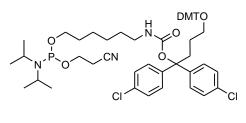
# Cmoc-5'-amino-modifier-C6 CEP Product No. BA 0324

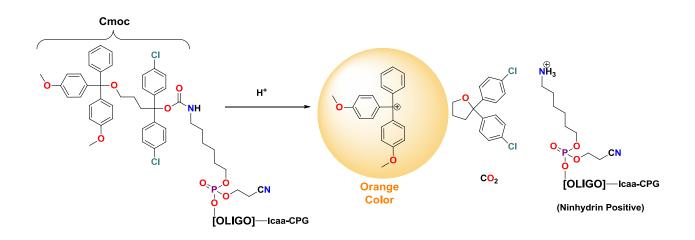
#### **Product Information**



C<sub>53</sub>H<sub>64</sub>Cl<sub>2</sub>N<sub>3</sub>O<sub>7</sub>P Mol. Wt.: 956.97

N-protecting groups for 5'-amino-modifiers can pose a bit of a challenge to automated synthesis. DMT protection is frequently too labile for the amino group. MMT is usually preferred for its greater stability as an N-protecting group, however, it has two practical disadvantages: (1) It requires a custom deprotection protocol since NH-MMT is slightly more robust than O-DMT. (2) Automated synthesizers are designed to quantify DMT cleavage, not MMT cleavage. While the aforementioned Fmoc protected 5'-amino-modifiers offer one potential solution to these disadvantages, sometimes it is preferable to have acid-labile N-protection.

BA 0324 has a novel N-protecting group that is based upon the colorimetric-oxycarbonyl (Cmoc) concept shown in the reaction below. In essence, the Cmoc group is an O-DMT that is tethered to an N-bis(4-chlorophenyl)-methoxycarbonyl protecting group. Both protecting groups are acid labile, but only the DMT cation generates a colorimetric signal because the tether quenches the bis(4-chlorophenyl)-methyl-carbocation in an intra-molecular fashion, affording a neutral tetrahydrofuran derivative.



## BERRY&ASSOCIATES

Rev. 04-04-2014 Vers. 2.0

#### **Cmoc deprotection chemistry**

The acid lability of the Cmoc group allows the choice between on-column deprotection, and off column deprotection. Being more lipophilic than a traditional DMT group, the Cmoc protecting group does a superb job in facilitating SPE purification of full length oligos. If you like the DMT-on purification strategy, you will similarly like the Cmoc-on purification strategy.

**Use:** For oligonucleotide synthesis, employ acetonitrile diluent at the concentration recommended by the synthesizer manufacturer. Use standard coupling protocols; in our hands, extended coupling times were not required and coupling efficiencies of 99% could be obtained. Cleavage from the solid support may be carried out by standard procedures. Standard nucleobase deprotection conditions may be employed.

## **BERRY**&ASSOCIATES

Rev. 04-04-2014 Vers. 2.0