

Dragalin, I.P. et al., Phytochemistry, 1975, 14, 1817, (Protoyuccoside C)

§ **Furostane-3,22,26-triol**; (3 β , 5 β , 22 α , 25*S*)-form, 3-*O*-[α -D-Galactopyranosyl-(1 \rightarrow 2)-[β -D-galactopyranosyl-(1 \rightarrow 6)]- β -D-glucopyranosyl-(1 \rightarrow 4)- β -D-glucopyranoside], 26-*O*- β -D-glucopyranoside

[化学名・別名] Protoyuccoside E

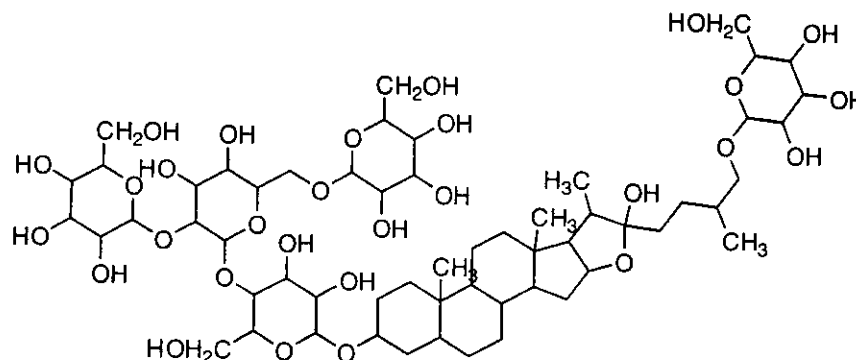
[CAS No.] 55750-40-8

[化合物分類] ステロイド

(Furostane steroids).

(C27).

[構造式]



[分子式] $C_{57}H_{96}O_{29}$

[分子量] 1245.368

[天然基原] *Yucca filamentosa*

[性状] 結晶

[融点] Mp 150-152 °C

[比旋光度]: $[\alpha]_D^{20} -29$ (c, 2.75 in MeOH)

----- 文献 -----

Dragalin, I.P. et al., Khim. Prir. Soedin., 1975, 11, 806; Chem. Nat. Compd. (Engl. Transl.), 1975, 11, 821, (Protoyuccoside E)

§ **Spirostan-3-ol**; (3 β , 5 α , 25*R*)-form, 3-*O*-[β -D-Galactopyranosyl-(1 \rightarrow 4)- β -D-glucopyranoside]

[化学名・別名] Yuccoside B

[CAS No.] 41679-10-1

[化合物分類] ステロイド (Spirostone steroids). (C27).

[構造式]

[分子式] $C_{39}H_{64}O_{13}$

[分子量] 740.927

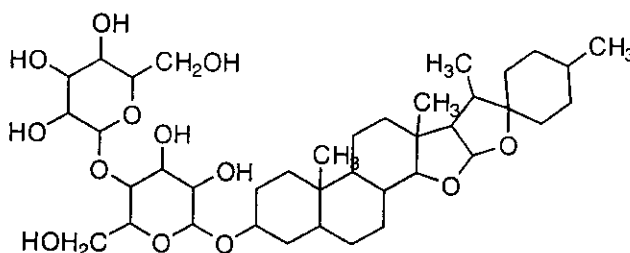
[天然基原] *Yucca filamentosa*

[性状] 結晶 (MeOH)

[融点] Mp 285-286 °C

[比旋光度]: $[\alpha]_D^{20} -19.5$ (c, 1.6 in Py)

[化学物質毒性データ総覧 (RTECS) 登録番号] LZ6350000



----- 文献 -----

Kintya, P.K. et al., Khim. Prir. Soedin., 1972, 8, 615-617; 1984, 20, 610-614; Chem. Nat. Compd. (Engl. Transl.), 1972, 8, 584-586; 1984, 20, 575-578, (Yuccoside B, Melongosides)

Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, nos. 2087; 2090-2092, (生育)

RTECS (化学物質毒性データ)

生体影響物質 : 医薬品, 天然物.

健康障害に関するデータ

急性毒性に関するデータ

<<試験方法>> LD10 (10%致死量) 試験

曝露経路 : 腹腔内投与.

被験動物 : げっ歯類-マウス.

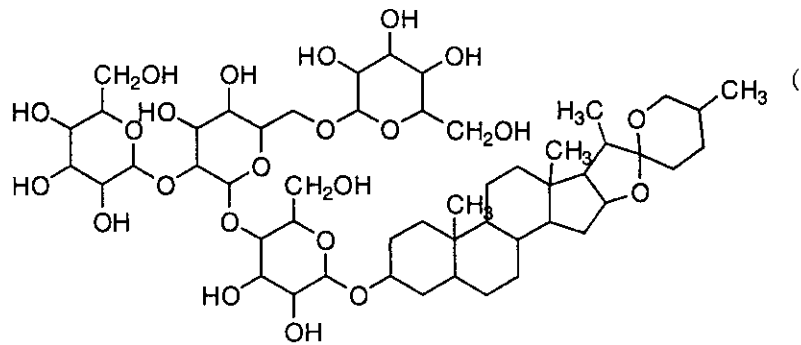
投与量・期間 : 15 mg/kg

毒性影響 : (催腫瘍性) 抗がん剤として有効.

参照文献

Pharmaceutical Chemistry Journal (English Translation). Translation of KHFZAN. (Plenum Pub. Corp., 233 Spring St., New York, NY 10013) 11,749,1977

[化学名・別名] Yuccoside E
 [CAS No.] 55750-39-5
 [化合物分類] ステロイド
 Spirostane steroids). (C27).
 [構造式]



[分子式] C₅₁H₈₄O₂₃
 [分子量] 1065.211
 [天然基原] *Yucca filamentosa*
 [融点] Mp 292-294 °C
 [比旋光度]: [α]_D -40 (c, 1.0 in Py)
 [化学物質毒性データ総覧(RTECS)登録番号] LZ6390000

-----文献-----

Dragalin, I.P. et al., Khim. Prir. Soedin., 1975, 11, 747-750; Chem. Nat. Compd. (Engl. Transl.), 1975, 11, 772-774, (Yuccoside E)

RTECS (化学物質毒性データ)

生体影響物質 : 医薬品.

健康障害に関するデータ

急性毒性に関するデータ

<<試験方法>> LD10(10%致死量)試験
 曝露経路 : 腹腔内投与.
 被験動物 : げっ歯類-マウス.
 投与量・期間 : 20 mg/kg
 毒性影響 : [催腫瘍性] 抗がん剤として有効.

参照文献

Pharmaceutical Chemistry Journal (English Translation). Translation of KHFZAN. (Plenum Pub. Corp., 233 Spring St., New York, NY 10013) 11,749,1977

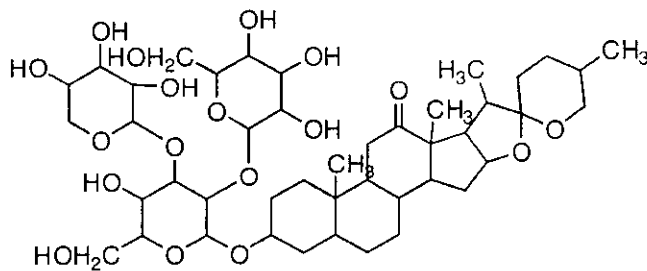
§ § ユリ科ユッカ・ジョシヨア (*Yucca brevifolia* Engelman (*Y. arborescens* Trelease)) の地上部および根茎部。

本調査研究では、成分に関する文献はなかった。

§ § ユリ科ユッカ・モヘーブ (*Yucca schidigera* Roez l ex Ortgies) の地上部および根茎部。

§ 3-Hydroxyspirostan-12-one; (3β,5β,25ξ)-form, 3-O-[β-D-Glucopyranosyl-(1→2)]-[β-D-xylopyranosyl-(1→3)]-β-D-glucopyranoside]

[化学名・別名] Schidigerasaponin E1
 [CAS No.] 266998-23-6
 [化合物分類] ステロイド (Spirostane steroids). (C27).
 [構造式]



[分子式] C₄₄H₇₀O₁₈
 [分子量] 887.026
 [天然基原] *Yucca schidigera*
 [性状] 無定型の粉末
 [比旋光度]: [α]_D²⁴ -12.7 (c, 1 in MeOH)
 [その他のデータ] C-25 epimers の混合物

-----文献-----

Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (Schidigerasaponin E1)

§ 3-Hydroxyspirost-25(27)-en-12-one; (3 β ,5 β)-form

[化学名・別名] Schidigeragenin B

[CAS No.] 267003-21-4

[化合物分類] ステロイド (Spirostane steroids). (C27).

[構造式]

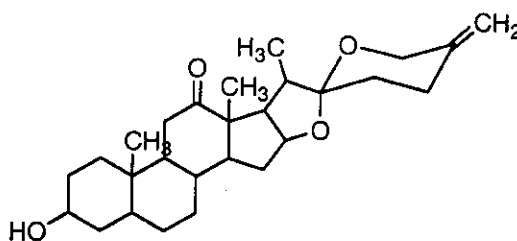
[分子式] C₂₇H₄₀O₄

[分子量] 428.611

[天然基原] Genin from *Yucca schidigera*

[性状] 無定型の粉末

[比旋光度]: [α]_D²³ +18.1 (c, 1 in CHCl₃)



-----文献-----

Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (分離, H-NMR, C13-NMR)

§ 3-Hydroxyspirost-25(27)-en-12-one; (3 β ,5 β)-form, 3-O-[β-D-Glucopyranosyl-(1→2)-[β-D-xylopyranosyl-(1→3)]-β-D-glucopyranoside]

[化学名・別名] Schidigerasaponin B1

[CAS No.] 266997-32-4

[化合物分類] ステロイド (Spirostane steroids). (C27).

[構造式]

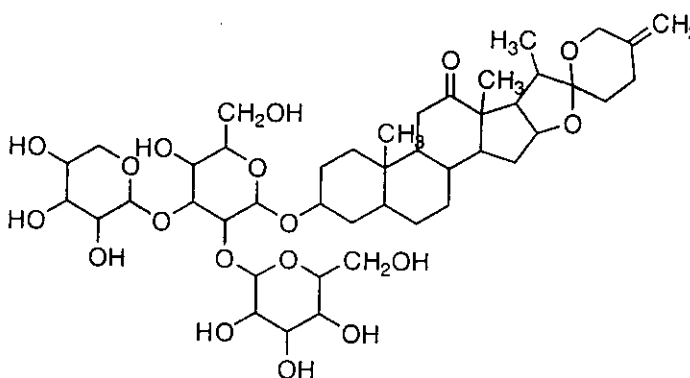
[分子式] C₄₁H₆₄O₁₈

[分子量] 885.01

[天然基原] *Yucca schidigera*

[性状] 無定型の粉末

[比旋光度]: [α]_D²⁴ -10.3 (c, 1.71 in MeOH)



-----文献-----

Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (分離, H-NMR, C13-NMR)

§ Spirostane-2,3-diol; (2 β ,3 β ,5 β ,25 ξ)-form, 3-O-[β-D-Glucopyranosyl-(1→2)-β-D-galactopyranoside]

[化学名・別名] Schidigerasaponin F2

[CAS No.] 267003-05-4

[化合物分類] ステロイド (Spirostane steroids). (C27).

