

# List of Compounds

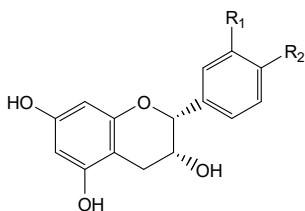
## Nagara Science Co., Ltd.

840 Furuichiba, Gifu-shi, Gifu 501-1121 JAPAN

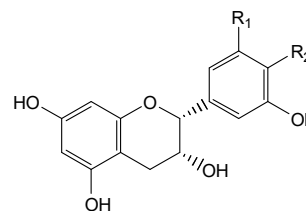
Phone : +81-58-234-4257 , Fax : +81-58-234-4724

E-mail : nagara@nsgifu.jp , http : //www.nsgifu.jp

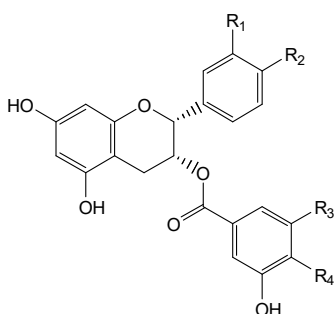
### Green tea



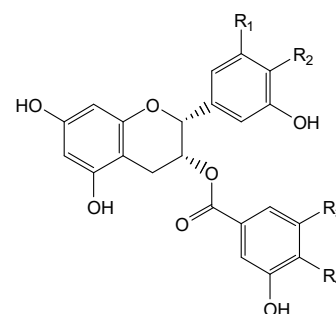
- (-)-Epicatechin  $R_1=R_2=OH$   
 (-)-Epicatechin-3'-*O*-methylether  $R_1=OCH_3, R_2=OH$   
 (-)-Epicatechin-4'-*O*-methylether  $R_1=OH, R_2=OCH_3$



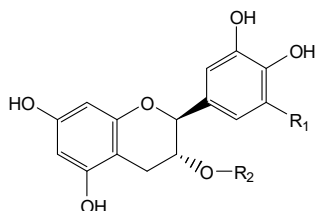
- (-)-Epigallocatechin  $R_1=R_2=OH$   
 (-)-Epigallocatechin-3'-*O*-methylether  $R_1=OCH_3, R_2=OH$   
 (-)-Epigallocatechin-4'-*O*-methylether  $R_1=OH, R_2=OCH_3$



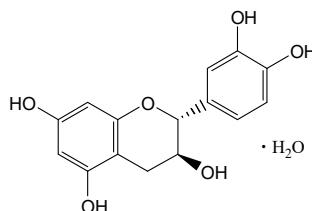
- (-)- Epicatechin gallate  $R_1=R_2=R_3=R_4=OH$   
 (-)- Epicatechin-3'-*O*-methylether gallate  $R_1=OCH_3, R_2=R_3=R_4=OH$   
 (-)- Epicatechin-4'-*O*-methylether gallate  $R_2=OCH_3, R_1=R_3=R_4=OH$   
 (-)- Epicatechin 3-(3''-*O*-methyl) gallate  $R_3=OCH_3, R_1=R_2=R_4=OH$   
 (-)- Epicatechin 3-(4''-*O*-methyl) gallate  $R_4=OCH_3, R_1=R_2=R_3=OH$



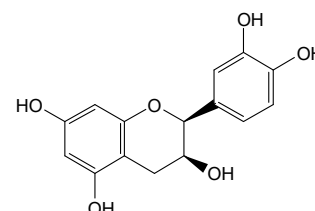
- (-)- Epigallocatechin gallate  $R_1=R_2=R_3=R_4=OH$   
 (-)- Epigallocatechin-3'-*O*-methylether gallate  $R_1=OCH_3, R_2=R_3=R_4=OH$   
 (-)- Epigallocatechin-4'-*O*-methylether gallate  $R_2=OCH_3, R_1=R_3=R_4=OH$   
 (-)- Epigallocatechin 3-(3''-*O*-methyl) gallate  $R_3=OCH_3, R_1=R_2=R_4=OH$   
 (-)- Epigallocatechin 3-(4''-*O*-methyl) gallate  $R_4=OCH_3, R_1=R_2=R_3=OH$



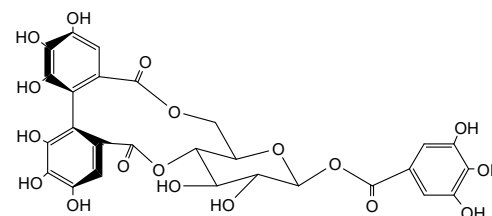
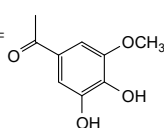
- (-)-Catechin  $R_1=R_2=H$   
 (-)-Gallocatechin  $R_1=OH, R_2=H$   
 (-)-Catechin gallate  $R_1=H, R_2=Galloyl$   
 (-)-Gallocatechin gallate  $R_1=OH, R_2=Galloyl$   
 (-)- Gallocatechin 3-(3''-*O*-methyl) gallate  $R_1=OH, R_2=$



(+)-Catechin hydrate

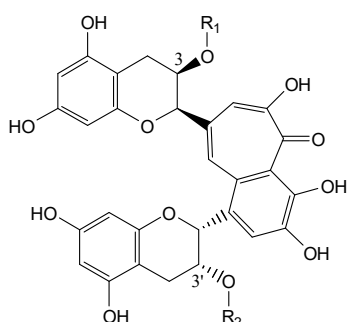


(+)-Epicatechin

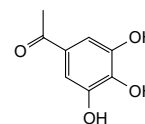


Strictinin

### Black tea

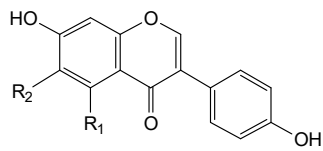


- Theaflavin  $R_1=R_2=H$   
 Theaflavin 3-*O*-gallate  $R_1=Galloyl, R_2=H$   
 Theaflavin 3'-*O*-gallate  $R_1=H, R_2=Galloyl$   
 Theaflavin 3,3'-di-*O*-gallate  $R_1=R_2=Galloyl$

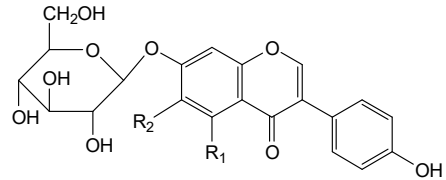


Galloyl

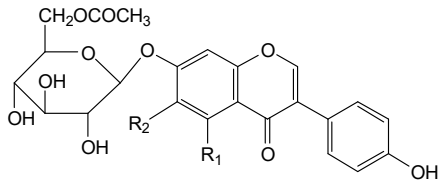
Soy bean



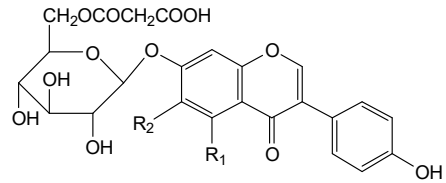
Daidzein  $R_1=R_2=H$   
 Glycitein  $R_1=H, R_2=OCH_3$   
 Genistein  $R_1=OH, R_2=H$



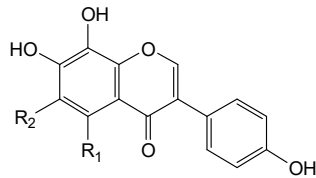
Daidzin  $R_1=R_2=H$   
 Glycitin  $R_1=H, R_2=OCH_3$   
 Genistin  $R_1=OH, R_2=H$



6''-O-Acetyldaidzin  $R_1=R_2=H$   
 6''-O-Acetylglycitin  $R_1=H, R_2=OCH_3$   
 6''-O-Acetylgenistin  $R_1=OH, R_2=H$

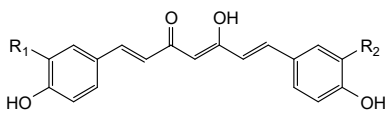


6''-O-Malonyldaidzin  $R_1=R_2=H$   
 6''-O-Malonylglycitin  $R_1=H, R_2=OCH_3$   
 6''-O-Malonylgenistin  $R_1=OH, R_2=H$

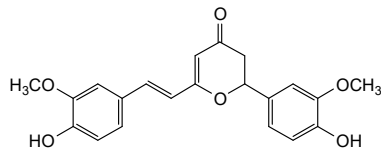


8-Hydroxydaidzein  $R_1=R_2=H$   
 8-Hydroxyglycitein  $R_1=H, R_2=OCH_3$   
 8-Hydroxygenistein  $R_1=OH, R_2=H$

