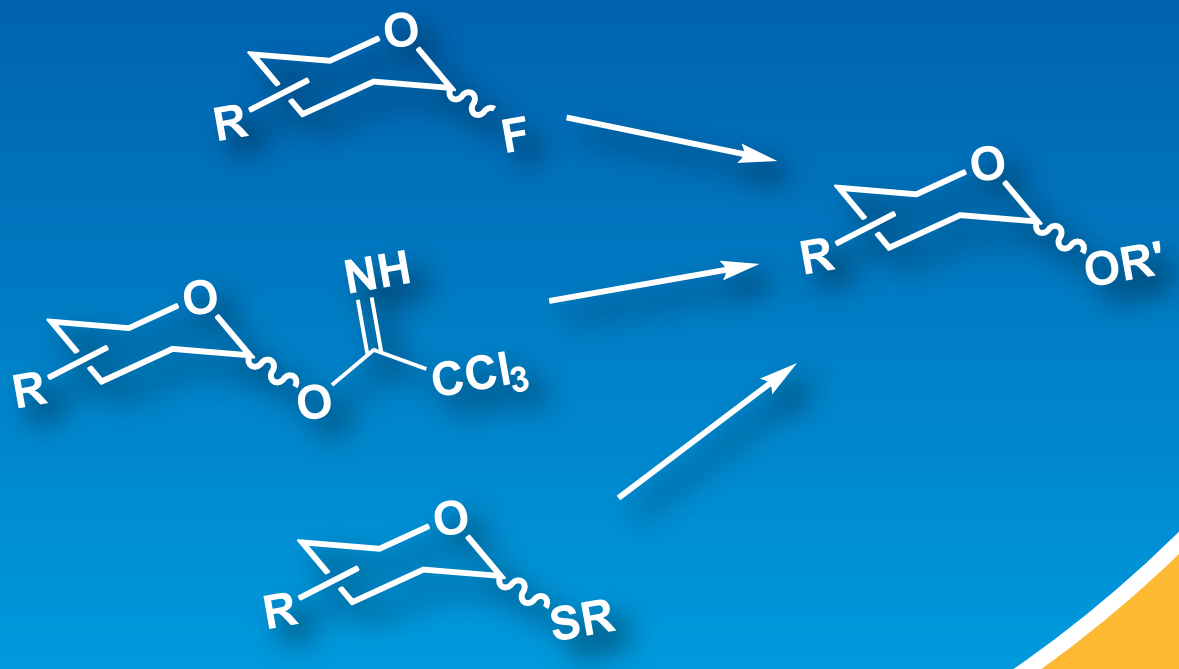
CHEMISTRY LIFE SCIENCE

Glycosidation



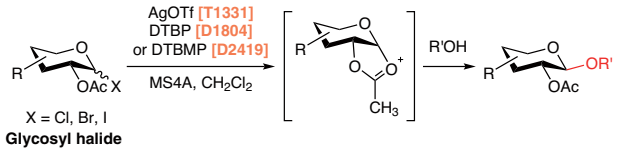
- Glycosyl Halides
- Glycosyl Fluorides
- Glycosyl Imidates
- Thioglycosides
- Glycosyl Sulfoxides
- Glycosyl Phosphates, Glycosyl Phosphites
- Other Reagents for Glycosidation
- *p*-Methoxyphenyl (MP) Glycosides

Glycosidation

Glycosidation is a widely reported reaction in that glycosyl donors react with glycosyl acceptors like alcohols to form the glycosyl bond. It is an important reaction for the synthesis of glycans and natural products having a glycoside. Among them, choices have been made according to the property of the substance, desired stereoselectivity and the ease of the synthesis of glycosyl donors.[1)]

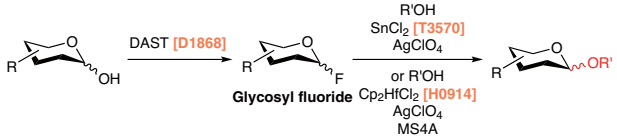
This brochure introduces a variety of reagents for glycosidations. We hope that it will be useful for your research in glyco chemistry.

Glycosyl Halides



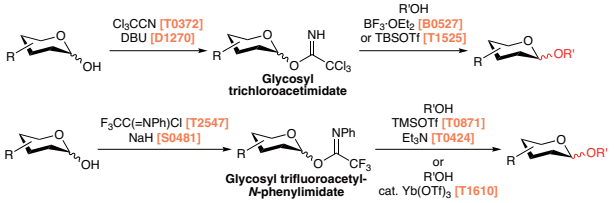
Glycosyl halides (haloglycosides) are sugars derivatized with halides except fluoride in 1-position. They are widely used in glycoside bond formation reactions. Especially, the Koenigs-Knorr glycosidation is one of the oldest glycosidations, in which glycosyl halides as substrates are reacted with a silver salt and a glycosyl acceptor like alcohols.[2)] In this reaction, an organic base like DTBP **[D1804]** and DTBMP **[D2419]** is used as a scavenger of an acid generated *in situ*. Furthermore, when the substance has an acyl group at 2-position, *anti*-selective glycosidation reaction is observed due to the neighboring effect. On the other hand, when quaternary ammonium salts like TBAB **[T0054]** are used as a phase transfer catalyst, various aryl glycosides can be gained in bilayer reactions using KOH or K_2CO_3.[3)]

Glycosyl Fluorides



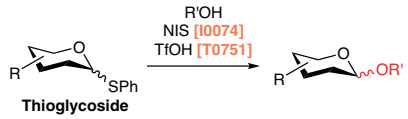
Glycosyl fluorides are more stable than other glycosyl halides and they can be purified. In 1981, Mukaiyama and coworkers found that glycosyl fluorides were activated by $SnCl_2$ **[T3570]**/$AgClO_4$ and became glycosyl donors.[4a)] In addition, boron trifluoride, zirconocene and hafnocene complexes[4b)] were found to be useful as activators, so the system using glycosyl fluorides has been utilized in the synthesis of complex sugar chains.