[構造式]

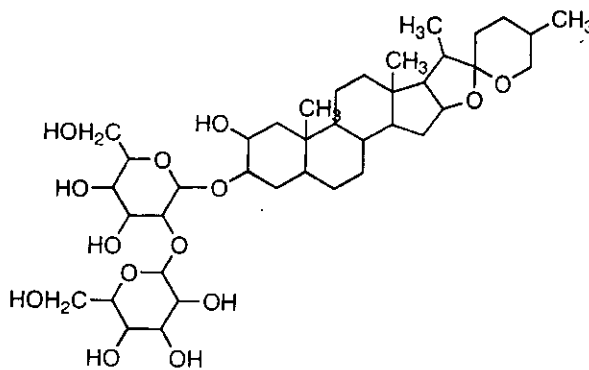
[分子式] C₃₉H₆₄O₁₄

[分子量] 756.926

[天然基原] *Yucca schidigera*

[性状] 無定型の粉末

[比旋光度]: [α]_D²⁴ -57.3 (c, 1 in MeOH)



-----文献-----

Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (Schidigerasaponins)

§ Spirostane-2,3-diol; (2 β ,3 β ,5 β ,25 ξ)-form, 3-O-[β-D-Glucopyranosyl-(1→2)-[β-D-xylopyranosyl-(1→3)]-β-D-galactopyranoside]

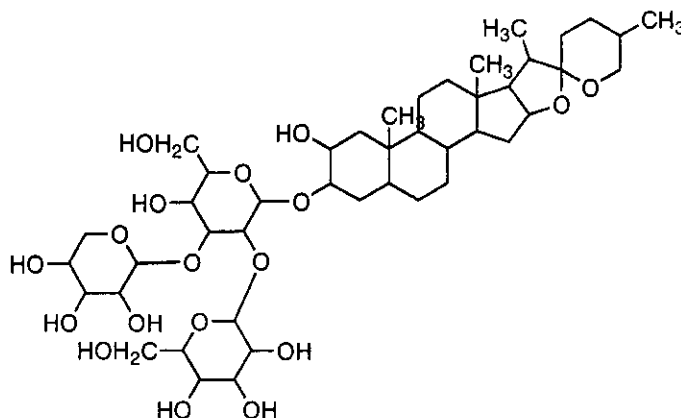
[化学名・別名]Schidigerasaponin F1

[CAS No.]266998-42-9

[化合物分類]ステロイド

(Spirostane steroids). (C27).

[構造式]



[分子式]C₄₄H₇₂O₁₈

[分子量]889.042

[天然基原]Yucca schidigera

[性状]無定型の粉末

[比旋光度]:[α]_D²⁴ -56.2 (c, 1.59 in MeOH)

-----文献-----

Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (Schidigerasaponins)

§ Spirostan-3-ol; (3β,5β,25ξ)-form, 3-O-[β-D-Glucopyranosyl-(1→2)-β-D-glucopyranoside]

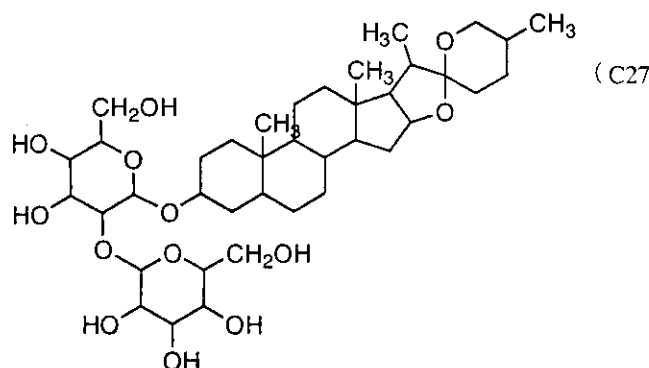
[化学名・別名]Schidigerasaponin D5

[CAS No.]266998-04-3

[化合物分類]ステロイド (Spirostane steroids).

(C27).

[構造式]



[分子式]C₃₉H₆₄O₁₃

[分子量]740.927

[天然基原]Yucca schidigera

[性状]無定型の粉末

[比旋光度]:[α]_D²⁴ -44.4 (c, 0.65 in MeOH)

-----文献-----

Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (Schidigerasaponins)

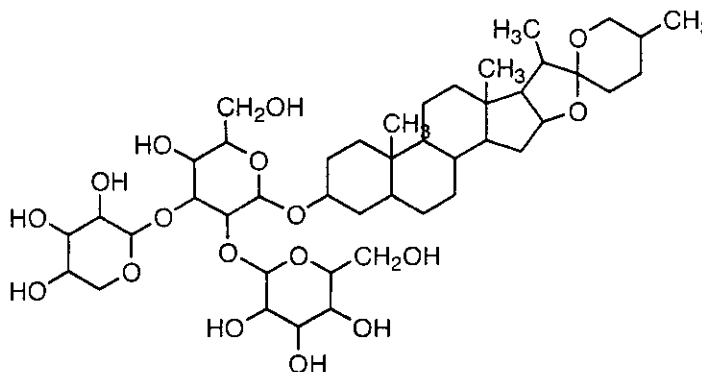
§ Spirostan-3-ol; (3β,5β,25ξ)-form, 3-O-[β-D-Glucopyranosyl-(1→2)-[β-D-xylopyranosyl-(1→3)]-β-D-galactopyranoside]

[化学名・別名]Schidigerasaponin D2

[CAS No.]168960-80-3

[化合物分類]ステロイド (Spirostane steroids). (C27).

[構造式]



[分子式]C₄₄H₇₂O₁₇

[分子量]873.043

[天然基原]Yucca schidigera

[性状]無定型の粉末

[比旋光度]:[α]_D²⁸ -56.4 (c, 0.93 in Py)

-----文献-----

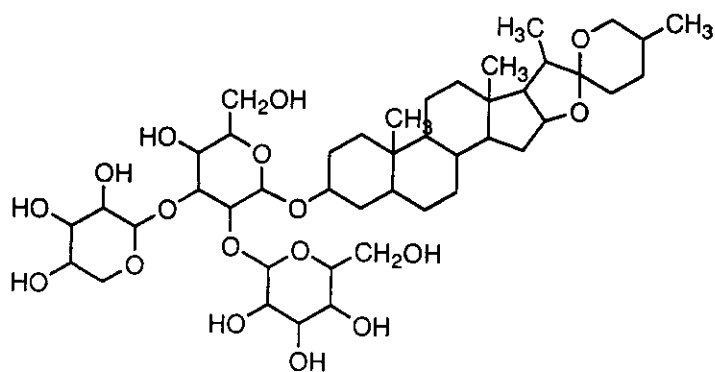
Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (Schidigerasaponins)

§ Spirostan-3-ol; (3β,5β,25ξ)-form, 3-O-[β-D-Glucopyranosyl-(1→2)-[β-D-xylopyranosyl-(1→3)]-β-D-glucopyranoside]

[化学名・別名]Schidigerasaponin D1

[CAS No.]266997-53-9

[化合物分類]ステロイド (Spirostane steroids). (C27).
[構造式]



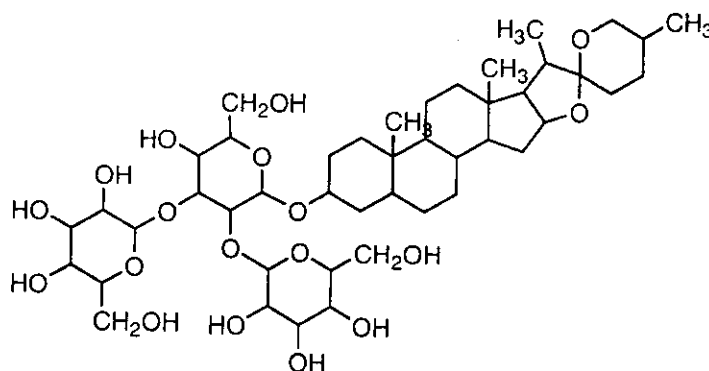
[分子式] $C_{44}H_{72}O_{17}$
[分子量] 873.043
[天然基原] *Yucca schidigera*
[性状] 無定型の粉末
[比旋光度]: $[\alpha]_D^{24} -42.5$ (c, 1.1 in MeOH)

----- 文献 -----

Miyakoshi, M. et al., *J. Nat. Prod.*, 2000, 63, 332-338, (Schidigerasaponins)

§ Spirostan-3-ol; (3β,5β,25ξ)-form, 3-O- $[\beta$ -D-Glucopyranosyl-(1→2)- $[\beta$ -D-galactopyranosyl-(1→3)]-β-D-galactopyranoside]

[化学名・別名] Schidigerasaponin D4
[CAS No.] 266998-01-0
[化合物分類]ステロイド (Spirostane steroids). (C27).
[構造式]



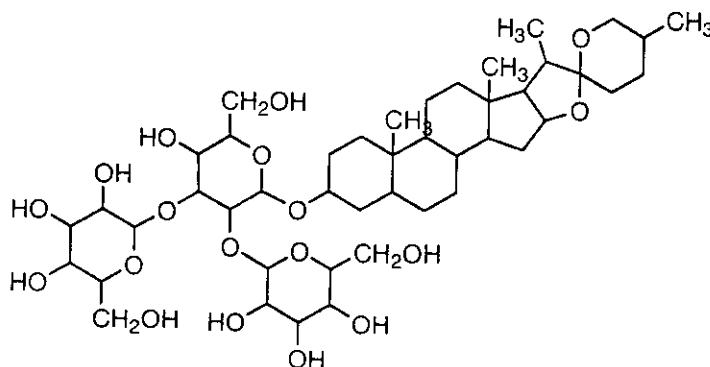
[分子式] $C_{43}H_{70}O_{16}$
[分子量] 903.069
[天然基原] *Yucca schidigera*
[性状] 無定型の粉末
[比旋光度]: $[\alpha]_D^{28} -35.7$ (c, 0.79 in MeOH)

----- 文献 -----

Miyakoshi, M. et al., *J. Nat. Prod.*, 2000, 63, 332-338, (Schidigerasaponins)

§ Spirostan-3-ol; (3β,5β,25ξ)-form, 3-O- $[\beta$ -D-Glucopyranosyl-(1→2)- $[\beta$ -D-glucopyranosyl-(1→3)]-β-D-glucopyranoside]

[化学名・別名] Schidigerasaponin D3
[CAS No.] 266997-85-7
[化合物分類]ステロイド (Spirostane steroids). (C27).
[構造式]



[分子式] $C_{45}H_{74}O_{18}$
[分子量] 903.069
[天然基原] *Yucca schidigera*
[性状] 無定型の粉末
[比旋光度]: $[\alpha]_D^{28} -42.5$ (c, 0.88 in MeOH)

----- 文献 -----

Miyakoshi, M. et al., *J. Nat. Prod.*, 2000, 63, 332-338, (Schidigerasaponins)

§ Spirost-25(27)-ene-2,3-diol; (2 β ,3 β ,5 β)-form

[化学名・別名]Schidigeragenin C

[CAS No.]267003-22-5

[化合物分類]ステロイド (Spirostane steroids). (C27).

