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Rhodamine 590*

Synonym: 2-[6-(ethylamino)-3-(ethylimino)-2,7-dimethyl-3H-xanthen-9-yl]-benzoic acid, methyl ester, chloride or tetrafluoroborate or perchlorate; Rhodamine 6G

Catalog No.: 05901 (chloride); 05902 (tetrafluoroborate); 05903 (perchlorate)

CAS No.: 3068-39-1 (05901)

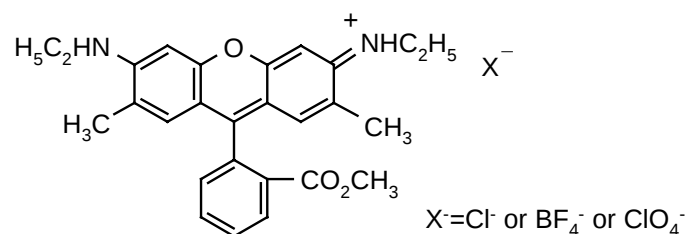
MW: 464.98 (05901); 516.34 (05902); 528.98 (05903)

Chemical Formula: C₂₇H₂₉ClN₂O₃ (05901); C₂₇H₂₉BF₄N₂O₃ (05902); C₂₇H₂₉ClN₂O₇ (05903)

Appearance: Bronzy red powder (05901); Red crystals (05902); Maroon crystals (05903)

Molar Absorptivity (in ethanol): 11.5 x 10⁴ L mole⁻¹ cm⁻¹ (chloride form)

Structure:



Laser Dye Catalog No.	Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	Fl λ-max
Rhodamine 590 (Available as the Chloride, Cl, 05901 ; the Perchlorate, ClO ₄ , 05903 ; and Tetrafluoro- borate, BF ₄ , 05902)	578	565-612	FL ³	Methanol	5 x 10 ⁻⁵	530 ^e	560 ^e
	584	570-618	FL ³	Ethanol	5 x 10 ⁻⁵		
	585	562-622	FL ⁶⁹	Methanol	4 x 10 ⁻⁵		
	586	563-625	FL ¹¹	Methanol	5 x 10 ⁻⁵		
	590		FL ⁶³	Methanol	8 x 10 ⁻⁵		
	596	577-614	FL ⁶⁹	MeOH/H ₂ O, 1/3			
	598	577-625	FL ¹²	MeOH/H ₂ O, 1/1	1.3 x 10 ⁻⁴		
		590-610	FL ¹⁸⁸	β-cyclodextrin/H ₂ O	2.3 x 10 ⁻⁴		
	600		FL ⁶³	4% LO/H ₂ O	1.2 x 10 ⁻⁴		
	610	585-633	FL ¹²	4% LO/H ₂ O	1.3 x 10 ⁻⁴		
	606		FL (Triaxial) ²²⁷	Acrylic Copolymer	1 x 10 ⁻⁴		
	580		KrF(248) ⁴⁴	Ethanol	1 x 10 ⁻³		
	590		KrF(248) ⁴⁶	p-Dioxane			
	574	563-615	XeCl(308) ¹¹⁴	Methanol	1.5 x 10 ⁻³		
	580	567-610	XeCl(308) ²⁰⁴	Ethanol	2.5 x 10 ⁻³ (osc), 1.8 x 10 ⁻³ (amp)		
	582	570-616	XeCl(308) ¹¹⁸	Ethanol	2.5 x 10 ⁻³ (osc), 3.8 x 10 ⁻⁵ (KR620)(amp)		
	583	566-610	XeCl(308) ¹¹⁰	Methanol	1.5 x 10 ⁻³		
	585	570-602	XeCl(308) ¹¹⁰	Methanol	1 x 10 ⁻³		
	591		XeCl(308) ¹¹²	Ethanol	4 x 10 ⁻³		
	586	570-614	XeF(351) ¹⁵⁴	Ethanol	5 x 10 ⁻³		
	550		Nd:YAG(532) ⁵⁴	Methanol	3 x 10 ⁻⁴		
	560	552-580	Nd:YAG(532) ⁵⁷	Methanol	2.2 x 10 ⁻⁴ (osc), 3.2 x 10 ⁻⁵ (amp)		



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Laser Dye Catalog No.	Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ -max	FI λ -max
562	546-592		Nd:YAG(532) ⁵⁵	Methanol			
563	550-590		Nd:YAG(532) ⁵⁸	Methanol			
563	552-584		Nd:YAG(532) ⁵³	Methanol	120.6mg/l(osc), 51mg/l(amp)		
564			Nd:YAG(532) ⁵	Ethanol	3.7×10^{-4} (osc), 3×10^{-5} (amp)		
566	556-580		Nd:YAG(532) ¹¹⁰	Methanol	1×10^{-4}		
566	559-576		Nd:YAG(532) ²³⁹	Ethanol	1.9×10^{-4}		
574	563-597		Nd:YAG(355) ¹¹⁰	Methanol	6×10^{-4}		
574	563-597		Nd:YAG(355) ²³⁹	Ethanol	8.4×10^{-4}		
575	556-620		Nd:YAG(d,m-l,QS) ¹⁶⁸	EG			
575	565-600		Nd:YAG(532) ¹¹⁶	Ethanol	5×10^{-4}		
577	567-602		Nd:YAG(355) ¹⁰⁹	Ethanol	2.5×10^{-3}		
577			Nd:YAG(532,25kHz, 40 watts) ²²⁹	MeOH/H ₂ O), 1/1	1.75×10^{-4}		
578	566-600		Nd:YAG(532) ¹¹⁰	Methanol	1×10^{-4} (R590) 1.3×10^{-5} (R610) +C540A		
567	557-590		N ₂ (337) ¹²²				
576	555-618		N ₂ (337) ⁷³	Ethanol			
579	568-605		N ₂ (337) ⁵	Ethanol	5×10^{-3}		
585	571-616		N ₂ (337) ¹¹⁴	Ethanol	4.2×10^{-3}		
596	569-635		N ₂ (337) ⁹⁰	Ethanol	5.3×10^{-3}		
596	575-625		N ₂ (337) ¹⁸³	Methanol	55mg/20ml		
590	570-650		Ar(458,514) ¹⁷	EG	2×10^{-3}		
593	573-640		Ar(Blue/Green) ¹²³	LO/EG, 3/1 + COT			
598	566-640		Ar(458-514) ²⁰⁶	EG/MeOH, 9.5/0.5	2.1×10^{-3} **		
600	567-657		Ar(cw) ¹⁴	EG			
602	560-654		Kr(Blue/Green) ⁶⁸	MeOH/EG	80% pump absorption		
567	555-584		Cu(511) ¹⁵³	Methanol	4×10^{-4}		
572	599-606		Cu(511) ¹⁵³	Methanol	9.6×10^{-4}		
572	-564-600-		Cu(511,578) ²⁸	Ethanol	1×10^{-3}		
585	563-607		Cu(511) ¹⁷⁵	Methanol	4×10^{-4}		
590	575-614		Cu(511) ¹⁵³	Methanol	8.8×10^{-4} (R590)+ 2.1×10^{-4} (KR620)		

** This represents a maximum value. Concentration should be adjusted to 80-85% absorption of the pump light.

E = Ethanol; EG = Ethylene Glycol; MeOH = Methanol; LO = Ammonyx LO; COT = Cyclooctatetraene

* Equivalent species may be provided or substituted



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