Glycosyl Imidates



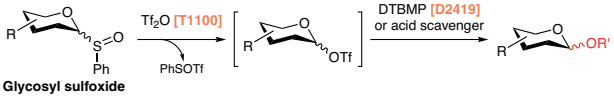
Glycosyl trichloroacetimidates are obtained by the treatment of trichloroacetonitrile **[T0372]** to sugars in the presence of a strong base and are activated by Lewis acids. This reaction has been widely used in the synthesis of sugar chains and the introduction of glycoside in total synthesis of natural products since the first report from Schmidt.[5)] Furthermore, glycosyl trifluoroacetyl-*N*-phenylimidate, synthesized from 2,2,2-trifluoro-*N*-phenylacetimidoyl chloride **[T2547]** are more stable glycosyl donors and can be activated through the similar methods of trichloroacetimidates.[6)]

Thioglycosides



Thioglucosides are stable to most of protection/deprotection conditions, therefore they are utilized as multiple glycosyl donors for sugar synthesis since various protecting groups can be introduced. Especially, thioglycosides are used as glycosyl donors in sialylation and glycosyl donors with ingenuity in protecting group have been developed to afford α-glycosides more stereoselectively.[7)] Thiophilic reagents like NIS **[I0074]**/trifluoromethanesulfonic acid **[T0751]** are utilized to gain activated thioglycosides.[8)] Although thiols used in the synthesis of thioglycosides often have an unpleasant odor, recently glycosyl donors were reported with a thiol function, having less odor.[9)]

Glycosyl Sulfoxides



While thioglycosides can be used as described above, Kahne reported a new glycosidation method using a sulfoxide group as activating group.[10)] Even sterically hindered nucleophiles and lower active nucleophiles can be reacted. Peroxides like *m*CPBA can oxidize thioglycosides and trifluoromethanesulfonic anhydride **[T1100]** is used for sequential activation of glycosyl sulfoxides. In addition, sterically hindered bases like DTBMP **[D2419]** or methyl propargylate **[P0528]** are used as a scavenger of the acid,

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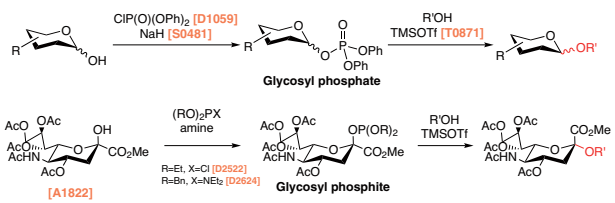
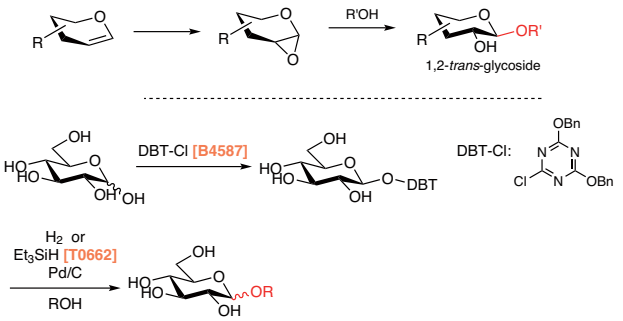
respectively.

Glycosyl Phosphates, Glycosyl Phosphites



The phosphorylation of anomeric hydroxyl groups with phosphorylating agents like diethyl chlorophosphate **[D2206]** gives glycosyl phosphates. Glycosyl phosphates are activated with Lewis acids like TMSOTf **[T0871]** to perform a glycosidation.[11] Glycosyl phosphites were reported as glycosyl donors for the sialylation reaction by Schmidt and Wang at almost the same time.[12] Furthermore, glycosyl phosphites were used for the synthesis of other monoglycosides.

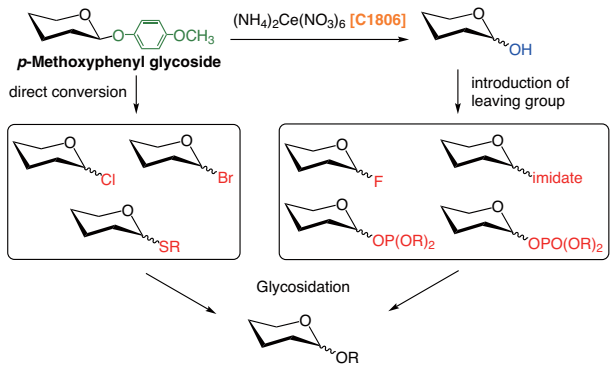
Other Reagents for Glycosidation



In addition to the glycosidations introduced so far, the method of formation of 1,2-*trans*-glycosides has been reported to utilize the stereoselective epoxide and subsequential nucleophilic ring-opening at the anomeric position in presence of suitable Lewis acid to afford 1,2-*trans*-glycosides.[13]

Shoda and coworkers developed a triazole derivative utilized in the synthesis of unprotected glycosides. The triazine moiety is selectively introduced to the anomeric position of unprotected glycosides and the sugar gives the desired glycoside under catalytic reduction conditions in alcohols.[14]

p-Methoxyphenyl (MP) Glycosides



A thoughtful choice of anomeric protecting groups is often of conclusive importance for the success of an oligosaccharide synthesis. The anomeric protecting group is required for stability in the applied reaction conditions and easy transformation into an activated derivative for further glycosidation.

The *p*-methoxyphenyl (MP) group is a stable anomeric protecting group[15] under most reaction conditions. It is selectively removed by treatment with ammonium cerium(IV) nitrate **[C1806]**, to give the corresponding hemiacetals. These can be converted into glycosyl donors like glycosyl fluorides and glycosyl imidates. In addition, MP glycosides can be converted into the corresponding glycosyl halides and thioglycosides in one step in high yields. In this way, MPglycosides are widely used in oligosaccharide synthesis.

TCI offers not only various kinds of reagents to introduce leaving groups but also a variety of glycosyl donors. More details are found on our website (https://www.tcichemicals.com/product/glyco-chem/index) and the catalog “Reagents for Glyco Chemistry & Biology” (https://www.tcichemicals.com/assets/brochure-pdfs/reagent_for_glyco_chemistry_&_biology_5th_ed_E.pdf).

References

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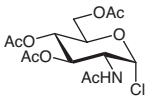
Glycosyl Halides

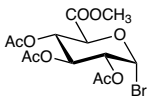
Glycosyl Donors

A1416 1g 5g



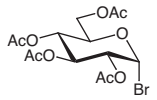
1-Chloro-2-acetamido-2-deoxy-3,4,6-tri-*O*-acetyl-α-D-glucose
CAS RN: 3068-34-6

A3379 1g



Methyl Acetobromo-α-D-glucuronate
CAS RN: 21085-72-3

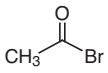
T1961 5g



2,3,4,6-Tetra-*O*-acetyl-α-D-glucopyranosyl Bromide (stabilized with $CaCO_3$)
CAS RN: 572-09-8

