



Hunan Huateng Pharmaceutical Co., Ltd.

One-stop CDMO to meet your needs for pharmaceutical molecules

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Hunan Huateng Pharmaceutical Co. Ltd.

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Hunan Huateng Pharmaceutical Co., Ltd.

- **Founded Date:** August, 2013
- **Area:** 7000 m²
- **Address:** Building E1, Lugu Corporation Plaza, High-Tech Industrial Development Zone, Changsha City, Hunan Province, P.R.China
- **Capacity:** PEG Derivatives, APIs & intermediates and other chemicals from mg to kg production



Hunan Huateng Pharma Tech Co., Ltd. (Wholly-owned subsidiary)

- **Founded Date:** August, 2017
- **Area:** 34,000 m²
- **Address:** Tongguan Circular Economy Industrial Base, Wangcheng Economic Development Zone, Changsha, Hunan, P.R.China
- **Capacity:** CDMO Services, Lab scale to pilot plant to full-scale production of PEG Derivatives, APIs & intermediates and other chemicals.



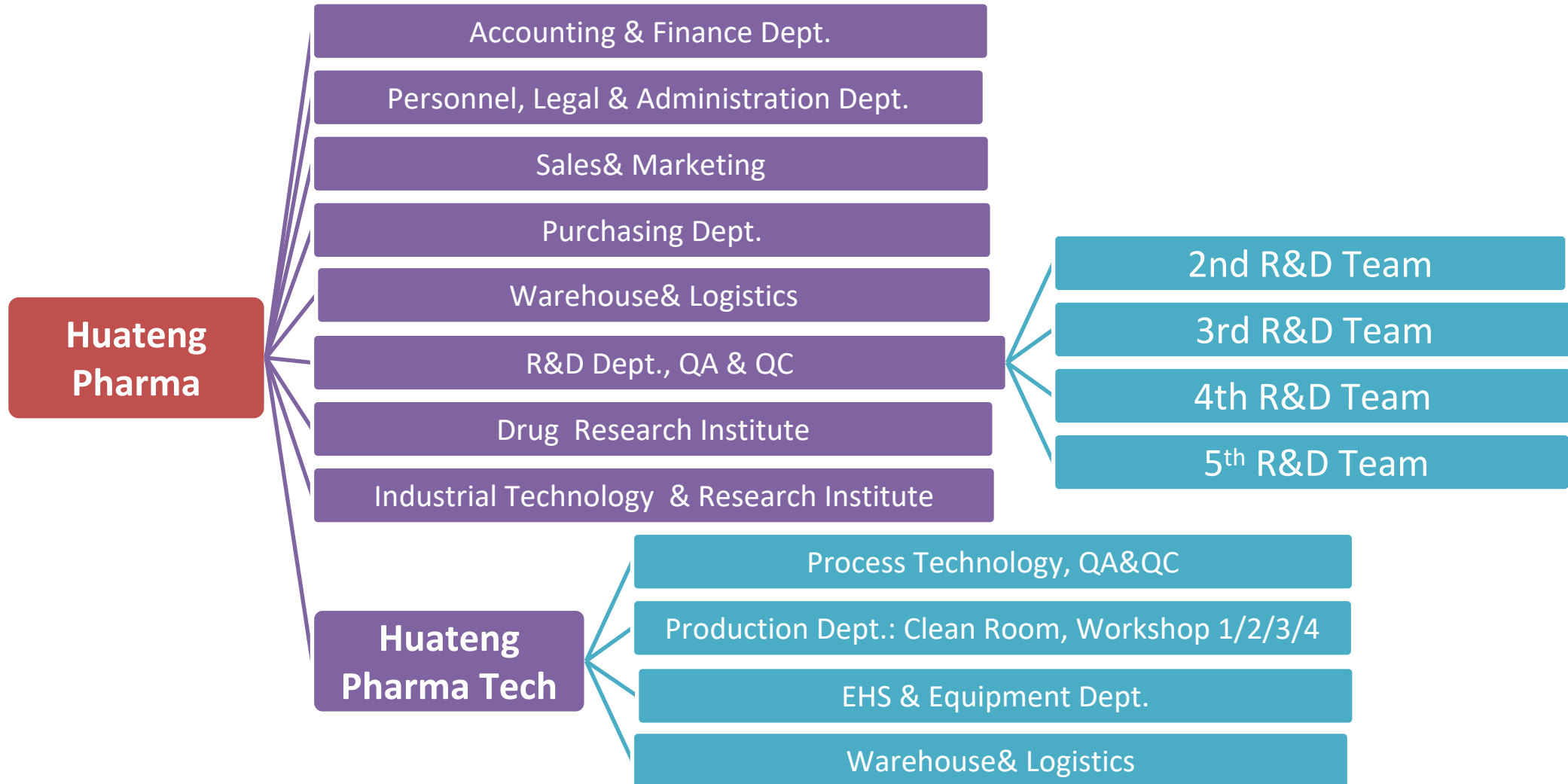
Biopharma PEG Scientific Inc. (U.S. Subsidiary)

- **Founded Date:** August, 2021
- **Address:** 108 Water Street, Suite 4D, Watertown, MA 02472, USA
- **Capacity:** Monodispersed, Polydispersed & Multi-arm PEG Derivatives from lab to GMP commercial scale



