

IR 26

Synonym: 4-(7-(2-phenyl-4H-1-benzothiopyran-4-ylidene)-4-chloro-3,5-trimethylene-1,3,5-heptatrienyl)-2-phenyl-1-benzothiopyrylium perchlorate; Dye 26

Catalog No.: 11930

CAS No.: 76871-75-5

Chemical Formula: C₄₀H₃₀Cl₂O₄S₂

Appearance: Black powder

Structure:

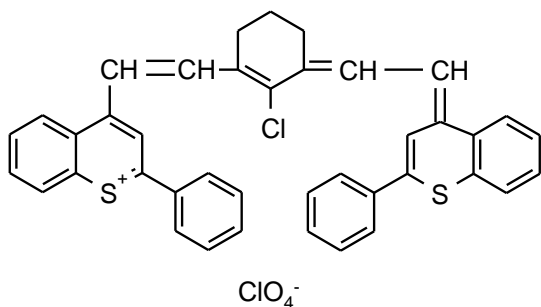
MW: 709.70

Optical Properties (1,2-dichloroethane)^{CD1}:

σ_p abs – 5.6×10^{-16} excitation at 1080nm (pump)

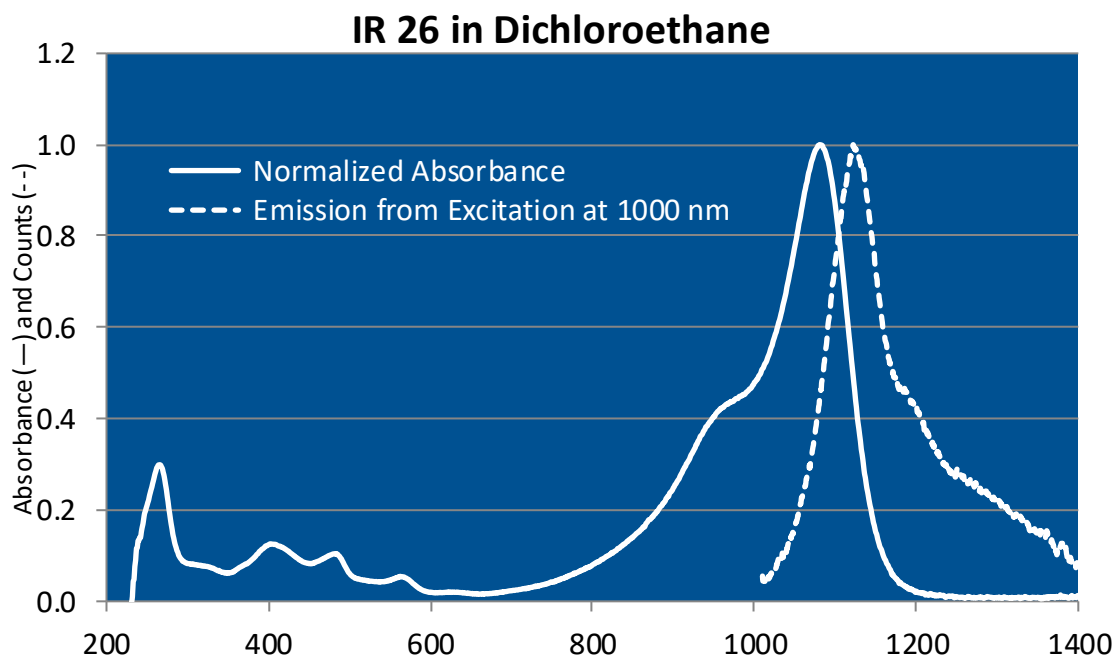
σ_p em – 1.9×10^{-16} peak emission (em) at 1190nm

Φ_f 0.1, τ_{ns} 14.4



Lasing Wavelength Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ -max	FI λ -max
1190	1150-1240	Nd:YAG(1064,m-l, 21ps) ^{184,185}	DCE		1.08 ^{dce}	1.14 ^{dce}
1280	1200-1320	Nd:YAG(1064,cw, m-l,) ¹⁸⁶	BzOH*	1 x 10 ⁻³	1.09 ^{bzoh}	1.17 ^{bzoh}

*Dye 26 as heptafluorobutyrato salt to achieve proper solubility.
 BzOH = benzyl alcohol; Dce = 1,2-dichloroethane;



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
	1190	0.1	Dichloroethane	14.4	CD-1 Table p7037: Opt Prop of Rh590, LD 800, IR 26:

REFERENCES:

- 184. A New Infrared Laser Dye of Superior Photostability Tunable to 1.24 μ m with Picosecond Excitation, W. Kranitzky, B. Kopainsky, W. Kaiser, K.H. Drexhage and G.A. Reynolds, *Optics Commun.*, 36(2), 149 (1981)
- 185. Lifetime, Photostability, and Chemical Structure of IR Heptomethine Cyanine Dyes Absorbing Beyond 1 μ m, B. Kopainsky, P. Qiu, W. Kaiser, B. Sens and K.H. Drexhage, *Appl. Phys. B*, 29, 15 (1982)
- 186. Tunable Picosecond Pulses Around 1.3 μ m Generated by a Synchronously Pumped Infrared Dye Laser, A. Seilmeier, W. Kaiser, B. Sens and K.H. Drexhage, *Optics Lett.*, 8(4), 205 (1983)
- CD-1. Diode-pumped Dye Laser Analysis and Design, D.P. Benfey, D.C. Brown, S.J. Davis, L.G. Piper and R.F. Foutter, *Appl. Optics* 31 (33), 7034 (1992)[see diode laser sec], <https://doi.org/10.1364/AO.31.007034>

For a current list of biology, biological stain, or biochemistry references for IR 26 from PubMed, click on the following link:

[IR26](#) (zero references to this dye in PubMed as of May 2006)