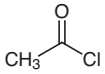
Halogenation Reagents

A0080 25g 500g



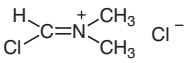
Acetyl Bromide
CAS RN: 506-96-7

A0082 100g 500g



Acetyl Chloride
CAS RN: 75-36-5

C1545 25g 250g



Vilsmeier Reagent
CAS RN: 3724-43-4

H0182 25g 100g 500g

HBr

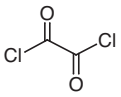
Hydrogen Bromide (30% in Acetic Acid, *ca.* 5.1mol/L)
CAS RN: 10035-10-6

P1743 300g

PBr_3

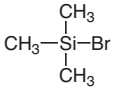
Phosphorus Tribromide
CAS RN: 7789-60-8

O0082 25g 100g 500g



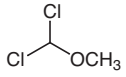
Oxalyl Chloride
CAS RN: 79-37-8

B1087 5mL 25mL 250mL



Bromotrimethylsilane
CAS RN: 2857-97-8

D1645 25g 100g 250g



Dichloromethyl Methyl Ether
CAS RN: 4885-02-3

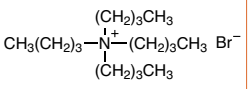
I0604 25g 500g

I_2

Iodine
CAS RN: 7553-56-2

Activators of Glycosyl Halides

T0054 25g 100g 500g



TBABr
CAS RN: 1643-19-2

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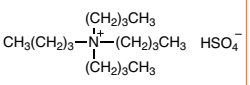
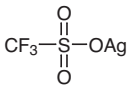


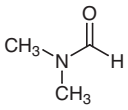
Tetrabutylammonium Hydrogen Sulfate
CAS RN: 32503-27-8

T1331 1g 10g 25g



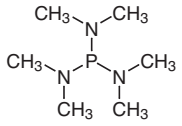
Silver Triflate
CAS RN: 2923-28-6

D0722 25mL 100mL 500mL



N,*N*-Dimethylformamide
CAS RN: 68-12-2

T1317 25mL 250mL

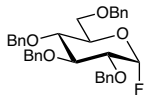


HMPT (may contain precipitate)
CAS RN: 1608-26-0

Glycosyl Fluorides

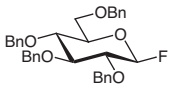
Glycosyl Donors

T1922 500mg



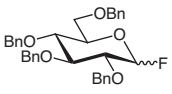
2,3,4,6-Tetra-*O*-benzyl-α-D-glucopyranosyl Fluoride
CAS RN: 89025-46-7

T1923 500mg



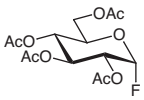
2,3,4,6-Tetra-*O*-benzyl-β-D-glucopyranosyl Fluoride
CAS RN: 78153-79-4

T1971 500mg



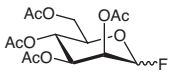
2,3,4,6-Tetra-*O*-benzyl-D-glucopyranosyl Fluoride
CAS RN: 122741-44-0

T1995 1g



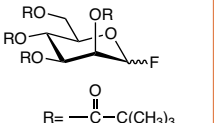
2,3,4,6-Tetra-*O*-acetyl-α-D-glucopyranosyl Fluoride
CAS RN: 3934-29-0

T2567 1g 5g



2,3,4,6-Tetra-*O*-acetyl-D-mannopyranosyl Fluoride
CAS RN: 174511-17-2

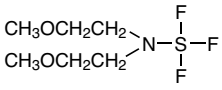
T2568 1g



2,3,4,6-Tetra-*O*-pivaloyl-D-mannopyranosyl Fluoride

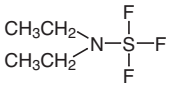
Fluorination Reagents

B6231 5g 25g



BAST
(*ca.* 50% in Tetrahydrofuran)
CAS RN: 202289-38-1

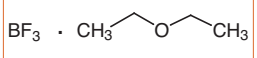
D1868 5g 25g 100g



DAST
CAS RN: 38078-09-0

Activators of Glycosyl Fluorides

B0527 25mL 100mL 500mL



Boron Trifluoride - Ethyl Ether Complex
CAS RN: 109-63-7

H0914 1g 5g 25g

Hafnocene Dichloride
CAS RN: 12116-66-4

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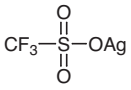
T1331 1g 10g 25g

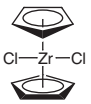


Silver Triflate
CAS RN: 2923-28-6

T3570 1g 5g

Stannous Chloride
CAS RN: 7772-99-8

Z0007 5g 25g

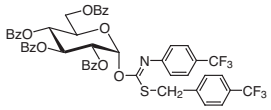


Zirconocene Dichloride
CAS RN: 1291-32-3

Glycosyl Imidates

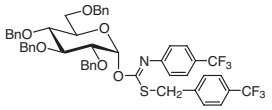
Glycosyl Donors

T1991 200mg 1g



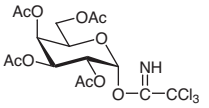
2,3,4,6-Tetra-*O*-benzoyl-α-D-glucopyranosyl *p*-Trifluoromethylbenzylthio-*N*-(*p*-trifluoromethylphenyl)-formimidate
CAS RN: 428816-48-2

T1999 200mg 1g



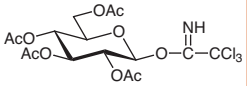
2,3,4,6-Tetra-*O*-benzyl-α-D-glucopyranosyl *p*-Trifluoromethylbenzylthio-*N*-(*p*-trifluoromethylphenyl)-formimidate
CAS RN: 468095-63-8

T2295 1g 5g



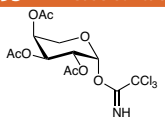
2,3,4,6-Tetra-*O*-acetyl-α-D-galactopyranosyl 2,2,2-Trichloroacetimidate
CAS RN: 86520-63-0

T2491 1g 5g



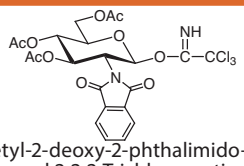
2,3,4,6-Tetra-*O*-acetyl-β-D-glucopyranosyl 2,2,2-Trichloroacetimidate
CAS RN: 92052-29-4

T2695 Please contact us.



2,3,4-Tri-*O*-acetyl-β-L-arabinopyranosyl 2,2,2-Trichloroacetimidate
CAS RN: 869848-87-3

T2615 Please contact us.



