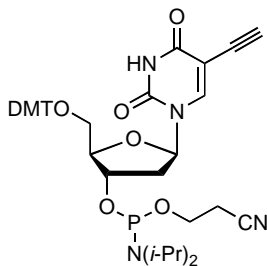


5-Ethynyl-dU CEP
Product No. BA 0167
Product Information



C₄₁H₄₇N₄O₈P
Mol. Wt.: 754.81

Replacement of thymidine residues with 5-ethynyl-dU residues results in duplex stabilization. The degree of stabilization is less than that observed with propynyl-dU residues.¹

Oligonucleotides with 5-ethynyl residues may also be used in transition metal-catalyzed coupling reactions. Two ethynyl-bearing oligonucleotides can be homo-coupled via a diyne linkage using copper catalysis. Further, the ethynyl groups may be used in copper-catalyzed couplings with arylacetylenes bearing anthraquinone, biotin, or fluorescein appendages.² Palladium catalyzed cross-coupling of ethynyl-dU-bearing oligonucleotides with 2-iodoanthraquinone provides anthraquinone-bearing nucleic acids useful in electrochemical applications of DNA.³

Coupling, cleavage, and deprotection: 5-Ethynyl-dU CEP couples with greater than 95% efficiency (typically >98%) using the standard protocols recommended for popular synthesizers. The literature recommends a 5 min coupling time,² but in our hands, this is not necessary. Cleavage, deprotection and purification is may be accomplished using standard techniques.¹

References:

1. Graham, D.; Parkinson, J. A.; Brown, T. *J. Chem. Soc., Perkin Trans. 1* **1998**, 1131-1138.
2. Minakawa, N.; Ono, Y.; Matsuda, A. *J. Am. Chem. Soc.* **2003**, *125*, 11545-11552.
3. Gorodetsky, A. A.; Green, O.; Yavin, E.; Barton, J. K. *Bioconjugate Chem.* **2007**, *18*, 1434-1441.