Biopharma PEG

Organization



Certification

ISO 9001



EXCIPACT GMP Certificate



- ISO14000, and OHSAS18000 certifications are under approval

2. R&D and Analytical Capability

Employees	330+
R&D	100+
Experts	More than 10 national, provincial and municipal experts



Advanced Analytical Equipment



400 MHz NMR system



LC/MS



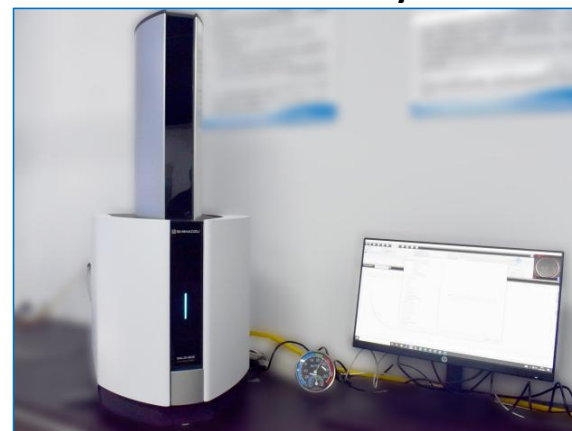
LC



GC/MS



GC



MALDI-TOF MS



HPLC



Gel Chromatograph

Analytical Equipment List

No	Name of Equipment	Quantity
1	KF Karl Fischer Moisture Analyzer	2
2	NMR	1
3	Coulomb Moisture Meter	1
4	Melting point apparatus	2
5	Polarimeter	2
6	GPC/RI	1
7	HPLC	6
8	HPLC/UV	7
9	HPLC/CAD	2
10	HPLC/ELSD	2
11	HPLC/GPC-IC	1
12	LC/MS	1
13	GC/FID	5
14	GC/MS	1
15	Moisture Meter	2
16	Fourier NIR Spectrometer	1
17	Colorimeter	1

No	Name of Equipment	Quantity
1	UV-visible spectrophotometer	2
2	2.83L Dust particle counter	1
3	Conductivity meter	2
4	Planktonic bacteria collector	1
5	Vertical Sterilizer	1
6	Mildew incubator	2
7	Biochemical incubator	3
8	Biological safety cabinet	1
9	Microbial limit tester	2
10	Entotoxin Detector	1
11	Drug Stability Test Chamber	2
12	Electro-heating standing-temperature incubator	1
13	electronic balance/0.01g	6
14	electronic balance/0.001g	1
15	electronic balance/0.0001g	2
16	electronic balance/0.00001g	1
17	pH meter	2

60+ Granted Patents, 50+ Patents Under Application



3. Strong Production Capability



Manufacturing Site

Area: 34,000m².

Workshops: Four, a total of 20,000m².

Capacity: PEG Derivatives, CDMO of APIs and intermediates and other fine chemicals.

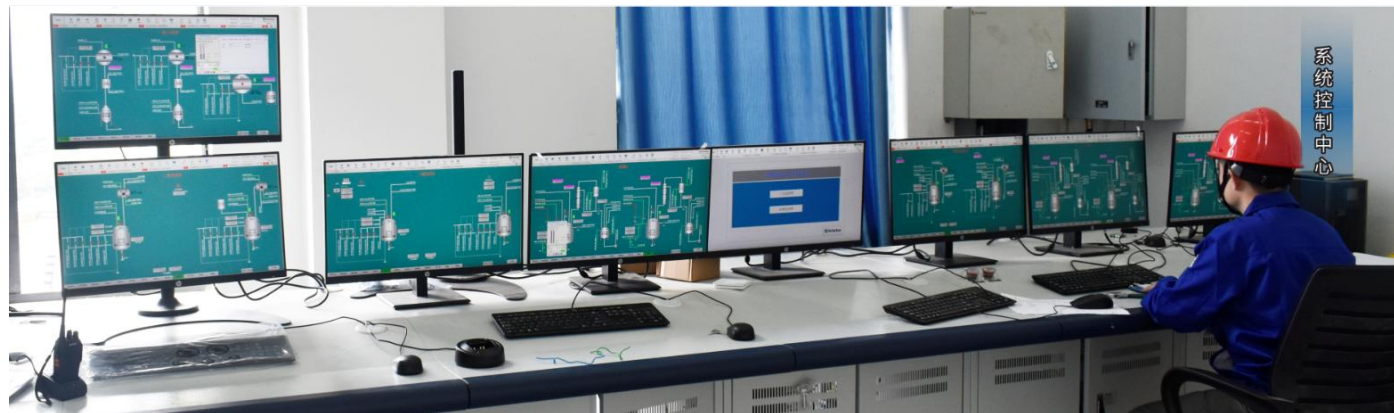
Annual Output Value: RMB 1 billion.

