

DusQ 1 phosphoramidite

<http://www.lumiprobe.com/p/bhq1-amidite>

DusQ 1 phosphoramidite is a true dark quencher with broad absorption curve which covers the visible spectrum with maximum in green to yellow region. It is used for the synthesis of dual labeled oligonucleotide probes for qPCR bearing 5'-quencher DusQ 1 and other FRET applications for multiplexing assays. Contains a DMT protection of the hydroxymethyl group, which allows oligonucleotide purification on cartridges.

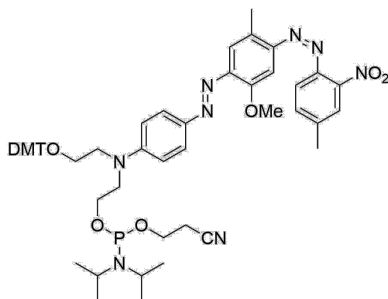
DusQ 1 has a quenching range (QR) 480 - 580 nm to construct efficiently quenched qPCR probes paired with all common reporter dyes such as FAM, TET, JOE, HEX and Cyanine3 with high quenching efficiency, and form completely non-fluorescent complexes.

Usage

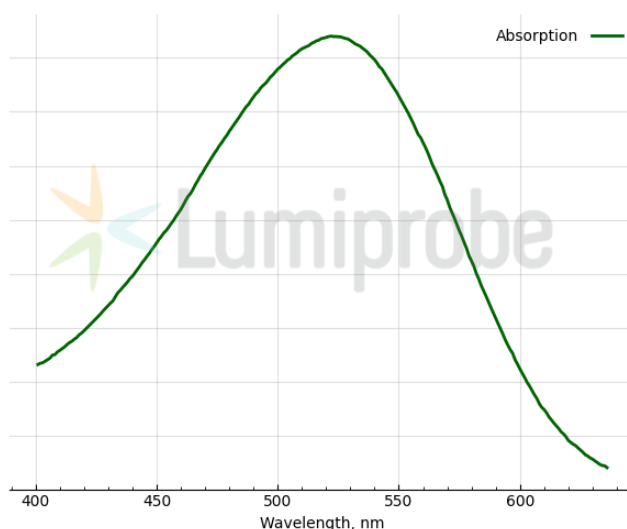
Coupling: 6 minutes coupling time recommended.

Deprotection: for 2 h at RT using ammonium hydroxide, or 10 min at 65 °C with AMA (solution of 30% ammonium hydroxide/40% aqueous methylamine 1:1 v/v).

Deprotection time depends on oligonucleotide composition and nucleobase protecting groups, and additional modifications.



Structure of DusQ 1 phosphoramidite



Absorption spectrum of DusQ 1

General properties

Appearance:	black powder
Molecular weight:	995.11
CAS number:	374591-94-3
Molecular formula:	C ₅₅ H ₆₃ N ₈ O ₈ P
IUPAC name:	Phosphoramidous acid, bis(1-methylethyl)-, 2-[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl][4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]amino]ethyl 2-cyanoethyl ester (9CI)
Solubility:	good in acetonitrile
Quality control:	NMR ¹ H, ³¹ P, HPLC-MS (95%)
Storage conditions:	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: 522

ϵ , L·mol⁻¹·cm⁻¹: 27300

Oligo synthesis details

Diluent: 50% DCM in acetonitrile

Coupling conditions: 6 min coupling time; 3 min oxidation time

Cleavage conditions: ammonia, 2 h at room temperature

Deprotection conditions: identical to protected nucleobases