

保護・誘導体化試薬 vol.3



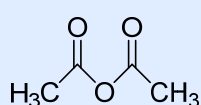
Kanto Reagents

有機合成において、保護試薬を有効に利用することは非常に重要です。複雑な有機合成を行う際には、目的とする反応を分子中の別な官能基が妨害することがあり、目的物質の収率に大きな影響を与えます。妨害する官能基を保護することにより、複雑な有機合成においても効率よく生成物を得ることが可能となり、保護試薬は幅広く用いられております。保護基化合物には下記の特徴が求められ、保護する官能基ならびに求める反応により、最適な保護基化合物を選択する必要があります。

- 保護したい官能基と選択的に反応し、高収率で保護基が導入できること
- 求める反応に対して、保護部分が不活性である誘導体を得られること
- 設定条件下で脱保護が可能であること

また、上述の反応性以外にも、官能基の保護により化合物の物性を変えることが可能です。従来の化合物に対して光学特性、生理活性、揮発性など、多くの物性を制御可能とする重要な合成技術として知られております。

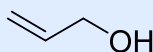
Acetic anhydride



CAS
108-24-7
F.W
102.09

01022-00	>97.0%	500mL	¥2,200
01022-70	>97.0%	3L	¥8,500

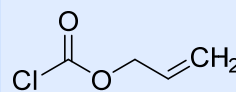
Allyl alcohol



CAS
107-18-6
F.W
58.08

01124-00	>99.0%	500mL	¥3,600
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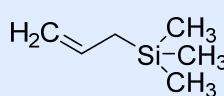
Allyl chloroformate



CAS
2937-50-0
F.W
120.53

01341-35	>97.0%	25g	¥4,000
01341-05	>97.0%	500g	¥21,500

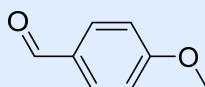
Allyl trimethylsilane



CAS
762-72-1
F.W
114.26

01666-52	>95.0%	5mL	¥3,400
01666-32	>95.0%	25mL	¥8,500

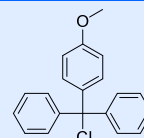
p-Anisaldehyde



CAS
123-11-5
F.W
136.15

01398-30	>98.0%	25g	¥1,900
01398-00	>98.0%	500g	¥8,500

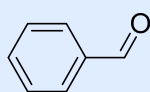
p-Anisylchlorodiphenylmethane



CAS
14470-28-1
F.W
308.8

15656-1A	97%	25g	¥9,300
15656-3A	97%	100g	¥28,400

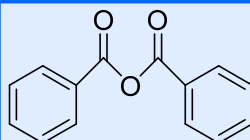
Benzaldehyde



CAS
100-52-7
F.W
106.12

04072-00	>98.0%	500mL	¥4,600
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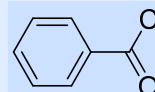
Benzoic anhydride



CAS
93-97-0
F.W
226.23

04116-30	>98.0%	25g	¥2,900
10550-2A	98.0%	25g	¥3,100
10550-1A	98.0%	500g	¥15,900

Benzoyl chloride



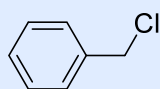
CAS
98-88-4
F.W
140.57

04135-00	>99.0%	500g	¥4,400
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Kanto Kagaku

