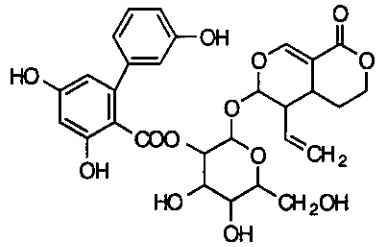
[溶解性]BERDY SOL: 水に可溶; ヘキサンに難溶
[UV]:[neutral] λ max 246 (ε 8250) (H_2O)

----------文献----------

Chung, M.-I. et al., J. Nat. Prod., 1993, 56, 982, (3'-Acetylsweroside)
Ohashi, K. et al., Chem. Pharm. Bull., 1994, 42, 1791, (7-Caffeoyloxysweroside)
Kitagawa, I. et al., Chem. Pharm. Bull., 1996, 44, 1162, (3'-Caffeoylsweroside)
Tan, R.X. et al., Phytochemistry, 1998, 47, 1223, (8-Hydroxy-10-hydrosweroside, Isomacrophylloride)
Kumar, S. et al., Phytochemistry, 2000, 53, 499, (6'-Apiofuranosylsweroside)

§ Sweroside; 2'-*O*-(3,3',5-Trihydroxy-2-biphenylcarboxylate)



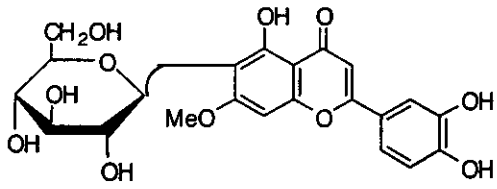
[化学名・別名]Amarogentin
[CAS No.]21018-84-8
[化合物分類]テルペノイド(Secoiridoid monoterpenoid)
[構造式]
[分子式]$C_{29}H_{30}O_{13}$
[分子量]586.548
[正確な分子量]586.168645
[基原]次の植物から分離: *Gentiana* sp., *Swertia japonica*
[融点]Mp 229-230 ℃
[比旋光度]:[α]$_D^{20}$ -116.6 (MeOH)

----------文献----------

Inoye, H. et al., Tet. Lett., 1966, 5229; 1967, 3221; 1968, 4429, (分離, 生合成, 構造決定)
Inouye, H. et al., Tetrahedron, 1971, 27, 1951; 1974, 30, 571, (Amarogentin, Trifloroside)
Ray, S. et al., J. Nat. Prod., 1996, 59, 27, (Amarogentin)

§ Swertiajaponin

[化学名・別名]2-(3,4-Dihydroxyphenyl)-6-β-D-glucopyranosyl-5-hydroxy-7-methoxy-4*H*-1-benzopyran-4-one(CAS 名). Isoorientin 7-methyl ether. Leucanthoside



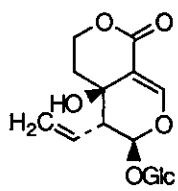
[CAS No.]6980-25-2
[化合物分類]フラボノイド(Flavone; 4 × O-置換基)
[構造式]
[分子式]$C_{22}H_{22}O_{11}$
[分子量]462.409
[正確な分子量]462.116215
[基原]*Swertia japonica*, *Achillea genus* の葉, *Iris germanica* と *Iris ramosa* の地上部. また *Cephalaria leucantha*, *Gnetum gnemon* の葉, その他にも存在する
[性状]結晶+ 1/2・H_2O
[融点]Mp 265 ℃で分解
[比旋光度]:[α]$_D^{20}$ -2.6 (c, 0.5 in Py)

----------文献----------

C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002

§ Swertiamarin

[化学名・別名]Swertiamaroside
[CAS No.]17388-39-5
[化合物分類]テルペノイド(Secoiridoid monoterpenoid)
[構造式]



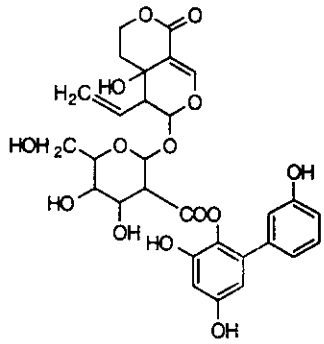
[分子式]$C_{16}H_{22}O_{10}$
[分子量]374.344
[正確な分子量]374.1213
[基原]*Swertia japonica*, *Anthocleista procera*, *Ericostemma litorale*
[性状]結晶(EtOH/$CHCl_3$/Et_2O)
[融点]Mp 110-112 ℃

[比旋光度]:[α]$_D$ -127
[溶解性]BERDY SOL: 水に可溶; ヘキサンに難溶

----------文献----------

Koch, M. et al., Bull. Soc. Chim. Fr., 1964, 403, (swertiamanin isol, H-NMR)
Mpondo, E.M. et al., Planta Med., 1990, 56, 334, (6'-*O*-Glucosylswertiamarin)
Ma, W.-G. et al., Helv. Chim. Acta, 1994, 77, 1660, (Swertiamarin, H-NMR, C13-NMR)

§ Swertiamarin; 2'-*O*-(3,3',5-Trihydroxy-2-biphenylcarbonyl)

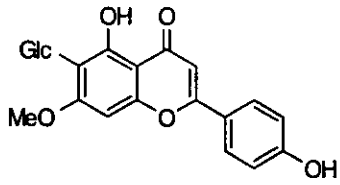


[化学名・別名]Amaroswerin
[CAS No.]21233-18-1
[化合物分類]テルペノイド(Secoiridoid monoterpenoid)
[構造式]
[分子式]$C_{29}H_{30}O_{14}$
[分子量]602.548
[正確な分子量]602.16356
[基原]次の植物から分離: *Swertia japonica*, *Gentiana* spp.
[用途]強い苦味成分
[比旋光度]:[α]$_D^{20}$ -13 (MeOH)

----------文献----------

Inouye, H. et al., Tetrahedron, 1971, 27, 1951, (Amaroswerin)

§ Swertisin

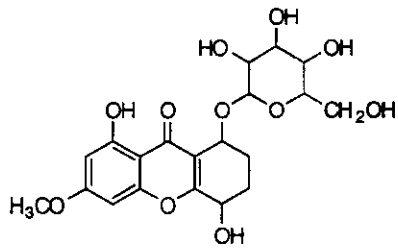


[化学名・別名]6-β-D-Glucopyranosyl-4',5-dihydroxy-7-methoxyflavone. Flavocommelitin
[CAS No.]6991-10-2
[化合物分類]フラボノイド(Flavone; 3 × O-置換基)
[構造式]
[分子式]$C_{22}H_{22}O_{10}$
[分子量]446.41
[正確な分子量]446.1213
[基原]*Swertia japonica*, *Swertia purpurascens*, *Gaillardia aristata*, *Gaillardia pulchella*, *Gentiana campestris*, *Enicostemma hyssopifolium*, *Achillea* spp.; *Dipsacaceae* spp., *Iris japonica* の花弁
[性状]青白い黄色の針状結晶 (H_2O)
[融点]Mp 243 ℃で分解
[比旋光度]:[α]$_D^{20}$ -10 (c, 0.9 in Py)

----------文献----------

Takeda, K. et al., CA, 1966, 67, 99951, (Flavocommelin)
McCormick, S. et al., Phytochemistry, 1983, 22, 798, (Flavocummelin)

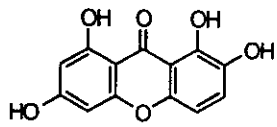
§ 1,2,3,4-Tetrahydro-1,4,6,8-tetrahydroxyxanthone; (1*S*,4*R*)-form, 6-Me ether, 1-*O*-β-D-glucopyranoside



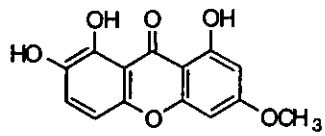
[化学名・別名]Tetrahydroswertianolin
[CAS No.]189289-76-7
[化合物分類]単環芳香族(Xanthone; 4 × O-置換基)
[構造式]
[分子式]$C_{20}H_{24}O_{11}$
[分子量]440.403
[正確な分子量]440.131865
[基原]*Swertia japonica*
[性状]無定型の黄色の塊
[比旋光度]:[α]$_D^{20}$ +8 (c, 0.2 in MeOH)
[UV]:[neutral] λ $_{max}$ 210 (log ε 3.93); 233 (log ε 4.03); 252 (log ε 4.19); 258 (log ε 4.18); 293 (log ε 3.77); 325 (log ε 3.51) (MeOH)

----------文献----------

Hase, K. et al., Chem. Pharm. Bull., 1997, 45, 1823, (分離, UV, H-NMR, C13-NMR)

§ 1,2,6,8-Tetrahydroxyxanthone
[化学名・別名]1,2,6,8-Tetrahydroxy-9*H*-xanthen-9-one(CAS 名). Norswertianin
[CAS No.]22172-15-2
[化合物分類]単環芳香族(Xanthone; 4 × O-置換基)
[構造式]

[分子式]$C_{13}H_8O_6$
[分子量]260.203
[正確な分子量]260.03209
[基原]次の植物から分離: *Gentiana bavarica, Swertia cincta, Swertia japonica*, その他の *Swertia* spp.
[性状]結晶(MeOH)
[融点]Mp 335 ℃ (332-333 ℃)
[化学物質毒性データ総覧(RTEC)登録番号]ZD6122200
----------文献----------
C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002

*****RTECS(化学物質毒性データ)*****
生体影響物質　　:変異原物質
*****健康障害に関するデータ*****
*****変異原性に関するデータ*****
〈〈試験方法〉〉微生物を用いた突然変異試験.
試験系　　:大腸菌 Salmonella typhimurium.
投与量・期間:100 ug/plate
参照文献
CPBTAL Chemical and Pharmaceutical Bulletin. (Japan Pub. Trading Co., USA, 1255 Howard St., San Francisco, CA 94103) V.6- 1958- [Vol.,頁,年(19-)]32,2290,1984

§ 1,2,6,8-Tetrahydroxyxanthone; 6-Me ether
[化学名・別名]1,2,8-Trihydroxy-6-methoxyxanthone. Swertianine. Gentiakochianin. Gentiachochianin
[CAS No.]20882-75-1
[化合物分類]単環芳香族(Xanthone; 4 × O-置換基)
[構造式]

