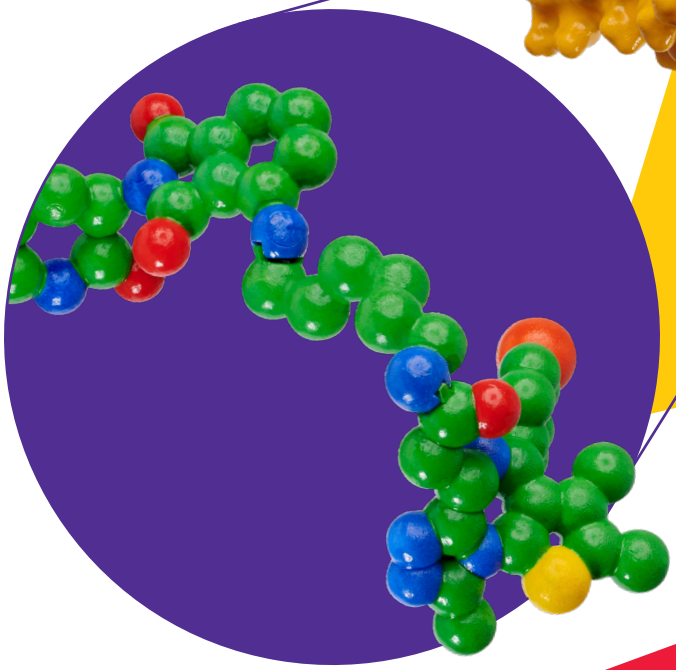
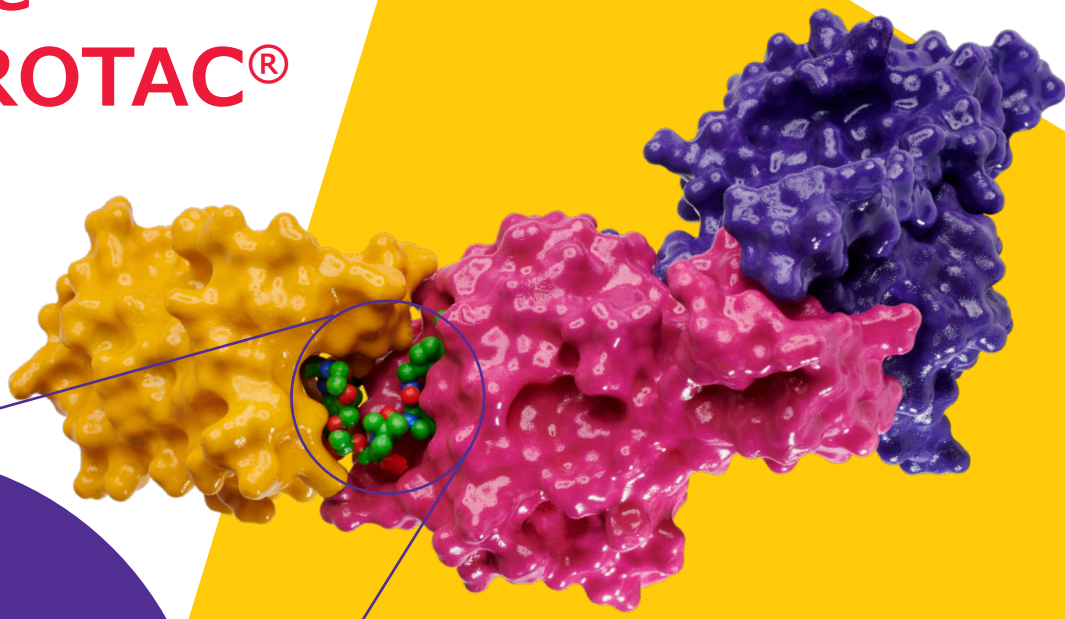
Design the Perfect PROTAC®





The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.

Sigma-Aldrich®
Lab & Production Materials

Our protein degrader building blocks are the easiest way to generate libraries of protein degraders that can be screened for effective degradation of your target from cells.

