.50	0.71	0.78	0.61	0.18	1.17	1.08	1.96	0.77	0.11	1.56	67.79
BV570 BV605	0.48	0.95 0.75	1.49 0.99	1.63 0.59	0.71 0.84	0.42	0.38	0.58 1.04	2.00 1.16	2.89 1.67	1.75 0.86	1.26 0.78	3.67 4.05	4.99 5.73	2.21	3.30	1.61 2.28	0.46 1.23	1.01	0.66 1.60	4.92 6.23	6.49 7.50	2.24 2.69	1.77 1.86	1.27 1.51	0.37	3.44 2.94	1.51 2.44	4.23	3.34	2.20 3.15	1.03 1.53	0.10 0.87	0.32 0.37	0.77 1.43	2.16 2.66	0.31	0.72	0.12	0.29	67.84 78.79
BV650	0.17	0.75	1.72	1.14	0.84	1.00	0.85	1.04	1.16	2.52	1.44	0.78	4.05	1.93	0.76	0.83	2.28	1.23	2.18	2.01	2.87	3.58	2.69	1.80	1.31	0.93	0.97	0.59	3.43	3.94	2.97	1.53	0.87	0.37	2.34	4.38	2.98	1.54	1.54	0.30	65.07
BV711	0.14	0.33	1.06	0.67	0.17	0.46	1.83	2.28	1.42	2.52	1.44	0.70	2.02	1.95	0.93	0.81	0.95	1.07	4.05	4.16	2.07	2.37	1.23	1.33	1.90	1.96	0.49	0.09	0.15	0.99	1.24	2.96	1.16	0.54	2.00	2.89	3.44	3.08	1.92	118	60.33
BV750	0.21	0.90	1.70	0.89	0.03	0.15	2.47	2.80	1.29	2.12	0.96	0.72	2.85	1.84	0.85	0.22	0.48	1.65	1.05	6.14	2.75	2.10	0.70	0.52	0.88	1.15	0.44	0.23	0.99	0.82	0.81	0.56	0.69	0.62	1.16	1.99	1.78	0.97	1.70	1.54	50.68
BV785	0.29	0.72	0.85	0.83	0.07	0.12	1.17	2.99	1.49	2.05	1.19	0.56	0.78	0.41	0.65	0.30	0.53	0.81	2.93		1.52	0.90	0.64	1.06	0.61	0.39	0.23	0.09	0.96	0.74	0.86	0.30	0.71	0.50	0.83	1.58	1.37	0.05	1.88	2.11	36.04
BB515	0.15	0.53	0.73	0.51	0.38	0.12	0.08	0.10	0.36	0.84	0.66	0.89	5.22	7.12	2.27	1.67	0.56	0.47	0.49	0.74		21.91	4.37	1.02	0.72	0.73	1.05	0.69	2.46	1.52	1.19	0.54	0.33	0.26	0.55	1.09	0.70	0.17	0.24	0.07	63.48
FITC	0.22	0.53	1.25	1.05	0.44	0.22	0.45	0.20	0.60	1.30	0.73	0.66	4.24	7.20	2.21	1.71	0.57	0.67	0.60	1.05	18.20		3.58	0.29	0.47	1.13	1.08	0.97	2.53	2.17	1.23	0.33	0.19	0.26	1.10	0.60	0.71	0.60	0.39	0.44	62.21
Spark Blue 550	0.65	0.70	2.29	3.78	2.54	1.33	2.27	0.98	0.33	1.79	2.07	0.17	6.47	8.24	3.85	1.07	1.03	0.42	0.74	0.49	12.41	16.94		2.69	2.09	1.48	3.67	2.47	3.80	2.43	2.41	0.37	0.12	0.61	0.41	3.34	2.04	1.73	0.54	0.13	100.89
PerCP	0.58	0.27	5.15	2.60	0.25	1.24	1.22	1.01	1.10	4.52	2.00	1.29	3.74	3.85	0.82	1.54	2.86	1.54	1.03	1.28	1.38	4.87	0.69		5.34	2.82	2.00	1.45	7.45	7.81	7.90	1.65	1.07	0.84	3.21	4.03	2.71	2.12	1.27	0.89	97.38
PerCP-Cy5.5	0.69	1.50	3.48	2.23	0.45	1.10	1.86	2.41	0.92	3.31	0.82	0.60	3.44	2.26	0.43	1.52	2.75	2.83	2.79	2.56	0.45	5.08	1.04	9.87		5.90	1.51	1.46	6.44	7.63	7.47	4.91	2.60	1.44	3.03	6.52	6.05	3.34	3.28	1.15	117.14
PerCP-eFluor 710	0.36	1.02	1.49	1.03	0.21	0.66	1.78	2.06	0.76	1.31	0.48	0.11	3.00	3.20	1.32	0.23	1.53	4.24	3.60	3.30	4.15	4.85	1.74	6.61	7.36		0.56	0.81	3.36	3.78	3.71	8.49	2.95	1.92	2.48	4.98	5.57	4.18	2.93	1.36	103.48
PE	0.17	0.37	0.58	1.16	0.54	0.36	0.13	0.18	0.34	0.45	0.39	0.45	2.44	3.04	2.46	1.62	0.76	0.40	0.36	0.38	3.52	3.91	1.83	2.85	1.72	1.12	4.10	3.62	6.60	5.90	3.86	0.94	0.50	0.26	0.92	1.65	0.78	0.37	0.39	0.09	57.41
