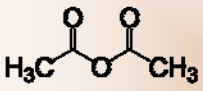


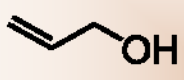
# Protection and Derivatization Reagents

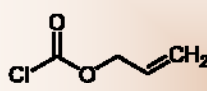


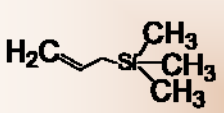
In organic synthesis, when a reaction is to be carried out selectively at one functional group of a multifunctional compound, other reactive functional groups must be converted into inactive functional groups and protected temporarily. Therefore, appropriate use of protecting agents is very important to the synthetic strategy. Useful protecting agents must have properties as follows:

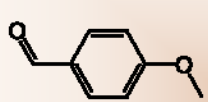
- The protecting agents must selectively react with the desired functional group requiring protection.
- The protecting groups must be introduced in high yields without any side reactions.
- The protecting groups must be chemoselectively deprotected under specific conditions without deprotection of other kinds of protecting groups.

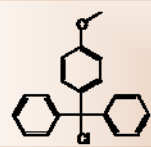
Acetic anhydride		
	CAS 108-24-7	F.W 102.09
01022-00	>97.0%	3L
01022-30	>97.0%	500mL

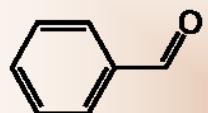
Allyl alcohol		
	CAS 107-18-6	F.W 58.08
01124-00	>99.0%	500mL

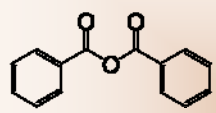
Allyl chloroformate		
	CAS 2937-50-0	F.W 120.53
01341-05	>97.0%	500g
01341-35	>97.0%	25g

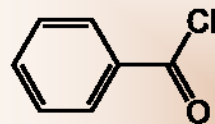
Allyl trimethylsilane		
	CAS 762-72-1	F.W 114.26
01666-32	>95.0%	25mL
01666-52	>95.0%	5mL

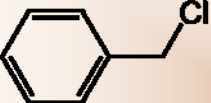
<i>p</i> -Anisaldehyde		
	CAS 123-11-5	F.W 136.15
01398-00	>98.0%	500g
01398-30	>98.0%	25g

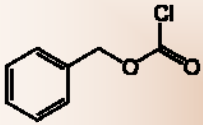
<i>p</i> -Anisylchlorodiphenylmethane		
	CAS 14470-28-1	F.W 308.8
15656-1A	97%	25g
15656-3A	97%	100g

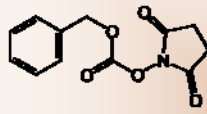
Benzaldehyde		
	CAS 100-52-7	F.W 106.12
04072-00	>98.0%	500mL

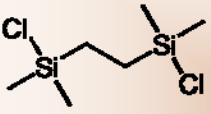
Benzoic anhydride		
	CAS 93-97-0	F.W 226.23
04116-30	>98.0%	25g

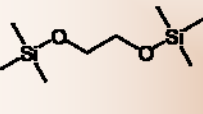
Benzoyl chloride		
	CAS 98-88-4	F.W 140.57
04135-00	>99.0%	500g

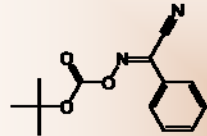
Benzyl chloride		
	CAS 100-44-7	F.W 126.58
04152-00	>98.0%	500mL

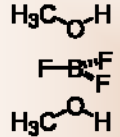
Benzyl chloroformate		
	CAS 501-53-1	F.W 170.59
15294-1A	97%	100g
15294-2A	97%	5g
15294-3A	97%	500g


N-(Benzyloxycarbonyloxy)succinimide		
	CAS 13139-17-8	F.W 249.22
21117-1A	98%	25g
21117-2A	98%	100g

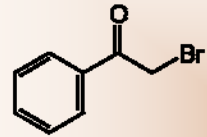
1,2-Bis(chlorodimethylsilyl)ethane		
	CAS 13528-93-3	F.W 215.27
31326-1A	96%	5g
31326-2A	96%	25g

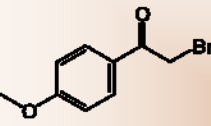
1,2-Bis(trimethylsilyloxy)ethane		
	CAS 7381-30-8	F.W 206.43
20958-1A	98%	10g

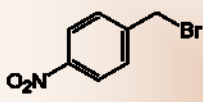
Boc-ON 2-(tert-Butoxycarbonyloxymino)-2-phenylacetone nitrile		
	CAS 58632-95-4	F.W 246.26
18589-1A	99%	25g
18589-2A	99%	5g