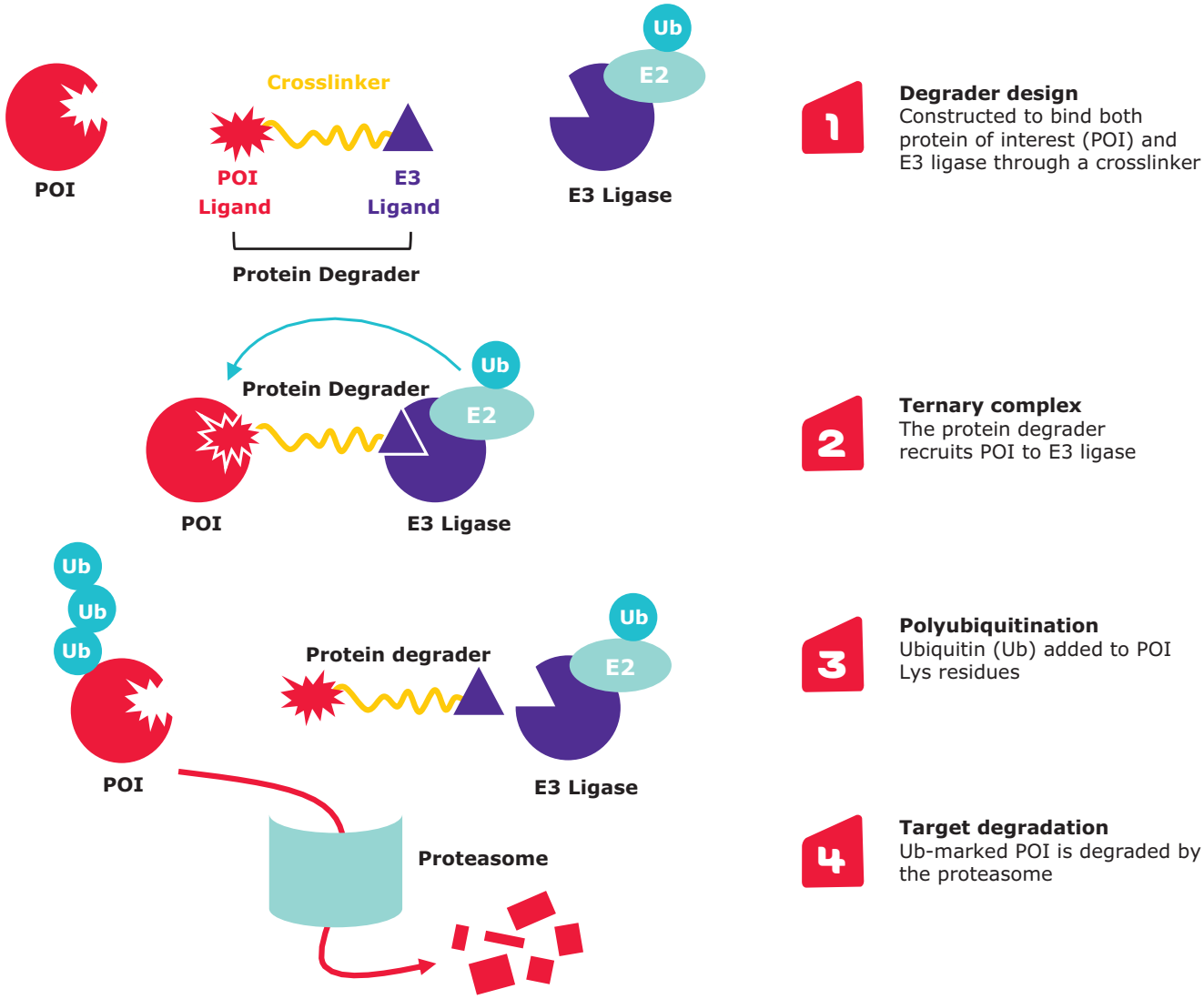
Targeted Protein Degradation

Targeted protein degradation is an emerging drug discovery strategy that allows access to difficult-to-treat diseases. While traditional small-molecule or antibody drugs may only allow access to ~20% of the proteome, degradation techniques may open the door to the other 80%.[1] The molecules used in these approaches are called protein degraders, such as proteolysis targeting chimeras (PROTACs), bifunctional molecules that eliminate target proteins from cells (**Figure 1**).[1-5]

Protein degraders are designed with three primary components: 1) a ligand at one end that targets the protein of interest (POI); 2) a second ligand at the opposite end that binds an E3 ligase; and 3) a crosslinker in the middle that joins the two ends (**Figure 2**). The simultaneous degrader binding of two proteins brings the POI in close enough proximity for polyubiquitination by the E2 enzyme associated to the E3 ligase, which flags the POI for degradation through the proteasome.[1-5]

Figure 1.

Targeted protein degradation via protein degraders (e.g. PROTACs)



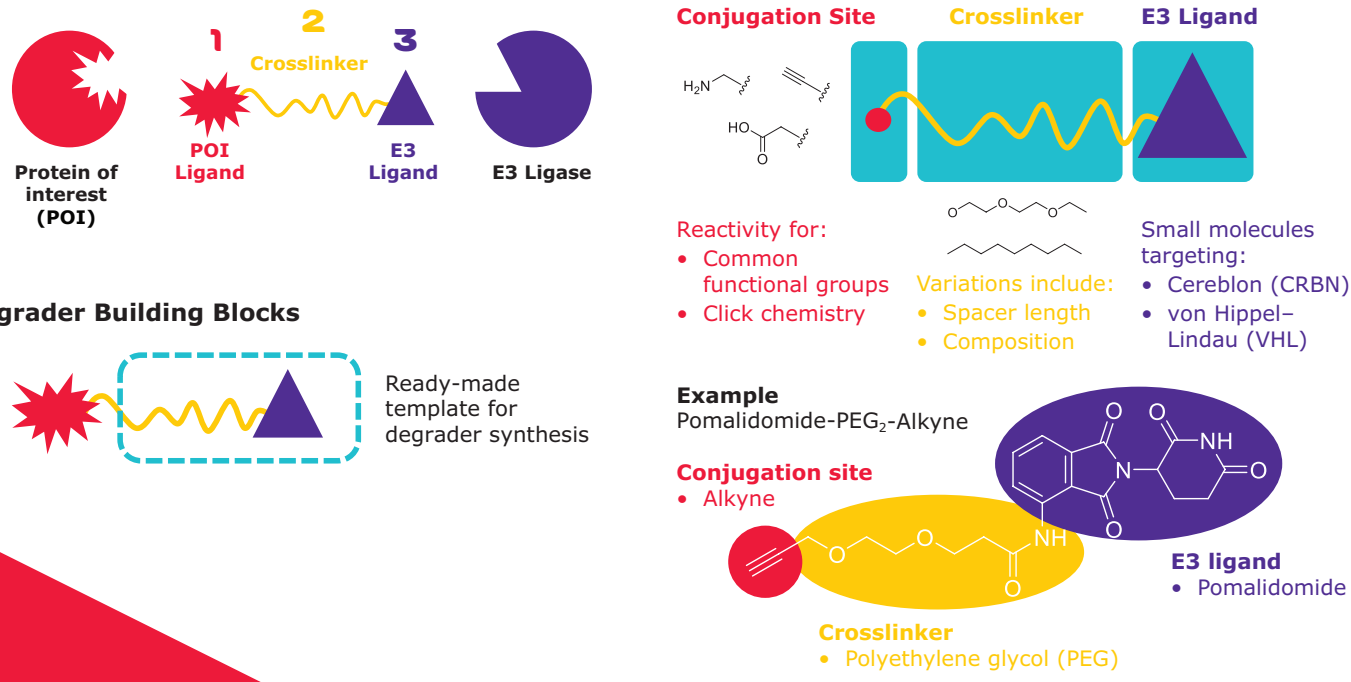
Protein Degrader Building Blocks for Target Degradation

The design of small molecules for target degradation is not trivial since even slight alterations in ligands and crosslinkers can affect binding to the POI or E3 ligase.[3-5] Thus, many analogs are synthesized – varying each structure slightly – and screened in cells to discover the optimal degrader for target degradation. To streamline this synthesis, our degrader building blocks are a collection of crosslinker-E3 ligand conjugates with a pendant functional group for covalent linkage to a target ligand (**Figure 2**). Furthermore, because the same functional group is present across a series, one target ligand can be conjugated to several degrader building blocks in parallel for facile library generation and subsequent screening (**Figure 3**).