[分子式]$C_{14}H_{10}O_6$
[分子量]274.229
[正確な分子量]274.04774
[基原]次の植物から分離: *Gentiana bavarica, Gentiana kochiana, Swertia japonica*
[融点]Mp 226-227 ℃ (221 ℃)
[化学物質毒性データ総覧(RTEC)登録番号]ZD6116600
----------文献----------
C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002
Rivaille, P. et al., Phytochemistry, 1969, 8, 1533, (Gentiacauloside, Gentiakochianoside)
Hostettmann, K. et al., Helv. Chim. Acta, 1974, 57, 294; 1155; 1976, 59, 1584; 1977, 60, 262; 1978, 61, 1549, (分離, H-NMR, UV, 構造決定, 成書)

*****RTECS(化学物質毒性データ)*****
生体影響物質　　:変異原物質
*****健康障害に関するデータ*****
*****変異原性に関するデータ*****
〈〈試験方法〉〉微生物を用いた突然変異試験.
試験系　　:大腸菌 Salmonella typhimurium.
投与量・期間:100 ug/plate
参照文献
CPBTAL Chemical and Pharmaceutical Bulletin. (Japan Pub. Trading Co., USA, 1255 Howard St., San Francisco, CA 94103) V.6- 1958- [Vol.,頁,年(19-)]32,2290,1984

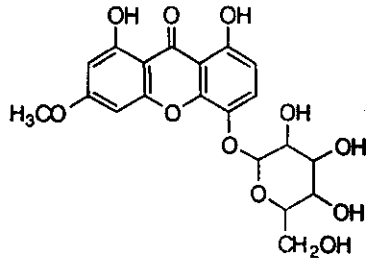
§ 1,3,5,8-Tetrahydroxyxanthone; 3-Me ether, 5-*O*-β-D-glucopyranoside

[化学名・別名]Bellidifoloside. Isoswertianolin

[CAS No.]53734-78-4

[化合物分類]単環芳香族(Xanthone; 4 × O-置換基)

[構造式]



[分子式]$C_{20}H_{20}O_{11}$

[分子量]436.371

[正確な分子量]436.100565

[基原]次の植物から分離: *Swertia japonica*

[性状]青白い黄色の針状結晶・二水和物 (MeOH)

[融点]Mp 259 ℃

[比旋光度]:[α]$_D$ -33.2 (c, 0.16 in Py)

----------文献----------

Sakamoto, I. et al., Chem. Pharm. Bull., 1982, 30, 4088, (Isoswertianolin, Swertianolin, Norswertianolin)

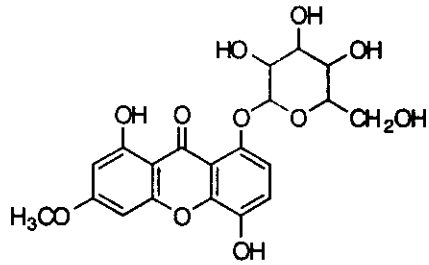
§ 1,3,5,8-Tetrahydroxyxanthone; 3-Me ether, 8-*O*-β-D-glucopyranoside

[化学名・別名]Swertianolin

[CAS No.]23445-00-3

[化合物分類]単環芳香族(Xanthone; 4 × O-置換基)

[構造式]



[分子式]$C_{20}H_{20}O_{11}$

[分子量]436.371

[正確な分子量]436.100565

[基原]*Gentiana campestris*, *Swertia japonica*, *Swertia perennis*

[性状]結晶・一水和物 (MeOH/dioxan)

[融点]Mp 204-205 ℃

[比旋光度]:[α]$_D^{25}$ -115 (c, 0.31 in 60% MeOH 溶液)

[UV]:[neutral] λ $_{max}$ 252 (ε 25100); 275 (ε 16600); 325 (ε 8900) (MeOH)

[化学物質毒性データ総覧(RTEC)登録番号]ZD6057000

----------文献----------

Ghosal, S. et al., J. Pharm. Sci., 1974, 63, 1286, (Norswertianolin, Swertianolin)
Sakamoto, I. et al., Chem. Pharm. Bull., 1982, 30, 4088, (Isoswertianolin, Swertianolin, Norswertianolin)
Kanamori, H. et al., Chem. Pharm. Bull., 1984, 32, 2290, (3,5,8-tri-Me ether)
Vermes, B. et al., Helv. Chim. Acta, 1985, 68, 2359, (合成法, 誘導体)
Van der Sluis, W.G. et al., Phytochemistry, 1985, 24, 2601, (3,5,8-tri-Me ether)
Kanamori, H. et al., CA, 1988, 109, 135051g, (毒性)
Kulanthaivel, P. et al., J. Nat. Prod., 1988, 51, 379, (誘導体)
Khetwal, K.S. et al., Phytochemistry, 1988, 27, 1910; 1990, 29, 1265, (誘導体)
Agrawal, A. et al., Phytochemistry, 1988, 27, 3692, (3,5,8-tri-Me ether glucoside)
Bennett, G.J. et al., J. Nat. Prod., 1990, 53, 1463, (合成法, C13-NMR)
Ishimaru, K. et al., Phytochemistry, 1990, 29, 1563, (3-Me ether 8-primeveroside)
Asthana, R.K. et al., Phytochemistry, 1991, 30, 1037, (Chiratol)
Tan, P. et al., Yaoxue Xuebao, 1992, 27, 476; CA, 117, 178170c, (Swertiapuniside)
Gonzalez, M.J. et al., Planta Med., 1999, 65, 368, (1,3-di-Me ether)

*****RTECS (化学物質毒性データ) *****

生体影響物質　　: 変異原物質. 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〉〉 致死量試験

曝露経路　　: 腹腔内投与

被験動物　　: 哺乳動物-種未特定.

投与量・期間 : >200 mg/kg

毒性影響　　: 致死量以外に毒性影響に関する報告はない.

参照文献

JPMSAE Journal of Pharmaceutical Sciences. (American Pharmaceutical Assoc., 2215 Constitution

Ave., NW, Washington, DC 20037) V.50- 1961- [Vol.,頁,年(19-)]63,1286,1974

変異原性に関するデータ

〈〈試験方法〉〉微生物を用いた突然変異試験.

試験系 : 大腸菌 Salmonella typhimurium.

投与量・期間 : 10 ug/plate

参照文献

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherland) V.1- 1964- [Vol.,頁,年(19-)]150,141,1985

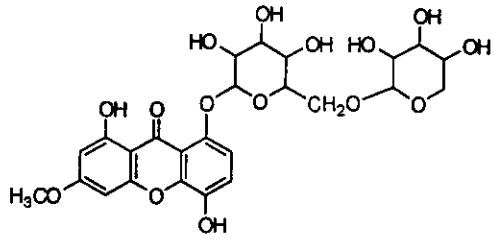
§ 1,3,5,8-Tetrahydroxyxanthone; 3-Me ether, 8-*O*-[β-D-xylopyranosyl-(1 → 6)-D-glucopyranoside]

[化学名・別名]8-*O*-Primeverosylbellidifolin

[CAS No.]128366-61-0

[化合物分類]単環芳香族(Xanthone; 4 × O-置換基)

[構造式]



[分子式]$C_{25}H_{28}O_{15}$

[分子量]568.487

[正確な分子量]568.142825

[基原]*Swertia japonica* の根の培養物

[性状]青白い黄色の針状結晶

[融点]Mp 265 ℃

[比旋光度]:$[\alpha]_D^{25}$ -83 (c, 0.3 in Py)

----------文献----------

Markham, K.R., Tetrahedron, 1964, 20, 991; 1965, 21, 1449, (分離, 構造決定)

Stout, G.H. et al., Tetrahedron, 1969, 25, 1947; 1961, (誘導体)

Kaldas, M. et al., Helv. Chim. Acta, 1974, 57, 2557, (分離, 構造決定)

Ghosal, S. et al., J. Pharm. Sci., 1974, 63, 1286, (Norswertianolin, Swertianolin)

Ghosal, S. et al., Phytochemistry, 1975, 14, 1393; 2671, (レビュー)

Hostettman-Kaldas, M. et al., Phytochemistry, 1978, 17, 2083, (レビュー)

Sakamoto, I. et al., Chem. Pharm. Bull., 1982, 30, 4088, (Isoswertianolin, Swertianolin, Norswertianolin)

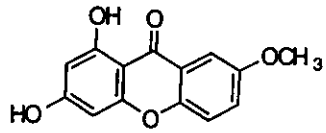
§ 1,3,7-Trihydroxyxanthone; 7-Me ether

[化学名・別名]1,3-Dihydroxy-7-methoxyxanthone. Isogentisin

[CAS No.]491-64-5

[化合物分類]単環芳香族(Xanthone; 3 × O-置換基)

[構造式]



[分子式]$C_{14}H_{10}O_5$

[分子量]258.23

[正確な分子量]258.052825

[基原]次の植物から分離: *Gentiana lutea* の根, *Swertia japonica*

[性状]黄色の板状結晶 (EtOH)

[融点]Mp 241 ℃

[化学物質毒性データ総覧(RTEC)登録番号]ZD6034500

----------文献----------

C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002

Peres, V. et al., Phytochemistry, 1997, 44, 191, (レビュー, 生育)

***RTECS (化学物質毒性データ) ***

生体影響物質 : 変異原物質

健康障害に関するデータ

変異原性に関するデータ

〈〈試験方法〉〉微生物を用いた突然変異試験.

試験系 : 大腸菌 Salmonella typhimurium.