Dominant reaction: Amination; Hydrogenation; Oxidation; Diazo-reaction; Cryogenic reaction

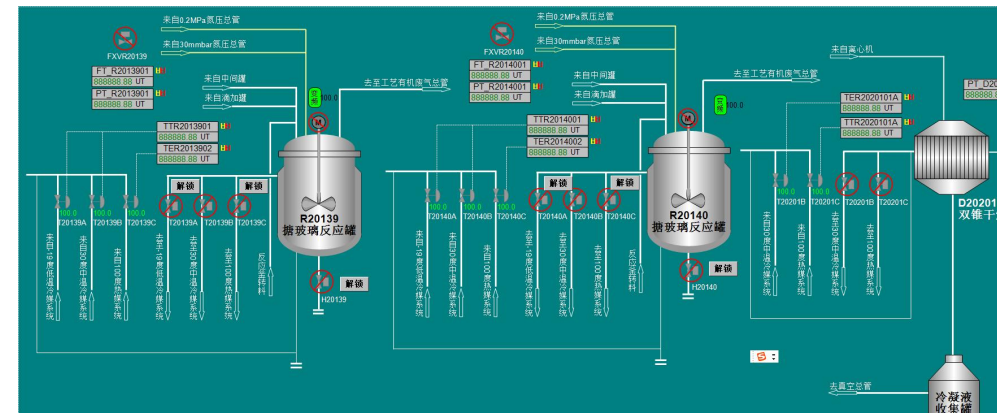
800+ Sets of Advanced Equipment



Intelligent Production System



System control center



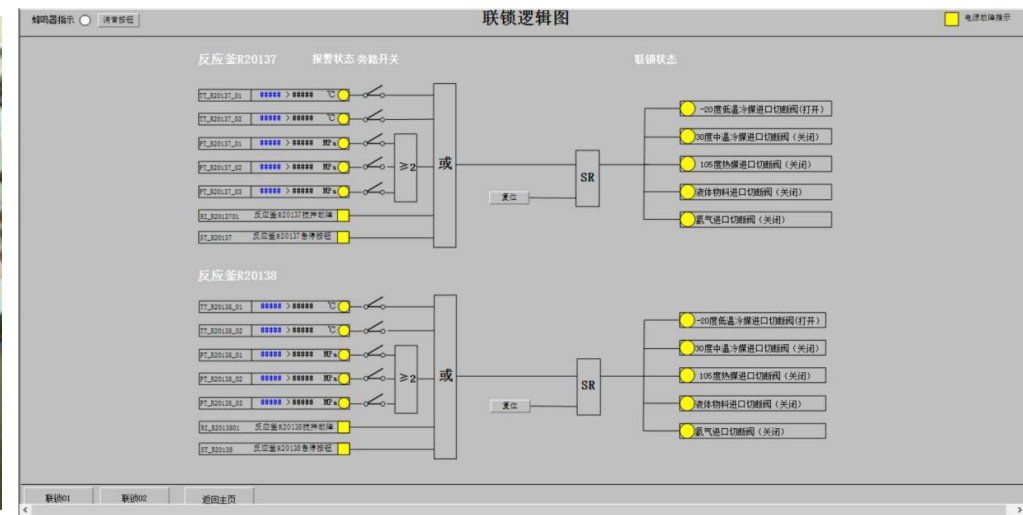
Distributed Control System (DCS) main interface



DCS & SIS system equipment room



DCS & SIS control console



Safety Instrumented System (SIS) main interface

Equipment List

No	Name of Equipment	Capacity	Quantity
1	Hydrogenation Reactor	2000L	2
2	Amination Reactor	2000L	1
3	Liquid Nitrogen Low Temperature Reactor	2000L	4
4	Stainless Steel Reactor	1000L	1
5	Stainless Steel Reactor	2000L	2
6	Stainless Steel Reactor	3000L	1
7	Stainless Steel Reactor	5000L	12
8	Enamel Reactor	500L	2
9	Enamel Reactor	2000L	21
10	Enamel Reactor	3000L	31
11	Enamel Reactor	5000L	92
12	Pilot Plant Enamel Reactor	200L	2
13	Pilot Plant Enamel Reactor	300L	3
14	Pilot Plant Enamel Reactor	500L	4

Equipment List

No	Name of Equipment	Capacity	Quantity
1	Pilot Plant Stainless Steel Reactor	500L	1
2	Pilot Plant Enamel Reactor	1000L	4
3	Pilot Plant Stainless Steel Reactor	1000L	1
4	Pilot Plant Double Cone Vacuum Dryer	1000L	2
5	Pilot Plant Centrifuge	600	2
6	Enamel Rectifying Still	300L	2
7	Enamel Rectifying Tower	φ200*10000	2
8	Enamel Rectifying Still	5000L	4
9	Stainless Steel Rectifying Tower	φ400*10000	2
10	Enamel Rectifying Tower	φ400*10000	2
11	Enamel Rectifying Still	2000L	1
12	Enamel Rectifying Tower	φ400*10000	1
13	Stainless Steel Rectifying Still	3000L	1
14	Stainless Steel Rectifying Tower	φ400*10000	1

Equipment List

No	Name of Equipment	Capacity	Quantity
1	Double Cone Vacuum Dryer	2000L	12
2	Double Cone Vacuum Dryer	3000L	2
3	Top Discharge Centrifuge	800	1
4	Top Discharge Centrifuge	1250	2
5	Top Discharge Centrifuge	1250	1
6	Flat Plate Bottom Discharge Centrifuge	LGZ1250NF/303	6
7	Flat Plate Bottom Discharge Centrifuge	LGZ1249HF	4
8	Decanter Centrifuge	450	2
9	Decolorization Reactor	2000L	1
10	Decolorization Reactor	500L	1
11	Clean Room Crystallization Reactor	2000L	1
12	Clean Room Crystallization Reactor	500L	1
13	Clean Room Double Cone Vacuum Dryer	1000L	1
14	Clean Room Centrifuge	600	1

EHS System

Huateng Pharma is dedicated to be an environment friendly manufacturer!

