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LDS 820/821

Synonym: LDS 820 – 2-[6-[4-(dimethylamino)phenyl]-1,3,5-hexatrienyl]-3-ethyl-benzothiazolium perchlorate;

LDS 821 - (2-(6-(p-dimethylaminophenyl)-2,4-neopentylene-1,3,5-hexatrienyl)-3-ethylbenzothiazolium perchlorate); Styryl 9M

Catalog No.: 08200 (LDS 820); 08210 (LDS 821)

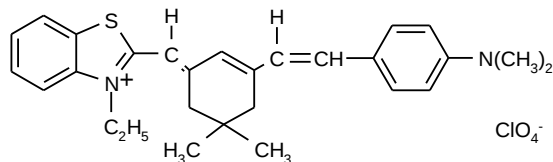
CAS No.: 76433-25-5 (08200); Not Available for 08210

MW: 460.98 (08200); 529.09 (08210)

Chemical Formula: C₂₃H₂₅N₂S.ClO₄ (08200); C₂₈H₃₃N₂S.ClO₄ (08210)

Appearance: Dark green crystals (08200); green crystals (08210)

Structure:



Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	FI λ-max	% CE*
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All of the data for LDS 820/LDS 821 is interchangeable. LDS 821 is the preferred dye. LDS 820 is no longer available.

LDS 820 (08200):

841	810-860	FL ¹⁴¹	PC/EG,9/1	2.5 x 10 ⁻⁵			
810	784-844	Nd:YAG(532) ¹³⁴	Ethanol				
814	787-847	Nd:YAG(532) ¹¹⁰	Methanol	1.5 x 10 ⁻⁴			
818	775-865	Nd:YAG(532) ⁵⁷	Methanol	4.1 x 10 ⁻⁴ (osc), 3.9 x 10 ⁻⁵ (amp)			
825	798-866	Nd:YAG(532) ¹³⁴	DMSO				
840	800-865	Nd:YAG(532) ⁵	PC,3%PC/EtOH	1 x 10 ⁻³ (LDS 820)(osc), 16.8mg/l(LDS 867)(amp)			
	775-840	Ar(m-l,514) ¹³⁶	PC/EG,15/85	1.9 x 10 ⁻³			
	781-840	Ar(m-l,514) ¹³⁶	PC/EG,15/85	1.9 x 10 ⁻³			
	792-880	Ar(m-l,514) ¹³⁶	PC/EG,15/85	1.9 x 10 ⁻³			
822	784-900	Ar ^{127a}	PC/EG,15/85	1.2 x 10 ⁻³			
	790-913	Ar(m-l,514) ¹³⁶	PC/EG,15/85	1.9 x 10 ⁻³			
845	780-960	Ar(458-514) ¹⁷	PC/EG,15/85	2 x 10 ⁻³			

LDS 821 (08210):

834	817-842	FL ⁶⁹	Methanol	8.7 x 10 ⁻⁵	574 ^m	750 ^m	--
848	824-867	FL ⁶⁹	DMSO	5.0 x 10 ⁻⁵			--
818	785-850	XeCl(308) ¹¹⁰	Methanol	6 x 10 ⁻⁴			--
843	807-900	XeCl(308) ²⁰⁴	DMSO	2.14 x 10 ⁻³ (osc), 1.28 x 10 ⁻³ (amp)			7
	805-840	Nd:YAG(532,m-l, 1mj,32ps) ¹⁷²	Methanol	3.5 x 10 ⁻³ (cavity) 4 x 10 ⁻⁴ (amp)			--
812	780-844	Nd:YAG(532) ⁵³	Methanol	1.9 x 10 ⁻⁴ (osc), 2.5 x 10 ⁻⁵ (amp)			8.2
812	785-855	Nd:YAG(532) ²³⁰	Methanol	189.5mg/l(osc), 72.8mg/l(amp)			--
815	791-839	Nd:YAG(532) ²³⁹	Ethanol	2.5 x 10 ⁻⁴			



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Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ -max	FI λ -max	% CE*
818	785-851	Nd:YAG, (side-p,532) ⁵⁷	Methanol	125mg/l(osc), 32.5mg/l(amp)			10
818	785-851	Nd:YAG, (end-p,532) ⁵⁷	Methanol	125 mg/l(osc), 17mg/l(amp)			7
821		Nd:YAG(532,m-l) ¹⁶⁰	DMSO/PC/EG	2.3×10^{-3}			11
826	780-874	Nd:YAG(532) ⁵³	Methanol	71.5mg/l(LDS 821)+ 28.6mg/l(LDS 867)(osc), 10mg/l(LDS 821)+ 9.3mg/l(LDS 867)(amp)			--
839	814-862	Nd:YAG(532) ²³⁹	DMSO	2.5×10^{-4}			
821	802-852	N ₂ (337) ¹³⁷	PC	3×10^{-3} (osc), 3×10^{-3} (amp)			--
815	782-930	Ar(514,m-l) ¹³⁶	PC/EG,15/85	1.85×10^{-3}			29
840	790-940	Ar(458-514) ²⁰⁶	PC/EG,3/7	3.9×10^{-3} *			14
843	780-960	Ar(459-514) ¹⁷	PC/EG,15/85	2×10^{-3}			11.3
880	793-923	Kr(647) ¹²⁸	PC/EG,1/4	1.4g/l			--
815	793-845	Cu(511,578) ¹⁷⁵	Methanol	1.3×10^{-3}			14.4

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

DMSO = dimethylsulfoxide, EG = ethylene glycol, PC = propylene carbonate, m = methanol

NOTES:

CE = Conversion efficiency reported by the manufacturer or literature sources. See reference (numbers indicated under pump source column)
-- = not reported or not available

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57. Quanta-Ray, Note: Quanta-Ray is now incorporated as a part of Spectra-Physics, 1250 W. Middlefield Road, Mountain View, CA 94039
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For a current list of biology, biological stain, or biochemistry references for LDS 821 from PubMed, click on the following link:

[LDS 820/821 or Styryl 9M](#) (zero references in PubMed as of May 2006)