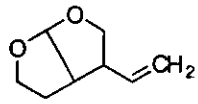
投与量・期間 : 5 ug/plate

参照文献

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam,

Netherland) V.1- 1964- [Vol.,頁,年(19-)]116,103,1983

§ 4-Vinyl-2,8-dioxabicyclo[3.3.1]nonane; (1*R*,4*R*,5*R*)-form
[化学名・別名]Semburin
[CAS No.]79498-32-1
[化合物分類]脂肪族化合物(Bicycloheteroalicyclics (2 × O))
[構造式]



[基原]*Swertia japonica*
[性状]オイル
[比旋光度]:$[\alpha]_D^{29}$ -2.7 (c, 0.1 in $CHCl_3$)

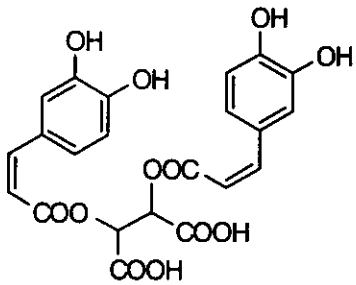
----------文献----------

Sakai, T. et al., Chem. Lett., 1981, 1257, (分離)
Nagata, H. et al., Synthesis, 2000, 1825, (合成法)

***********ツクシ (Tsukushi, Fern-ally) **********

§§ トクサ科スギナ(*Equisetum arvense* L.)の胞子茎および栄養茎。

§ Chicoric acid; (2*RS*,3*SR*)-form
[化学名・別名]Mesochicoric acid
[CAS No.]133520-29-3
[その他の CAS No.]53797-30-1
[化合物分類]炭水化物(Aldaric acid)
[構造式]

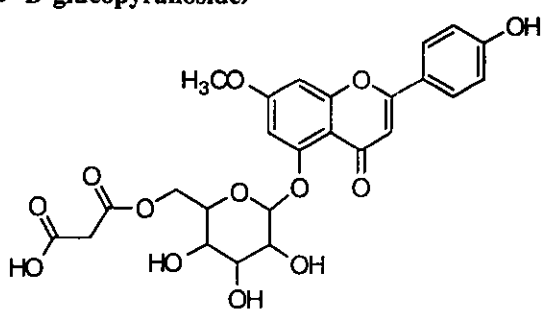


[基原]*Equisetum arvense*
[性状]結晶(H_2O)
[融点]Mp 225 ℃

----------文献----------

Scarpati, M.L. et al., Tetrahedron, 1958, 4, 43, (分離, 構造決定, 合成法)
Woeldecke, M. et al., Z. Naturforsch., C, 1974, 29, 360, (分離)
Cariello, L. et al., Comp. Biochem. Physiol., B: Comp. Biochem., 1979, 62, 159, (分離)
Becker, H., Z. Naturforsch., C, 1985, 40, 585, (分離)
Soicke, H. et al., Planta Med., 1988, 54, 175, (分離)
Veit, M. et al., Phytochemistry, 1991, 30, 527, (分離, 構造決定)
Zhao, H. et al., Synth. Commun., 1998, 28, 737, (合成法, H-NMR)

§ 4',5-Dihydroxy-7-methoxyflavone; 5-*O*-(6-*O*-Malonyl-β-D-glucopyranoside)
[CAS No.]130733-29-8
[化合物分類]フラボノイド(Flavone; 3 × O-置換基)
[構造式]



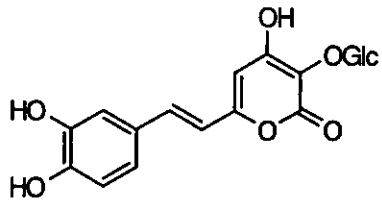
[分子式]$C_{25}H_{24}O_{13}$
[分子量]532.457
[正確な分子量]532.121695
[基原]次の植物から分離: *Equisetum arvense*

----------文献----------

Veit, M. et al., Phytochemistry, 1990, 29, 2555, (5-(6-malonylglucoside))

§ Equisetumpyrone
[CAS No.]150903-74-5

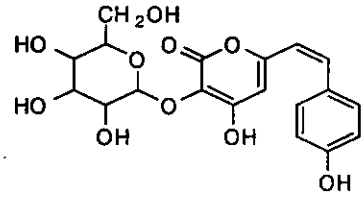
[化合物分類]含酸素複素環式化合物(2-Pyrone), 含酸素複素環式化合物(4-Pyrone)
[構造式]
分子式]$C_{19}H_{20}O_{11}$
[分子量]424.36
[正確な分子量]424.100565
[一般的性質]Tautomeric with the 2-hydroxy-4-pyrone struct.
[基原]次の植物から分離: the gametophytes of *Equisetum arvense*. *Equisetum palustre*, その他の *Equisetum* spp.



----------文献----------

Veit, M. et al., Phytochemistry, 1993, 32, 1029; 1995, 38, 881; 39, 915, (分離, UV, H-NMR, C13-NMR)

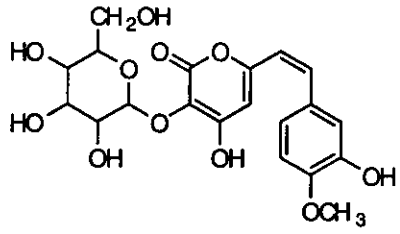
§ Equisetumpyrone; 3'-Deoxy
[化学名・別名]3'-Deoxyequisetumpyrone
[化合物分類]含酸素複素環式化合物(2-Pyrone)
[構造式]
[分子式]$C_{19}H_{20}O_{10}$
[分子量]408.361
[正確な分子量]408.10565
[基原]*Equisetum arvense*, その他の *Equisetum* spp.



----------文献----------

Veit, M. et al., Phytochemistry, 1993, 32, 1029; 1995, 38, 881; 39, 915, (分離, UV, H-NMR, C13-NMR)

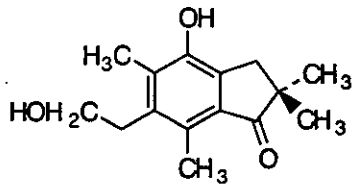
§ Equisetumpyrone; 4'-Me ether
[化学名・別名]4'-*O*-Methylequisetumpyrone
[化合物分類]含酸素複素環式化合物(2-Pyrone)
[構造式]
[分子式]$C_{20}H_{22}O_{11}$
[分子量]438.387
[正確な分子量]438.116215
[基原]*Equisetum arvense*, その他の *Equisetum* spp.



----------文献----------

Veit, M. et al., Phytochemistry, 1993, 32, 1029; 1995, 38, 881; 39, 915, (分離, UV, H-NMR, C13-NMR)

§ Onitin
[化学名・別名]2,3-Dihydro-4-hydroxy-6-(2-hydroxyethyl)-2,2,5,7-tetramethyl-1*H*-inden-1-one(CAS 名)
[CAS No.]53823-02-2
[化合物分類]薬物: 筋肉骨格弛緩剤(Muscle relaxants-skeletal), テルペノイド(Illudalane sesquiterpenoid)
[構造式]
[分子式]$C_{15}H_{20}O_3$
[分子量]248.321
[正確な分子量]248.141245
[基原]次の植物から分離: *Onychium auratum*, *Onychium siliculosum*, *Equisetum arvense*, *Cibotium barometz*, *Dicksonia gigantea*
[用途]平滑筋弛緩剤
[性状]結晶(MeOH)
[融点]Mp 212-214 ℃
[Log P 計算値]Log P 2.42 (計算値)

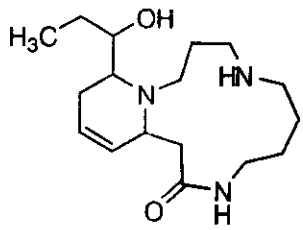


----------文献----------

Banerji, A. et al., Tet. Lett., 1974, 1369, (分離)
Murakami, T. et al., Chem. Pharm. Bull., 1975, 23, 1630, (分離)
McMorris, T.C. et al., J. Nat. Prod., 1977, 40, 221, (分離)
Syrchina, A.I. et al., Khim. Prir. Soedin., 1978, 14, 508; Chem. Nat. Compd. (Engl. Transl.), 432, (分離, 構造決定)
Satake, T. et al., Chem. Pharm. Bull., 1984, 32, 4620, (分離)
Ho, S.-T. et al., Planta Med., 1985, 51, 148, (薬理)

Yang, M.S., Planta Med., 1986, 25, (薬理)

§ Palustrine; (+)-form

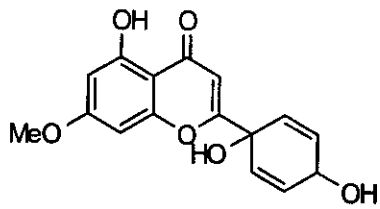


[CAS No.] 22324-44-3
[化合物分類] アルカロイド化合物 (Macrocyclic spermidine alkaloid)
[構造式]
[基原] 次の植物から得られるアルカロイド: *Equisetum palustre, Equisetum arvense, Equisetum limosum, Equisetum silvaticum, Equisetum ramossissimum* (トクサ科)
[性状] プリズム結晶 (Et_2O)
[融点] Mp 120-122 ℃
[比旋光度]: $[\alpha]_D^{18}$ +15.8 (c, 1.2 in H_2O). $[\alpha]_D^{22}$ +19.4 (c, 1.6 in EtOH)

----------文献----------

Eugster, C.H. et al., Helv. Chim. Acta, 1953, 36, 1387, (分離, IR)
Eugster, C.H., Heterocycles, 1976, 4, 51, (Deoxypalustrine)
Wälchli, P.C. et al., Helv. Chim. Acta, 1978, 61, 921, (絶対構造)
Natsume, M. et al., Chem. Pharm. Bull., 1984, 32, 3789, (合成法, 構造決定)
Wasserman, H.H. et al., Tet. Lett., 1984, 25, 2391

§ Protogenkwanin

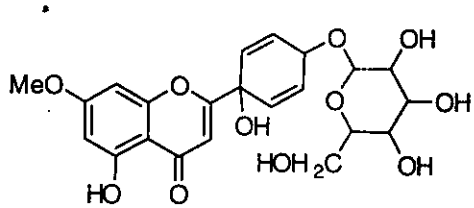


[化学名・別名] 2-(1,4-Dihydroxy-2,5-cyclohexadien-1-yl)-5-hydroxy-7-methoxy-4*H*-1-benzopyran-4-one
[CAS No.] 74996-29-5
[化合物分類] フラボノイド (Flavone; 4 × O-置換基)
[構造式]
[分子式] $C_{16}H_{14}O_6$
[分子量] 302.283
[正確な分子量] 302.07904
[基原] Protoflavonoid from *Equisetum arvense*
[性状] 均一な黄色の針状結晶
[融点] Mp 170-180 ℃で分解

----------文献----------

Hauteville, M. et al., Tetrahedron, 1981, 37, 377, (分離, UV, H-NMR)
Wada, H.H. et al., Chem. Pharm. Bull., 1987, 35, 4757, (誘導体)
Stomberg, R. et al., J. Crystallogr. Spectrosc. Res., 1991, 21, 183, (結晶構造)
Adam, K.-P. et al., Phytochemistry, 1999, 52, 929, (Dihydroprotogenkwanin)

§ Protogenkwanin; 4'-*O*-β-D-Glucopyranoside

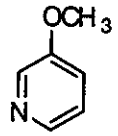


[化学名・別名] Protogenkwanin 4'-glucoside
[CAS No.] 78983-46-7
[化合物分類] フラボノイド (Flavone; 4 × O-置換基)
[構造式]
[分子式] $C_{22}H_{24}O_{11}$
[分子量] 464.425
[正確な分子量] 464.131865
[基原] 次の植物から分離: *Equisetum arvense, Pseudophegopteris bukoensis, Pseudophegopteris hirtirachis, Pseudophegopteris subaurita*
[性状] 針状結晶 (MeOH)
[融点] Mp 129-131 ℃
[比旋光度]: $[\alpha]_D^{18}$ -40 (c, 1 in Py)

