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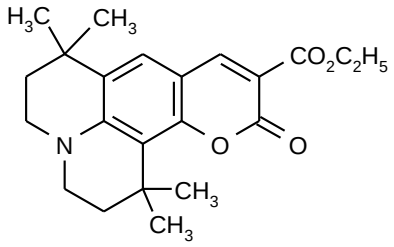
COUMARIN 504T

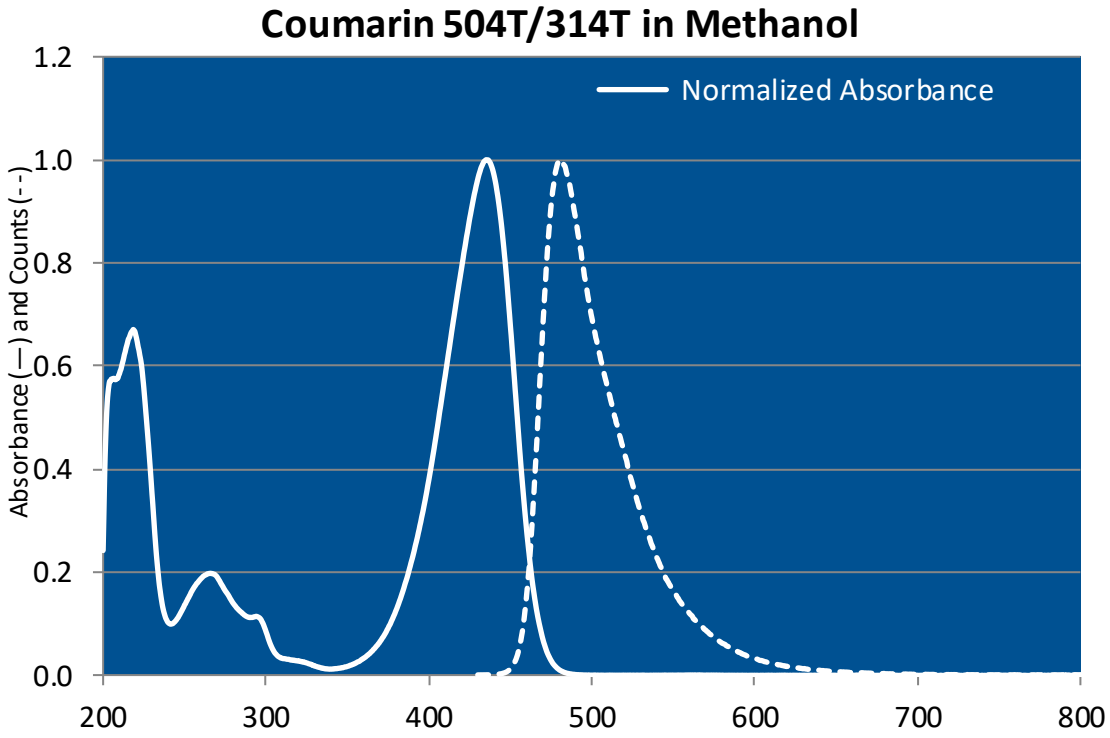
Synonym: 2,3,6,7-tetrahydro-1,1,7,7-tetramethyl 11-oxo-1H,5H,11H-[1]benzopyrano[6,7,8-ij]quinolizine-10-carboxylic acid, ethyl ester; **Coumarin 314T**
Catalog No.: 03141
CAS No.: 113869-06-0 **MW:** 369.35
Chemical Formula: $C_{22}H_{27}NO_4$
Appearance: Bright yellow crystals
Structure:



Lasing Wavelength

Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	Fl λ-max
490	485-510	N_2(337)	Ethanol	5×10^{-3}	435[e]	478[e]
480		XeCl(308)[246]	PMMA	5.4×10^{-3}		
511	478-525(bb)	XeCl(308)[245]	Ethanol	5×10^{-3}		

e = ethanol; m = methanol



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Quantum Yields and Lifetimes

Absorbance (nm)	Emission (nm)	Quantum Yield (max = 1.0)	Solvent	Lifetime (ns)	References, Notes
434	476	0.79	Ethanol		
420	460	good to high	Hydrocarbon		

REFERENCES:

245. Lasing Characteristics of New Coumarin-Analog Dyes: Broadband and Narrow-Linewidth Performance, C.H. Chen, J. Fox, F. Duarte, and J. Ehrlich, *Appl. Optics* 27(3), 443 (1998); For Coumarin 504T/314T: broadband efficiency 18.1% versus Coumarin 504 at 15.3%. For Coumarin 521T/334T: broadband efficiency 12.4% versus 10.2% for Coumarin 521/Coumarin 334. Halflife measurements (coaxial flashlamp pumped dye laser) indicated Coumarin 504T/314T (1708kJ/L) to be about twice of Coumarin 504/314 (647kJ/L).

246. Solid-State Active Media Based on Aminocoumarins, T. Kopylova, G. Mayer, A. Reznichenko, L. Samsonova, V. Svetlichnyi, S. Dolotov, E. Ponomarenko, and M. Tavrizova, *Quantum Elec*. 33(6), 498 (2003)