CYTEK

TRANSCEND THE CONVENTIONAL

Cytek Aurora
Fluorochrome Selection Guidelines

Fluorochrome Signatures

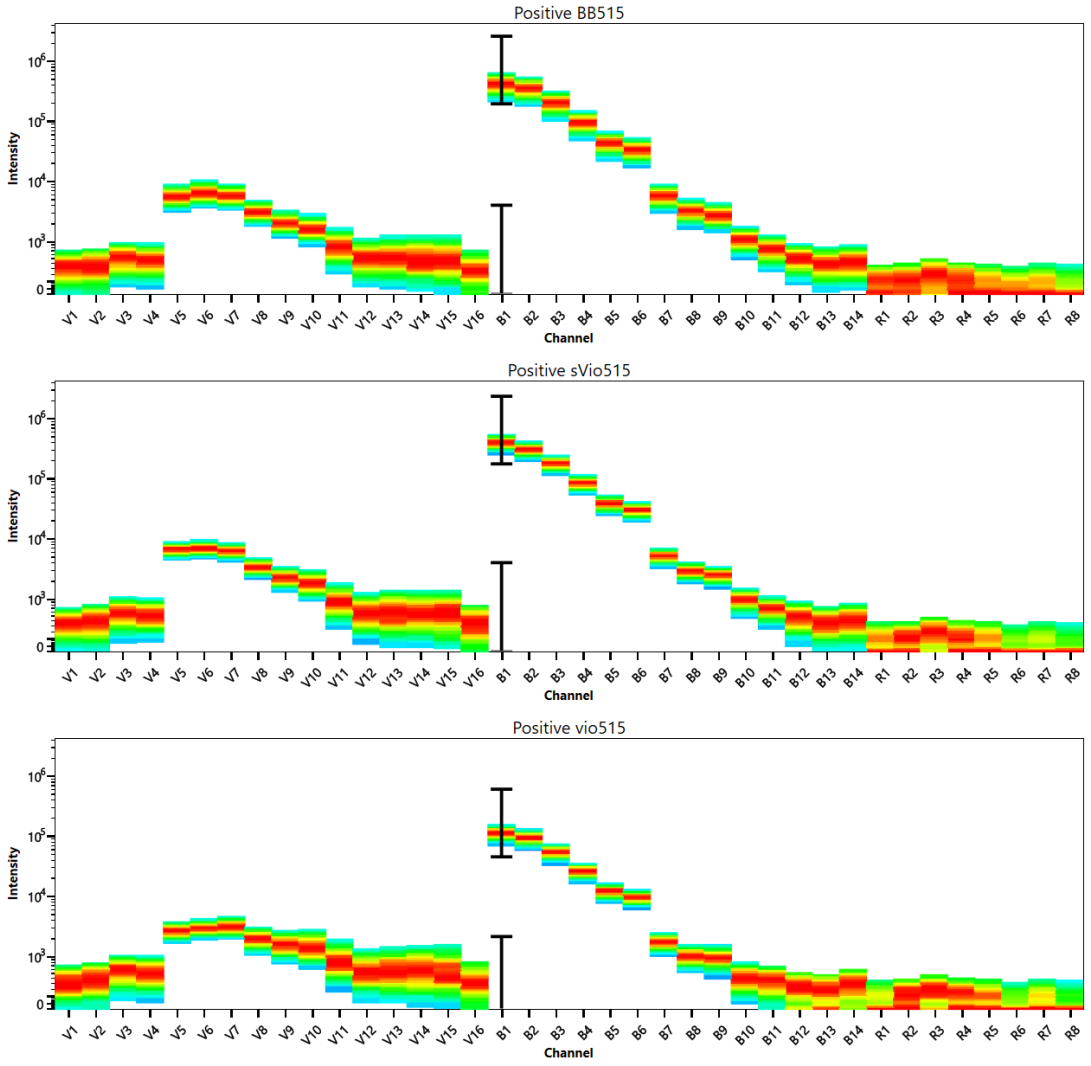
Dyes can be used in combination as long as they have a distinct spectrum signature.

In designing a multicolor panel, you should look for dyes with unique spectra and consider their impacts on other dyes (see slide 18).

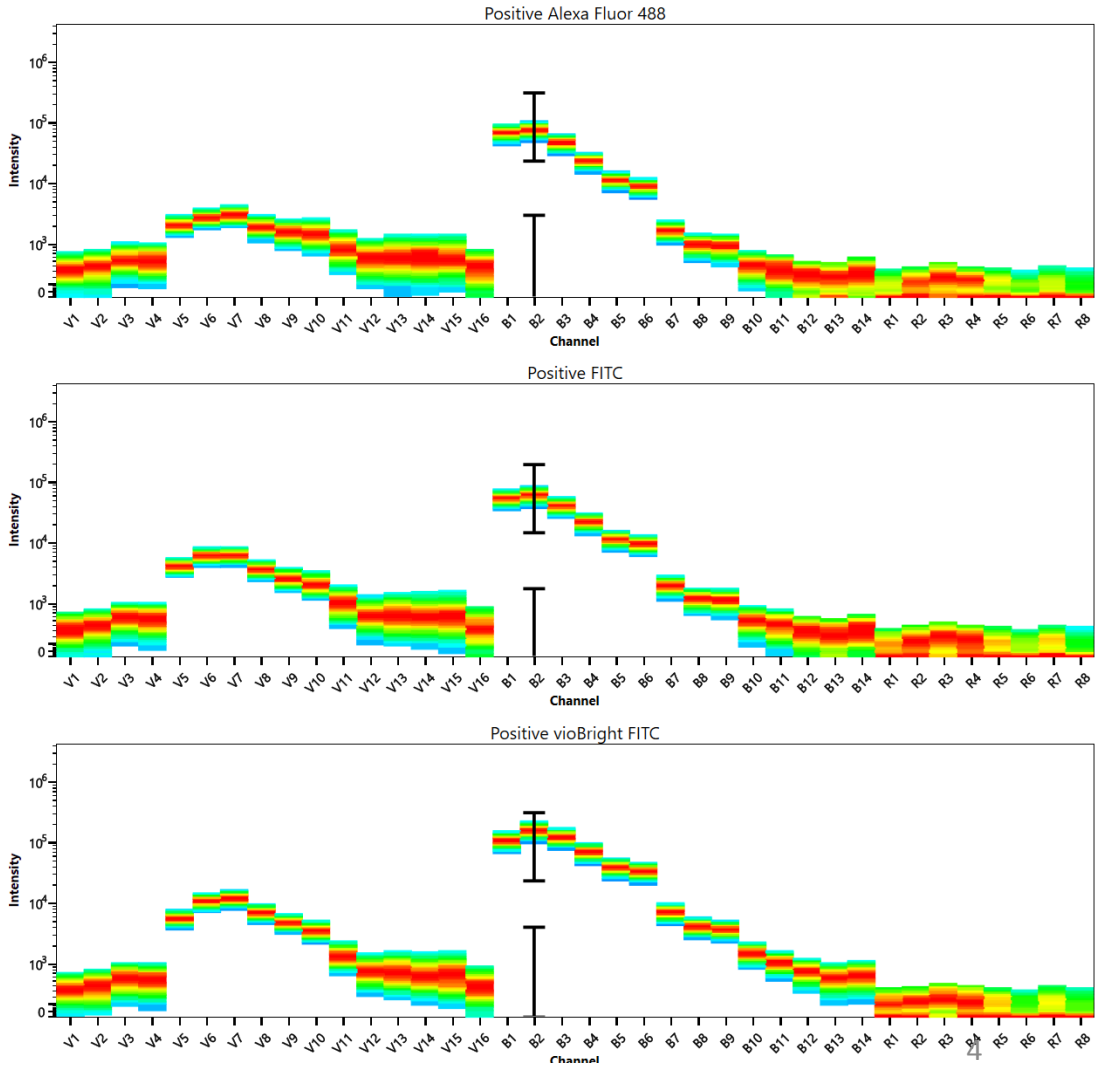
Blue Laser Excitable Dyes

Blue Laser Excitable Dyes with Identical Signatures (1)

