

SULFORHODAMINE 640

Synonym: 2',3',6',7',12',13',16',17',-octahydro-spiro[3H-2,1-benzoxathiole-3,9'-[1H,5H,9H,11H,15H]xantheno[2,3,4-ij:5,6,7- i'j']diquinolizine]-6-sulfonic acid, 1,1-dioxide, sodium salt; Like Sulforhodamine 101

Catalog No.: 06500

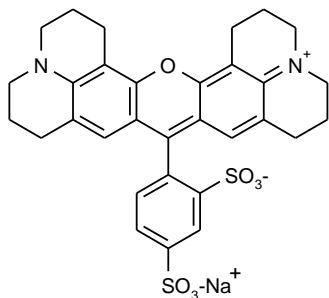
MW: 629.70

Chemical Formula: C₃₁H₂₉N₂O₇S₂.Na

CAS No.: Not available

Appearance: Dark green crystals

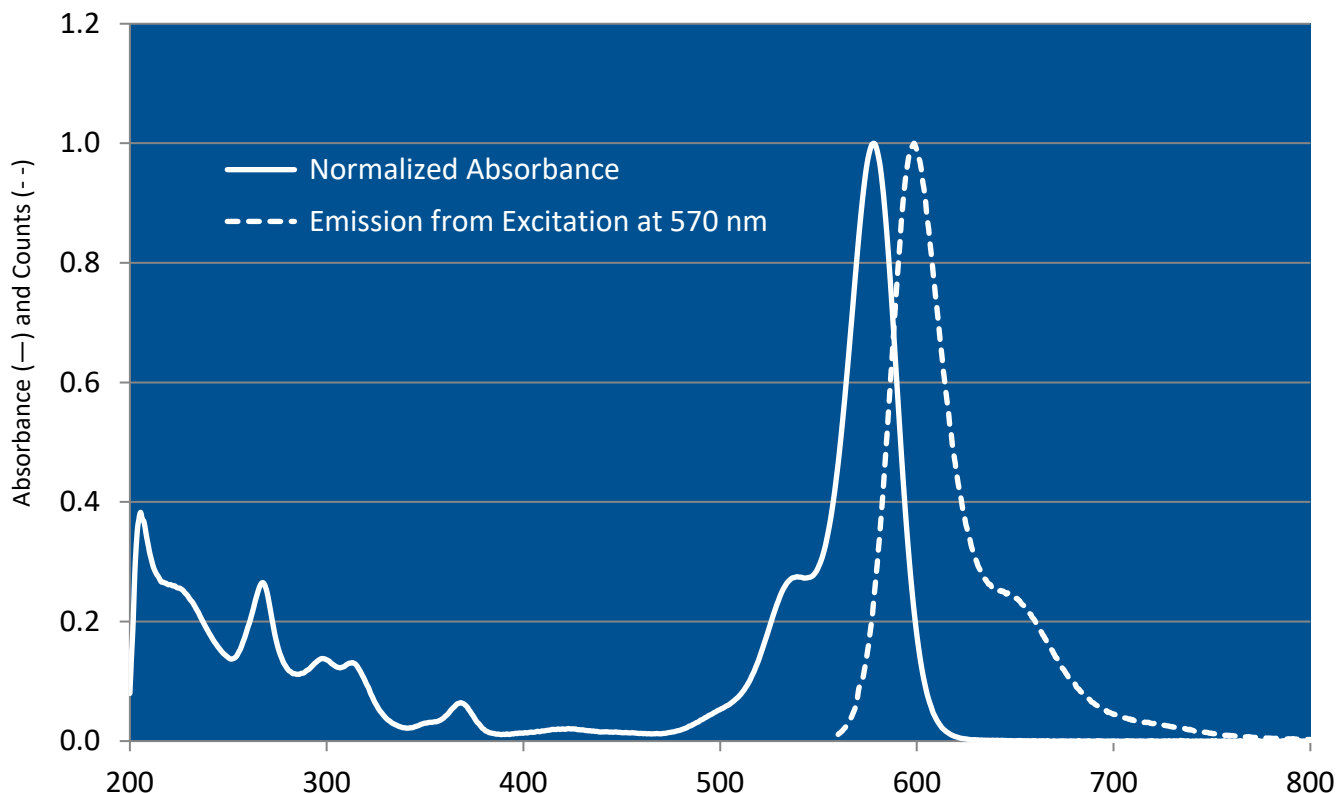
Structure:



Max. Lasing Wavelength (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	FI λ-max
645	620-670	FL ³	Ethanol	1 x 10 ⁻⁴	576 ^e	602 ^e
656	615-678	FL ⁶⁹	Methanol	4 x 10 ⁻⁵		
671	660-670	FL ⁶⁹	Methanol	4 x 10 ⁻⁵ (SR640), 0.5 x 10 ⁻⁵ (Ox720)		
653.8		FL (Triaxial) ²²⁷	Acrylic Copolymer	1 x 10 ⁻⁴		
652	615-667	XeCl(308) ¹¹⁰	Methanol	1 x 10 ⁻³		
609	603-630	Nd:YAG(532) ⁵⁷	Methanol	4 x 10 ⁻⁴ (osc), 5.9 x 10 ⁻⁵ (amp)		
630,652	620-675	Nd:YAG(532,25kHz, 40 watts) ²²⁹	MeOH/H ₂ O, 1/1	1.5 x 10 ⁻⁴		
615	605-628	Nd:YAG(532)→ F548(544) ¹⁴⁸	MeOH/H ₂ O, 1/1	3.8 x 10 ⁻⁴ (osc), 7.31 x 10 ⁻⁵ (amp)		
	590-640	Nd:YAG(532) ⁷⁹	Ethanol(acidic)	1.5 x 10 ⁻⁴		
619	607-634	Nd:YAG(532) ¹¹⁰	Methanol	2 x 10 ⁻⁴		
656		(cw) ⁷⁵	MeOH/H ₂ O, 1/1	8.3 x 10 ⁻⁴		
668	646-680	Ar(vis) ⁸⁷	EG	3 x 10 ⁻³ (SR640), 1 x 10 ⁻³ (R590)		

e = ethanol; MeOH/H₂O = methanol/water; EG = Ethylene Glycol

Sulforhodamine 640 in Methanol



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
		1	Ethanol	6.2	R-2a

REFERENCES:

- Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
- Quanta-Ray, Note: Quanta-Ray is now incorporated as a part of Spectra-Physics, 1250 W. Middlefield Road, Mountain View, CA 94039
- Candela Laser Corporation, 530 Boston Post Road, Wayland, MA 01778-1833
- B.W. Petty, K. Morris, *Opt. Quantum Electron*, 8(4), 371 (1976)
- Efficient Ultraviolet Generation of 2073-2174 Å in $\text{KB}_5\text{O}_8/4\text{H}_2\text{O}$, K. Kato, *IEEE J. Quantum Electron*, QE13(7), 544 (1977)
- The Selective Excitation of Lithium Isotopes by Intracavity Nonlinear Absorption in a CW Dye Laser, M. Yamashita, M. Kasamatsu, H. Kashiwagi and K. Mashida, *Optics Commun.*, 26(3), 343 (1978)
- Lumonics Inc., 105 Schneider Road, Kanata, (Ottawa), Ontario, Canada K2K 1Y3

148. Dye Laser Radiation in the 605-725nm Region Pumped by a 544nm Fluorescein Dye Laser, K.D. Bonin and T.J. McIlrath, *Applied Optics*, 23(17), 2854 (1984)
227. Progress in Solid State Dye Laser Development, R.E. Hermes, Proceedings of the Int. Conf. on Lasers '90, STS Press, (1991)
229. Generation of 1.30- to 1.55 μ m Tunable Radiation from First Stokes Raman Shifting in Hydrogen, K.W. Aniolek, D.L. Miller, N.P. Cernansky, and K.G. Owens, *Appl. Spec.* 51(6), 820(1997)
- R-2a. Characterization of the Lowest Excited Singlet State of Rhodamine 3B, Sulforhodamine B and Sulforhodamine 101, P.C. Beaumont, D.G. Johnson and B.J. Parsons, *J. of Chem. Soc., Faraday Trans.* 94(2), 195 (1998), <https://doi.org/10.1039/A705692C>

For a current list of biology, biological stain, or biochemistry references for Sulforhodamine 640 from PubMed, click on the following link:

[Sulforhodamine 640 \(similar to Sulforhodamine 101\)](#)