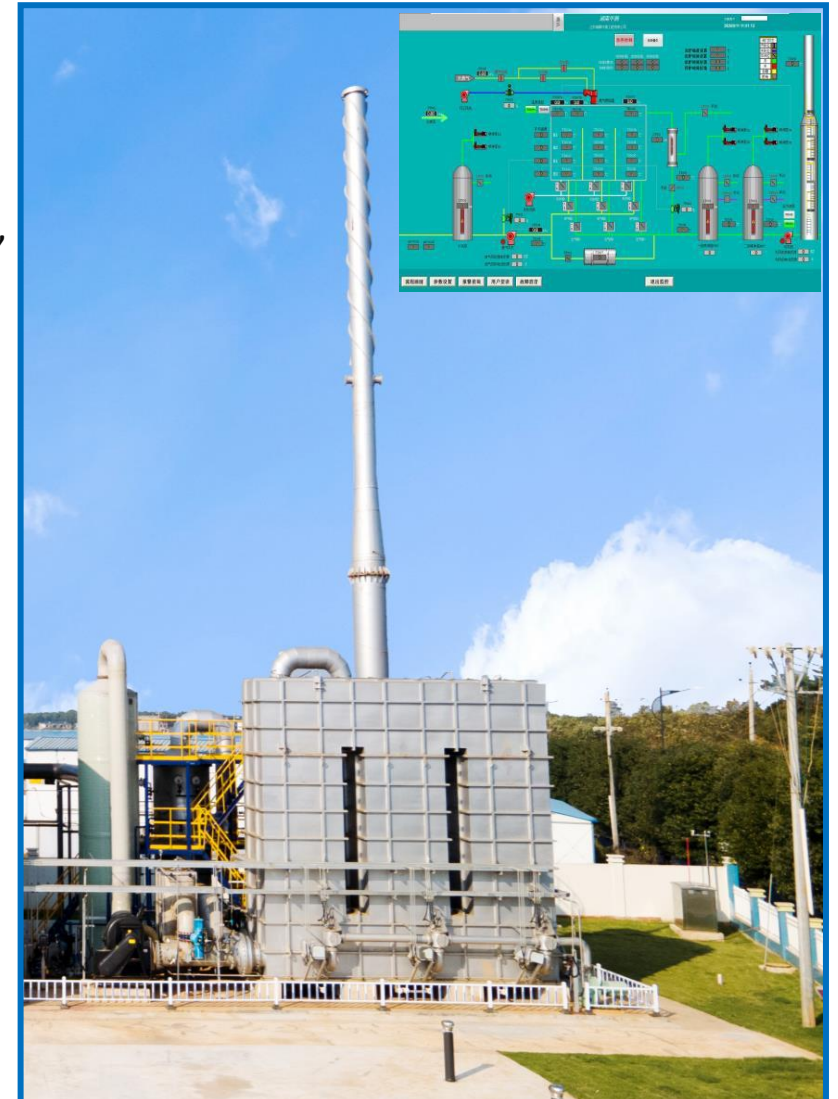
- Improve the development and upgrade of the production process by introducing high-tech means. Effectively improve the reaction efficiency in the production process, and reduce energy loss and waste emission from the source.
- Improve the operating skills of front-line workers through comprehensive training. Improve the technical level of energy management. Increase the investment in environmental protection equipment and facilities, and establish a sewage treatment station.
- Conduct daily environmental monitoring work to check and track the operation of environmental protection facilities, and strictly achieve the emission standards.



Wastewater Treatment - TIC Anaerobic Reactor



Acid Waste Gas Treatment - Falling Film Absorption + Alkali Absorption



Organic Waste Gas Treatment – RTO (Regenerative Thermal Oxidizer)

High Standard Warehouse Storage

- 2 Class A warehouses of 750m²
- 1 class C warehouse of 3600m²
- 12 storage tanks of 50m³
- Cold storage for PEG derivatives.
Our PEG derivatives are thoroughly dried and packaged under an inert atmosphere at or below -5° C.



4. Business Segments



PEG Derivatives



**CDMO
APIs & Intermediates**



Fine & Specialty Chemicals

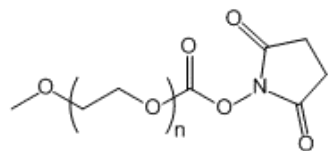
PEG Derivatives

- 5000+ monodispersed, polydispersed and multi-arm PEG derivatives.
- Multifunctional groups covers active azide, amino, thiol, phospholipids, alcohol, acid. esters, maleimides, fluorescein, etc.
- Intergrated production line and quality management system from PEGs raw materials production, trial production, pilot production and GMP commercial supplying.



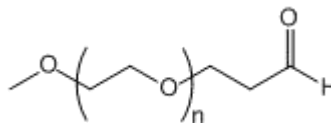
*PEGs have been shown to provide improved water solubility and biocompatibility in drugs and other applications. And PEG derivatives provide the ability to attach a variety of reactive functional groups to the terminal positions of these polymers has greatly increased their applications.