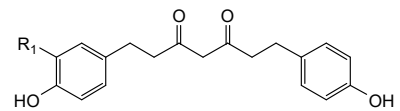
Turmeric



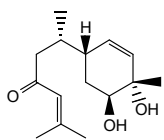
Curcumin 1  $R_1=R_2=OCH_3$   
 Curcumin 2  $R_1=H, R_2=OCH_3$   
 Curcumin 3  $R_1=R_2=H$



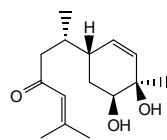
Cyclocurcumin



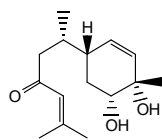
Tetrahydrodemethoxycurcumin  $R_1=OCH_3$   
 Tetrahydrobisdemethoxycurcumin  $R_1=H$



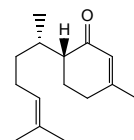
Bisacurone



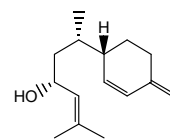
Bisacurone A



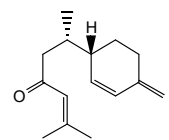
Bisacurone B



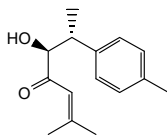
1-Bisabolone



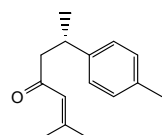
Bisacuroul



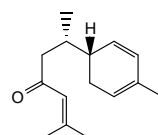
Curlone



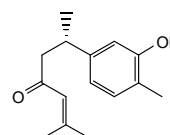
2-Hepten-4-one, 5-hydroxy-2-methyl-6-(4-methylphenyl)-



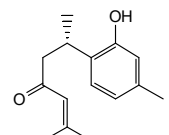
ar-Turmerone



$\alpha$ -Turmerone

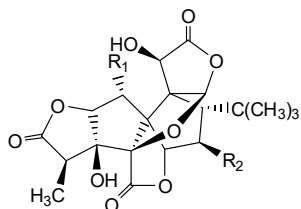


Turmeronol A

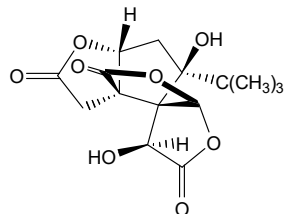


Turmeronol B

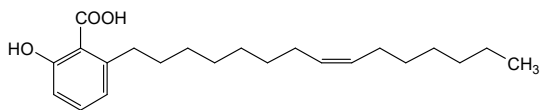
Ginkgo biloba



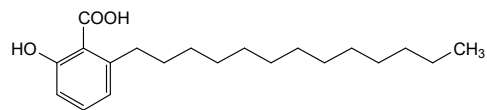
Ginkgolide A R<sub>1</sub>=R<sub>2</sub>=H  
 Ginkgolide B R<sub>1</sub>=OH, R<sub>2</sub>=H  
 Ginkgolide C R<sub>1</sub>=R<sub>2</sub>=OH



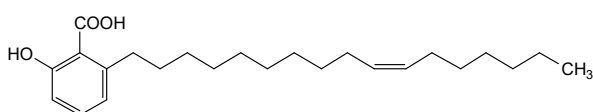
(-)-Bilobalide



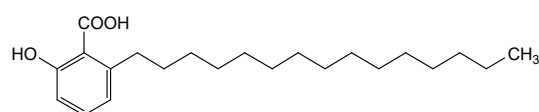
Ginkgolic acid 15:1  
 [Anacardic acid 15:1]



Ginkgolic acid 13:0  
 [Anacardic acid 13:0]

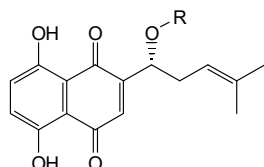


Ginkgolic acid 17:1  
 [Anacardic acid 17:1]



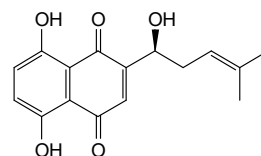
Ginkgolic acid 15:0  
 [Anacardic acid 15:0]

Lithospermum erythrorhizon



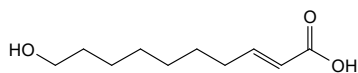
Shikonin  
 Acetylshikonin  
 Isobutyrylshikonin  
 β-Hydroxyisovalerylshikonin  
 Isovalerylshikonin  
 α-Methyl-n-butyrylshikonin  
 β, β-Dimethylacrylshikonin  
 β-Acetoxyisovalerylshikonin

R=H  
 R=COCH<sub>3</sub>  
 R=COCH(CH<sub>3</sub>)<sub>2</sub>  
 R=COCH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>OH  
 R=COCH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>  
 R=COCH(CH<sub>3</sub>)CH<sub>2</sub>CH<sub>3</sub>  
 R=COCH=C(CH<sub>3</sub>)<sub>2</sub>  
 R=COCH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>OCOCH<sub>3</sub>



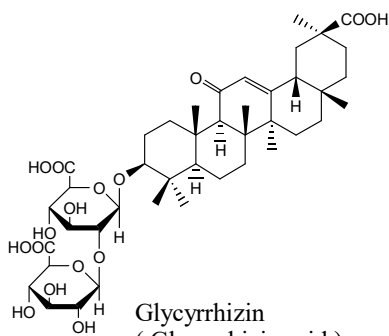
Alkannin

Royal jelly

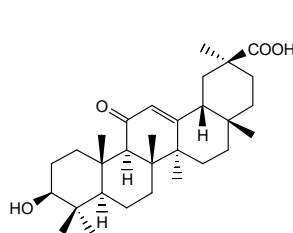


(E)-10-Hydroxy-2-decenoic acid

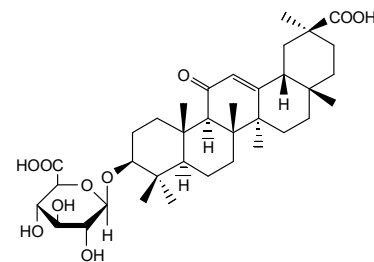
Licorice ( Glycyrrhiza )



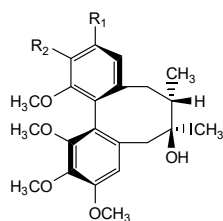
Glycyrrhizin  
 ( Glycyrrhizic acid )



Glycyrrhetic acid

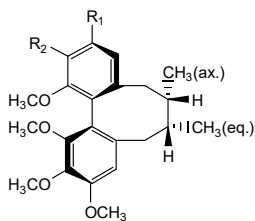


Glycyrrhetic acid 3-O-glucuronide



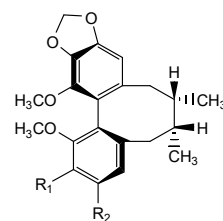
Schizandrin  
Gomisins A

$R_1 = \text{OCH}_3, R_2 = \text{OCH}_3$   
 $R_1 + R_2 = \text{OCH}_2\text{O}$



Deoxyschizandrin  
(±)- $\gamma$ -Schizandrin

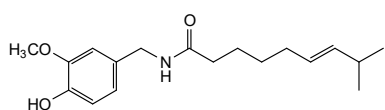
$R_1 = \text{OCH}_3, R_2 = \text{OCH}_3$   
 $R_1 + R_2 = \text{OCH}_2\text{O}$