BB515- sVio515- Vio515

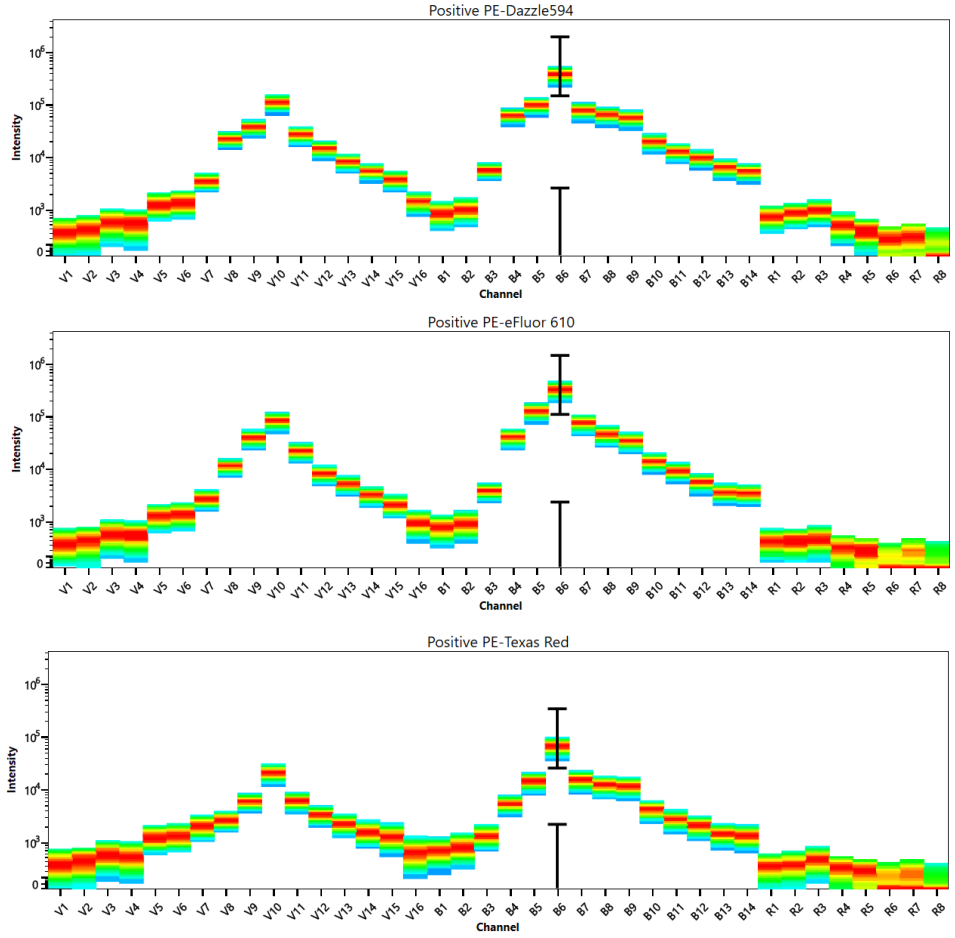


AF 488, FITC, vioBright FITC

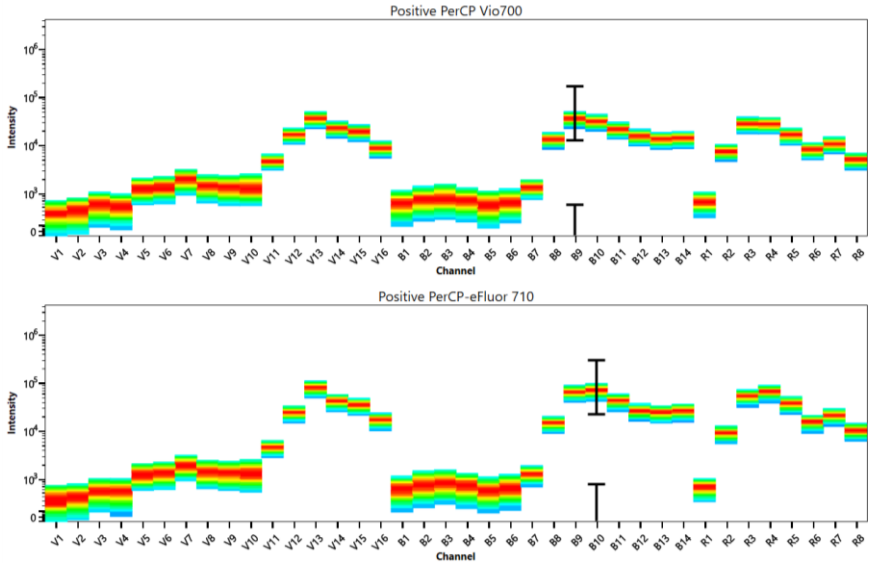


Blue Laser Excitable Dyes with Identical Signatures (2)

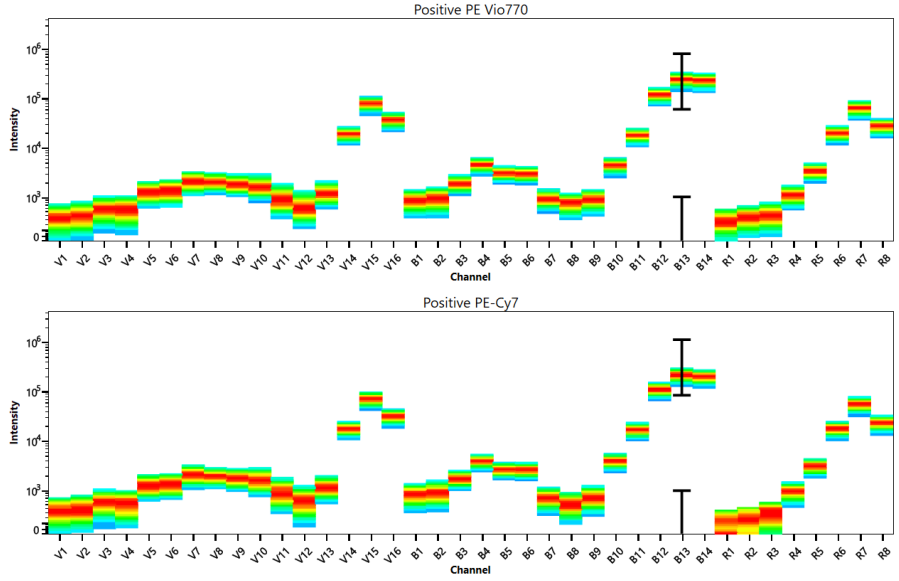
PE Dazzle594, PE eFluor 610, PE Texas Red



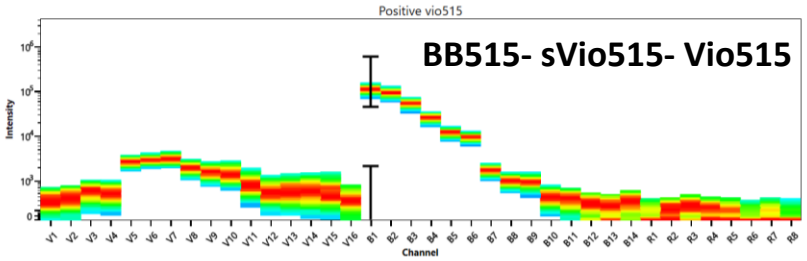
PerCP vio700, PerCP eFluor 710

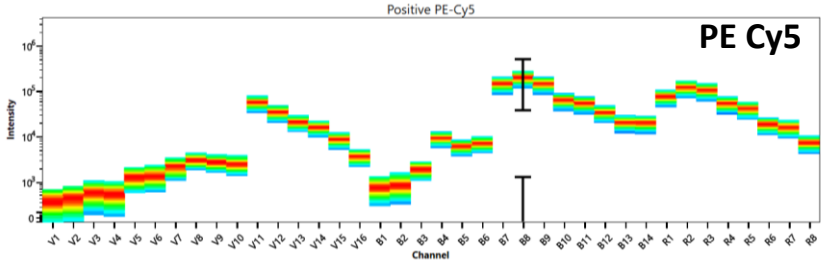


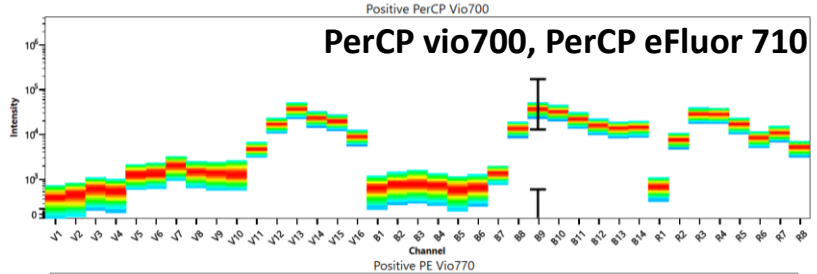
PE Vio770, PE Cy7

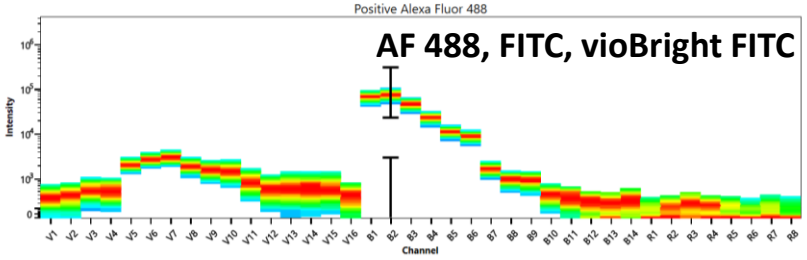


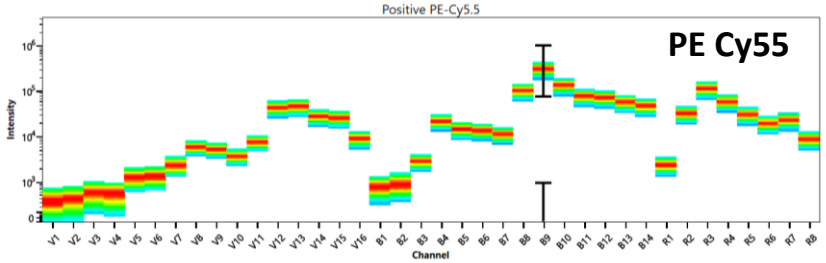
Blue Laser Excitable Dyes Unique Signatures

