

COUMARIN 503

Synonym: 7-(ethylamino)-6-methyl-4-(trifluoromethyl)-2H-1-benzopyran-2-one; Coumarin 307

Catalog No.: 05030

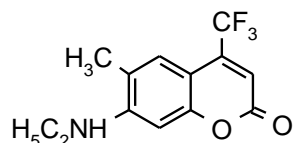
CAS No.: 55804-70-1

MW: 271.24

Chemical Formula: C₁₃H₁₂F₃NO₂

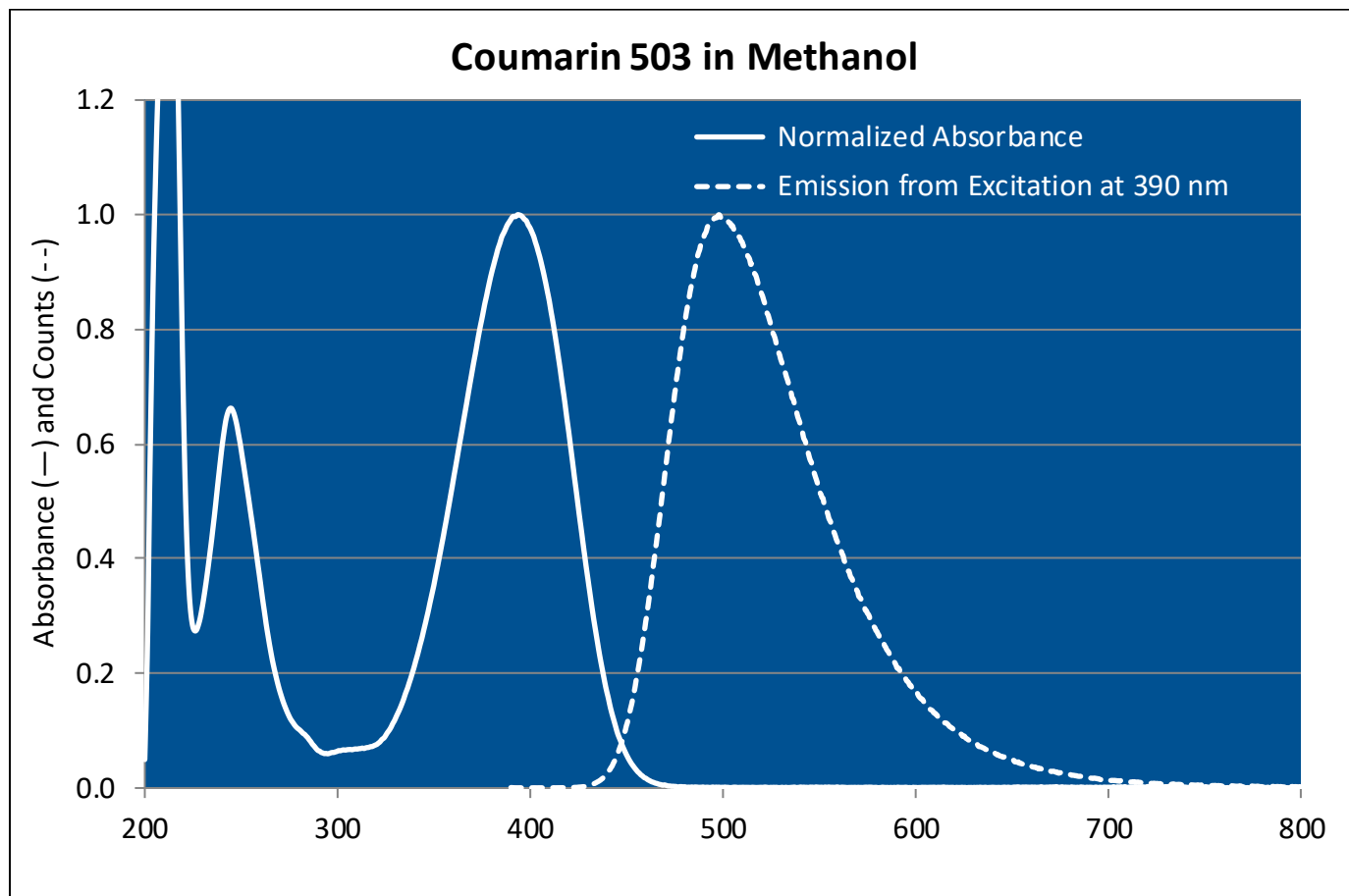
Appearance: Yellow crystals

Structure:



Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	FI λ-max
498	477-531	FL ³	Ethanol	1 x 10 ⁻⁴	395 ^e	490 ^e
502		FL ¹⁹	Ethanol		393 ^m	
504	481-530	FL ³	Methanol + LO	1 x 10 ⁻⁴		
500	480-537	XeCl(308) ¹¹⁰	Methanol	7 x 10 ⁻³		
501	476-542	XeCl(308) ¹¹⁸	Ethanol	7.2 x 10 ⁻³ (osc)		
504	479-562	XeCl(308) ¹¹⁴	Methanol	12 x 10 ⁻³		
500	480-540	Nd:YAG(355) ²³⁹	Ethanol	1.5 x 10 ⁻³		
505	483-541	Nd:YAG(355) ¹¹⁰	Methanol	8 x 10 ⁻⁴		
474	451-537	N ₂ (337) ¹¹⁴	p-Dioxane	6 x 10 ⁻³		
500	472-555	N ₂ (337) ¹¹⁴	Ethanol	6 x 10 ⁻³		
504	471-573	N ₂ (337) ⁹⁰	Ethanol	6.3 x 10 ⁻³		

LO=Ammonyx LO, 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
368	420	0.65	Cyclohexane	---	C-2b
383	481	0.58	Acetonitrile	7.7	C-2b
403	498	0.5	50% ethanol	4.4	C-2b

REFERENCES:

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- 19. New Coumarin Dyes with Rigidized Structure for Flashlamp-Pumped Dye Lasers, G.A. Reynolds and K.H. Drexhage, *Optics Commun.*, 13(3), 222 (1975)
- 90. Jobin Yvon, 16-18 rue du Canal B.P. 118, 91163 Longjumeau Cedex France
- 110. Lumonics Inc., 105 Schneider Road, Kanata, (Ottawa), Ontario, Canada K2K 1Y3
- 114. Optimization of Spectral Coverage in an Eight-Cell Oscillator-Amplifier Dye Laser Pumped at 308nm, F. Bos, *Appl. Optics*, 20, 3553 (1981)

118. The XeCl Excimer Laser: A Powerful and Efficient UV Pumping Source for Tunable Dye Lasers, H. Telle, W. Huffer and D. Basting, *Optics Commun.*, 38(5,6), 402 (1981)
239. P. Jauernik, private commun., Sirah Laser- und Plasmatechnik, 2003.
- C-2b. 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 B:** Air-saturated samples at room temperature.

For a current list of biology, biological stain, or biochemistry references for Coumarin 503 from PubMed, click on the following link:

[Coumarin 307](#)