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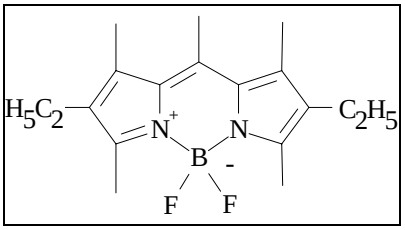
PYRROMETHENE 567



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

**** If you received this data sheet prior to 11/06/96, the solubility limit previously listed as 27mg/liter was incorrect.***

REPORTED LASER PERFORMANCE DATA

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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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).

Pyrromethene 567 is offered by Exciton under U.S. Patent Nos. 4,916,711 and 5,189,029 and other worldwide patents.

Use of EPH and/or PPH as a laser dye solvent is subject to U.S. Patent No. 4,896,329 (Exciton).