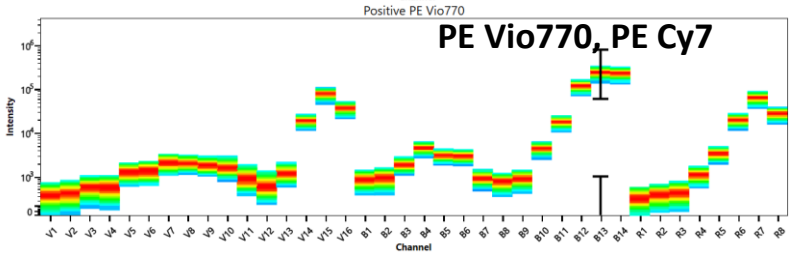


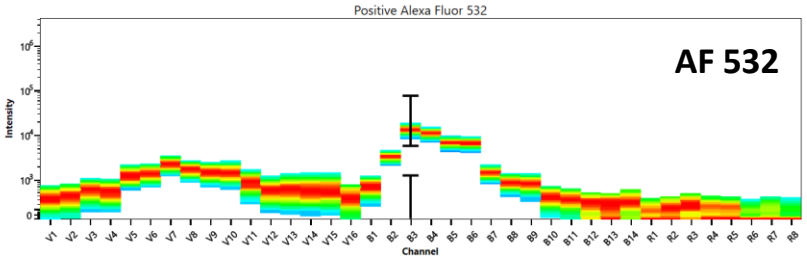


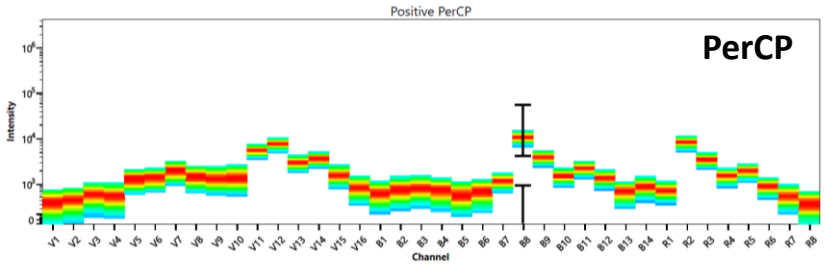


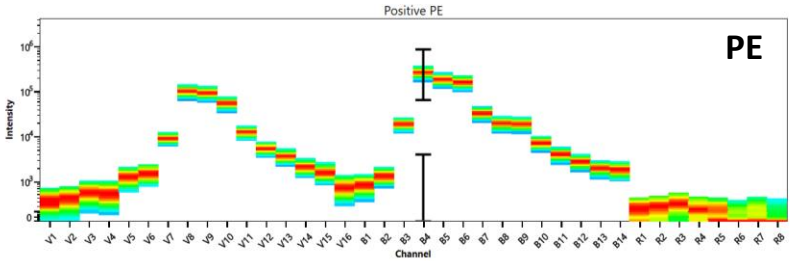


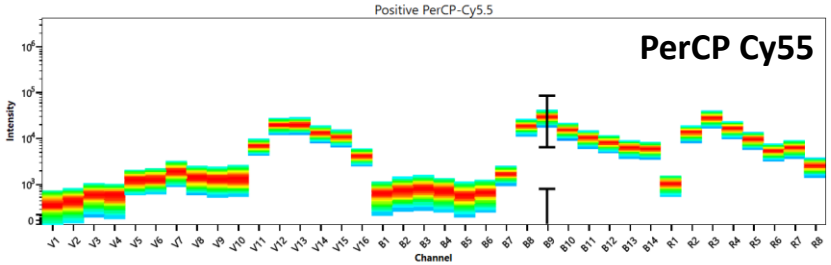


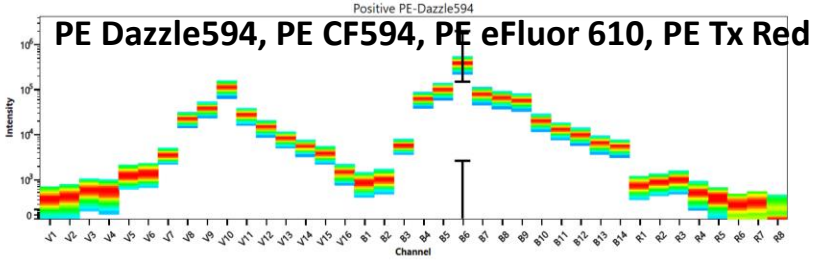


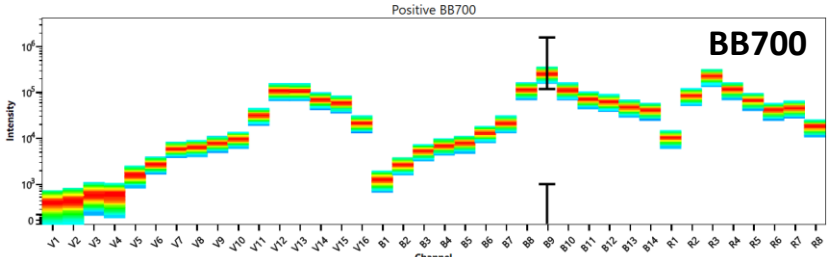








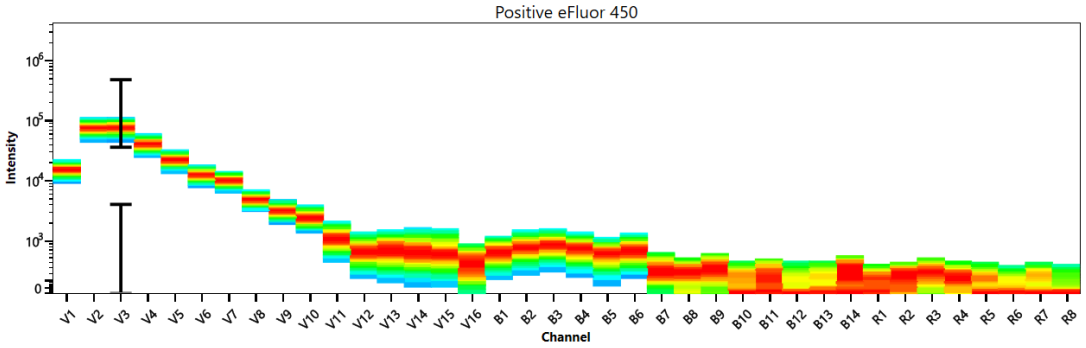


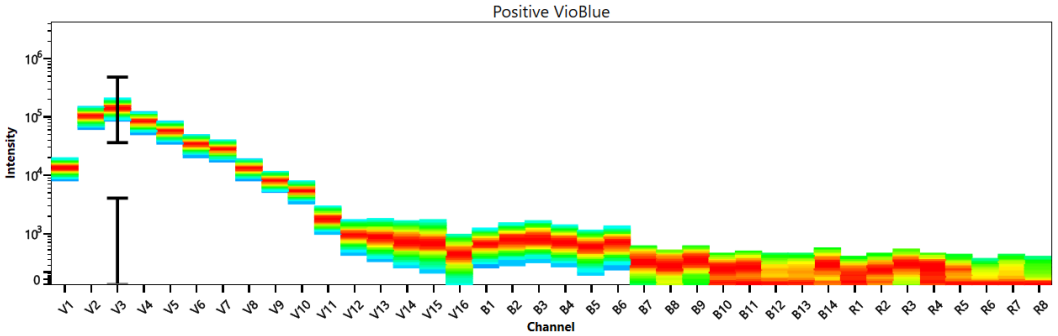


Violet Laser Excitable Dyes

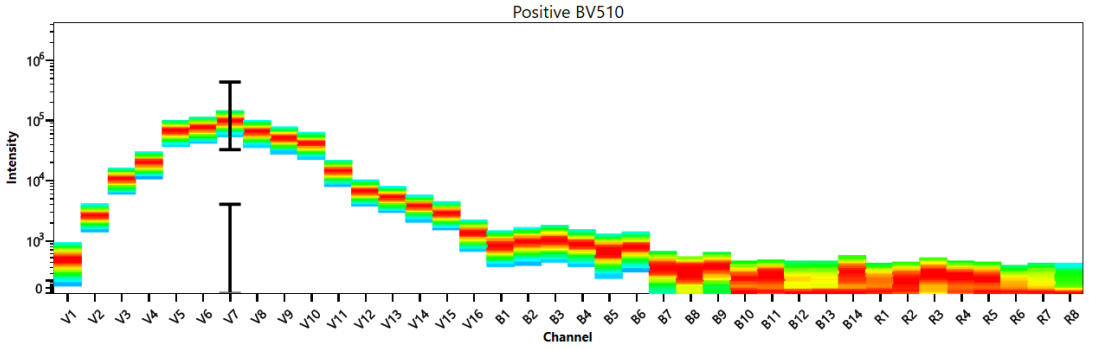
Violet Laser Excitable Dyes with Similar or Identical Signatures