----------文献----------

Hauteville, M. et al., Tetrahedron, 1981, 37, 377, (分離, UV, H-NMR)
Wada, H.H. et al., Chem. Pharm. Bull., 1987, 35, 4757, (誘導体)
Stomberg, R. et al., J. Crystallogr. Spectrosc. Res., 1991, 21, 183, (結晶構造)
Adam, K.-P. et al., Phytochemistry, 1999, 52, 929, (Dihydroprotogenkwanin)

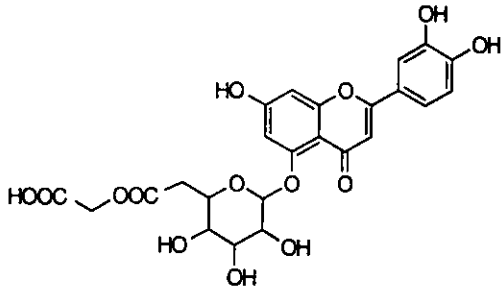
§ 3-Pyridinol; Me ether
[化学名・別名]3-Methoxypyridine
[CAS No.]7295-76-3
[化合物分類]アルカロイド化合物(Miscellaneous pyridine alkaloid)
[構造式]
[分子式]C_6H_7NO
[分子量]109.127
[正確な分子量]109.052764
[基原]次の植物から分離: *Thermopsis rhombifolia, Equisetum arvense*
[沸点]Bp 178-179 ℃
[屈折率]n^{21}_D 1.5165 n^{21}_D +1.5202



----------文献----------

Manske, F., Can. J. Res., Sect. B, 1942, 20, 265, (分離, 誘導体)
Shapiro, S.L. et al., J.A.C.S., 1959, 81, 5141, (合成法, 誘導体)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, 1, 9; 486, (用途, Ac)
Sato, N. et al., J. Het. Chem., 1993, 30, 691, (3-Methoxypyridine *N*-oxide)
Sax, N.I., Dangerous Properties of Industrial Materials, 5th edn., Van Nostrand Reinhold, 1979, 737

§ 3',4',5,7-Tetrahydroxyflavone; 5-*O*-(6-*O*-Malonyl-β-D-glucopyranoside)
[CAS No.]130733-27-6
[化合物分類]フラボノイド(Flavone; 4 × O-置換基)
[構造式]



[分子式]$C_{24}H_{22}O_{14}$
[分子量]534.429
[正確な分子量]534.10096
[基原]次の植物から分離: *Equisetum arvense*

----------文献----------

Perkin, A.G., J.C.S., 1900, 77, 1315, (分離)
Diller, E., Ber., 1901, 34, 1452, (分離)
Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, nos. 1470; 1473, (生育)
Plant Flavonoids in Biology and Medicine, (eds. Cody, V. et al), A. R. Liss, N. Y., 1986, (生化学的性質)
The Flavonoids: Advances in Research since 1980, (Ed. Harborne, J.B.), Chapman and Hall, London, 1988

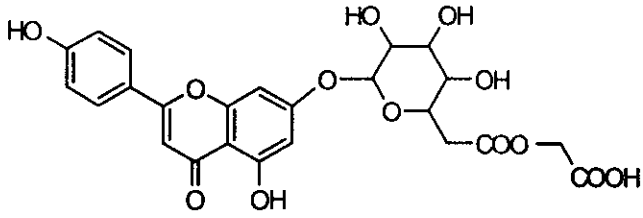
§ Triacontanedioic acid
[化学名・別名]Octacosane-1,28-dicarboxylic acid. Equisetolic acid
[CAS No.]6708-53-8
[化合物分類]脂肪族化合物(Saturated unbranched carboxylic acid andlactone)
[構造式]$HOOC(CH_2)_{28}COOH$
[分子式]$C_{30}H_{58}O_4$
[分子量]482.786
[正確な分子量]482.43351
[基原]*Equisetum telmateja* and *Equisetum arvense* spores
[融点]Mp 126-127 ℃

----------文献----------

Adams, K.R. et al., Phytochemistry, 1971, 10, 1885, (分離, 合成法, Mas)

§ 4',5,7-Trihydroxyflavone; 5-*O*-(6-*O*-Malonyl-β-D-glucopyranoside)
[CAS No.]130733-28-7
[化合物分類]フラボノイド(Flavone; 3 × O-置換基)

[構造式]



[分子式] $C_{24}H_{22}O_{13}$
[分子量] 518.43
[正確な分子量] 518.106045
[基原] 次の植物から分離: *Equisetum arvense*

----------文献----------

Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, 1449, (生育)
Matsuura, S. et al., Chem. Pharm. Bull., 1978, 26, 305, (合成法, 4',5,7-Trimethoxyflavone)
Jaipetch, T. et al., Phytochemistry, 1983, 22, 625, (4',5,7-Trimethoxyflavone)
Besson, E. et al., Phytochemistry, 1984, 23, 159, (分離, 成書)
The Flavonoids: Advances in Research since 1980, (Ed. Harborne, J.B.), Chapman and Hall, London, 1988
Veit, M. et al., Phytochemistry, 1990, 29, 2555, (5-malonylglucoside)
Lewis, R.J., Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold, 1992, CDH250

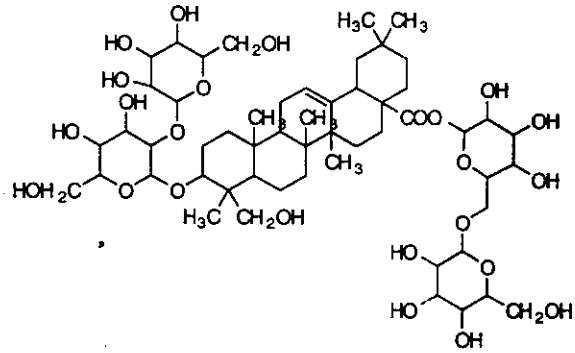
***********ツケモノ (Pickled product) ***********

§§野菜，果実，魚貝，鳥獣肉などの漬物。

***********ツタ (Ivy) ***********

§§ウコギ科セイヨウキヅタ(*Hedera helix* L.)の全草。

§ Hederagenin bisdesmoside; Tetraglycosides, 3-*O*-[β-D-Glucopyranosyl-(1 → 2)-β-D-glucopyranoside], 28-*O*-[β-D-glucopyranosyl-(1 → 6)-β-D-glucopyranosyl] ester
[化学名・別名] Helixoside A
[CAS No.] 134515-63-2
[化合物分類] テルペノイド (Oleanane triterpenoid)
[構造式]



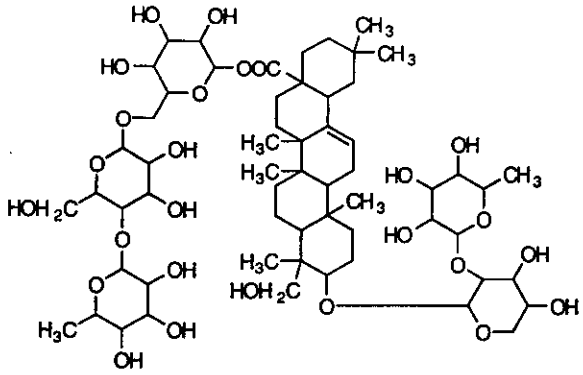
[基原] *Equisetum arvense*
[分子式] $C_{54}H_{88}O_{24}$
[分子量] 1121.275
[正確な分子量] 1120.56656
[比旋光度]: $[\alpha]_D^{20}$ +3.2 (c, 0.6 in MeOH)

----------文献----------

C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002

§ Hederagenin bisdesmoside; Pentaglycosides, 3-*O*-[α-L-Rhamnopyranosyl-(1 → 2)-α-L-arabinopyranoside], 28-*O*-[α-L-rhamnopyranosyl-(1 → 4)-β-D--glucopyranosyl-(1 → 6)-β-D-glucopyranosyl] ester
[化学名・別名] Tauroside H_2. Hederoside H_1. Akebiasaponin P_K. Glycoside L-H_2. Kalopanaxsaponin BB.

Akeboside St$_h$
[CAS No.] 14216-03-6
[化合物分類] テルペノイド (Oleanane triterpenoid)
[構造式]
[分子式] $C_{59}H_{96}O_{26}$
[分子量] 1221.392
[正確な分子量] 1220.61899
[基原] *Hedera taurica, Hedera canariensis, Akebia quinata. Kalopanax septemlobum* の根と *Hedera helix* の葉から分離される. Component of Mu Tong and Mu Tong Gen
[性状] 粉末・三水和物
[融点] Mp 212-215 ℃で分解
[比旋光度]: [α]$_D$ -18 (c, 2.76 in MeOH)



----------文献----------

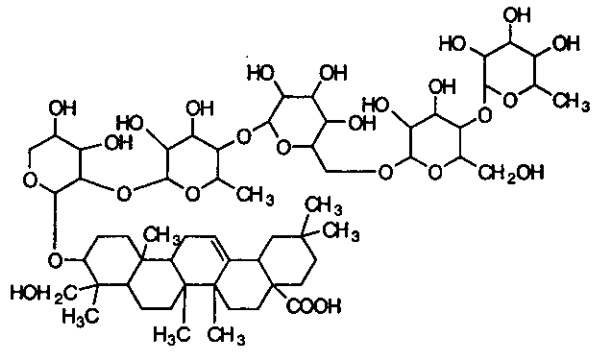
Higuchi, R. et al., Chem. Pharm. Bull., 1976, 24, 1021-1032, (Akeboside St$_h$)
Grishkovets, V.I. et al., Khim. Prir. Soedin., 1992, 28, 522; Chem. Nat. Compd. (Engl. Transl.), 1992, 28, 455, (Tauroside)
Shashkov, A.A. et al., Khim. Prir. Soedin., 1993, 29, 571-579; Chem. Nat. Compd. (Engl. Transl.), 1993, 29, 502, (Tauroside St-H$_1$)
Grishkovets, V.I. et al., Bioorg. Khim., 1995, 21, 468-473; CA, 123, 138769x, (Taurosides St-I 1 and St-I 2)