[構造式]

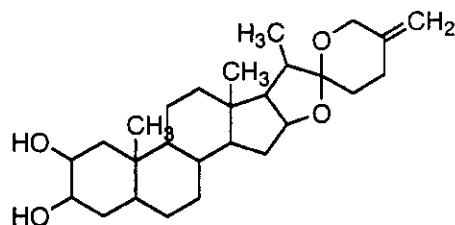
[分子式]C₂₇H₄₂O₃

[分子量]430.626

[天然基原]Genin from *Yucca schidigera*

[性状]無定型の粉末

[比旋光度]:[α]_D²³ -85 (c, 0.24 in CHCl₃)



-----文献-----

Takeda, K. et al., Tetrahedron, 1965, 21, 2089; 2742, (分離, 構造)

Mimaki, Y. et al., Phytochemistry, 1995, 38, 1279, (saponin)

Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (Schidigerasaponins)

§ Spirost-25(27)-ene-2,3-diol; (2 β ,3 β ,5 β)-form, 3-O-[β -D-Glucopyranosyl-(1 \rightarrow 2)]- β -D-galactopyranoside]

[化学名・別名]Schidigerasaponin C2

[CAS No.]266997-36-8

[化合物分類]ステロイド (Spirostane steroids). (C27).

[構造式]

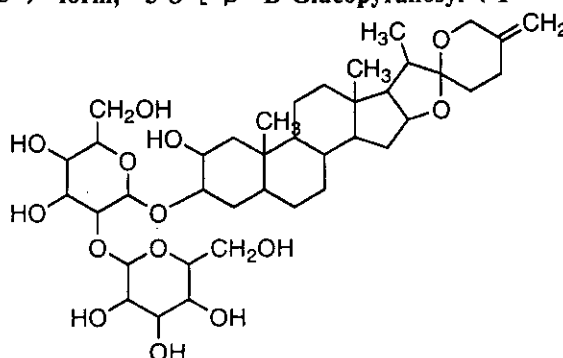
[分子式]C₃₉H₆₂O₁₄

[分子量]754.91

[天然基原]*Yucca schidigera*

[性状]無定型の粉末

[比旋光度]:[α]_D²⁴ -38.2 (c, 0.55 in MeOH)



-----文献-----

Takeda, K. et al., Tetrahedron, 1965, 21, 2089; 2742, (分離, 構造)

Mimaki, Y. et al., Phytochemistry, 1995, 38, 1279, (saponin)

Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (Schidigerasaponins)

§ Spirost-25(27)-ene-2,3-diol; (2 β ,3 β ,5 β)-form, 3-O-[β -D-Glucopyranosyl-(1 \rightarrow 2)]-[β -D-xylopyranosyl-(1 \rightarrow 3)]- β -D-galactopyranoside]

[化学名・別名]Schidigerasaponin C1

[CAS No.]266997-35-7

[化合物分類]ステロイド (Spirostane steroids). (C27).

[構造式]

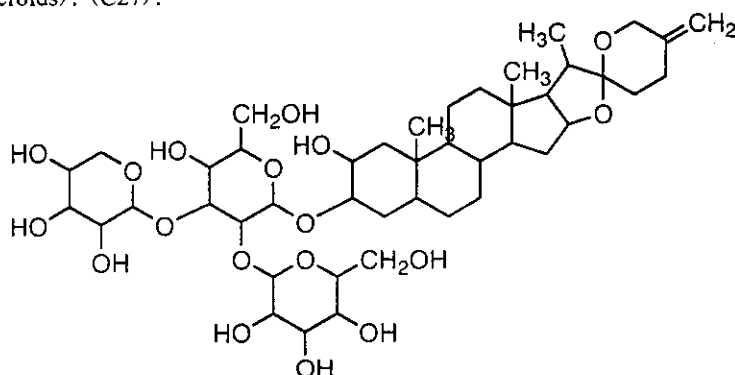
[分子式]C₄₁H₇₀O₁₈

[分子量]887.026

[天然基原]*Yucca schidigera*

[性状]無定型の粉末

[比旋光度]:[α]_D²⁴ -56.4 (c, 0.11 in H)



MeO

-----文献-----

Takeda, K. et al., Tetrahedron, 1965, 21, 2089; 2742, (分離, 構造)

Mimaki, Y. et al., Phytochemistry, 1995, 38, 1279, (saponin)

Miyakoshi, M. et al., J. Nat. Prod., 2000, 63, 332-338, (Schidigerasaponins)

§ Yuccaol A

[化合物分類]含酸素複素環式化合物 (Spiroketal), 単環芳香族 (Stilbene polymers)

[構造式]

[分子式] $C_{29}H_{20}O_8$

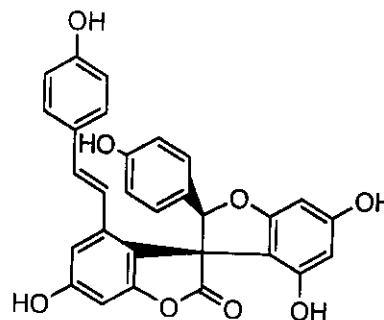
[分子量] 496.472

[天然基原] *Yucca schidigera* の樹皮

[性状] 無定型の粉末

[融点] Mp 205-206 °C で分解

[比旋光度]: $[\alpha]_D^{20} +78.4$ (c, 0.1 in MeOH)



----- 文献 -----

Oleszek, W. et al., J. Agric. Food Chem., 2001, 49, 747-752, (分離, H-NMR, C13-NMR, Mass)

§ Yuccaol A; 3-Epimer

[化学名・別名] Yuccaol B

[化合物分類] 単環芳香族 (Stilbene polymers), 含酸素複素環式化合物 (Spiroketal)

[構造式]

[分子式] $C_{29}H_{20}O_8$

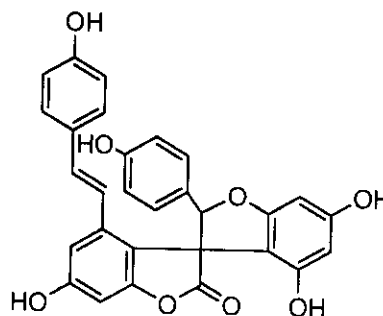
[分子量] 496.472

[天然基原] *Yucca schidigera* の樹皮

[性状] 無定型の粉末

[融点] Mp 209-210 °C で分解

[比旋光度]: $[\alpha]_D^{20} +93.8$ (c, 0.1 in MeOH)



----- 文献 -----

Oleszek, W. et al., J. Agric. Food Chem., 2001, 49, 747-752, (分離, H-NMR, C13-NMR, Mass)

§ Yuccaol A; 3-Epimer, 3''',5'''-dihydroxy, 4'''-Me ether

[化学名・別名] Yuccaol C

[化合物分類] 単環芳香族 (Stilbene polymers), 含酸素複素環式化合物 (Spiroketal)

[構造式]

[分子式] $C_{30}H_{22}O_{10}$

[分子量] 542.498

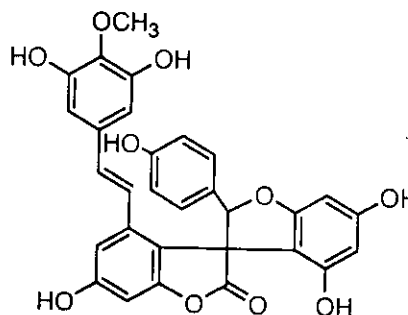
[天然基原] *Yucca schidigera* の樹皮

[天然基原] the bark of *Yucca schidigera*

[性状] 無定型の粉末

[融点] Mp 212-213 °C

[比旋光度]: $[\alpha]_D^{20} +20.8$ (c, 0.1 in MeOH)



----- 文献 -----

Oleszek, W. et al., J. Agric. Food Chem., 2001, 49, 747-752, (分離, H-NMR, C13-NMR, Mass)

*****ユリ (Lily) *****

§ § ユリ科マドンナ・リリー (*Lilium brownii* F. E. Brown) の花または鱗茎。

§ 1-O-Coumaroylglycerol; (S,E)-form, 2-O-β-D-Glucopyranoside

[化学名・別名] 2-O-Glucosyl-1-O-p-hydroxycinnamoyl-sn-glycerol. Regaloside D

[CAS No.] 120601-66-3

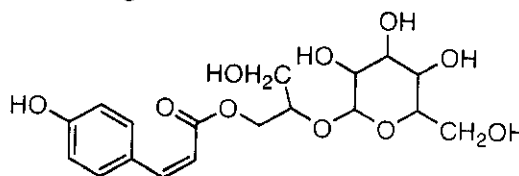
[化合物分類] 脂肪酸化合物 (Monoacylglycerols), 単環芳香族 (Simple phenylpropanoids)

[構造式]

[分子式] $C_{18}H_{24}O_{10}$

[分子量] 400.382

[天然基原] 色々なユリ種から分離; *Lilium longiflorum*, *Lilium pardalinum*, *Lilium auratum*, *Lilium brownii*



[性状] 青白い黄色の無定型粉末
[比旋光度]: $[\alpha]_D^{27} -24.6$ (c, 0.39 in MeOH)

-----文献-----

Shimomura, H. et al., *Phytochemistry*, 1987, 26, 844-845; 1988, 27, 451, (分離)
Sashida, Y. et al., *Chem. Pharm. Bull.*, 1991, 39, 2362, (Regaloside J, Regaloside K)
Shima, K. et al., *Phytochemistry*, 1991, 30, 3149, (分離)
Jin Dong-Zhe et al., *Phytochemistry*, 1996, 41, 545, (分離, UV, IR, H-NMR, C13-NMR)

§ 1-O-Coumaroylglycerol; (S,E)-form, 3-Ac, 2-O-β-D-glucopyranoside

[化学名・別名] Regaloside B

[CAS No.] 114420-67-6

[化合物分類] 脂肪族化合物 (Diacylglycerols),
単環芳香族 (Simple phenylpropanoids)

[構造式]

[分子式] $C_{20}H_{26}O_{11}$

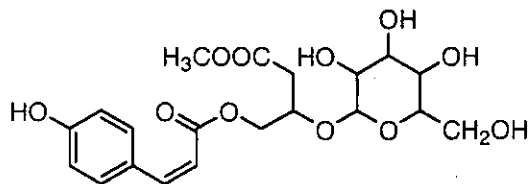
[分子量] 442.419

[天然基原] 次の植物から分離: *Lilium longiflorum* の球根, *Lilium regale*, *Lilium brownii*

[性状] 青白い黄色の無定型粉末

[比旋光度]: $[\alpha]_D^{25} -21.2$ (c, 1.0 in MeOH)

[その他のデータ] 苦味



-----文献-----

Shimomura, H. et al., *Phytochemistry*, 1987, 26, 844-845; 1988, 27, 451, (分離)
Sashida, Y. et al., *Chem. Pharm. Bull.*, 1991, 39, 2362, (Regaloside J, Regaloside K)
Shima, K. et al., *Phytochemistry*, 1991, 30, 3149, (分離)
Jin Dong-Zhe et al., *Phytochemistry*, 1996, 41, 545, (分離, UV, IR, H-NMR, C13-NMR)

§ 1-O-Coumaroylglycerol; (S,E)-form, 3'-Methoxy

[化学名・別名] 1-O-(4-Hydroxy-3-methoxycinnamoyl) glycerol. 1-O-Feruloylglycerol

[CAS No.] 120601-69-6

[その他の CAS No.] 129744-06-5

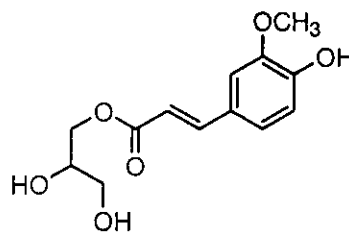
[化合物分類] 単環芳香族 (Simple phenylpropanoids),
脂肪族化合物 (Monoacylglycerols)

[構造式]