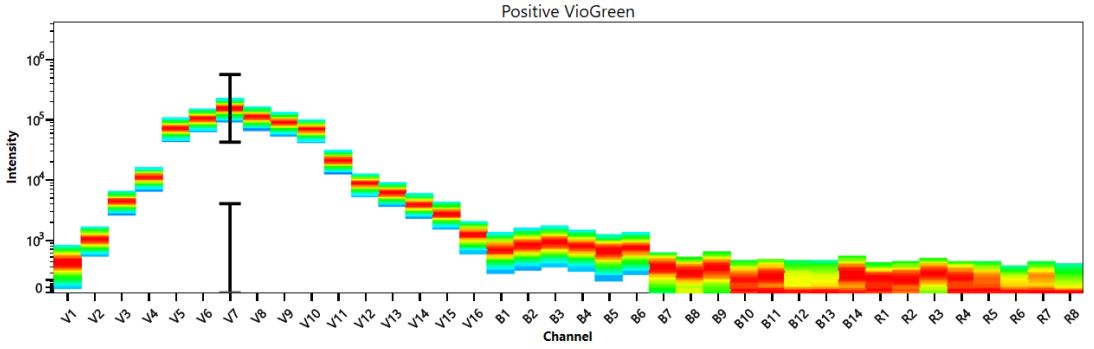
eFluor450 –Pacific Blue -vioBlue

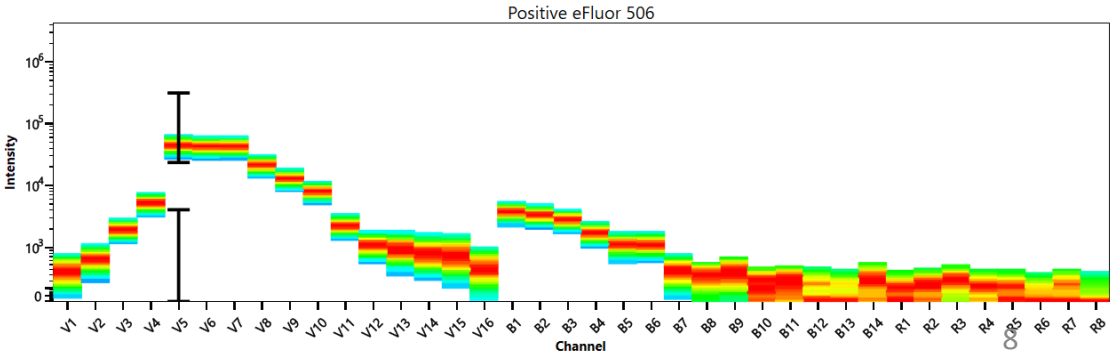




BV510 -VioGreen



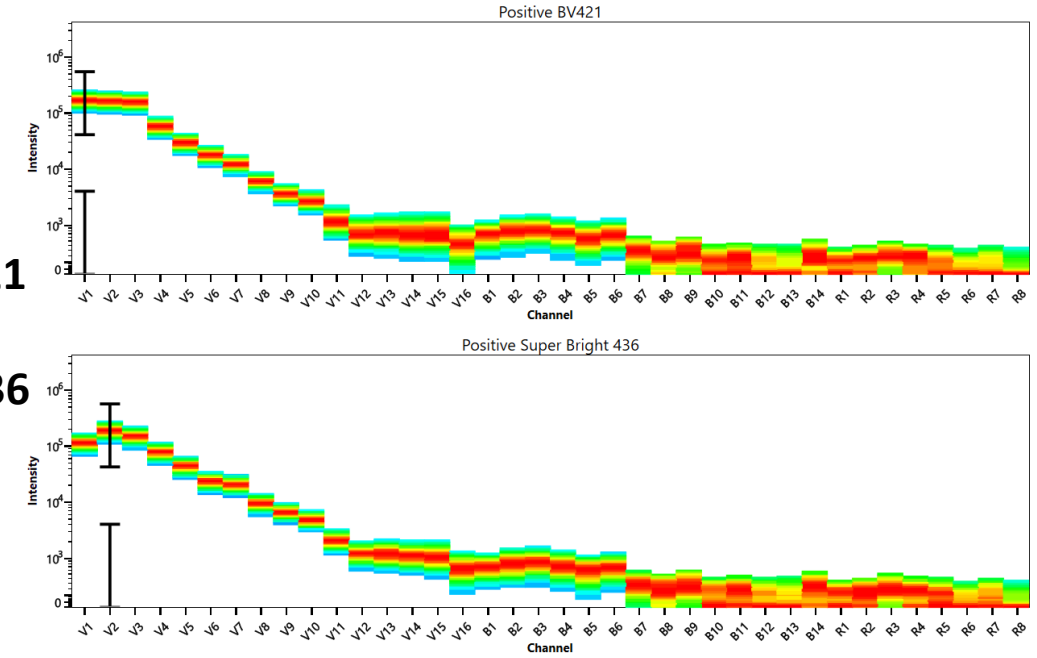




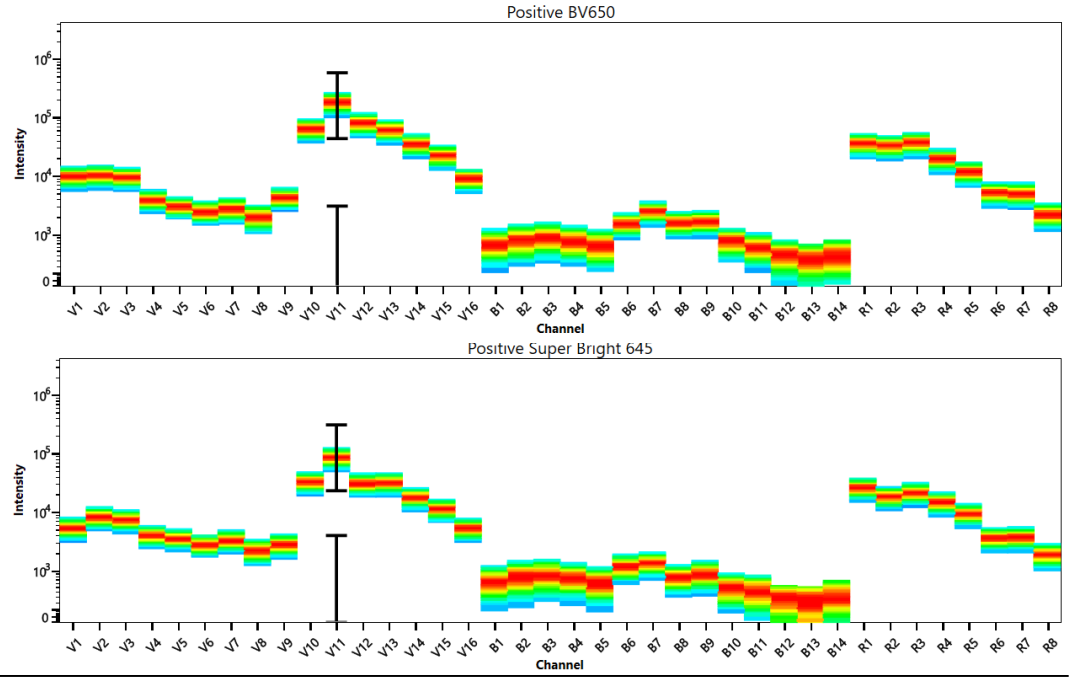
e506 is slightly different

Brilliant Violet vs Super Bright (SB): almost identical

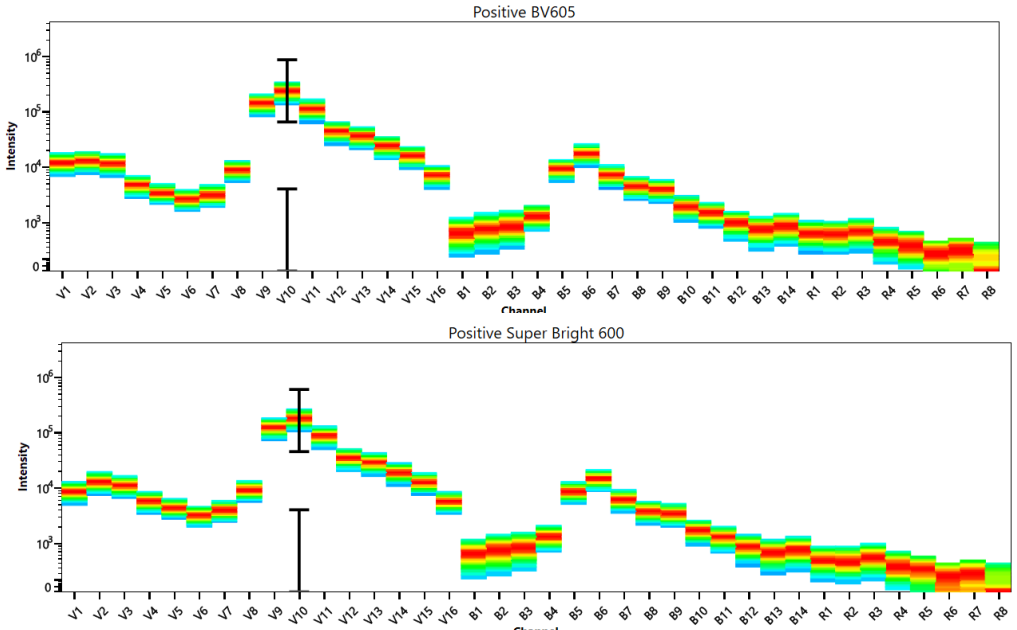