§ Hederagenin 3-glycoside; Diglycosides, 3-O-[Glucosyl-(1 →?)-arabinoside
[化学名・別名] Hederacoside A
[CAS No.] 26339-89-9
[化合物分類] テルペノイド (Terpenoids 構造は未知), テルペノイド (Oleanane triterpenoid)
[構造式] 有効な構造式はない
[分子式] $C_{41}H_{66}O_{13}$
[分子量] 766.965
[正確な分子量] 766.450345
[基原] *Hedera helix*
[性状] 結晶
[融点] Mp 257-260 ℃

----------文献----------

Schloesser, E. et al., Z. Naturforsch., B, 1969, 24, 1284, (Hederacoside)
Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag,Basel, 1972, no. 1996, (生育)

§ Hederagenin 3-glycoside; Pentaglycosides, 3-*O*-[α-L-Rhamnopyranosyl-(1 → 4)-β-D-glucopyranosyl-(1 → 6)-β-D-glucopyranosyl-(1 → 4)-α-L-rhamnopyranosyl-(1 → 2)-α-L-arabinopyranoside]
[化学名・別名] Glycoside L-G4. Glycoside L-6d
[CAS No.] 172659-10-8
[化合物分類] テルペノイド (Oleanane triterpenoid)
[構造式]
[分子式] $C_{59}H_{96}O_{26}$
[分子量] 1221.392
[正確な分子量] 1220.61889
[基原] *Hedera canariensis, Hedera helix*
[比旋光度]: [α]$_D$ 0 (c, 0.2 in Py)



----------文献----------

Shashkov, A.S. et al., Khim. Prir. Soedin., 1994, 30, 746; Chem. Nat. Compd. (Engl. Transl.), 1994, 30, 693,

(Glycoside L-6d)

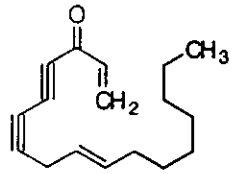
§ 1,9-Heptadecadiene-4,6-diyn-3-one; (*Z*)-form

[化学名・別名]Falcarinone

[CAS No.]4117-11-7

[化合物分類]脂肪族化合物(Miscellaneous acetylene)

[構造式]



[基原]次の植物から分離: *Falcaria vulgaris*, *Oenanthe* spp. *Sium sisarum*, *Chaerophyllum temulum*, *Eryngium planum*, *Galinsoga paviflora*, *Hedera helix* 等

[性状]青白い黄色のオイル

----------文献----------

Bohlmann, F. et al., Chem. Ber., 1961, 94, 958; 1962, 95, 1320; 1965, 98, 3010

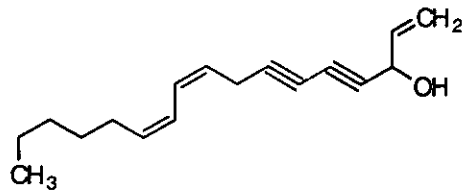
§ 1,9,11-Heptadecatriene-4,6-diyn-3-ol; (3*R*,9*Z*,11*Z*)-form

[化学名・別名]11,12-Dehydrofalcarinol

[CAS No.]121850-66-6

[化合物分類]脂肪族化合物(Acetylenic alcohol)

[構造式]



[基原]次の植物の茎と葉柄から分離: *Hedera helix*

[性状]オイル

----------文献----------

Gafner, F. et al., Phytochemistry, 1989, 28, 1256, (分離, 構造決定, H-NMR, C13-NMR, UV, IR, Mas)

§ 7-Hydroxy-6-methoxy-2*H*-1-benzopyran-2-one; *O*-β-D-Glucopyranoside

[化学名・別名]Scopolin. Murrayin

[CAS No.]531-44-2

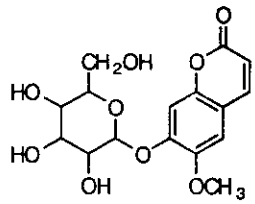
[化合物分類]ベンゾピラノイド(6,7-Dioxygenated coumarin)

[構造式]

[分子式]$C_{16}H_{18}O_9$

[分子量]354.313

[正確な分子量]354.095085



[基原]次の植物から分離: *Scopolia japonica*, *Hedera helix*, その他

[融点]Mp 217-219 ℃

[UV]:[neutral] λ_{max} 227 (ε 19200); 340 (ε 9800) (MeOH)

----------文献----------

C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002

Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, nos. 1328; 1329, (生育)

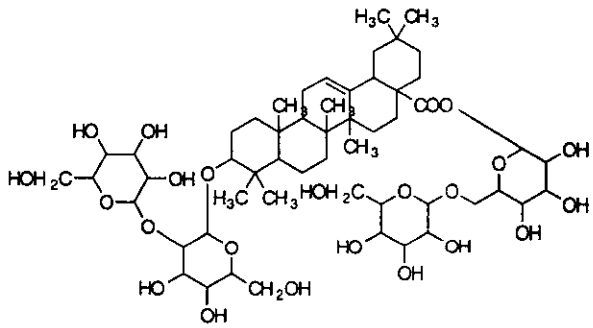
§ Oleanolic acid bisdesmoside; Tetraglycosides, 3-*O*-[β-D-Glucopyranosyl-(1 → 2)-β-D-glucopyranoside], 28-*O*-[β-D-glucopyranosyl-(1 → 6)-β-D-glucopyranosyl] ester

[化学名・別名]Helixoside B

[CAS No.]134515-62-1

[化合物分類]テルペノイド(Oleanane triterpenoid)

[構造式]



[分子式]$C_{54}H_{88}O_{23}$

[分子量]1105.275

[正確な分子量]1104.571645

[基原]*Hedera helix*

[性状]無定型の粉末

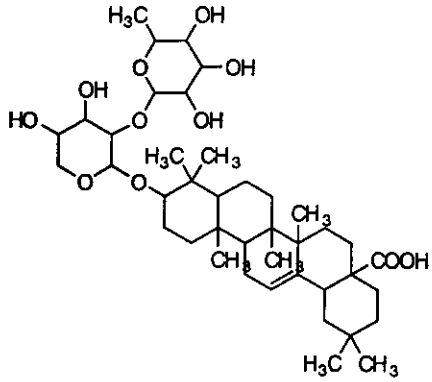
[比旋光度]:[α]$_D^{20}$ -7.2 (c, 0.5 in MeOH)

----------文献----------

Bedir, E. et al., Phytochemistry, 2000, 53, 905, (Helixoside B)

§ Oleanolic acid 3-glycoside; Diglycosides, 3-*O*-[α-L-Rhamnopyranosyl-(1 → 2)-α

-L-arabinopyranoside]
[化学名・別名] β-Hederin. Prosapogenin CP_2. Eleutheroside K. Tauroside C. Glycoside L-C. Saponin P_B
[CAS No.] 35790-95-5
[化合物分類] テルペノイド (Oleanane triterpenoid)
[構造式]

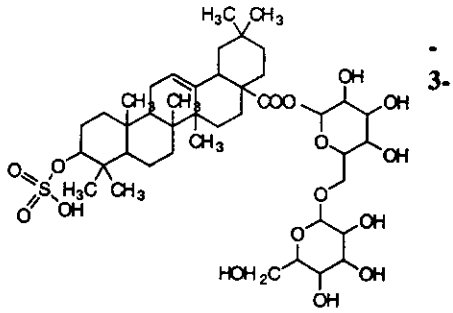


[分子式] $C_{41}H_{66}O_{11}$
[分子量] 734.966
[正確な分子量] 734.460515
[基原] *Hedera helix*, *Fatsia japonica*, *Astrantia major*, *Akebia quinata*, その他
[性状] 針状結晶
[融点] Mp 222-225 ℃ (分解)
[比旋光度]: $[\alpha]_D$ +11 (c, 0.5 in MeOH)

----------文献----------

Frolova, G.M. et al., Khim. Prir. Soedin., 1971, 7, 618; Chem. Nat. Compd. (Engl. Transl.), 1971, 7, 597, (Eleutheroside)
Kizu, H. et al., Chem. Pharm. Bull., 1980, 28, 2827, (Prosapogenin CP_4)

§ Oleanolic acid glycosyl ester; Diglycosides, 28-*O*-[β D-Glucopyranosyl-(1 → 6)-β-D-glucopyranosyl] ester, 3-*O*-sulfate
[化学名・別名] Helicoside L-8a
[CAS No.] 256447-37-7
[化合物分類] テルペノイド (Oleanane triterpenoid)
[構造式]



[分子式] $C_{42}H_{68}O_{16}S$
[分子量] 861.056
[正確な分子量] 860.42281
[基原] *Hedera helix*

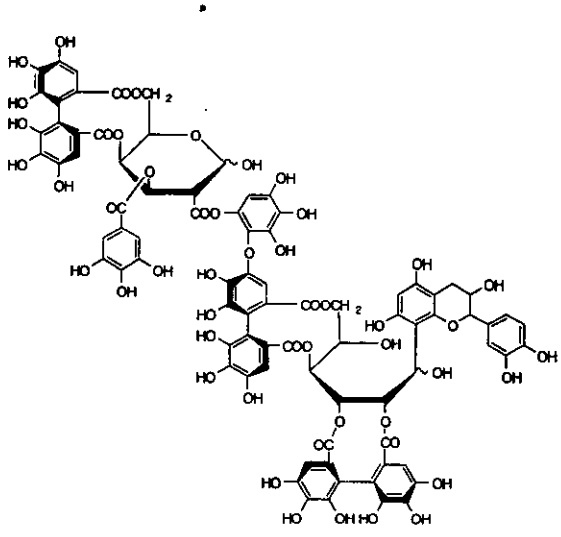
----------文献----------

C.Djerassi et al.,Dictionary of Natural Products, Chapman, Hall,2002

***********ツバキ (Camellia) ***********

§§ ツバキ科ツバキ (*Camellia japonica* L.) の花または種子。

§ Camellianin D
[化合物分類] タンニン化合物 (Flavonotannin), タンニン化合物 (Hexahydroxydiphenoyl ester tannin), タンニン化合物 (Valoneoyl ester tannin)
[構造式]



