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## COUMARIN 522/522B\*

**Catalog No.:** 05220 (Coumarin 522); 05221 (Coumarin 522B)  
**CAS No.:** 53518-19-7 (05220); Not Available (05221)  
**MW:** 283 (05220); 325 (05221)  
**Appearance:** Yellow crystalline needles (05220); Yellow crystals (05221)

Max. Lasing Wavelength (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs $\lambda$ -max	FI $\lambda$ -max
<i>Coumarin 522 (05220):</i>						
520	498-556	FL <sup>3</sup>	Ethanol	$2 \times 10^{-4}$	412 <sup>e</sup>	515 <sup>e</sup>
522	-----	FL <sup>21</sup>	Ethanol	-----		440 <sup>c82</sup>
522	500-572	FL <sup>3</sup>	Ethanol	-----		487 <sup>y</sup>
526	501-568	FL <sup>3</sup>	Methanol + LO	$2 \times 10^{-4}$		506 <sup>n</sup>
533	515-570	FL <sup>12</sup>	0.3L DMF/1.85L MeOH/1.85L H <sub>2</sub> O	$2.1 \times 10^{-4}$		528 <sup>e/w</sup>
525	505-550	Nd:YAG(355) <sup>109</sup>	Ethanol	$5 \times 10^{-3}$		
<i>Coumarin 522B (05221):</i>						
530	499-574	Nd:YAG(355) <sup>233</sup>	-----	-----	408 <sup>e</sup>	510 <sup>e</sup>
527	505-570	XeCl(308) <sup>234</sup>	Methanol	$>1.4 \times 10^{-2}$		

LO=Ammonyx LO, DMF=dimethylformamide, e=ethanol, c=cyclohexane, y=ethyl acetate, n=acetonitrile, e/w=ethanol/water

\***Coumarin 522B** is the replacement dye for Coumarin 522 (**no longer available**). The molar concentration data from Coumarin 522 can be used directly for Coumarin 522B. Please note the difference in molecular weights for the two dyes when calculating the correct weight of dye to be used.

### REFERENCES:

3. Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
12. Chromatix, 560 Oak Meade Parkway, Sunnyvale, CA 94086
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)
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)
233. Jason D. Hofstein, private commun., 1994. Quantel Laser System, half-life when pumping with 140-145mj is 45-50 days.
234. Exciton and Associates, unpublished data, 1987-1989. C.J. Seliskar and D.A. Landis; conversion efficiency 14%.

For a current list of biology, biological stain, or biochemistry references for Coumarin 522/522B from PubMed, click on the following link:

[Coumarin 522 - Coumarin 522B](#)