BV421 vs SB 436



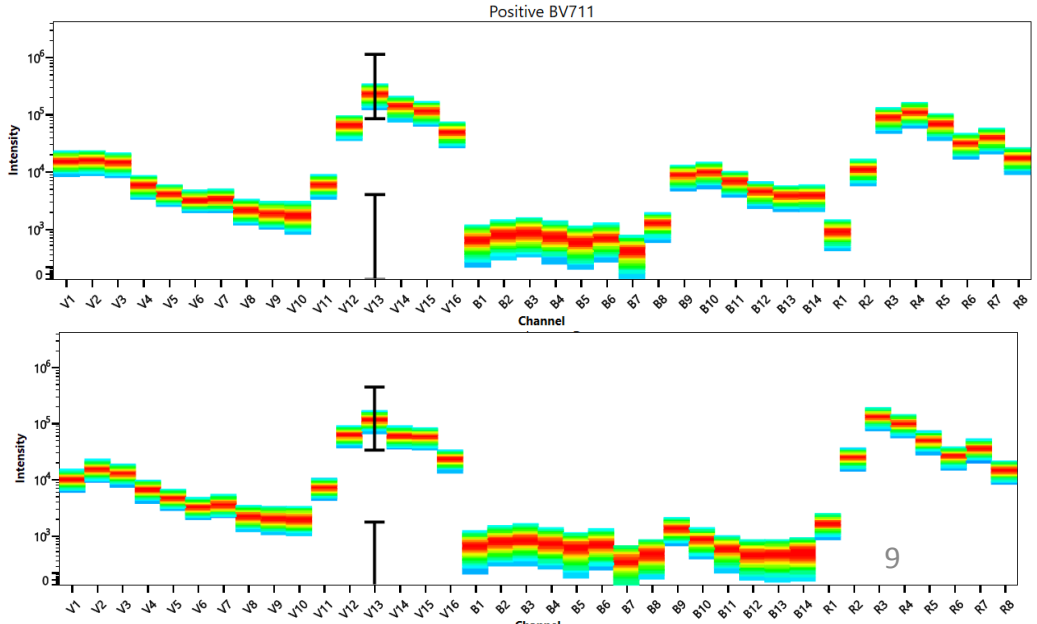
BV650 vs SB 645



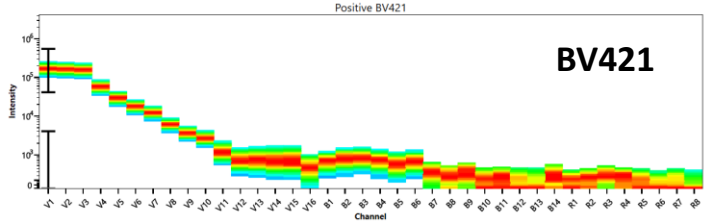
BV605 vs SB 600

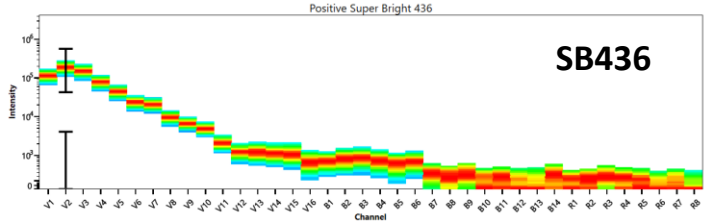


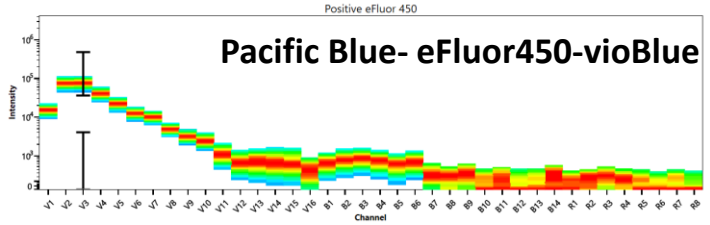
BV711 vs SB 702

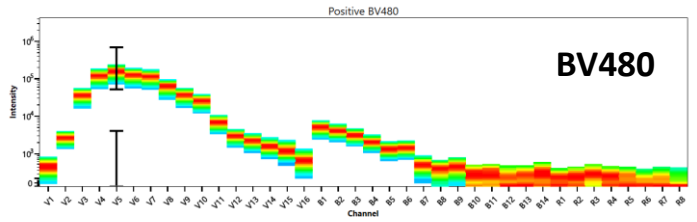


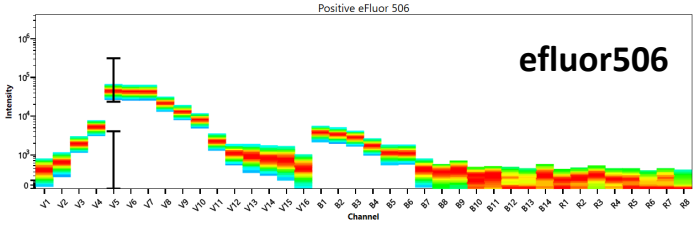
Violet Laser Excitable Dyes Unique Signatures

