

**BIOMERS.NET**  
**OLIGONUCLEOTIDES**  
**FOR YOUR RESEARCH**



RNA

FISH

PNA

Antisense  
Oligos

siRNA

Aptamers

XXL  
Large Scale

qPCR

DNA

peptide-  
oligo-  
conjugate

# Photoreactive linkers - Photocleavable linkers and Photocrosslinkers

The specific release of a molecule as well as the coupling of two biomolecules at particular time is an extremely desirable feature in many applications (e.g. bioconjugation). An external, non-invasive pulse (here light) provides a simple, well-regulated "switch function" in conjugations that can be used for controlled cleavage (Photocleavable linker) or coupling (Photocross-linker) so that the biomolecules can be released or linked at particular time.

Generally, photolabile linkers are considered as a connection between two molecules (oligonucleotide sequences, peptides, etc.) via a short linker which can be activated and subsequently cleaved after irradiation with light of a specific wavelength (UV light at 300-400 nm).

Photoreactive linkers are highly selective and show high stability in different chemical conditions.

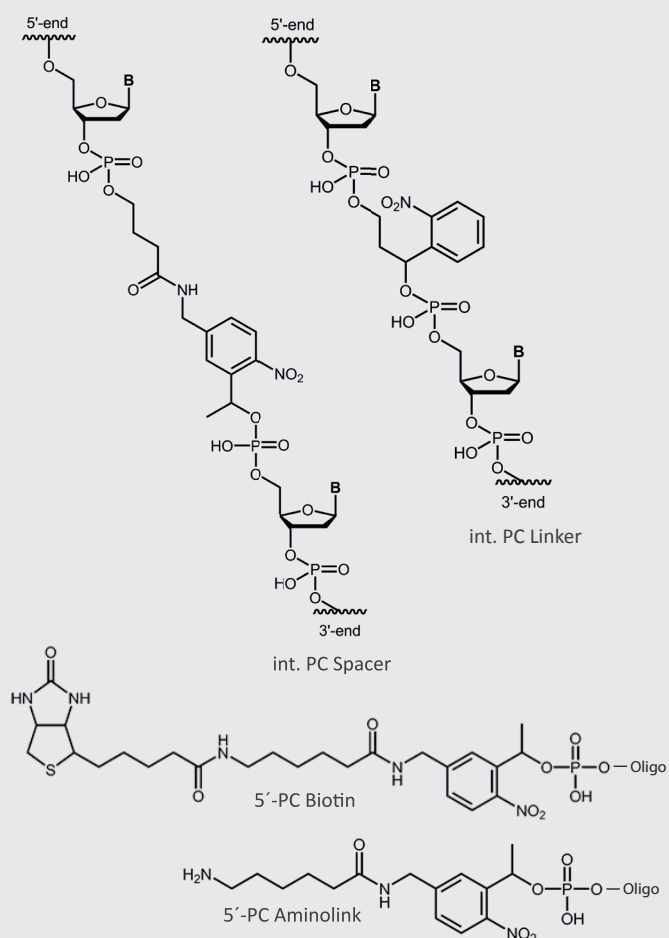
biomers.net offers different UV-light-sensitive linker structures:

- PC Linker
- PC Spacer
- PC Biotin
- PC Aminolink C6

For effective cross-linking different photo-reactive groups are available that can be attached to the 5'-end of the oligonucleotide:

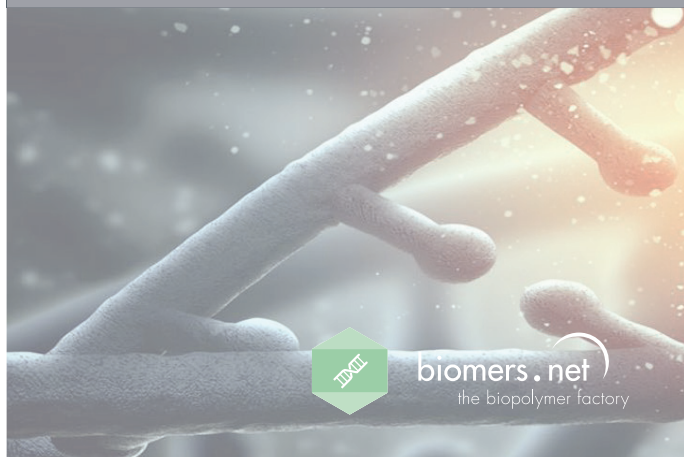
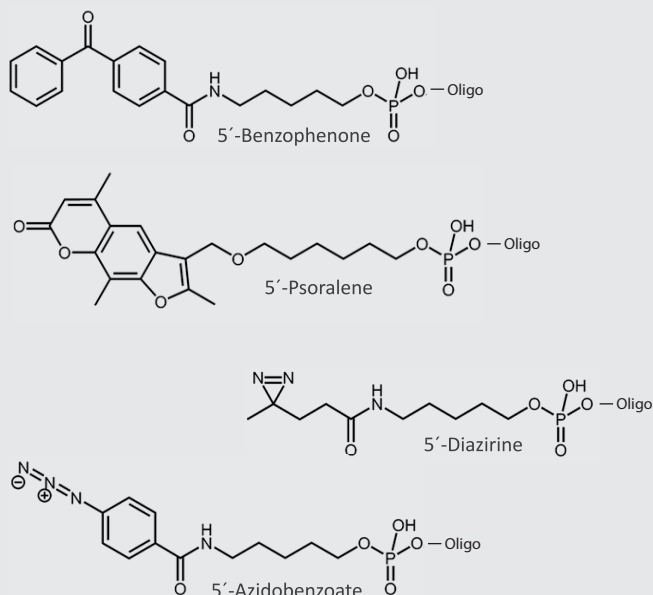
- Benzophenone C5
- Diazirine C5
- Psoralen
- Azidobenzoate C5

Using **photocleavable linkers (PC linkers)**, organic substrates can be coupled to solid phases or other biomolecules and specifically released by a light pulse.



By binding the **photocrosslinker** to one end of an oligonucleotide, a complementary DNA section can be controlled with utmost precision. After photo-induction, a covalent bond is formed to the complementary strand.

Photocrosslinkers are also widely used to covalently link proteins and DNA.



biomers.net  
the biopolymer factory