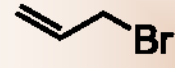
Boron trifluoride methanol complex		
	CAS 2802-68-8	F.W 131.89
04901-05		500mL
04901-25		100mL

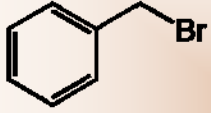
Boron trifluoride 12% in methanol		
	CAS 373-57-9	F.W 67.81
04902-05		500mL
04902-25		100mL
04902-35		25mL

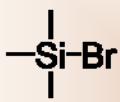
α-Bromoacetophenone		
	CAS 70-11-1	F.W 199.04
04696-30	>97.0%	25g
15201-1A	98%	25g
15201-2A	98%	100g

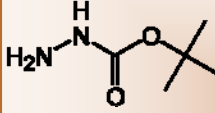
2-Bromo-4'-methoxyacetophenone		
	CAS 2632-13-5	F.W 229.07
15190-1A	98%	5g
15190-2A	98%	25g

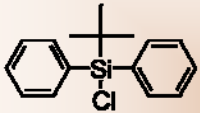
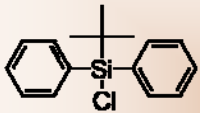

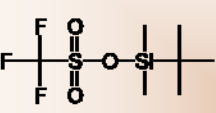
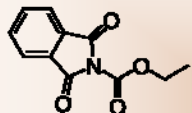
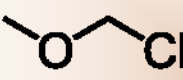
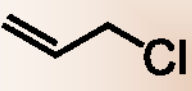
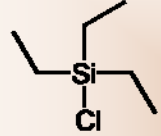
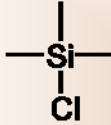
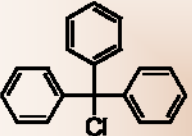
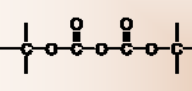
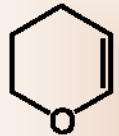
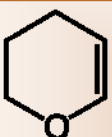
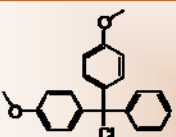
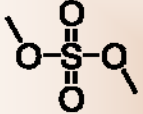
α-Bromo-p-nitrotoluene		
	CAS 100-11-8	F.W 216.03
04314-31	>97.0%	25g

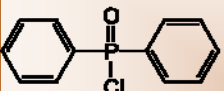
3-Bromopropene		
	CAS 106-95-6	F.W 120.98
01127-00	>99.0%	500g
01127-30	>99.0%	25g

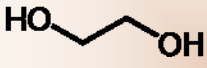
α-Bromotoluene		
	CAS 100-39-0	F.W 171.03
04150-01	>96%	500g
04150-31	>96%	25g

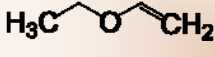
Bromotrimethylsilane		
	CAS 2857-97-8	F.W 153.09
18665-1A	98%	100g
18665-2A	98%	25g
18665-3A	98%	5g

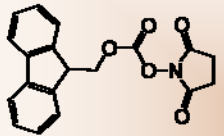
tert-Butyl carbazate		
	CAS 870-46-2	F.W 132.16
05097-15	>97.0%	250g
05097-35	>97.0%	25g