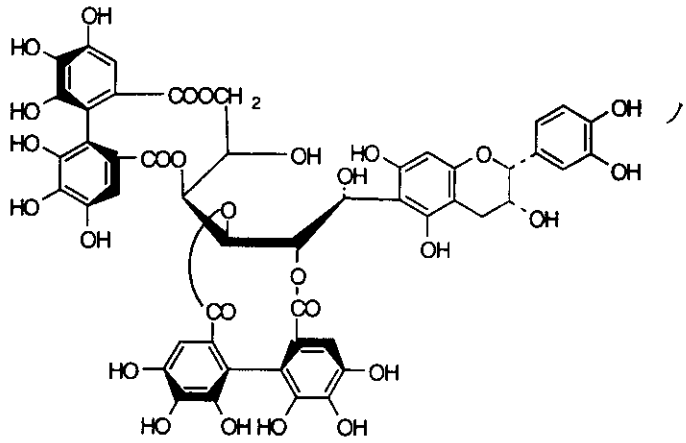
[分子式] $C_{83}H_{62}O_{50}$
[分子量] 1859.373
[正確な分子量] 1858.2309
[一般的性質] 等量の α-, β-anomer の混合物
[基原] 次の植物のタンニン成分: *Camellia japonica*

----------文献----------

Okuda, T. et al., Heterocycles, 1990, 30, 1195, (構造決定)

§ Camelliatannin C

[CAS No.]154524-52-4
[化合物分類]タンニン化合物(Hexahydroxydiphenoyl ester tannin), フラボノイド(Flavan-3-ol), タンニン化合物(Flavonotannin)
[構造式]



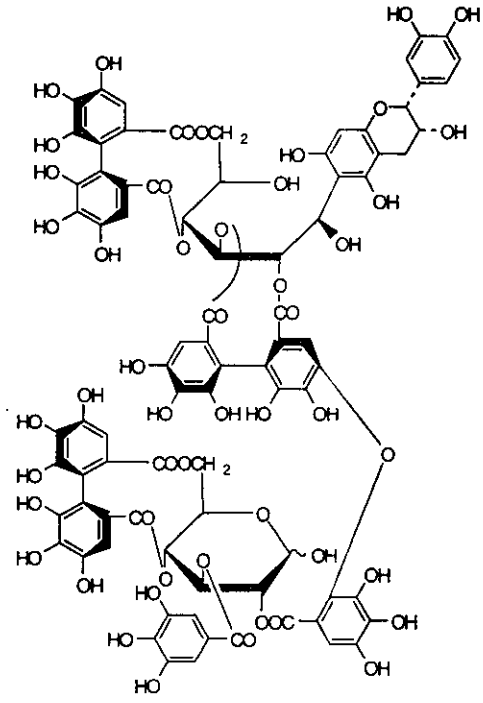
[分子式]$C_{49}H_{38}O_{28}$
[分子量]1074.822
[正確な分子量]1074.15497
[基原]*Camellia japonica* (ツバキ科)の葉
[性状]灰白色の粉末・七水和物
[比旋光度]:[α]$_D$ +119 (c, 1.6 in MeOH)
[UV]:[neutral] λ $_{max}$ 207 (ε 95500); 230 (sh) (ε 61660) (MeOH)

----------文献----------

Hatano, T. et al., Chem. Pharm. Bull., 1995, 43, 1629; 2109, (分離, H-NMR, C13-NMR)

§ Camelliatannin D

[CAS No.]148159-87-9
[化合物分類]フラボノイド(Flavan-3-ol), タンニン化合物(Hexahydroxydiphenoyl ester tannin)
[構造式]



[分子式]$C_{83}H_{62}O_{50}$
[分子量]1859.373
[正確な分子量]1858.2309
[基原]*Camellia japonica* (ツバキ科)の葉
[性状]灰白色の粉末・十二水和物
[比旋光度]:[α]$_D$ +46 (c, 0.9 in MeOH)
[UV]:[neutral] λ $_{max}$ 207 (ε 208930); 280 (sh) (ε 67610) (MeOH)

----------文献----------

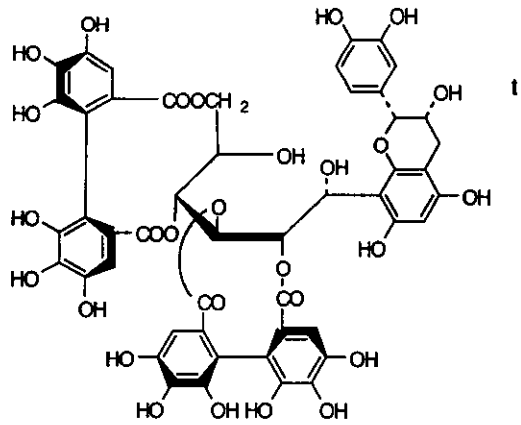
Hatano, T. et al., Chem. Pharm. Bull., 1995, 43, 2033, (分離, 構造決定)

§ Camelliatannin E

[CAS No.] 148132-92-7

[化合物分類] タンニン化合物 (Hexahydroxydiphenoyl ester annin), フラボノイド (Flavan-3-ol), タンニン化合物 (Flavonotannin)

[構造式]



[分子式] $C_{49}H_{38}O_{28}$

[分子量] 1074.822

[正確な分子量] 1074.15497

[基原] *Camellia japonica* (ツバキ科) の葉

[性状] 灰白色の粉末・六水和物

[比旋光度]: $[\alpha]_D$ +53 (c, 1 in MeOH)

[UV]: [neutral] λ_{max} 208 (ε 97720); 231 (sh) (ε 67610); 260 (sh) (ε 35480) (MeOH)

----------文献----------

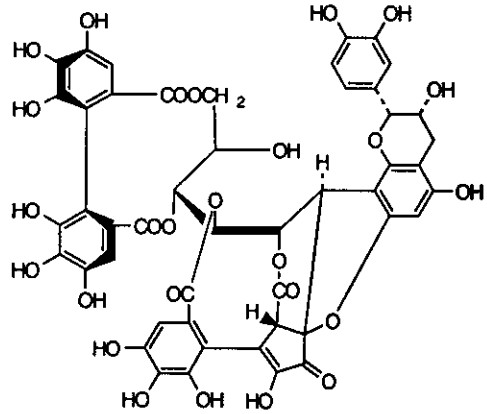
Hatano, T. et al., Chem. Pharm. Bull., 1995, 43, 1629; 2109, (分離, UV, cd, H-NMR, C13-NMR)

§ Camelliatannin F

[CAS No.] 154561-15-6

[化合物分類] タンニン化合物 (Hexahydroxydiphenoyl ester tannin), フラボノイド (Flavanone; 5 × O-置換基)

[構造式]



[分子式] $C_{48}H_{34}O_{26}$

[分子量] 1026.781

[正確な分子量] 1026.13384

[基原] *Camellia japonica* (ツバキ科) の葉

[性状] 灰白色の無定型粉末・四水和物

[比旋光度]: $[\alpha]_D$ -89 (c, 1.6 in MeOH)

[UV]: [neutral] λ_{max} 209 (ε 89125); 230 (sh) (ε 58884); 265 (ε 31622) (MeOH)

----------文献----------

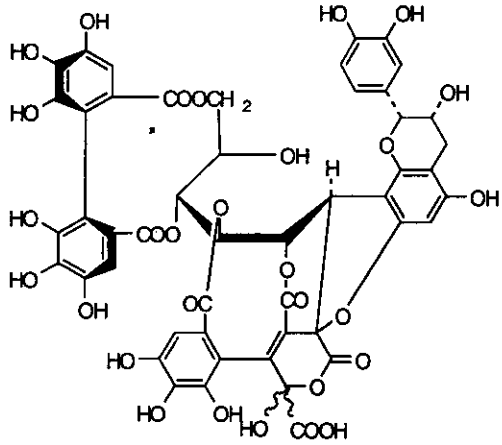
Han, L. et al., Chem. Pharm. Bull., 1994, 42, 1399, (分離, UV, cd, H-NMR, C13-NMR)

§ Camelliatannin G

[CAS No.] 154524-53-5

[化合物分類] タンニン化合物 (Hexahydroxydiphenoyl ester tannin), フラボノイド (Flavanone; 5 × O-置換基)

[構造式]



[分子式] $C_{49}H_{34}O_{29}$

[分子量] 1086.79

[正確な分子量] 1086.118585

[基原] *Camellia japonica* (ツバキ科) の葉

[性状] 青白い黄色の無定型粉末・七水和物

[比旋光度]: $[\alpha]_D$ -245 (c, 1 in MeOH)

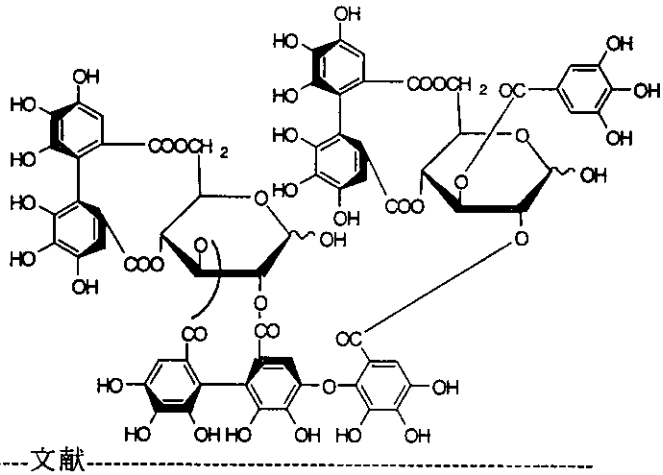
[UV]: [neutral] λ_{max} 213 (ε 79430); 234 (sh) (ε 57540); 282 (sh) (ε 17380) (MeOH)

----------文献----------

Han, L. et al., Chem. Pharm. Bull., 1994, 42, 1398, (分離, UV, CD, H-NMR, C13-NMR)

§ Camelliatannin H

[CAS No.] 148159-86-8
[化合物分類] タンニン化合物 (Valoneoyl ester tannin), タンニン化合物 (Hexahydroxydiphenoyl ester tannin)
[構造式]

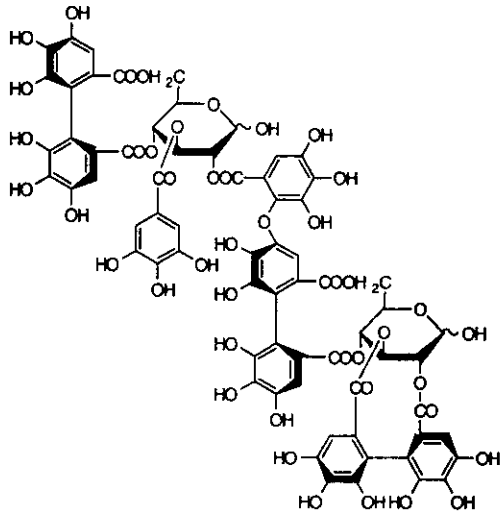


[分子式] $C_{68}H_{48}O_{44}$
[分子量] 1569.101
[正確な分子量] 1568.15186
[基原] *Camellia japonica* (ツバキ科) の葉
[性状] 灰白色の無定型粉末・八水和物
[比旋光度]: $[\alpha]_D$ +90 (c, 1 in MeOH)
[UV]: [neutral] λ_{max} 218 (ε 100000); 258 (sh) (ε 51290); 278 (sh) (ε 42660) (MeOH)

