# 5-Nitroindole-CE Phosphoramidite

Catalog Number: 6236
Unit Size: 250 mg

## Product Details

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|---|---|
| Storage Conditions | Freeze (< -15 °C), Minimize light exposure, Desiccated |
| Expiration Date | 24 months upon receiving |

## Chemical Properties

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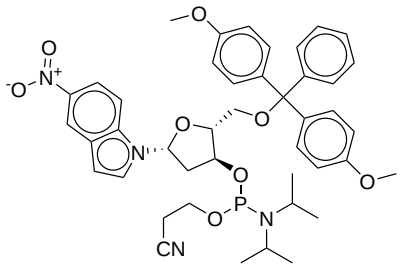
|---|---|
| Appearance | Solid |
| Molecular Weight | N/A |
| Soluble In | MeCN |
| Chemical Structure |  |

## Spectral Properties

| | |
|---|---|
| Excitation Wavelength | N/A |
| Emission Wavelength | N/A |

## Applications

5-Nitroindole-CE Phosphoramidite is a nucleoside phosphoramidite designed for automated solid-phase oligonucleotide synthesis, enabling site-specific incorporation of the 5-nitroindole nucleobase analog into DNA and other compatible oligonucleotides. The reagent is fully compatible with standard phosphoramidite synthesis protocols, including tetrazole- or imidazolium-based activation, subsequent capping, iodine oxidation or sulfurization, and final cleavage and deprotection under conditions appropriate to the complete modification set.

The 5-nitroindole heterocycle acts as a universal base with minimal hydrogen-bonding specificity. At the modified position, duplex stability is driven primarily by base stacking and hydrophobic interactions rather than conventional Watson–Crick pairing. This results in reduced mismatch discrimination and sequence-dependent effects on local duplex stability. These properties make 5-nitroindole a practical alternative to degenerate base mixtures for accommodating defined sequence ambiguity in primers, probes, barcodes, and adapters. Incorporation of multiple residues may influence melting temperature, hybridization behavior, and enzymatic processing, and should be evaluated empirically for each sequence and application.