[分子式] $C_{15}H_{16}O_6$

[分子量] 268.266

[天然基原] *Juncus effusus*, *Lilium brownii*



-----文献-----

Shimomura, H. et al., *Phytochemistry*, 1987, 26, 844-845; 1988, 27, 451, (分離)
Sashida, Y. et al., *Chem. Pharm. Bull.*, 1991, 39, 2362, (Regaloside J, Regaloside K)
Shima, K. et al., *Phytochemistry*, 1991, 30, 3149, (分離)
Jin Dong-Zhe et al., *Phytochemistry*, 1996, 41, 545, (分離, UV, IR, H-NMR, C13-NMR)

§ 1-O-Coumaroylglycerol; (±)-(E)-form

[CAS No.] 108026-22-8

[化合物分類] 単環芳香族 (Simple phenylpropanoids), 脂肪族化合物 (Monoacylglycerols)

[構造式]

[分子式] $C_{17}H_{18}O_5$

[分子量] 238.24

[天然基原] *Lilium auratum*, *Lilium henryi*, *Lilium brownii* (ユリ科)

[性状] 粉末

UV: [neutral] λ_{max} 228 (log ϵ 4.14); 302 (sh) (log ϵ 4.32); 313 (log 4.36) (MeOH)

-----文献-----

Shimomura, H. et al., *Phytochemistry*, 1987, 26, 844-845; 1988, 27, 451, (分離)
Sashida, Y. et al., *Chem. Pharm. Bull.*, 1991, 39, 2362, (Regaloside J, Regaloside K)

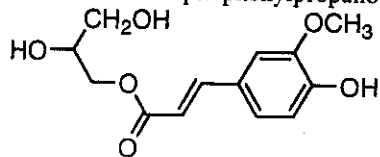
Shima, K. et al., *Phytochemistry*, 1991, 30, 3149, (分離)
Jin Dong-Zhe et al., *Phytochemistry*, 1996, 41, 545, (分離, UV, IR, H-NMR, C13-NMR)

§ 1-O-Coumaroylglycerol; (±)-(E)-form, 3'-Methoxy

[CAS No.] 108026-20-6

[化合物分類] 単環芳香族 (Simple phenylpropanoids), 脂肪族化合物 (Monoacylglycerols)

[構造式]



[分子量]

268.266

[天然基原] *Lilium brownii*, *Lilium auratum*, *Lilium macklinae*

文献

Shimomura, H. et al., *Phytochemistry*, 1987, 26, 844-845; 1988, 27, 451, (分離)

Shimomura, H. et al., *Chem. Pharm. Bull.*, 1988, 36, 2430; 4841

Sashida, Y. et al., *Chem. Pharm. Bull.*, 1991, 39, 2362, (Regaloside J, Regaloside K)

Shima, K. et al., *Phytochemistry*, 1991, 30, 3149, (分離)

Jin Dong-Zhe et al., *Phytochemistry*, 1996, 41, 545, (分離, UV, IR, H-NMR, C13-NMR)

§ 3,26-Dihydroxycholest-5-ene-16,22-dione; (3β,25ξ)-form, 3-O-[α-L-Rhamnopyranosyl-(1→2)-β-D-glucopyranoside], 26-O-β-D-glucopyranoside

[CAS No.] 224958-28-5

[化合物分類] ステロイド (Neutral cholestane steroids). (C27).

[構造式]

[分子式] C₄₅H₇₂O₁₈

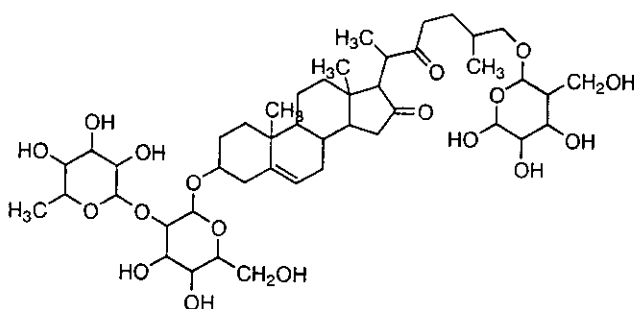
[分子量] 901.053

[天然基原] *Lilium brownii*. Component of Bai

He

[性状] 粉末 (MeOH)

[融点] Mp 208-209 °C



文献

Hou, X. et al., *Yaoxue Xuebao*, 1998, 33, 923-926, (*Lilium brownii* glycosides)

§ 3,26-Dihydroxycholest-5-ene-16,22-dione; (3β,25ξ)-form, 5,6-Dihydro, 3-O-[α-L-rhamnopyranosyl-(1→2)-β-D-glucopyranoside], 26-O-β-D-glucopyranoside

[CAS No.] 215051-62-0

[化合物分類] ステロイド (Neutral cholestane steroids). (C27).

[構造式]

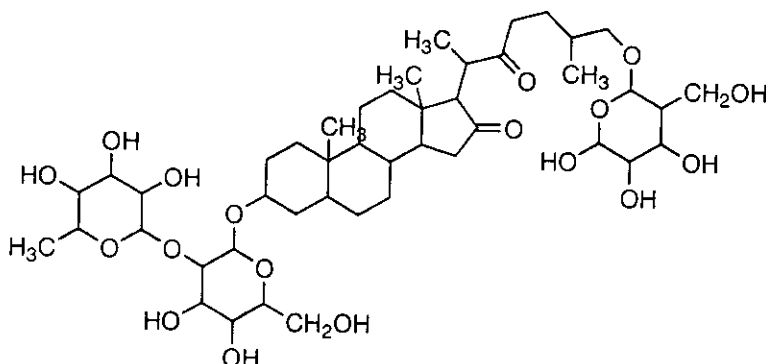
[分子式] C₄₅H₇₂O₁₈

[分子量] 903.069

[天然基原] *Lilium brownii*

[性状] 粉末 (MeOH)

[融点] Mp 225-226 °C



文献

Hou, X. et al., *Yaoxue Xuebao*, 1998, 33, 923-926, (*Lilium brownii* glycosides)

§ Spirosol-5-en-3-ol; (3β,22R,25R)-form, 3-O-[α-L-Rhamnopyranosyl-β-D-glucopyranosyl-(1→4)]-β-D-glucopyranoside

[化合物分類] アルカロイド化合物

(Steroidal alkaloids) (spirosolane type)

[構造式]

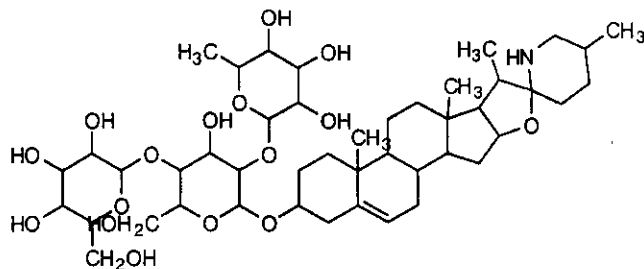
[分子式] $C_{45}H_{77}NO_{16}$

[分子量] 884.069

[天然基原] 次の植物の球根から得られるアロイド: *Lilium brownii* var. *colchesteri* (ユリ)

[性状] 無定形の粉末

[比旋光度]: $[\alpha]_D^{25} -77.3$ (c, 0.11 in MeOH)



ルカ科)

文献

Boll, P.M. et al., Acta Chem. Scand., 1962, 16, 1819, (分離, 配糖体)

Ripperger, H. et al., Alkaloids (N.Y.), 1981, 19, 81, (レビュー)

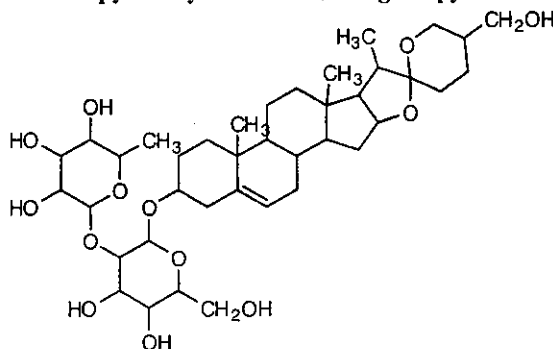
§ Spirost-5-ene-3,27-diol; (3 β ,25S)-form, 3-O-[α -L-Rhamnopyranosyl-(1 \rightarrow 2)- β -D-glucopyranoside]

[化学名・別名] Deacylbrownioside. Lilioglycoside E

[CAS No.] 129744-09-8

[化合物分類] ステロイド (Spirostane steroids). (C27).

[構造式]



[分子式] $C_{39}H_{62}O_{13}$

[分子量] 738.911

[天然基原] *Lilium brownii*, *Lilium regale*

[性状] 針状結晶 (CHCl₃/MeOH)

[融点] Mp 232-238 °C

文献

Mimaki, Y. et al., Phytochemistry, 1994, 37, 227-232; 1999, 51, 567-573, (Lilium glycosides)

Kintya, P.K. et al., Khim. Prir. Soedin., 1997, 33, 841-847, (Lilioglycosides)

§ Spirost-5-ene-3,27-diol; (3 β ,25S)-form, 27-(3-Hydroxy-3-methylglutaroyl), 3-O-[α -L-rhamnopyranosyl-(1 \rightarrow 2)- β -D-glucopyranoside]

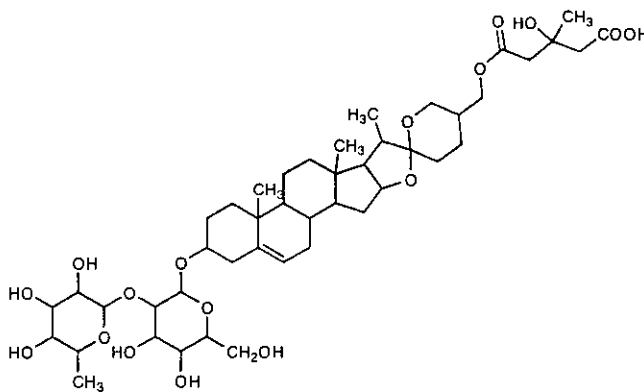
[化学名・別名] Brownioside. Lilioglycoside F

[CAS No.] 129744-07-6

[化合物分類] ステロイド (Spirostane steroids).

).

[構造式]



(C27)

[分子式] $C_{45}H_{77}O_{17}$

[分子量] 883.038

[天然基原] *Lilium brownii*, *Lilium regale*

[性状] 針状結晶 (CHCl₃/MeOH)

[融点] Mp 197-199.5 °C

[比旋光度]: $[\alpha]_D^{25} -75$ (c, 0.48 in MeOH)

文献

Minato, H. et al., Chem. Pharm. Bull., 1963, 11, 876, (分離)

Mimaki, Y. et al., Phytochemistry, 1990, 29, 2267-2271, (Brownioside)

Mimaki, Y. et al., Phytochemistry, 1994, 37, 227-232; 1999, 51, 567-573, (Lilium glycosides)

Kintya, P.K. et al., Khim. Prir. Soedin., 1997, 33, 841-847, (Lilioglycosides)

§ Spirost-5-ene-3,27-diol; (3 β ,25S)-form, 27-(3-Hydroxy-3-methylglutaroyl), 3-O-[α -L-rhamnopyranosyl-(1 \rightarrow 2)-[β -D-glucopyranosyl-(1 \rightarrow 4)]- β -D-glucopyranoside]

[CAS No.] 132922-47-5

[化合物分類] ステロイド (Spirostane steroids). (C27).