cFluor YG584 PE/Dazzle 594	0.12	0.22 0.69	1.39 0.60	1.48 0.36	1.75 1.40	1.11 0.59	0.73 0.34	0.22 0.39	0.76 0.22	1.14 0.12	0.46	0.20	2.07	1.92 7.93	1.38 2.51	0.95 2.76	0.60 1.41	0.38	0.45 0.79	0.16 0.60	1.12 7.69	1.95 9.01	0.41	1.70 4.10	1.38 3.07	0.99 2.13	4.13 5.29	2.71	2.83	3.55 6.03	2.38 4.87	1.24 2.09	0.71 1.18	0.33	1.03	1.78 2.38	1.50 2.07	0.86	0.19 0.95	0.42	45.98 89.42
PE-Alexa Fluor 610	0.50	0.84	2.77	0.50	1.40	0.39	0.34	0.39	0.22	1.08	1.61	0.76	4.98	7.55	2.51	2.05	1.65	0.90	0.79	1.59	6.69	9.01	3.35	6.47	5.45	3.32	4.05	1.81	7.59	0.05	7.08	3.80	2.19	1.06	3.77	4.17	3.98	1.77	1.84	0.56	111.58
PE-Cy5	0.14	0.48	0.62	0.38	0.82	0.95	0.92	0.68	0.51	0.44	0.57	1.00	5.35	8.02	2.34	0.68	2.60	1.65	1.41	1.09	9.13	11.46	4.51	9.37	5.68	3.80	2.59	2.45	11.49	12.90	1.00	5.24	2.22	1.11	4.21	11.07	6.98	3.17	3.13	0.52	141.70
PE-Alexa Fluor 700	0.33	0.59	0.86	0.23	0.53	0.86	3.45	2.27	0.66	0.29	0.31	0.16	0.95	1.33	0.08	0.29	0.42	1.81	1.18	0.90	2.12	4.11	1.60	4.90	5.60	9.43	1.44	0.77	1.34	1.53	1.79		3.79	2.34	2.58	5.12	6.00	5.46	1.37	0.79	79.57
PE-Cy7	0.10	0.46	0.76	0.41	0.30	0.05	0.94	1.69	0.20	0.37	0.56	1.18	6.38	9.86	3.19	1.60	0.94	2.73	1.00	2.27	11.01	14.65	4.76	1.20	2.52	3.77	1.01	0.68	2.34	1.18	0.66	2.06		3.14	1.89	4.23	3.65	2.43	1.82	1.64	99.64
PE/Fire 810	0.58	0.51	1.67	1.63	0.44	1.13	0.74	4.94	0.53	0.79	0.60	0.58	0.98	1.60	1.12	0.36	0.86	0.37	0.40	1.13	3.97	5.60	2.33	2.18	2.25	1.74	3.31	1.93	1.87	1.88	1.50	1.34	4.27		1.46	2.13	2.67	1.65	1.13	1.69	65.87
APC	0.42	0.91	1.24	0.74	0.22	0.86	1.14	0.88	0.76	0.90	0.50	0.30	2.05	3.39	1.40	0.04	3.06	1.27	1.29	1.07	5.16	5.49	1.98	2.33	4.03	2.04	1.45	1.02	5.38	6.03	7.34	2.43	1.33	0.58		10.33	6.88	2.97	2.96	0.69	92.83
Alexa Fluor 647	0.24	0.64	1.15	0.67	0.21	0.38	0.68	0.38	0.50	0.92	0.28	0.36	0.76	1.60	0.22	0.35	1.60	0.88	0.65	0.67	1.52	2.61	0.79	1.78	1.65	0.97	0.64	0.71	3.17	4.05	4.56	1.62	0.95	0.36	3.95		5.68	2.81	2.71	0.49	54.17
Spark NIR 685	0.62	0.93	2.02	1.56	1.23	1.05	1.90	1.66	1.33	1.23	0.75	0.86	1.00	0.69	1.18	0.39	0.93	80.0	1.08	0.59	1.87	2.16	2.39	2.65	1.98	2.08	0.97	0.63	1.16	1.67	1.78	1.83	0.93	0.50	5.44	11.18		4.66	3.01	1.04	69.03
APC-R700	0.20	0.55	1.23	0.38	0.11	0.46	1.16	0.88	0.38	0.61	0.08	0.37	1.35	0.20	0.62	0.13	1.28	2.41	1.60	1.37	1.71	2.14	0.87	1.68	1.72	3.14	0.60	0.25	1.44	1.81	1.71	9.56	2.55	0.89	2.66	4.89	5.35		3.48	0.54	62.35
APC-H7	0.29	1.36	1.09	0.92	0.13	0.38	0.60	1.74	0.69	1.71	1.19	0.63	3.07	2.02	0.20	0.31	0.74	0.64	0.53	2.38	2.42	1.49	0.22	0.96	1.05	0.52	0.35	0.38	1.39	0.76	0.17	0.58	2.57	1.18	1.29	2.36	2.19	0.92	2.62	1.17	42.56
APC/Fire 810	0.68	0.47	1.87	0.86	1.11	0.56	1.20	5.68	0.54	1.26	1.30	0.51	1.59	1.22	0.63	0.62	0.62	0.30	0.64	0.95	2.78	2.22	0.35	0.49	0.27	0.52	0.99	0.28	0.90	0.16	0.73	0.51	1.48	1.89	2.17	2.05	2.45	1.23	2.62	26.07	46.71
Sum	20.32	31.19	76.56	47.51	19.84	25.73	39.51	57.20	45.07	80.75	47.15	37.25	149.84	170.20	67.69	43.86	46.38	41.72	43.24	51.62	160.22	205.57	67.39	91.77	79.74	66.90	65.30	40.32	116.85	109.88	93.73	68.71	43.41	26.61	69.73	129.21	101.78	61.17	53.49	26.87	2821.26

\*APC/Fire 810 specificity is CD38 as CD4 was not available.

