FT-0B6601

PEO spacer containing linkers
MONOFUNCTIONNAL (mPEGs, blocked PEGs)

Products Description

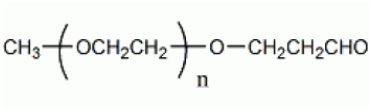
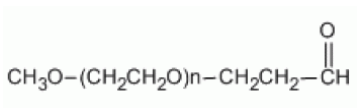
The linkers displayed in this sheet contain:

- A **PEO chain** (PolyEthyleneOxy, a PEG chain that is monodisperse)
- a **Methyl/MethylOxy group** at one end of PEO chain (not-functional - blocked terminus)
- and one **functional group**: from a large variety: COOH, NH2, SH, OH, blocking termini (t-but, t-boc, acetyl), as well as with other more reactive groups (NHS, TFP, Maleimide, Azide, Hydrazide).

$mPEO_x$	spacer	Group 2	-NH2	-NHS	- Maleimide	-OH	-SH, Thiol	-N3	-Hyd
Group 1	PEO	COOH	Amine	and other NH2-reacti	and other SH-reactive	Hydroxyl	Sulfhydryl	Azide	Hydrazide
Methyl		See	See	See	See	See	See	See	

Blocking groups.

• **Methyl group** (CH_3-) and **Methoxy group** (CH_3-O-; Methyloxy, MeO) are equivalent groups when bound to a PEO unit :

Ex:   .

A methyl group coupled to the Oxygène of a PEO unit (PEO': [-O--]) = a MethOxy- group coupled to EthylOxy units

.

They are blocking group that end of the PEO chain of 'mPEO' and 'mPEG' linkers'.

• ask for reversibly-blocking groups are available such as **t-boc, t-, Fmoc, CBZ** that can be released in proper conditions. They are useful in organic synthesis to introduce protected functional groups. After deprotection, the functional group can be used for further synthesis or further applications.

ex.:

$mPEO_x$-amidoPEOx-acid	➔see FT-BH9511or ask
$mPEO_x$-TFP ester	"
$mPEO_x$-amidoPEOx-TFP ester	"
$mPEO_x$-NH-$CO(CH_2)_3$CO-TFP ester	"
Carboxyl-dPEG®$_4$-$(m\text{-}PEO_x)_3$	"
NHS/TFP-PEO_4-$(mPEO_x)_3$-ester	"

Functional groups.

Carboxyl group **(COOH)** of the linkers can be coupled to Amine and other groups by standard chemisty.

Amine group **(NH_2)** of the linkers can be coupled to carboxyl using standard chemistry, i.e. using carbodiimides mediated amidation (EDC #UP52005). Guidelines for reaction of amino group with carboxyls:

Sulfhydryl group **(SH)** of the linkers can be coupled to free Sulfhydryls by addition, or to reduced sulfhydryl (dissulfides) by replacement, or to Maleimide or PyridylVinyl sulfone (rapid reaction).

Hydroxyl group **(OH)** of the linkers can be coupled by standard chemisty.

Succinimidyl group **(NHSuc**: N-Hydroxy-Succinimidyl) of the linker can be reacted with a amines containing compounds, e.g., a protein, a peptide, to yield a stable amide bound.

Maleimide group (MAL) of the linker can be reacted with a thiol/sulfhydryl modified compound, e.g., a peptide

drug, oligo, small molecule or thiol containing protein, to yield a stable bound.
See more information about the functional group, notably reactivity, in the technical sheet NT-PEO000

Azide group (**HYD**) of the linker is aldehyde/ketone reactive.

Hydrazide group (**HYD**) of the linker is aldehyde/ketone reactive.
t-boc-HYD is a protected hydrazide group, which can be deprotected using TFA or HCl.

Aldehyde group (**ALD**) present several interesting reactions (with amine, hydrazide,… groups). It exist à proprionaldehyde (ALP) an butyraldehyde (ALB), but also[] amide-propionaldehyde, urethane-propionaldehyde, amide-butyraldehyde, urethane-butyraldehyde.