PEGylation



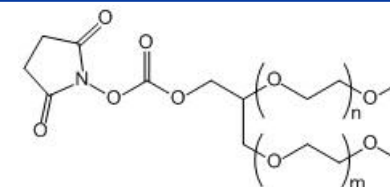
mPEG-SC

Side Chain of Anti-Diabetic Drug
 MW:1K,2K,3.4K;5K,10K,20K



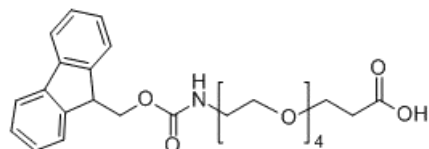
mPEG-pALD

Side Chain of Nervous System Drug
 MW:1K,2K,3.4K;5K,10K,20K



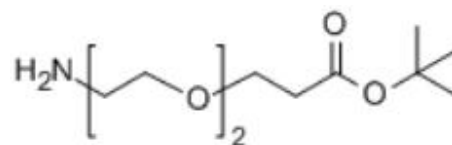
Y-shape-PEG-NHS

MW:40K,43K



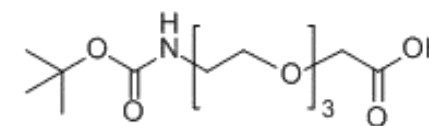
Fmoc-NH-PEG4-CH2CH2COOH

CAS No.: 557756-85-1



NH2-PEG2-CH2CH2COOtBu

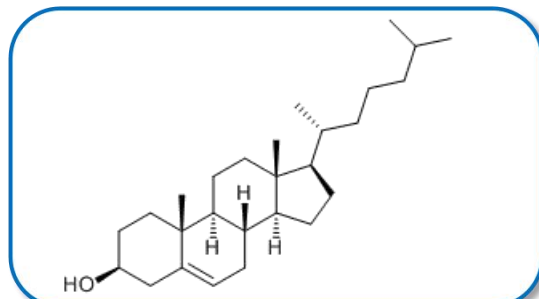
CAS NO.: 756525-95-8



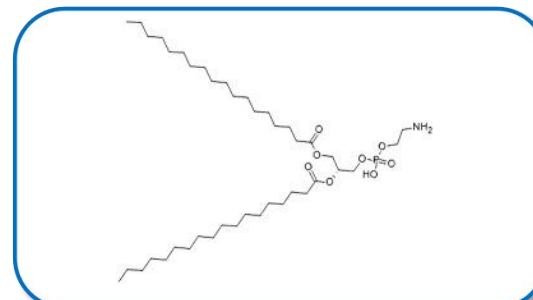
Boc-NH-PEG3-CH2COOH

CAS No.: 462100-06-7

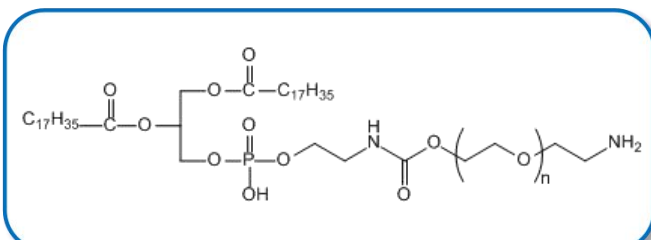
LNPs Delivery System Excipients



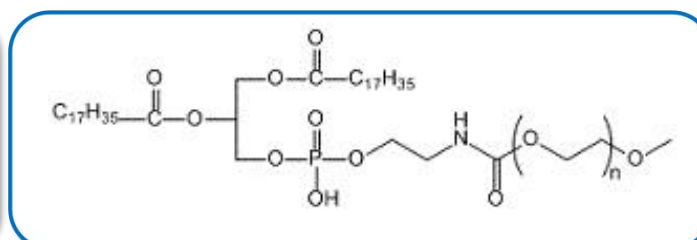
Cholesterol (Plant-Derived)
CAS NO.: 57-88-5



