

COUMARIN 485

Synonym: 7-(dimethylamino)-4-(trifluoromethyl)-2H-1-benzopyran-2-one; Coumarin 152

Catalog No.: 04850

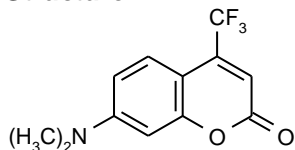
CAS No.: 53518-14-2

MW: 257.21

Chemical Formula: C₁₂H₁₀F₃NO₂

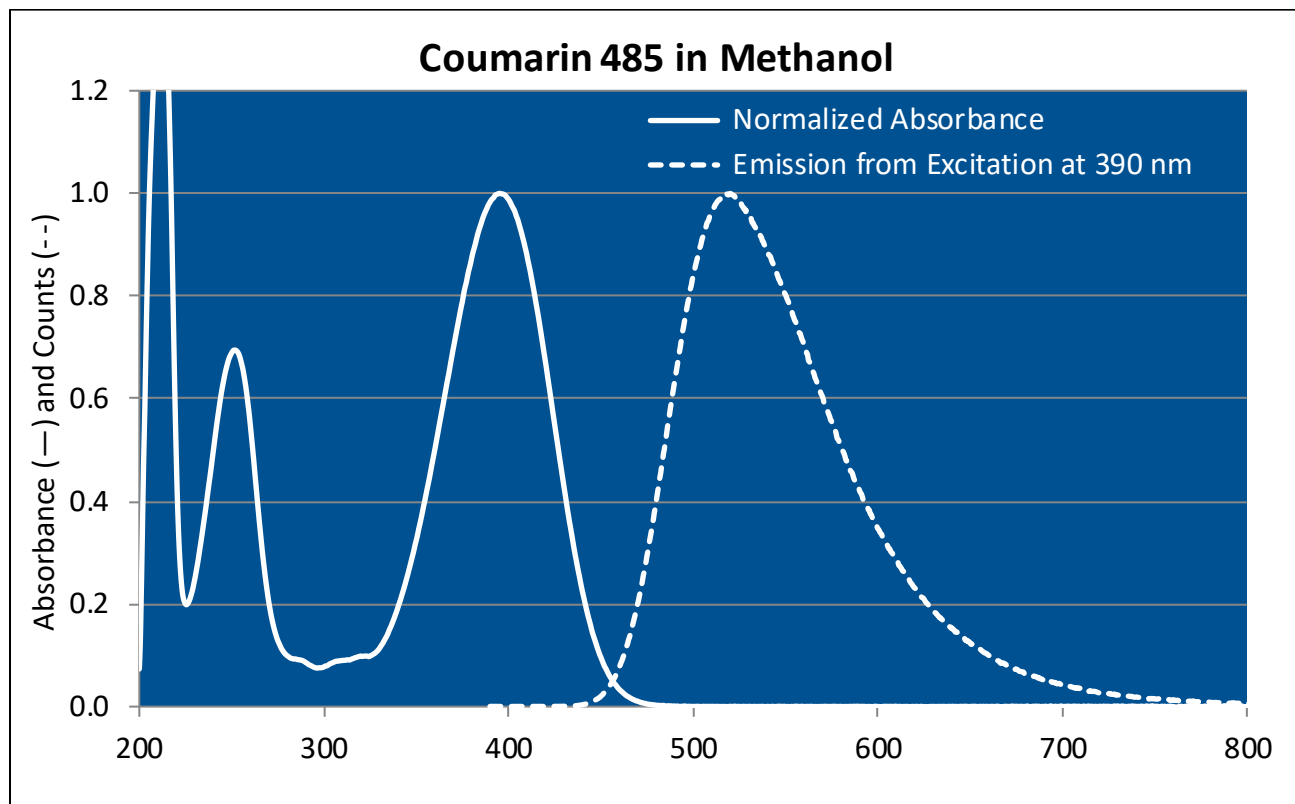
Appearance: Yellow crystalline powder

Structure:



Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	FI λ-max
479		FL ²¹	p-Dioxane		397 ^e	510 ^e
519		FL ^{21,23}	Ethanol		395 ^m	
523		FL ³	Methanol	1 x 10 ⁻⁴		
518	494-566	XeF(351) ¹⁵⁴	Ethanol	1 x 10 ⁻²		
525	502-573	Nd:YAG(355) ⁵⁷	Methanol			
529	499-565	Nd:YAG(355) ¹¹⁰	Methanol	1.5 x 10 ⁻³		
500	482-517	N ₂ (337) ²²	p-Dioxane			
520	490-562	N ₂ (337) ⁵	Ethanol	1 x 10 ⁻²		

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
384	470	0.94	Dioxane	---	C-2a
393	500	0.28	Acetonitrile	---	C-2a
396	520	0.21	Ethanol	---	C-2a
395		0.21	Ethanol	---	C-5
409	530	0.11	50% ethanol	---	C-2a

REFERENCES:

- Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
- Laser Photonics, Inc., 12351 Research Parkway, Orlando, FL 32826, formerly, Molelectron Corporation and Cooper LaserSonics, Inc.
- 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)
- J.W. Ledbetter, private commun., 1977
- 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

57. Quanta-Ray, Note: Quanta-Ray is now incorporated as a part of Spectra-Physics, 1250 W. Middlefield Road, Mountain View, CA 94039
110. Lumonics Inc., 105 Schneider Road, Kanata, (Ottawa), Ontario, Canada K2K 1Y3
154. Dye Laser Radiation in the 370-760nm Region Pumped by a XeF Excimer Laser, T.C. Eschrich and T.J. Morgan, *Applied Optics*, 24(7), 937 (1985)
- 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 485 from PubMed, click on the following link:

[Coumarin 485 or Coumarin 152](#)