$mPEO_x$ (Methyl-PEO linkers, MeO-PEO' linkers)

$mPEO_x$-COOH

These pegylation reagents react with amines

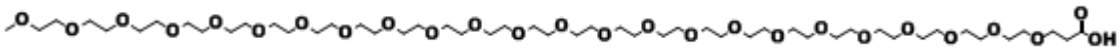
$mPEO_2$-COOH **0B6581, 100mg** **0B6582, 1g**
MW: 148.16 (single compound) – CAS : 149577-05-9
Spacer length: 10 atoms and 10.9 Å

$mPEO_4$-COOH **0B6591, 100mg** **0B6592, 1g**
MW: 236.26(single compound) - CAS: 67319-28-2
Spacer is 14 atoms and 15.6 Å

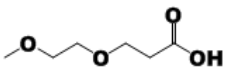
$mPEO_8$-COOH **0B6601, 100mg** **0B6602, 1g**
MW: 412.47(single compound)
Spacer is 26 atoms and 29.8 Å

$mPEO_{12}$-COOH **0B6611, 100mg** **0B6612, 1g**
soluble in methylene chloride or water; other organic solvents like ethyl acetate and THF can be considered
MW:568.68(single compound)
Spacer is 38 atoms and 44.0 Å

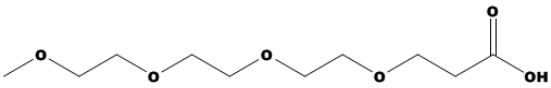
$mPEO_{24}$-COOH **0B6621, 100mg** **0B6622, 1g**



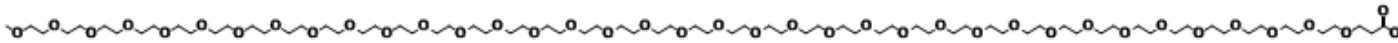
MW: 1117.31(single compound) - CAS: 117786-94-4
Spacer is 74 atoms and 86.2 Å



$mPEO_{25}$-COOH **0B6631, 100mg** **0B6632, 1g**
MW: 1161.37(single compound)
Spacer is 77 atoms and 89.9 Å

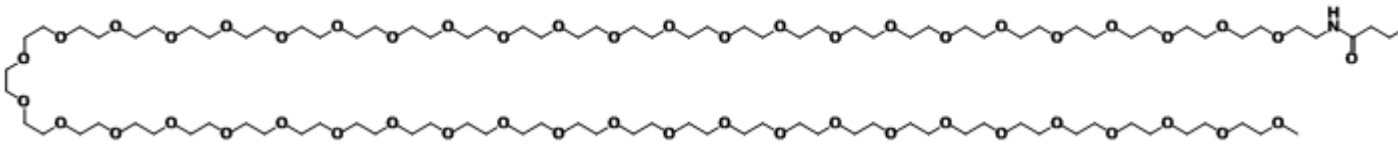


$mPEO_{37}$-COOH **0B6641, 100mg** **0B6642, 1g**



MW: 1690.0(single compound) – CAS : 117786-94-4
Spacer is 112 atoms and 133.9 Å

$mPEO_{48}$-$CO(CH_2)_3COOH$ **0B6661, 100mg** **0B6662, 1g**

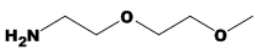


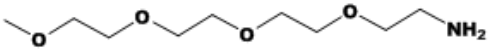
MW: 2259.70(single compound)
Spacer is 151 atoms and 178.5 Å

Ask for polydisperse version mPEG-COOH [FT-W1]

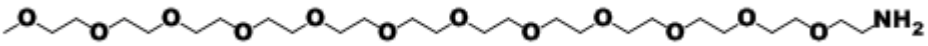
mPEO$_x$-NH$_2$ (Amine)

These pegylation reagents react with acids, active esters and aldehydes (Carbonyl/carboxyl reactive PEOs)

mPEO$_2$-NH$_2$ **0B6671, 100mg 0B6673, 1g**

MW: 119.16 (single compound)
Spacer lenght: 10 atoms and 10.9 Å

mPEO$_4$-NH$_2$ **RJ2151, 100mg RJ2153, 1g**

MW: 207.27 (single compound) - CAS #: 85030-56-4;
MethylOxy-PEO'$_3$-Amine; Methyl-PEG$_4$-Amine; MA(PEG$_4$)
Spacer lenght: 14 atoms and 15.5 Å

mPEO$_8$-NH$_2$ **RJ2161, 100mg RJ2163, 1g**
MW: 383.48 (single compound) - CAS #: 869718-81-0
Spacer lenght: 26 atoms and 29.7 Å

mPEO$_{12}$-NH$_2$ **RJ2171, 100mg RJ2173, 1g**

MW: 559.69 (single compound) - CAS #: 32130-27-1
Spacer lenght: 38 atoms and 43.9 Å
soluble in methylene chloride or water; other organic solvents like ethyl acetate and THF can be considered

mPEO$_{24}$-NH$_2$ **RJ2181, 100mg RJ2183, 1g**

MW: 1088.32 (single compound) - CAS: 32130-27-1
Spacer lenght: 74 atoms and 86.1 Å

mPEO$_{36}$-NH$_2$ **0B6681, 100mg 0B6683, 1g**
MW: 1616.95 (single compound) - CAS: 32130-27-1
Spacer lenght: 109 atoms and 1300 Å

mPEO$_{48}$-CO(CH$_2$)$_3$-NH$_2$ **0B6691, 100mg 0B6693, 1g**

MW: 2145.56 (single compound) - CAS: 32130-27-1
Spacer lenght: 146 atoms and 173.1 Å

