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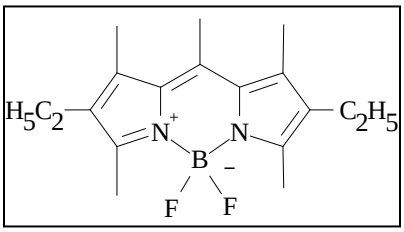
PYRROMETHENE 567



Chemical Name: 1,3,5,7,8-pentamethyl-2,6-diethylpyrromethene-difluoroborate complex
MW: 318.22 **Melting Point:** 208-209°C
CAS Registry Number: 131083-16-4 **Exciton Catalog No.:** 05675
Synonyms: PMDEP-BF_2, PM-567

Spectral Information:

$\lambda_{max,abs}$ = 518nm (Ethanol)[198]
ε_{518} = 7.2x10^4 liter mol^{-1} cm^{-1} [198]
$\lambda_{max,fl}$ = 547nm (Ethanol)[195]
Φ_f = 0.83 (Ethanol)[195,198],0.995(Methanol)[213]

Selected Solubility Limits (25°C):		**λ_{abs} max:**
Methanol	250mg/liter	516
Ethanol	270mg/liter*	518
EG	<90mg/liter	
DMF	5.6g/liter	
NMP	>6.3g/liter	517
EPH	>4.1g/liter	
PPH	>7g/liter	522
PC	>4g/liter	516
DMSO	>2.7g/liter	518
p-Dioxane	>5.5	519

Lasing Wavelength

Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Conversion Efficiency	Stability (1/2- life)
573.4		FL (Triaxial)[227]	Acrylic Copolymer	3.2x10^{-4}	27.4%^{s}	-
540	(537-560)*	FL(Coaxial)[194]	DMA/MeOH,1/10	2x10^{-4}	35%^{s}	-
567		FL[198]	Ethanol	2x10^{-4}	-	-
570		FL[195]	Methanol	-	-	-
580	560-615	N_2(337)[183]	p-Dioxane	40mg/20ml	21%	-
571	552-608	Ar(all-lines)[212]	NMP/PPH	1.5x10^{-3}	36%	460Wh
560	543-584	Ar(514.5)[222]	PPH	3.1x10^{-3}	28%	-
		Nd:YAG(532)[217]	Acrylic Copolymer	3.2x10^{-4}	88.8%^{s}	-
564(bb)		Nd:YAG(532)[216]	ORMOSIL	2.4x10^{-4}	77%^{s}	See note B
566	549-592	Nd:YAG(532,sync,76MHz)[213]	PPH	7.1x10^{-3}	44%	500Wh
567(bb)		Nd:YAG(532)[214]	HTP	1.3x10^{-4}	50%^{s}	See note A
571(bb)		Nd:YAG(532)[215]	Acrylic Copolymer	3.2x10^{-4}	77%^{s}	-

*(FWHM); bb (broad band); s (slope efficiency)
DMA (N,N-Dimethylacetamide); DMF (N,N-Dimethylformamide); DMSO (Dimethylsulfoxide); EG (Ethylene Glycol); EPH (2-Phenoxyethanol); HTP (High Temperature Plastic); MeOH (Methanol); NMP (N-Methyl-2-pyrrolidinone); ORMOSIL (Sol-Gel); PC (Propylene Carbonate); PPH (1-Phenoxy-2-propanol)

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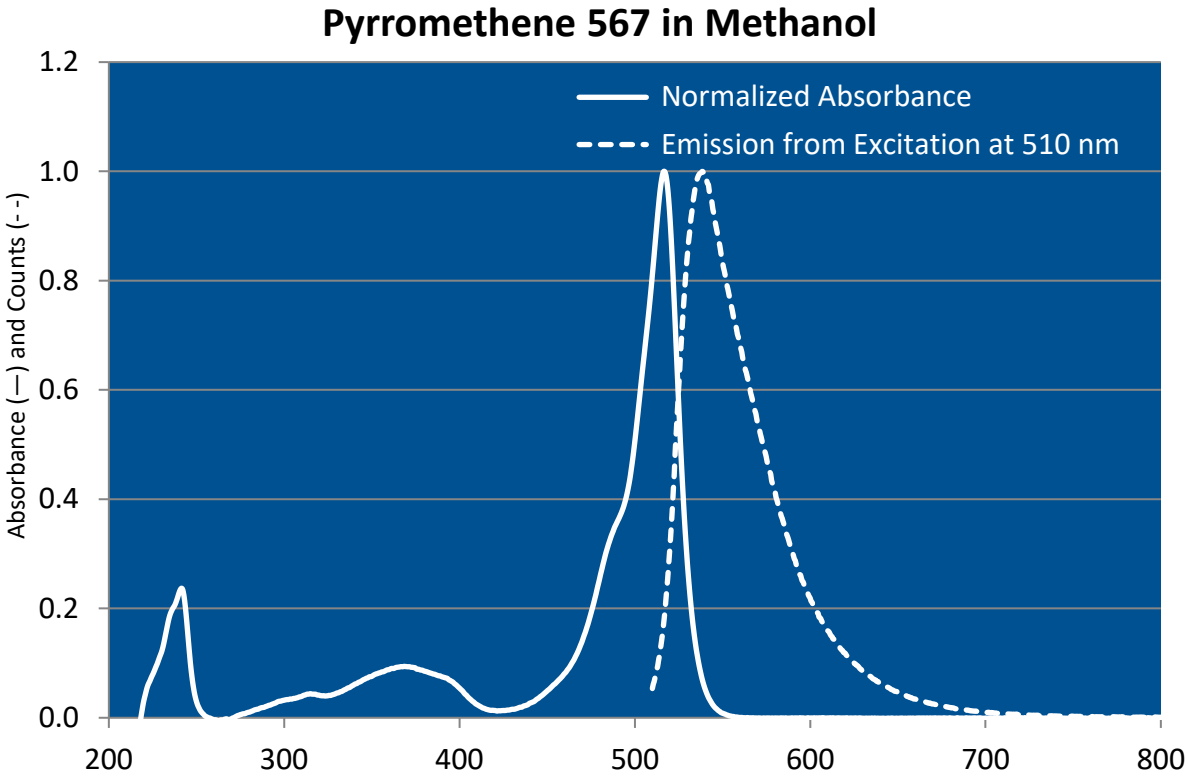

The information presented above is believed to be accurate but is not a specification. The customer is fully responsible for determining the suitability of this product for use in their application. Exciton, Inc. does not represent that the information is sufficient or complete for any specific application.

Quantum Yields and Lifetimes

Absorbance (nm)	Emission (nm)	Quantum Yield (max = 1.0)	Solvent	Lifetime (ns)	References, Notes
518	547	0.83	Ethanol	195, 198	catalog reference
		0.995	Methanol	213	catalog reference
		0.845 ±0.02	P(MMA:TEG-DA 90:10)		P-1
		0.85 ±0.02	MA:TEG-DA 90:10)		P-1
		0.85 ±0.02	P(MMA:PE-TA 95:5)		P-1
		0.855 ±0.02	MA:PETA 95:5)		P-1

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For a current list of biology, biological stain, or biochemistry references for Pyrromethene 567 from PubMed, click on the following link:

Pyrromethene 567

NOTES:

A. The dye maintained over 75% of its original output after <100,000 pulses of 0.16J/cm^2.
B. The laser lifetimes (at 60% relative efficiency) varied from 12,000 pulses (120mJ/cm^2) to 1,000 pulses (460mJ/cm^2).