

COUMARIN 481

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

Catalog No.: 04810

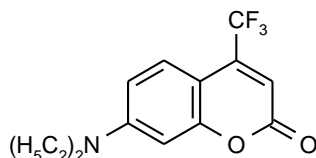
CAS No.: 41934-47-8

MW: 285.26

Chemical Formula: C₁₄H₁₄F₃NO₂

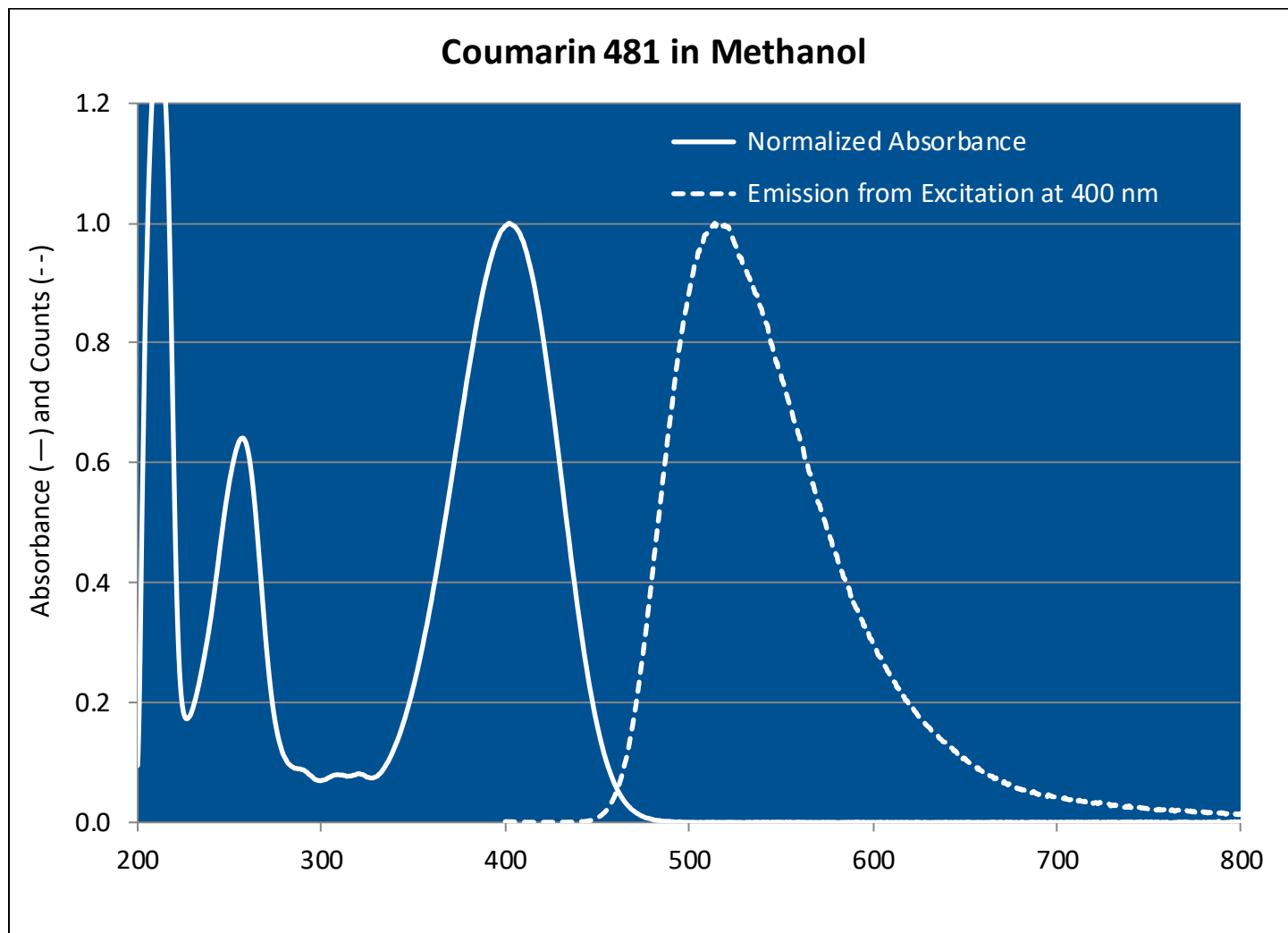
Appearance: Yellow crystalline needles

Structure:



Max. Lasing Wavelength (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 ^{c82}
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



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

Absorbance (nm)	Emission (nm)	Quantum Yield (max = 1.0)	Solvent	Lifetime (ns)	References, Notes
376	433	1.04	Cyclohexane	4.1	C-2a
	433	1.04	Cyclohexane	4.1	C-4
392	479	1.09	Ethyl Acetate	4.6	C-2a
	479	0.64	Ethyl Acetate	4.6	C-4
396	501	0.091	Acetonitrile	0.6	C-2a
	510	0.09	Acetonitrile	0.6	C-4
Lifetime corresponds to dominant single-exponential decay.					
400	509	0.09	Ethanol	0.85	C-2a
	509	0.09	Ethanol	0.85	C-4
412	523	0.032	50% ethanol	0.45	C-2a
	525	0.03	Ethanol/Water (50:50)	0.45	C-4
406	528	0.011	Water	---	C-2a
413	524	0.18	Glycerol	2.7	C-2a
	525	0.14	Glycerol	2.7	C-4

Lifetime corresponds to dominant single-exponential decay.

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- C-2a. Solvent Effects on Emission Yield and Lifetime for Coumarin Laser Dyes, Requirements for a Rotatory Decay Mechanism, Guilford Jones II, W.R. Jackson, C-Y. Choi and W.R. Bergmark, *J. Phys. Chem.* 89(2), 294-300 (1985); <https://doi.org/10.1021/j100248a024> **Note A:** Argon purged samples at room temperature. Coumarin dye correlated in associated number in reference.
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