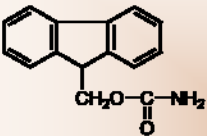
<p><b>tert-Butylchlorodiphenylsilane</b></p>  <p>CAS 58479-61-1 F.W 274.86</p> <p>04186-05 &gt;95.0% 500mL 04186-25 &gt;95.0% 100mL 04186-35 &gt;95.0% 25mL 04186-55 &gt;95.0% 5mL</p>	<p><b>tert-Butylchlorodiphenylsilane</b></p>  <p>CAS 58479-61-1 F.W 274.86</p> <p>18750-1A 98% 50g 18750-2A 98% 10g</p>	<p><b>tert-Butyldimethylsilyl chloride</b></p>  <p>CAS 18162-48-6 F.W 150.72</p> <p>04185-05 &gt;98.0% 500g 04185-25 &gt;98.0% 100g 04185-35 &gt;98.0% 25g 04185-55 &gt;98.0% 5g</p>
<p><b>tert-Butyldimethylsilyl trifluoromethanesulfonate</b></p>  <p>CAS 69739-34-0 F.W 264.34</p> <p>05053-25 &gt;98.0% 100mL 05053-35 &gt;98.0% 25mL 05053-55 &gt;98.0% 5mL</p>	<p><b>N-Carboethoxyphthalimide</b></p>  <p>CAS 22509-74-6 F.W 219.19</p> <p>10831-1A 98% 50g 10831-2A 98% 10g</p>	<p><b>Chloromethyl methyl ether</b></p>  <p>CAS 107-30-2 F.W 80.51</p> <p>07270-01 &gt;94.0% 500g 07270-31 &gt;94.0% 25g</p>
<p><b>3-Chloropropene</b></p>  <p>CAS 107-05-1 F.W 76.52</p> <p>01128-01 &gt;98.0% 500mL 01128-31 &gt;98.0% 25mL</p>	<p><b>Chlorotriethylsilane</b></p>  <p>CAS 994-30-9 F.W 150.72</p> <p>21594-1A 99% 100mL 21594-2A 99% 25mL</p>	<p><b>Chlorotrimethylsilane</b></p>  <p>CAS 75-77-4 F.W 108.64</p> <p>11012-1A 98% 250mL 11012-2A 98% 25mL 11012-3A 98% 1L</p>
<p><b>Chlorotriphenylmethane</b></p>  <p>CAS 76-83-5 F.W 278.78</p> <p>14040-1A 98% 100g 14040-3A 98% 500g</p>	<p><b>Di-tert-butyl dicarbonate</b></p>  <p>CAS 24424-99-5 F.W 218.25</p> <p>10320-05 &gt;95.0% 500g 10320-25 &gt;95.0% 100g 10320-35 &gt;95.0% 25g</p>	<p><b>2,3-Dihydropyran</b></p>  <p>CAS 110-87-2 F.W 84.12</p> <p>10264-31 &gt;98.0% 25mL</p>
<p><b>3,4-Dihydro-2H-pyran</b></p>  <p>CAS 110-87-2 F.W 84.12</p> <p>11478-1A 99% 500g 11478-2A 99% 100g</p>	<p><b>4,4'-Dimethoxytrityl chloride</b></p>  <p>CAS 40615-36-9 F.W 338.83</p> <p>14602-1A 98% 5g 14602-2A 98% 25g</p>	<p><b>Dimethyl sulfate</b></p>  <p>CAS 77-78-1 F.W 126.13</p> <p>10376-01 500mL</p>

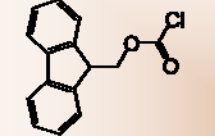
Diphenylphosphinyl chloride		
	CAS 1499-21-4	F.W 236.63
21296-1A	98%	10g
21296-2A	98%	50g

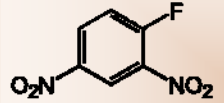
Ethylene glycol		
	CAS 107-21-1	F.W 62.07
14114-00	>99.5%	500mL
14114-70	>99.5%	3L
14114-80	>99.5%	20kg

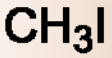
Ethyl vinyl ether		
	CAS 109-92-2	F.W 72.11
14541-01	>98.0%	500mL
14541-02	>98.0%	25mL

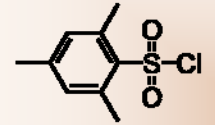
N-(9H-Fluoren-2-ylmethoxy-carboxy)succinimide		
	CAS 82911-69-1	F.W 337.33
16077-35	>97.0%	25g
16077-55	>97.0%	5g

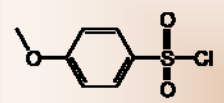
9-Fluorenylmethyl carbamate		
	CAS 84418-43-9	F.W 239.27
16079-45	>97.0%	10g
16079-65	>97.0%	1g

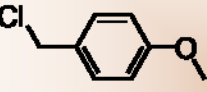
9-Fluorenylmethyl chloroformate		
	CAS 28920-43-6	F.W 258.7
16078-35	>97.0%	25g
16078-55	>97.0%	5g

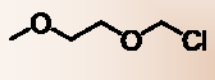
1-Fluoro-2,4-dinitrobenzene		
	CAS 70-34-8	F.W 186.1
10404-30	>99.0%	25g

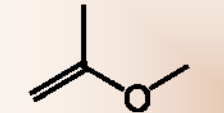
Iodomethane		
	CAS 74-88-4	F.W 141.94
25278-00	>99.5%	500g
25278-20	>99.5%	100g
25278-30	>99.5%	25g

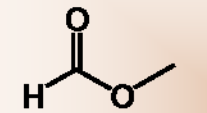
2-Mesitylenesulfonyl chloride		
	CAS 773-64-8	F.W 218.7
12559-1A	99%	500g
12559-2A	99%	100g
12559-3A	99%	25g

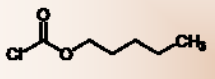
4-Methoxybenzenesulfonyl chloride		
	CAS 98-68-0	F.W 206.65
12573-1A	99%	25g
12573-2A	99%	100g
12573-3A	99%	500g