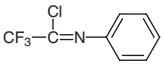
3,4,6-Tri-*O*-acetyl-2-deoxy-2-phthalimido-β-D-glucopyranosyl 2,2,2-Trichloroacetimidate
CAS RN: 87190-67-8

Reagents to Form Imidates

T0372 25g 100g 500g

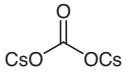
Trichloroacetonitrile
CAS RN: 545-06-2

T2547 5g 25g



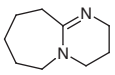
2,2,2-Trifluoro-*N*-phenylacetimidoyl Chloride
CAS RN: 61881-19-4

C2160 25g 100g



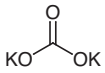
Cesium Carbonate
CAS RN: 534-17-8

D1270 25g 100g 500g



DBU
CAS RN: 6674-22-2

P1748 300g



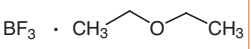
Potassium Carbonate
CAS RN: 584-08-7

S0481 100g 500g

Sodium Hydride (60%, dispersion in Paraffin Liquid)
CAS RN: 7646-69-7

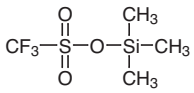
Activators of Glycosyl Imidates

B0527 25mL 100mL 500mL



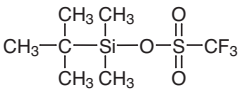
Boron Trifluoride - Ethyl Ether Complex
CAS RN: 109-63-7

T0871 5g 25g 250g



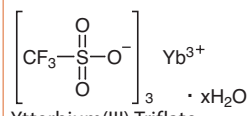
TMSOTf
CAS RN: 27607-77-8

T1525 5g 25g



TBDMS Triflate
CAS RN: 69739-34-0

T1610 5g 25g

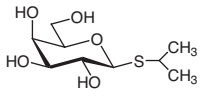


Ytterbium(III) Triflate Hydrate
CAS RN: 54761-04-5

Thioglycosides

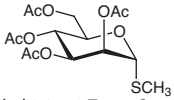
Glycosyl Donors

I0328 1g 5g



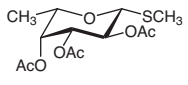
Isopropyl 1-Thio-β-D-galactopyranoside
CAS RN: 367-93-1

M1501 5g



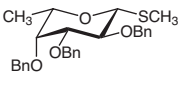
Methyl 2,3,4,6-Tetra-*O*-acetyl-1-thio-α-D-mannopyranoside (contains *ca.* 5% β-isomer)
CAS RN: 64550-71-6

M1626 1g 5g



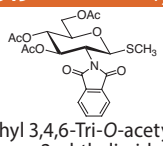
Methyl 2,3,4-Tri-*O*-acetyl-1-thio-β-L-fucopyranoside
CAS RN: 84635-54-1

M1628 1g



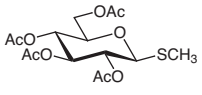
Methyl 2,3,4-Tri-*O*-benzyl-1-thio-β-L-fucopyranoside
CAS RN: 107802-80-2

M1649 1g 5g



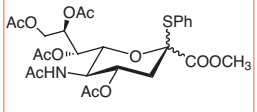
Methyl 3,4,6-Tri-*O*-acetyl-2-deoxy-2-phthalimido-1-thio-β-D-glucopyranoside
CAS RN: 79528-48-6

M1682 1g 5g



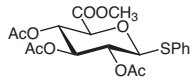
Methyl 2,3,4,6-Tetra-*O*-acetyl-1-thio-β-D-glucopyranoside
CAS RN: 13350-45-3

M1706 1g



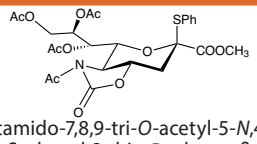
Neu5Ac[1Me,4789Ac]-SPh
CAS RN: 155155-64-9

M1759 1g



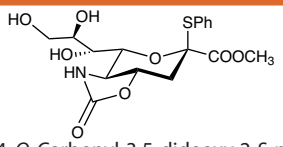
GlcA[234Ac,6Me]-β-SPh
CAS RN: 62812-42-4

M2319 200mg 1g



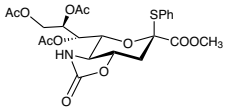
Methyl 5-Acetamido-7,8,9-tri-*O*-acetyl-5-*N*,4-*O*-carbonyl-3,5-dideoxy-2-*S*-phenyl-2-thio-D-*glycero*-β-D-*galacto*-2-nonulopyranosylonate
CAS RN: 934591-76-1

M2329 1g



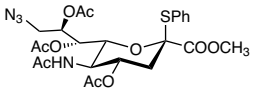
Methyl 5-*N*,4-*O*-Carbonyl-3,5-dideoxy-2-*S*-phenyl-2-thio-D-*glycero*-β-D-*galacto*-2-nonulopyranosylonate
CAS RN: 934591-79-4

M2330 Please contact us.



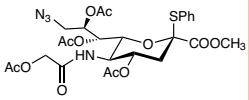
Methyl 7,8,9-Tri-*O*-acetyl-5-*N*,4-*O*-carbonyl-3,5-dideoxy-2-*S*-phenyl-2-thio-D-*glycero*-β-D-*galacto*-2-nonulopyranosylonate
CAS RN: 2416647-62-4

M2695 100mg



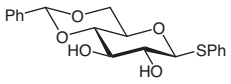
Methyl (Phenyl 5-Acetamido-4,7,8-tri-*O*-acetyl-9-azido-3,5,9-trideoxy-2-thio-D-*glycero*-β-D-*galacto*-2-nonulopyranosid)onate
CAS RN: 219814-65-0

M2696 100mg



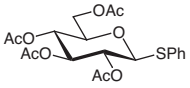
Neu5GcAc[1Me,478Ac,9N_3]-β-SPh
CAS RN: 1195053-25-8

P1475 5g



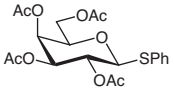
Phenyl 4,6-*O*-Benzylidene-1-thio-β-D-glucopyranoside
CAS RN: 87508-17-6

P1476 5g 25g



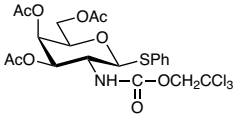
Phenyl 2,3,4,6-Tetra-*O*-acetyl-1-thio-β-D-glucopyranoside
CAS RN: 23661-28-1

P1477 5g 25g



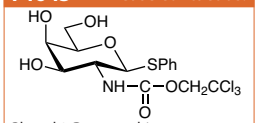
Phenyl 2,3,4,6-Tetra-*O*-acetyl-1-thio-β-D-galactopyranoside
CAS RN: 24404-53-3

P1642 1g 5g



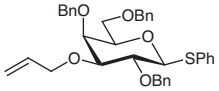
Phenyl 3,4,6-Tri-*O*-acetyl-2-deoxy-1-thio-2-(2,2,2-trichloroethoxyformamido)-β-D-galactopyranoside
CAS RN: 278784-83-1

P1643 Please contact us.