Ask for polydisperse version mPEG-Amine [FT-W1]

mPEO$_x$-NHSuc (N-Hydroxy-Succinimidyl ester)

These pegylation reagents react with Amines (NH_2)

mPEO$_2$-NHS **A1LYS1, 100mg** **A1LYS3, 1g**
MW: 245.23(single compound) - Spacer is 8 atoms and 8.5 Å - CAS:1127247-34-0

mPEO$_4$-NHS **BH9061, 100mg** **BH9063, 1g**
MW: 333.33(single compound) - Spacer is 14 atoms and 15.6 Å - CAS:622405-78-1

mPEO$_8$-NHS **BH9131, 100mg** **BH9133, 1g**
MW: 509.54(single compound) - Spacer is 26 atoms and 29.8 Å - CAS:756525-90-3

mPEO$_{12}$-NHS **BH9501, 100mg** **BH9503, 1g**
MW: 685.75(single compound) - Spacer is 38 atoms and 44 Å - CAS:756525-94-7

mPEO$_{24}$-NHS **RJ2001, 100mg** **RJ2002, 1g**
MW: 1214.39(single compound) - Spacer is 74 atoms and 86.2 Å - CAS:756525-94-7

mPEO$_{25}$-NHS **A1LYT1, 100mg** **A1LYT3, 1g**
MW: 1258.44(single compound) - Spacer is 77 atoms and 89.9 Å - CAS:N/A

mPEO$_{37}$-NHS **A1LYU1, 100mg** **A1LYU3, 1g**
MW: 1787.07(single compound) - Spacer is 112 atoms and 133.9 Å - CAS:756525-94-7

Ask for polydisperse version mPEG-NHSester[FT-W1]

mPEO$_x$-TFP ester

These pegylation reagents react with Amines (NH_2)

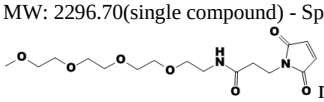
mPEO$_{12}$-TFP ester **A1LYP0, 100mg** **A1LYP2, 1g**
MW: 736.75(single compound) - Spacer is 38 atoms and 44.0 Å - CAS: N/A
mPEO$_{24}$- TFP ester **A1LYQ0, 100mg** **A1LYQ2, 1g**
MW: 1265.38(single compound) - Spacer is 74 atoms and 86.2 Å - CAS: N/A
mPEO$_{25}$- TFP ester **A1LYR0, 100mg** **A1LYR2, 1g**
MW: 1309.42(single compound) - Spacer is 77 atoms and 89.9 Å - CAS: N/A

Ask for polydisperse version mPEG-TFPester[FT-W1]

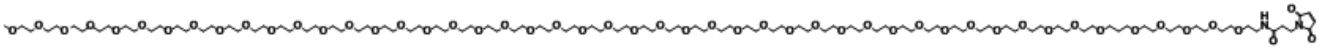
mPEO$_x$-Maleimide (MAL)

These pegylation reagents react with sulfhydryls (thiols, -SH)

mPEO$_4$-Maleimide **A1LYG0, 100mg** **A1LYG2, 1g**
MW: 358.39 (single compound) – Spacer is 20 atoms and 22.1 Å - CAS #: 1263044-81-0
mPEO$_8$-Maleimide **A1LYH0, 100mg** **A1LYH2, 1g**
MW: 534.60 (single compound) – Spacer is 32 atoms and 36.4 Å- - CAS: 1334169-90-2
mPEO$_{12}$-Maleimide **HH5771, 100mg** **HH5772, 1g**
MW: 710.81(single compound) - Spacer is 44 atoms and 50.7 Å - CAS: 88504-24-9
mPEO$_{24}$-Maleimide **RJ2021, 100mg** **RJ2023, 1g**
MW: 1239.44(single compound) - Spacer is 80 atoms and 50.7 Å - CAS: 88504-24-9
mPEO$_{36}$-Maleimide **A1LYI0, 100mg** **A1LYI2, 1g**
MW: 1768.07(single compound) - Spacer is 116 atoms and 137.2 Å - CAS: 88504-24-9
mPEO$_{48}$-Maleimide **A1LYJ0, 100mg** **A1LYJ2, 1g**
MW: 2296.70(single compound) - Spacer is 152 atoms and 178.6 Å - CAS: 88504-24-9


mPEO4-Maleimide

mPEO48-Maleimide



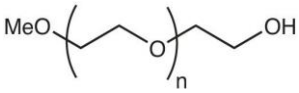
Other maleimide-PEOs and PEGs:
See also (purified) **mPEG$_x$-Maleimide** #DZ5761 (FT-AYPMB0)
mPEG-Maleimide
(Methyl-PEO$_{12}$)$_3$-PEO$_4$-Maleimide RJ1911 see Branched Maleimide PEOs (LV5640)
Maleimide-PEO$_{11}$-Biotin BR4031 see Biotinylated PEOs

mPEO$_x$-Azide (-N=N2)

mPEO$_2$-Azide **06581, 100mg**
MW: 1 (single compound) –
Spacer lenght: 10 atoms and 10.9 Å