Protein degrader building blocks are permutations of the following components:

- Ligands targeting the E3 ligase Cereblon (CRBN) or von Hippel–Lindau (VHL)
- Crosslinkers with varied lengths and compositions
- Conjugation sites with reactivity for common functional groups

Figure 2.



Advantages

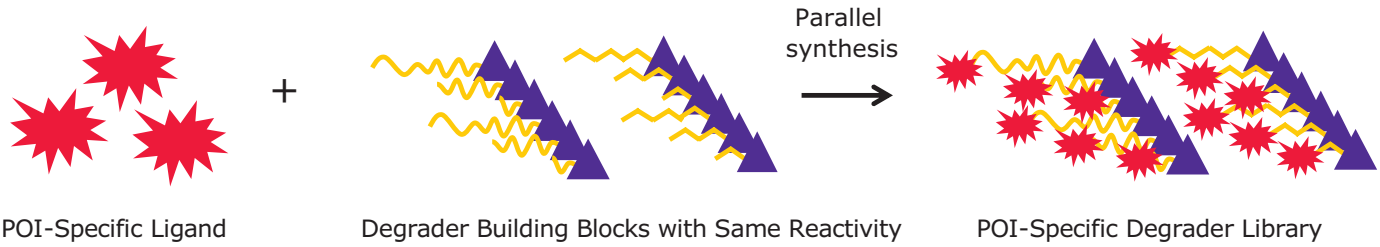
- **Compatibility:** Linkers conjugate to common functional groups present on target ligands.
- **Molecule design:** Strategic variety encompassed in the combinations of linkers and ligands aids the design of target degraders.
- **Synthetic time-saver:** The E3 ligand-crosslinker conjugates decrease the amount of time spent on degrader synthesis.
- **Library generation:** Using degrader building blocks with the same conjugation site enables the simultaneous generation of several degraders via parallel synthesis.

Figure 3.

Degrader Synthesis

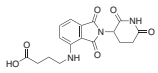
Degrader building blocks simplify the synthesis of PROTACs.

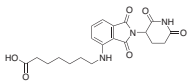
Degrader Library Generation

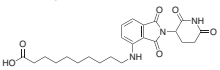


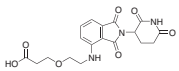
Use of a set of degrader building blocks with the same conjugation site streamlines the synthesis of libraries.

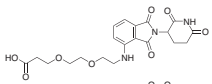
Protein Degrader Building Blocks for CRBN