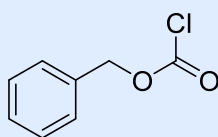
Benzyl chloride



CAS
100-44-7
F.W
126.58

04152-00 >98.0% 500mL ¥4,300

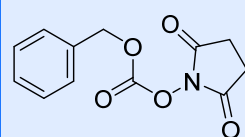
Benzyl chloroformate



CAS
501-53-1
F.W
170.59

15294-2A 97% 5g ¥4,700
15294-1A 97% 100g ¥10,300
15294-3A 97% 500g ¥23,600

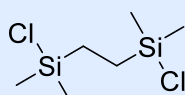
N-(Benzyloxycarbonyloxy)succinimide



CAS
13139-17-8
F.W
249.22

21117-1A 98% 25g ¥4,400
21117-2A 98% 100g ¥13,600
21117-3A 98% 500g ¥48,900

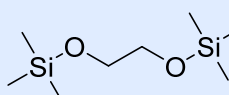
1,2-Bis(chloro-dimethylsilyl)ethane



CAS
13528-93-3
F.W
215.27

31326-1A 96% 5g ¥6,000
31326-2A 96% 25g ¥14,600

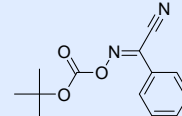
1,2-Bis(trimethylsilyloxy)ethane



CAS
7381-30-8
F.W
206.43

20958-1A 98% 10g ¥5,500
20958-2A 98% 50g ¥19,700

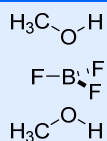
Boc-ON 2-(tert-Butoxycarbonyloxyimino)-2-phenylacetonitrile



CAS
58632-95-4
F.W
246.26

18589-2A 99% 5g ¥4,700
18589-1A 99% 25g ¥15,500
18589-3A 99% 100g ¥57,100

Boron trifluoride methanol complex



CAS
2802-68-8
F.W
131.89

04901-25 100mL ¥5,200
04901-05 500mL ¥22,000

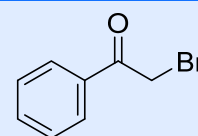
Boron trifluoride 12% in methanol



CAS
373-57-9
F.W
67.81

04903-35 25mL ¥3,300
04903-25 100mL ¥6,000
04903-05 500mL ¥15,000

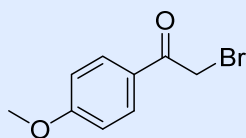
α-Bromoacetophenone



CAS
70-11-1
F.W
199.04

04696-30 >97.0% 25g ¥8,000
15201-1A 98% 25g ¥4,000
15201-2A 98% 100g ¥9,500

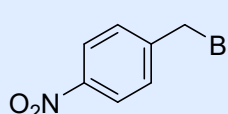
2-Bromo-4'-methoxyacetophenone



CAS
2632-13-5
F.W
229.07

15190-1A 98% 5g ¥3,700
15190-2A 98% 25g ¥13,100
15190-3A 98% 100g ¥36,600

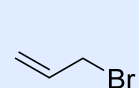
α-Bromo-p-nitrotoluene



CAS
100-11-8
F.W
216.03

04314-31 >97.0% 25g ¥7,000

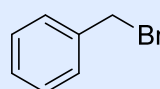
3-Bromopropene



CAS
106-95-6
F.W
120.98

01127-30 >99.0% 25g ¥2,300
01127-00 >99.0% 500g ¥10,500

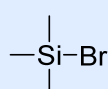
α-Bromotoluene



CAS
100-39-0
F.W
171.03

04150-31 >96% 25g ¥2,900
04150-01 >96% 500g ¥27,000

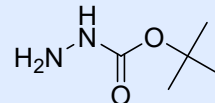
Bromotrimethylsilane



CAS
2857-97-8
F.W
153.09

18665-3A 98% 5g ¥4,400
18665-2A 98% 25g ¥7,800
18665-1A 98% 100g ¥19,600

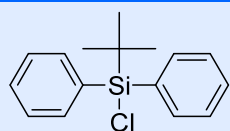
tert-Butyl carbazate



CAS
870-46-2
F.W
132.16

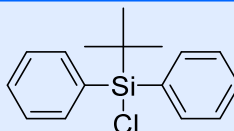
05097-35 >97.0% 25g ¥4,400
05097-15 >97.0% 250g ¥29,500
10788-1A 99% 25g ¥7,000



tert-Butylchlorodiphenylsilane

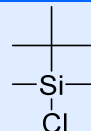
CAS
58479-61-1
F.W
274.86

04186-55	>95.0%	5mL	¥2,700
04186-35	>95.0%	25mL	¥6,500
04186-25	>95.0%	100mL	¥21,000
04186-05	>95.0%	500mL	¥67,000

