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KITON RED 620*

Synonym: N-[6-(diethylamino)-9-(2,4-disulfophenyl)-3H-xanthen-3-ylidene]-N-ethyl-ethanaminium hydroxide, inner salt, sodium salt; Sulforhodamine B

Catalog No.: 06200

CAS No.: 3520-42-1

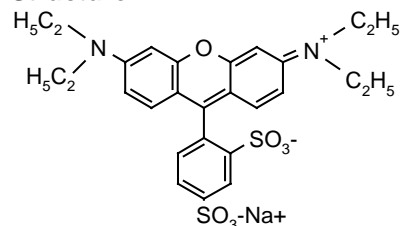
Chemical Formula: C₂₇H₂₉N₂O₇S₂Na

Molecular Weight: 580.66

Appearance: Dark red powder

Molar Absorptivity (in ethanol): 11.8 x 10⁴ L mole⁻¹ cm⁻¹

Structure:



Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	FI λ-max
607	601-616	FL ¹²⁵	Methanol(pH 10.3)	1.5 x 10 ⁻⁴ (R590), 8 x 10 ⁻⁵ (KR620)	554 ^e	575 ^e
620	580-630	FL ²⁹	Ethanol			
620		FL ⁶²	Methanol	2 x 10 ⁻⁴ (KR620) + (R590)		
621	594-653	FL ⁶⁹	Methanol	4 x 10 ⁻⁵		
621	608-634	FL ⁶⁹	Methanol + COT			
623	598-649	FL ³	Ethanol + COT	3 x 10 ⁻⁵		
627	595-629	FL ³	Methanol + COT	3 x 10 ⁻⁵		
631	600-660	FL ^{11,29}	Methanol	1 x 10 ⁻⁴		
636	603-670	FL ⁶	EG			
637		FL ⁷³	DMSO			
642	622-665	FL ¹²	4% LO/H ₂ O	1.1 x 10 ⁻⁴		
627		FL (Triaxial) ²²⁷	Acrylic Copolymer	1.5 x 10 ⁻⁴		
602	590-645	XeCl(308) ¹¹⁸	Ethanol	1.3 x 10 ⁻³ (osc)		
603	596-638	XeCl(308) ¹¹⁰	Methanol	1 x 10 ⁻³		
612	597-640	XeCl(308) ¹¹⁰	Methanol	1 x 10 ⁻³		
584	578-606	Nd:YAG(532) ⁵⁷	Methanol	2.2 x 10 ⁻⁴ (osc), 2.8 x 10 ⁻⁵ (amp)		
591	585-600	Nd:YAG(532) ²³⁹	Ethanol	3.4 x 10 ⁻⁴		
596	582-620	Nd:YAG(355) ²³⁹	Ethanol	5.2 x 10 ⁻⁴		
596	584-613	Nd:YAG(532) ¹¹⁰	Methanol	1.5 x 10 ⁻⁴		
623	594-641	Nd:YAG(355) ¹¹⁰	Methanol	1 x 10 ⁻³		
628	603-647	N ₂ (337) ⁷³	TFE			
638	602-695	Ar(458-514) ²⁰⁶	EG/MeOH,7.5/1.5	4.3 x 10 ^{-3**}		
638	610-670	Ar(cw) ¹⁴	EG			
597	586-632	Cu(511,578) ¹⁵³	Methanol	8.1 x 10 ⁻⁴ (KR620)+ 2.8 x 10 ⁻⁴ (R590)		
601	590-639	Cu(511,578) ¹⁷⁵	Methanol	1 x 10 ⁻³		
605	588-639	Cu(511,578) ¹⁵³	Methanol	1.7 x 10 ⁻³		



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Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ -max	FI λ -max
617	-595-639-	Cu(511,578) ²⁸	TFE	1.7×10^{-3}		
620	598-645	Cu(511,578) ¹⁷⁵	Methanol	3×10^{-3}		

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

DMSO, S = Dimethylsulfoxide; e = Ethanol; EG = Ethylene Glycol; LO = Ammonyx LO; MeOH = Methanol; TFE = Trifluoroethanol

* Equivalent species may be provided or substituted

REFERENCES:

- Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
- Dye Lasers in the Ultraviolet, J.A. Myer, I. Itzkan, E. Kierstead, *Nature*, 225, 544 (1970)
- Lasing Characteristics of Seventeen Visible-Wavelength Dyes using a Coaxial-Flashlamp-Pumped Laser, J.B. Marling, J.H. Hawley, E.M. Liston and W.B. Grant, *Appl. Optics*, 13(10), 2317 (1974). a. With Rhodamine 6G
- Chromatix, 560 Oak Meade Parkway, Sunnyvale, CA 94086
- CW Laser Emission Spanning the Visible Spectrum, J.M. Yarborough, *Appl. Phys. Lett.*, 24(12), 629 (1974). a. With Rhodamine 6G
- Efficient, High Average Power Dye Amplifiers Pumped by Copper Vapor Lasers, R.S. Hargrove and T. Kan, *IEEE J. Quantum Electron.*, QE13, 28D (1977)
- Kiton Red S and Rhodamine B. The Spectroscopy and Laser Performance of Red Laser Dyes, J.M. Drake, R.N. Steppel and D. Young, *Chem. Phys. Lett.*, 35(2), 181 (1975)
- Quanta-Ray, Note: Quanta-Ray is now incorporated as a part of Spectra-Physics, 1250 W. Middlefield Road, Mountain View, CA 94039
- Inexpensive, Pulsed, Tunable ir Dye Laser Pumped by a Flashlamp-Driven Dye Laser, A. Passner and T. Venkatesan, *Rev. Sci. Instrum.*, 49(10), 1413 (1978)
- Candela Laser Corporation, 530 Boston Post Road, Wayland, MA 01778-1833
- Laser Dye DCM, Spectral Properties, Synthesis and Comparison with other Dyes in the Red, P.R. Hammond, *Optics Commun.*, 29(3), 331 (1979)
- Lumonics Inc., 105 Schneider Road, Kanata, (Ottawa), Ontario, Canada K2K 1Y3
- The XeCl Excimer Laser: A Powerful and Efficient UV Pumping Source for Tunable Dye Lasers, H. Telle, W. Huffer and D. Basting, *Optics Commun.*, 38(5,6), 402 (1981)
- Efficient High-Energy SHG Using a Triaxial Flashlamp-Pumped Dye Laser, R.M. Schotland, *Appl. Optics*, 19(1), 124 (1980)
- Cooper LaserSonics, Inc. 5674 Sonoma Drive, Pleasanton, CA 94566
- CVL-Pumped Dye Laser For Spectroscopic Application, M. Broyer, J. Chevalayre, G. Delacretaz and L. Wöste, *App. Phys. B*, 35, 31 (1984)
- Coherent Inc., 3210 Porter Dr., Palo Alto, CA 94304; (599 Composite Tuning Curves, 1992; The concentration shown represents a maximum value. The final concentration should be adjusted to obtain 80-85% absorption of the pump light.)
- Progress in Solid State Dye Laser Development, R.E. Hermes, Proceedings of the Int. Conf. on Lasers '90, STS Press, (1991)
- P. Jauernik, private commun., Sirah Laser- und Plasmatechnik, 2003

For a current list of biology, biological stain, or biochemistry references for Rhodamine 560 from PubMed, click on the following link:

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