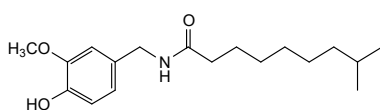
Gomisin N  
Wuweizisu C

$R_1 = \text{OCH}_3, R_2 = \text{OCH}_3$   
 $R_1 + R_2 = \text{OCH}_2\text{O}$

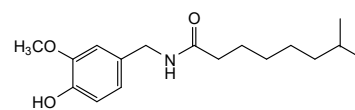
## Red pepper



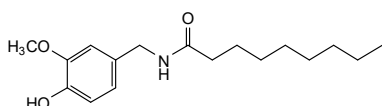
Capsaicin



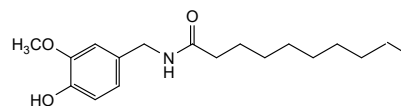
Dihydrocapsaicin



Nordihydrocapsaicin

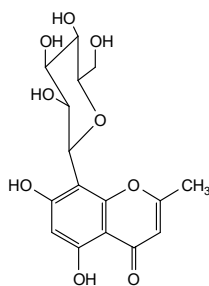


*N*-Vanillylnonanamide

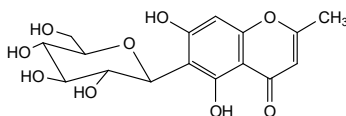


*N*-Vanillyldecanamide

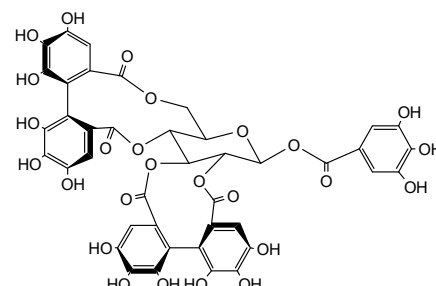
## Clove



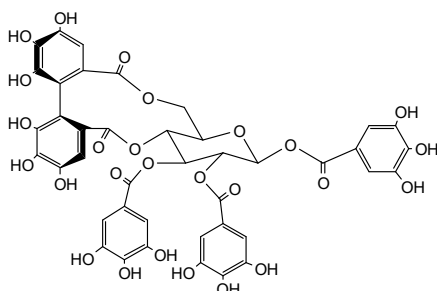
Clove3



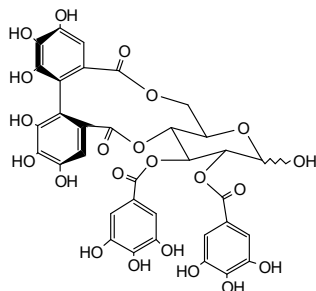
Biflorin



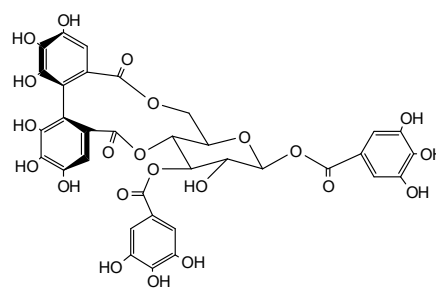
Casuarictin



Eugenin

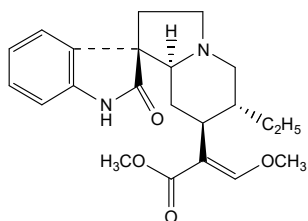


Tellimagrandin 1



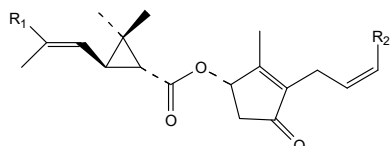
1,3-Di-*O*-galloyl-4,6-*O*-(*S*)-hexahydroxydiphenoyl- $\beta$ -*D*-glucose

## Uncaria rhynchophylla



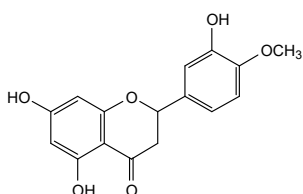
Rhynchophylline

## Pyrethrins

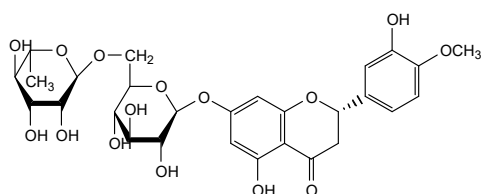


- Pyrethrin I :  $R_1 = \text{CH}_3$ ,  $R_2 = \text{CH}=\text{CH}_2$   
 Pyrethrin II :  $R_1 = \text{C}(\text{O})\text{OCH}_3$ ,  $R_2 = \text{CH}=\text{CH}_2$   
 Cinerin I :  $R_1 = R_2 = \text{CH}_3$   
 Cinerin II :  $R_1 = \text{C}(\text{O})\text{OCH}_3$ ,  $R_2 = \text{CH}_3$   
 Jasmolin I :  $R_1 = \text{CH}_3$ ,  $R_2 = \text{CH}_2\text{CH}_3$   
 Jasmolin II :  $R_1 = \text{C}(\text{O})\text{OCH}_3$ ,  $R_2 = \text{CH}_2\text{CH}_3$

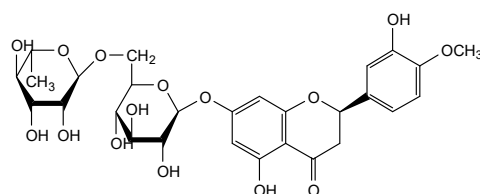
## Hesperidin, Naringin



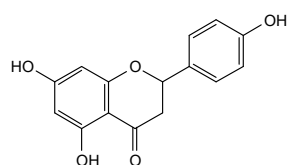
Hesperetin



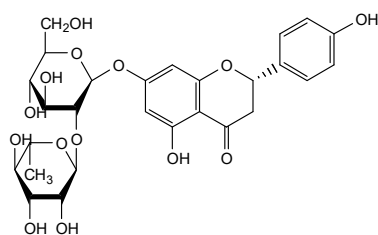
(2S)-Hesperidin



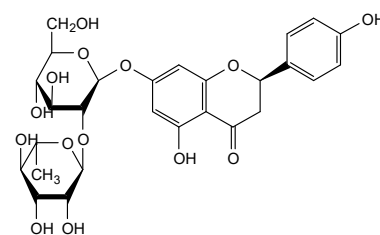
(2R)-Hesperidin



Naringenin

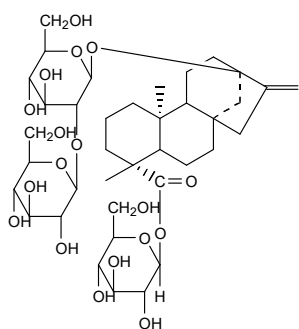


(2S)-Naringin

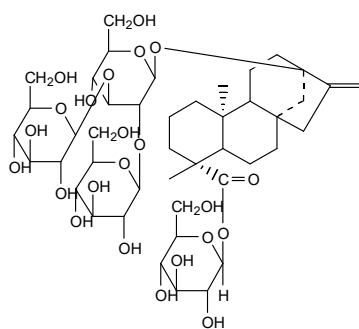


(2R)-Naringin

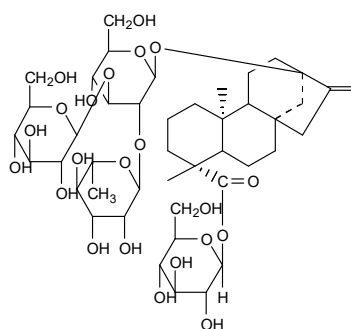
## Stevia



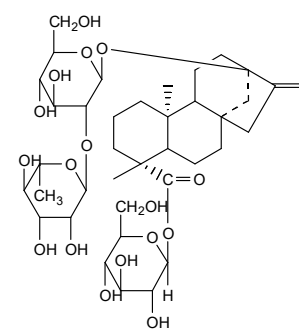
Stevioside



Rebaudioside A

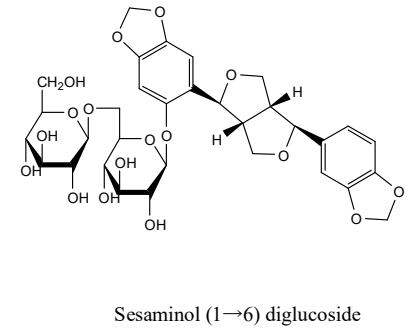
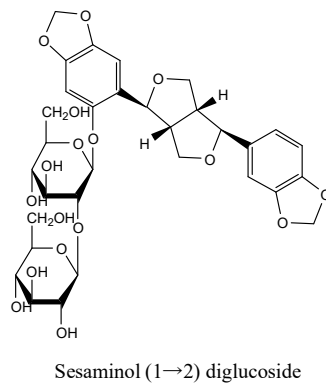
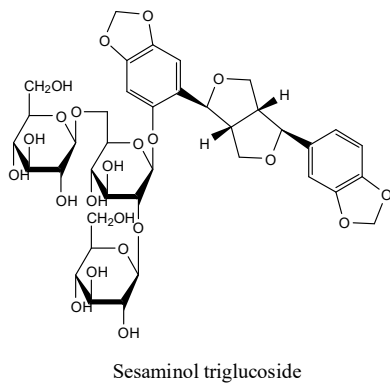
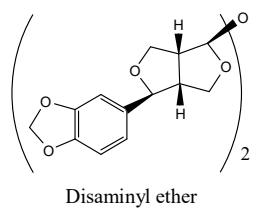
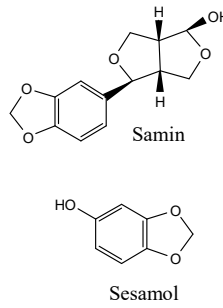
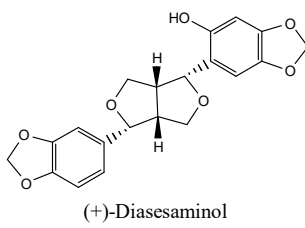
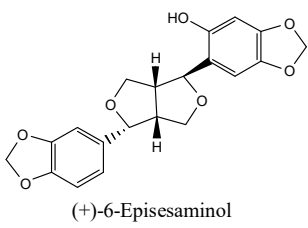
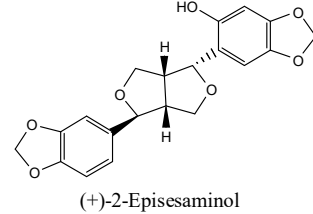
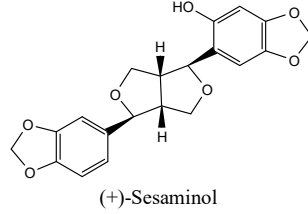
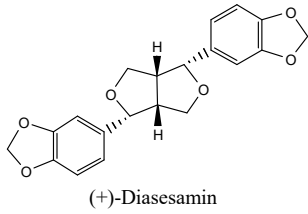
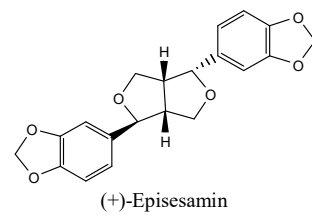
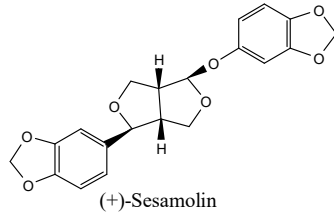
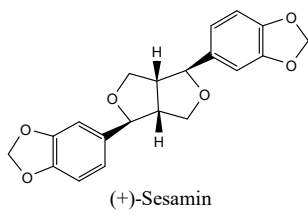