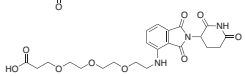

Pomalidomide-C_3-CO_2H
901500

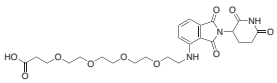

Pomalidomide-C_6-CO_2H
901496

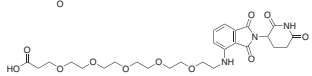

Pomalidomide-C_9-CO_2H
901525

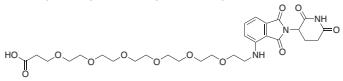

Pomalidomide-PEG_1-CO_2H
901527

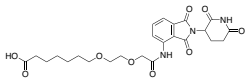

Pomalidomide-PEG_2-CO_2H
901526

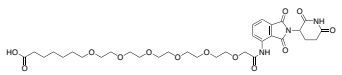

Pomalidomide-PEG_3-CO_2H
901504

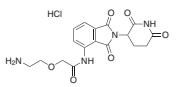

Pomalidomide-PEG_4-CO_2H
901824

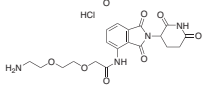

Pomalidomide-PEG_5-CO_2H
901828

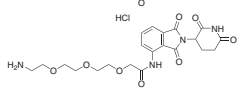

Pomalidomide-PEG_6-CO_2H
901829

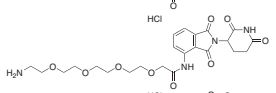

Pomalidomide-PEG$_2$-Butyl CO_2H
910449

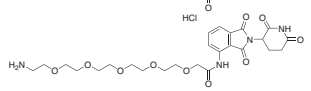

Pomalidomide-PEG$_6$-Butyl CO_2H
901481

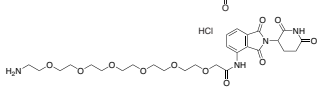

Pomalidomide-PEG_1-NH_2 HCl
901516

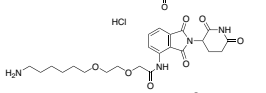

Pomalidomide-PEG_2-NH_2 HCl
901513

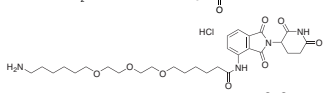

Pomalidomide-PEG_3-NH_2 HCl
901495

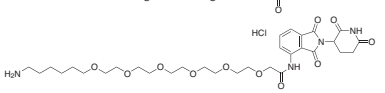

Pomalidomide-PEG_4-NH_2 HCl
901830

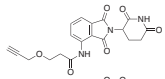

Pomalidomide-PEG_5-NH_2 HCl
901831

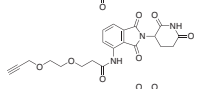

Pomalidomide-PEG_6-NH_2 hydrochloride
901832

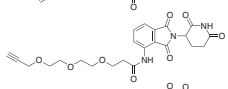

Pomalidomide-PEG_2-butyl amine
911003

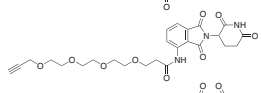

Pomalidomide-C_6-PEG_3-Butyl Amine HCl
905208

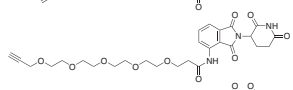

Pomalidomide-PEG_6-Butyl Amine HCl
905224

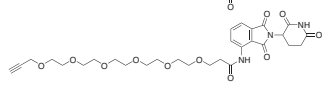

Pomalidomide-PEG_1-Alkyne
901523

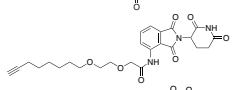

Pomalidomide-PEG_2-Alkyne
901529

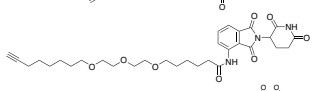

Pomalidomide-PEG_3-Alkyne
901531


Pomalidomide-PEG_4-Alkyne
901833

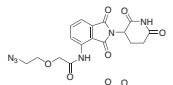

Pomalidomide-PEG_5-Alkyne
901834

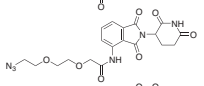

Pomalidomide-PEG_6-Alkyne
901835

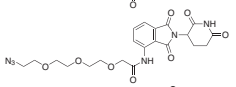

Pomalidomide-PEG$_2$-Butyl Alkyne
910503

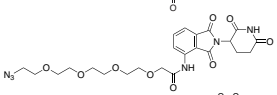

Pomalidomide-C_6-PEG_3-Butyl Alkyne
910511

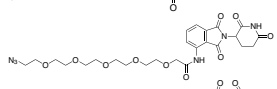

Pomalidomide-PEG_6-Butyl Alkyne
910619

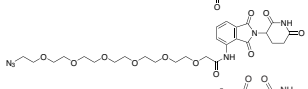

Pomalidomide-PEG_1-Azide
903825

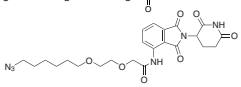

Pomalidomide-PEG_2-Azide
903833

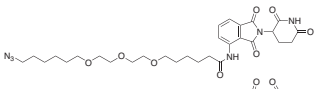

Pomalidomide-PEG_3-Azide
904678

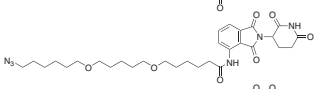

Pomalidomide-PEG_4-Azide
909386

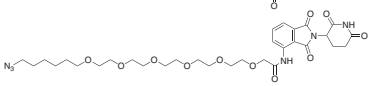

Pomalidomide-PEG_5-Azide
909394

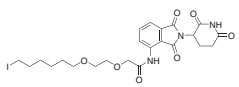

Pomalidomide-PEG_6-Azide
909408


Pomalidomide-PEG$_2$-Butyl Azide
904872


Pomalidomide-C_6-PEG_3-Butyl Azide
904686


Pomalidomide-C_6-PEG_1-C_3-PEG_1-Butyl Azide
904880


Pomalidomide-PEG_6-Butyl Azide
903434

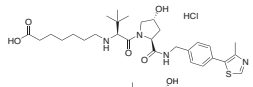

Pomalidomide-PEG$_2$-Butyl Iodide
904724

Pomalidomide-C_6-PEG_3-Butyl Iodide
904708

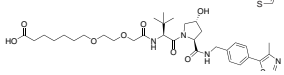
Pomalidomide-C_6-PEG_1-C_3-PEG_1-Butyl Iodide
906050

Pomalidomide-PEG_6-Butyl Iodide
903442

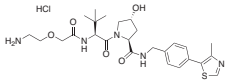
Protein Degrader Building Blocks for VHL



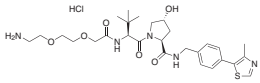
(S,R,S)-AHPC-C_6-CO_2H HCl
901534



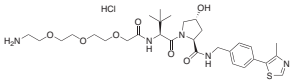
(S,R,S)-AHPC-PEG_2-Butyl CO_2H
910600



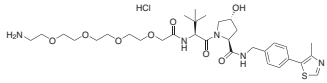
(S,R,S)-AHPC-PEG_1-NH_2 HCl
901493



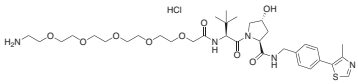
(S,R,S)-AHPC-PEG_2-NH_2 HCl
901488



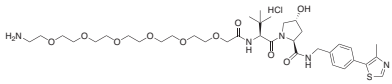
(S,R,S)-AHPC-PEG_3-NH_2 HCl
901511



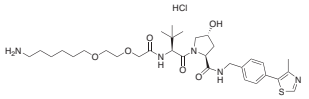
(S,R,S)-AHPC-PEG_4-NH_2 HCl
901848



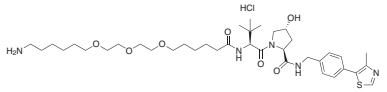
(S,R,S)-AHPC-PEG_5-NH_2 HCl
901850



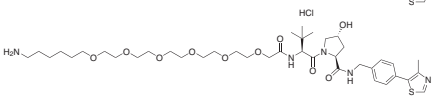
(S,R,S)-AHPC-PEG_6-NH_2 HCl
901860



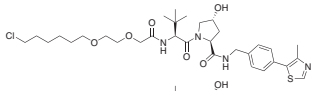
(S,R,S)-AHPC-PEG_2-butyl amine HCl
906123



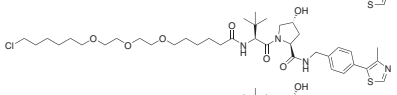
(S,R,S)-AHPC-C_6-PEG_3-butyl amine HCl
905232