[構造式]

[分子式] $C_{51}H_{80}O_{22}$

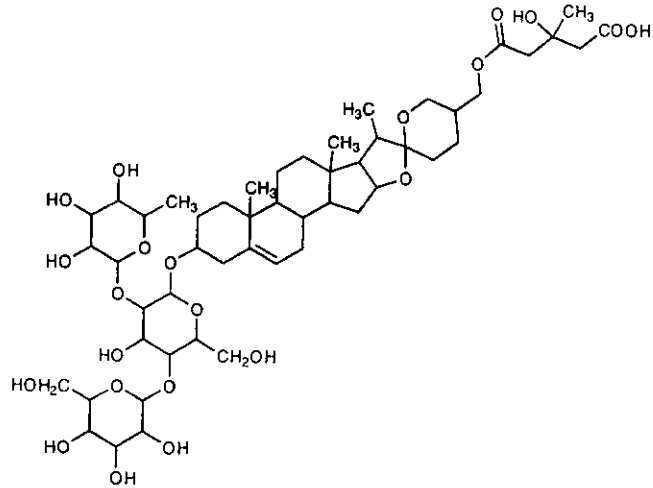
[分子量] 1045.18

[天然基原] *Lilium brownii*

[性状] 針状結晶 (CHCl₃/MeOH)

[融点] Mp 220-230 °C

[比旋光度]: $[\alpha]_D^{28} -90$ (c, 0.1 in MeOH)



----- 文 献 -----

Minato, H. et al., Chem. Pharm. Bull., 1963, 11, 876, (分離)

Mimaki, Y. et al., Phytochemistry, 1990, 29, 2267-2271, (Brownioside)

Mimaki, Y. et al., Phytochemistry, 1994, 37, 227-232; 1999, 51, 567-573, (Lilium glycosides)

***** ヨウサイ (Leaf vegetables) *****

§ § アブラナ科キャベツ (*Brassica oleracea* L. var. *capitata* de Candolle) の茎葉または幼茎

§ Brassinin; 4-Methoxy

[化学名・別名] 4-Methoxybrassinin

[CAS No.] 129602-03-5

[化合物分類] アルカロイド化合物 (Simple indole alkaloids)

[構造式]

[分子式] $C_{12}H_{14}N_2OS_2$

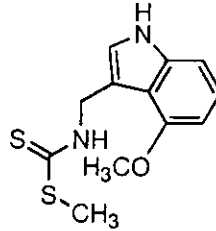
[分子量] 266.387

[天然基原] 次の植物から分離: ホワイトキャベツ (*Brassica oleracea* var. *capitata*) (アブラナ科) heads に次の菌を接種したもの: *Pseudomonas cichorii*

[用途] ファイトアレキシン

[性状] 無定型

UV: [neutral] λ_{max} 219 (ϵ 44300); 265 (ϵ 18500) (MeOH) (Berdy)



----- 文 献 -----

Monde, K. et al., Phytochemistry, 1990, 29, 1499, (4-Methoxybrassinin)

Somei, M. et al., Heterocycles, 1992, 33, 77, (合成法, Methoxybrassinin)

Pedras, M.S.C. et al., Phytochemistry, 2000, 53, 161-176, (レビュー)

§ § ユリ科ネギ (*Allium fistulosum* L.) の茎葉または幼茎

§ 3-Hydroxy-2-octadecylindole

[化学名・別名] 1,2-Dihydro-2-octadecyl-3H-indol-3-one. 2-Octadecyl-1H-indol-3-ol. Fistulosin

[化合物分類] アルカロイド化合物 (Simple indole alkaloids)

[構造式]

[分子式] $C_{29}H_{43}NO$

[分子量] 385.632

[一般的性質] Tautomeric with oxo form

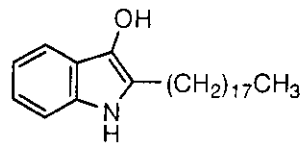
[天然基原] 次の植物から得られるアルカロイド: *Allium fistulosum* の根

[用途] 抗カビ剤

[性状] 結晶

[融点] Mp 80-83 °C

UV: [neutral] λ_{max} 220 ; 237 ; 252 ; 277 ; 302 (EtOH)



-----文献-----

Phay, N. et al., *Phytochemistry*, 1999, 52, 271-274, (分離, UV, IR, H-NMR, C13-NMR)

§ Methyl 1-(methylthio) propyl disulfide

[化学名·别名] 4-Ethyl-2,3,5-trithiahexane

[CAS No.] 53897-66-8

[化合物分類] 脂肪族化合物 (Disulfides, trisulfides)

[構造式] $\text{H}_3\text{CCH}_2\text{CH}(\text{SMe})-\text{S}-\text{S}-\text{Me}$

[分子式] $\text{C}_5\text{H}_{12}\text{S}_3$

[分子量] 168.348

[天然基原] *Allium cepa*, *Allium fistulosum*, *Allium tuberosum*

[沸点] Bp_{13} 99-100 °C

-----文献-----

Morimitsu, Y. et al., *Phytochemistry*, 1990, 29, 3435-3439, (分離)

Block, E. et al., *J. Agric. Food Chem.*, 1997, 45, 4414-4422, (誘導體, synth, pmr, cmr)

Calvey, E.M. et al., *Phytochemistry*, 1998, 49, 359-364, (誘導體, 分離)

§ Methyl 1-(1-propenylthio) propyl disulfide

[化学名·别名] 4-Ethyl-2,3,5-trithia-6-octene

[CAS No.] 126876-23-1

[化合物分類] 脂肪族化合物 (Disulfides, trisulfides)

[構造式] $\text{H}_3\text{CCH}=\text{CH}^2\text{SCH}(\text{CH}_2\text{CH}_3)-\text{S}-\text{Me}$

[分子式] $\text{C}_7\text{H}_{14}\text{S}_3$

[分子量] 194.386

[天然基原] *Allium cepa*, *Allium fistulosum*

-----文献-----

Kuo, M.C. et al., *J. Agric. Food Chem.*, 1990, 38, 1378-1381; 1992, 40, 111-117, (分離)

Morimitsu, Y. et al., *J. Agric. Food Chem.*, 1992, 40, 368-372, (誘導體, 合成法)

Calvey, E.M. et al., *Phytochemistry*, 1998, 49, 359-364, (誘導體, 分離, Mass)

§ 1-(Methylthio) propyl propyl disulfide

[化学名·别名] 3-Ethyl-2,4,5-trithiaoctane

[CAS No.] 126876-22-0

[化合物分類] 脂肪族化合物 (Disulfides, trisulfides)

[構造式] $\text{H}_3\text{CCH}_2\text{CH}(\text{SMe})-\text{S}-\text{S}-\text{CH}_2\text{CH}_2\text{CH}_3$

[分子式] $\text{C}_7\text{H}_{16}\text{S}_3$

[分子量] 196.401

[天然基原] *Allium fistulosum*

-----文献-----

Kuo, M.C. et al., *J. Agric. Food Chem.*, 1992, 40, 111-117, (分離)

Block, E. et al., *J. Agric. Food Chem.*, 1997, 45, 4414-4422, (合成法)

Calvey, E.M. et al., *Phytochemistry*, 1998, 49, 359-364, (誘導體, 分離, Mass)

§ 1-Propenyl 1-(propylthio) propyl disulfide; (E)-form

[CAS No.] 137363-95-2

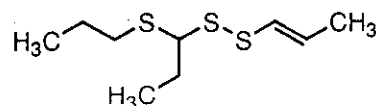
[化合物分類] 脂肪族化合物 (Disulfides, trisulfides)

[構造式]

[分子式] $\text{C}_7\text{H}_{16}\text{S}_3$

[分子量] 222.439

[天然基原] *Allium fistulosum*



-----文献-----

Kuo, M.C. et al., *J. Agric. Food Chem.*, 1992, 40, 111-117, (分離)

Morimitsu, Y. et al., *J. Agric. Food Chem.*, 1992, 40, 368-372, (誘導體, 合成法)

Calvey, E.M. et al., *Phytochemistry*, 1998, 49, 359-364, (誘導體, 分離, Mass)

§ 1-Propenyl 1-(propylthio) propyl disulfide; (Z)-form

[CAS No.] 137363-92-9

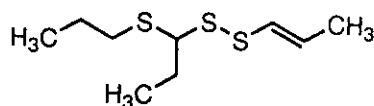
[化合物分類] 脂肪族化合物 (Disulfides, trisulfides)

[構造式]

[分子式] $C_9H_{18}S_3$

[分子量] 222.439

[天然基原] *Allium fistulosum*



-----文献-----

Kuo, M.C. et al., *J. Agric. Food Chem.*, 1992, 40, 111-117, (分離)

Morimitsu, Y. et al., *J. Agric. Food Chem.*, 1992, 40, 368-372, (誘導體, 合成法)

Calvey, E.M. et al., *Phytochemistry*, 1998, 49, 359-364, (誘導體, 分離, Mass)

§ 1-(1-Propenylthio)propyl propyl disulfide

[化学名・別名] 6-Ethyl-4,5,7-trithia-8-decene

[CAS No.] 143193-11-7

[化合物分類] 脂肪族化合物 (Disulfides, trisulfides)

[構造式] $H_3CCH=CH-S-CH(CH_2CH_3)-S-S-CH_2CH_2CH_3$

[分子式] $C_9H_{18}S_3$

[分子量] 222.439

[天然基原] *Allium fistulosum*

-----文献-----

Bayer, T. et al., *Phytochemistry*, 1989, 28, 2373-2377, (誘導體, 分離)

Kuo, M.C. et al., *J. Agric. Food Chem.*, 1992, 40, 1906-1910, (分離)

Calvey, E.M. et al., *Phytochemistry*, 1998, 49, 359-364, (誘導體, 分離, Mass)

§ Propyl 1-(propylthio)propyl disulfide (CAS 名)

[化学名・別名] 6-Ethyl-4,5,7-trithiadecane

[CAS No.] 126876-27-5

[化合物分類] 脂肪族化合物 (Disulfides, trisulfides)

[構造式] $H_3CCH_2CH_2SCH(CH_2CH_3)-S-S-CH_2CH_2CH_3$

[分子式] $C_9H_{20}S_3$

[分子量] 224.455

[天然基原] *Allium cepa*, *Allium fistulosum*

-----文献-----

Kuo, M.C. et al., *J. Agric. Food Chem.*, 1990, 38, 1378-1381; 1992, 40, 111-117, (分離)

Calvey, E.M. et al., *Phytochemistry*, 1998, 49, 359-364, (誘導體, 分離, Mass)

§ § ユリ科アスパラガス (*Asparagus officinalis* Willdenow) の茎葉または幼茎

§ Capsanthin

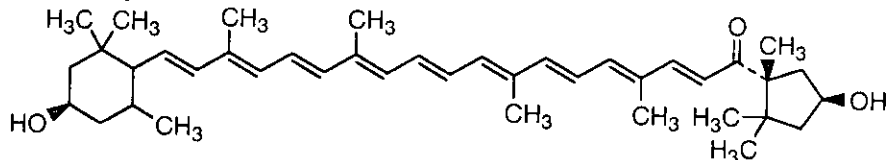
[化学名・別名] 3,3'-Dihydroxy- β, κ -caroten-6'-one

[CAS No.] 465-42-9

[関連 CAS No.] 87801-05-6

[化合物分類] テルペノイド (Tetraterpenoids)

[構造式]



[分子式] $C_{40}H_{56}O_3$

[分子量] 584.881

[天然基原] パプリカ *Capsicum annuum* の果実。また次の植物からも分離: *Encephalartos longifolius*, *Tecoma radicans*, アスパラガス (*Asparagus officinalis*), *Lilium* spp., *Berberis* spp.

