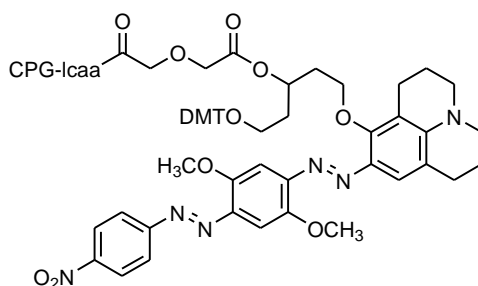


BlackBerry[®] Quencher 650 CPG III (3'-BBQ-650[®] CPG III)
Product No. BL 2030
Product Information



3'-BBQ-650[®] CPG III (BL 2030) utilizes a 1,3,5-triol framework, which is two methylene units longer than the 1,2,3-triol framework that is employed with 3'-BBQ-650[®] CPG (BL 2010) and 3'-BBQ-650[®] CPG II (BL 2020). The one-carbon extension between each of the oxygen atoms provides an architecture that allows a one step cleavage with AMA (room temperature, syringe to syringe, 20 min.) while also minimizing the occurrence of impurities that lack the quencher tag. The oligo purity observed with BL 2030 after a **one step AMA cleave**/deprotect rivals that seen with BL 2020 after the two step protocol (See Summary Table below). Like BL 2020, BL 2030 also has a fast cleaving linker but AMA appears to provide markedly superior oligo yield as compared to NH₄OH. After cleavage, we recommend mild nucleobase deprotection (65 °C, 10 min) to avoid quencher degradation.

The lipophilicity of the BBQ-650[®] moiety may require the use of relatively high concentrations of the organic mobile phase in RP-HPLC purifications, especially with shorter oligonucleotides.

For quantification, the following extinction coefficients may be useful, which were determined using a simple BBQ-650[®] chromophore (i.e., no oligonucleotide): At 598 nm in methanol, $\epsilon = 40,667 \text{ M}^{-1}\text{cm}^{-1}$; at 260 nm in methanol, $\epsilon = 15,077 \text{ M}^{-1}\text{cm}^{-1}$.

Compound	Column Wash	Cleavage Conditions	Deprotection
3'-BBQ-650[®] CPG (BL 2010)	None	Ammonium Hydroxide or AMA; 2 hours	12 hours, 55 °C
3'-BBQ-650[®] CPG II (BL 2020)	10% Diethyl Amine for 5-10 minutes, then blow dry 10 min.	Ammonium Hydroxide; 5 min. or AMA; 2 hours	65 °C for 10 min.
3'-BBQ-650[®] CPG III (BL 2030)	None	AMA only; 20 min.	65 °C for 10 min.