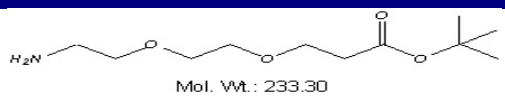
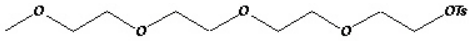
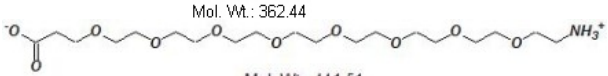
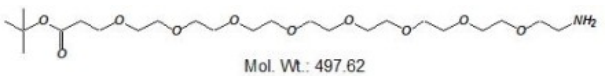
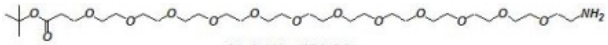
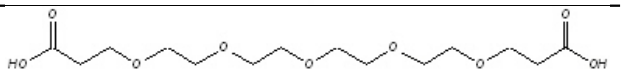
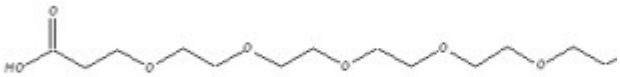
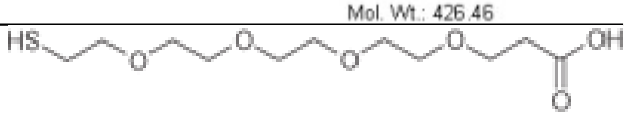
FT-AN1280

PEO spacer containing linkers

Products Description

Following linkers are used as crosslinking agents with conventional chemistry (building blocks) and for biochemistry (activated crosslinkers). They are available with NH2, SH, OH, COOH and t-but termini, as well as with several activated groups (NHS, Maleimide, Hydrazide : see realted products).
They contain a **PEO spacer**, that confers several advantages over classic spacers, including:

- **Increased water solubility**
- **reduced aggregation of conjugates or conjugates/ligands complexes**
- **Non-immunogenicity**
- **Minimization of aggregates formation**
- **Reduces non-specific binding on surfaces**

Cat.Number Prices on line	**Product name** description	Formula
BH9511, 100mg	**NH_2-PEO_2-COO-t-Butyl** Spacer 10.9 A (10 atoms)	 Mol. Wt.: 233.30
AN1280, 100mg	**NH_2-PEO_4-COOH** MW : 265.3 Spacer 18 A (16 atoms)	
AN1290, 100mg	**NH_2-PEO_4-COO-t-Butyl** MW: 321.4 Spacer 18 A (16 atoms)	
BH9521, 100mg	**NH_2-PEO_4-COO-tosylate** MW: 362.44 Spacer 15.4 A (13 atoms)	 Mol. Wt.: 362.44
BH9531, 100mg	**NH_2-PEO_8-COOH** Spacer 32,2 A (28 atoms)	 Mol. Wt.: 441.51
BH9521, 100mg	**NH_2-PEO_8-COO-t-Butyl** Spacer 32,2 A (28 atoms)	 Mol. Wt.: 497.62
BH9551, 100mg	**NH_2-PEO_{12}-COOH** Spacer 46,5 A (40 atoms)	 Mol. Wt.: 617.72
BH9541, 100mg	**NH_2-PEO_{12}-COO-t-Butyl** Spacer 46,5 A (40 atoms)	 Mol. Wt.: 673.83
BH8821, 100mg	**COOH-PEO_6-COOH** Spacer 21,7 A (19 atoms)	 Mol. Wt.: 338.35
BH8831, 100mg	**COOH-PEO_8-COOH** Spacer 28A (25 atoms)	 Mol. Wt.: 426.46
AN1300, 100mg AN1301, 500mg	**HS-PEO_4-COOH** $C_{11}H_{22}O_6S$, MW: 282.35 Spacer 19 A (16 atoms)	 t-butyl 15-thiol-4,7,10,12-tetraoxapentadecanoate