[性状] 赤色の結晶 (petrol)

[融点] Mp 175-176 °C

[比旋光度]: $[\alpha]_{D_{25}} -70$ (CHCl₃)

[販売元] Sigma: C5785

-----文献-----

Barber, M.S. et al., *J.C.S.*, 1961, 4019, (構造決定, 合成法)

Cholnoky, L. et al., *Tet. Lett.*, 1963, 1257, (構造決定)

Faigle, J.W. et al., *Helv. Chim. Acta*, 1964, 47, 741, (構造)
 Bartlett, L. et al., *J.C.S. (C)*, 1969, 2527, (絶対構造)
 de Ville, T.E. et al., *Chem. Comm.*, 1969, 1311, (絶対構造)
 De La Mar, R.R. et al., *J. Food Sci.*, 1969, 34, 287, (Ketocapsanthin)
 Bowden, R.D. et al., *J.C.S. Perkin 1*, 1983, 1465, (絶対構造, 合成法)

§ *N*-Carboxymethylserine; (S)-form

[化学名・別名] L-form

[CAS No.] 17136-47-9

[化合物分類] アミノ酸とペプチド (Non-protein α -aminoacids)

[構造式]

[分子式] $C_5H_9NO_3$

[分子量] 163.13

[天然基原] 次の植物から分離: アスパラガス (*Asparagus officinalis*) のシュート

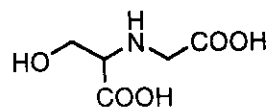
[用途] Lycomarasmine 合成に用いられる

[性状] 結晶 (EtOH 溶液)

[融点] Mp 167 °C

[比旋光度]: $[\alpha]_D^{25} +3$ (c, 2.2 in H₂O)

[PKa 値] pK_a 8.89 (25 °C)



-----文献-----

Hardegger, E. et al., *Helv. Chim. Acta*, 1968, 51, 78, (合成法)

Snyder, R.V. et al., *J. Inorg. Nucl. Chem.*, 1973, 35, 523

Kasai, T. et al., *Agric. Biol. Chem.*, 1981, 45, 1483, (分離)

§ β -D-Fructofuranosyl-(2 \rightarrow 1)- β -D-fructofuranosyl β -D-fructofuranosyl-(2 \rightarrow 1)- β -D-fructofuranosyl-(2 \rightarrow 6)- α -D-glucopyranoside (CAS 名)

[化学名・別名] β -D-Fructofuranosyl-(2 \rightarrow 1)- β -D-fructofuranosyl-

(2 \rightarrow 6)- α -D-glucopyranosyl-(1 \rightarrow 2)- β -D-fructofuranosyl

β -D-fructofuranoside

[CAS No.] 71231-05-5

[化合物分類] AF9300, 炭水化物 (Oligosaccharides)

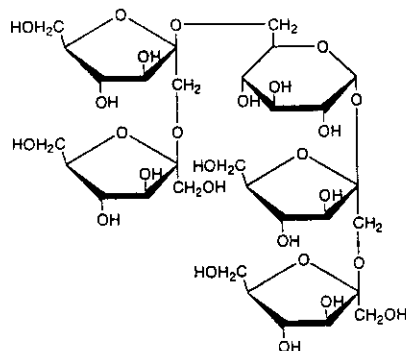
[構造式]

[分子式] $C_{30}H_{52}O_{26}$

[分子量] 828.725

[天然基原] 次の植物から分離: *Asparagus officinalis* の根

[比旋光度]: $[\alpha]_D^{20} -6.6$ (H₂O)



-----文献-----

Shiomi, N. et al., *Agric. Biol. Chem.*, 1979, 43, 1375, (分離)

§ Furostane-3,22,26-triol; (3 β , 5 β , 22 α , 25S)-form, 26-O- β -D-Glucopyranoside

[化学名・別名] Asparagoside B

[CAS No.] 60237-69-6

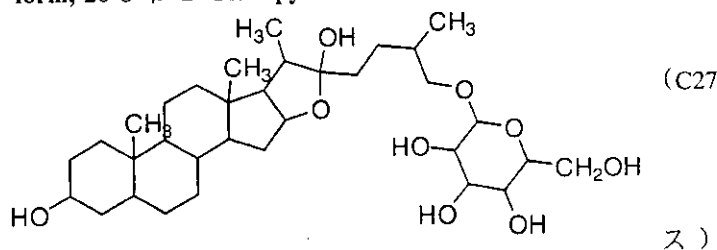
[化合物分類] ステロイド (Furostane steroids).

[構造式]

[分子式] $C_{33}H_{56}O_9$

[分子量] 596.8

[天然基原] *Asparagus officinalis* (アスパラガ



-----文献-----

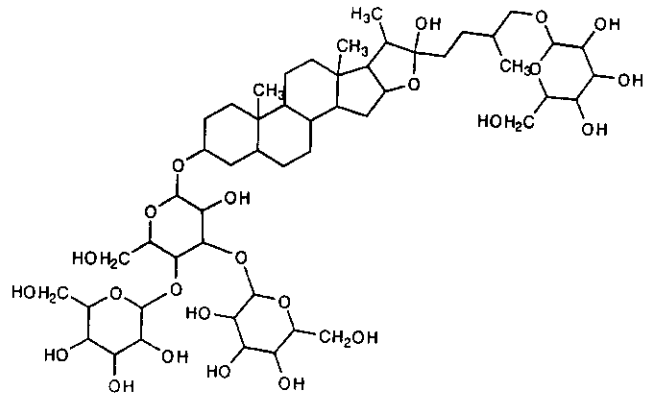
Goryanu, G.M. et al., *Khim. Prir. Soedin.*, 1976, 12, 400; 762; 823; *Chem. Nat. Compd. (Engl. Transl.)*, 1976, 12, 352; 684; 1977, 13, 682, (Asparagosides B,E,G,H)

§ Furostane-3,22,26-triol; (3 β , 5 β , 22 α , 25S)-form, 3-O-[β -D-Glucopyranosyl-(1 \rightarrow 3)-[β -D-glucopyranosyl-(1 \rightarrow 4)]- β -D-glucopyranoside], 26-O- β -D-glucopyranoside

[化学名・別名] Asparagoside G

[CAS No.] 60267-27-8

[化合物分類]ステロイド (Furostane steroids).
(C27).
[構造式]



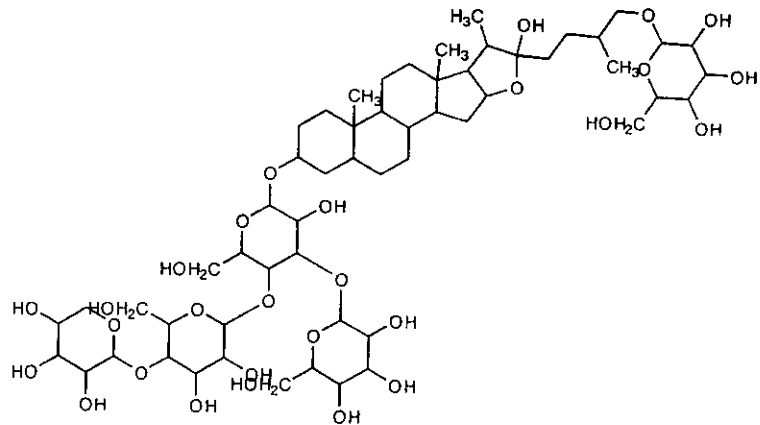
[分子式] $C_{51}H_{86}O_{24}$
[分子量] 1083.226
[天然基原] *Asparagus officinalis* (アスパラガス)
[性状] 結晶
[融点] Mp 170-174 °C
[比旋光度]: $[\alpha]_D^{20}$ -200 (c, 0.6 in H₂O)

----- 文献 -----

1976, 12, 352; 684; 1977, 13, 682, (Asparagosides B,E,G,H)

§ Furostane-3,22,26-triol; (3 β , 5 β , 22 α , 25S)-form, 3-O-[β -D-Glucopyranosyl-(1 \rightarrow 3)- β -D-xylopyranosyl-(1 \rightarrow 4)- β -D-glucopyranosyl-(1 \rightarrow 4)]- β -D-glucopyranoside, 26-O- β -D-glucopyranoside

[化学名・別名] Asparagoside H
[CAS No.] 60267-28-9
[化合物分類]ステロイド (Furostane steroids). (C27).
[構造式]



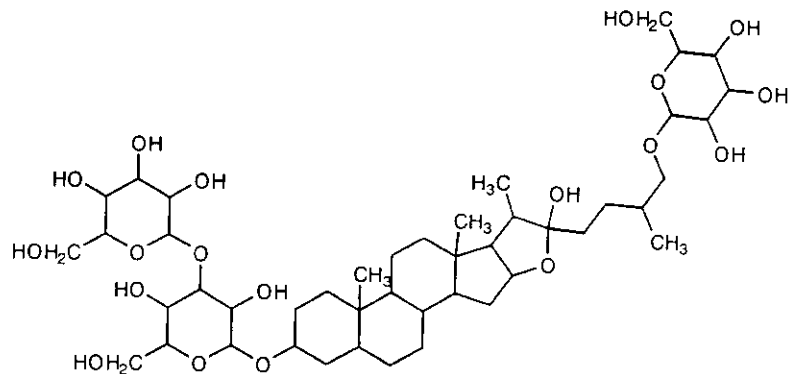
[分子式] $C_{50}H_{74}O_{28}$
[分子量] 1215.342
[天然基原] *Asparagus officinalis* (アスパラガス)
[性状] 結晶
[融点] Mp 146-150 °C
[比旋光度]: $[\alpha]_D^{20}$ -200 (c, 0.6 in H₂O)

----- 文献 -----

1976, 12, 352; 684; 1977, 13, 682, (Asparagosides B,E,G,H)

§ Furostane-3,22,26-triol; (3 β , 5 β , 22 α , 25S)-form, 3-O-[β -D-Glucopyranosyl-(1 \rightarrow 3)- β -D-glucopyranoside], 26-O- β -D-glucopyranoside

[化学名・別名] Asparagoside E
[CAS No.] 60267-25-6
[化合物分類]ステロイド (Furostane steroids). (C27).
[構造式]



[分子式] $C_{45}H_{70}O_{19}$
[分子量] 921.084
[天然基原] *Asparagus officinalis* (アスパラガス)
[融点] Mp 254-260 °C
[比旋光度]: $[\alpha]_D^{20}$ -38 (c, 1 in H₂O)

----- 文献 -----

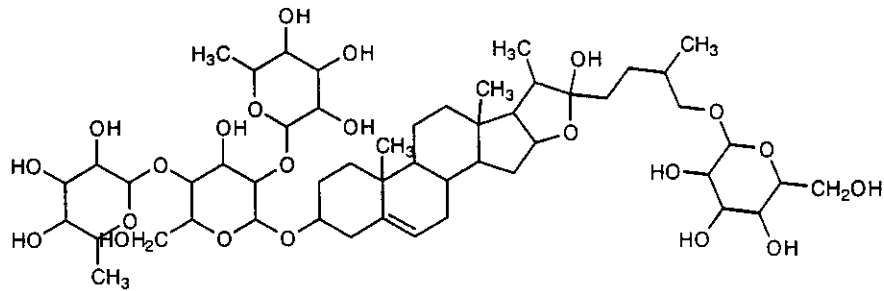
1976, 12, 352; 684; 1977, 13, 682, (Asparagosides B,E,G,H)

§ Furost-5-ene-3,22,26-triol; (3 β , 22R,25R)-form, 3-O-[α -L-Rhamnopyranosyl-(1 \rightarrow 2)- α -L-rhamnopyranosyl-(1 \rightarrow 4)]- β -D-glucopyranoside, 26-O- β -D-glucopyranoside

[CAS No.] 55056-80-9

[化合物分類] ステロイド (Furostane steroids). (C27).