#### SSM: 40C with cFluors Dyes\* (see page 19)

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	BUV395	LIVE/DEAD Blue	BUV496	BUV563	BUV615	BUV661	BUV737	BUV805	cFluor V420	BV421	cFluor V450	BV480	BV510	cFluor V547	BV570	BV605	BV650	BV711	BV750	BV785	cFluor B515	FITC	cFluor B548	PerCP	PerCP-Cy5.5	PerCP-eFluor 710	ΡE	cFluor YG584	cFluor BYG610	PE-Alexa Fluor 61	cFluor BYG667	cFluor BYG710	PE-Cy7	PE/Fire 810	APC	cFluor R668	cFluor R685	APC-R700	APC-H7	APC/Fire 810	SUM
BUV395		3.62	6.10	1.60	1.11	0.30	0	0	3.60	2.71	0.39	2.00	5.50	4.82	1.05	0.61	0	0.35	0	0	0	0	0	0.23	0.37	0.67	0.94	0.22	0	0	0.27	0	0.19	0.31	0.25	0.94	0	0.48	0.12	0.47	39.23
	1.80		9.73	2.83	0.61	0	0	0.93	6.87	3.90	5.31	3.52	12.68	11.43	3.51	1.37	0.78	0	0	0	0	0	0.80	0	1.38	0.96	0.75	0.64	1.15	0.63	0	0	0	0.42	1.41	2.63	2.36	0	0.21	0	78.61
	0.76	1.82		3.81	1.73	0.76	0.65	0.70	1.69	1.37	0.77	4.02	13.83	10.67	3.08	1.64	0.19	0	0.34	0.31	9.99	10.45	2.65	0.54	0	0	1.17	0.95	0.66	0	0.59	0	0	0.14	0.36	0	0.34	0.23	0.18	0	76.42
	0.64	0.28	1.37		2.97	1.60	1.11	1.02	0	0	0	2.15	6.06	4.96	1.75	0.96	0.44	0.31	0	0.28	2.59	2.71	1.87	1.38	1.03	0.74	2.91	2.66	2.37	2.08	1.74	0.58	0.24	0.32	1.00	1.34	0.60	0.41	0.22	0.11	52.79
	0.66	0.60	0	2.92		3.42	3.49	3.69	0.84	0.75	0.12	0.59	2.27	1.67	0.36	1.84	1.20	0.99	1.10	0.78	0	1.41	0.62	2.44	2.03	1.71	1.95	1.64	2.82	3.42	3.26	1.94	0.98	0.57	2.63	3.36	2.57	1.46	0.51	0.45	63.06
	0.75	0.91	0.81	0.85	1.01		5.93	6.36	0.73	0.61	0	0.38	2.17	1.43	0	0.54	2.39	1.58	1.75	1.35	0.93	1.42	0.43	2.59	2.15	2.07	0.49	0.90	1.79	2.28	3.26	2.53	0.95	0.59	6.37	10.23	7.75	3.44	1.74	1.20	82.67
	1.03	0.68	0	0	0	1.28		12.96	0.57	0.35	0	0	0	0	0	0.35	0.39	2.15	2.73	2.33	1.25	0	0	1.88	2.38	3.75	0.32	0	0	0.71	1.05	2.85	0.97	1.06	2.12	4.26	4.81	4.87	2.57	1.88	61.55
-	1.77	1.34	1.87	0	0.45	0.24	3.28		1.48	1.03	0.19	0.90	1.76	1.70	0.59	0.14	0.30	0	0.99	2.07	0	0	0	1.13	1.19	1.33	0.57	0	0	0	0	0.51	0.61	0.64	0	0.86	0.90	1.10	1.62	1.96	32.52
	0.42	1.39	3.00	0	0.86	0.25	0	0		8.94	6.89	4.03	7.84	5.93	2.31	1.13	0	0.55	0.54	0.39	4.60	4.44	0	0	0	0	0	0	0.84	1.02	0.86	0	0	0	0.84	1.33	0	0	0.50	0	58.89
	0.68	2.03	4.93	2.27	0.49	0.07	0	0.19	14.42		6.73	4.47	10.32	8.27	2.66	1.01	0	0.23	0.10	0	2.48	2.69	0.79	0.09	0.31	0.14	0.42	0.66	0	0	0.09	0.21	0	0	0.25	0	0	0	0	0	66.96
cFluor V450	0	1.32	4.87	1.04	0.30	0.31	0	0	11.68	6.48		4.81	11.98	9.40	3.01	1.47	0.26	0	0	0	0	1.70	0	0.41	1.03	0.78	0	0	0	0	0.96	0	0	0	0	0	0.94	0.50	0	0.35	63.58
	0.43	1.55	8.73	4.96	1.53	0.57	0.34	0	3.45	2.12	2.89		19.59	17.25	6.70	3.14	0.89	0.37	0.54	0.08	13.09	14.04	3.51	0.33	0.66	0.55	1.33	1.71	1.07	0.68	0.64	0.26	0	0.20	0.41	0	0.34	0	0	0.18	114.13
	0.36	0.76	8.55	5.23	2.45	1.20	1.33	1.47	2.58	1.60	1.98	4.55		14.20	6.87	3.46	1.55	0.88	1.22	1.02	2.59	2.79	1.19	0.54	0	0.57	1.33	1.61	1.33	1.40	1.00	0.35	0	0	0.83	1.78	0.98	0.43	0.22	0.19	80.41