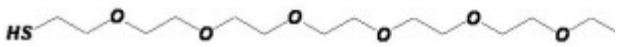
For any question,
contact you local distributor
uptima@interchim.com

Uptima,
powered by interchim
213 Avenue J.F. Kennedy - BP 1140
03103 Montluçon Cedex - France
Tél. 04 70 03 88 55 - Fax 04 70 03 82 60

FT-AN1280

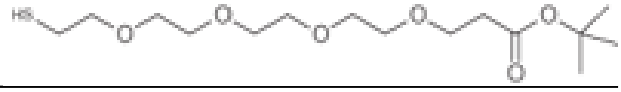
D02311, 100mg
D02312, 500mg

HS-PEO$_8$-COOH
MW: 458.57
Spacer 32.5 A (28 atoms)



AN1320, 100mg

HS-PEO$_4$-COO-t-butyl
$C_{15}H_{30}O_6S$, MW: 338.5
Spacer 19 A (16 atoms)

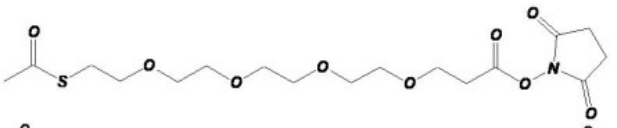


D02321, 100mg
D02322, 500mg

S-acetyl-PEO$_4$-COOH
MW: 324.39 (PEO4-SATA acid)
Spacer 18.3A (16 atoms)

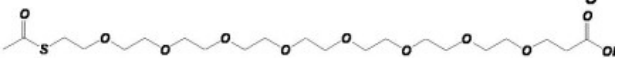
D02331, 100mg
D02332, 500mg

S-acetyl-PEO$_4$-NHS
MW: 421.46 ; Spacer 18.3A (16 atoms)



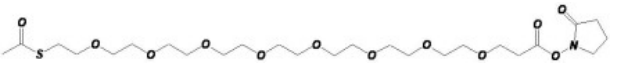
D02341, 100mg
D02342, 500mg

S-acetyl-PEO$_8$-COOH
MW: 500.60 ; Spacer 32.5A (28 atoms)



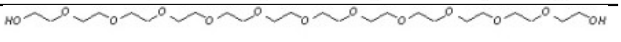
D02341, 100mg

S-acetyl-PEO$_8$-NHS
MW: 597.67 ; Spacer 32.5A (28atoms)



BH9471, 100mg

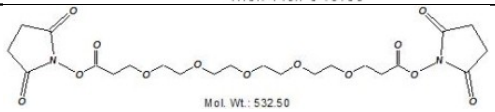
OH-PEO$_{12}$-OH
MW: 546.65 ; Spacer 42,8 A (37 atoms)



Mol. Wt.: 546.65

BH8811, 100mg
(54904A)

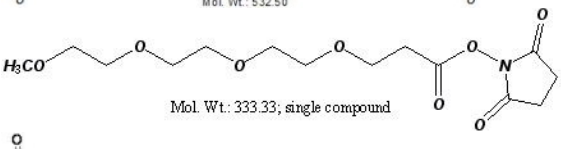
NHS-PEO$_6$-NHS
MW: 532.50
Spacer 21.7 A (19 atoms)



Mol. Wt.: 532.50

BH9061, 100mg
BH9062, 500mg

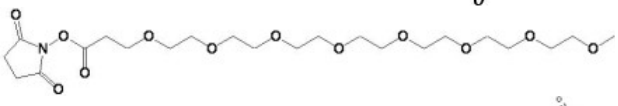
NHS-PEO$_3$-O-CH$_3$
MW: 333.33
Spacer 15.6 A (14 atoms)



Mol. Wt.: 333.33; single compound

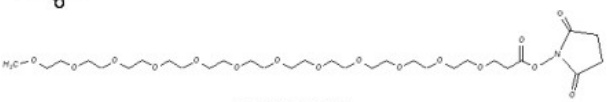
BH9131, 100mg
BH9132, 500mg

NHS-PEO$_8$-O-CH$_3$
Enables conjugate to almost 700 g/mol MW.
Spacer 29.8 A (26 atoms)