[構造式]



[分子式] $C_{51}H_{84}O_{22}$

[分子量] 1049.211

[天然基原] *Dioscorea gracillima*, *Dioscorea collettii* var. *hypoglauca*, *Tribulus terrestris*, *Asparagus officinalis*

[性状] 針状結晶

[融点] Mp 190-192 °C で分解 (188-190 °C)

[比旋光度]: $[\alpha]_D^{19} -88.4$ (c, 0.01 in Py). $[\alpha]_D -75.3$ (c, 0.61 in MeOH)

----- 文献 -----

Tomova, M. et al., *Planta Med.*, 1978, 34, 188, (Saponin C)

Janeczko, Z. et al., *Acta Pol. Pharm.*, 1980, 37, 559, (Saponoside)

§ **Furost-5-ene-3,22,26-triol; (3 β ,22*R*,25*R*)-form, 22-Me ether, 3-O-[α -L-rhamnopyranosyl-(1 \rightarrow 2)]-[α -L-rhamnopyranosyl-(1 \rightarrow 4)]- β -D-glucopyranoside, 26-O- β -D-glucopyranoside**

[化学名・別名] Protodioscin 22-methyl ether

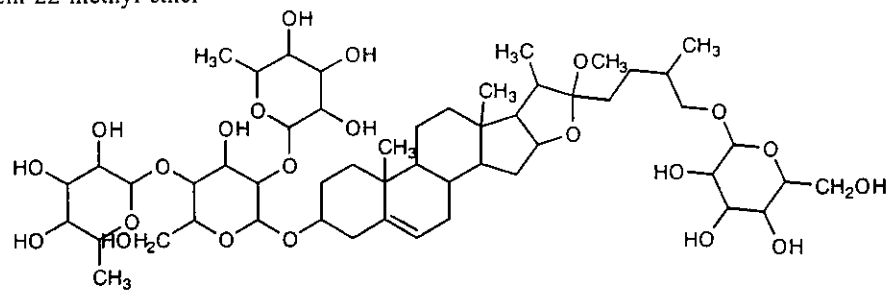
[CAS No.] 55658-89-4

[化合物分類] AJ1250, ス

イド (Furostane steroids).

).

[構造式]



テロ
(C27)

[分子式] $C_{51}H_{84}O_{22}$

[分子量] 1063.238

[天然基原] 次の植物の

から分離: *Trigonella coerulea*, *Asparagus officinalis*

[性状] 結晶 (MeOH/2-propanol)

[融点] Mp 181-189 °C

[比旋光度]: $[\alpha]_D -59.8$ (c, 0.56 in MeOH)

種子

----- 文献 -----

Kawasaki, T. et al., *Chem. Pharm. Bull.*, 1974, 22, 2164, (Protodioscin, Protogracillin)

Hoyer, G.A. et al., *Phytochemistry*, 1975, 14, 539, (Protodioscin 22-methyl ether)

Khodakov, G.V. et al., *Khim. Prir. Soedin.*, 1994, 30, 766; *Chem. Nat. Compd. (Engl. Transl.)*, 1994, 30, 713, (Protodioscin, H-NMR, C13-NMR)

Shao, Y. et al., *Planta Med.*, 1997, 63, 258-262, (Protodioscin)

§ **Furost-5-ene-3,22,26-triol; (3 β ,22*R*,25*S*)-form, 3-O-[α -L-Rhamnopyranosyl-(1 \rightarrow 2)]-[α -L-rhamnopyranosyl-(1 \rightarrow 4)]- β -D-glucopyranoside, 26-O- β -D-glucopyranoside**

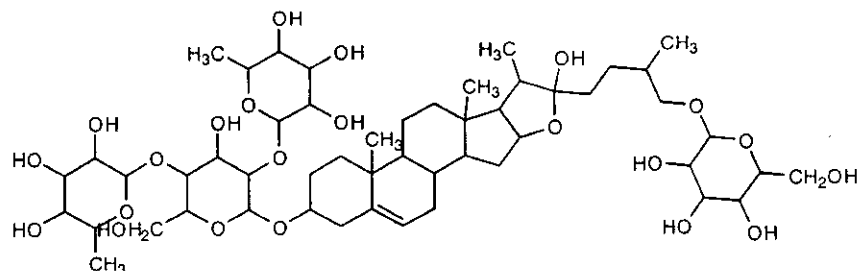
[化学名・別名] Asparasaponin I. Trigonelloside C. Yamogenintetroside C. Protoneodioscin

[CAS No.] 60478-69-5

[化合物分類] ステロイド

Furostane steroids). (C27).

[構造式]



[分子式] $C_{51}H_{84}O_{22}$

[分子量] 1049.211

[天然基原] 次の植物から

れる苦味成分: ホワイトアスパラガスのシュート (*Asparagus officinalis*), *Dioscorea collettii* var. *hypoglauca*,

得ら

[天然基原] 次の植物から得られる苦味成分: ホワイトアスパラガスのシュート (*Asparagus officinalis*), *Dioscorea colletii* var. *hypoglauca*, fenugreek (*Trigonella foenum-graecum*)

[性状] 無定型

[融点] Mp 166-168 °C で分解

[比旋光度]: $[\alpha]_D^{25} -70.1$ (c, 0.01 in Py)

----- 文献 -----

Bogacheva, N.G. et al., *Khim. Prir. Soedin.*, 1976, 12, 268; *Chem. Nat. Compd. (Engl. Transl.)*, 1976, 12, 242, (Trigonelloside C)

Kawano, K. et al., *Agric. Biol. Chem.*, 1977, 41, 1, (Asparasaponins)

Bogacheva, N.G. et al., *Khim.-Farm. Zh.*, 1977, 11, 65, (Yamogenintetrosides)

§ **Furost-5-ene-3,22,26-triol; (3 β , 22*R*,25*S*) -form, 3-O-[α -L-Rhamnopyranosyl-(1 \rightarrow 4) - β -D-glucopyranoside], 26-O- β -D-glucopyranoside**

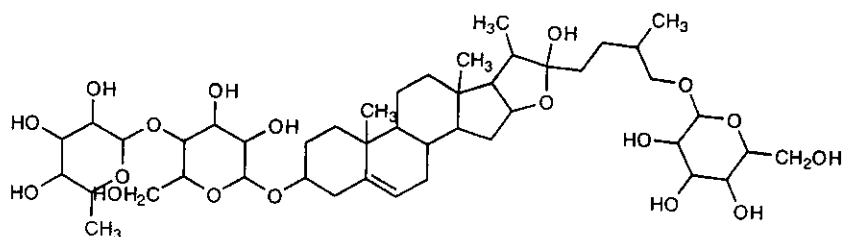
[化学名・別名] Asparasaponin II

[CAS No.] 60433-66-1

[化合物分類] ステロイド

(Furostane steroids). (C27).

[構造式]



[分子式] $C_{45}H_{74}O_{18}$

[分子量] 903.609

[天然基原] ホワイトアスパラガスのシュート (*Asparagus officinalis*)

[性状] 無定型

----- 文献 -----

Kawano, K. et al., *Agric. Biol. Chem.*, 1977, 41, 1, (Asparasaponins)

§ **β -D-Glucopyranosyl-(1 \rightarrow 4) - β -D-glucopyranosyl-(1 \rightarrow 4) -D-mannose (CAS 名)**

[CAS No.] 28072-83-5

[化合物分類] 炭水化物 (Oligosaccharides), AF9230

[構造式]

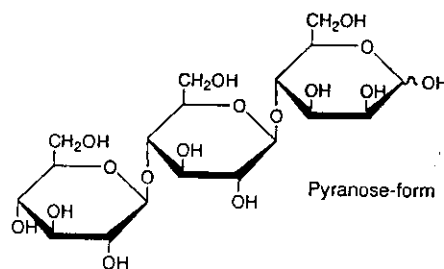
[分子式] $C_{18}H_{32}O_{16}$

[分子量] 504.441

[天然基原] 次の植物の加水分解で分離: コンニャクのグルコマンナン (*Amorphophallus konjac*), mucous polysaccharides of *Bletilla striata* and the glucomannan in the tubers of *Arum maculatum*. *Asparagus officinalis* の種子から分離される

[融点] Mp 249-251 °C (257 °C)

[比旋光度]: $[\alpha]_D^{25} +8.5 \rightarrow -4.3$ (c, 1.4 in H₂O)



----- 文献 -----

Kato, K. et al., *Agric. Biol. Chem.*, 1969, 33, 1446, (分離)

Takahashi, R. et al., *Agric. Biol. Chem.*, 1984, 48, 2943, (分離)

Koleva, M. et al., *CA*, 1984, 100, 20436h

Goldberg, R. et al., *Carbohydr. Res.*, 1991, 210, 263, (分離, H-NMR, HPLC)

§ **4-[5-(4-Hydroxyphenoxy)-3-penten-1-ynyl]phenol; (E)-form**

[CAS No.] 166762-98-7

[化合物分類] 単環芳香族 (Simple phenols), 脂肪族化合物 (Miscellaneous acetylenes)

[構造式]

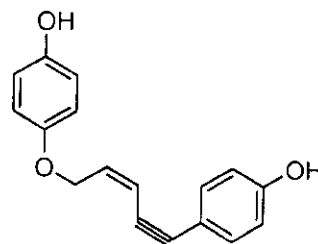
[分子式] $C_{17}H_{14}O_3$

[分子量] 266.296

[天然基原] *Asparagus officinalis* の細胞培養

[性状] 結晶 (CCl_4/C_6H_6)

[融点] Mp 182 °C で分解



----- 文献 -----

Terada, K. et al., *Chem. Pharm. Bull.*, 1995, 43, 564. (分離, UV, IR, H-NMR, C13-NMR)

§ 4-[5-(4-Hydroxyphenoxy)-3-penten-1-ynyl] phenol; (E)-form, 4''-Me ether

[化学名・別名] 4-[5-(4-Methoxyphenoxy)-3-penten-1-ynyl] phenol. Asparenyol

[CAS No.] 166762-97-6

[化合物分類] 単環芳香族 (Simple phenols), 脂肪族化合物 (Miscellaneous acetylenes)

[構造式]

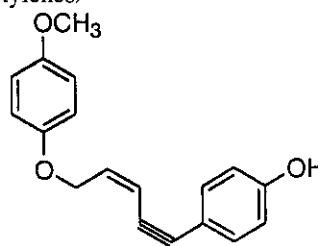
[分子式] $C_{18}H_{16}O_3$

[分子量] 280.323

[天然基原] *Asparagus officinalis* の細胞培養物

[性状] 結晶 (CCl_4/C_6H_6)

[融点] Mp 140-140.5 °C



-----文献-----

Terada, K. et al., Chem. Pharm. Bull., 1995, 43, 564, (分離, UV, IR, H-NMR, C13-NMR)