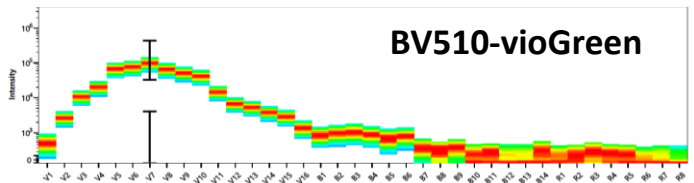


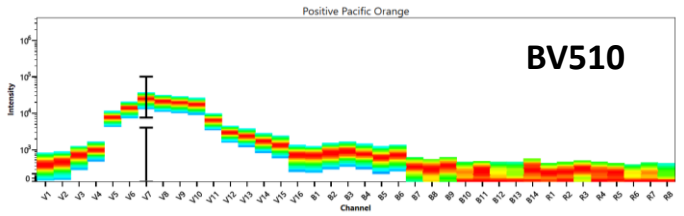


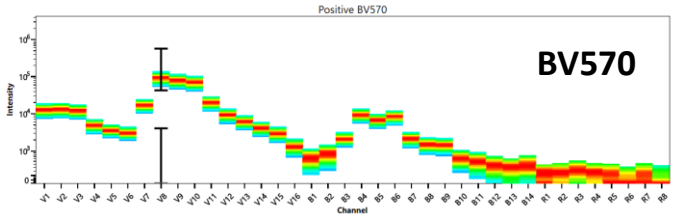


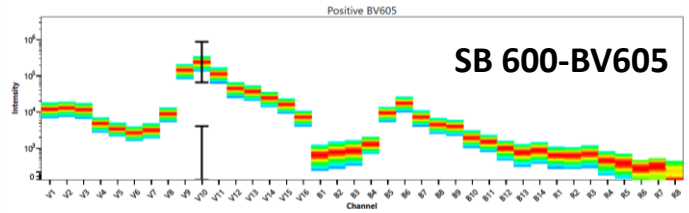


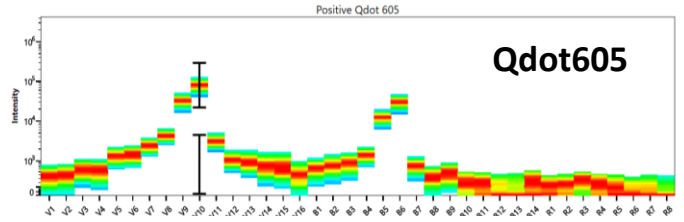


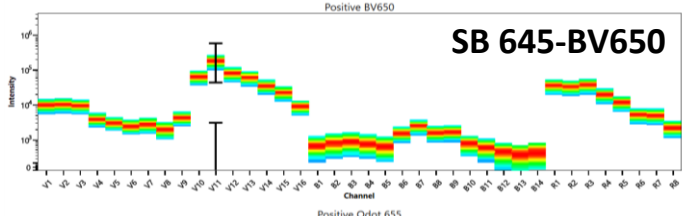


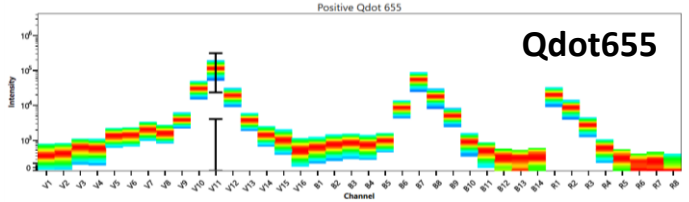


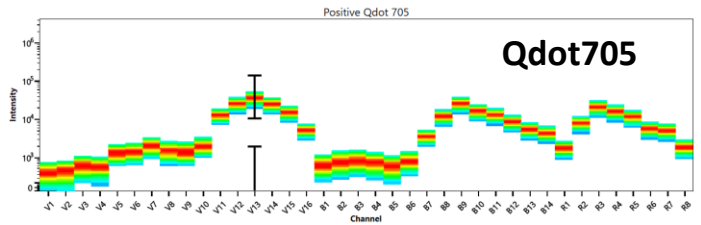


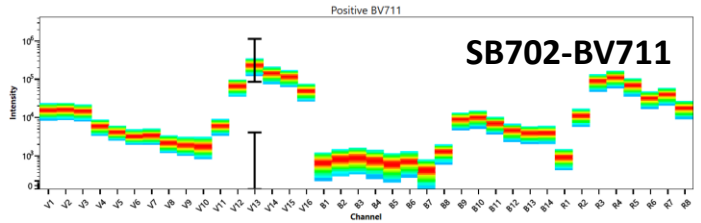


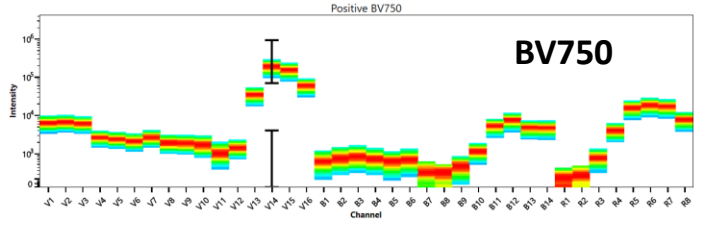


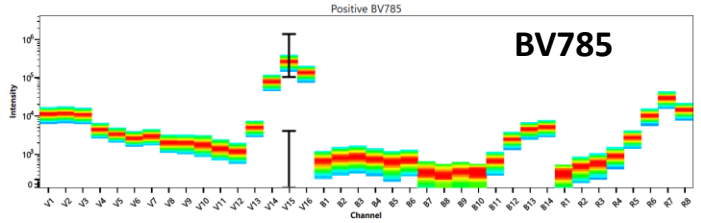


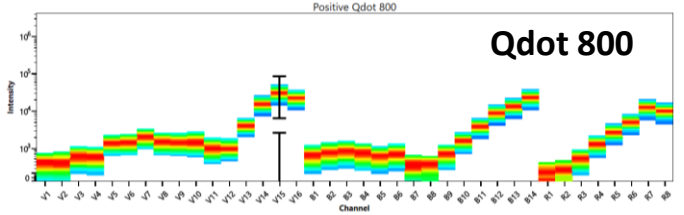








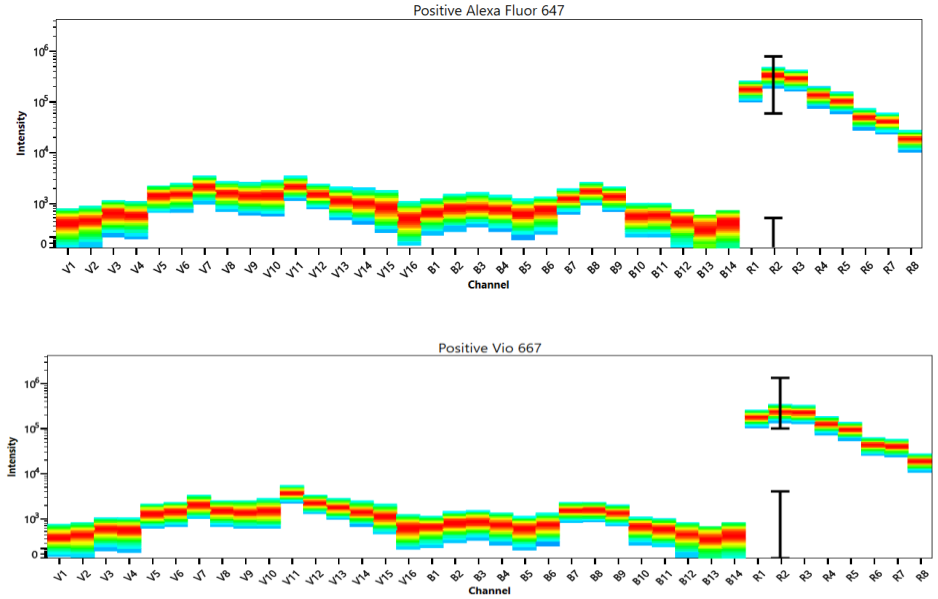




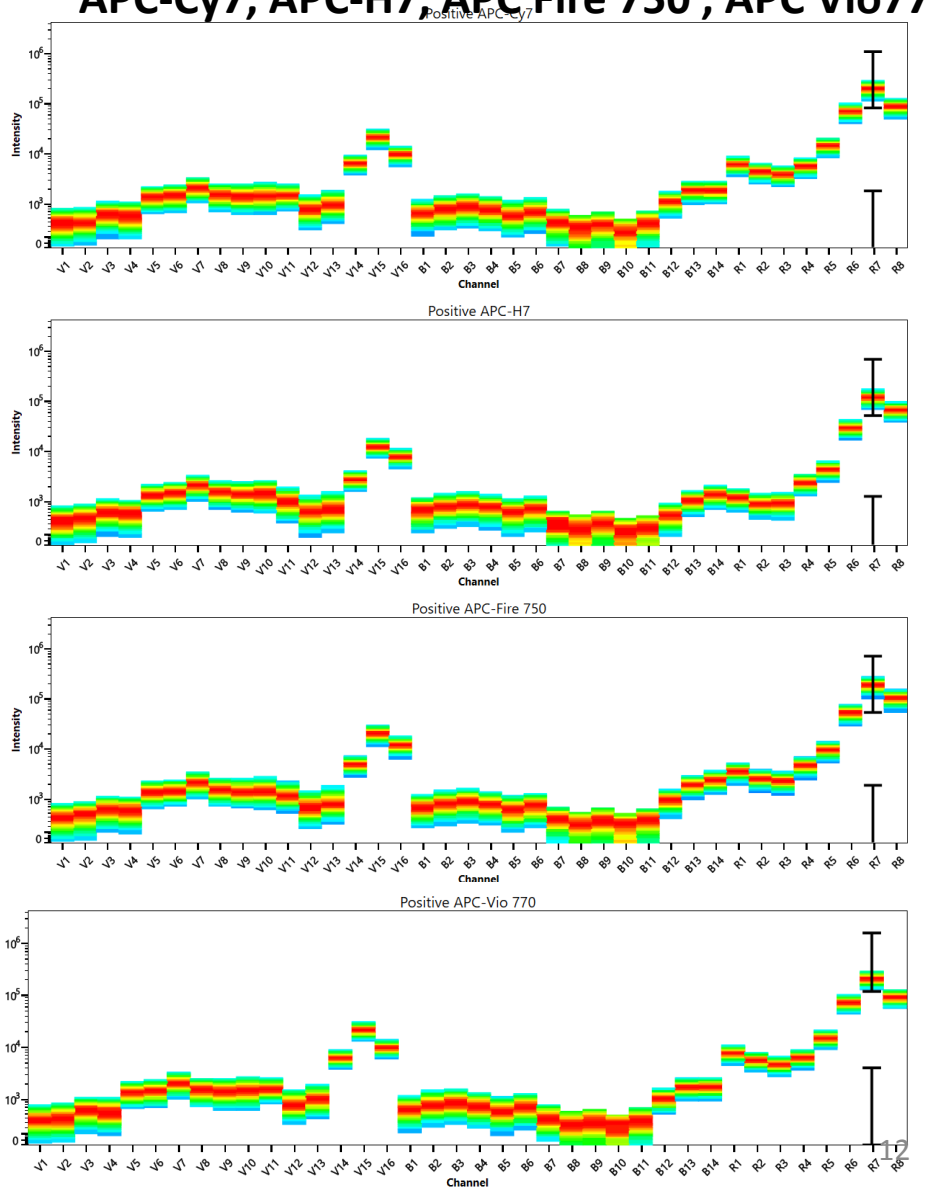