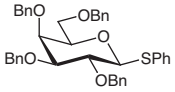
Phenyl 2-Deoxy-1-thio-2-(2,2,2-trichloroethoxyformamido)-β-D-galactopyranoside
CAS RN: 868230-98-2

P1660 1g



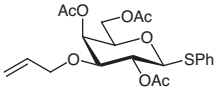
Gal[246Bn,3All]-β-SPh
CAS RN: 1017587-57-3

P1679 1g



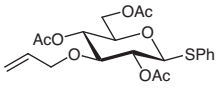
Gal[2346Bn]-β-SPh
CAS RN: 74801-29-9

P1680 1g



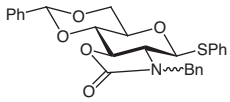
Gal[246Ac,3All]-β-SPh
CAS RN: 1820572-28-8

P1736 1g



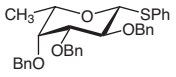
Phenyl 2,4,6-Tri-*O*-acetyl-3-*O*-allyl-1-thio-β-D-glucopyranoside
CAS RN: 197005-22-4

P1762 1g



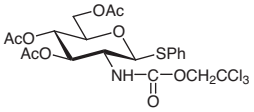
Phenyl *N*-Benzyl-2-amino-4,6-*O*-benzylidene-2-*N*,3-*O*-carbonyl-2-deoxy-1-thio-β-D-glucopyranoside
CAS RN: 910805-49-1

P1842 1g 5g



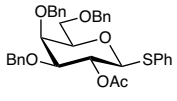
Phenyl 2,3,4-Tri-*O*-benzyl-1-thio-β-L-fucopyranoside
CAS RN: 167612-35-3

P1866 5g



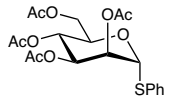
Phenyl 3,4,6-Tri-*O*-acetyl-2-deoxy-1-thio-2-(2,2,2-trichloroethoxyformamido)-β-D-glucopyranoside
CAS RN: 187022-49-7

P2078 1g



Phenyl 2-*O*-Acetyl-3,4,6-tri-*O*-benzyl-1-thio-β-D-galactopyranoside
CAS RN: 183875-28-7

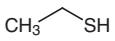
P2521 5g



Phenyl 2,3,4,6-Tetra-*O*-acetyl-1-thio-α-D-mannopyranoside
CAS RN: 108032-93-5

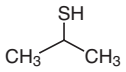
Thiolation Reagents

E0036 25mL 500mL



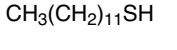
Ethanethiol
CAS RN: 75-08-1

P0489 25mL 500mL



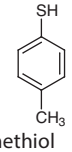
2-Propanethiol
CAS RN: 75-33-2

D0970 25mL 500mL



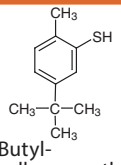
1-Dodecanethiol
CAS RN: 112-55-0

T0290 5g 25g 500g



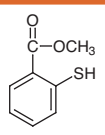
p-Toluenethiol
CAS RN: 106-45-6

B1691 25mL



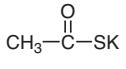
5-*tert*-Butyl-2-methylbenzenethiol
CAS RN: 7340-90-1

M1881 5g 25g



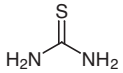
Methyl Thiosalicylate
CAS RN: 4892-02-8

T2030 25g 250g



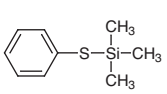
S-Potassium Thioacetate
CAS RN: 10387-40-3

T2475 300g



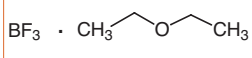
Thiourea
CAS RN: 62-56-6

P1378 5g 25g



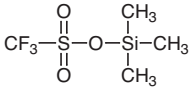
(Phenylthio)trimethylsilane
CAS RN: 4551-15-9

B0527 25mL 100mL 500mL



Boron Trifluoride - Ethyl Ether Complex
CAS RN: 109-63-7

T0871 5g 25g 250g



TMSOTf
CAS RN: 27607-77-8

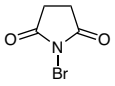
T2053 100mL

Tin(IV) Chloride (*ca.* 1.0mol/L in Dichloromethane)
CAS RN: 7646-78-8

Please inquire for pricing and availability of listed products to our local sales representatives.

Activators of Thioglycosides

B0656 25g 100g 500g

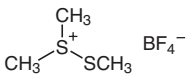


N-Bromosuccinimide
CAS RN: 128-08-5

C2389 25g 500g

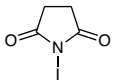
Copper(II) Bromide
CAS RN: 7789-45-9

D1945 1g 5g



DMTSF
CAS RN: 5799-67-7

I0074 5g 25g 100g

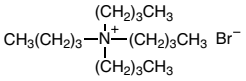


N-Iodosuccinimide
CAS RN: 516-12-1

I0604 25g 500g

Iodine
CAS RN: 7553-56-2

T0054 25g 100g 500g



TBABr
CAS RN: 1643-19-2

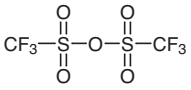
T0751 10g 25g 250g

Trifluoromethanesulfonic Acid
CAS RN: 1493-13-6

Glycosyl Sulfoxides

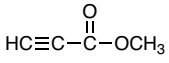
Activators of Glycosyl Sulfoxides

T1100 10g 25g 250g



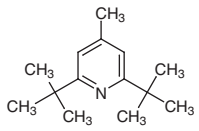
Trifluoromethanesulfonic Anhydride
CAS RN: 358-23-6

P0528 5mL 25mL



Methyl Propiolate
CAS RN: 922-67-8

D2419 5g 25g

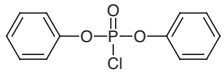


DTBMP
CAS RN: 38222-83-2

Glycosyl Phosphates, Glycosyl Phosphites

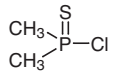
Reagents for Phosphorylations and Phosphitylations

D1059 25g 100g 500g



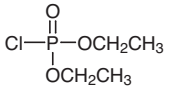
Diphenyl Chlorophosphate
CAS RN: 2524-64-3

D2159 1g 5g



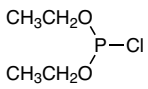
Dimethylthiophosphinoyl Chloride
CAS RN: 993-12-4

D2206 25g 250g



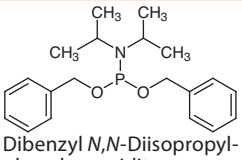
Diethyl Chlorophosphate
CAS RN: 814-49-3

D2522 5g



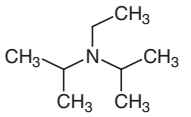
Diethyl Chlorophosphite
CAS RN: 589-57-1

D2624 5g



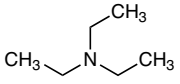
Dibenzyl *N*,*N*-Diisopropyl-phosphoramidite
CAS RN: 108549-23-1

