

COUMARIN 500

Synonym: 7-(ethylamino)-4-(trifluoromethyl)-2H-1-benzopyran-2-one

Catalog No.: 05000

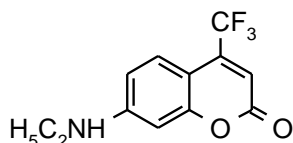
CAS No.: 52840-38-7

MW: 257.21

Chemical Formula: C₁₂H₁₀F₃NO₂

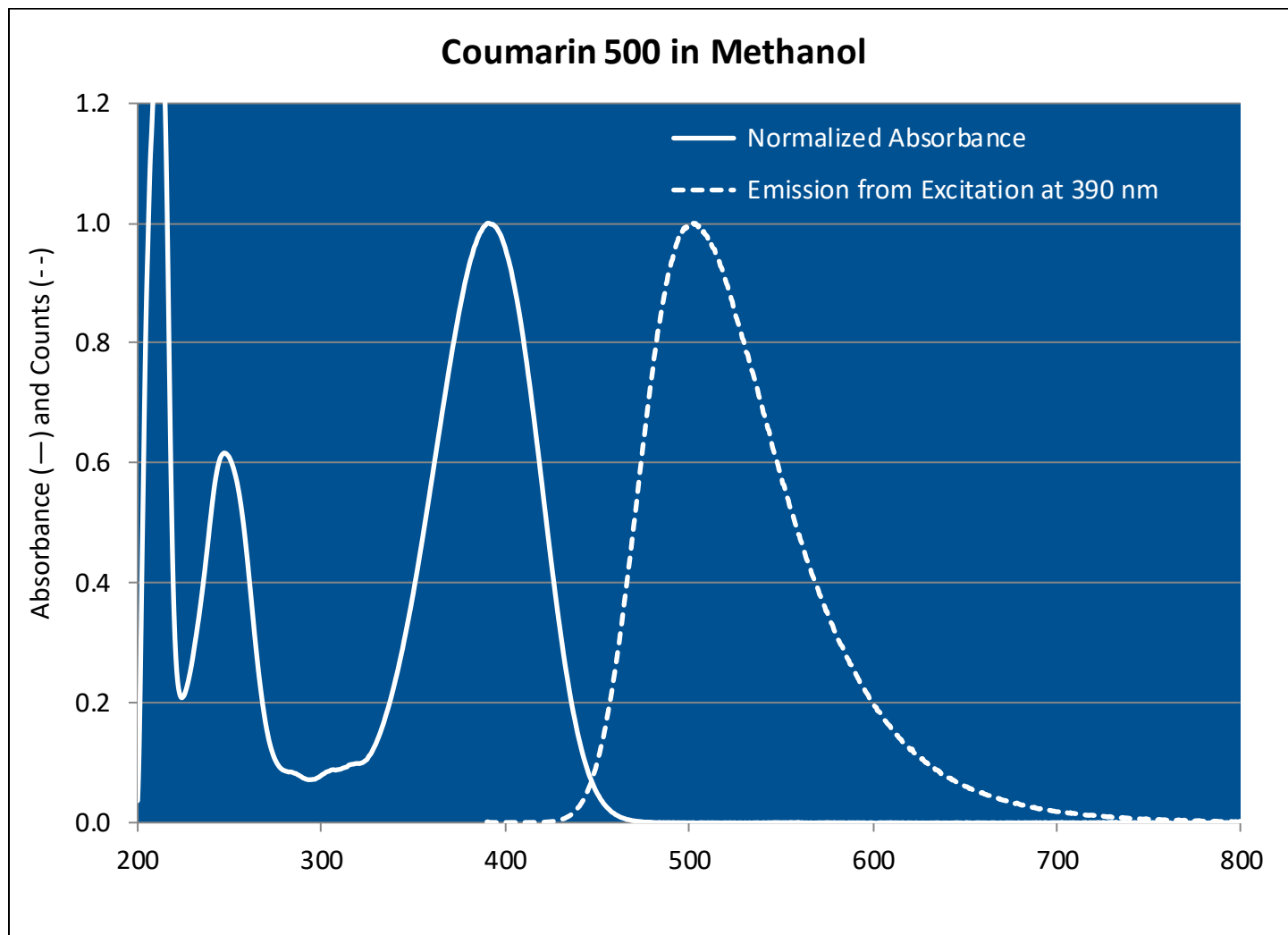
Appearance: Yellow needles

Structure:



Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	FI λ-max
522	500-548	FL ⁶⁹	MeOH/H ₂ O, 1/1		392 ^m	495 ^e
500		KrF(248) ⁴⁴	Ethanol	1 x 10 ⁻³		
487	459-536	XeCl(308) ¹¹⁴	p-Dioxane/MeOH, 95/5	12.5 x 10 ⁻³		
506	478-568	XeCl(308) ²⁰⁴	Methanol	8.2 x 10 ⁻³ (osc), 7 x 10 ⁻³ (amp)		
507	480-564	XeCl(308) ¹¹⁴	Methanol	12.5 x 10 ⁻³		
510	485-555	XeCl(308) ¹¹⁰	Methanol	5 x 10 ⁻³		
500	480-554	XeF(351) ¹⁵⁴	Ethanol	1 x 10 ⁻²		
500	494-504	Nd:YAG(355) ⁵⁴	Ethanol	1 x 10 ⁻³		
504	481-550	Nd:YAG(355) ¹¹⁰	Methanol	1 x 10 ⁻³		
504	485-530	Nd:YAG(355) ¹⁰⁹	Ethanol	5 x 10 ⁻³		
507	483-559	Nd:YAG(355) ⁵³	Methanol	5.0 x 10 ⁻³ (osc), 2.0 x 10 ⁻³ (amp)		
508	484-551	Nd:YAG(355) ⁵⁷	Methanol	1.6 x 10 ⁻³ (osc), 3.7 x 10 ⁻⁴ (amp)		
470	447-523	N ₂ (337) ¹¹⁴	p-Dioxane	5.4 x 10 ⁻³		
470	455-515	N ₂ (337) ¹⁸³	p-Dioxane	25mg/20ml		
500		N ₂ (337) ¹⁵	Ethanol			
500	473-547	N ₂ (337) ⁵	Ethanol	1 x 10 ⁻²		
500	485-570	N ₂ (337) ¹⁸³	Methanol	48mg/20ml		
503	473-562	N ₂ (337) ¹¹⁴	Ethanol	5.4 x 10 ⁻³		

MeOH/H₂O=methanol/water, m=methanol, e=ethanol



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
390		0.681	Methanol		Shea, 2005
390		0.679	EtOAc		Shea, 2005

REFERENCES:

- Laser Photonics, Inc., 12351 Research Parkway, Orlando, FL 32826, formerly, Molelectron Corporation and Cooper LaserSonics, Inc.
- Photochemical Studies on Organic Lasers, R. Srinivasan, R.J. von Gutfield, C.S. Angadiyavar and E.E. Tynan, AFML-TR-74-110 (1974)
- Some Characteristics of Efficient Dye Laser Emission Obtained By Pumping at 248 nm with a High-Power KrF* Discharge Laser, V.I. Tomin, A.J. Alcock, W.J. Sarjeant, and K.E. Leopold, *Optics Commun.*, 26(3), 396 (1978)

53. Continuum, 3150 Central Expressway, Santa Clara, CA 95051, formerly, Quantel International
54. W. R. Green, private communication, 1977
57. Quanta-Ray, Note: Quanta-Ray is now incorporated as a part of Spectra-Physics, 1250 W. Middlefield Road, Mountain View, CA 94039
69. Candela Laser Corporation, 530 Boston Post Road, Wayland, MA 01778-1833
109. Tuning Ranges of 355 nm Pumped Dyes from 410-715 nm, D.M. Guthals and J.W. Nibler, *Optics Commun.*, 29(3), 322 (1979)
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)
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)
183. Thermo Laser Science, 26 Landsdowne Street, Cambridge, MA 02139
204. Questek, Inc., 44 Manning Road, Billerica, MA 01821 (Tuning Curves for Model 5200B Dye Laser, PDL-3)
Shea, L.E. Shea-Rohwer & J.E. Martin, *J. of Lum.* 115, 77-90 (2005)

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