**Lumiprobe Corporation**
115 Airport Dr Suite 160
Westminster, Maryland 21157
USA
Phone: +1 888 973 6353
Fax: +1 888 973 6354
Email: order@lumiprobe.com

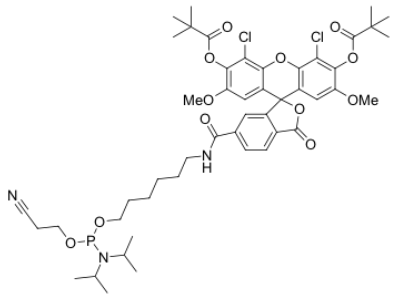
# JOE phosphoramidite, 6-isomer

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

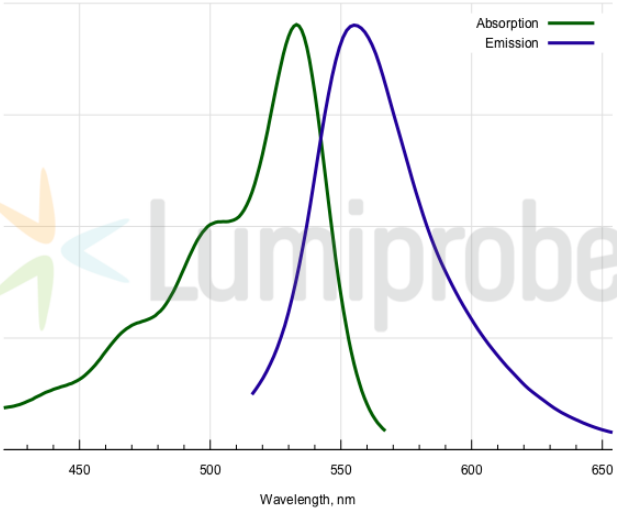
JOE phosphoramidite for oligonucleotide synthesis, pure 6-isomer (6-JOE).

Fluorescent dye JOE is a fluorescein derivative containing two chlorine atoms and two methoxy groups. Its absorption and emission maxima are at 533 nm and 554 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.




**Structure of 6-JOE phosphoramidite**




**Absorption and emission spectra of JOE**

## General properties

| | |
|---|---|
| Appearance: | white solid |
| Molecular weight: | 972.88 |
| Molecular formula: | $C_{48}H_{60}N_3Cl_2O_{12}P$ |
| Solubility: | good solubility in THF and DCM |
| Quality control: | NMR $^1H$ and HPLC-MS (95+%), functional testing |
| Storage conditions: | Storage: 12 months after receival 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, $L \cdot mol^{-1} \cdot cm^{-1}$: | 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). |