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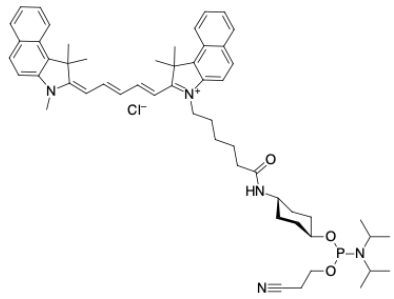
Cyanine5.5 phosphoramidite

http://www.lumiprobe.com/p/cyanine55-phosphoramidite-5

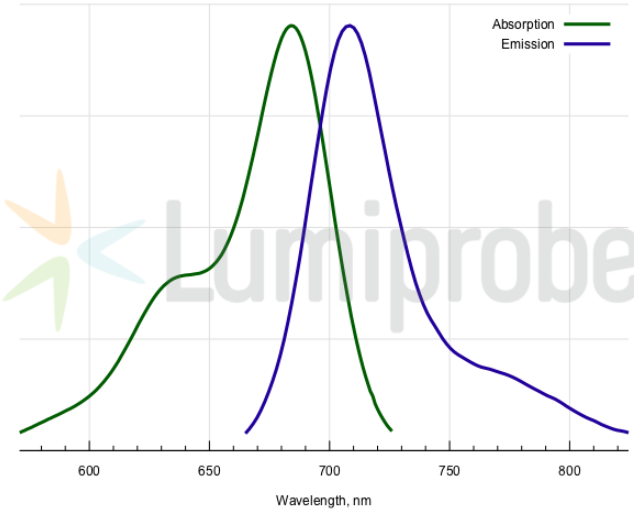
Cyanine5.5 is a fluorophore with the emission in far-red range of the spectrum. This dye is useful for multiplex qPCR. Commercial six-channel qPCR instruments often have a channel for Cyanine5.5.

This phosphoramidite can be used for the synthesis of 5'-labeled oligonucleotides by direct labeling in oligonucleotide synthesizer.

The structure of phosphoramidite functional group that is attached to a secondary carbon atom provides extra stability against Arbuzov rearrangement. This helps maintaining coupling performance over a longer storage time in oligonucleotide synthesizer, compared to phosphoramidites derived of primary alcohols.



Structure of Cyanine55 phosphoramidite



Absorption and emission spectra of Cyanine5.5

General properties

Appearance:	dark colored solid
Molecular weight:	916.61
Molecular formula:	$C_{55}H_{71}N_5ClO_3P$
Quality control:	NMR ^{1}H, ^{31}P, HPLC-MS (85%)
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.

Spectral properties

Excitation/absorption maximum, nm:	694
ε, $L \cdot mol^{-1} \cdot cm^{-1}$:	198000
Emission maximum, nm:	710
Fluorescence quantum yield:	0.2
CF_{260}:	0.07
CF_{280}:	0.03

Oligo synthesis details

Diluent:	acetonitrile
Coupling conditions:	6 min coupling time recommended
Deprotection conditions:	recommended 48 h at +4°C or ultramild protective groups; 24 h at rt possible