tert-Butylchlorodiphenylsilane

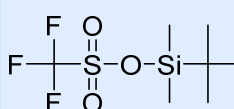
CAS
58479-61-1
F.W
274.86

18750-2A	98%	10g	¥5,000
18750-1A	98%	50g	¥17,400
18750-3A	98%	250g	¥58,700

tert-Butyldimethylsilyl chloride

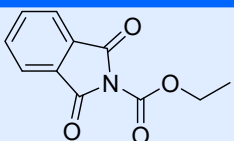
CAS
18162-48-6
F.W
150.72

04185-55	>98.0%	5g	¥2,800
04185-35	>98.0%	25g	¥6,500
04185-25	>98.0%	100g	¥14,000
04185-05	>98.0%	500g	¥50,000

tert-Butyldimethylsilyl tri-fluoromethanesulfonate

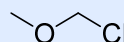
CAS
69739-34-0
F.W
264.34

05053-55	>98.0%	5mL	¥8,000
05053-35	>98.0%	25mL	¥21,000
05053-25	>98.0%	100mL	¥58,000
20986-1A	98%	5mL	¥6,800

N-Carbethoxyphthalimide

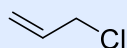
CAS
22509-74-6
F.W
219.19

10831-2A	>99%	10g	¥3,600
10831-1A	>99%	50g	¥10,200
10831-3A	>99%	250g	¥40,500

Chloromethyl methyl ether

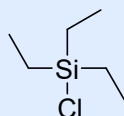
CAS
107-30-2
F.W
80.51

07270-31	>94.0%	25g	¥3,400
07270-01	>94.0%	500g	¥28,000

3-Chloropropene

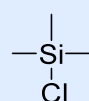
CAS
107-05-1
F.W
76.52

01128-31	>98.0%	25mL	¥1,800
01128-01	>98.0%	500mL	¥5,700

Chlorotriethylsilane

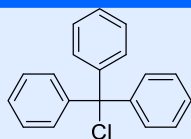
CAS
994-30-9
F.W
150.72

21594-2A	99%	25mL	¥12,600
21594-1A	99%	100mL	¥28,900

Chlorotrimethylsilane

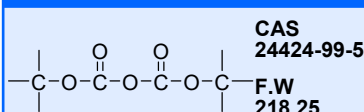
CAS
75-77-4
F.W
108.64

11012-2A	98%	25mL	¥6,200
11012-1A	98%	250mL	¥10,600
11012-3A	98%	1L	¥26,800

Chlorotriphenylmethane

CAS
76-83-5
F.W
278.78

14040-1A	98%	100g	¥8,500
14040-3A	98%	500g	¥21,600

Di-tert-butyl dicarbonate

CAS
24424-99-5
F.W
218.25

10320-35	>95.0%	25g	¥3,400
10320-25	>95.0%	100g	¥9,000
10320-05	>95.0%	500g	¥34,000

2,3-Dihydropyran

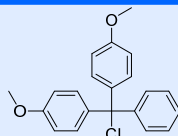
CAS
110-87-2
F.W
84.12

10264-31	>98.0%	25mL	¥4,100
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3,4-Dihydro-2H-pyran

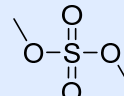
CAS
110-87-2
F.W
84.12

11478-2A	99%	100g	¥4,000
11478-1A	99%	500g	¥15,000

4,4'-Dimethoxytrityl chloride

CAS
40615-36-9
F.W
338.83

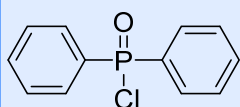
14602-1A	98%	5g	¥4,800
14602-2A	98%	25g	¥12,900
14602-3A	98%	100g	¥50,400

Dimethyl sulfate

CAS
77-78-1
F.W
126.13

10376-01		500mL	¥6,500
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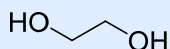
Diphenylphosphinyl chloride



CAS
1499-21-4
F.W
236.63

21296-1A	98%	10g	¥7,000
21296-2A	98%	50g	¥25,400

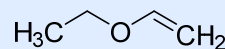
Ethylene glycol



CAS
107-21-1
F.W
62.07

14114-00	>99.5%	500mL	¥1,700
14114-70	>99.5%	3L	¥6,200
14114-80	>99.5%	20kg	☆

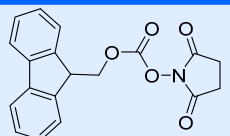
Ethyl vinyl ether



CAS
109-92-2
F.W
72.11

14541-31	>98.0%	25mL	¥3,100
14541-01	>98.0%	500mL	¥7,500

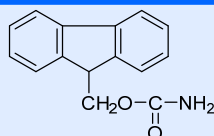
N-(9H-Fluoren-2-ylmethoxy-carbonyloxy)succinimide