	0.38	0	0	3.01	1.92	1.10	0.89	1.08	0	0	0	2.52	9.50		6.68	4.30	2.20	1.20	1.53	1.37	2.11	4.38	0	1.13	0	0	1.96	0.72	1.72	0.84	0.47	0	0	0.40	1.64	1.71	0.96	0	0.56	0.56	56.83
	0.34	0	0	4.36	2.11	1.16	0.86	0.98	4.92	2.95	2.18	1.16	2.84	2.13		3.71	1.89	1.05	0.97	0.89	2.06	1.88	0	1.79	1.36	0.90	2.73	2.37	2.88	2.74	2.19	0.93	0.57	0.22	1.86	3.39	1.74	0.71	0	0	64.81
BV605	0	0	0	2.93	3.06	2.34	1.99	2.36	3.07	1.96	1.47	1.16	3.42	2.65	2.24		2.81	1.66	1.79	1.62	0.82	2.25	0.72	2.28	2.00	1.67	2.23	2.23	3.15	3.36	3.08	1.87	0.95	0.62	2.11	3.50	2.04	1.05	0.34	0.32	73.15
	0.07	0.11	0	0.36	1.08	2.59	2.41	2.56	3.66	2.20	1.29	1.12	1.20	1.70	0	1.72		2.42	2.47	2.26	0	0	0	1.72	2.15	1.71	0.39	0.70	1.47	1.74	1.97	1.71	0.67	0.41	2.99	5.08	3.68	1.67	0.69	0.55	58.55
	0.43	0	0	0	0.28	0.91	4.32	5.39	3.83	2.43	1.80	1.01	2.13	2.03	0.78	0.41	0.89		5.19	4.64	0	0	0	1.71	2.42	2.48	0.50	0.53	0.66	0.85	1.34	2.59	1.12	0.81	2.01	4.24	4.22	3.43	1.82	1.34	68.55
	0.43	0	0	0.95	0	0.52	5.22	6.09	2.67	1.76	1.01	0.86	1.22	0.89	0.57	0	0	1.71		6.69	0	0	0	0.68	0.97	1.47	0	0	0.27	0.10	0	1.18	1.01	0.93	0.94	1.70	2.18	2.14	1.54	1.15	46.82
	0.44	0	0	0	0	0.18	2.75	7.38	3.29	2.07	1.51	0.78	1.53	1.08	0.39	0	0	0.56	3.18		0	0	0	0.94	0.99	0.97	0.37	0	0.31	0.62	0.57	0.58	0.94	0.81	0.87	1.00	0.85	1.04	1.59	1.42	38.99
	0.08	0	3.41	1.84	0.66	0.31	0	0	0.45	0.36	1.11	1.41	9.31	9.65	2.90	1.38	0.38	0.09	0	0	10.10	53.53	13.39	1.05	0	0.29	3.55	3.23	2.35	1.72	1.50	0.38	0	0	0.43	0	0.75	0.27	0.16	0	115.93
-	0.35	0.78	2.24	0.99	0	0	0.32	0	0	0.40	0.82	0.22	7.51	8.60	3.00	1.09	0	0.45	0	0	43.18	17.0.4	12.31	1.50	0.80	0.68	4.22	4.13	2.74	1.93	1.73	0.11	0	0.27	0	1.12	0.99	0.49	0	0	102.97
	0.47	0	0.48	2.03	0.91	0.57	0	0.30	0	0.60	0	0.57	5.66	8.62	4.20	2.17	1.18	0.87	0.76	0.72	14.33	17.34	1.01	2.82	1.94	1.34	4.44	4.28	3.27	2.65	2.71	0.85	0.54	0.52	1.45	2.58	1.76	0.67	0.20	0	93.80
PerCP	0	0	0	0	0	2.57	3.48	2.99	2.10	2.90	0	0	0	0	1.12	0	3.30	0	1.20	1.23	2.71	3.30	1.21	0.70	5.97	0	0.91	1.46	2.67	3.48	7.02	0	1.25	0	4.61	6.71	5.95	1.72	0.71	0.70	71.27
,	0.39	0	0	0	0	1.96	3.72	4.28	0	0	0.51	0.42	0.84	2.17	0.97	0.78	2.66	4.11	3.59	3.08	4.50	6.11	0.71	9.79	0.47	7.14	0	0.72	2.15	2.83	5.51	5.38	2.83	2.25	5.21	8.47	8.16	3.30	1.61	1.12	107.26
	0.43	0	0	0	0	1.25	3.39	4.27	0	0	0	0	0	0.26	0	0	1.49	7.06	3.91	3.66	0	0	0	6.26	8.47	4.00	0.67	0	1.39	1.78	3.31	9.28	2.98	2.64	3.51	6.55	6.46	3.72	1.75	1.39	85.88
-	0.16	0	0.55	2.02	0.74	0.57	0.31	0.28	0	0.22	0	0.27	1.25	1.27	2.89	1.56	0.86	0.47	0.29	0.23	2.28	2.57 0	0.89	2.61	1.80	1.20	2.40	9.66	5.54	4.71	3.82 3.47	1.15	0.50	0.33	1.61	3.13	1.56 1.18	0.50	0.09	0.07	57.97 34.90
cFluor YG584 cFluor BYG610	0.14	0.23	0	0.79	0.42 1.43	1.09	0.54	0.16 0.48	0	0.21	0 0.06	0	0	0	1.35 1.27	1.01	0.74	0.42	0.14	0.26 0.49	3.12	-	1.44	2.15 4.33	1.65 3.38	1.11 2.30	3.48	5.98	4.36	4.32 5.43	4.98	1.56	0.70 0.97	0.48		4.34	3.06	0.27	0.12	0	54.90 67.77