D1599 25mL 100mL 500mL



N,*N*-Diisopropylethylamine
CAS RN: 7087-68-5

T0424 5mL 25mL 100mL 500mL



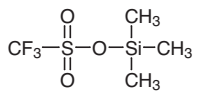
Triethylamine
CAS RN: 121-44-8

T1880 5g 25g

1*H*-1,2,3-Triazole
CAS RN: 288-36-8

Activators of Glycosyl Phosphates and Glycosyl Phosphites

T0871 5g 25g 250g

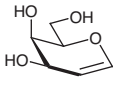


TMSOTf
CAS RN: 27607-77-8

Other Reagents for Glycosidation

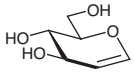
Glycals

G0273 1g 5g



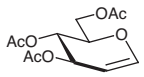
D-Galactal
CAS RN: 21193-75-9

G0274 1g 5g



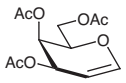
D-Glucal
CAS RN: 13265-84-4

T1596 5g 25g



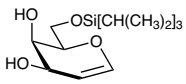
Tri-*O*-acetyl-D-glucal
CAS RN: 2873-29-2

T1734 1g 5g



Tri-*O*-acetyl-D-galactal
CAS RN: 4098-06-0

T1935 200mg

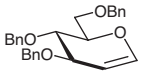


6-*O*-(Triisopropylsilyl)-D-galactal
CAS RN: 166021-01-8

T1936 100mg

6-*O*-(Triisopropylsilyl)-D-glucal
CAS RN: 137915-37-8

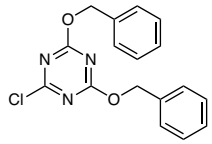
T1859 1g 5g



Tri-*O*-benzyl-D-glucal
CAS RN: 55628-54-1

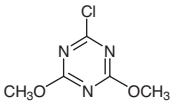
Activators of Unprotected Sugars

B4587 200mg 1g



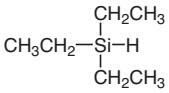
DBT-Cl
CAS RN: 851030-18-7

C1676 5g 25g 250g



CDMT
CAS RN: 3140-73-6

T0662 25mL 250mL



Triethylsilane
CAS RN: 617-86-7

P1490 5g 25g

Pd

Palladium 5% on Carbon
(wetted with *ca.* 55% Water)
CAS RN: 7440-05-3

P1491 5g 25g

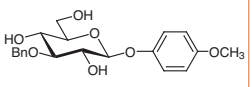
Pd

Palladium 10% on Carbon
(wetted with *ca.* 55% Water)
CAS RN: 7440-05-3

p-Methoxyphenyl (MP) Glycosides

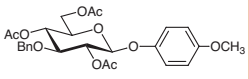
Mono-saccharides

M1641 1g



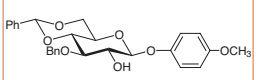
4-Methoxyphenyl 3-*O*-Benzyl-β-D-glucopyranoside
CAS RN: 303127-80-2

M1642 1g 5g



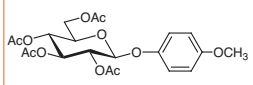
4-Methoxyphenyl 2,4,6-Tri-*O*-acetyl-3-*O*-benzyl-β-D-glucopyranoside
CAS RN: 303127-79-9

M1640 1g 5g



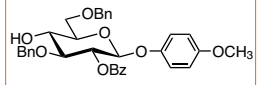
4-Methoxyphenyl 3-*O*-Benzyl-4,6-*O*-benzylidene-β-D-glucopyranoside
CAS RN: 303127-81-3

M1630 5g



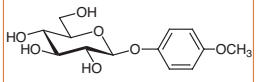
4-Methoxyphenyl 2,3,4,6-Tetra-*O*-acetyl-β-D-glucopyanoside
CAS RN: 14581-81-8

M2434 Please contact us.



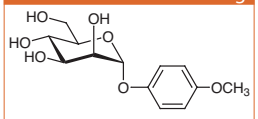
4-Methoxyphenyl 2-*O*-Benzoyl-3,6-di-*O*-benzyl-β-D-glucopyranoside
CAS RN: 1393898-89-9

M1631 5g 25g



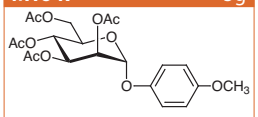
4-Methoxyphenyl β-D-Glucopyranoside
CAS RN: 6032-32-2

M1646 5g



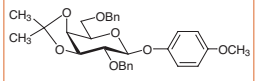
4-Methoxyphenyl α-D-Mannopyranoside
CAS RN: 28541-75-5

M1647 5g



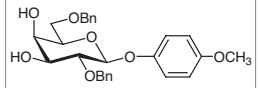
4-Methoxyphenyl 2,3,4,6-Tetra-*O*-acetyl-α-D-mannopyranoside
CAS RN: 17042-40-9

M1633 1g 5g



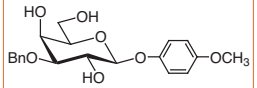
4-Methoxyphenyl 2,6-Di-*O*-benzyl-3,4-*O*-isopropylidene-β-D-galactopyranoside
CAS RN: 159922-68-6

M1634 1g 5g



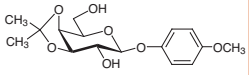
4-Methoxyphenyl 2,6-Di-*O*-benzyl-β-D-galactopyranoside
CAS RN: 159922-50-6

M1725 1g 5g



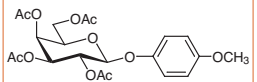
4-Methoxyphenyl 3-*O*-Benzyl-β-D-galactopyranoside
CAS RN: 383905-60-0

M1593 1g 5g



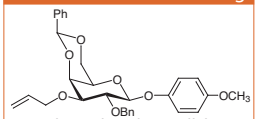
4-Methoxyphenyl 3,4-*O*-Isopropylidene-β-D-galactopyranoside
CAS RN: 159922-67-5

M1477 5g 25g



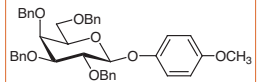
4-Methoxyphenyl 2,3,4,6-Tetra-*O*-acetyl-β-D-galactopyranoside
CAS RN: 2872-65-3

M1620 1g



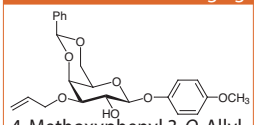
4-Methoxyphenyl 3-*O*-Allyl-2-*O*-benzyl-4,6-*O*-benzylidene-β-D-galactopyranoside
CAS RN: 2160551-35-7

