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Rhodamine 590*

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

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

CAS No.: 989-38-8 (05901)

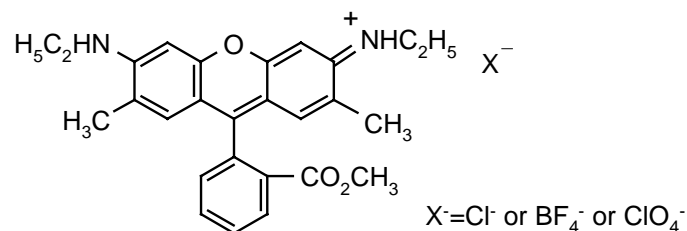
MW: 479.01 (05901); 530.36 (05902); 543.01 (05903)

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		Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	Fl λ-max
	Max. (nm)	Range (nm)					
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 x 10 ⁻⁴ (osc), 3 x 10 ⁻⁵ (amp)		
	566	556-580	Nd:YAG(532) ¹¹⁰	Methanol	1 x 10 ⁻⁴		
	566	559-576	Nd:YAG(532) ²³⁹	Ethanol	1.9 x 10 ⁻⁴		
	574	563-597	Nd:YAG(355) ¹¹⁰	Methanol	6 x 10 ⁻⁴		
	574	563-597	Nd:YAG(355) ²³⁹	Ethanol	8.4 x 10 ⁻⁴		
	575	556-620	Nd:YAG(d,m-l,QS) ¹⁶⁸	EG			
	575	565-600	Nd:YAG(532) ¹¹⁶	Ethanol	5 x 10 ⁻⁴		
	577	567-602	Nd:YAG(355) ¹⁰⁹	Ethanol	2.5 x 10 ⁻³		
	577		Nd:YAG(532,25kHz, 40 watts) ²²⁹	MeOH/H ₂ O), 1/1	1.75 x 10 ⁻⁴		
	578	566-600	Nd:YAG(532) ¹¹⁰	Methanol	1 x 10 ⁻⁴ (R590) 1.3 x 10 ⁻⁵ (R610)		
	567	557-590	N ₂ (337) ¹²²		+C540A		
	576	555-618	N ₂ (337) ⁷³	Ethanol			
	579	568-605	N ₂ (337) ⁵	Ethanol	5 x 10 ⁻³		
	585	571-616	N ₂ (337) ¹¹⁴	Ethanol	4.2 x 10 ⁻³		
	596	569-635	N ₂ (337) ⁹⁰	Ethanol	5.3 x 10 ⁻³		
	596	575-625	N ₂ (337) ¹⁸³	Methanol	55mg/20ml		
	590	570-650	Ar(458,514) ¹⁷	EG	2 x 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 x 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 x 10 ⁻⁴		
	572	599-606	Cu(511) ¹⁵³	Methanol	9.6 x 10 ⁻⁴		
	572	-564-600-	Cu(511,578) ²⁸	Ethanol	1 x 10 ⁻³		
	585	563-607	Cu(511) ¹⁷⁵	Methanol	4 x 10 ⁻⁴		
	590	575-614	Cu(511) ¹⁵³	Methanol	8.8 x 10 ⁻⁴ (R590)+ 2.1 x 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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