§ 4-[5-(4-Hydroxyphenoxy)-3-penten-1-ynyl] phenol; (E)-form, Di-Me ether

[化学名・別名] 1-Methoxy-4-[5-(4-methoxyphenoxy)-3-penten-1-ynyl] benzene

[CAS No.] 166762-96-5

[化合物分類] 脂肪族化合物 (Miscellaneous acetylenes), 単環芳香族 (Miscellaneous aryl derivatives)

[構造式]

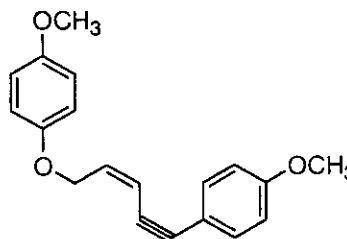
[分子式] $C_{19}H_{18}O_3$

[分子量] 294.349

[天然基原] *Asparagus officinalis* の細胞培養物

[性状] 結晶 (MeOH)

[融点] Mp 124-125.5 °C



-----文献-----

Terada, K. et al., Chem. Pharm. Bull., 1995, 43, 564, (分離, UV, IR, H-NMR, C13-NMR)

§ 3-Mercapto-2-(mercaptomethyl) propanoic acid (CAS 名)

[化学名・別名] β , β' -Dimercaptoisobutyric acid. Dihydroasparagusic acid

[CAS No.] 7634-96-0

[化合物分類] 脂肪族化合物 (Branched aliphatic carboxylic acids)

[構造式] $(HSCH_2)_2CHCOOH$

[分子式] $C_4H_8O_3S_2$

[分子量] 152.238

[天然基原] 次の植物から分離: *Asparagus officinalis*

[用途] 植物成長阻害作用を示す

[性状] 結晶 (petrol)

[融点] Mp 59.5-60.5 °C

-----文献-----

Jansen, E.F., J. Biol. Chem., 1948, 176, 657, (分離)

Yanagawa, H. et al., Synthesis, 1973, 607, (合成法)

Singh, R. et al., J.A.C.S., 1990, 112, 1190, (合成法, H-NMR)

§ 3-Mercapto-2-(mercaptomethyl) propanoic acid; S-Ac

[CAS No.] 38146-83-7

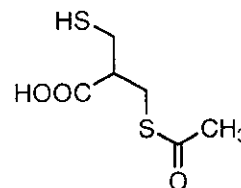
[化合物分類] 脂肪族化合物 (Other branched aliphatic esters)

[構造式]

[分子式] $C_6H_{10}O_3S_2$

[分子量] 194.275

[天然基原] *Asparagus officinalis*



-----文献-----

Jansen, E.F., J. Biol. Chem., 1948, 176, 657, (分離)

Yanagawa, H. et al., Synthesis, 1973, 607, (合成法)

Singh, R. et al., J.A.C.S., 1990, 112, 1190, (合成法, H-NMR)

Singh, R. et al., J.A.C.S., 1990, 112, 1190, (合成法, H-NMR)

§ **Phytosulfokine α**

[CAS No.] 179667-62-0

[化合物分類] アミノ酸とペプチド (Oligopeptides (4-10 residues))

[構造式] H-Tyr(SO₃H)-Ile-Tyr(SO₃H)-Thr-Gln-OH

[分子式] C₃₃H₆₆N₆O₁₆S₂

[分子量] 846.889

[天然基原] *Asparagus officinalis*

[用途] Induces proliferation of single mesophyll cells

-----文献-----

Matsubayashi, Y. et al., Biochem. Biophys. Res. Commun., 1996, 225, 209, (活性)

Matsubayashi, Y. et al., Proc. Natl. Acad. Sci. U.S.A., 1996, 93, 7623, (分離, Mass, 構造)

§ **Phytosulfokine β**

[CAS No.] 179667-63-1

[化合物分類] アミノ酸とペプチド (Oligopeptides (4-10 residues))

[構造式] H-Tyr(SO₃H)-Ile-Tyr(SO₃H)-Thr-OH

[分子式] C₃₃H₆₆N₄O₁₄S₂

[分子量] 718.759

[天然基原] *Asparagus officinalis*

[用途] Induces proliferation of single mesophyll cells

-----文献-----

Matsubayashi, Y. et al., Proc. Natl. Acad. Sci. U.S.A., 1996, 93, 7623, (分離, Mass, 構造)

§ **Spirostan-3-ol; (3 β ,5 β ,25S)-form, 3-O- β -D-Glucopyranoside**

[化学名・別名] Asparagoside A. Sarsasaponin monoglucoside

[CAS No.] 14835-43-9

[化合物分類] ステロイド (Spirostane steroids). (C27).

[構造式]

[分子式] C₃₃H₅₄O₈

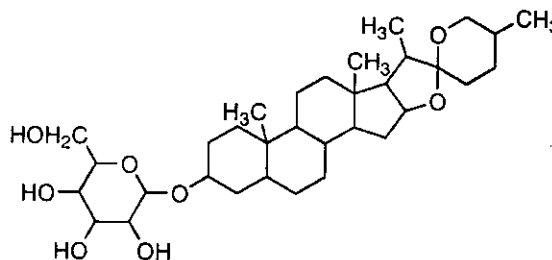
[分子量] 578.785

[天然基原] 次の植物から分離: *Smilax aristolochiaefolia* の根茎, *Asparagus officinalis*

[性状] 針状結晶 (MeOH)

[融点] Mp 245-247 °C

[比旋光度]: $[\alpha]_D^{20}$ -65.1 (c, 0.68 in MeOH)



-----文献-----

Goryana, G.M. et al., Khim. Prir. Soedin., 1976, 12, 400-401; 762-765; 810; 823-824; Chem. Nat. Compd. (Engl. Transl.), 1976, 12, 353-354; 684-686; 727; 743-744, (Asparagosides)

§ **Spirostan-3-ol; (3 β ,5 β ,25S)-form, 3-O- $[\beta$ -D-Glucopyranosyl-(1 \rightarrow 3)]- β -D-glucopyranoside**

[化学名・別名] Asparagoside C

[CAS No.] 60267-23-4

[化合物分類] ステロイド (Spirostane steroids). (C27).

[構造式]

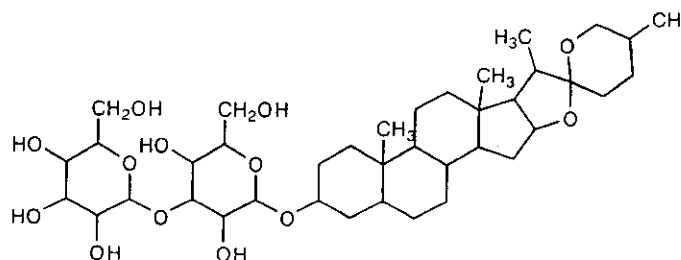
[分子式] C₃₉H₆₆O₁₁

[分子量] 740.927

[天然基原] *Asparagus officinalis*

[融点] Mp 287-290 °C

[比旋光度]: $[\alpha]_D^{20}$ -13 (c, 0.4 in H₂O)



-----文献-----

Goryana, G.M. et al., Khim. Prir. Soedin., 1976, 12, 400-401; 762-765; 810; 823-824; Chem. Nat. Compd. (Engl. Transl.), 1976, 12, 353-354; 684-686; 727; 743-744, (Asparagosides)

§ Spirostan-3-ol; (3 β ,5 β ,25S)-form, 3-O-[α -D-Galactopyranosyl-(1 \rightarrow 2)- β -D-glucopyranosyl-(1 \rightarrow 4)]- β -D-glucopyranoside]

[化学名・別名] Yuccoside C

[CAS No.] 55826-88-5

[化合物分類] ステロイド (Spirosterane steroids).

[構造式]

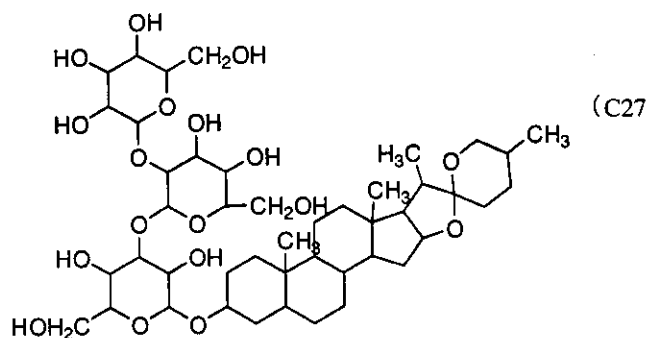
[分子式] C₄₅H₇₄O₁₉

[分子量] 903.069

[天然基原] *Asparagus officinalis*

[性状] 無定型

[化学物質毒性データ総覧 (RTECS) 登録番号] LZ6400000



文献

Dragalin, I.P. et al., *Phytochemistry*, 1975, 14, 1817-1820, (Yuccoside C)

RTECS (化学物質毒性データ)

生体影響物質 : 医薬品, 天然物.

健康障害に関するデータ

急性毒性に関するデータ

<<試験方法>> LD10 (10%致死量) 試験

曝露経路 : 腹腔内投与.

被験動物 : げっ歯類-マウス.

投与量・期間 : 20 mg/kg

毒性影響 : [催腫瘍性] 抗がん剤として有効.

参照文献

Pharmaceutical Chemistry Journal (English Translation). Translation of KHFZAN. (Plenum Pub. Corp., 233 Spring St., New York, NY 10013) 11,749,1977

§ Spirostan-3-ol; (3 β ,5 β ,25S)-form, 3-O-[β -D-Glucopyranosyl-(1 \rightarrow 2)]-[β -D-xylopyranosyl-(1 \rightarrow 4)]- β -D-glucopyranoside]

[化学名・別名] AS 1

[CAS No.] 131622-60-1

[構造式]

[分子式] C₄₄H₇₂O₁₇

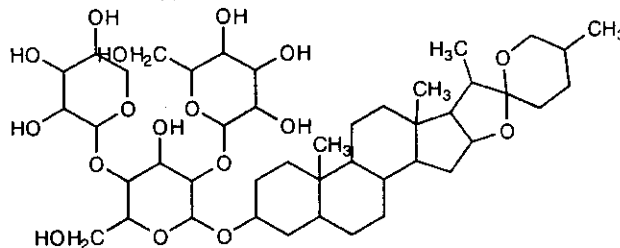
[分子量] 873.043

[天然基原] *Asparagus officinalis*

[性状] 結晶

[融点] Mp 182-184 °C

[比旋光度]: [α]_D²⁴ -26.8 (c, 0.1 in MeOH)



文献

Karrer, W. et al., *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd edn., Birkhäuser Verlag, Basel, 1972, nos. 2087; 2090-2092, (生育)

Agrawal, P.K. et al., *Phytochemistry*, 1985, 24, 2479-2496, (C13-NMR, レビュー)

Ding, Y. et al., *Yaoxue Xuebao*, 1990, 25, 509-514, (Aspafiliosides)

§ Spirostan-3-ol; (3 β ,5 β ,25S)-form, 3-O-[β -D-Glucopyranosyl-(1 \rightarrow 3)]-[β -D-glucopyranosyl-(1 \rightarrow 4)]- β -D-glucopyranoside]

[化学名・別名] Asparagoside D

[CAS No.] 60267-24-5

[化合物分類] ステロイド (Spirosterane steroids).

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[構造式]

[分子式] C₄₅H₇₄O₁₈

[分子量] 903.069

[天然基原] *Asparagus officinalis*

[融点] Mp 246-250 °C

[比旋光度]: [α]_D²⁰ -166 (c, 0.43 in MeOH)