----------文献----------

Han, L. et al., Chem. Pharm. Bull., 1994, 42, 1398, (分離, UV, CD, H-NMR, C13-NMR)

§ Camelliin A
[CAS No.] 132731-66-9
[化合物分類] タンニン化合物 (Valoneoyl ester tannin)
[構造式]

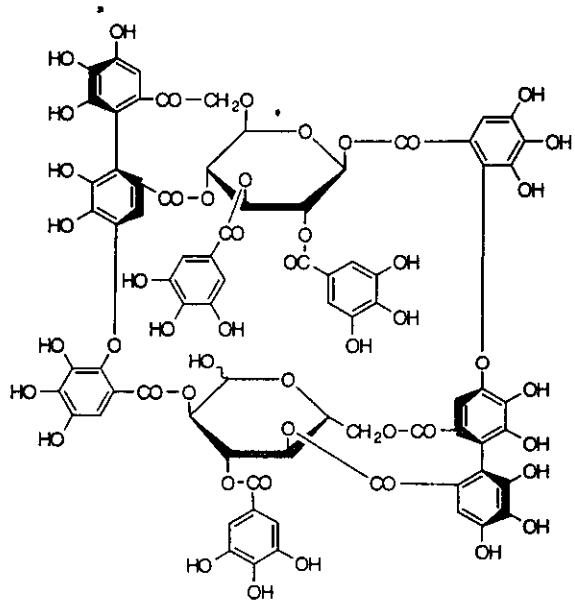


[分子式] $C_{68}H_{48}O_{44}$
[分子量] 1569.101
[正確な分子量] 1568.15186
[一般的性質] 等量の α-, β-anomer の混合物
[基原] 次の植物の花蕾から分離: *Camellia japonica*, *Camellia sasanqua*
[性状] 淡褐色の無定型粉末・十水和物
[比旋光度]: $[\alpha]_D^{20}$ +53 (c, 0.5 in MeOH)

----------文献----------

Yoshida, T. et al., Chem. Pharm. Bull., 1990, 38, 2681, (構造決定, CD, H-NMR, C13-NMR)
Yoshida, T. et al., Phytochemistry, 1994, 37, 241, (Camellioferin A)

§ Camelliin B
[CAS No.] 126347-60-2
[化合物分類] タンニン化合物 (Valoneoyl ester tannin)
[構造式]



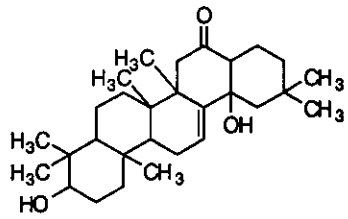
[分子式] $C_{75}H_{52}O_{48}$
[分子量] 1721.207
[正確な分子量] 1720.16282
[一般的性質] 等量の α-, β-anomer の混合物 (4:1)
[基原] 次の植物から分離: *Camellia japonica* と *Camellia sasanqua* の花蕾, *Schima wallichii* のドライフラワー
[性状] 灰白色の無定型粉末・十五水和物
[比旋光度]: $[\alpha]_D^{20}$ -24 (c, 0.8 in MeOH)
[UV]: [neutral] λ_{max} 224 (ε 115000); 276 (ε 60000) (MeOH)

----------文献----------

Yoshida, T. et al., Chem. Pharm. Bull., 1989, 37, 3174; 1990, 38, 1211; 2681; 1991, 39, 2247, (分離, UV, CD, H-NMR, C13-NMR, 薬理)

§ 3,18-Dihydroxy-28-nor-12-oleanen-16-one; (3 β,18 β)-form

[化学名・別名]Camellenodiol
[CAS No.]81426-91-7
[化合物分類]テルペノイド(Nor-, seco- and abeooleanane triterpenoid)
[構造式]
[基原]*Camellia japonica*
[性状]結晶($CHCl_3$)
[融点]Mp 215-216.5 ℃
[比旋光度]:$[\alpha]_D^{25}$ +30 (c, 0.22 in $CHCl_3$)

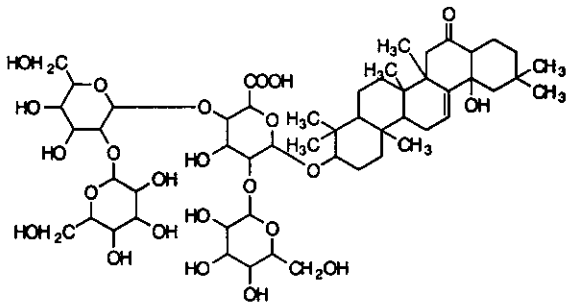


----------文献----------

Itokawa, H. et al., Phytochemistry, 1981, 20, 2539, (分離)
Nagata, T. et al., Agric. Biol. Chem., 1985, 49, 1181, (分離)
Nishino, C. et al., Chem. Comm., 1986, 720, (構造決定)

§ 3,18-Dihydroxy-28-nor-12-oleanen-16-one; (3 β,18 β)-form, 3-*O*-[β-D-Glucopyranosyl-(1 → 2)-β-D-galactopyranosyl-(1 → 4)-[α-D-galactopyranosyl-(1 → 2)]-β-D-glucuronopyranoside]

[化学名・別名]Camellidin II
[CAS No.]96827-23-5
[化合物分類]テルペノイド(Nor-, seco- and abeooleanane triterpenoid)
[構造式]
[分子式]$C_{53}H_{84}O_{24}$
[分子量]1105.232
[正確な分子量]1104.53526
[基原]*Camellia japonica*
[用途]抗カビ剤
[性状]結晶
[融点]Mp 211-212 ℃
[比旋光度]:$[\alpha]_D^{25}$ -6 (c, 0.5 in MeOH)
[溶解性] メタノール, ブタノール, ピリジンに可溶; ヘキサンに難溶
[UV]:[neutral] λ_{max} (MeOH)



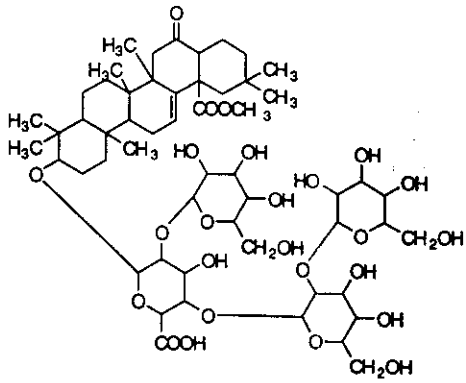
----------文献----------

Itokawa, H. et al., Phytochemistry, 1981, 20, 2539, (分離)
Nagata, T. et al., Agric. Biol. Chem., 1985, 49, 1181, (分離)
Nishino, C. et al., Chem. Comm., 1986, 720, (構造決定)

§ 3,18-Dihydroxy-28-nor-12-oleanen-16-one; (3 β,18 β)-form, 3-*O*-[β-D-Glucopyranosyl-(1 → 2)-β-D-galactopyranosyl-(1 → 4)-[α-D-galactopyranosyl-(1 → 2)]-β-D-glucuronopyranoside], 18-Ac

[化学名・別名]Camellidin I
[CAS No.]96827-22-4
[化合物分類]テルペノイド(Nor-, seco- and abeooleanane triterpenoid)

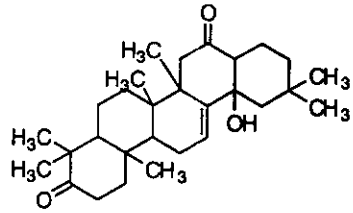
[構造式]
[分子式]$C_{55}H_{86}O_{25}$
[分子量]1147.269
[正確な分子量]1146.54825
[基原]*Camellia japonica*
[用途]抗カビ剤
[性状]結晶
[融点]Mp 208-209 ℃
[比旋光度]:[α]$_D^{25}$ +2 (c, 0.5 in MeOH)
[溶解性] メタノール, ブタノール, ピリジンに可溶; ヘキサンに難溶
[UV]:[neutral] λ $_{max}$ (MeOH)



----------文献----------

Itokawa, H. et al., Phytochemistry, 1981, 20, 2539, (分離)
Nagata, T. et al., Agric. Biol. Chem., 1985, 49, 1181, (分離)

§ 3,18-Dihydroxy-28-nor-12-oleanen-16-one; (3 β,18 β)-form, 3-Ketone
[化学名・別名]18 β-Hydroxy-28-nor-3,16-oleanenedione. Camelledionol
[CAS No.]81426-90-6
[化合物分類]テルペノイド(Nor-, seco- and abeooleanane triterpenoid)
[構造式]
[分子式]$C_{29}H_{44}O_3$
[分子量]440.665
[正確な分子量]440.329045
[基原]*Camellia japonica*
[性状]結晶
[融点]Mp 232-233 ℃
[比旋光度]:[α]$_D^{26}$ +49 (c, 0.1 in $CHCl_3$)



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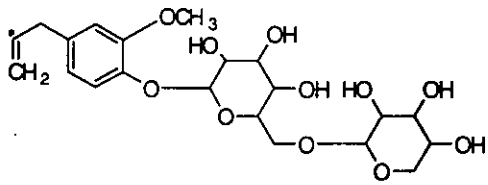
Itokawa, H. et al., Phytochemistry, 1981, 20, 2539, (分離)
Nagata, T. et al., Agric. Biol. Chem., 1985, 49, 1181, (分離)
Nishino, C. et al., Chem. Comm., 1986, 720, (構造決定)

§ 2-Methoxy-4-(2-propenyl) phenol; *O*-[β-D-Xylopyranosyl-(1 → 6)-β-D-glucopyranoside]
[化学名・別名]Sasanquin. Eugenol β-primeveroside
[CAS No.]18604-54-1
[化合物分類]単環芳香族(Simple phenylpropanoid)
[構造式]
[分子式]$C_{21}H_{30}O_{11}$
[分子量]458.461
[正確な分子量]458.178815
[基原]次の植物から分離: *Camellia sasanqua* の葉, *Camellia hiemalis*, *Camellia vernalis*, *Camellia japonica*
[性状]針状結晶
[融点]Mp 200-201 ℃ (197-198 ℃)
[比旋光度]:[α]$_D^{25}$ -82.5 (c, 1.7 in H_2O)
[溶解性]水に極めて易溶
[その他のデータ]苦味を呈する



