

## COUMARIN 490

**Synonym:** 7-amino-4-(trifluoromethyl)-2H-1-benzopyran-2-one; Coumarin 151

**Catalog No.:** 04890

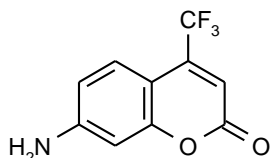
**CAS No.:** 53518-15-3

**MW:** 229.16

**Chemical Formula:** C<sub>10</sub>H<sub>6</sub>F<sub>3</sub>NO<sub>2</sub>

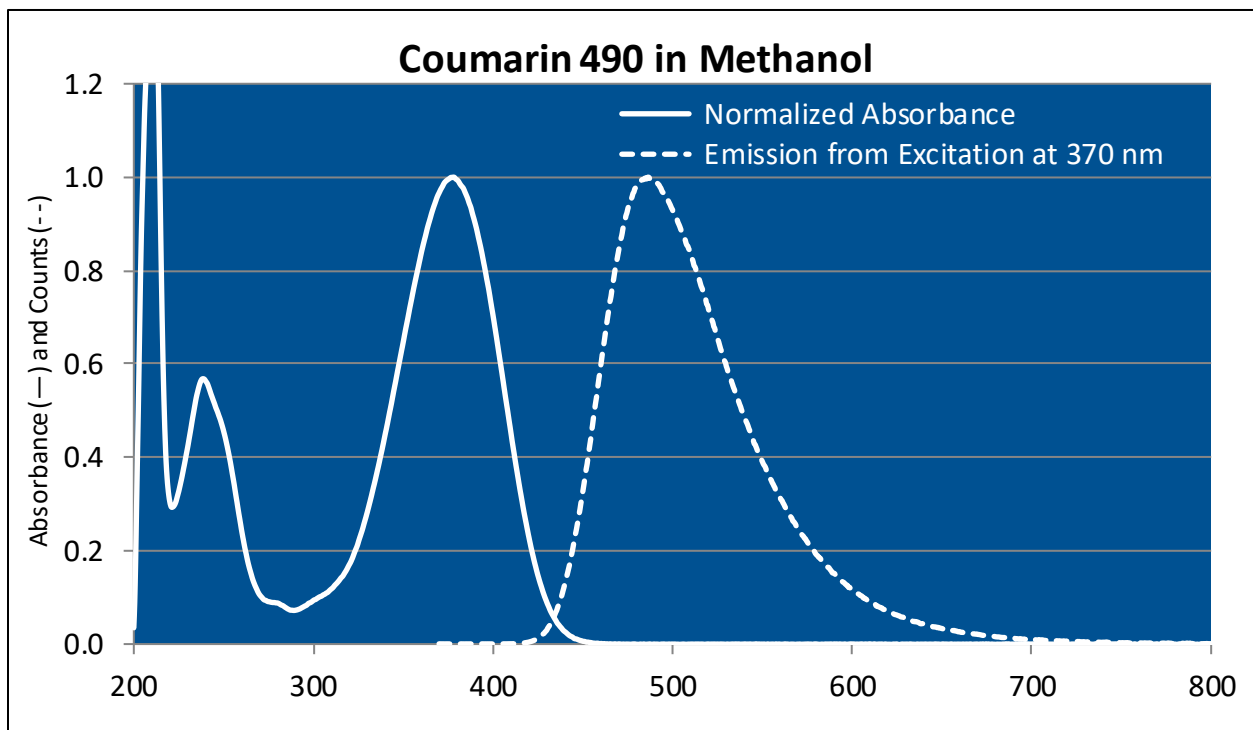
**Appearance:** Bright yellow crystalline needles

**Structure:**



Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	Fl λ-max
484		FL <sup>21</sup>	Ethanol		382 <sup>e</sup>	480 <sup>e</sup>
488		FL <sup>23</sup>	Ethanol		376 <sup>m</sup>	
489	467-510	FL <sup>61</sup>	Methanol	2 x 10 <sup>-4</sup>		
495	477-515	FL <sup>3</sup>	Methanol + LO	1 x 10 <sup>-4</sup>		
496		FL <sup>21</sup>	EtOH/H <sub>2</sub> O			

LO=Ammonyx LO, EtOH/H<sub>2</sub>O=ethanol/water, e=ethanol, m=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
365	465	0.92	Acetonitrile	5.2	C-2a
380	490	0.88	50% ethanol	5.3	C-2a
382		0.74	Ethanol		C-5

### REFERENCES:

3. Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
21. Laser Performance and Stability of Fluorinated Coumarin Dyes, E.J. Schimitschek, J.A. Trias, P.R. Hammond and R.L. Atkins, *Optics Commun.*, 11(4), 352 (1974)
23. New Highly Efficient Laser Dyes, K.H. Drexhage and G.A. Reynolds, VII Int. Quantum Electronics Conf., Paper F. 1, San Francisco, CA., USA, 1974
61. Efficient Cavity Dumped Dye Laser, R.G. Morton, M.E. Mack and I. Itzkan, *Appl. Optics*, 17(20), 3268 (1978)
- C-2a. Solvent Effects on Emission Yield and Lifetime for Coumarin Laser Dyes, Requirements for a Rotatory Decay Mechanism, Guilford Jones II, W.R. Jackson, C-Y. Choi and W.R. Bergmark, *J. Phys. Chem.* 89(2), 294-300 (1985); <https://doi.org/10.1021/j100248a024> **Note A:** Argon purged samples at room temperature. Coumarin dye correlated in associated number in reference.
- 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>

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

[Coumarin 490 or Coumarin 151](#)