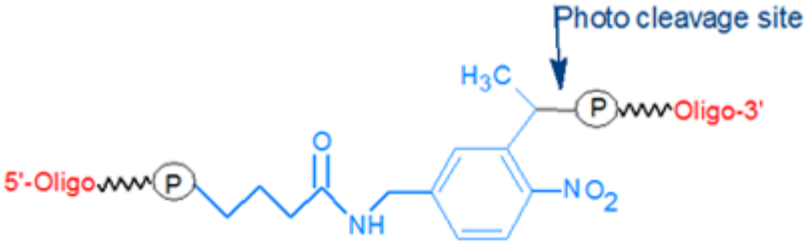
PC Spacer (photocleavable)

Category	Photo Cleavable
Modification Code	PC-Sp-C3
Reference Catalog Number	26-6889
5 Prime	Y
3 Prime	Y
Internal	Y
Molecular Weight(mw)	344.26



PC Spacer (photocleavable)
[26-6889-XX]

PC Spacer (photocleavable) is a non-nucleosidic molety that can be used as an intermediary to attach any available phosphoramidite modification at either end of an oligonucleotide through a UV photo-cleavable C3 spacer, as well as insert such a spacer internally. An example is the use of PC Spacer to incorporate a photo-cleavable 6-FAM tag onto the 5'-end of oligonucleotides immobilized on glass slides. These fluorescently-labeled oligo arrays were then UV irradiated in order to test the efficacy of photo-cleavage in removing the 6-FAM tag from these oligos, as part of developing sequencing-by-synthesis applications (1).

Cleavage Protocol
Cleavage occurs by irradiation with near-UV light (300-350 nm, complete cleavage occurs within 5 minutes. Try using a Black Ray XX-15 UV lamp (Ultraviolet Products Inc., San Gabriel, CA) at a distance of 15 cm (emission peak 365 nm, 300 nm cut-off, 1.1 mW intensity at~31 cm).

References
1. Olejnik, J., Krzymanska-Olejnik, E., Rothschild, K.J. Photocleavable aminotag phosphoramidites for 5'-termini DNA/RNA labeling. *Nucleic Acids Res.* (1998), **26**: 3572-3576.
2. Olejnik, J., Ludemann, H-C., Olejnik, E.K, Berkenkamp, S., Hillenkamp, F., Rothschild, K.J. Photocleavable peptide-DNA conjugates: synthesis and applications to DNA analysis using MALDI-MS. *Nucleic Acids Res.* (1999), **27**: 4626-4631.
3. Tang, X., Su, M., Yu, LiLi, Lv, C., Wang, J., Li, Z. Photomodulating RNA cleavage using photolabile circular antisense oligodeoxynucleotides.*Nucleic Acids Res.* (2002), **38**: 3848-3855.