	0.14	0.22	0	0	1.43	1.39	1.19	1.18	0	0.23	0.00	0	0	0	0.44	2.27	1.55 2.29	2.02	1.29	1.15	1.78	3.85 2.22	0.48	7.00	6.20	4.50	5.11 2.14	2.73	3.65	5.45	5.65	2.28 4.72	2.18	1.46	2.94 4.81	7.16	5.26	1.63	0.20	0.21 0.39	80.29
	0.56	0.07	0	0	1.02	1.39	1.19	1.10	0	0.59	0	0	0.72	1.10	0.35	0.95	3.94	4.05	1.2.9	1.13	4.92	5.96	2.41	11 41	0.20	6.63	1.47	1.51	3.56	5.26	5.05	6.74	2.10	1.40	7.20	12.00	0.20	3.54	1.55	0.39	117.94
	0.15	2.04	3.83	2.11	1.02	0.57	1.34	1.62	0	0	0	0	0.72	0	0.55	0.95	0.70	4.03	1.45	1.25	1.72	1.64	1.09	4.80	6.72	0.05	1.47	1.31	3.30	1.51	2.28	0.74	2.45	1.03	7.50	3.84	3.74	2.59	0.95	0.91	73.92
-	0.13	0.35	3.65 0	0.21	0.16	0.37	1.40	3.21	0.13	0.29	0	0.35	0.01	0.61	0.30	0.31	0.70	3.07	1.39	1.29	1.64	1.04	0.36	4.80	1.47	0.00 E 14	1.00	0.57	0.71	0.88	0.88	4.32	2.00	6.45	2.10	1.24	0.98	2.39	1.65	1.31	47.89
PE/Fire 810	0.20	0.55	0	0.51	0.39	0.18	0.86	4.48	0.15	0.29	0.86	0.62	0	0.01	0.34	0.55	0.30	2.24	0.79	1.94	2.62	2.45	0.50	2.00	2.39	3.84	4.07	2.74	2.46	2.65	2.37	3.41	4.25	0.45	1.11	1.24	1.81	0.67	0.92	1.62	57.30
	0.15	1.15	0.91	0	0.39	1.48	1.71	1.66	0	0	0.80	0.02	0	0	0.64	0.33	3.01	1.31	1.35	1.55	1.79	2.45	0.62	2.00	2.39	1.64	0.42	1.02	1.77	2.03	3.14	2.60	4.25 1.22	0.71	1.11	12.00	1.01	3.55	1.95	1.02	67.85
-	0.15	0	0.91	0	0	0.65	0.63	0.45	0	0	0	0	0	0	0.40	0.82	3.01	0.56	0.31	0.10	0.97	1.15	0.62	1.28	1.40	1.64	0.42	0.50	0.99	2.57	2.09	2.60	0.78	0.71	672	-15.09	9.03	3.23	2.09	1.20	42.57
	0.13	0	0	0	0.10	0.63	1.17	1.20	0	0	0	0	0	0.67	0	0.34	1.74	1.02	1.00	0.10	0.97	0	0.09	1.20	1.40	1.20	0	0.52	0.55	0.99	1.05	2.15	1.12	0.44	5.57	12.22	9.50	3.76	2.09	1.22	46.00
	0.13	0	0	0	0.10	0.61	1.17	1.20	0.53	0.86	0	0.50	0	0.07	0	0.37	1.02	2.04	1.45	1.28	0	0	0	1.47	1.73	2.29	0.52	0.13	0.54	0.99	1.73	4.99	1.12	1.07	3.64	7.04	7.64	5.70	3.15	1.41	53.29
	0.25	1.23	1.39	0.41	0	0.01	1.65	4.24	0.00	0.60	0	0.93	1.60	1.00	0	0.41	0	0.46	0.90	1.20	0	0	0.34	0.41	0.28	0.86	0.32	0.50	0.00	0.70	0	0.63	2.57	1.68	0.04	1.72	1.37	0.72	5.15	4.10	31.49
	0.31	0	0	0.41	0.45	033	0.80	5.01	127	0.38	0	0.95	0.60	1.00	0	0.35	0.25	0.40	0.90	1.95	0	0	0.34	0.41	0.20	0.86	0.54	0	0	0.51	0.55	0.05	1.44	2.04	142	2.58	1.57	0.72	2.88	-T.TU	30.70
SUM	15.62	23.28	62.78	48.74	29.51	35.75	60.02	92.20	73.83	50.73	37.92	45.66	144.14	137 48	63.16	44.20	43.73	52.52	47.00	50.12	128.05	153.90	48.80	85.10	79.69	73.54	55.06	58.35	62.70	68.24	77 30	71.08	39.52	33.64	83.52	147.62	117 36	55.76	37.63	30.11	5330.00
	10.04	23.20	JL.IU	-1U.1 T	23.31	33.13	00.02	JC.CU	10.00	30.13	J1.JL	-13.00	1444.144	UF. 10	55.10	-171.CU	4J.1J	26.26	-17.00	50.14	120.00	0.00	-10.03	05.10	15.03	15.54	55.00	JU.JJ	02.10	JU.24	11.30	71.00	JJ.J4	55.04	20.02	177.02	117.50	55.70	51.05	50.11	5550.55

\*APC/Fire 810 specificity is CD38 as CD4 was not available.

