

JOE phosphoramidite, 6-isomer

<http://www.lumiprobe.com/p/joe-amidite-6>

JOE phosphoramidite for oligonucleotide synthesis, pure 6-isomer (6-JOE).

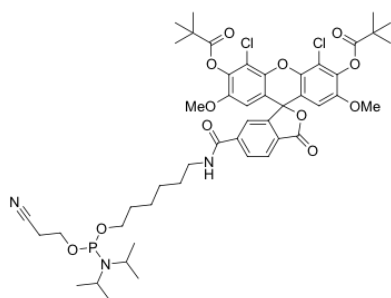
Fluorescent dye JOE is a fluorescein derivative containing two chlorine atoms and two methoxy groups. Its absorption and emission maxima are at 503 nm and 525 nm, respectively. By its spectral characteristics JOE is found in between FAM and TAMRA/ROX; therefore, this fluorophor is commonly used for multiplex detection, including that during DNA sequencing.

Our catalog also contains [JOE phosphoramidite, 5-isomer](#). We [compared qPCR probes](#) containing different JOE isomers (5-JOE and 6-JOE) and did not find any significant differences between them.

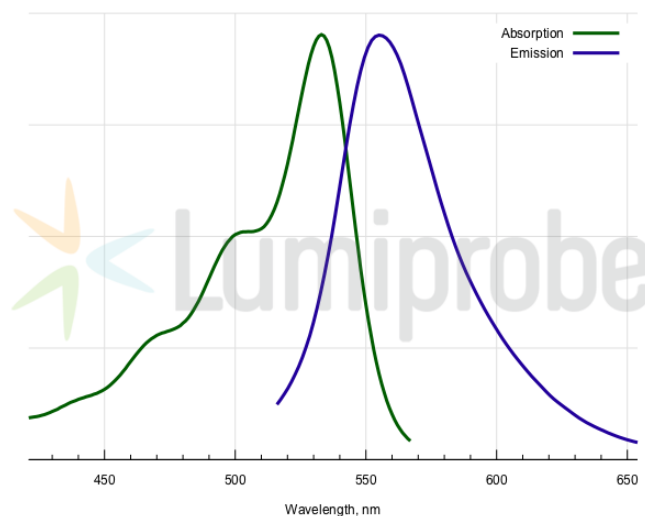
Usage

Coupling: 6 minutes

Deprotection: 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 room temperature), then add an equal volume of 40% aqueous methylamine and continue deprotection as required with AMA (e.g. 10 min at 65 °C).



Structure of 6-JOE phosphoramidite



Absorption and emission spectra of JOE

General properties

Appearance:	white solid
Molecular weight:	972.88
Molecular formula:	C ₄₈ H ₆₀ N ₃ Cl ₂ O ₁₂ P
Solubility:	Good solubility in acetonitrile and DCM
Quality control:	NMR ¹ H and ³¹ P, HPLC-MS
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.

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:	acetonitrile
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