See also (purified) **mPEG$_x$-Azide** #WU0001 (FT-AYPMB0)

mPEO$_x$-Hydroxyl (OH)



BH911: mPEO$_{11}$-OH; Methyl-PEO$_{11}$-Hydroxyl; CH$_3$-PEO$_{11}$-OH; CH$_3$-O-PEO'$_{10}$-OH; MethylOxy-mPEO'$_{10}$-Hydroxyl; OH-PEO'$_{10}$-O-CH3; m-dPEG$_{11}$-OH

mPEO$_7$-Hydroxyl **AXCJZ0, 100mg** **AXCJZ2, 1g**
MW: 340.41 - Spacer is 23atoms and 26.1Å -CAS:4437-01-8; Hepta(ethylene glycol) methylether; Hepta(ethylene glycol) methylether

mPEO$_{11}$-Hydroxyl **BH9110, 100mg** **BH9112, 1g**
MW: 516.62(single compound) - CAS: 114740-40-8(9004-74-4) Undecae(ethylene glycol) methylether- Spacer is 35 atoms and 40.3 Å

mPEO$_{15}$-Hydroxyl **A1LYL0, 100mg** **A1LYL2, 1g**
MW: 692.83(single compound) - CAS: 114740-40-8(9004-74-4) - Spacer is 46 atoms and 54.7 Å

mPEO$_{23}$-Hydroxyl **A1LYM0, 100mg** **A1LYM2, 1g**
MW: 1045.25(single compound) - CAS: 114740-40-8(9004-74-4) - Spacer is 70 atoms and 83.1 Å

mPEO$_{36}$-Hydroxyl **A1LYN0, 100mg** **A1LYN2, 1g**
MW: 1617.93(single compound) - CAS: 114740-40-8(9004-74-4) - Spacer is 109 atoms and 130.1 Å

mPEO$_{48}$-Hydroxyl **A1LYO0, 100mg** **A1LYO2, 1g**
MW: 2160.59(single compound) - CAS: N/A (9004-74-4) - Spacer is 146 atoms and 172.4 Å

Ask for purified versions of mPEG-OH (oligodisperse - 160 to 40000Da) #IO5021 (FT-AYPMB0)

See also hydrolyzed PEGs (PEG-OH, 10-26KDa ; CAS: 9004-74-4)[B36US0]

mPEO$_x$-Thiol (SH)

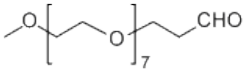
mPEO$_2$-Thiol **Inquire, 100mg , 1g**

See also mPEGx-Thiol MW:350-30000Da #B36EB1 (FT-AYPMB0)

mPEO$_x$-Aldehyde (CHO)

mPEO$_2$-Aldehyde **Inquire**

Methyl-PEO$_8$-propionaldehyde **BS4H31**
AWIMM



CAS: 1234369-95-9 ; (mPEG8-pALD, dPEG8-Aldehyde, MeO-PEG7-CHO ; MW :396.5

Methoxy-PEO$_{24}$-propionaldehyde **RPX89**
(mPEG24-pALD, dPEG24-Aldehyde, MeO-PEG24-CHO)
AWIMM

See also mPEGx-Aldehydes MW:350-30000Da (e.g. #WT8911 in FT-AYPMB0)
350D # B36BL, 550D #B36BM, 750D #B36BN; 1K # WT893, 2K #WT892, 5K #WT891, 10K #WT894, 20K #WT895, 30K #WT896, 40K #KV851
But also proprionaldehyde (ALP) an butyraldehyde (ALB), but also[] amide-propionaldehyde, urethane-propionaldehyde, amide-butyraldehyde, urethane-butyraldehyde. E.g. mPEGx-PropionAldehydes MW:350-30000Da (FT-BS4GX1)

References:

Hermanson, Greg T, "Bioconjugate Techniques", Academic Press, Inc., San Diego, CA, 1996.

Associated document:

NT-PEO000
Homobifunctional PEO linkers (BH9511)
mPEG reagents (DZ3531): mono-functional PEGs (mPEG-NHS, -MAL,-SH, -OH,…)