M1588 5g



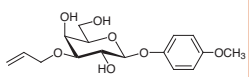
4-Methoxyphenyl 2,3,4,6-Tetra-*O*-benzyl-β-D-galactopyranoside
CAS RN: 143536-99-6

M1589 1g 5g



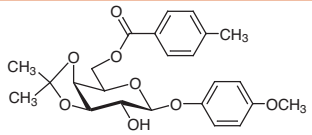
4-Methoxyphenyl 3-*O*-Allyl-4,6-*O*-benzylidene-β-D-galactopyranoside
CAS RN: 400091-05-6

M1482 5g



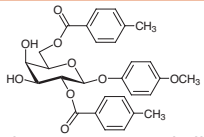
4-Methoxyphenyl 3-*O*-Allyl-β-D-galactopyranoside
CAS RN: 144985-19-3

M1594 1g



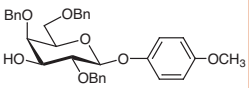
4-Methoxyphenyl 3,4-*O*-Isopropylidene-6-*O*-(4-methylbenzoyl)-β-D-galactopyranoside
CAS RN: 1820580-75-3

M1597 1g



4-Methoxyphenyl 2,6-Bis-*O*-(4-methylbenzoyl)-β-D-galactopyranoside
CAS RN: 1820570-59-9

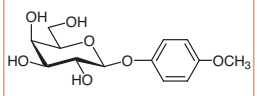
M1592 1g



4-Methoxyphenyl 2,4,6-Tri-*O*-benzyl-β-D-galactopyranoside
CAS RN: 247027-79-8

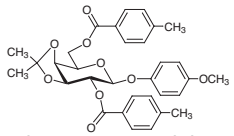
Please inquire for pricing and availability of listed products to our local sales representatives.

M1481 5g 25g



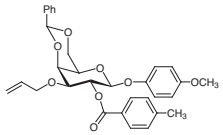
4-Methoxyphenyl β-D-Galactopyranoside
CAS RN: 3150-20-7

M1596 1g



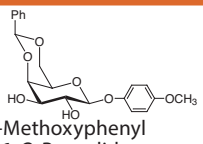
4-Methoxyphenyl 3,4-*O*-Isopropylidene-2,6-bis-*O*-(4-methylbenzoyl)-β-D-galactopyranoside
CAS RN: 1496536-69-6

M1590 1g



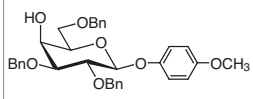
4-Methoxyphenyl 3-*O*-Allyl-4,6-*O*-benzylidene-2-*O*-(4-methylbenzoyl)-β-D-galactopyranoside

M1710 Please contact us.



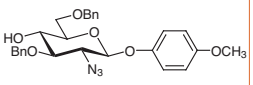
4-Methoxyphenyl 4,6-*O*-Benzylidene-β-D-galactopyranoside
CAS RN: 176299-96-0

M2104 Please contact us.



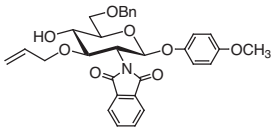
4-Methoxyphenyl 2,3,6-Tri-*O*-benzyl-β-D-galactopyranoside
CAS RN: 869107-36-8

M1617 1g



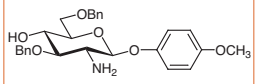
4-Methoxyphenyl 2-Azido-3,6-di-*O*-benzyl-2-deoxy-β-D-glucopyranoside
CAS RN: 1272755-25-5

M1604 1g 5g



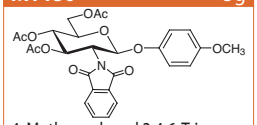
4-Methoxyphenyl 3-*O*-Allyl-6-*O*-benzyl-2-deoxy-2-phthalimido-β-D-glucopyranoside
CAS RN: 1820583-64-9

M1616 1g



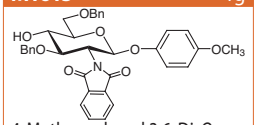
4-Methoxyphenyl 2-Amino-3,6-di-*O*-benzyl-2-deoxy-β-D-glucopyranoside
CAS RN: 1272755-07-3

M1480 5g



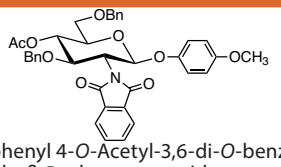
4-Methoxyphenyl 3,4,6-Tri-*O*-acetyl-2-deoxy-2-phthalimido-β-D-glucopyranoside
CAS RN: 138906-41-9

M1615 1g



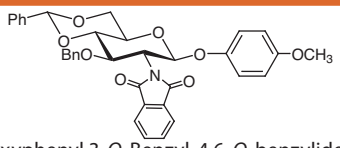
4-Methoxyphenyl 3,6-Di-*O*-benzyl-2-deoxy-2-phthalimido-β-D-glucopyranoside
CAS RN: 129575-89-9

M1834 1g 5g



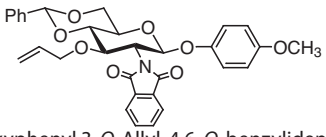
4-Methoxyphenyl 4-*O*-Acetyl-3,6-di-*O*-benzyl-2-deoxy-2-phthalimido-β-D-glucopyranoside
CAS RN: 140615-77-6

M1609 1g



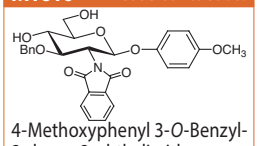
4-Methoxyphenyl 3-*O*-Benzyl-4,6-*O*-benzylidene-2-deoxy-2-phthalimido-β-D-glucopyranoside
CAS RN: 129575-88-8

M1598 1g 5g



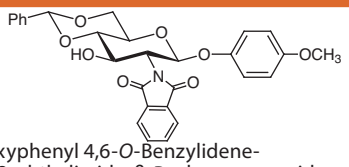
4-Methoxyphenyl 3-*O*-Allyl-4,6-*O*-benzylidene-2-deoxy-2-phthalimido-β-D-glucopyranoside
CAS RN: 889453-84-3

M1610 Please contact us.



