

IR 140

Synonym: 5-chloro-2-[2-[3-[(5-chloro-3-ethyl-2(3H)-benzothiazol-ylidene)ethylidene]-2-(diphenylamino)-1-cyclopenten-1-yl]ethenyl]-3-ethyl benzothiazolium perchlorate

Catalog No.: 09500

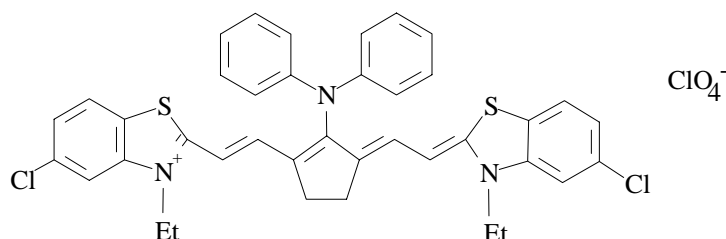
CAS No.: 53655-17-7

Chemical Formula: C₃₉H₃₄Cl₂N₃S₂.ClO₄

MW: 779.20

Appearance: Brown crystalline powder

Structure:



Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	Fl λ-max
	805-872	FL→OX720(690-709) ³	Ethanol	1 x 10 ⁻⁴	823 ^S	882 ^S
	875-916	FL→OX720(709) ³	DMSO	2 x 10 ⁻⁴	776 ^e	
950		FL ⁹⁹	DMSO	1 x 10 ⁻⁴		
880	868-900	XeCl(308) ¹¹⁴	DMF	3.2 x 10 ⁻⁴		
884	876-912	XeCl(308) ¹¹⁴	DMF	6.4 x 10 ⁻⁴		
936	900-995	XeCl(308) ¹¹⁰	DMSO	1 x 10 ⁻³		
865	859-872	Nd:YAG(532) ¹¹⁶	Ethanol/DMSO,94/6	1.5 x 10 ⁻⁴ (IR-140), 9.5 x 10 ⁻⁴ (R640)		
875	866-882	Nd:YAG(532) ¹¹⁶	Ethanol/DMSO,94/6	2.8 x 10 ⁻⁴ (IR-140), 9.5 x 10 ⁻⁴ (R640)		
893	882-913	Nd:YAG ⁵³	DMSO			
898		Nd:YAG→C720(700) ⁶⁶	DMSO	2 x 10 ⁻⁴		
908	Δλ(bb)=15	Nd:YAG(532) ¹⁰²	DMSO	4 x 10 ⁻⁴		
910	Δλ(bb)=20	Nd:YAG(532) ¹⁰¹	DMSO	5 x 10 ⁻⁴		
912	896-940	N ₂ (337) ¹¹⁴	DMSO	1.5 x 10 ⁻³		
920	906-968	N ₂ (337) ¹¹⁴	DMSO	3 x 10 ⁻³		
930	915-960	N ₂ (337) ¹¹¹	DMSO	3 x 10 ⁻³		
964	906-1018	N ₂ (337) ⁹⁰	DMSO	1 x 10 ⁻³		
	887-986	Kr(752,799) ⁷¹	EG/DMSO,3/1	5.1 x 10 ⁻⁴		
927	858-1030	Kr(752) ¹⁰⁰	EG/DMSO,3/1	1 x 10 ⁻³		
950	862-1013	Kr(752,799) ⁹⁸	EG/DMSO,1/1	6.4 x 10 ⁻⁴		
961	875-1015	Kr(IR) ⁶⁸				
	850-930	Ruby(694) ³⁵	DMSO			

e = Ethanol; s = DMSO; DMSO = Dimethylsulfoxide; DMF = dimethylformamide; EG = Ethylene Glycol



General Microtechnology & Photonics
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REFERENCES:

3. Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
35. Lasing Efficiency and Photochemical Stability of Infrared Laser Dyes in the 710-1080 nm Region, P.E. Oettinger and C.F. Dewey, *IEEE J. Quantum Electron.*, QE12(2), 95 (1976)
53. Continuum, 3150 Central Expressway, Santa Clara, CA 95051, formerly, Quantel International
66. Near Infrared Dye Laser Pumped by a Carbazine 122 Dye Laser, K. Kato, *IEEE J. Quantum Electron.*, QE12, 442 (1976)
68. Coherent Inc., 3210 Porter Dr., Palo Alto, CA 94304
71. Generation of Near-Infrared Picosecond Pulses by Mode Locked Synchronous Pumping of a Jet-Stream Dye Laser, J. Kuhl, R. Lambrich and D. Von der Linde, *Appl. Phys. Lett.*, 31(10), 657 (1977)
90. Jobin Yvon, 16-18 rue du Canal B.P. 118, 91163 Longjumeau Cedex France
98. CW Dye Laser Emission Beyond 1000 nm, M. Leduc and C. Weisbuch, *Optics Commun.*, 26(1), 78 (1978)
99. Sixteen New Infrared Laser Dyes Excited by a Simple, Linear Flashlamp, J.P. Webb, F.G. Webster and B.E. Plourde, *IEEE J. Quantum Electron.*, QE11, 114 (1975)
100. Synchronous Pumping of Dye Lasers up to 1095 nm, M. Leduc, *Optics Commun.*, 31(1), 66 (1979)
101. Excited State Absorption and Laser Emission from Infrared Dyes Optically Pumped at 532 nm, C.D. Decker, *Appl. Phys. Lett.*, 27(11), 607 (1975)
102. Power-Scaling Effects in Dye Lasers under High Power Laser Excitation, C.A. Moore and C.D. Decker, *J. Appl. Phys.*, 49(1), 47 (1978)
110. Lumonics Inc., 105 Schneider Road, Kanata, (Ottawa), Ontario, Canada K2K 1Y3
111. Lasing Properties of Several Near-IR Dyes for a Nitrogen Laser-Pumped Dye Laser with an Optical Amplifier, B.M. Pierce and R.R. Birge, *IEEE J. Quantum Electron.*, QE18, 1164 (1982)
114. Optimization of Spectral Coverage in an Eight-Cell Oscillator-Amplifier Dye Laser Pumped at 308nm, F. Bos, *Appl. Optics*, 20, 3553 (1981)
116. Versatile High-Power Single-Longitudinal-Mode Pulsed Dye Laser, F. Bos, *Appl. Optics*, 20(10), 1886 (1981)

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