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SIMA phosphoramidite, 6-isomer (hydroxyprolinol)

http://www.lumiprobe.com/p/sima-amidite-pro

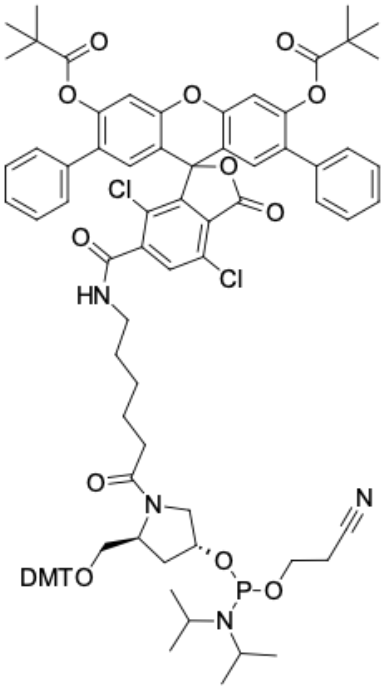
SIMA phosphoramidite (hydroxyprolinol), 6-isomer contains xanthene dye dichloro-diphenyl-fluorescein (SIMA) with spectral characteristics similar to those of HEX but it is considered to be more resistant to deblocking under alkaline conditions, so deprotection can be run with aqueous ammonium hydroxide at higher temperatures or with AMA (1:1 mixture, concentrated aqueous ammonium hydroxide / 40% aqueous methylamine) at room temperature for 2 h or 65 °C for 10 min.

This modifying reagent with the core of hydroxyprolinol, also has a dimethoxythrityl protection group for cleaning reversed phase HPLC (RP-HPLC), C18 column.

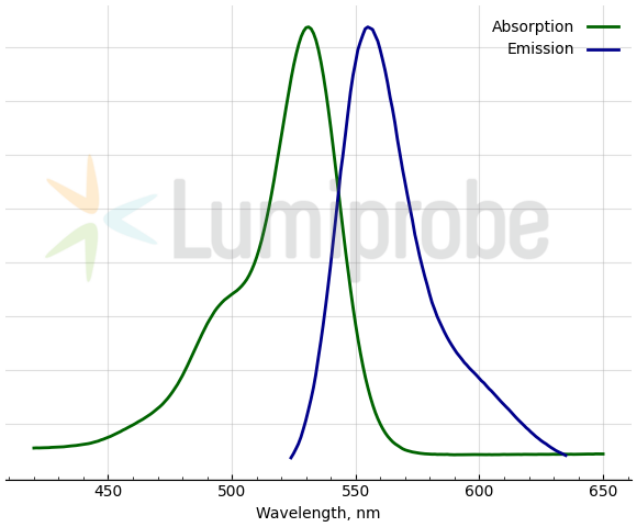
Recommendations for using the reagent:

Coupling: 3 min.

Deprotection: Standard conditions with 25% ammonium hydroxide; deprotection time depends on the composition of nucleic acids and their protective groups. AMA (1:1 mixture of concentrated aqueous ammonium hydroxide / 40% aqueous methylamine) can be used for 2 hours at room temperature or 10 min at 65 °C.



Structure of SIMA phosphoramidite, 6-isomer (hydroxyprolinol)



Absorption and emission spectra of SIMA

General properties

Appearance:	white powder
Molecular weight:	1480,52
Molecular formula:	$C_{84}H_{89}Cl_2N_4O_{14}P$
IUPAC name:	6-((6-(2-((bis(4-methoxyphenyl)(phenyl)methoxy)methyl)-4-(((2-cyanoethoxy)(diisopropylamino)phosphaneyl)oxy)pyrrolidin-1-yl)-6-oxohexyl)carbamoyl)-4,7-dichloro-3-oxo-2',7'-diphenyl-3H-spiro[isobenzofuran-1,9'-xanthene]-3',6'-diyl bis(2,2-dimethylpropanoate)
Solubility:	good solubility in acetonitrile and DCM
Quality control:	NMR ^{1}H and ^{31}P, HPLC-MS (95%)
Storage conditions:	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:	531
ε, $L \cdot mol^{-1} \cdot cm^{-1}$:	92300
Emission maximum, nm:	555
Fluorescence quantum yield:	0.63
CF_{260}:	0.57
CF_{280}:	0.18

Oligo synthesis details

Diluent:	anhydrous acetonitrile
Coupling conditions:	3 minute coupling time recommended
Deprotection conditions:	identical to protected nucleobases