



PO Box 31126
Dayton, OH 45437
Tel: 937.252.2989 Fax: 937.258.3937
E-mail: info@exciton.com
www.exciton.com

COUMARIN 481

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

Catalog No.: 04810

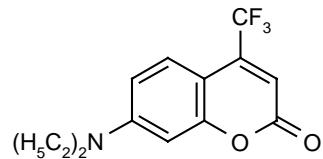
CAS No.: 41934-47-8

MW: 285.26

Chemical Formula: C₁₄H₁₄F₃NO₂

Appearance: Yellow crystalline needles

Structure:



Lasing Wavelength

Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ -max	Fl λ -max
481		FL ^{20,21}	p-Dioxane		390 ^p	465 ^e
481	475-490	FL ³	p-Dioxane	1.5 x 10 ⁻⁴	402 ^m	433 ^c ⁸²
481		KrF(248) ⁴⁶				479 ^y
483	461-528	XeCl(308) ¹¹⁴	p-Dioxane/MeOH,95/5	11.5 x 10 ⁻³		509 ^e
485	461-513	XeCl(308) ¹²⁰	p-Dioxane			510 ⁿ
505	473-555	XeCl(308) ¹¹⁰	p-Dioxane/MeOH,9/1	4 x 10 ⁻³		525 ^{e/w}
485	460-525	XeF(351) ¹⁵⁴	p-Dioxane	1 x 10 ⁻²		525 ^g
483	465-510	Nd:YAG(355) ¹⁰⁹	p-Dioxane	5 x 10 ⁻³		
489		Nd:YAG(355) ⁵⁹	p-Dioxane	7 x 10 ⁻⁴		
520	500-540	Nd:YAG(355) ¹⁰⁹	Ethanol	1 x 10 ⁻²		
481	460-518	N ₂ (337) ¹⁰	p-Dioxane	2 x 10 ⁻²		
481	460-520	N ₂ (337) ¹⁸³	p-Dioxane	57mg/20ml		
483	460-517	N ₂ (337) ⁵	p-Dioxane	1 x 10 ⁻²		
483	463-516	N ₂ (337) ⁴⁸	p-Dioxane	1 x 10 ⁻²		
490	461-549	N ₂ (337) ¹¹⁴	p-Dioxane	6 x 10 ⁻³		
495	-480-522-	N ₂ (337)	p-Dioxane			
507	481-540	N ₂ (337) ⁴⁸	p-Dioxane/EtOH,2/1	1 x 10 ⁻²		
510	486-566	N ₂ (337) ¹¹⁴	Ethanol	6 x 10 ⁻³		
513	488-558	N ₂ (337)	Ethanol			
515	492-545	N ₂ (337) ⁴⁸	Ethanol	1 x 10 ⁻²		
516	490-566	N ₂ (337) ¹⁰	Ethanol	1.5 x 10 ⁻²		

MeOH=methanol, EtOH=ethanol, p=p-dioxane, m=methanol, e=ethanol, c=cyclohexane, y=ethyl acetate, n=acetonitrile, e/w=ethanol/water, g=glycerol



PO Box 31126
Dayton, OH 45437
Tel: 937.252.2989 Fax: 937.258.3937
E-mail: info@exciton.com
www.exciton.com

COUMARIN 481

REFERENCES:

3. Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
5. Laser Photonics, Inc., 12351 Research Parkway, Orlando, FL 32826, formerly, Molelectron Corporation and Cooper LaserSonics, Inc.
10. C. Kittrell, private commun., 1977
20. New Improved Laser Dyes for the Blue-Green Spectral Region, E.J. Schimitschek, J.A. Trias, M. Taylor and J.E. Celto, *IEEE J. Quantum Electron.*, QE9, 781 (1973)
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)
22. J.W. Ledbetter, private commun., 1977
46. Characterization of Dye Laser Pumping Using a High-Power KrF Excimer Laser at 248 nm, T.J. McKee, and D.J. James, to be published September 1979 in *Canadian J. Physics*
48. Mixed Solvent Systems for Optimizing Output from a Pulsed Dye Laser, J.A. Halstead and R.R. Reeves, *Optics Commun.*, 27(2), 273 (1978)
59. 3547-Å Pumped High-Power Dye Laser in the Blue and Violet, K. Kato, *IEEE J. Quantum Electron.*, QE11, 373 (1975)
82. Medium Effects on Fluorescence Quantum Yields and Lifetimes for Coumarin Laser Dyes, G. Jones II., W.R. Jackson and A.M. Halpern, *Chem. Phys. Lett.*, 72(2), 391 (1980)
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)
120. Dye Laser Spectral Purity, T.J. McKee, J. Labin and W.A. Young, *Appl. Optics*, 21(4), 725 (1982)
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 Lansdowne Street, Cambridge, MA 02139

For a current list of biology, biological stain, or biochemistry references for Coumarin 481 from PubMed, click on the following link:

[Coumarin 481 or Coumarin 152A](#)