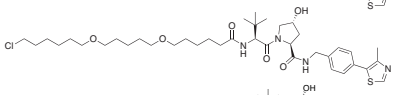
(S,R,S)-AHPC-PEG_6-butyl amine HCl
905275



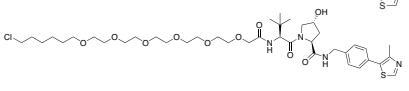
(S,R,S)-AHPC-PEG_2-Butyl Chloride
905399



(S,R,S)-AHPC-C_6-PEG_3-Butyl Chloride
905380

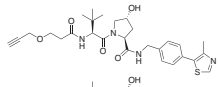


(S,R,S)-AHPC-C_6-PEG_1-C_3-PEG_1-Butyl Chlorid
905402

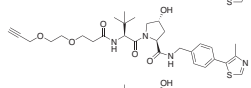


(S,R,S)-AHPC-PEG_6-C_3-Butyl Chloride
907677

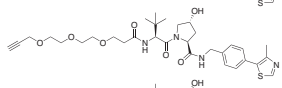
(S,R,S)-AHPC-PEG_1-Alkyne
901503



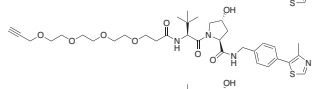
(S,R,S)-AHPC-PEG_2-Alkyne
901517



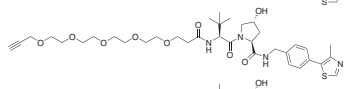
(S,R,S)-AHPC-PEG_3-Alkyne
901533



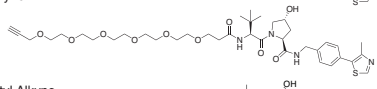
(S,R,S)-AHPC-PEG_4-Alkyne
901851



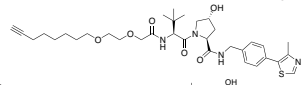
(S,R,S)-AHPC-PEG_5-Alkyne
901855



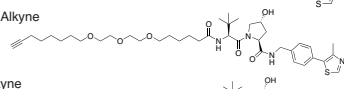
(S,R,S)-AHPC-PEG_6-Alkyne
901873



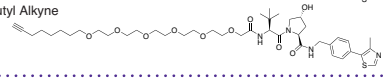
(S,R,S)-AHPC-PEG_2-Butyl Alkyne
910538



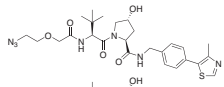
(S,R,S)-AHPC-C_6-PEG_3-Butyl Alkyne
910546



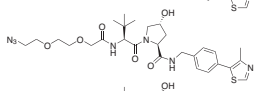
(S,R,S)-AHPC-PEG_6-Butyl Alkyne
910597



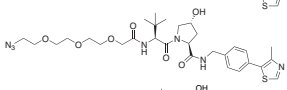
(S,R,S)-AHPC-PEG_1-Azide
903957



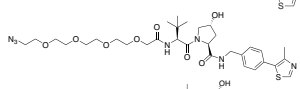
(S,R,S)-AHPC-PEG_2-Azide
904813



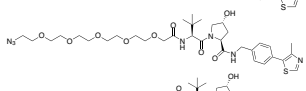
(S,R,S)-AHPC-PEG_3-Azide
904651



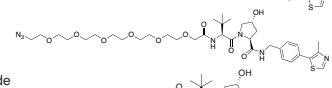
(S,R,S)-AHPC-PEG_4-Azide
909262



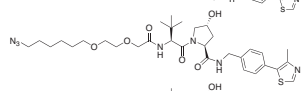
(S,R,S)-AHPC-PEG_5-Azide
909351



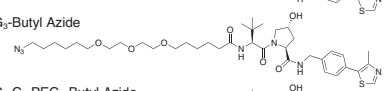
(S,R,S)-AHPC-PEG_6-Azide
909378



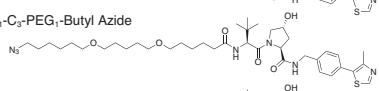
(S,R,S)-AHPC-PEG_2-Butyl Azide
905216



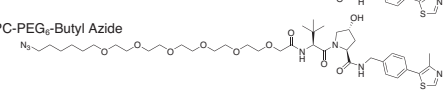
(S,R,S)-AHPC-C_6-PEG_3-Butyl Azide
904821



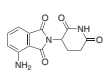
(S,R,S)-AHPC-C_6-PEG_1-C_3-PEG_1-Butyl Azide
905178



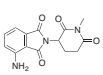
(S,R,S)-AHPC-PEG_6-Butyl Azide
904864



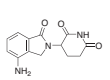
Ligands



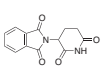
Pomalidomide
E3 Ligase CRBN
P0018



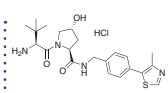
N-Methylated Pomalidomide
E3 Ligase CRBN (negative control)
901494



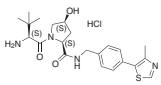
Lenalidomide
E3 Ligase CRBN
901558



(±)-Thalidomide
E3 Ligase CRBN
T144



(S,R,S)-AHPC hydrochloride
E3 Ligase VHL
901490



(S,S,S)-AHPC hydrochloride
E3 Ligase VHL(negative control)
901487

VH298
E3 Ligase VHL
SML1896

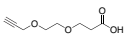
Nimbolide from Azadirachta indica
E3 Ligase RNF114
SMB00586