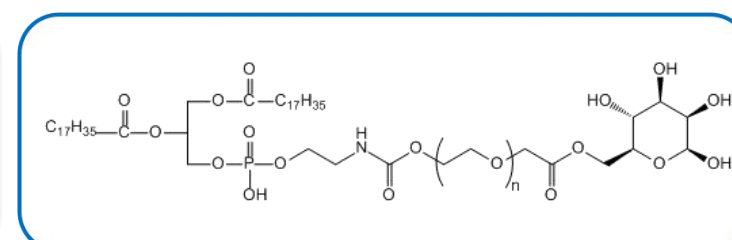
DSPE
CAS NO.: 1069-79-0



DSPE-PEG-NH2
M.W. 1K,2K,3.4K,5K,10K,20K

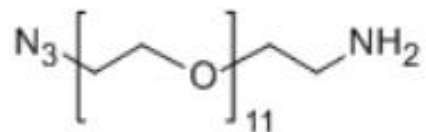


mPEG-DSPE
M.W. 1K,2K,3.4K,5K,10K,20K

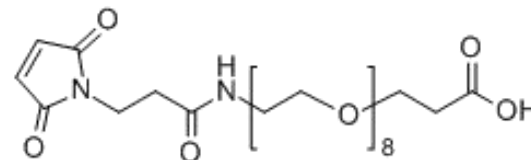


DSPE-PEG-Mannose
M.W. 1K,2K,3.4K,5K,10K,20K

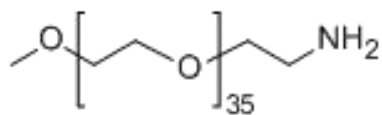
PEG Linker for ADC Drugs



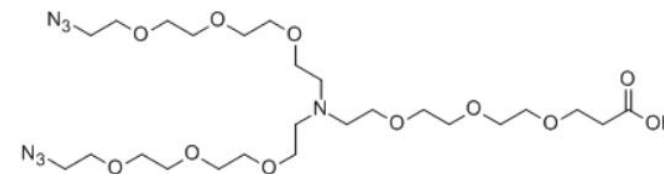
N3-PEG11-NH2
CAS No: 1800414-71-4



Mal-NH-PEG8-COOH
CAS No.: 1334177-86-4

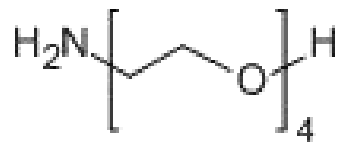


mPEG36-NH2
CAS No: 32130-27-1

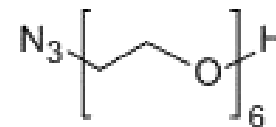


N-(acid-PEG3)-N-bis(PEG3-azide)
CAS No: 2182602-17-9

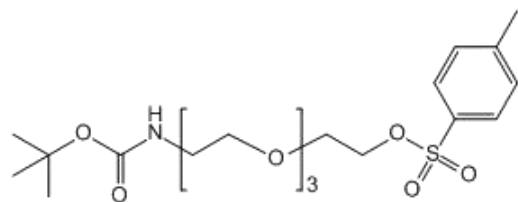
PEG Moiety for PROTAC Linker



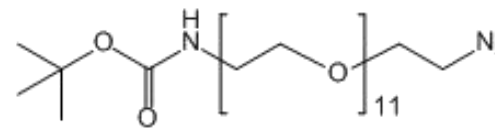
NH2-PEG4-OH
CAS No.: 86770-74-3



N3-PEG6-OH
CAS No: 86770-69-6

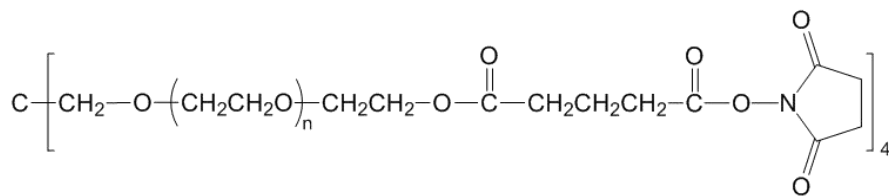


Boc-NH-PEG3-Tos
CAS No: 1246999-33-6

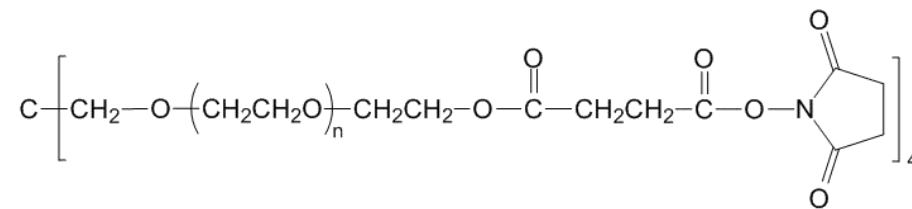


Boc-NH-PEG11-N3
CAS No.: 2395004-21-2

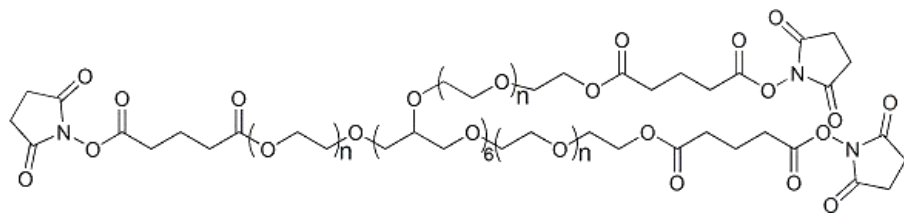
PEG Hydrogels for Medical Devices



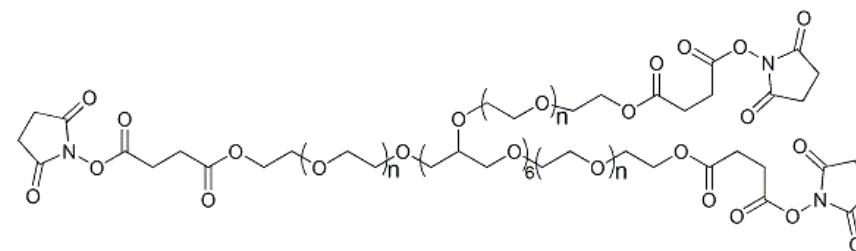
4-ArmPEG-SG M.W. 2K,5K,10K,20K



4-ArmPEG-SS M.W. 2K,20K,20K



8-ArmPEG-SG M.W. 10K,20K



8-ArmPEG-SS M.W. 10K,20K

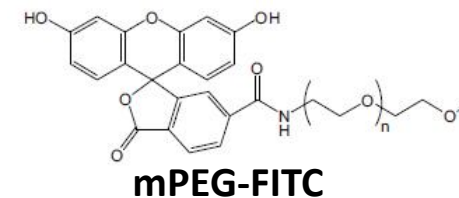
Dye Labeling

Application:

- ① Cell Labeling
- ② Tissue Imaging
- ③ Tumor Identification

Fluorescein

Fluorescein labeling

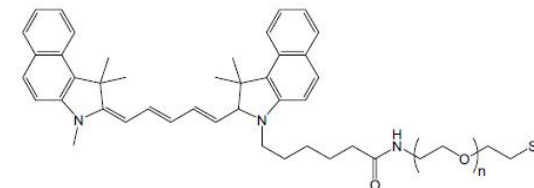


FITC-PEG-R

R=OH,SH,CHO,NH₂,NCO,N₃,Mal,Alkyne,AC,ACA,MA,Silane,GA,SA,GAA,SAA,AA,IA,E
P,Mal,SC,SCM,SPA,SG,SS,GAS,SAS,CDI,NPC,OPSS,Ts,LA,Biotin,DSPE,DMPE,CLS etc

Cyanine

Cyanine Labeling

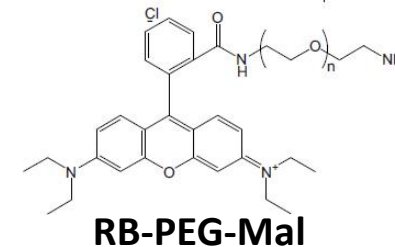


Cy-PEG-R

R=OH,SH,CHO,NH₂,NCO,N₃,Mal,Alkyne,AC,ACA,MA,Silane,GA,SA,GAA,SAA,AA,IA,E
P,Mal,SC,SCM,SPA,SG,SS,GAS,SAS,CDI,NPC,OPSS,Ts,LA,Biotin,DSPE,DMPE,CLS etc

Rhodamine

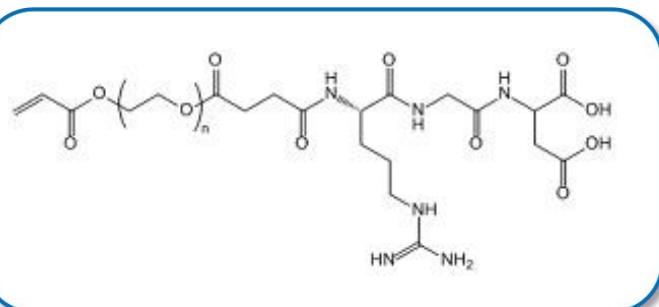
Rhodamine labeling



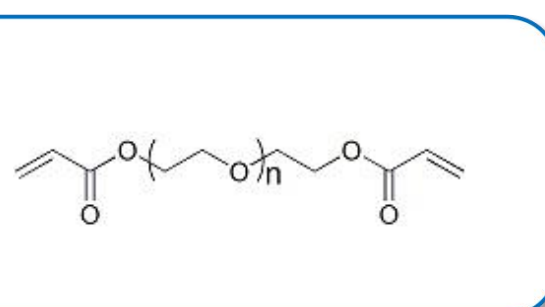
RB-PEG-R

R=OH,SH,CHO,NH₂,NCO,N₃,Mal,Alkyne,AC,ACA,MA,Silane,GA,SA,GAA,SAA,AA,IA,E
P,Mal,SC,SCM,SPA,SG,SS,GAS,SAS,CDI,NPC,OPSS,Ts,LA,Biotin,DSPE,DMPE,CLS etc