Rebaudioside C

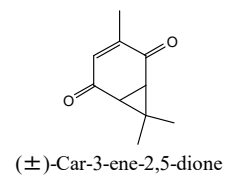
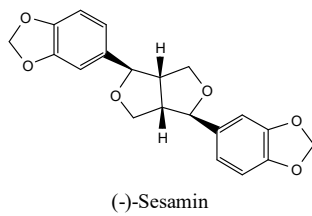
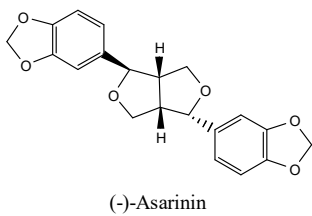


Dulcoside A

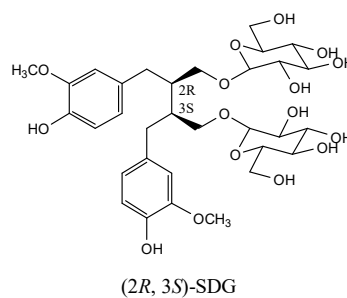
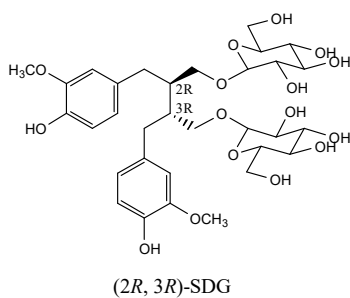
胡麻