#### SSM: 40C with Super Bright Dyes\*

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	BUV395	LIVE/DEAD Blue	BUV496	BUV563	BUV615	BUV661	BUV737	BUV805	BV421	Super Bright 436	eFluor 450	BV480	BV510	Pacific Orange	BV570	Super Bright 600	Super Bright 645	Super Bright 702	BV750	Super Bright 780	BB515	FITC	Spark Blue 550	PerCP	PerCP-Cy5.5	PerCP-eFluor 710	PE	cFluor YG584	PE/Dazzle 594	PE-Alexa Fluor 610	PE-Cy5	PE-Alexa Fluor 700	PE-Cy7	PE/Fire 810	APC	Alexa Fluor 647	Spark NIR 685	APC-R700	APC-H7	APC/Fire 810	Sum
BUV395		1.95	5.31	3.28	0.35	0.53	0.25	0.31	0.70	3.00	1.47	1.00	4.34	3.04	0.88	1.07	0.55	0.92	0.46	0.51	4.84	4.80	1.55	0.68	1.69	0.55	1.15	0.84	0.55	1.94	1.36	0.60	0.40	0.32	1.53	1.49	1.75	0.87	0.89	0.22	57.94
LIVE/DEAD Blue	4.92		9.08	0.40	0.11	1.07	0.29	0.22	3.22	4.53	5.52	2.17	11.06	7.73	2.79	1.10	1.35	0.45	0.38	0.22	3.20	2.26	2.42	0.85	0.59	0.52	0.67	0.36	2.90	1.36	0.79	0.43	0.47	0.09	0.62	1.64	0.99	0.53	0.50	0.41	78.19
BUV496	0.83	0.93		1.53	0.05	0.46	0.32	0.35	0.69	1.51	0.82	1.50	6.42	5.09	2.20	0.76	0.54	0.08	0.22	0.34	5.01	4.13	0.53	0.42	0.75	0.15	0.40	0.42	0.74	0.60	0.14	0.32	0.37	0.16	0.38	1.00	0.37	0.35	0.19	0.23	41.29
BUV563	0.45	0.61	0.64		0.39	0.68	0.47	0.67	0.65	0.49	0.41	0.93	2.90	2.73	1.65	0.98	0.60	0.39	0.20	0.05	0.68	2.58	1.24	2.11	1.14	0.62	7.63	2.51	5.28	4.28	2.99	0.57	0.26	0.11	0.71	1.11	0.36	0.41	0.40	0.04	50.91
BUV615	0.72	0.65	3.46	3.06		2.83	3.57	2.46	0.65	1.08	0.56	1.17	4.34	4.42	1.70	0.96	1.18	0.90	0.98	0.90	2.44	7.49	2.50	2.23	2.25	1.60	3.37	2.56	3.20	2.86	3.26	1.93	0.99	0.42	1.49	3.87	3.59	1.69	0.80	0.49	84.61
BUV661	0.55	0.57	1.46	0.94	0.23		3.37	3.19	0.77	1.29	0.54	0.29	2.08	3.91	0.76	0.28	2.59	1.46	1.12	1.05	4.04	5.21	1.65	3.20	2.49	2.10	0.91	0.80	4.68	4.82	5.59	2.49	1.29	0.56	4.58	8.51	5.45	2.77	3.03	0.79	91.42
BUV737	0.81	0.91	1.62	1.05	0.15	0.75		6.20	0.64	0.35	0.37	0.27	1.45	2.69	0.59	0.14	1.36	2.15	2.62	1.95	1.83	3.00	0.72	3.06	3.48	4.05	0.27	0.35	0.63	1.27	1.92	2.40	1.17	1.03	3.55	6.67	5.00	3.08	2.67	1.23	73.46
BUV805	1.19	0.97	1.33	1.19	0.14	0.01	1.23		0.74	0.55	0.15	0.26	0.32	2.42	0.37	0.68	0.59	0.46	0.49	0.95	1.24	1.54	0.43	1.26	0.67	1.20	0.26	0.27	1.28	0.36	0.33	0.29	0.56	0.61	1.05	2.27	2.24	0.11	2.07	1.34	33.45
BV421	0.26	0.87	1.51	0.84	0.11	0.15	0.20	0.22		9.82	5.18	2.49	6.31	5.44	1.68	0.71	0.02	0.17	0.29	0.14	1.28	0.19	0.45	0.39	0.55		0.24	0.15	0.50	0.36	0.74	0.03	0.10	0.14	0.44	0.22	0.53	0.30	0.26		43.75
Super Bright 436	0.07	0.72	0.22	0.72	0.11	0.23	0.13	0.21	5.24		4.69	2.62	6.99	5.97	1.88	0.86	0.46	0.28	0.17	0.12	1.37	2.21	0.74	0.76	0.62	0.25	0.26	0.31	0.61	0.78	0.49	0.18	0.27	0.12	0.63	0.51	0.40	0.25	0.22	0.14	42.80
eFluor 450	0.49	0.89	1.50	1.00	0.19	0.29	0.08	0.52	5.25	10.55		2.84	7.56	5.88	1.78	0.80	0.37	0.69	0.36	0.31	1.42	3.34	0.76	0.82	0.71	0.71	0.27	0.00	1.39	1.68	0.89	0.50	0.06	0.25	1.35	0.95	1.39	0.43	0.48	0.42	59.16
BV480	0.33	0.84	3.32	1.91	0.36	0.29	0.06	0.23	2.00	3.76	2.47		12.49	11.21	4.87	2.44	0.52	0.57	0.35	0.36	6.66	7.20	1.91	0.80	0.31	0.27	1.25	0.55	1.70	0.74	0.43	0.26	0.28	0.13	0.38	0.71	0.55	0.10	0.43	0.17	73.22
BV510	0.23	0.83	2.69	2.29	0.60	0.54	0.24	0.80	1.45	2.45	1.75	2.65		10.53	5.19	3.27	1.33	0.73	0.80	0.70	5.41	5.74	2.10	1.18	0.79	0.16	1.41	0.57	1.94	1.46	0.37	0.34	0.28	0.18	0.78	0.68	1.36	0.34	0.31		64.92
