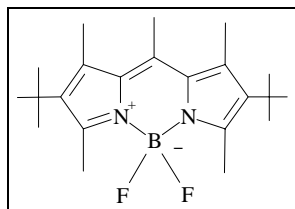




PO Box 31126
Dayton, OH 45437
Tel: 937.252.2989 Fax: 937.258.3937
E-mail: info@exciton.com
www.exciton.com



PYROMETHENE 597

Chemical Name: 1,3,5,7,8-pentamethyl-2,6-di-t-butylpyromethene-difluoroborate complex
MW: 374.32
CAS Registry Number: 137829-79-9
Synonyms: PM-597
Melting Point: 255-257°C
Exciton Catalog No.: 05970

Spectral Information:

$\lambda_{\text{max,abs}} = 525\text{nm}$ (Ethanol)²⁰³
 $\epsilon_{525} = 6.8 \times 10^4 \text{ liter mol}^{-1} \text{ cm}^{-1}$ ²⁰³
 $\lambda_{\text{max,fl}} = 557\text{nm}$ (Ethanol)²⁰³
 $\Phi_f = 0.77$ (Ethanol)²⁰³

Selected Solubility Limits (25°C):

		$\lambda_{\text{abs max}}$:
Methanol	380mg/liter	523
Ethanol	1.5g/liter	525
NMP	10.1g/liter	525
EPH	7g/liter	529
PPH	9.2g/liter	528
p-Dioxane	9.8g/liter	526
Propylene Carbonate	~2.5	

REPORTED LASER PERFORMANCE DATA

Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Conversion Efficiency	Stability (1/2- life)
593(bb)		FL ²⁰³	p-Dioxane	2×10^{-4}	-	-
597(bb)		FL ²¹⁸	Ethanol	2×10^{-4}	-	-
		Nd:YAG(532) ²¹⁷	Acrylic Copolymer	3.2×10^{-4}	70% ^s	-
		Nd:YAG(532) ²²⁰	Ethanol	3×10^{-4}	82.6%	-
571	560-600+	Nd:YAG(532) ²²³	Ethanol	4.2×10^{-4} (osc), 4.5×10^{-5} (amp)	32%	255KJ/L
582	566-611	Nd:YAG(532) ²³⁹	Ethanol	4.3×10^{-4}	28%	-
585	571-612	Nd:YAG(355) ²³⁹	Ethanol	8.6×10^{-4}	12%	-
587(bb)		Nd:YAG(532) ²¹⁴	HTP	-	61% ^s	-

bb (broad band); s (slope efficiency)

EPH (2-Phenoxyethanol); HTP (High Temperature Plastic); NMP (N-Methyl-2-Pyrrolidinone); PPH (1-Phenoxy-2-Propanol)

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For a current list of biology, biological stain, or biochemistry references for Pyromethene 597 from PubMed, click on the following link:

[Pyromethene 597](#)

NOTES:

Pyromethene 597 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).