Red Laser Excitable Dyes

Red Laser Excitable Dyes with Identical Signatures

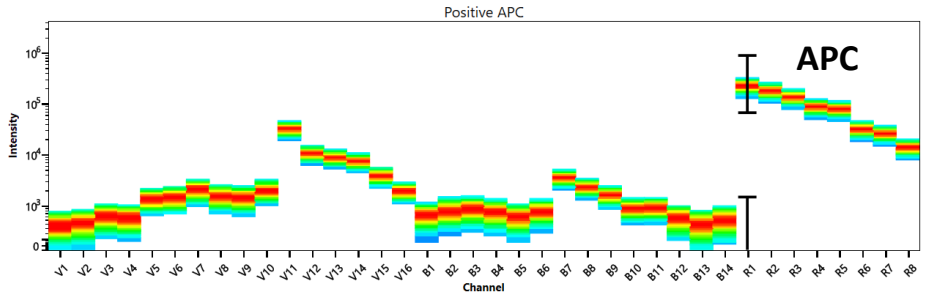
Alexa 647, Vio 667

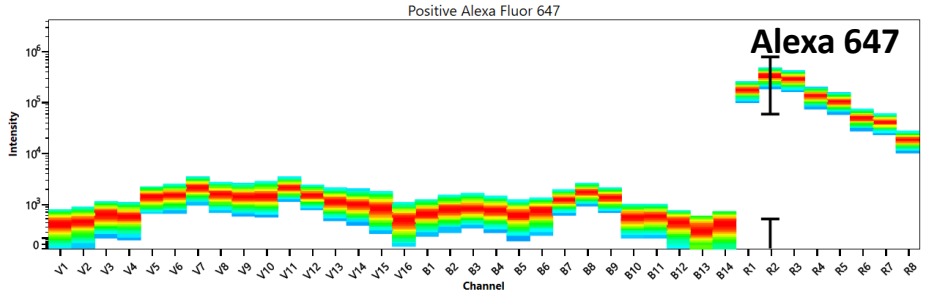


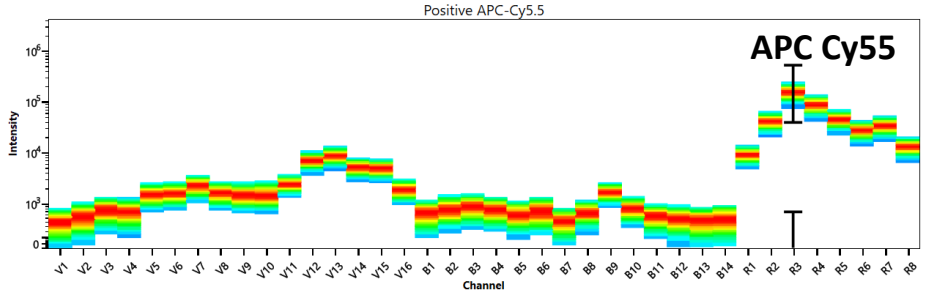
APC-Cy7, APC-H7, APC Fire 750 , APC Vio770

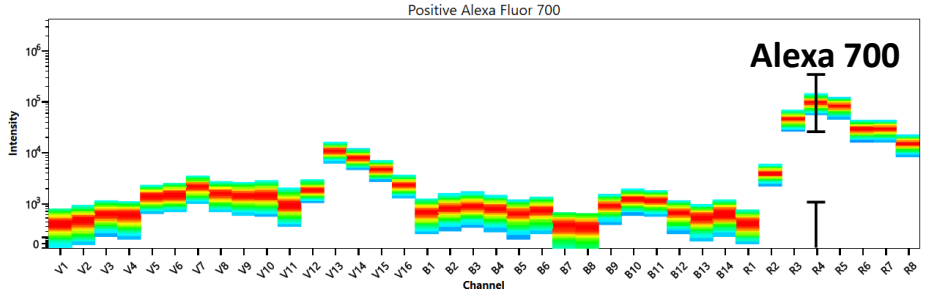


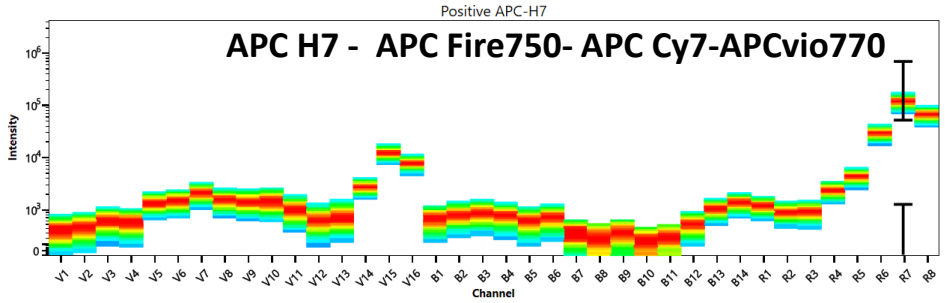
Red Laser Excitable Dyes with Unique Signatures









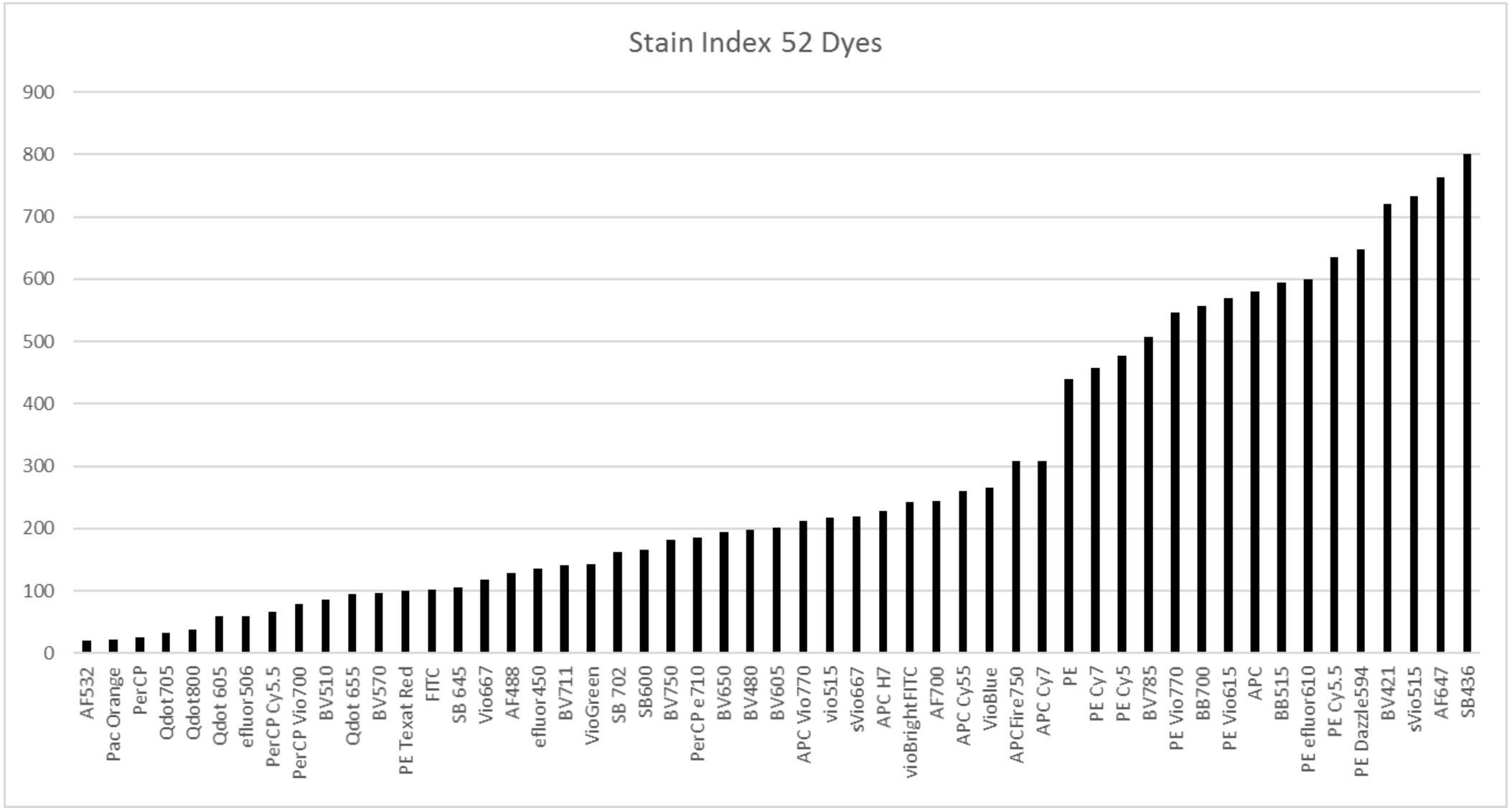


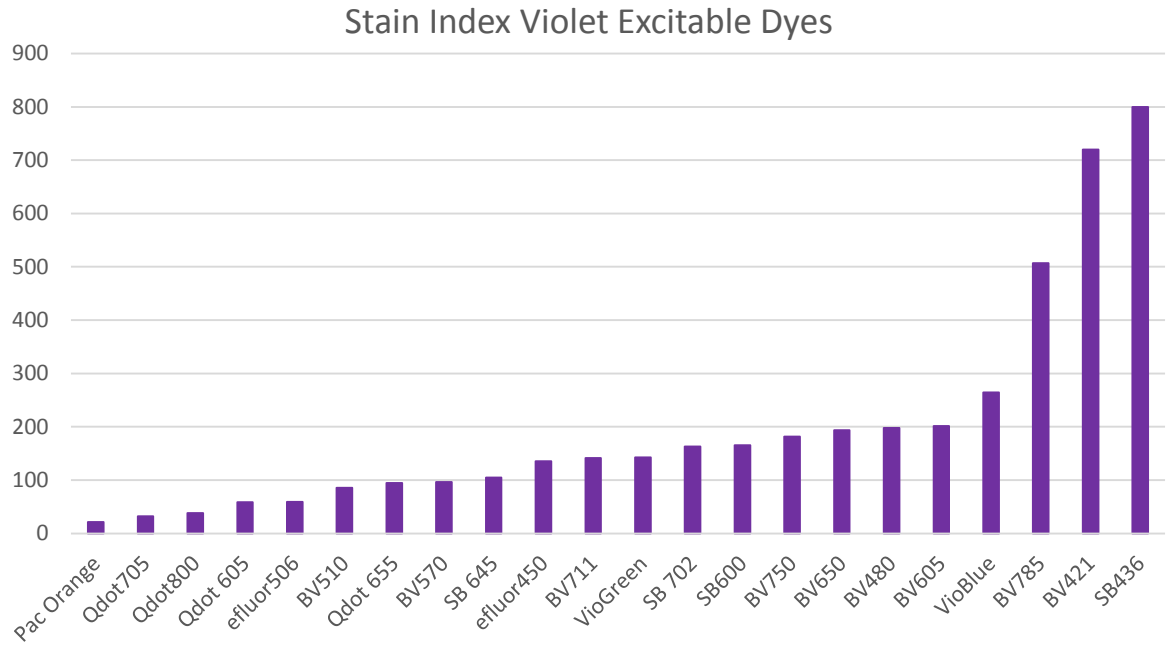
Example of 24 dyes that can be used in combination (CAREFUL PANEL DESIGN IS NEEDED)