Pacific Orange	0.44	1.86	4.67	0.83	0.66	0.15	0.61	0.63	1.27	1.93	0.65	2.39	2.19		5.34	3.58	1.94	1.33	0.64	1.52	7.22	4.47	2.21	2.53	1.69	1.52	1.64	0.75	2.52	3.36	1.52	1.12	0.64	0.42	1.41	2.18	1.42	0.49	1.48		73.47
BV570	0.54	0.96	1.93	1.38	0.67	0.45	0.41	0.47	2.07	2.91	1.68	1.21	3.21	5.15		3.13	1.72	0.81	0.66	0.39	5.44	6.20	2.19	1.83	1.28		3.45	1.57	4.24	3.42	2.22	0.94	0.24	0.28	1.02	1.84	0.22	0.64	0.43		67.63
Super Bright 600	0.26	0.97	0.91	1.05	0.87	0.88	0.68	0.80	1.76	3.43	1.36	1.17	3.84	6.04	2.45		2.35	1.22	1.19	1.18	6.54	7.41	2.76	2.07	1.40		3.23	2.70	5.42	3.95	3.57	1.51	0.88	0.41	1.54	2.69	1.46	0.95	0.94		83.36
Super Bright 645	0.32	1.36	0.91	0.72	0.33	1.03	0.93	1.00	1.40	3.04	1.18	0.86	2.19	2.43	0.97	0.46		1.74	1.65	1.51	1.76	3.28	1.19	1.14	1.81	1.10	1.25	0.67	4.51	4.57	3.25	1.72	1.08	0.26	2.34	4.40	3.04	1.72	1.67		65.50
Super Bright 702	0.14	1.46	1.55	0.65	0.18	0.65	1.63	1.88	1.97	3.78	1.90	1.24	0.85	2.13	0.57	0.37	1.12		2.83	2.98	1.19	0.40	0.92	1.53	1.29		0.42	0.42	1.34	1.26	2.11	3.71	1.41	0.53	2.68	4.84	5.24	4.40	2.98		67.75
BV750	0.09	0.86	1.76	0.84	0.09	0.18	2.48	2.77	1.05	2.20	0.96	0.71	2.46	1.83	0.71	0.07	0.60	1.38		4.65	2.30	0.64	0.84	0.62	1.03		0.69	0.20	0.64	0.66	0.73	0.63	0.68	0.61	1.31	2.68	2.18	0.91	1.98		48.14
Super Bright 780	0.66	0.25	1.01	0.75	0.37	0.82	5.14	4.21	1.39	2.81	1.15	0.38	0.71	1.17	0.15	0.11	0.64	0.51	1.62		1.50	2.82	0.59	1.69	1.35	0.86	0.18	0.14	0.41	0.11	0.95	0.46	0.95	0.63	1.38	4.17	3.77	1.37	2.69	1.39	51.26
BB515	0.14	0.54	0.42	0.43	0.33	0.13	0.10	0.09	0.32	0.96	0.66	0.89	5.02	6.90	2.21	1.51	0.43	0.25	0.54	0.66		21.51	4.05	1.07	0.65	0.66	0.97	0.70	2.18	1.57	1.30	0.59	0.32	0.25	0.33	0.62	0.54	0.16	0.06	0.11	60.19
FITC	0.38	0.86	1.73	1.06	0.38	0.16	0.42	0.45	0.55	1.24	0.36	0.89	3.78	6.92	2.31	1.39	0.27	0.61	0.35	0.84	17.43		3.58	0.69	0.68	1.00	1.31	0.99	2.66	2.39	1.37	0.31	0.05	0.17	0.83	1.40	0.45	0.11	0.18		60.91
Spark Blue 550	0.65	0.47	1.84	3.80	2.12	1.47	1.35	0.37	0.70	1.50	2.78	0.66	5.64	8.51	3.86	0.99	0.96	0.17	0.28	0.74	12.36	16.70		2.30	2.41		3.41	2.43	3.73	2.63	2.30	0.10	0.23	0.62	1.41	2.53	1.75	1.24	0.42		97.26
PerCP	1.03	2.46	7.48	4.26	0.09	0.53	1.01	1.16	1.03	4.81	2.16	1.01	10.84	3.00	1.60	1.11	2.50	1.73	1.35	1.09	4.87	5.91	3.71		5.41	2.51	1.04	0.88	4.88	6.90	6.96	1.86	0.94	0.58	3.09	3.98	2.65	2.38	1.01		110.80
PerCP-Cy5.5	0.60	1.48	3.68	2.28	0.49	1.19	1.88	2.39	1.14	3.47	0.44	0.56	1.60	1.58	1.13	1.58	2.58	2.55	2.19	2.17	1.90	3.31	0.93	9.70			1.40	1.33	6.25	7.46	7.31	5.00	2.62	1.45	3.12	6.54	6.57	3.34	3.55		113.78
PerCP-eFluor 710	0.41	1.04	1.97	1.24	0.17	0.68	1.80	2.09	0.76	0.44	0.56	0.32	2.62	3.04	1.21	0.17	1.50	3.77	2.77	2.64	3.87	4.27	1.60	6.55	7.27		0.77	0.81	3.35	3.91	3.74	8.43	2.93	1.93	2.69	5.47	6.17	4.08	3.27		101.73
PE	0.16	0.37	0.59	1.18	0.49	0.36	0.16	0.14	0.36	0.34	0.40	0.41	2.40	3.16	2.43	1.54	0.78	0.39	0.31	0.32	3.71	3.98	1.82	2.94	1.72	1.10		3.62	6.86	5.96	4.00	0.94	0.48	0.26	0.74	1.29	0.95	0.37	0.44		57.57
cFluor YG584	0.03	0.22	1.14	1.53	1.39	1.04	0.87	0.37	0.75	0.84	0.34	0.40	2.29	2.13	1.37	0.92	0.54	0.28	0.23	0.52	1.84	1.98	0.34	1.61	1.26		4.13		2.91	3.48	2.21	1.25	0.76	0.38	0.77	1.81	1.15	0.58	0.05		45.09