CAS
82911-69-1
F.W
337.33

16077-55	>97.0%	5g	¥4,700
16077-35	>97.0%	25g	¥15,000
24310-1A	98%	5g	¥6,500

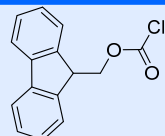
9-Fluorenylmethyl carbamate



CAS
84418-43-9
F.W
239.27

16079-65	>97.0%	1g	¥1,900
16079-45	>97.0%	10g	¥11,000

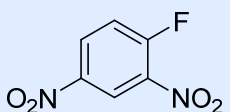
9-Fluorenylmethyl chloroformate



CAS
28920-43-6
F.W
258.7

16078-55	>97.0%	5g	¥4,800
16078-35	>97.0%	25g	¥15,000
17094-1A	98%	1g	¥5,200

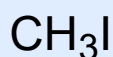
1-Fluoro-2,4-dinitrobenzene



CAS
70-34-8
F.W
186.1

10404-30	>99.0%	25g	¥8,000
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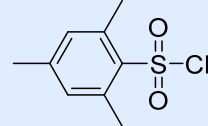
Iodomethane



CAS
74-88-4
F.W
141.94

25278-30	>99.5%	25g	¥3,500
25278-20	>99.5%	100g	¥5,900
25278-00	>99.5%	500g	¥13,500

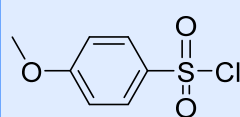
2-Mesitylenesulfonyl chloride



CAS
773-64-8
F.W
218.7

12559-3A	99%	25g	¥5,800
12559-2A	99%	100g	¥16,000
12559-1A	99%	500g	¥74,200

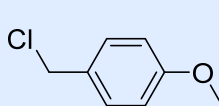
4-Methoxybenzenesulfonyl chloride



CAS
98-68-0
F.W
206.65

12573-1A	99%	25g	¥6,700
12573-2A	99%	100g	¥22,000

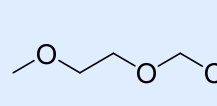
4-Methoxybenzyl chloride



CAS
824-94-2
F.W
156.61

29417-1A	98%	5g	¥4,800
29417-2A	98%	25g	¥13,100

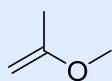
β-Methoxyethoxymethyl chloride



CAS
3970-21-6
F.W
124.57

18598-2A	94%	10g	¥10,600
18598-1A	94%	25g	¥15,900
18598-3A	94%	100g	¥52,500

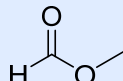
2-Methoxypropene



CAS
116-11-0
F.W
72.11

17435-1A	97%	250mL	¥12,000
17435-2A	97%	1L	¥38,700

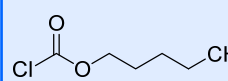
Methyl formate



CAS
107-31-3
F.W
60.05

25261-01	>95.0%	500g	¥3,200
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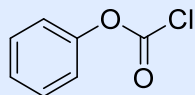
1-Pentyl chloroformate



CAS
638-41-5
F.W
150.6

32522-55	>97.0%	5g	¥3,800
32522-35	>97.0%	25g	¥10,500

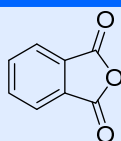
Phenyl chloroformate



CAS
1885-14-9
F.W
156.56

07740-31 >96.0% 25mL ¥3,500
21821-2A 99.0% 250mL ¥13,100

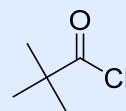
Phthalic anhydride



CAS
85-44-9
F.W
148.12

32211-30 99.5-100.3% 25g ¥1,700
32211-00 99.5-100.3% 500g ¥1,900

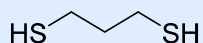
Pivaloyl chloride



CAS
3282-30-2
F.W
120.58

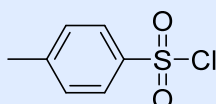
40597-30 >98.0% 25g ¥2,300
40597-20 >98.0% 100g ¥5,000

