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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: $C_{40}H_{30}Cl_2O_4S_2$

Appearance: Black powder

Structure:

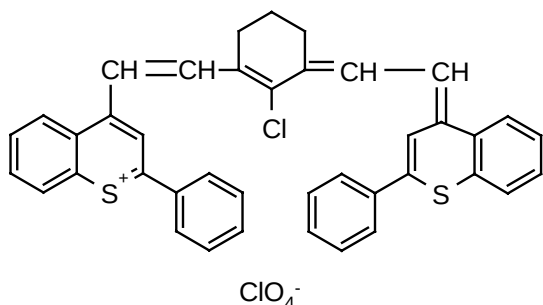
MW: 709.70

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*	1×10^{-3}	1.09 ^{bzoh}	1.17 ^{bzoh}

*Dye 26 as heptafluorobutyrate salt to achieve proper solubility.

BzOH = benzyl alcohol; Dce = 1,2-dichloroethane;

REFERENCES:

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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)
- CD1. 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), Table, pg 7037

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)