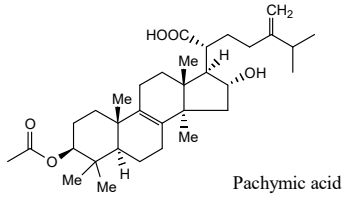
細辛



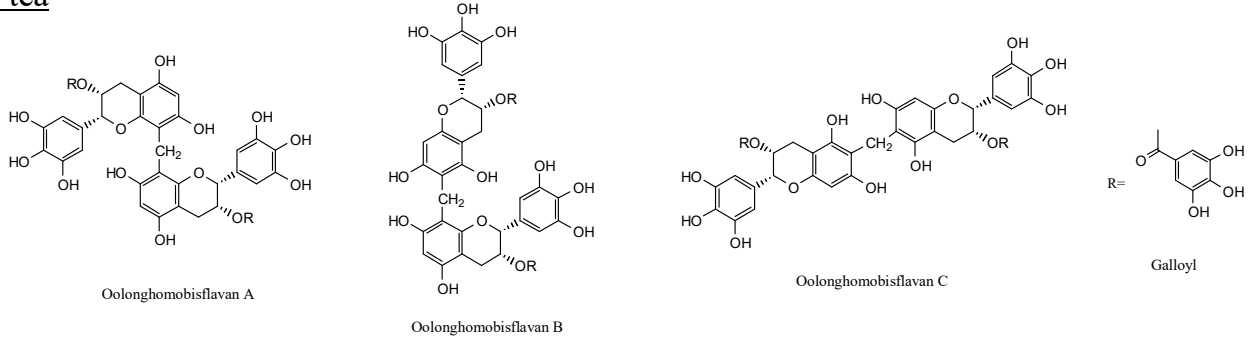
亜麻仁



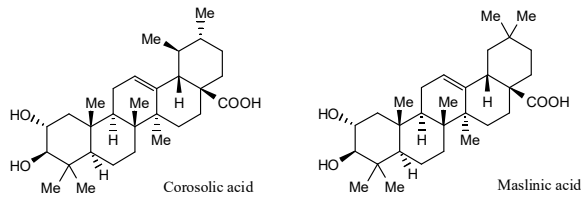
ブクリョウ



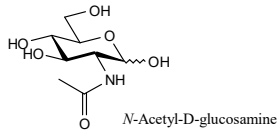
Oolong tea



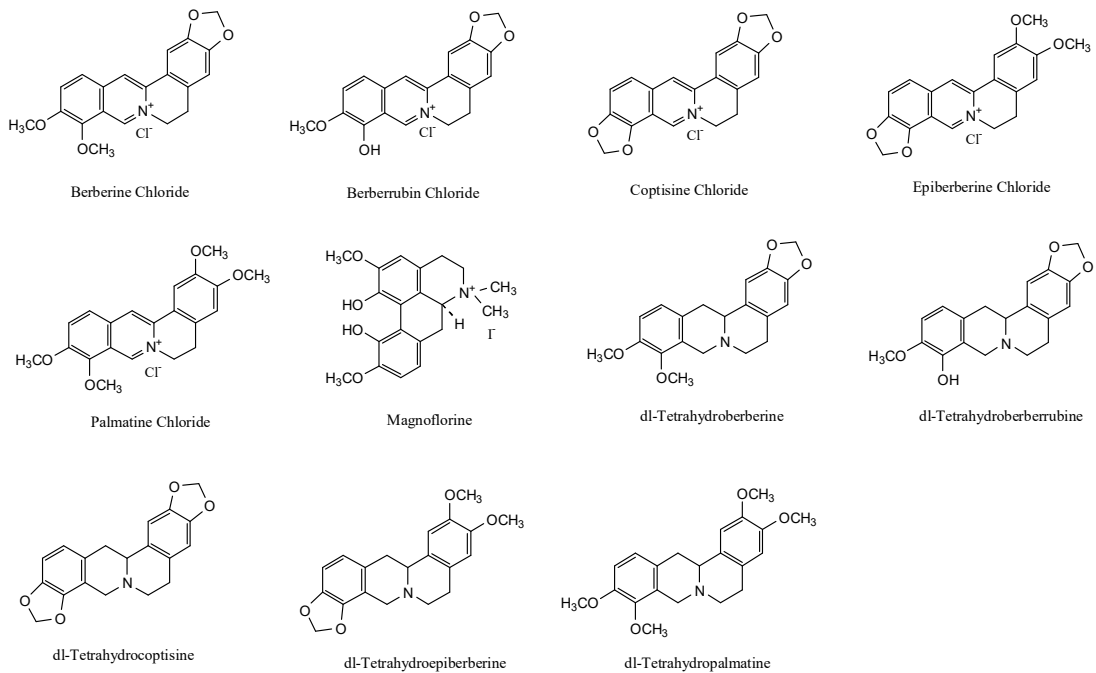
バナバ



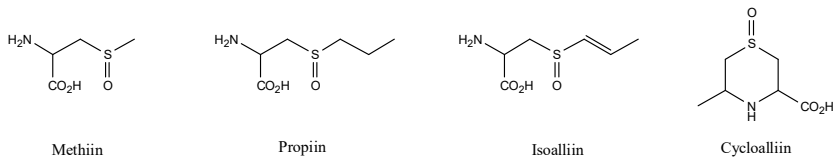
エビ・カニ



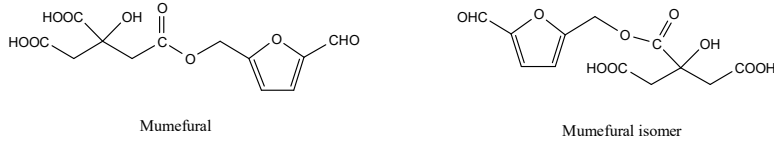
Coptis japonica



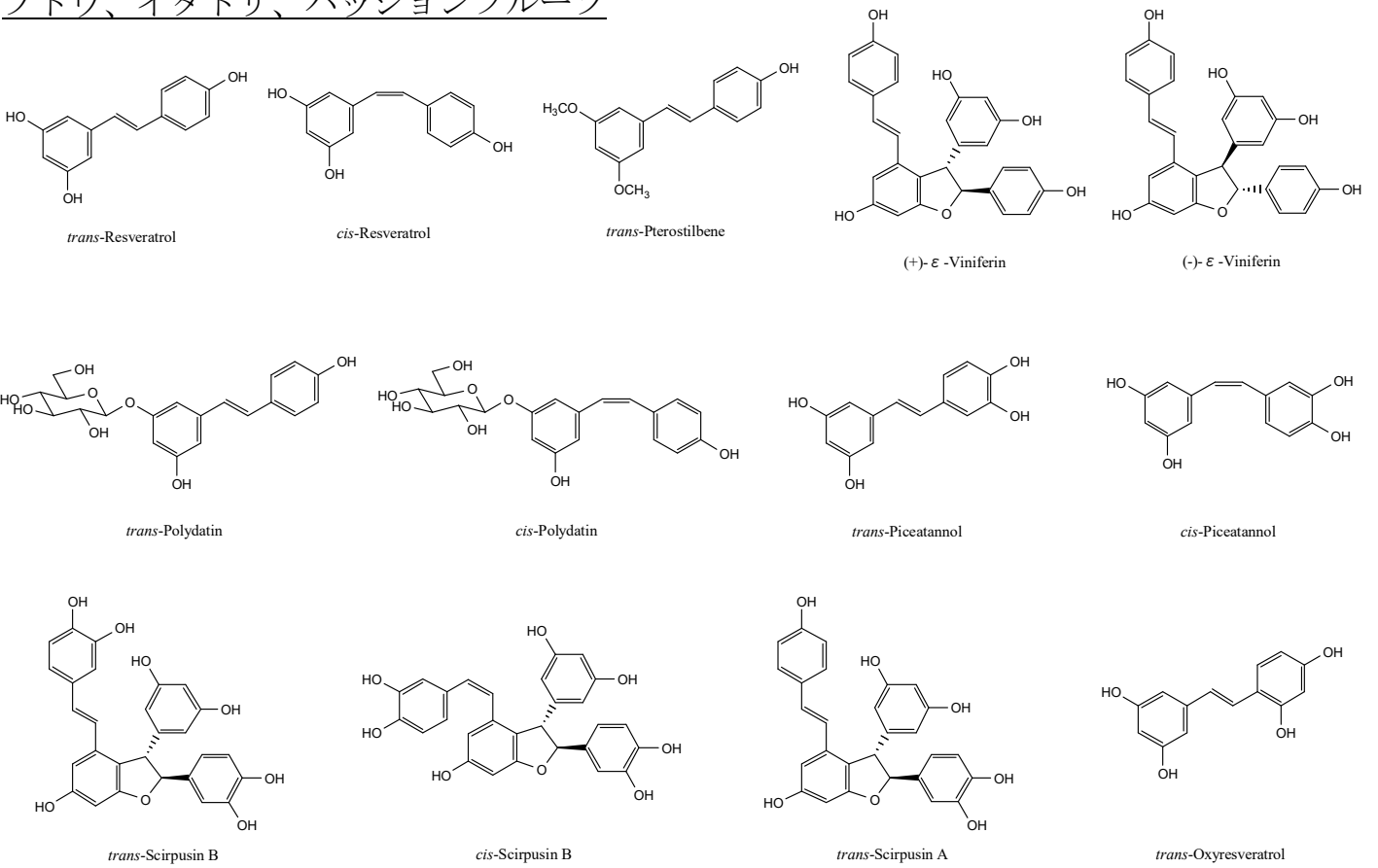
ニンニク、タマネギ



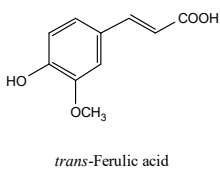
Mume



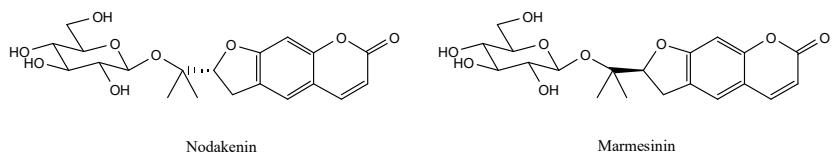
ブドウ、イタドリ、パッションフルーツ



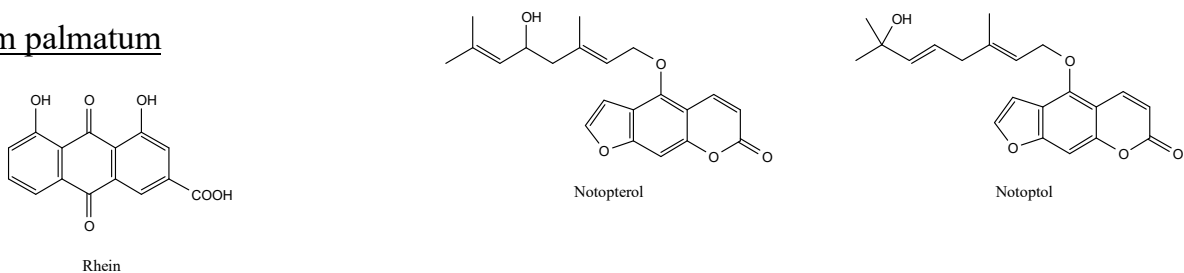
米糠フェルラ酸



Notopterygium incisum

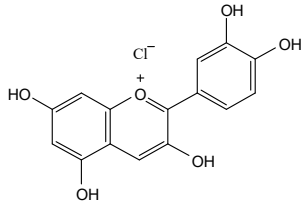


Rheum palmatum

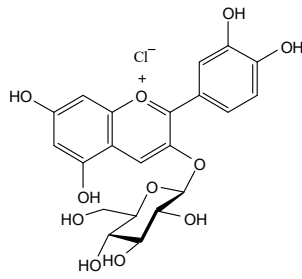




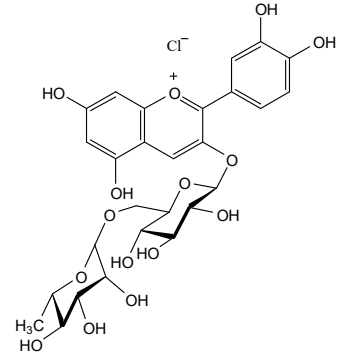
カシス、黒大豆他



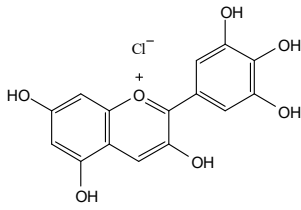
Cyanidin chloride



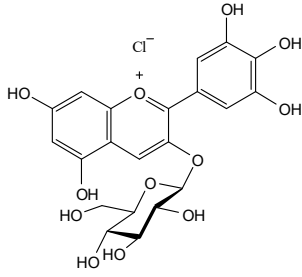
Cyanidin 3-glucoside chloride



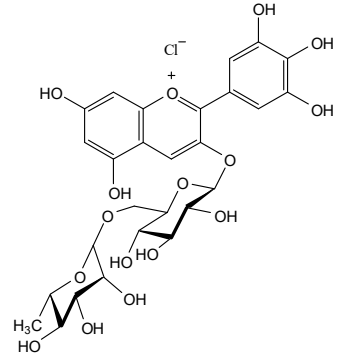
Cyanidin 3-rutinoside chloride



Delphinidin chloride

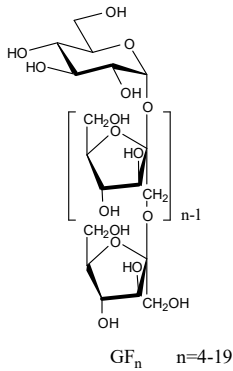


Delphinidin 3-glucoside chloride



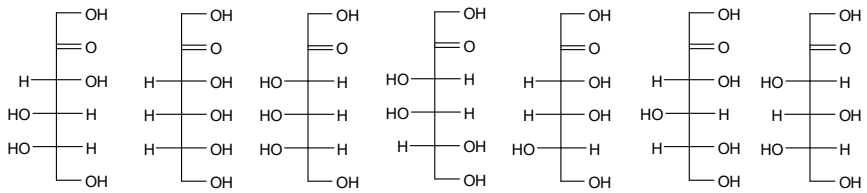
Delphinidin 3-rutinoside chloride

Inulin



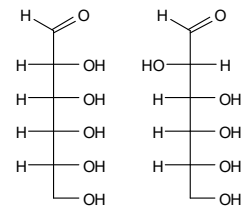
Rare Sugars

Ketohexoses



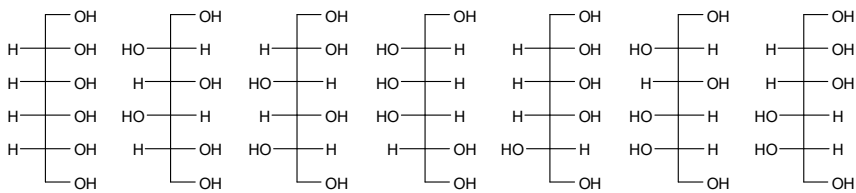
L-Fructose    D-Psicose    L-Psicose    D-Tagatose    L-Tagatose    D-Sorbose    L-Sorbose