4-Methoxybenzyl chloride		
	CAS 824-94-2	F.W 156.61
29417-1A	98%	5g
29417-2A	98%	25g

β-Methoxyethoxymethyl chloride		
	CAS 3970-21-6	F.W 124.57
18598-1A	94%	25g
18598-2A	94%	10g

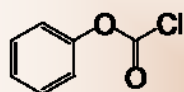
2-Methoxypropene		
	CAS 116-11-0	F.W 72.11
17435-1A	95%	250mL
17435-2A	95%	1L

Methyl formate		
	CAS 107-31-3	F.W 60.05
25261-01	>95.0%	500g

1-Pentyl chloroformate		
	CAS 638-41-5	F.W 150.6
32522-35	>97.0%	25g
32522-55	>97.0%	5g



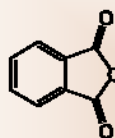
**Phenyl chloroformate**



CAS  
1885-14-9  
F.W  
156.56

07740-31 >96.0% 25mL

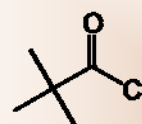
**Phthalic anhydride**



CAS  
85-44-9  
F.W  
148.12

32211-00 99.5-100.3% 500g  
32211-30 99.5-100.3% 25g

**Pivaloyl chloride**



CAS  
3282-30-2  
F.W  
120.58

40597-20 >98.0% 100g  
40597-30 >98.0% 25g

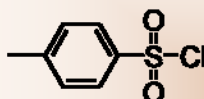
**1,3-Propanedithiol**



CAS  
109-80-8  
F.W  
108.23

13141-1A 98% 50mL

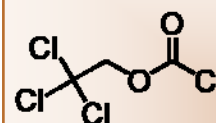
**p-Toluenesulfonyl chloride**



CAS  
98-59-9  
F.W  
196.65

40192-01 >95.0% 500g  
40192-31 >95.0% 25g

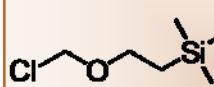
**2,2,2-Trichloroethyl chloroformate**



CAS  
17341-93-4  
F.W  
211.86

40755-31 >97.0% 25g

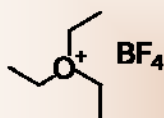
**2-(Trimethylsilyl)ethoxymethyl chloride**



CAS  
76513-69-4  
F.W  
166.72

21902-2A 90% 5mL

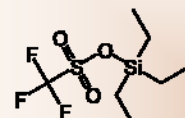
**Triethyloxonium tetrafluoroborate, 1mol/l solution in CH<sub>2</sub>Cl<sub>2</sub>**



CAS  
368-39-8  
F.W  
189.99

17511-1A 100mL  
17511-2A 25mL

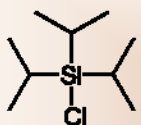
**Triethylsilyl trifluoromethanesulfonate**



CAS  
79271-56-0  
F.W  
264.34

31270-1A 99% 10g

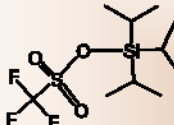
**Triisopropylsilyl chloride**



CAS  
13154-24-0  
F.W  
192.8

22126-1A 97% 50g  
22126-2A 97% 10g

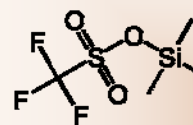
**Triisopropylsilyl trifluoromethanesulfonate**



CAS  
80522-42-5  
F.W  
306.42

25070-1A 97% 10g

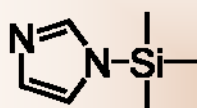
**Trimethylsilyl trifluoromethanesulfonate**



