



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

COUMARIN 456

Synonym: 7-Hydroxy-4-methylcoumarin; Coumarin 4

Catalog No.: 20170

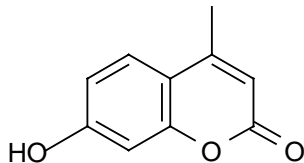
CAS No.: 90-33-5

MW: 176.17

Chemical Formula: C₁₀H₈O₃

Appearance: White crystalline solid

Structure:



Max. Lasing Wavelength (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ -max	FI λ -max
454	----	FL ^{8,251}	Ethanol	2.89 x 10 ⁻³	372(b) ^e	445 ^e
	370-580	N ₂ (337) ^{248,249,250}	Various			
460	460-560	Ar(cw) ¹⁴	EG	2.89 x 10 ⁻³		

b = basic; e = ethanol; EG = ethylene glycol

REFERENCES:

- Near-Ultraviolet Lasing Dyes, Part 1: Search for New Dyes and Summation of Results, P.R. Hammond, A.N. Fletcher, R.A. Henry, R.L. Atkins and D.W. Moore; and Near-Ultraviolet Lasing Dyes, Part 2: Effects of Coaxial Flashlamp Excitation, A.N. Fletcher, *NWC TP 5768* (1975); Laser Dye Stability, Part 3: Bicyclic Dyes in Ethanol, A.N. Fletcher, *Appl. Phys.*, 14, 295 (1977); 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)
- CW Laser Emission Spanning the Visible Spectrum, J.M. Yarborough, *Appl. Phys. Lett.*, 24(12), 629 (1974). a. With Rhodamine 6G
- Comparative Gain Measurements for Twelve Organic Laser Dye Solutions, A. Dienes, *Appl. Phys.* 7, 135 (1975)
- Near uv to Yellow Tunable Laser Emission from an Organic Dye, C.V. Shank, A. Dienes, A.M. Trozzolo, and J.A. Myer, *Appl. Phys. Lett.* 16(10), 405 (1970)
- Characteristics of the 4-Methylumbelliferone Laser Dye, A. Dienes, C.V. Shank, and R.L. Kohn, *IEEE J. Quant. Electr.* QE-9, 833 (1973)
- Blue Laser Emission from a Flashlamp-Excited Organic Dye Solution, B.B. Snively, O.G. Peterson, and R.F. Reithel, *Appl. Phys. Lett.* 11(9), 275 (1967)

For a current list of biology, biological stain, or biochemistry references for Coumarin 456 from PubMed, click on the following link:

[Coumarin 456 or Coumarin 4](#)