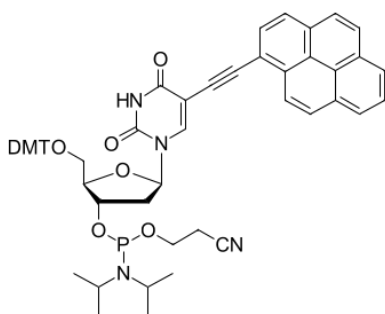


Pyrene phosphoramidite dU

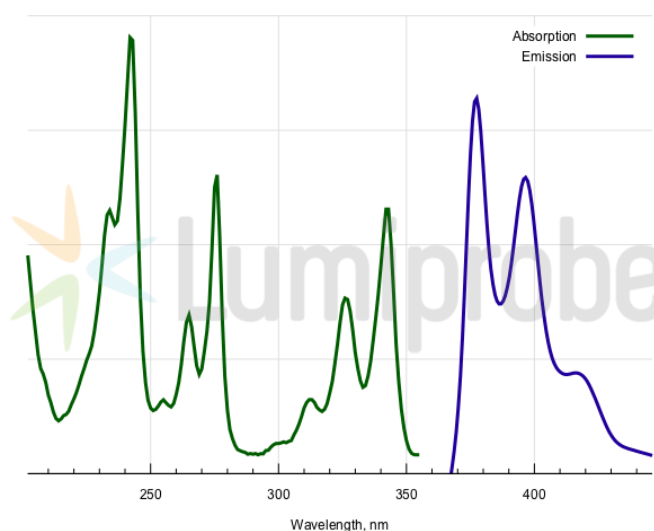
Pyrene is polycyclic aromatic hydrocarbon which is well-known for its ability to intercalate into DNA. Pyrene features intense blue fluorescence. Its parameters depend strongly on fluorophore microenvironment. Therefore, fluorescence spectra of pyrene are used for the extraction of structural information about site surrounding pyrene. Two pyrenes in close proximity usually form excimers easily detectable by excimer fluorescence. Pyrene can also be a FRET donor to other fluorophores such as perylene.

With this phosphoramidite, pyrene can be introduced into DNA by means of automated synthesis. This pyrene phosphoramidite contains hydrocarbon moiety rigidly attached to deoxyuridine. This reagent allows to attach pyrene fragment to 5', internal, or 3' position (using universal support).

This amidite requires no special handling, coupling, or deprotection conditions. Recommended diluent for it is acetonitrile.



Structure of Pyrene dU phosphoramidite



Absorption and emission spectra of pyrene fluorophore

General properties

Appearance:	yellowish foam
Molecular weight:	955.04
CAS number:	199920-17-7
Molecular formula:	C ₅₇ H ₅₅ N ₄ O ₈ P
Solubility:	good in dichloromethane and acetonitrile
Quality control:	NMR ¹ H (95%), ³¹ P, HPLC-MS
Storage conditions:	Storage: 24 months after receipt at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Avoid prolonged exposure to light. Desiccate.
TN VED Code:	3204190000

Spectral properties

Excitation maximum, nm:	260; 282; 365; 392
ε, L·mol ⁻¹ ·cm ⁻¹ :	12600; 21900; 16000; 14200
Emission maximum, nm:	460
Fluorescence quantum yield:	~0.1