CAS  
27607-77-8  
F.W  
222.26

20944-1A 99% 50mL  
20944-2A 99% 10mL

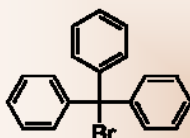
**N-(Trimethylsilyl)imidazole**



CAS  
18156-74-6  
F.W  
140.26

16713-1A 98% 25g  
16713-3A 98% 100g

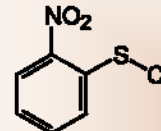
**Triphenylmethyl bromide**



CAS  
596-43-0  
F.W  
323.23

14039-1A 98% 10g  
14039-2A 98% 50g

**2-Nitrobenzenesulfonyl chloride**

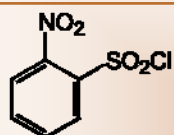


CAS  
7669-54-7  
F.W  
189.62

16133-1A 99% 10g  
16133-2A 99% 50g



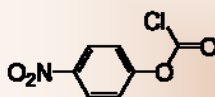
**o-Nitrobenzenesulfonyl chloride**



CAS  
1694-92-4  
F.W  
221.62

28205-31 >95.0% 25g

**p-Nitrophenyl chloroformate**

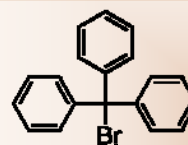


CAS  
7693-46-1  
F.W  
201.56

28383-31 >95.0% 25g

28383-51 >95.0% 5g

**Triyl bromide**

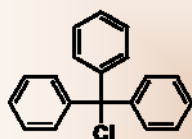


CAS  
596-43-0  
F.W  
323.23

40557-25 >97.0% 100g

40557-35 >97.0% 25g

**Triyl chloride**



CAS  
76-83-5  
F.W  
278.78

40558-15 >97.0% 250g

40558-35 >97.0% 25g



## Related Products

Product Name	CAS	Grade	Cat. No.	Size
Boron trichloride, 1mol/l in dichloromethane	10294-34-5		17668-1A	100mL
Chromic anhydride	1333-82-0	>98.0%	07355-00	500g
			07355-20	100g
			07355-30	25g
Iodotrimethylsilane	16029-98-4	95-97%	18749-1A	25mL
			18749-2A	5mL
Hydrobromic acid, in acetic acid	10035-10-6	30-32%	12318-1A	500mL
Hydrogen fluoride-pyridine	32001-55-1	65-70%	18007-1A	100g
			18007-2A	10g
Palladium on activated carbon, 3% Pd	7440-05-3		21787-1A	10g
Palladium on activated carbon, 5% Pd	7440-05-3		49001-53	25g
			49001-54	1g
			49001-55	100g
Palladium on activated carbon, 10% Pd	7440-05-3		19503-1A	10g
			19503-2A	1g
			49001-56	25g
			49001-57	1g
			49001-58	100g
Phenyl isocyanate	1943-82-4	>97.0%	32521-55	5g
			32521-35	25g
Tetrabutylammonium fluoride, 1M solution in THF	429-41-4		40985-05	500mL
			40985-25	100mL
			40985-35	25mL
			20195-1A	5mL
			20195-2A	500mL
			20195-3A	100mL
Tetrabutylammonium fluoride trihydrate	87749-50-6	>97.0%	40769-15	250g
			40769-35	25g
<i>p</i> -Toluenesulfonic acid, in acetic acid	104-15-4	11-13%	42122-1A	250g
			42122-2A	1kg
<i>p</i> -Toluenesulfonic acid monohydrate	6192-52-5	>99.0%	40189-01	500g
			40189-31	25g
Trifluoroacetic acid	76-05-1	>99.0%	40578-00	500g
			40578-30	25g
Trifluoroacetic anhydride	407-25-0	>98.0%	40579-30	25g
Trifluoromethanesulfonic acid	1493-13-6	>99.0%	40920-32	25g
		99%	16989-1A	10mL
		99%	16989-2A	1mL



## References: Features of each production reagents and deprotection conditions

Functional groups	Structure	Name	Features	Deprotection conditions
-OH		Methyl ether	Stable for a lot of reaction condition under Mild condition	Strong Lewis acid eg. (CH <sub>3</sub> ) <sub>3</sub> SiI
-OH		tert-butyl ether	Stable for Alkali, catalytic hydrogen, reducing agent and nucleophilic agent	Decomposition with a strong acid (eg. CF <sub>3</sub> COOH, Hydrogen bromide)
-OH		Allyl ether	Stable for weak acid and Alkali	Acid hydrolysis after isomerization
-OH		Dibenzyl Ether	Stable for weak acid, Alkali, nucleophilic agent and reducing agent	Catalytic hydrogen, Strong Lewis acid
-OH		Silyl ether	Enable for selective protection of polyhydric alcohol, protection of less reactive alcohol	Acid hydrolysis, fluoride ion
-OH		Tetrahydropyranyl ether	Stable for Alkali, reducing agent and nucleophilic agent	Catalytic hydrogen
-COOH		tert-Butyl ester	Stable for Alkali	Catalytic hydrogen
-COOH		Benzyl ester	Easy for deprotection by hydrogenolysis	Hydrogenolysis
-COOH		Silyl ester	Easy for deprotection by hydrolysis	Hydrolysis
-NH <sub>2</sub>		t-Boc	Stable for catalytic hydrogen	Acidic cleavage
-NH <sub>2</sub>		Fmoc	Stable for acid or oxidant	Catalytic hydrogen, Decomposition of amine


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