3D Printing



AC-PEG-RGD
M.W. 2K,2.4K,5K



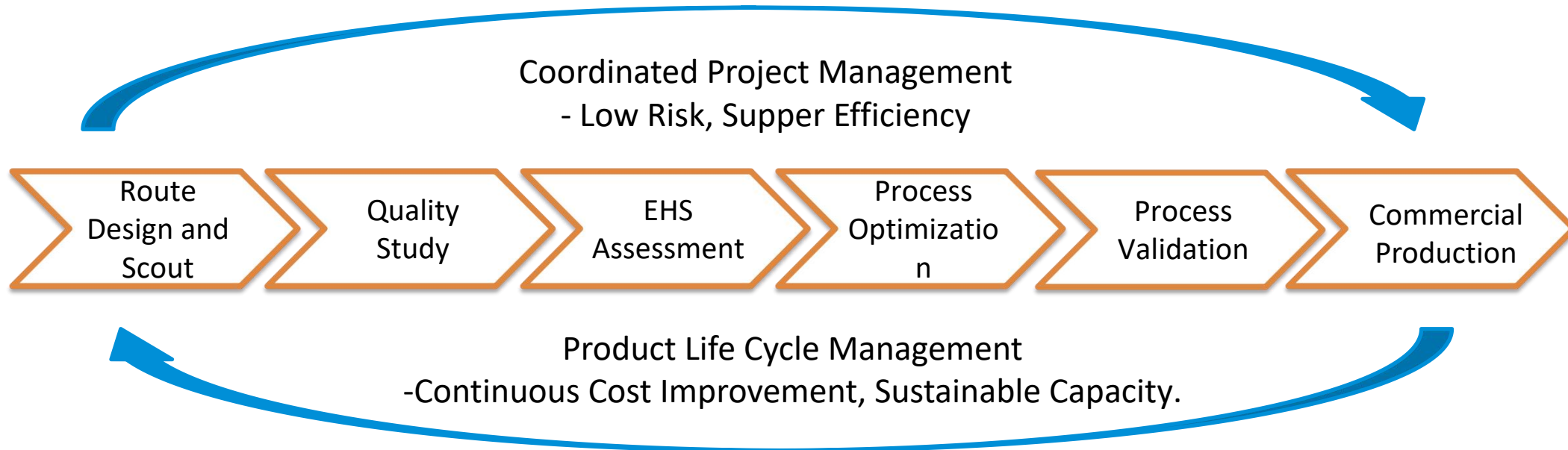
AC-PEG-AC
M.W. 1K,2K,3.4K,4K,5K,10K,20K

CDMO APIs & Intermediates

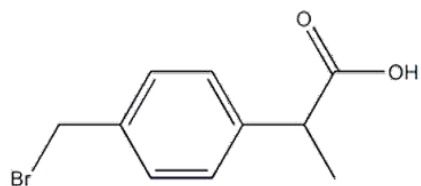
In order to better serve customers, we have built a CDMO technology platform, equipped with professional R&D, production and QC teams, established a pilot and scale-up production workshop that meets GMP standards.

We are able to provide:

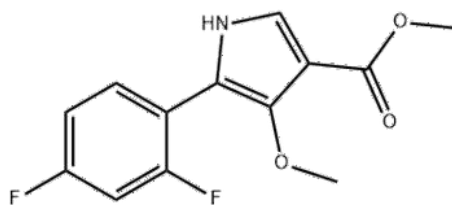
- Customized R&D and production of intermediates and other chemicals ranging from grams to tons
- Process optimization and rapid scale-up of intermediates and other chemicals of existing synthetic processes
- Development of a more environmentally safe production process



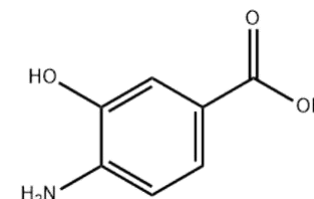
Pharmaceutical Intermediates



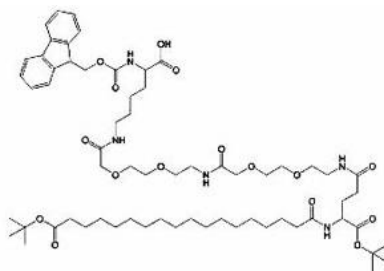
CAS: 111128-12-2
Loxoprofen Intermediate



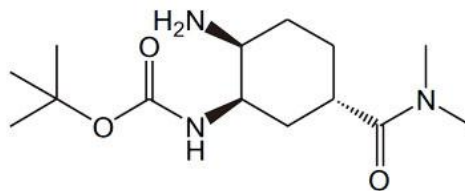
CAS: 1902955-29-6
Fexuprazan Intermediate



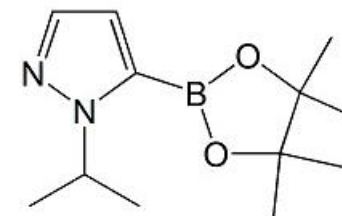
CAS: 2374-03-0
Tafamidis Intermediate



CAS: 1662688-20-1
Semaglutide Intermediate



CAS: 365998-36-3
Edoxaban Intermediate



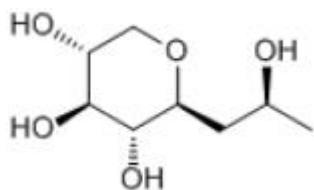
CAS: 1282518-60-8
Voxelotor Intermediate

Fine & Specialty Chemicals

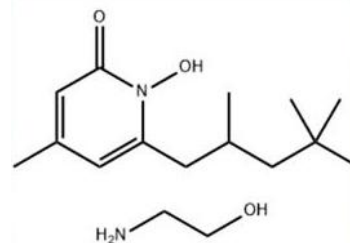
- Specialty Chemicals
- Fine chemicals
- Pyrimidines

From Lab > Pilot > Full Scale Production

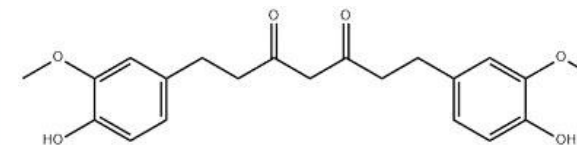
Fine & Specialty Chemicals



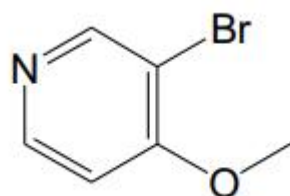
(S)-Pro-xylane
CAS: 868156-46-1



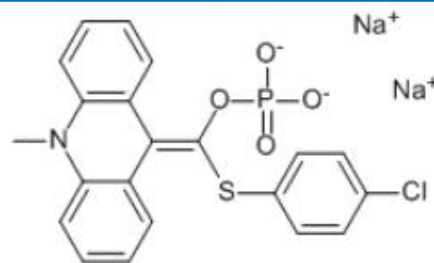
Piroctone olamine
CAS: 68890-66-4



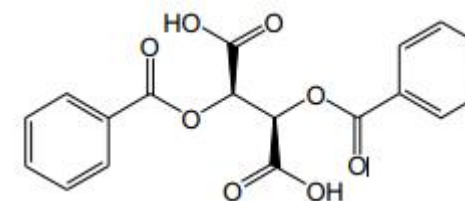
Tetrahydrocurcumin
CAS: 36062-04-1



3-Bromo-4-methoxypyridine
CAS: 82257-09-8



APS-5
CAS: 193884-53-6



Dibenzoyl-L-tartaric acid
CAS No.: 2743-38-6



Thank You!