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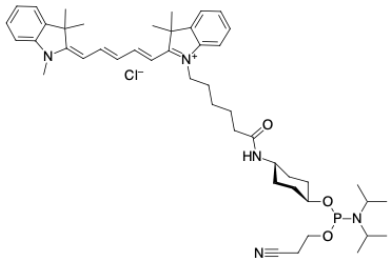
Cyanine5 phosphoramidite

http://www.lumiprobe.com/p/cy5-phosphoramidite-5

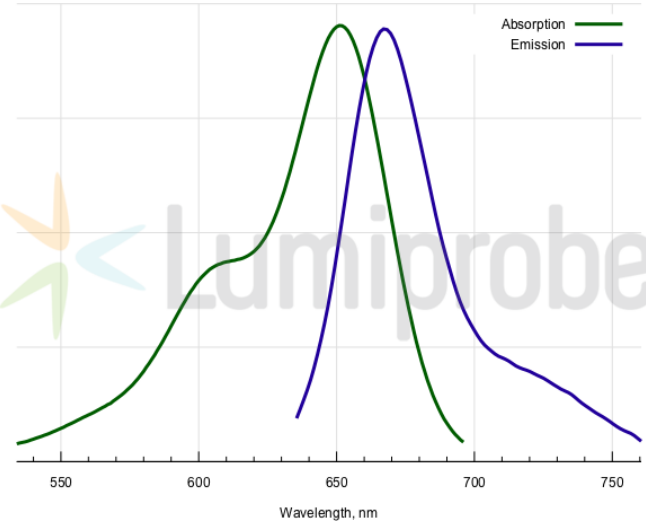
Cyanine5 is one of the dyes that are used in qPCR. The corresponding filter set is found on many qPCR machines.

This reactive derivative is useful for the synthesis of qPCR probes having Cyanine5 at 5′-end, the most typical location of the fluorophore. This is a terminating, non-nucleoside reagent.

Amidite group in this reagent is bound to a secondary oxygen. This provides extra stability against Arbuzov rearrangement - a reaction that leads to amidite deterioration in solution in oligonucleotide synthesizer. This molecular design increases the stability of the reagent, maintaining efficient coupling over a longer time.



Structure of Cyanine5 phosphoramidite, 5'-terminal



Absorption and emission spectra of Cyanine5

General properties

Appearance:	dark colored solid
Molecular weight:	816.49
Molecular formula:	$C_{47}H_{67}N_5ClO_3P$
Quality control:	NMR ^{1}H, ^{31}P, HPLC-MS (80%)
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:	646
ε, $L \cdot mol^{-1} \cdot cm^{-1}$:	250000
Emission maximum, nm:	662
Fluorescence quantum yield:	0.2
CF_{260}:	0.03
CF_{280}:	0.04

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