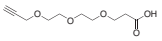
Nutlin-3
E3 Ligase MDM2
N6287

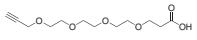
Nutlin-3a
E3 Ligase MDM2
SML0580

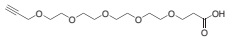
Heterobifunctional Crosslinkers

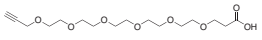

Propargyl-PEG$_1$-Acid
901567

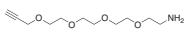

Propargyl-PEG$_2$-Acid
901566

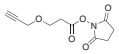

Propargyl-PEG$_3$-Acid
901565

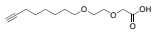

Propargyl-PEG$_4$-Acid
902543

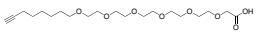

Alkyne-PEG$_5$-Acid
764167

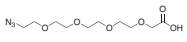

Propargyl-PEG$_6$-Acid
902667

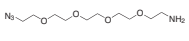

Amino-PEG$_4$-Alkyne
764248

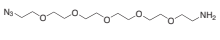

Propargyl-dPEG®$_1$-NHS ester
QBD10511

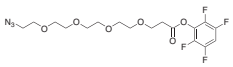

2-(2-(Oct-7-yn-1-yloxy)ethoxy)acetic acid
910058

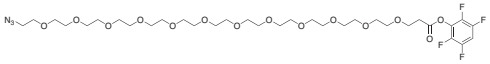

3,6,9,12,15,18-Hexaoxahexacos-25-ynoic acid
910023


14-Azido-3,6,9,12-Tetraoxatetradecanoic Acid Solution
744751


14-Azido-3,6,9,12-Tetraoxatetradecan-1-Amine
901138


17-Azido-3,6,9,12,15-Pentaoxaheptadecan-1-Amine
901155

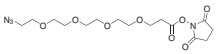

Azido-dPEG®$_4$-TFP ester
QBD10567

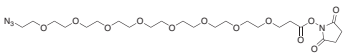

Azido-dPEG®$_{12}$-TFP ester >90%
QBD10569

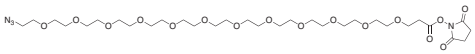
Azido-dPEG®$_3$-amine
QBD10522

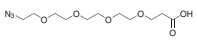
Azido-dPEG®$_7$-amine
QBD10523

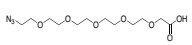
Azido-dPEG®$_{11}$-amine
QBD10524

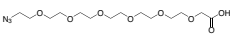

Azido-dPEG®$_4$-NHS ester
QBD10501

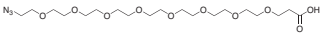

Azido-dPEG®$_8$-NHS ester
QBD10503

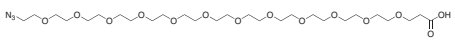

Azido-dPEG®$_{12}$-NHS ester
QBD10505


Azido-dPEG®$_4$-acid
QBD10502

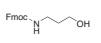

20-17-Azido-3,6,9,12,15-pentaoxaheptadecanoic acid
910015

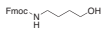

Azido-3,6,9,12,15,18-hexaoxaicosanoic acid
910007

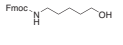

Azido-dPEG®$_8$-acid
QBD10512

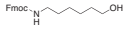

Azido-dPEG®$_{12}$-acid
QBD10513


2-(Fmoc-amino)ethanol
445185

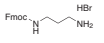

3-(Fmoc-amino)-1-propanol
47305

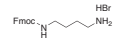

4-(Fmoc-amino)-1-butanol
47295

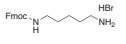

5-(Fmoc-amino)-1-pentanol
47299

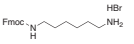

6-(Fmoc-amino)-1-hexanol
47297


N-Fmoc-ethylenediamine hydrobromide
47542


N-Fmoc-1,3-propanediamine hydrobromide
47556

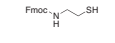

N-Fmoc-1,4-butanediamine hydrobromide
47541

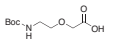

N-Fmoc-cadaverine hydrobromide
47544


N-Fmoc-1,6-hexanediamine hydrobromide
47543


N-Fmoc-2-bromoethylamine
09767


3-(Fmoc-amino)propyl bromide
76061


2-(Boc-amino)ethanethiol
458910


t-Boc-*N*-Amido-PEG$_1$-CH2CO2H
901579

t-Boc-*N*-Amido-PEG$_2$-CH2CO2H
901577

t-Boc-*N*-Amido-PEG$_3$-CH2CO2H
901575

BocNH-PEG$_4$-acid
902551

BocNH-PEG$_5$-Acid
902683

BocNH-PEG$_6$-Acid
902683

N-Boc-N-Succinyl-4,7,10-Trioxa-1,13-Tridecanediamine
671401

15-(Boc-amino)-4,7,10,13-tetraoxapentadecanoic acid
30953

21-(Boc-amino)-4,7,10,13,16,19-hexaoxaheneicosanoic acid
38263

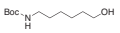
N-Boc- 2,2'-(ethylenedioxy)diethylamine
89761

N-Boc-4,7,10-Trioxa-1,13-Tridecanediamine
93113

N-Boc-ethanolamine
382027

3-(Boc-amino)-1-propanol
416444

4-(Boc-amino)-1-butanol
15302



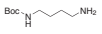
6-(Boc-amino)-1-hexanol
15304

5-(Boc-amino)-1-pentanol
15307

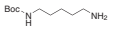
N-Boc-ethylenediamine
15369

N-Boc-*N*-methylethylenediamine
15567

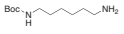
N-Boc-1,3-propanediamine
15408



N-Boc-1,4-butanediamine
15404



N-Boc-cadaverine
15406

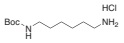


N-Boc-1,6-hexanediamine
79229

2-(Boc-amino)ethyl bromide
17354

3-(Boc-amino)propyl bromide
17356

4-(Boc-amino)butyl bromide
90303

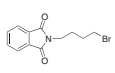


N-Boc-1,6-hexanediamine hydrochloride
437018

N-Boc-2-isothiocyanatoethylamine
15524

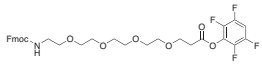
N-Boc-3-isothiocyanatopropylamine
15530

Benzyl *N*-(3-hydroxypropyl)carbamate
478709

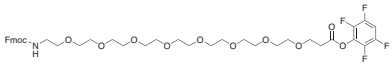


N-(4-Bromobutyl)phthalimide
100919

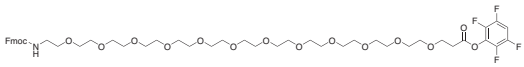
N-(2-Bromoethyl)phthalimide
B66302



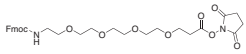
Fmoc-N-amido-dPEG®$_4$-TFP ester
QBD11000