Aldohexoses



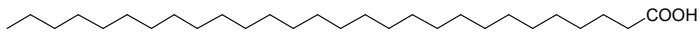
D-Allose    D-Altrose

Sugar alcohols

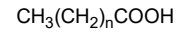


Allitol    D-Iditol    L-Iditol    D-Talitol    L-Talitol    L-Sorbitol    L-Mannitol

Saturated fatty acids

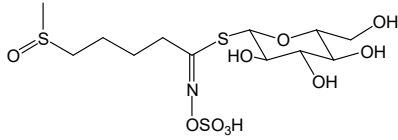


Octacosanoic acid

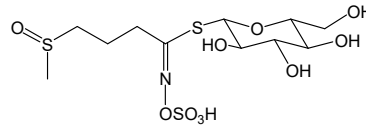


n=8-28

Broccoli

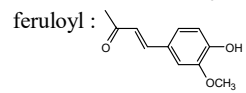
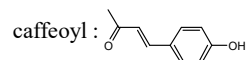
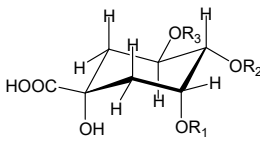


Glucoraphanin



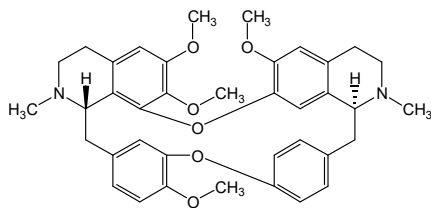
Glucoiberin

Coffee

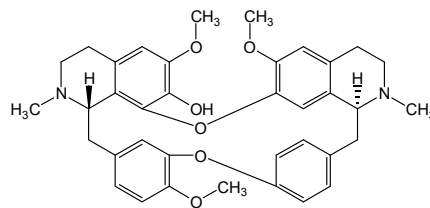


- 3-CQA R<sub>1</sub>=caffeoyl, R<sub>2</sub>=R<sub>3</sub>=H
- 4-CQA R<sub>2</sub>=caffeoyl, R<sub>1</sub>=R<sub>3</sub>=H
- 5-CQA R<sub>3</sub>=caffeoyl, R<sub>1</sub>=R<sub>2</sub>=H
- 3-FQA R<sub>1</sub>=feruloyl, R<sub>2</sub>=R<sub>3</sub>=H
- 4-FQA R<sub>2</sub>=feruloyl, R<sub>1</sub>=R<sub>3</sub>=H
- 5-FQA R<sub>3</sub>=feruloyl, R<sub>1</sub>=R<sub>2</sub>=H

防己

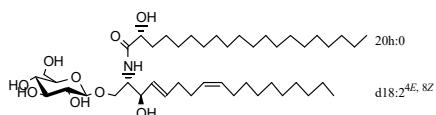


Tetrandrine

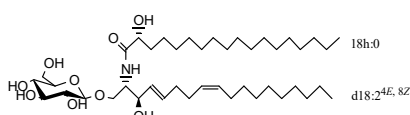


Fangchinoline

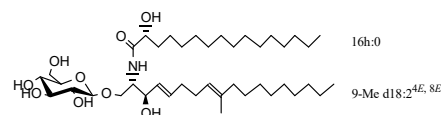
Glucosylceramides etc.



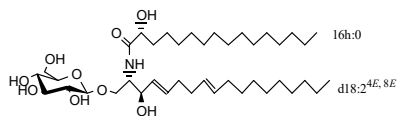
Glucosylceramide, from Rice, Maize  
(main component)



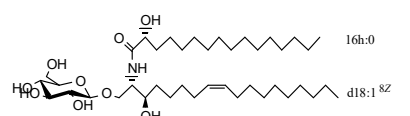
Glucosylceramide, from Konjac  
(main component)



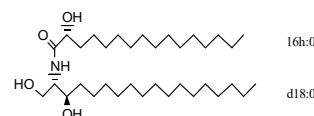
Glucosylceramide, from Hen of the woods, Tamogitake  
(main component)



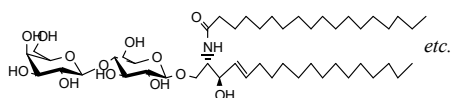
Glucosylceramide, from Soybean, Sugar beet  
(main component)



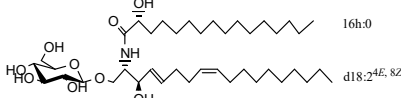
Glucosylceramide, from Wheat  
(main component)



Ceramide, from *Acetobacter Malorum*  
(main component)

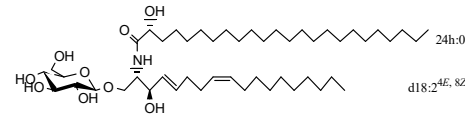
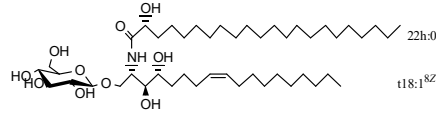
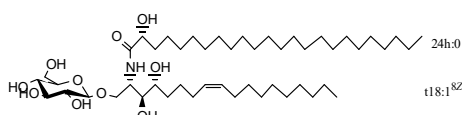
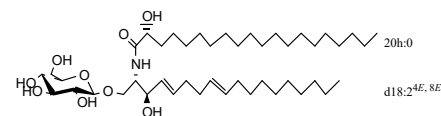
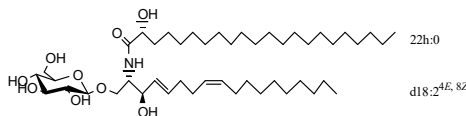
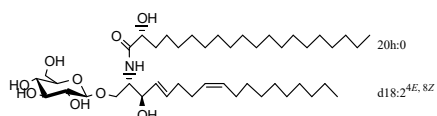


Lactosylceramide, from Milk

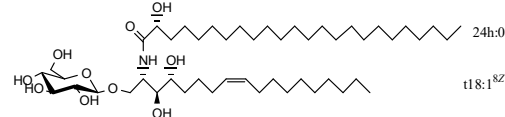
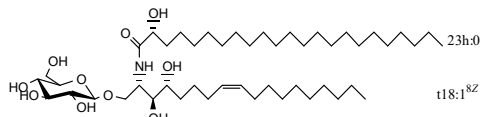
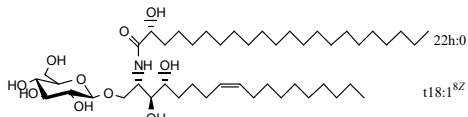
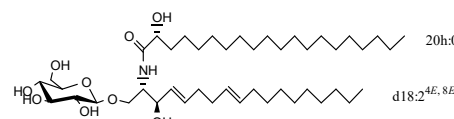
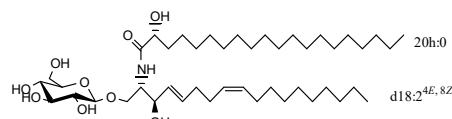
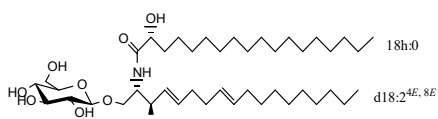
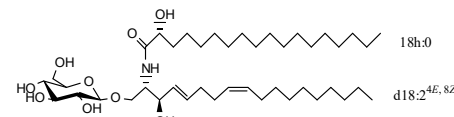
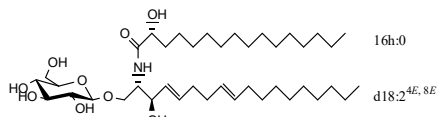
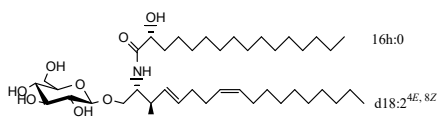