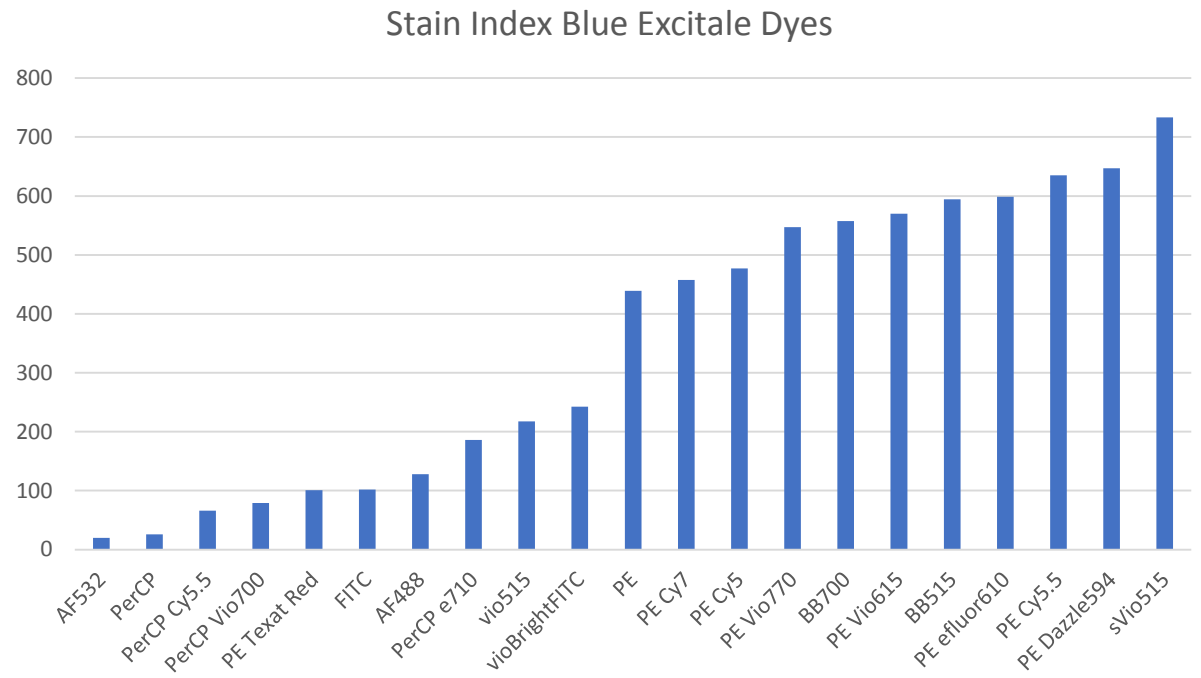
Fluorophore	Fluorophore	Fluorophore
BB515	APC	BV421
Alexa Fluor 488 or FITC	Alexa Fluor 647	Super Bright 436
Alexa Fluor 532	APCR 700 or AF700	eFluor450 or equivalent
PE	APC-Fire 750 or equivalent	BV480
PE/Dazzle 594 or equivalent		BV510
PE-Cy5		BV570
PerCPCy55		BV605
PerCP-eFluor710		BV650
PE-Cy7		BV711
		BV750
		BV785

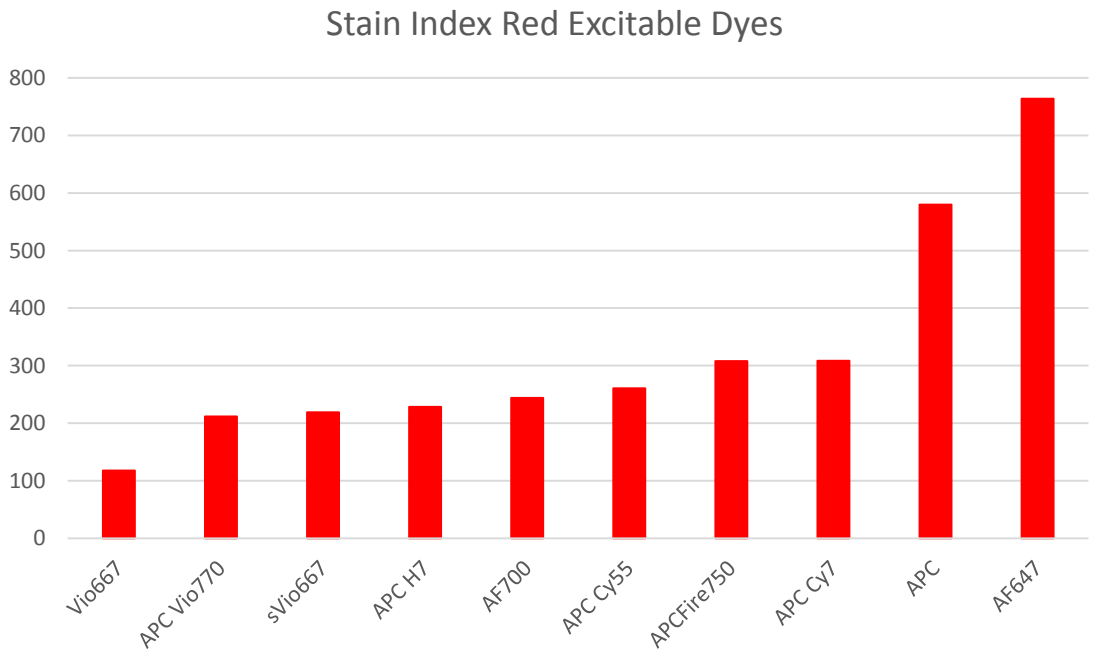
Stain Indexes

Data generated using CD4 staining in human whole blood


Stain Index 52 Dyes
900
800
700
600
500
400
300
200
100
0
AF532
Pac Orange
PerCP
Qdot705
Qdot800
Qdot 605
efluor506
PerCP Cy5.5
PerCP Vio700
BV510
Qdot 655
BV570
PE Texat Red
FITC
SB 645
Vio667
AF488
efluor450
BV711
VioGreen
SB 702
SB600
BV750
PerCP e710
BV650
BV480
BV605
APC Vio770
vio515
sVio667
APC H7
vioBrightFITC
AF700
APC Cy55
VioBlue
APCFire750
APC Cy7
PE
PE Cy7
PE Cy5
BV785
PE Vio770
BB700
PE Vio615
APC
BB515
PE efluor610
PE Cy5.5
PE Dazzle594
BV421
sVio515
AF647
SB436


Stain Index Violet Excitable Dyes
900
800
700
600
500
400
300
200
100
0
Pac Orange
Qdot705
Qdot800
Qdot 605
efluor506
BV510
Qdot 655
BV570
SB 645
efluor450
BV711
VioGreen
SB 702
SB600
BV750
BV650
BV480
BV605
VioBlue
BV785
BV421
SB436


Stain Index Blue Excitale Dyes
800
700
600
500
400
300
200
100
0
AF532
PerCP
PerCP Cy5.5
PerCP Vio700
PE Texat Red
FITC
AF488
PerCP e710
vio515
vioBrightFITC
PE
PE Cy7
PE Cy5
PE Vio770
BB700
PE Vio615
BB515
PE efluor610
PE Cy5.5
PE Dazzle594
sVio515


Stain Index Red Excitable Dyes
800
700
600
500
400
300
200
100
0
Vio667
APC Vio770
sVio667
APC H7
AF700
APC Cy55
APCFire750
APC Cy7
APC
AF647

Spread Matrix

Dyes used in combination need to have a unique spectrum AND also need to be assessed in terms of spread that they introduce to other dyes.

For example PerCP Cy5.5 and PE Cy5.5 have distinct signatures, but because of emission in the same wavelength range and significant spread introduced by PE Cy5.5, you will use one or the other.

Spread matrix for 24 Fluors that can be use in combination

	BV421	SB436	eF450	BV480	BV510	BV570	BV605	BV650	BV711	BV750	BV785	BB515	AF488	AF532	PE	PECF594	PECy5	PerCPCy55	PerCPeF710	PECy7	APC	AF647	AF700	APC Fire750
BV421																								
SB436																								
eF450																								
BV480																								
BV510																								
BV570																								
BV605																								
BV650																								
BV711																								
BV750																								
BV785																								
BB515																								
AF488																								
AF532																								
PE																								
PECF594																								
PECy5																								
PerCPCy55																								
PerCPeF710																								
PECy7																								
APC																								
AF647																								
AF700																								
APC Fire750																								

To read this table: fluor in the row impacts the one in the column. Red means the fluor in that row has significant spread into the dye in the column (for example PE into BV570). Areas in bright pink and red is where more attention to panel design is needed.