

## COUMARIN 515

**Synonym:** 7-(diethylamino)-3-(1-methyl-1H-benzimidazol-2-yl)-2H-1-benzopyran-2-one; Coumarin 30

**Catalog No.:** 05150

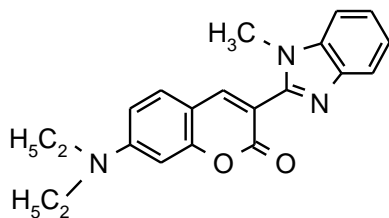
**CAS No.:** 41044-12-6

**MW:** 347.42

**Chemical Formula:** C<sub>21</sub>H<sub>21</sub>N<sub>3</sub>O<sub>2</sub>

**Appearance:** Yellow crystalline needles

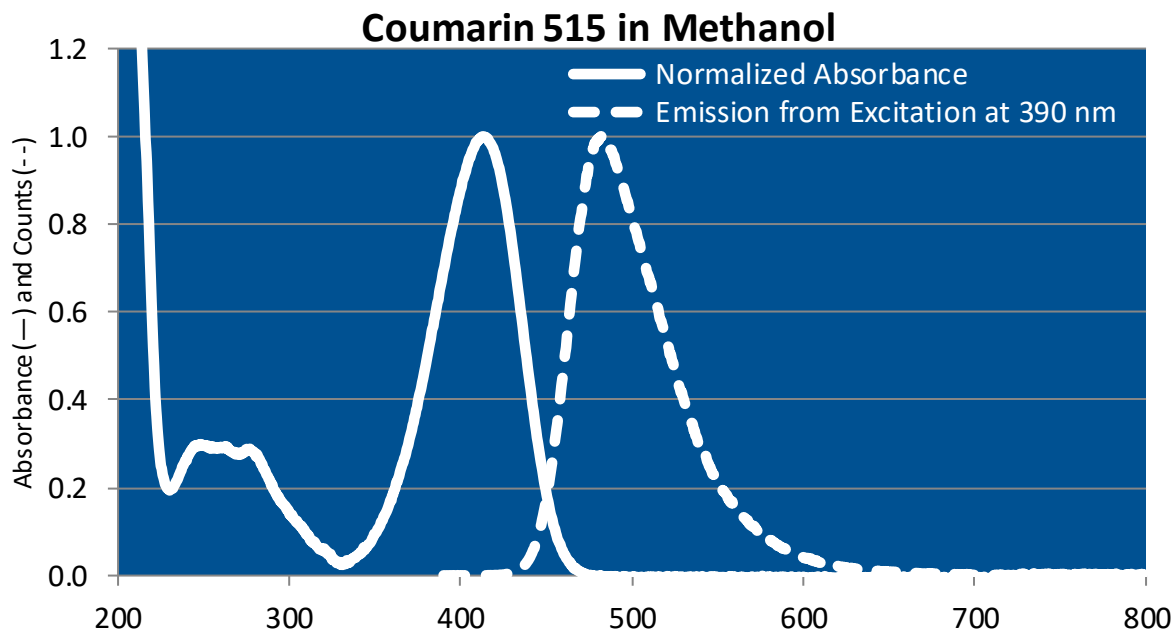
**Structure:**



Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	FI λ-max
505	495-515	Ar(cw,458) <sup>13</sup>	20% aq.DPA + COT	1 x 10 <sup>-3</sup>	413 <sup>e</sup>	478 <sup>m</sup>
510	492-550	Ar(458) <sup>17</sup>	EG	1 x 10 <sup>-3</sup>		
518	485-533	Ar(violet) <sup>123</sup>	EG/BzOH,5/1			
508	477-548	Kr(violet) <sup>68</sup>	MeOH/EG	80% pump absorption		
515	495-545	Kr(400-420) <sup>17</sup>	EG			
517	482-538	Kr(406-415) <sup>206</sup>	EG/BzOH,7/3	2.16 x 10 <sup>-3</sup> *		
	482-507	N <sub>2</sub> -He(428) <sup>49</sup>	Ethanol	1 x 10 <sup>-2</sup>		

\* This represents a maximum value. Concentration should be adjusted to 80-85% absorption of the pump light.

DPA=N, N-dipropylacetamide, COT=cyclooctatetraene, EG=ethylene glycol, BzOH=benzyl alcohol, MeOH=methanol, 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**

<b>Absorbance (nm)</b>	<b>Emission (nm)</b>	<b>Quantum Yield (max = 1.0)</b>	<b>Solvent</b>	<b>Lifetime (ns)</b>	<b>References, Notes</b>
413		0.8	Ethanol		C-5

**REFERENCES:**

- 13. CW Laser Emission from Coumarin Dyes in the Blue and Green, S.A. Tuccio, K.H. Drexhage and G.A. Reynolds, *Optics Commun.*, 7(3), 248 (1973)
- 17. Spectra-Physics, 1250 W. Middlefield Road, Mountain View, CA 94039
- 49. Dyes Pumped by the Nitrogen Ion Laser, C.B. Collins, K.N. Taylor, and F.W. Lee, *Optics Commun.*, 26(1), 101 (1978)
- 68. Coherent Inc., 3210 Porter Dr., Palo Alto, CA 94304
- 123. Powerful Single-Frequency Ring Dye Laser Spanning the Visible Spectrum, T.F. Johnston, Jr., R.H. Brady and W. Proffitt, *Appl. Optics*, 21(13), 2307 (1982)
- 206. Coherent Inc., 3210 Porter Dr., Palo Alto, CA 94304; (599 Composite Tuning Curves, 1992; The concentration shown represents a maximum value. The final concentration should be adjusted to obtain 80-85% absorption of the pump light.)
- 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 515 from PubMed, click on the following link:  
[Coumarin 515 or Coumarin 30](#)