Glucosylceramide, from Peach  
(main component)

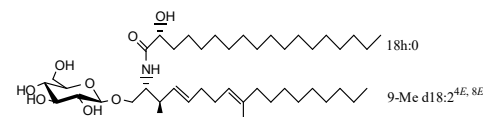
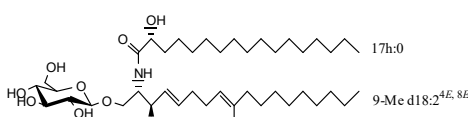
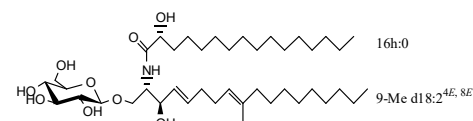
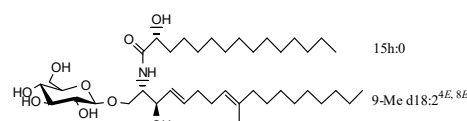
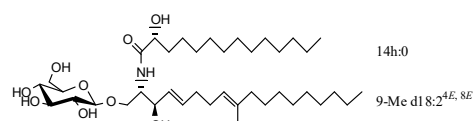
Glucosylceramide, from Rice

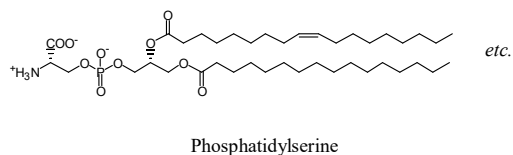
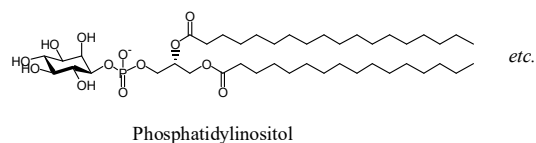
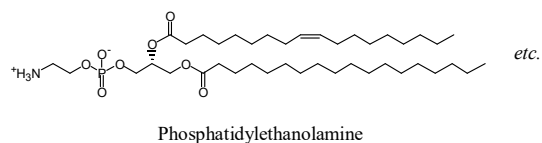
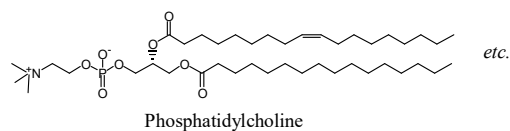
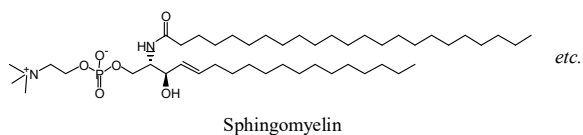
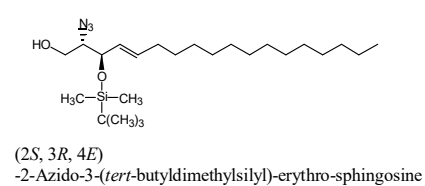
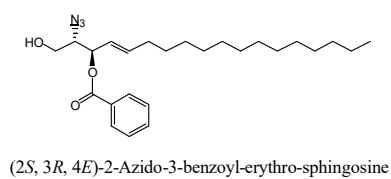
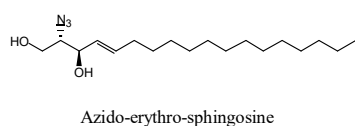
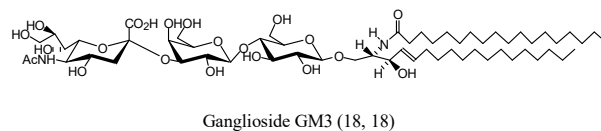
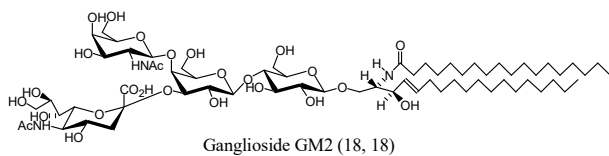
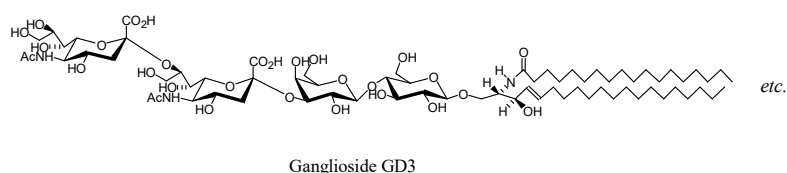
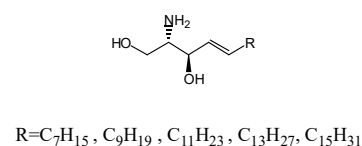
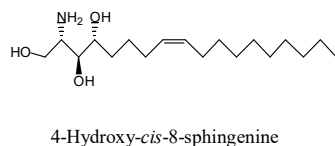
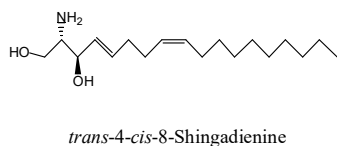


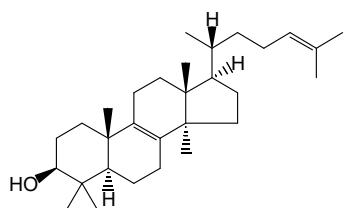
Glucosylceramide, from Konjac



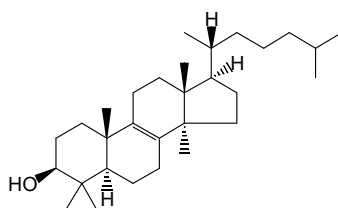
Glucosylceramide, from Hen of the woods, Tamogitake



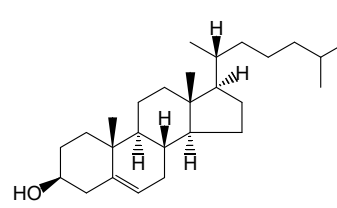
PhospholipidsGangliosides etc.Sphingoid bases

ラノリン・ステロイド

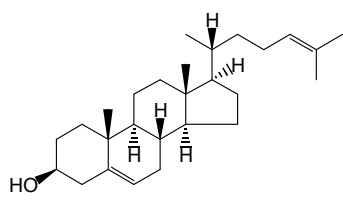
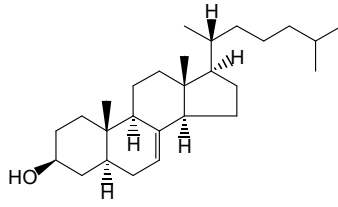
Lanosterol



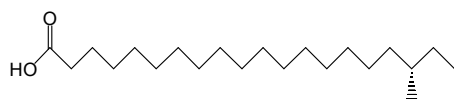
24, 25-Dihydrolanosterol



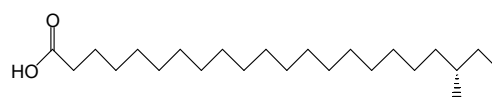
Cholesterol

Desmosterol  
(24-Dehydrocholesterol)

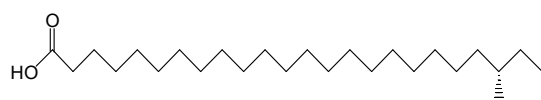
Lathosterol

アンテイスン型ラノリン脂肪酸

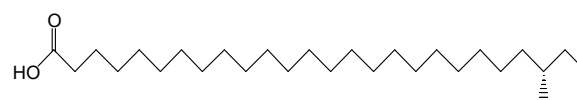
18-Methyleicosanoic acid



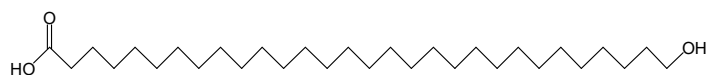
20-Methyldocosanoic acid



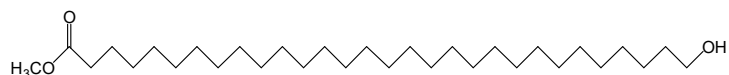
22-Methyltetracosanoic acid



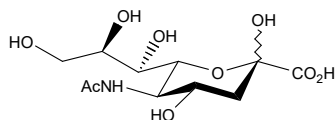
24-Methylhexacosanoic acid

ω-ヒドロキシ脂肪酸

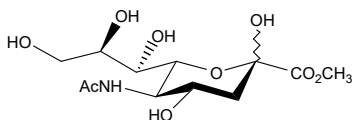
30-Hydroxytriacontanoic acid



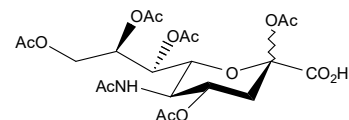
Methyl 30-hydroxytriacontanoate



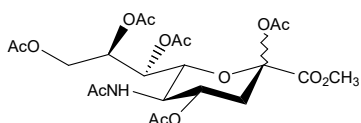
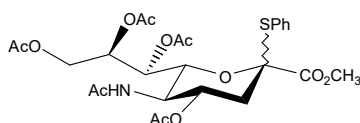
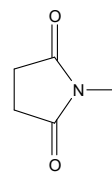
N-Acetylneuraminic acid



