

## LD 490

**Synonym:** 2,3,6,7-tetrahydro-1H,5H,11H-[1]benzopyrano[6,7,8-ij]-quinoliz-11-one; Coumarin 6H

**Catalog No.:** 04900

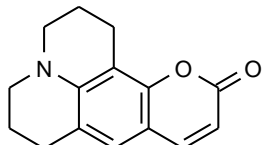
**CAS No.:** 58336-35-9

**MW:** 241.37

**Chemical Formula:** C<sub>15</sub>H<sub>15</sub>NO<sub>2</sub>

**Appearance:** Yellow needles

**Structure:**

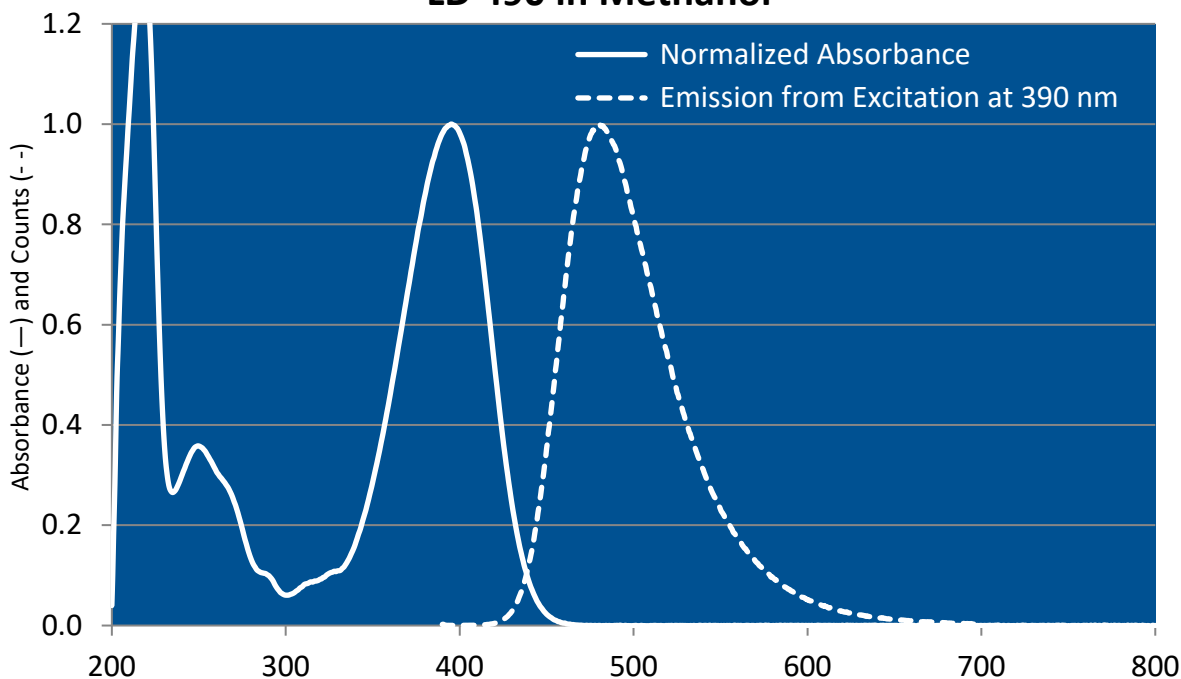


<b>Lasing Wavelength Max. (nm)</b>	<b>Range (nm)</b>	<b>Pump Source (nm)</b>	<b>Solvent</b>	<b>Concentration (molar)</b>	<b>Abs λ-max</b>	<b>FI λ-max</b>
479	459-523	FL <sup>3</sup>	Ethanol	1 x 10 <sup>-4</sup>	396 <sup>m</sup>	474 <sup>m</sup>
488	470-534	FL <sup>69</sup>	Methanol	6 x 10 <sup>-5</sup>		476 <sup>e</sup>
489	459-528	FL <sup>61</sup>	Methanol	2 x 10 <sup>-4</sup>		488 <sup>e/w</sup>
490		FL <sup>18</sup>	Ethanol			
492	465-529	FL <sup>3</sup>	Methanol + LO	1 x 10 <sup>-4</sup>		
500	-480-525-	FL <sup>12</sup>	MeOH/H <sub>2</sub> O,1/1	2.3 x 10 <sup>-4</sup>		
480	472-487	Nd:YAG(355) <sup>54</sup>	Ethanol	5 x 10 <sup>-4</sup>		
489	466-518	Nd:YAG(355) <sup>91</sup>	Methanol	1.4 x 10 <sup>-3</sup> (osc), 3.7 x 10 <sup>-4</sup> (amp)		
490	-477-512-	Ar <sup>24</sup>	EG			
493	470-516	Ar <sup>173</sup>	EG	4.1 x 10 <sup>-3</sup>		
494	479-507	Ar(SF) <sup>24</sup>	EG			

e = ethanol; m = methanol; w = water

EG = ethylene glycol; H<sub>2</sub>O = water; LO = ammonyx LO; MeOH = methanol

### LD 490 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
396		0.72	Ethanol		C-5
394	474	0.63	Ethanol		C-7c
394	474	0.82	Ethanol		C-7a
394	474	1	Ethanol		C-7b

#### REFERENCES:

- Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
- Chromatix, 560 Oak Meade Parkway, Sunnyvale, CA 94086
- New Laser Dyes with Blue-Green Emission, E.J. Schimitschek, J.A. Trias, P.R. Hammond, R.A. Henry and R.L. Atkins, *Optics Commun.*, 16(30), 313 (1976)