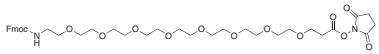
Fmoc-N-amido-dPEG®$_8$-TFP ester
QBD11005



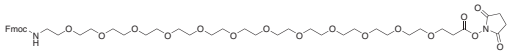
Fmoc-N-amido-dPEG®$_{12}$-TFP ester
QBD11006



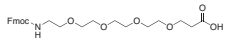
Fmoc-N-amido-dPEG®$_4$-NHS ester
QBD10994



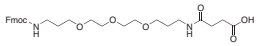
Fmoc-N-amido-dPEG®$_8$-NHS ester
QBD10995



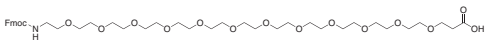
Fmoc-N-amido-dPEG®$_{12}$-NHS ester
QBD10996



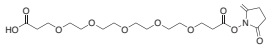
Fmoc-N-amido-dPEG®$_4$-acid
QBD10213



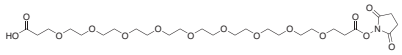
N-Fmoc-*N*-Succinyl-4,7,10-Trioxa-1,13-Tridecanediamine
671517



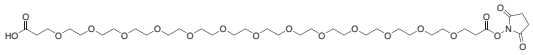
Fmoc-N-amido-dPEG®$_{12}$-acid
QBD10283



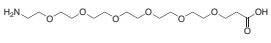
Acid-dPEG®$_5$-NHS ester
QBD10109



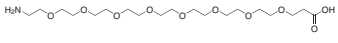
Acid-dPEG®$_9$-NHS ester
QBD10119



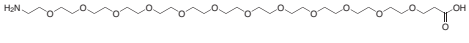
Acid-dPEG®$_{13}$-NHS ester
QBD10127



Amino-dPEG®$_6$-acid
QBD10067



Amino-dPEG®$_8$-acid
QBD10277

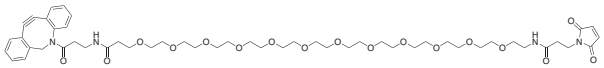


Amino-dPEG®$_{12}$-acid
QBD10287

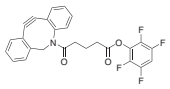
Amino-dPEG®$_4$-OH
QBD10249

Amino-dPEG®$_8$-OH
QBD10240

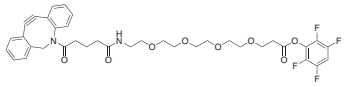
Heterobifunctional Crosslinkers (continued)



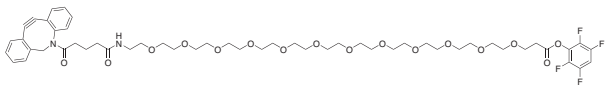
DBCO-dPEG®$_{12}$-MAL
QBD10593



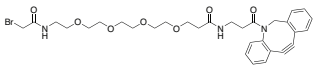
DBCO-TFP ester
QBD11815



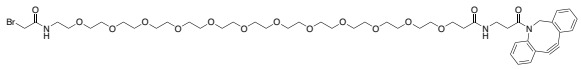
DBCO-dPEG®$_4$-TFP ester
QBD11362



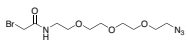
DBCO-dPEG®$_{12}$-TFP ester
QBD11366



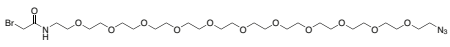
Bromoacetamido-dPEG®$_4$-amido-DBCO
QBD11221



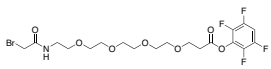
Bromoacetamido-dPEG®$_{12}$-amido-DBCO
QBD11223



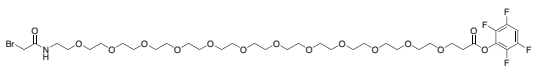
Bromoacetamido-dPEG®$_3$-azide
QBD11217



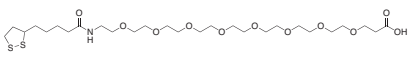
Bromoacetamido-dPEG®$_{11}$-azide
QBD11204



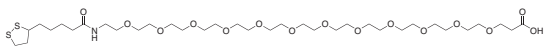
Bromoacetamido-dPEG®$_4$-TFP ester
QBD11200



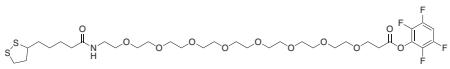
Bromoacetamido-dPEG®$_{12}$-TFP ester
QBD11202



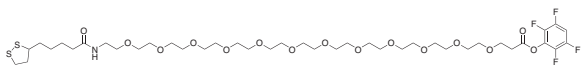
Lipoamido-dPEG®$_8$-acid
QBD10807



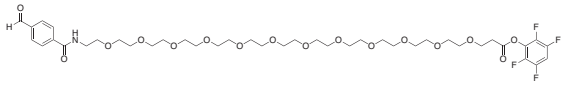
Lipoamido-dPEG®$_{12}$-acid
QBD10808



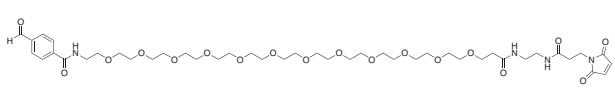
Lipoamido-dPEG®$_8$-TFP ester
QBD10642



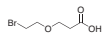
Lipoamido-dPEG®$_{12}$-TFP ester
QBD10814