1,3-Propanedithiol



CAS
109-80-8
F.W
108.23

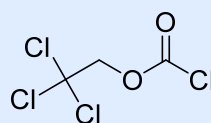
13141-1A 98% 50mL ¥12,600
13141-2A 98% 250mL ¥47,000

p-Toluenesulfonyl chloride

CAS
98-59-9
F.W
196.65

40192-31 >95.0% 25g ¥1,600
40192-01 >95.0% 500g ¥3,800
13903-1A >99% 25g ¥4,300

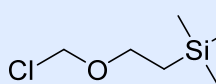
2,2,2-Trichloroethyl chloroformate



CAS
17341-93-4
F.W
211.86

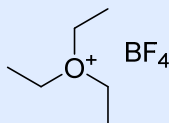
40755-31 >97.0% 25g ¥15,000

2-(Trimethylsilyl)ethoxymethyl chloride



CAS
76513-69-4
F.W
166.72

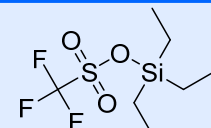
21902-2A 90% 5mL ¥16,100
21902-3A 90% 25mL ¥58,900

Triethyloxonium tetrafluoroborate, 1mol/l solution in CH₂Cl₂

CAS
368-39-8
F.W
189.99

17511-2A 25mL ¥7,400
17511-1A 100mL ¥16,300

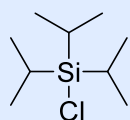
Triethylsilyl trifluoromethanesulfonate



CAS
79271-56-0
F.W
264.34

31270-1A 99% 10g ¥9,800

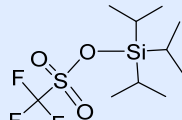
Triisopropylsilyl chloride



CAS
13154-24-0
F.W
192.8

22126-2A 97% 10g ¥7,400
22126-1A 97% 50g ¥25,200

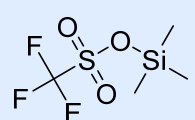
Triisopropylsilyl trifluoromethanesulfonate



CAS
80522-42-5
F.W
306.42

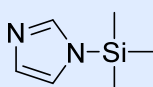
25070-1A 97% 10g ¥9,000
25070-2A 97% 50g ¥28,900

Trimethylsilyl trifluoromethanesulfonate



CAS
27607-77-8
F.W
222.26

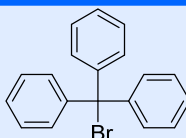
20944-2A 99% 10mL ¥6,400
20944-1A 99% 50mL ¥17,200
20944-3A 99% 250mL ¥69,000

N-(Trimethylsilyl)imidazole

CAS
18156-74-6
F.W
140.26

16713-1A 97% 25g ¥8,500
16713-3A 97% 100g ¥16,500
16713-4A 97% 250g ¥46,700

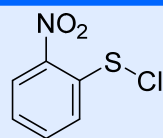
Triphenylmethyl bromide



CAS
596-43-0
F.W
323.23

14039-1A 98% 10g ¥3,500
14039-2A 98% 50g ¥11,600

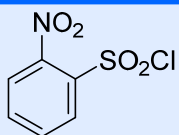
2-Nitrobenzenesulfonyl chloride



CAS
7669-54-7
F.W
189.62

16133-1A 98% 10g ¥11,400
16133-2A 98% 50g ¥47,400

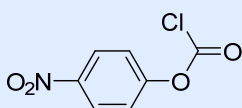
o-Nitrobenzenesulfonyl chloride



CAS
1694-92-4
F.W
221.62

28205-31	>95.0%	25g	¥4,300
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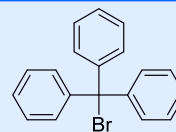
p-Nitrophenyl chloroformate