BH9501, 100mg

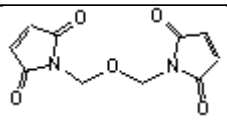
NHS-PEO$_{12}$-O-CH$_3$
Enables conjugate to almost 700 g/mol MW.
Spacer 46.5 A (40 atoms)



Mol. Wt.: 685.75

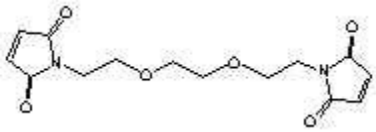
BJ004A, 100mg

BMME (MAL-CH$_2$OCH$_2$-MAL)
MW: 236.18
Spacer 3 atoms



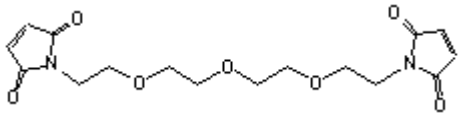
L7735A, 100mg

MAL-PEO$_3$-MAL
MW: 308.3
Spacer 14.7 A



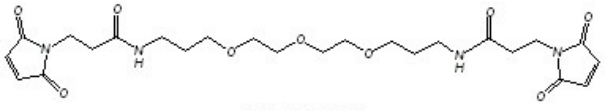
L7736A, 100mg

MAL-PEO$_4$-MAL
MW: 352.3
Spacer 17.8 A



AZ4180, 50mg

MAL-sc-PEO$_4$-sc-MAL
MW: 522.55
Spacer 30A (28 atoms)



Mol. Wt.: 522.55

For any question,
contact you local distributor
uptima@interchim.com

Uptima,
powered by
interchim
213 Avenue J.F. Kennedy - BP 1140
03103 Montluçon Cedex - France
Tél. 04 70 03 88 55 - Fax 04 70 03 82 60

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Technical information

The primary function of this class of building blocks is to provide **different chemical groups** , that can by handled differently (heterobifunctional crosslinking).

- **Amine terminus** (NH2) allow selective conjugation with NHS esters, or with carboxyls in presence of carbodiimides (EDC UP52005)
- **Sulfhydryl terminus** (SH) reacts with maleimides, iodoacetyls, and undergoes substitution with disulfides.
- **Hydroxyl terminus** (OH) is useful for some conjugations, and for in synthesis of oligos.
- **Carboxyl terminus** (COOH) can be reduced in more reactive aldehyde group for further conjugations. When conjugation might occur with an other group of the linker (i.e. amine), one should carry the reactions in the right order, or one could prefer to use a COOH-blocked group, that is available as t-butyl protected group:
- **T-buthyl terminal group** is a hydrophobic protected Carboxyl from undesired reactivity. It an be easily removed in presence of TFA, generating a carboxyl group. Furthermore, t-buthyl group provides a handle for purification purposes.

All linker blocks contain a **PEO spacer**, that confers hydrophilicity to conjugates, and thus several advantages over classic spacers. In comparison, alkyl $[-(CH2)-]_n$ spacers, as well cyclohexane and aromatic residue containing spacers that are rather hydrophobic, making them a challenge to apply. PEO spacer make conjugates more hydrophilic, that may reduce or eliminate several problems:

- solubilization can be performed directly in water, or require less organic solvents.
- the interactions between conjugated probes and their ligands is generally favoured, thus PEO containing conjugates probe with better specificity and affinity
- Aggregation is minimized, preventing artefacts, loss of material
- PEO spacer is non-immunogenic, that prevents the formation of anti-spacer or anti (spacer-ligand) ntibodies.

Associated document: NT-NHS reactivity

I03E

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contact you local distributor
uptima@interchim.com

Uptima,
powered by interchim
213 Avenue J.F. Kennedy - BP 1140
03103 Montluçon Cedex - France
Tél. 04 70 03 88 55 - Fax 04 70 03 82 60