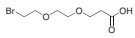
4-formyl-benzamido-dPEG®$_{12}$-TFP ester
QBD10081



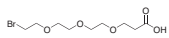
4-formyl-benzamido-dPEG®$_{12}$-EDA-MAL
QBD10075



Bromo-PEG$_1$-Acid
901573

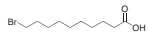


Bromo-PEG$_2$-Acid
901572



Bromo-PEG$_3$-Acid
901568

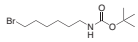
4-Bromobutyric acid
258083



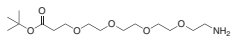
10-Bromodecanoic acid
541397

4-Bromobutyryl chloride
251933

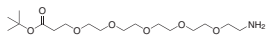
6-Bromo-1-hexanol
186481



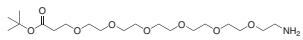
6-(Boc-amino)hexyl bromide
89171



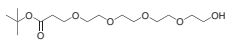
Amino-PEG$_4$-t-Butyl Ester
902535



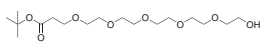
Amino-PEG$_5$-t-Butyl Ester
902527



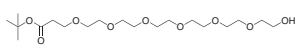
Amino-PEG$_6$-t-Butyl Ester
902659



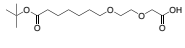
Hydroxy-PEG$_4$-t-Butyl Ester
902586



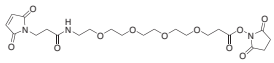
Hydroxy-PEG$_5$-t-Butyl Ester
902691



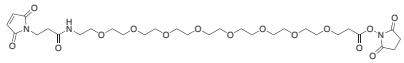
Hydroxy-PEG$_6$-t-Butyl Ester
902578



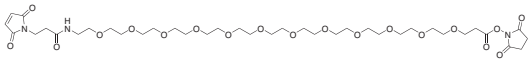
2,2-Dimethyl-4-oxo-3,11,14,17-tetraoxatricosan-23-oic acid
909998



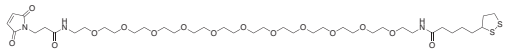
MAL-dPEG®$_4$-NHS ester
QBD10214



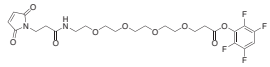
MAL-dPEG®$_8$-NHS ester
QBD10274



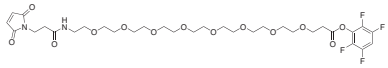
MAL-dPEG®$_{12}$-NHS ester
QBD10284



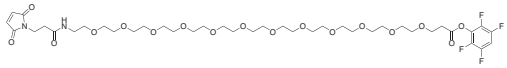
MAL-dPEG®$_{11}$-Lipoamide
QBD10819



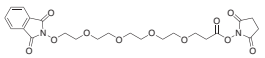
MAL-dPEG®$_4$-TFP ester
QBD10551



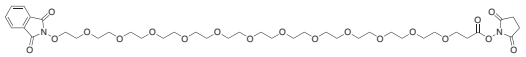
MAL-dPEG®$_8$-TFP ester
QBD10552



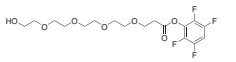
MAL-dPEG®$_{12}$-TFP ester
QBD10553



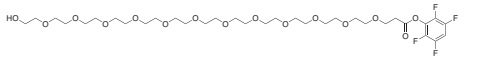
Phthalimidooxy-dPEG®$_4$-NHS ester
QBD10011



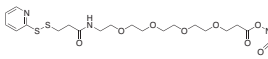
Phthalimidooxy-dPEG®$_{12}$-NHS ester
QBD11135



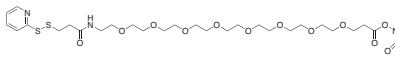
Hydroxy-dPEG®$_4$-TFP ester
QBD11341



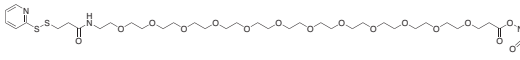
Hydroxy-dPEG®$_{12}$-TFP ester
QBD11345



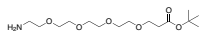
SPDP-dPEG®$_4$-NHS ester
QBD10374



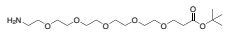
SPDP-dPEG®$_8$-NHS ester
QBD10376



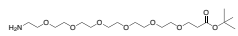
SPDP-dPEG®$_{12}$-NHS ester
QBD10378



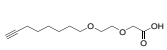
Amino-PEG$_4$-*t*-butyl ester
902535



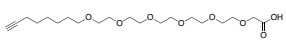
Amino-PEG$_5$-*t*-butyl ester
902527



Amino-PEG$_6$-*t*-butyl ester
902659

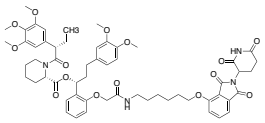


2-(2-(Oct-7-yn-1-yloxy)ethoxy)acetic acid
910058



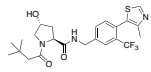
3,6,9,12,15,18-Hexaoxahexacos-25-ynoic acid
910023

Fusion Protein Degrader

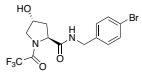


dTAG-13
SML2601

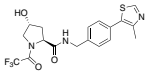
Spy Molecules for VHL Ligand Discovery



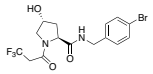
Fluorinated VHL Spy Molecule 1
909416



Fluorinated VHL Spy Molecule 2
909432



Fluorinated VHL Spy Molecule 3
909440



Fluorinated VHL Spy Molecule 4
909459

Sigma-Aldrich®

Lab & Production Materials

Merck KGaA
Frankfurter Strasse 250
64293 Darmstadt, Germany

SigmaAldrich.com

To place an order or receive technical assistance

Order/Customer Service: **SigmaAldrich.com/order**
Technical Service: **SigmaAldrich.com/techservice**
Safety-related Information: **SigmaAldrich.com/safetycenter**

MK_BR2293EN Ver. 2.0
30676
02/2020