- F.P. Roullard, private commun., 1976
- W. R. Green, private commun., 1977
- Efficient Cavity Dumped Dye Laser, R.G. Morton, M.E. Mack and I. Itzkan, *Appl. Optics*, 17(20), 3268 (1978)
- Candela Laser Corporation, 530 Boston Post Road, Wayland, MA 01778-1833
- R. Morrison, private commun., 1980

173. J.A. Hoffnagle, private commun., 1987; CR 599-21 standing wave laser with Coumarin 515 optics (reflecting 460-600 nm), 2% outputcoupler, laser running multimode with 3-Plate Lyot Filter. At 793 nm, 23 mW of stable single mode output obtained.
- C-5. Laser Dye Stability. Part 5, Effect of Chemical Substituents of Bicyclic Dyes Upon Photodegradation Parameters, A.N. Fletcher and D.E. Bliss, Appl. Phys. 16, 289 (1978), <https://doi.org/10.1007/BF00885124>
- C-7a. The Effect of Oxygen on the Fluorescence Quantum Yields of Some Coumarin Dyes in Ethanol, R.F. Kubin and A.N. Fletcher, Chem. Phys. Lett. 99(1), 49 (1983), [https://doi.org/10.1016/0009-2614\(83\)80268-1](https://doi.org/10.1016/0009-2614(83)80268-1) **Note A:** Under air.
- C-7b. The Effect of Oxygen on the Fluorescence Quantum Yields of Some Coumarin Dyes in Ethanol, R.F. Kubin and A.N. Fletcher, Chem. Phys. Lett. 99(1), 49 (1983), [https://doi.org/10.1016/0009-2614\(83\)80268-1](https://doi.org/10.1016/0009-2614(83)80268-1) **Note B:** Under argon
- C-7c. The Effect of Oxygen on the Fluorescence Quantum Yields of Some Coumarin Dyes in Ethanol, R.F. Kubin and A.N. Fletcher, Chem. Phys. Lett. 99(1), 49 (1983), [https://doi.org/10.1016/0009-2614\(83\)80268-1](https://doi.org/10.1016/0009-2614(83)80268-1) **Note C:** Under oxygen.

For a current list of biology, biological stain, or biochemistry references for LD 490 from PubMed, click on the following link:

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