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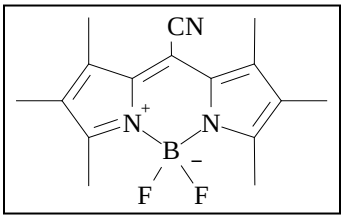
PYRROMETHENE 650



Chemical Name: 1,2,3,5,6,7-hexamethyl-8-cyanopyrromethene-difluoroborate complex
MW: 301.15
Melting Point: 255-258°C (decomposes)
CAS Registry Number: 157410-23-6
Exciton Catalog No.: 06505
Synonyms: PM-HMC

Spectral Information:

$\lambda_{max,abs}$ = 588nm (Ethanol)[220]
ε_{588} = 4.6x10^{4} liter mol^{-1} cm^{-1} [220]
$\lambda_{max,fl}$ = 612nm (Ethanol)[220]
Φ_f = 0.54[220]

Selected Solubility Limits (25°C):		λ_{abs} max:
Methanol	~280mg/liter	587
Ethanol	~460mg/liter	588
EPH	~4.3g/liter	598.6
PPH	~4.4g/liter	596.6
p-Dioxane	~8.9g/liter	589.4
Propylene Carbonate	~3g/liter	
Ethylene Glycol	insoluble	
p-Dioxane	~8.9g/liter	
Propylene Glycol	~3g/liter	

Lasing Wavelength

Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Conversion Efficiency	Stability (1/2- life)
624(bb)		Nd:YAG(532)[214]	HTP	1.3x10^{-4}	57%^{s}	-
631(bb)		Nd:YAG(532)[220]	Xylene*	2x10^{-4}	31%^{s}	-
612	604-630	Nd:YAG(532)[226]	EtOH/PPH:8/2 PM650/R590:8/2	-	-	

bb (broad band); s (slope efficiency)
EPH (2-Phenoxyethanol); HTP (High Temperature Plastic); NMP (N-Methyl-2-Pyrrolidinone); PM (Pyrromethene); PPH (1-Phenoxy-2-Propanol); R (Rhodamine)

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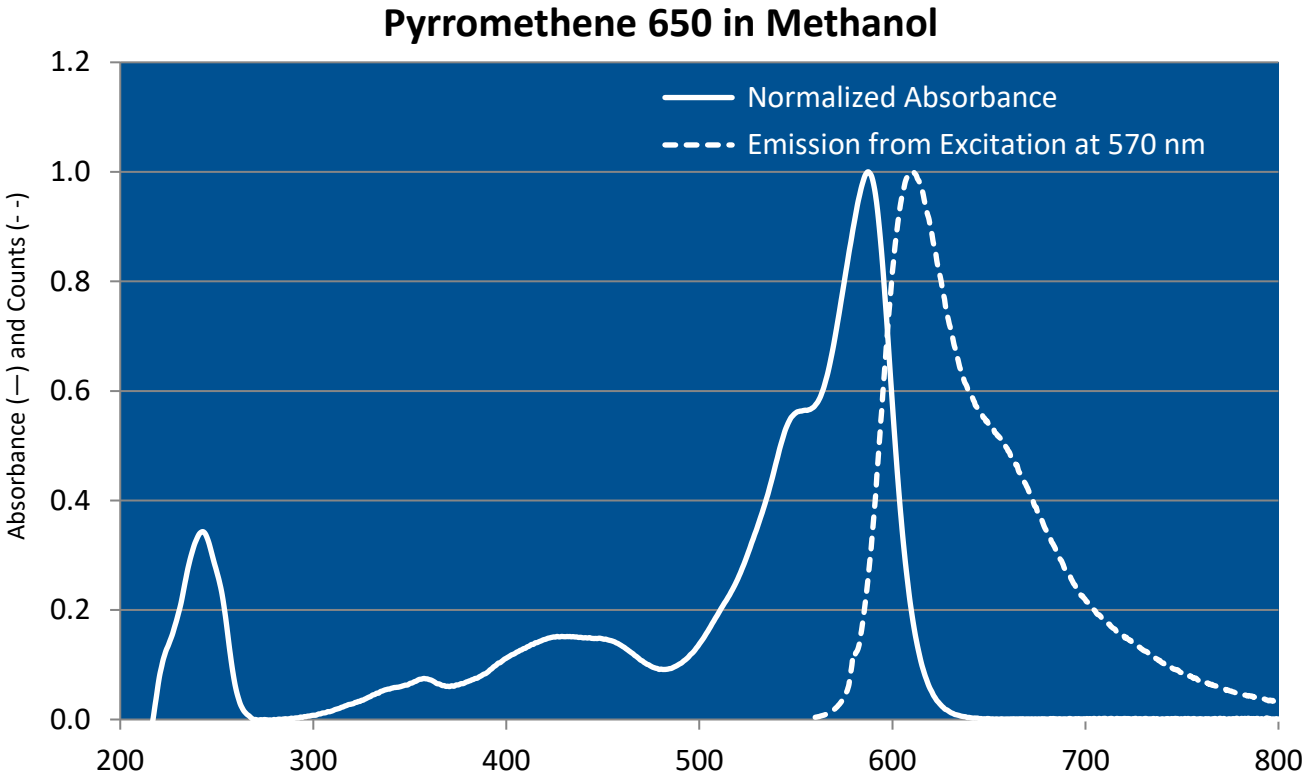

The information presented above is believed to be accurate but is not a specification. The customer is fully responsible for determining the suitability of this product for use in their application. Exciton, Inc. does not represent that the information is sufficient or complete for any specific application.

Quantum Yields and Lifetimes

Absorbance (nm)	Emission (nm)	Quantum Yield (max = 1.0)	Solvent	Lifetime (ns)	References, Notes
588	612	0.54	Ethanol	220	catalog reference

REFERENCES:

214. Laser Performance and Material Properties of a High Temperature Plastic Doped with Pyrromethene-BF_2 Dyes, T.H. Allik, S. Chandra, T.R. Robinson, J.A. Hutchinson, G. Sathyamoorthi, and J.H. Boyer, *Mat. Res. Soc. Symp. Proc.,* 329, 291 (1994). [Non-Commerical Dye Laser - details in paper]

220. Spectroscopy and Laser Perfomrance of New BF_2-Complex Dyes in Solution, T.H. Allik, R.E. Hermes, G. Sathyamoorthi, and J.H. Boyer, SPIE Proceedings: Visible and UV Lasers, 2115, 240 (1994). [Non-Commerical Dye Laser - details in paper]

226. D. Richter, private commun., 1994. Pumped with Continuum Nd:YAG 800mj, 300Hz to give 1 watt output centered at 612.5nm (not optimized).

For a current list of biology, biological stain, or biochemistry references for Pyrromethene 650 from PubMed, click on the following link:

Pyrromethene 650

NOTES:

Pyrromethene 650 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).