

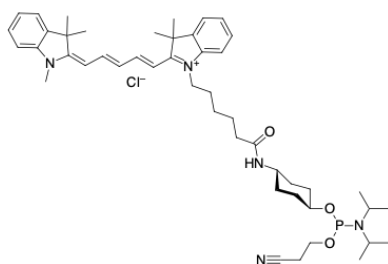
Cyanine5 phosphoramidite

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

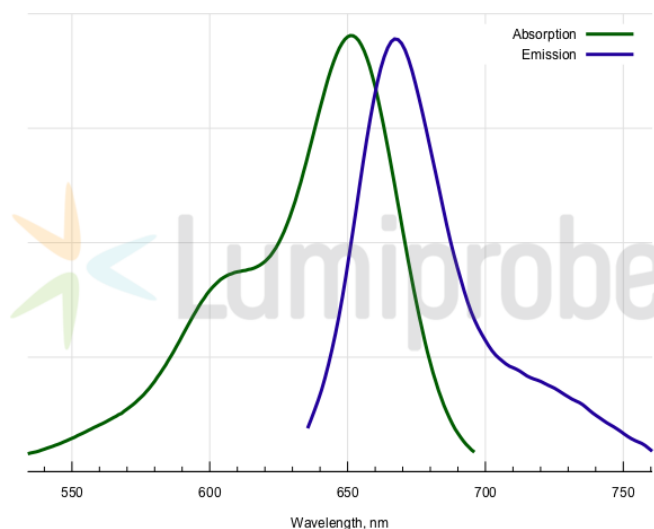
Cyanine5 is one of the dyes that are used in qPCR. The corresponding filter set is found on many qPCR machines.

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 ₅ ClO ₃ P |
| Quality control: | NMR ¹ H, ³¹ P, HPLC-MS (80%) |
| 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: | 646 |
| ε, L·mol ⁻¹ ·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 |