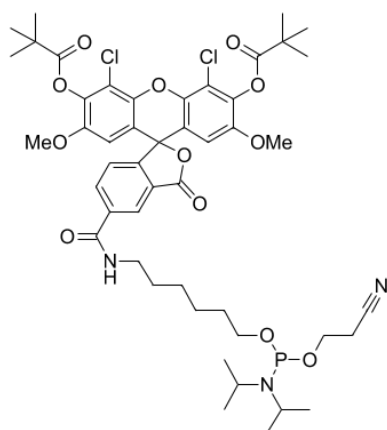


JOE phosphoramidite, 5-isomer

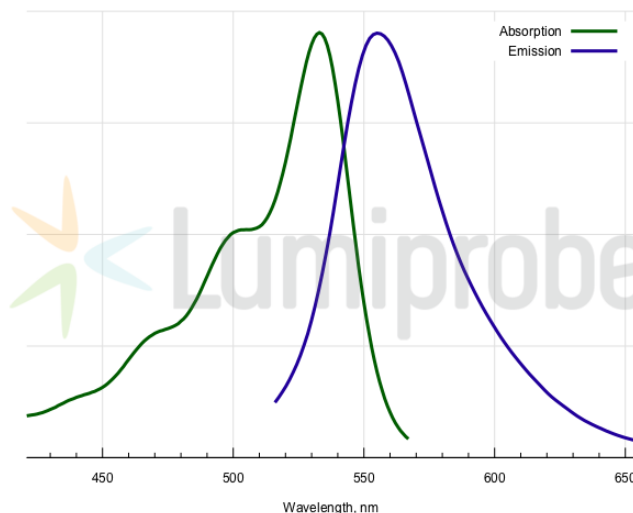
<http://www.lumiprobe.com/p/joe-phosphoramidite-5>

JOE is a xanthene dye, fluorescein derivative possessing two chloro- and two methoxy substituents. This fluorophore is a useful label for oligonucleotides. Its absorption and emission spectra are located between FAM and TAMRA.

The fluorophore can be introduced into oligonucleotide using this phosphoramidite. It tolerates standard ammonium deblock conditions. This product contains a pure isomer of 5-JOE dye.



5-JOE phosphoramidite structure



Absorption and emission spectra of JOE dye

General properties

Appearance:	colorless solid
Molecular weight:	972.88
Molecular formula:	C ₄₈ H ₆₀ N ₃ Cl ₂ O ₁₂ P
Solubility:	good solubility in THF and DCM
Quality control:	NMR ¹ H, ³¹ P, HPLC-MS (95%), functional testing
Storage conditions:	Storage: 12 months after receipt at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Avoid prolonged exposure to light. Desiccate.
Legal statement:	This Product is offered and sold for research purposes only. It has not been tested for safety and efficacy in food, drug, medical device, cosmetic, commercial or any other use. Supply does not express or imply authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, in the manufacture of food or pharmaceutical products, in medical devices or in cosmetic products.

Spectral properties

Excitation/absorption maximum, nm:	533
ε, L·mol ⁻¹ ·cm ⁻¹ :	75000
Emission maximum, nm:	554
Fluorescence quantum yield:	0.61
CF ₂₆₀ :	0.36
CF ₂₈₀ :	0.28

Oligo synthesis details

Diluent:	10 % THF in acetonitrile.
Coupling conditions:	coupling time 6 min

Deprotection conditions:

Standard conditions using ammonium hydroxide; deprotection time depends on oligonucleotide composition and nucleobase protecting groups (deprotection for 17 h at 55 °C removes all protecting groups from standard nucleobases). AMA (solution of 30 % ammonium hydroxide/40 % aqueous methylamine 1:1 v/v) can be used with ~5 % of non-fluorescent side product forming. To avoid formation of the side product, start deprotection with ammonium hydroxide (30 min at RT), then add an equal volume of 40% aqueous methylamine and continue deprotection as required with AMA (e.g. 10 min at 65 °C).