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Yamada, T. et al., Agric. Biol. Chem., 1967, 31, 85; 1076, (Sasanquin)
Parks, C.R. et al., CA, 1981, 95, 93943j, (Sasanquin)
IARC Monog., 1985, 36, 75; Suppl., 7, 63, (レビュー, 毒性)
Lewis, R.J., Food Additives Handbook, Van Nostrand Reinhold International, New York, 1989, EQR500; EQS000

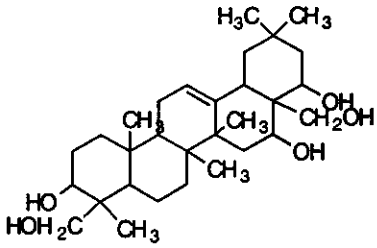
§ 12-Oleanene-3,16,22,23,28-pentol; (3 β,16 α,22 α)-form

[化学名・別名]Camelliagenin C. Theasapogenol C

[CAS No.]14440-27-8

[化合物分類]テルペノイド(Oleanane triterpenoid)

[構造式]



[基原]次の植物から得られるサポゲニン: *Camellia japonica* の種子, *Lysimachia mauritania*

[性状]結晶

[融点]Mp 280-283 ℃

[比旋光度]:[α]$_D$ +25.3 (EtOH)

----------文献----------

Yoshikawa, M. et al., Chem. Pharm. Bull., 1994, 42, 743; 1996, 44, 1899, (Camelliasaponin)

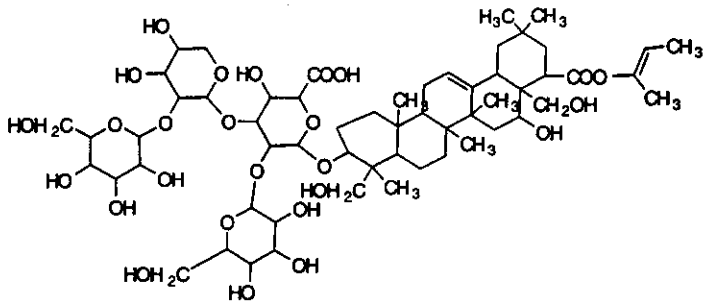
§ 12-Oleanene-3,16,22,23,28-pentol; (3 β,16 α,22 α)-form, 22-Angeloyl, 3-*O*-[β-D-glucopyranosyl-(1 → 2)-α-L-arabinopyranosyl-(1 → 3)-[β-D-galactopyranosyl-(1 → 2)]-β-D-glucuronopyranoside]

[化学名・別名]Camelliasaponin C$_1$

[CAS No.]156250-58-7

[化合物分類]テルペノイド(Oleanane triterpenoid)

[構造式]



[分子式]$C_{58}H_{92}O_{26}$

[分子量]1205.349

[正確な分子量]1204.58769

[基原]*Camellia japonica*

[性状]結晶

[融点]Mp 165.8-167.2 ℃

[比旋光度]:[α]$_D$ +4.3 (MeOH)

----------文献----------

Itokawa, H. et al., Tet. Lett., 1967, 597, (構造決定)
Yoshikawa, M. et al., Chem. Pharm. Bull., 1994, 42, 743; 1996, 44, 1899, (Camelliasaponin)

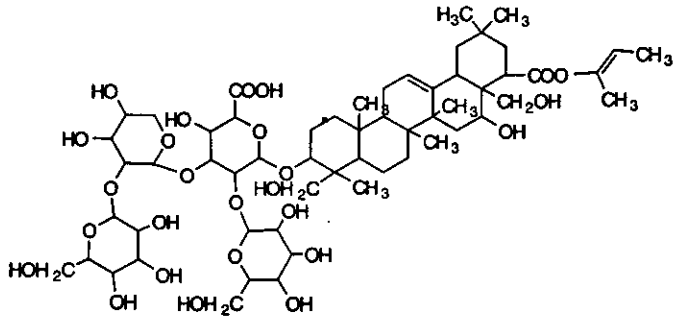
§ 12-Oleanene-3,16,22,23,28-pentol; (3 β,16 α,22 α)-form, 22-Tigloyl, 3-*O*-[β-D-glucopyranosyl-(1 → 2)-α-L-arabinopyranosyl-(1 → 3)-[β-D-galactopyranosyl-(1 → 2)]-β-D-glucuronopyranoside

[化学名・別名]Camelliasaponin C$_2$

[CAS No.]156317-51-0

[化合物分類]テルペノイド(Oleanane triterpenoid)

[構造式]



[分子式]$C_{58}H_{92}O_{26}$

[分子量]1205.349

[正確な分子量]1204.58769

[基原]*Camellia japonica*

[性状]結晶

[融点]Mp 177.6-178.9 ℃

[比旋光度]:[α]$_D$ +8.8 (MeOH)

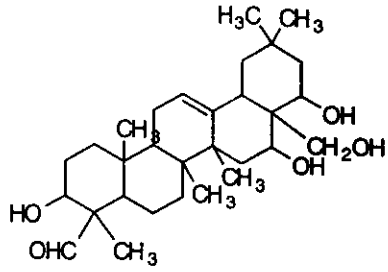
----------文献----------

Ito, S. et al., Tet. Lett., 1967, 591, (構造決定)
Itokawa, H. et al., Tet. Lett., 1967, 597, (構造決定)
Yoshikawa, M. et al., Chem. Pharm. Bull., 1994, 42, 743; 1996, 44, 1899, (Camelliasaponin)

§ 12-Oleanene-3,16,22,23,28-pentol; (3 β,16 α,22 α)-form, 23-Aldehyde

[化学名・別名]3 β,16 α,22 α,28-Tetrahydroxy-12-oleanen-23-al. Camelliagenin B. Camelliasapogenol II

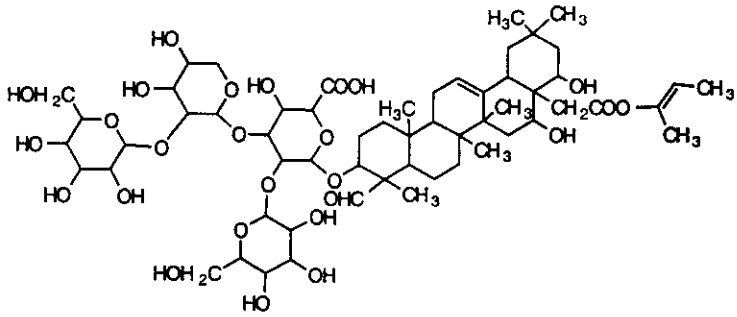
[CAS No.] 14511-74-1
[化合物分類] テルペノイド (Oleanane triterpenoid)
[構造式]
[基原] 次の植物から得られるサポゲニン: *Camellia japonica* の種子, *Camellia sasanqua*
[性状] 結晶
[融点] Mp 200-205 ℃
[比旋光度]: [α]$_D$ +48



文献

Ito, S. et al., Tet. Lett., 1967, 591, (構造決定)
Yoshikawa, M. et al., Chem. Pharm. Bull., 1994, 42, 743; 1996, 44, 1899, (Camelliasaponin)

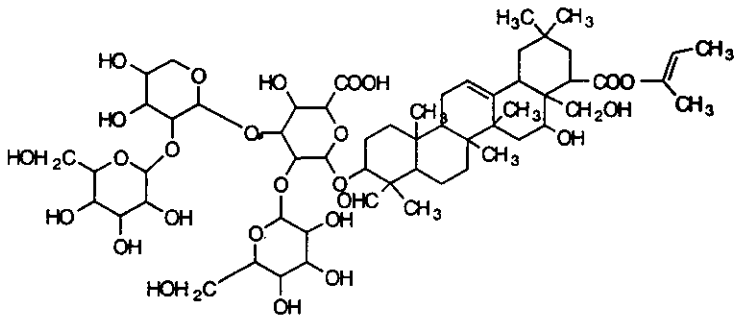
§ 12-Oleanene-3,16,22,23,28-pentol; (3 β,16 α,22 α)-form, 23-Aldehyde, 22-angeloyl, 3-*O*-[β-D-glucopyranosyl-(1 → 2)-α-L-arabinopyranosyl-(1 → 3)-[β-D-galactopyranosyl-(1 → 2)]-β-D-glucuronopyranoside]
[化学名・別名] Camelliasaponin B$_1$
[CAS No.] 156250-57-6
[化合物分類] テルペノイド (Oleanane triterpenoid)
[構造式]
[分子式] $C_{58}H_{90}O_{26}$
[分子量] 1203.333
[正確な分子量] 1202.57204
[基原] *Camellia japonica*
[融点] Mp 209.6-211.1 ℃
[比旋光度]: [α]$_D$ +23.7 (MeOH)



文献

Yoshikawa, M. et al., Chem. Pharm. Bull., 1994, 42, 743; 1996, 44, 1899, (Camelliasaponin)

§ 12-Oleanene-3,16,22,23,28-pentol; (3 β,16 α,22 α)-form, 23-Aldehyde, 22-tigloyl, 3-*O*-[β-D-glucopyranosyl-(1 → 2)-α-L-arabinopyranosyl-(1 → 3)-[β-D-galactopyranosyl-(1 → 2)]-β-D-glucuronopyranoside
[化学名・別名] Camelliasaponin B$_2$
[CAS No.] 156317-50-9
[化合物分類] テルペノイド (Oleanane triterpenoid)
[構造式]
[分子式] $C_{58}H_{90}O_{26}$
[分子量] 1203.333
[正確な分子量] 1202.57204
[基原] *Camellia japonica*
[性状] 結晶
[融点] Mp 233.5-235.6 ℃
[比旋光度]: [α]$_D$ +20.7 (MeOH)



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Ito, S. et al., Tet. Lett., 1967, 591, (構造決定)
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Kapundu, M. et al., Phytochemistry, 1980, 19, 615, (Napoleogenol)
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Sahu, N.P. et al., Phytochemistry, 1996, 41, 1181, (Gymnemasin)
Murakami, T. et al., Chem. Pharm. Bull., 1999, 47, 1759, (Assamsaponin A)

§ 12-Oleanene-3,16,22,28-tetrol; (3 β,16 α,22 α)-form