PE/Dazzle 594	0.25	0.70	0.78	0.45	1.31	0.64	0.31	0.37	0.20	0.39	0.05	1.04	5.71	7.96	2.50	2.52	1.30	0.85	0.61	0.53	8.34	9.57	4.06	4.06	3.10	2.02	5.34	2.68		6.11	4.81	2.10	1.17	0.60	1.49	2.09	2.09	1.05	0.96		90.38
PE-Alexa Fluor 610	0.45	1.22	2.85	0.54	1.11	0.90	0.51	0.70	0.61	1.16	1.37	0.97	4.54	6.49	2.38	1.73	1.54	0.81	0.09	1.02	7.47	8.71	3.43	6.16	5.27		3.83	1.79	7.65		6.88	3.83	2.17	1.07	3.47	3.80	3.53	1.58	1.65		107.07
PE-Cy5	0.15	0.51	0.70	0.52	0.83	0.96	0.93	0.67	0.46	0.58	0.55	0.95	5.37	7.98	2.27	0.66	2.31	1.61	1.20	0.90	9.02	11.32	4.50	9.48	5.68		2.52	2.45	11.40	12.98		5.22	2.24	1.12	3.96	10.57	6.61	3.14	3.02		139.54
PE-Alexa Fluor 700	0.30	0.57	0.73	0.44	0.45	1.17	3.12	1.62	0.31	1.18	0.40	0.18	0.32	1.14	0.33	0.33	0.49	1.63	0.71	0.72	2.84	3.74	1.83	4.78	5.36		1.41	0.70	1.34	1.72	1.90		3.84	2.31	2.96	6.43	7.22	5.13	1.56		80.55
PE-Cy7	0.12	0.38	0.51	0.27	0.23	0.01	0.93	1.69	0.28	0.75	0.54	1.17	6.32	9.44	3.09	1.32	0.85	2.49	1.22	2.21	10.37	13.81	4.51	1.11	2.21	3.45	1.03	0.75	2.24	1.11	0.85	2.09	4.15	3.09	2.01	4.53	4.36	2.26	1.83		97.19
PE/Fire 810	0.51	0.84	0.49	1.66	0.39	0.87	1.52	3.56	0.60	0.85	0.53	0.31	0.92	1.82	1.07	0.34	0.89	0.27	0.48	1.75	4.04	5.20	2.12	1.88	1.96		3.33	1.86	1.84	1.85	1.44	1.42	4.15		1.19	2.50	2.58	1.09	1.33		62.54
APC	0.40	0.97	1.97	0.97	0.27	0.85	1.15	0.91	0.65	0.55	0.53	0.36	1.88	3.23	1.18	0.33	3.21	1.32	1.07	0.99	4.88	5.51	2.03	2.30	3.88		1.30	1.00	5.12	6.01	7.32	2.42	1.33	0.58	101	10.43	6.97	2.94	3.06		92.53
Alexa Fluor 647	0.23	0.69	1.67	0.90	0.19	0.40	0.66	0.36	0.16	0.71	0.24	0.44	1.28	1.54	0.19	0.11	1.50	1.07	0.70	0.60	1.81	2.48	0.78	1.79	1.67		0.65	0.72	3.24	3.97	4.53	1.56	0.95	0.36	4.04	10.00	6.06	2.79	2.85		55.49
Spark NIR 685	0.41	0.93	1.59	0.84	1.23	0.87	2.32	1.20	1.17	1.13	0.13	1.21	1.27	0.93	1.09	0.42	0.89	0.50	0.54	0.83	1.54	1.94	1.29	2.82	1.90	1.86	0.74	0.58	1.30	2.05	2.05	1.83	1.02	0.48	5.65	12.30	5.00	4.19	3.14		67.33
APC-R700	0.14	0.57	1.05	0.55	0.07	0.44	1.17	0.91	0.46	0.25	0.34	0.30	1.49	1.22	0.67	0.10	1.19	2.20	1.34	1.43	1.78	2.23	0.72	1.69	1.73	2.95	0.63	0.29	1.57	1.68	1.76	9.58	2.54	0.96	2.89	5.22	5.83	071	3.76		64.33
APC-H7	0.32	1.49	1.33	1.11	0.11	0.45	0.60	1.81	0.43	1.34	1.12	0.84	3.55	1.81	0.55	0.53	0.91	0.80	0.72	2.30	1.93	2.58	0.43	0.68	1.12	0.26	0.34	0.25	1.45	0.29	0.99	0.58	2.59	1.20	1.47	2.42	2.45	0.74	2.74		44.95
APC/Fire 810	0.53	0.35	1.59	1.38	0.66	0.70	2.02	4.07	0.86	0.77	1.31	0.45	0.71	0.51	0.97	0.65	0.52	0.34	0.75	1.59	3.00	2.33	0.43	1.11	0.59	0.76	1.12	0.12	0.44	0.48	0.89	0.73	1.53	1.98	2.11	3.33	3.40	1.37	2.71		49.15
Sum	20.50	35.12	78.98	49.83	18.27	25.80	44.91	52.05	44.69	82.72	47.59	39.50	149.28	169.11	68.95	40.05	44.98	39.90	34.51	43.71	168.36	201.97	69.87	91.90	/9.//	64.78	b4.20	40.09	114.88	112.40	96.23	70.27	44.22	26.60	/3.41	139.70	112.66	60.26	59.26	29.35	2850.60

\*APC/Fire 810 specificity is CD38 as CD4 was not available.



#### Document Revision History

Effective Date	Description of Change	Revision	EC No.
10/21/2019	Initial Release	А	EC-00265
01/15/2021	Added section on cFluors; added more dyes to stain index and fluorochrome signatures; updated spread matrix examples; removed CSI tables; added similarity and complexity tables	В	EC-00783

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N9-20017 Rev B