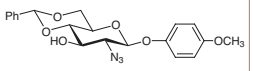
4-Methoxyphenyl 3-*O*-Benzyl-2-deoxy-2-phthalimido-β-D-glucopyranoside
CAS RN: 138906-44-2

M1479 5g



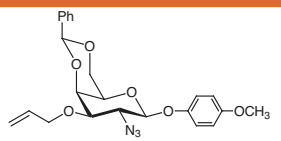
4-Methoxyphenyl 4,6-*O*-Benzylidene-2-deoxy-2-phthalimido-β-D-glucopyranoside
CAS RN: 138906-43-1

M1637 1g 5g



4-Methoxyphenyl 2-Azido-4,6-*O*-benzylidene-2-deoxy-β-D-glucopyranoside
CAS RN: 1430068-18-0

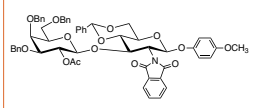
M1643 1g



4-Methoxyphenyl 3-*O*-Allyl-2-azido-4,6-*O*-benzylidene-2-deoxy-β-D-galactopyranoside
CAS RN: 889453-83-2

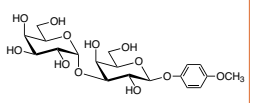
Disaccharides

G0374 Please contact us.



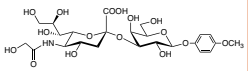
Gal[2Ac,346Bn]-β(1-3)GlcNPhth[46Bzd]-β-MP

G0461 50mg



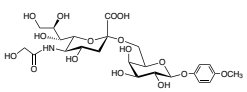
Galα(1-3)Gal-β-MP

N0793 5mg



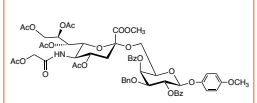
Neu5Gcα(2-3)Galβ MP Glycoside

N0794 5mg



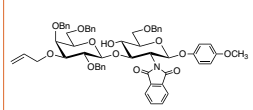
Neu5Gcα(2-6)Galβ MP Glycoside
CAS RN: 1072896-38-8

M1763 200mg



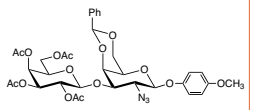
Neu5GcAc[1Me,4789Ac]-α(2-6)Gal[24Bz,3Bn]-β-MP

G0379 Please contact us.



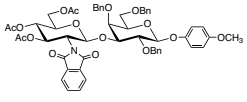
Gal[3All,246Bn]-β(1-3)GlcNPhth[6Bn]-β-MP

G0330 1g 5g



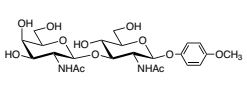
Gal[2346Ac]-β(1-3)GalN$_3$[46Bzd]-β-MP

G0299 200mg 1g



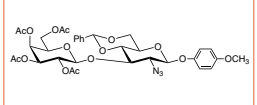
GlcNPhth[346Ac]-β(1-3)Gal[246Bn]-β-MP
CAS RN: 1820575-44-7

M1776 5mg



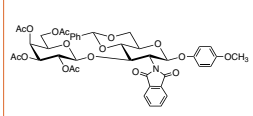
LacDiNAc(I) MP Glycoside
CAS RN: 1858223-95-6

G0309 1g 5g



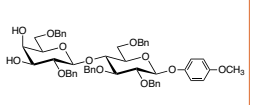
Gal[2346Ac]-β(1-3)GlcN3[46Bzd]-β-MP

G0311 1g 5g



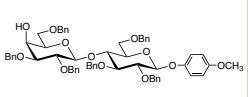
Gal[2346Ac]-β(1-3)GlcNPhth[46Bzd]-β-MP

M1686 1g 5g



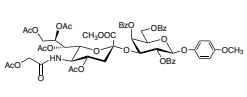
Gal[26Bn]-β(1-4)Glc[236Bn]-β-MP
CAS RN: 358681-61-5

M1726 1g 5g



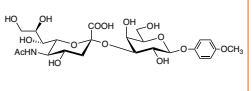
Gal[236Bn]-β(1-4)Glc[236Bn]-β-MP
CAS RN: 150412-81-0

N0816 Please contact us.



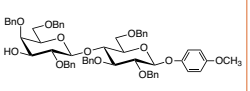
Neu5GcAc[1Me,4789Ac]-α(2-3)Gal[246Bz]-β-MP

N0791 10mg 50mg



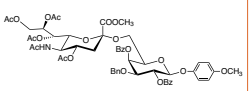
Neu5Acα(2-3)Galβ MP Glycoside
CAS RN: 159922-54-0

M1727 1g



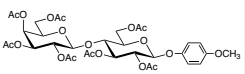
Gal[246Bn]-β(1-4)Glc[236Bn]-β-MP
CAS RN: 717132-49-5

M1761 200mg



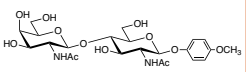
Neu5Ac[1Me,4789Ac]-α(2-6)Gal[24Bz,3Bn]-β-MP

M1694 Please contact us.



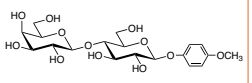
LacMP per OAc
CAS RN: 160227-12-3

M1733 5mg



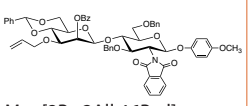
LacDiNAc MP Glycoside
CAS RN: 1858224-01-7

M1805 1g



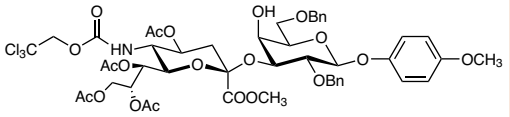
Galβ(1-4)Glc-β-MP
CAS RN: 150412-80-9

M2442 Please contact us.



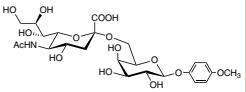
Man[2Bz,3All,46Bzd]-β(1-4)GlcNPhth[36Bn]-β-MP
CAS RN: 2064311-96-0

M1729 1g



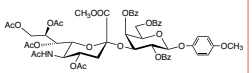
Neu5Troc[1Me,4789Ac]-α(2-3)Gal[26Bn]-β-MP
CAS RN: 610763-72-9

N0792 10mg 50mg



Neu5Acα(2-6)Galβ MP Glycoside
CAS RN: 1984814-41-6

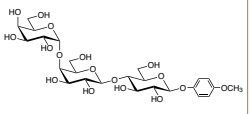
N0846 200mg 1g



Neu5Ac[1Me,4789Ac]-α(2-3)Gal[246Bz]-β-MP
CAS RN: 1858223-85-4

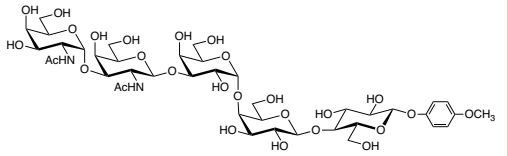
Trisaccharides

M1767 100mg



Gb_3-β-MP
CAS RN: 898826-64-7

F0584 Please contact us.



Forssman Pentaose MP Glycoside
CAS RN: 1858224-10-8

Deprotecting Reagent for MP Group

C1806 50g 500g

$(NH_4)_2Ce(NO_3)_6$

Ammonium Cerium(IV) Nitrate
CAS RN: 16774-21-3

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