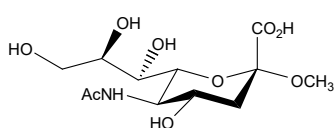
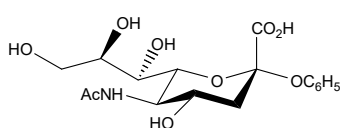
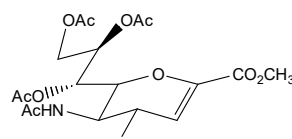
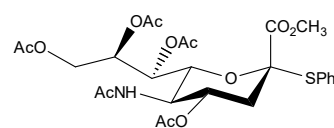
N-Acetylneuraminic acid, methyl ester



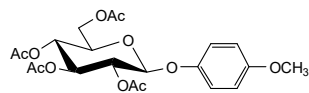
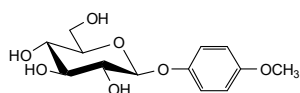
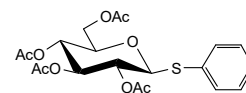
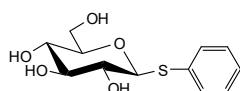
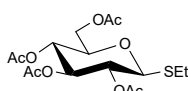
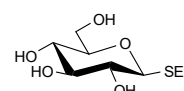
N-Acetylneuraminic acid, 2,4,7,8,9-pentaacetate

N-Acetylneuraminic acid, methyl ester,  
2,4,7,8,9-pentaacetateN-Acetyl-2-phenylthioneuraminic acid,  
methyl ester, 4,7,8,9-tetraacetate

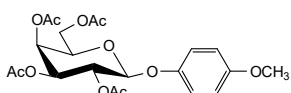
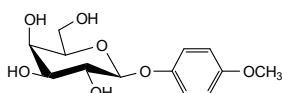
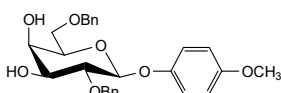
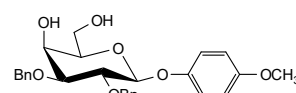
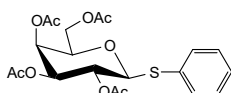
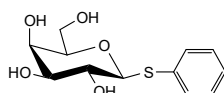
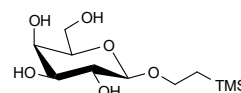
N-Iodosuccinimide

2-O-Methyl  $\alpha$ -D-N-acetylneuraminic acid2-O-Phenyl  $\alpha$ -D-N-acetylneuraminic acidMethyl 2,3-didehydro-4,7,8,9-tetra-*O*-  
acetyl-N-acetylneuraminic acidN-Acetyl-2-phenylthio- $\alpha$ -neuraminic acid,  
methyl ester, 4,7,8,9-tetraacetate

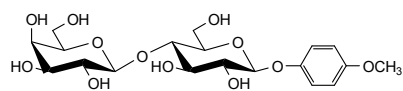
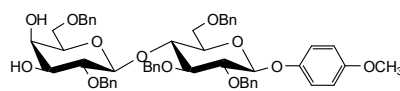
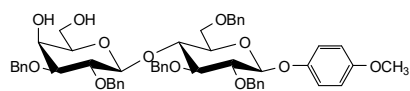
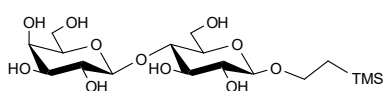
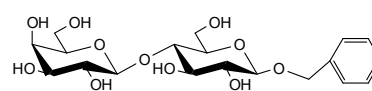
## グルコース誘導体

4-Methoxyphenyl  
2,3,4,6-tetra-*O*-acetyl- $\beta$ -D-glucopyranoside4-Methoxyphenyl  $\beta$ -D-glucopyranosidePhenyl 2,3,4,6-tetra-*O*-acetyl-1-thio- $\beta$ -D-glucopyranosidePhenyl 1-thio- $\beta$ -D-glucopyranosideEthyl 2,3,4,6-tetra-*O*-acetyl-1-thio- $\beta$ -D-glucopyranosideEthyl 1-thio- $\beta$ -D-glucopyranoside

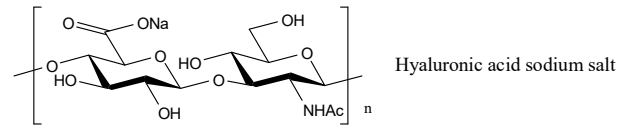
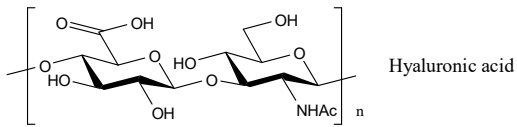
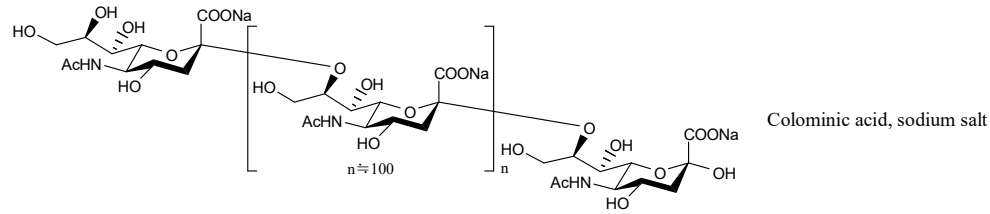
## ガラクトース誘導体

4-Methoxyphenyl 2,3,4,6-tetra-*O*-acetyl-  
 $\beta$ -D-galactopyranoside4-Methoxyphenyl  $\beta$ -D-galactopyranoside4-Methoxyphenyl 2,6-di-*O*-benzyl-  
 $\beta$ -D-galactopyranoside4-Methoxyphenyl 2,3-di-*O*-benzyl-  
 $\beta$ -D-galactopyranosidePhenyl 2,3,4,6-tetra-*O*-acetyl-  
1-thio- $\beta$ -D-galactopyranosidePhenyl 1-thio- $\beta$ -D-galactopyranoside2-(Trimethylsilyl)ethyl  $\beta$ -D-galactopyranoside

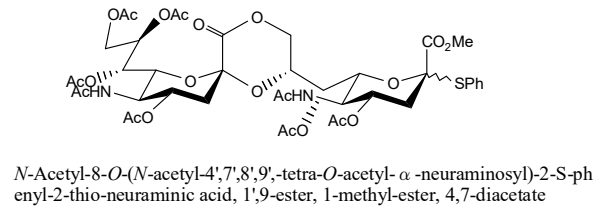
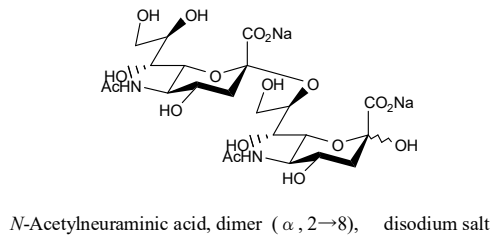
## ラクトース誘導体

4-Methoxyphenyl 4-*O*- $\beta$ -D-galactopyranosyl- $\beta$ -D-glucopyranoside4-Methoxyphenyl 2,2',3,6,6'-penta-*O*-benzyl-4-*O*- $\beta$ -  
D-galactopyranosyl- $\beta$ -D-glucopyranoside4-Methoxyphenyl 2,2',3,3',6'-penta-*O*-benzyl-4-*O*- $\beta$ -  
D-galactopyranosyl- $\beta$ -D-glucopyranoside2-(Trimethylsilyl)ethyl  
4-*O*- $\beta$ -D-galactopyranosyl- $\beta$ -D-glucopyranosideBenzyl 4-*O*- $\beta$ -D-galactopyranosyl- $\beta$ -D-glucopyranoside

オリゴマー



ジシアル酸



シアル酸含有糖鎖及びその保護体