CAS
7693-46-1
F.W
201.56

28383-51	>95.0%	5g	¥8,500
28383-31	>95.0%	25g	¥16,000
17080-1A	97%	25g	¥13,000

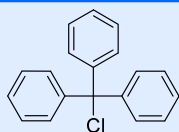
Trityl bromide



CAS
596-43-0
F.W
323.23

40557-35	>97.0%	25g	¥5,900
40557-25	>97.0%	100g	¥12,500

Trityl chloride



CAS
76-83-5
F.W
278.78

40558-35	>97.0%	25g	¥3,000
40558-15	>97.0%	250g	¥13,000

関連製品

製品名	CAS	品位	製品番号	包装	価格(¥)
Boron trichloride, 1mol/l in dichloromethane	10294-34-5		17668-1A	100mL	11,500
Chromic anhydride	1333-82-0	>98.0%	07355-30	25g	2,400
			07355-20	100g	4,300
			07355-00	500g	9,500
Iodotrimethylsilane	16029-98-4	95-97%	18749-2A	5mL	5,800
			18749-1A	25mL	14,100
			18749-3A	100mL	47,300
Hydrobromic acid, in acetic acid	10035-10-6	31.5-36.5%	12318-1A	500mL	9,700
			12318-2A	1L	27,800
Hydrogen fluoride-pyridine	32001-55-1	65-70%	18007-2A	10g	10,800
			18007-1A	100g	28,600
Palladium on activated carbon, 5% Pd	7440-05-3		49001-54	1g	☆
			49001-53	25g	☆
			49001-55	100g	☆
Palladium on activated carbon, 10% Pd	7440-05-3		49001-57	1g	☆
			49001-56	25g	☆
			49001-58	100g	☆
Phenethyl isocyanate	1943-82-4	>97.0%	32521-55	5g	4,100
			32521-35	25g	14,500
Tetrabutylammonium fluoride, 1M solution in THF	429-41-4		40985-35	25mL	5,300
			40985-25	100mL	9,500
			40985-05	500mL	25,000
			20195-1A	5mL	3,600
			20195-3A	100mL	7,700
			20195-2A	500mL	27,700
Tetrabutylammonium fluoride trihydrate	87749-50-6	>97.0%	40769-35	25g	7,000
			40769-15	250g	36,000
<i>p</i> -Toluenesulfonic acid, in acetic acid	104-15-4	11-13%	42122-1A	250g	20,600
			42122-2A	1kg	41,100
<i>p</i> -Toluenesulfonic acid monohydrate	6192-52-5	>99.0%	40189-31	25g	1,800
			40189-01	500g	3,300
Trifluoroacetic acid	76-05-1	>99.0%	40578-30	25g	2,100
			40578-00	500g	16,500
Trifluoroacetic anhydride	407-25-0	>98.0%	40579-30	25g	4,700
Trifluoromethanesulfonic acid	1493-13-6	>99.0%	40920-32	25g	7,500
		99%	16989-2A	1mL	6,900
		99%	16989-1A	10mL	8,600
		99%	16989-3A	50mL	15,200



参考：各保護基の特徴、脱保護条件一覧

保護官能基	構造	保護基名称	特徴	脱保護条件
-OH		メチルエーテル	温和な条件にて、多くの反応条件に対して安定	(CH ₃) ₃ SiI等の強ルイス酸
-OH		t-ブチルエーテル	アルカリ、接触水添、還元剤、求核剤に安定	強酸による分解 (CF ₃ COOH、HBr-酢酸等)
-OH		アリルエーテル	弱酸およびアルカリに対して安定	異性化後、酸加水分解等
-OH		ベンジルエーテル	弱酸およびアルカリ、求核剤、還元剤に対して安定	接触水添、強ルイス酸等
-OH		シリルエーテル	反応性の低いアルコールの保護 多価アルコールの選択的保護が可能	酸加水分解、フッ化物イオン等
-OH		THPエーテル	アルカリ、還元剤、求核剤に安定	酸加水分解等
-COOH		t-ブチルエステル	アルカリに対して安定	酸加水分解等
-COOH		ベンジルエステル	加水素分解により、脱保護が容易	加水素分解等
-COOH		シリルエステル	加水分解により、脱保護が容易	加水分解等
-NH2		t-Boc	接触水添に対して安定	酸による分解等
-NH2		Fmoc	酸又は酸化剤に対して安定	接触水添、アミンによる分解等

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